

**External Quality Assessment of health facilities in South
Africa:
Strengths appraised and gaps identified**

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Abstract

External Quality Assessment of health facilities in South Africa: Strengths appraised and gaps identified

Background:

External Quality Assessment assesses the quality of the structures, processes and outcomes of health facilities using pre-determined standards. South Africa is introducing a national policy on External Quality Assessment, operationalised by a newly established External Quality Assessment agency: the Office of Health Standards Compliance. This thesis seeks to answer three research questions: What is the relationship between External Quality Assessment and patient outcomes (specifically Healthcare Associated Infections) at the specialist-care facility level in South Africa? What are the facilitators of and barriers to health facility performance (i.e. attainment of compliance with standards) in External Quality Assessment at the district hospital level in South Africa? What has been the experience of External Quality Assessment by frontline healthcare workers at the district hospital level in South Africa?

Methods:

Three systematic literature reviews are conducted that attempt to identify the existing evidence base for the above-mentioned research questions in the international literature. A convergent parallel mixed methods design is used to answer the research questions, comprising an Interrupted Time Series Analysis and a multiple embedded case study of two pairs of health facilities that had undergone External Quality

Assessment by the Office of Health Standards Compliance. The Interrupted Time Series Analysis assesses whether an effectiveness relationship can be demonstrated between External Quality Assessment and the Healthcare Associated Infection *Methicillin-resistant Staphylococcus Aureus* (MRSA) in eight South African specialist-care hospitals using monthly MRSA data from 2004 to 2014. MRSA is used in this thesis as the proxy patient outcome indicator. In order to answer research questions two and three, I participated in a district hospital External Quality Assessment as a participant observer as well as conducted fifteen in-depth interviews with healthcare workers from two pairs of district hospitals and thirteen in-depth interviews with Office of Health Standards Compliance inspectors. These findings are triangulated with health facility External Quality Assessment reports.

Results:

No conclusive evidence is found of a relationship between implementation of External Quality Assessment and changes in MRSA. The major theoretical lenses drawn from in the analysis of the qualitative findings are systems thinking theory and regulatory theory. The qualitative research suggests that facilitators of performance in External Quality Assessment in South Africa include strong directional leadership within health facilities, a collaborative organisational culture, a whole systems approach, staff development, incentives, a robust information system and a supportive External Quality Assessment agency. The research also identifies poor alignment of External Quality Assessment standards, under-developed and limited human resources, inadequate decision-making space afforded to district hospital leadership, limited financial resources, the use of penalties and negative staff perceptions of External Quality Assessment as barriers to health facility performance in External

Quality Assessment. In unpacking the experiences of South African healthcare workers of External Quality Assessment, this research finds that the work of the Office of Health Standards Compliance is valued by healthcare workers as a potential educational opportunity and is useful in providing the health system with a means to compare health facilities using a standardised tool. The implementation of the Office of Health Standards Compliance's External Quality Assessments requires significant improvement and, in their current form, they have potential unintended negative consequences on healthcare worker motivation as well as potentially, inadvertently encouraging the gaming of External Quality Assessment.

Conclusion:

The Office of Health Standards Compliance is being set up in such a way that once fully established it will be the primary regulator of quality of care in the South African health system. This thesis attempts to identify some of the strengths and weaknesses of this largely under-researched health system intervention and to contribute to strengthening its implementation.

The word count of the thesis (excluding abstract, glossary, tables, figures, reference list and appendices) is approximately 80 000 words.

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“Now all glory to God, who is able, through his mighty power at work within us, to accomplish infinitely more than we might ask or think.”

-Ephesians 3:20

Declaration of authorship

This thesis is based wholly on my own original work (unless otherwise indicated), conducted under the supervision of Professors Ray Fitzpatrick, Sue Dopson, Diane McIntyre and in the conceptual stages, Winnie Yip. Statistical support was received from statisticians, Dr. Órlaith Burke and Dr. Christiana Kartsonaki. Hospital level *Methicillin-resistant Staphylococcus Aureus* data was received from South Africa's National Health Laboratory Services. Librarian Nia Roberts assisted with reviewing and providing advice on the search strategies for the literature reviews conducted in this thesis. The Vancouver referencing style is used to acknowledge the thoughts, ideas and works of others.

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List of abbreviations

ACHS	Australian Council on Healthcare Standards
AMI	Acute Myocardial Infarction
CAS	Complex Adaptive Systems
CEO	Chief Executive Officer
CMO	Chief Medical Officer
CTG	Cardiotocographs
COHSASA	Council for Health Service Accreditation of Southern Africa
DSRP	Distinction, System, Relationship, Perspective
EQA	External Quality Assessment
HAP	Hospital Accreditation Program
HCAI	Healthcare Associated Infection
ITSA	Interrupted Times Series Analysis
IPC	Infection Prevention and Control
JCAHO	Joint Commission on Accreditation for Health Care Organizations
JC	Joint Commission
LMIC	Low and Middle Income Countries
MRSA	<i>Methicillin-resistant Staphylococcus Aureus</i>
NDOH	National Department of Health
NGO	Non-governmental Organisation
NHI	National Health Insurance
NHLS	National Health Laboratory Services
NHS	National Health Service
OHSC	Office of Health Standards Compliance
OPD	Outpatient Department

OPM	Office for Public Management
PHC	Primary Health Care
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PDOH	Provincial Department of Health
SAPS	South African Police Service
UHC	Universal Health Coverage
USA	United States of America
UK	United Kingdom

Glossary

Acute Trusts	Defined by the National Health Service as organisations that are responsible for managing health facilities, ensuring that they run efficiently and provide high quality health care. ⁽¹⁾ Some acute trusts provide services to homes and communities. ⁽¹⁾
Clinical Guidelines	A type of process standard usually derived from evidence-based medicine and used to guide the management of clinical conditions. ⁽²⁾
Complex Adaptive System	The ‘Complex’ in ‘Complex Adaptive System’ refers to the diversity in the parts or agents that make up the system, the diversity of their needs and behaviours and the diversity in the interactions between the various system agents. ^(3,4) The term ‘Adaptive’ means that these systems are living and adapt, change and self-organise according to changes in their environment, and ‘System’ reminds us that all these parts or agents are connected and dependent on each other. ⁽³⁾ The human body is a good example of a Complex Adaptive System. ⁽³⁾

Criteria	In the South African regulatory context, this is defined as measurable elements that sets out the requirements necessary to achieve compliance with a particular standard. ⁽⁵⁾
Developmental Measures	In the South African regulatory context, ‘developmental measures’ are measures of quality of care that are aspirational in nature. ⁽⁶⁾ Non-compliance with these measures does not necessarily pose a risk to patient safety, but they form an important part of ensuring that a high quality service is delivered. ⁽⁶⁾
District Health System	Defined by the World Health Organization (WHO) ⁽⁷⁾ as ‘a network of primary care health facilities that deliver a comprehensive range of promotive, preventive and curative health care services to a defined population with active participation of the community, and under the supervision of a district hospital and district health management team.’ ⁽⁷⁾
Domain	In the South African regulatory context, a ‘domain’ is defined as an area that is vulnerable to poor quality of care. ⁽⁶⁾

Essential Measures	In the South African regulatory context, ‘essential measures’ are defined as measures that are considered to be fundamental to providing a safe and decent quality service within available resources. ⁽⁶⁾
Extreme Measures	In the South African regulatory context, ‘extreme measures’ are measures that, if not complied with, would place the safety of patients and staff at severe risk. ⁽⁶⁾
Health Facility	Primary Health Care centres, clinics and hospitals
Healthcare Worker	Defined by the World Health Organization ⁽⁸⁾ as ‘All people engaged in actions whose primary intent is to improve health.’ p.1 ⁽⁸⁾
Health Policy	Defined by Buse et al. as ‘courses of action (and inaction) that affect the set of institutions, organisations, services and funding arrangements of the health system.’ Buse as cited by Walt, p.310 ⁽⁹⁾
Health Policy Analysis	Defined by Walt ⁽⁹⁾ as ‘a multi-disciplinary approach to public policy that aims to explain the interaction between institutions, interests and ideas in the policy process.’ p.308 ⁽⁹⁾

Health System	Defined by the World Health Organization as ‘all organisations, people and actions whose primary intent is to promote, restore or maintain health.’ p.2 ⁽¹⁰⁾
Measure	In the South African regulatory context, a ‘measure’ is defined as evidence provided by the health facility being inspected, in order to demonstrate that the desired quality standard has been met. ⁽⁶⁾
National Core Standards	Quality norms and standards used to guide the External Quality Assessment work of the OHSC. ⁽¹¹⁾
Outcome Standard	A predetermined expectation of quality of care to do with the end results of healthcare provision e.g. post-operative infection rates. ^(2,12,12,13,13,14) The structure-process-outcome framework, as an approach to assessing quality of care, was first described by Avedis Donabedian. ^(13,15) See below for definitions of structure and process standards.
Policy Actors	Includes those who have official responsibility to write policies, those who influence how the policy is implemented e.g. healthcare managers, those who influence the policy process e.g. civil society groups

and organisations that influence the policy agenda e.g. multilateral organisations. ⁽¹⁶⁾

Primary Health Care Defined in the Declaration of Alma-Ata⁽¹⁷⁾ as ‘essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford... It is the first level of contact of individuals, the family and community with the national health system.’ p.1 ⁽¹⁷⁾

Process Standards Predetermined expectations of quality of care to do with the manner by which healthcare is delivered. e.g. the administration of medication, the keeping of medical records or the maintenance of equipment. ^(2,13,14)

Standard In the healthcare regulation space, standards are understood to be explicit, predetermined, written expectations of quality of care set by the regulator and with which the regulated organisations are expected to comply. ^(2,14)

Structural Standards Predetermined expectations that speak to the quality of the inputs into the system, such as the availability of

essential equipment, the design of the health facility and the presence of the necessary human resources. ^(2,12,13)

Trusts Organisations within the English National Health Service that manage the provision of healthcare services to communities. ⁽¹⁾

Quality Indicator Defined by Øvretveit ⁽¹⁸⁾ as ‘a method of measurement which gives data that may be related to the quality of a service’ p.231 ⁽¹⁸⁾

Universal Health Coverage Defined by the World Health Organization as a form of health coverage that allows all people to ‘use the promotive, preventative, curative, rehabilitative and palliative health services they need, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship.’⁽¹⁹⁾

Vital Measures In the South African regulatory context, ‘vital measures’ are defined as measures that are designed to protect patients from avoidable harm and death. ⁽⁶⁾

Chapter 1: Introduction

1.1. Overview

This chapter provides an overview of External Quality Assessment (EQA). The overview includes the history and growth in recent decades, both internationally and in South Africa, which is the focus of this research. The next section contains a description of the activities of the Office of Health Standards Compliance (OHSC), South Africa's newly established EQA body, which is the main subject of this research. I refer to the current scholarly literature to elucidate the OHSC's programme theory and to identify some of the mechanisms that the OHSC believes will result in EQA improving quality of care in the South African health system, specifically patient outcomes. This brings us to the research opportunity and the three research questions this thesis seeks to answer, which are:

1. What is the relationship between EQA and patient outcomes (specifically Healthcare Associated Infections) at the specialist-care facility level in South Africa?
2. What are the facilitators of and barriers to health facility performance (i.e. attainment of compliance with standards) in EQA at the district hospital level in South Africa?
3. What has been the experience of EQA by frontline healthcare workers at the district hospital level in South Africa?

The chapter then concludes with detail on the research context, including a brief overview of the history of the South African healthcare system, its current structure and some of the challenges faced in contemporary South Africa.

1.2. What is External Quality Assessment?

Various authors define External Quality Assessment (EQA) differently. ^(18,20-22) In its simplest sense it is the practice of assessing the quality of the structures, processes and outcomes of health facilities using predetermined standards, by external assessors who award the health facility compliance status on the basis of its performance against the standards. ⁽²³⁻²⁶⁾ There exist a wide variety of health facility EQA-type programmes, some of which only focus on specific departments of a health facility e.g. trauma units or laboratories. ⁽²⁾ In this dissertation I am interested in organisational level, system wide EQA that assesses quality of care across the departments and disciplines offered by a health facility. The terms ‘accreditation’ or ‘certification’ are also used, at times interchangeably ⁽²⁾, to describe the above-mentioned practice. In its strictest sense the practice of accreditation is related but distinct from that of certification ⁽²⁾, and these distinctions are outlined in Table 1 below. As few EQA programmes adhere strictly to the terms, to avoid confusion I use the term EQA when I refer to the group of practices in this dissertation.

Table 1: Accreditation versus Certification

	Accreditation	Certification
Body	Non-governmental Organisation (NGO)/ Independent agency ^(2,26)	Governmental or NGO ^(2,26)
Type of Assessors	Peer Reviewers	State Inspectors ⁽²⁶⁾
Type of Standards	Optimal, achievable and aspirational standards ^(2,26,27)	Legislated standards ⁽²⁶⁾
Purpose of Assessment	Health facility self-improvement ^(2,26)	Protection of the public from harm ⁽²⁶⁾
Individuals or Organisations	Organisations	Both
Support Provided to Assist in Achieving Standards	Yes, in the form of education and consultation ⁽²⁷⁾	Not formally
Voluntary or Mandatory	Voluntary	Mandatory

1.3. The history of External Quality Assessment

Standards for the external measurement of quality of care were first developed by the American College of Surgeons' Hospital Standardization Program and launched as the 'Minimum Standard' in 1917. ^(27,29,30) These standards were developed in an attempt to ensure that hospitals maintained an acceptable standard so as to be a suitable training environment for aspiring surgeons. ^(27,29,30) This also allowed for exemplary hospitals to be recognised while low-performing hospitals could be stimulated to improve the quality of their work. ^(27,29,30) The founding members believed that the standardisation of hospitals and hospital work would ensure that 'patients receive the best type of treatment, and the public have some means of recognizing those institutions devoted to the highest ideals of medicine.' Davis as cited by Roberts, p.936. ⁽²⁷⁾ This led to the formation of the Joint Commission on Accreditation of Hospitals in 1951 ^(27,31), a non governmental organisation that

performs EQA in the majority of the United States' hospitals. ⁽²⁴⁾ The Joint Commission on Accreditation of Hospitals was later renamed the Joint Commission on Accreditation for Health Care Organizations (JCAHO) as it spread its EQA services to a wider range of healthcare settings. ^(27,32) Later this was shortened to Joint Commission (JC) in 2007. ⁽³³⁾ The establishment of the Joint Commission on Accreditation of Hospitals was the formal start of EQA processes for health systems in the United States of America (USA). ⁽²⁹⁾ The practice of EQA became increasingly more widespread in response to a growing desire by health care managers, policymakers, regulators, purchasers of health services and patients for objective and comparable information on the quality of the services being provided in the health system. ^(2,26) EQA later spread to Canada and Australia and then finally to Europe in the 1980s, where in many developed world health care systems it became the cornerstone of quality assurance. ^(29,34)

The process of EQA usually has three steps. The health facility performs a pre-EQA internal assessment, based on the same standards that the surveyors will use for their assessment. The health facility is then formally assessed by an EQA body and usually receives a report on their performance. ⁽³⁶⁾ If the health facility meets the standards they are awarded compliance status. ⁽²³⁾ This status however is not permanent, and is reviewed periodically, usually every four years. ⁽²³⁾

1.4. External Quality Assessment today

The practice of EQA of health facilities has been widely accepted as beneficial and as a consequence forms part of a large number of developed country health systems' quality evaluation efforts. ^(18,38-40) This perception that EQA is beneficial to the health

system is however not necessarily supported by rigorous evidence.^(18,34,41-44) EQA of health facilities, particularly in the form of accreditation, has been described by Greenfield⁽⁴⁴⁾ as an example of ‘diffusion of innovation’, ‘whereby an idea whose time has come is adopted first by early proponents, then is received by the majority and then becomes normal practice’ Rogers as cited by Greenfield, p.162.⁽⁴⁴⁾ The trend that Greenfield describes has persisted, despite the lack of accompanying empirical evidence proving that EQA actually improves patient outcomes - the desired end goal.^(28,44) A number of authors have raised concerns regarding the dearth of research assessing the effectiveness of EQA programmes. In particular, evidence is lacking with regards to the key relationship between EQA and patient outcomes. This is an important gap, given the high cost of EQA programmes, both in terms of their design and their implementation.^(18,34,41)

The lack of evidence for the effectiveness of EQA programmes has not diminished their uptake and to date one can find at least a single health system EQA programme in over 70 countries.^(18,44,45) In many countries, failure to comply with EQA standards can have far reaching implications for a health facility and its leadership, such as stigmatisation (especially with the mounting demand that EQA reports be made publically available)^(18,26), financial penalties, loss of decision-making power or contracting opportunities⁽¹⁸⁾, closure, loss of employment and in extreme cases, prosecution.⁽⁴⁶⁻⁵⁰⁾

1.4.1. The international External Quality Assessment landscape

There is limited empirical published literature that compares and contrasts EQA agencies across countries.⁽⁵¹⁾ The literature that is available suggests that EQA bodies

differ from country to country in terms of a number of characteristics such as the standards used (most countries develop their own ⁽⁵²⁾), assessment styles, the consequences for non-compliance, the socio-economic and political drivers that led to the introduction of EQA into the respective health systems and the sustainability challenges faced by individual EQA bodies which are by no means a homogenous group. ⁽²⁸⁾ Yet globally, EQA bodies tend to follow a similar structure of health facility internal assessment against published standards, onsite EQA conducted by external assessors, a post-assessment report based on performance against standards and the awarding of a time-limited compliance status. ^(51,53) The work of Braithwaite and others documents this trend of EQA bodies adopting a similar basic programmatic framework and subscribing to similar underlying assumptions on how EQA works. ⁽⁵⁴⁾ This near universal adoption of a similar programmatic framework has been in part influenced by the International Accreditation Program of the International Society for Quality in Health Care, an accreditation programme for EQA agencies that tries to align EQA agencies around common international principles. ⁽⁵⁴⁾ In low income country contexts, this has been influenced by donor or development agencies that often fund the establishment of EQA agencies as part of wider health system reforms. ^(51,52,54)

Shaw et al.'s 2010 survey of 61 EQA agencies, across a vast array of socioeconomic and political contexts, identifies a number of emerging trends in the global EQA landscape. ⁽⁵²⁾ EQA bodies are reported to be increasingly associated with government regulatory processes, either through conducting EQAs on behalf of governments, being linked to criteria that determine health facility access to government funding or being authorised by national legislation to conduct EQAs. ⁽⁵²⁾ This departure from the

practice of traditional accreditation agencies (see Table 1) as independent of government is believed to be as a result of EQA agencies seeing proximity to government as a strategy for long-term sustainability. ⁽⁵¹⁾ This is especially true in the low and middle income country context. ⁽⁵¹⁾ In these contexts, governments increasingly see EQA as a mechanism that will support health system reform. ⁽⁵²⁾ EQA bodies that operate with increasing proximity to government are faced with the challenge of trying to balance the organisational development characteristics of a traditional accreditation agency (such as capacity building of healthcare workers) with the compliance enforcement requirements of a health system regulator. ⁽⁵²⁾ EQA bodies that exist completely independently of government systems, and rely solely on payments from participating health facilities for revenue generation, have to demonstrate continual value for money to keep their customers interested. ⁽⁵²⁾ EQA agencies that perform a regulatory function do not have this concern, as health facilities are often mandated to undergo EQA by law, or in order to access certain types of healthcare funding. ⁽⁵²⁾ The distinct disadvantage of this is that these agencies do not face the pressure to demonstrate the value they add to the health system. ⁽⁵²⁾ In general it appears from the literature that EQA agencies globally continue to experience demand for their services that is growing. ⁽⁵²⁾ According to Shaw, this demand is driven by healthcare organisations viewing EQA as a means to improve quality of care in their health facilities as well as a mechanism for organisational development. ⁽⁵²⁾ EQA is viewed as a marketing tool by these healthcare organisations to attract domestic and international clients to their health facilities. ⁽⁵²⁾ In addition with the rise of EQA agencies and their regulatory role, there is an increased demand for EQA because it is, in some contexts, now a statutory obligation. ⁽⁵²⁾

1.5. External Quality Assessment in South Africa

The earliest form of health facility EQA to be undertaken in the South African health system was through the Pilot Accreditation Programme for South African Health Services in 1994. This was a research programme led by Professor Stuart Whittaker, who in 1995 went on to establish the Council for Health Service Accreditation of Southern Africa (COHSASA). ⁽⁵⁵⁾ COHSASA is an independent not-for-profit quality improvement and EQA body which offers voluntary EQA to health facilities across Southern Africa. ^(56,57) Prior to COHSASA there did not exist many formal programmes to monitor the quality of service provision in South Africa's public and private health facilities. Assessments of quality of healthcare were largely limited to statutory inspections of the safety and infrastructure of health facilities. ⁽⁵⁸⁾ Between 1994 and 2011, when the Office of Health Standards Compliance began conducting EQAs, COHSASA was the only EQA agency conducting voluntary EQAs in South Africa's health facilities. ⁽⁵⁶⁾ Demand for COHSASA's EQAs was largely due to healthcare facilities seeing EQA as a potential marketing tool, particularly in the private sector. Provincial departments of health perceived EQA to be a vehicle through which to improve the quality of healthcare services in their provinces and as a means to identify quality gaps and inform planning. ⁽⁵⁶⁾ Various provinces independently sought out COHSASA's services to conduct EQAs in their health facilities. ⁽⁵⁶⁾ Nevertheless, there has never been in South Africa a national mandate that compelled health facilities to undergo EQA. ⁽⁵⁶⁾

The COHSASA's EQA programme not only assesses quality as measured against predetermined standards but additionally, over a period of nine to 18 months, provides in-service training to healthcare workers. ^(55,56,59) This training includes

teaching guidelines on how to implement standards and how to put quality improvement programmes in place so as to comply with standards. ^(55,56,59) COHSASA's EQA programme rewards health facilities for partial improvements in quality of care through its 'Graded Accreditation Program', which provides health facilities with pre-accreditation certificates for gradual improvements in the quality of service delivery. ⁽⁵⁹⁾ COHSASA continues to offer voluntary EQA in the South African health system, although it appears from the COHSASA website that much of the uptake at present is primarily in the private sector. ⁽⁶⁰⁾

1.6. The Office of Health Standards Compliance

In 2013, the Office of Health Standards Compliance (OHSC), formerly the Office of Standards Compliance ⁽⁶⁾, was registered as a legal entity ^(11,61) and mandated with the responsibility to 'protect and promote the health and safety of users of health services (in South Africa) through monitoring, enforcing compliance with prescribed standards, and ensuring the investigation and disposal of complaints' Moleko et al., p.28 ⁽⁶²⁾ This regulatory body has its foundations in the National Health Act of 2003, in which provision was made to develop an Office of Standards Compliance which would be responsible for inspecting, monitoring and reporting on the quality of the country's health facilities. ^(63,64) The Office would also create a set of quality norms and standards with which health facilities would be expected to comply. ^(63,64) A predecessor to the OHSC, the Office of Standards Compliance, was developed in 2008 as a cluster within the South African National Department of Health, responsible for the establishment of the independent OHSC and norms and standards on quality of healthcare in South African health facilities and a related EQA assessment tool. ^(11,62) In 2011 these norms and standards, based on pre-existing policies, guidelines and

legislation were approved and published as the National Core Standards for Health Establishments in South Africa.⁽¹¹⁾ However the National Health Act of 2003 gave the Office of Standards Compliance no legal powers to enforce compliance with its standards.^(63,64) In 2011 a National Health Amendment Bill was put before the South African parliament to allow for the creation of the OHSC⁽⁶³⁾, which would be responsible for monitoring quality of care in health facilities as well as ensuring mandatory compliance with quality standards through the threat of fines, withdrawal of certification or closure.⁽⁶⁵⁾ It is envisioned that funding from the proposed National Health Insurance Fund (a mandatory healthcare prepayment system that seeks to achieve universal health coverage in South Africa) will depend on the certification of health facilities by the OHSC.⁽⁶⁶⁾ These attributes of the OHSC, i.e. supported by an enabling legislation with the mandate to regulate aspects of healthcare provision, are aligned with global trends of EQA agencies described above that suggest a shift from the traditional voluntary EQA agency to a state-funded regulatory programme.⁽⁵²⁾

The functions of the OHSC are detailed in the National Health Amendment Act of 2013⁽⁴⁷⁾, included as Appendix A. Table 2 below describes the regulating organisation and its activities in full using Walshe's 'Framework for evaluating regulation'. p.33⁽¹⁴⁾

Table 2: The Office of Health Standards Compliance

'Regulating Organisation'	The OHSC was established by the National Health Amendment Act of 2013 and is registered as a national public entity in terms of the Public Finance Management Act of 1999.^(47,67) The OHSC is an independent entity governed by a board of directors appointed by and accountable to the Minister of Health.^(47,68) The OHSC is funded by money allocated to it by the South African parliament.⁽⁴⁷⁾
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‘Regulatory goals/objectives’	The objectives of the OHSC are to ‘protect and promote the health and safety of users of health services’ National Health Amendment Act, p.4 ⁽⁴⁷⁾ through assessing and ensuring compliance with pre-prescribed norms and standards, as well as addressing complaints made in relation to non-compliance with norms and standards. ⁽⁴⁷⁾
‘Scope of regulation’	All health facilities, including hospitals, primary health care clinics, emergency medical services, hospices, private medical practices and frail care health facilities are subject to regulation by the OHSC. ^(67,69)
‘Regulatory model’	The regulatory model is deterrence-orientated i.e. it employs the threat of punitive measures to achieve its goals (see OHSC programme theory below), and it is believed that through the enforcement of quality standards, supported by law, quality of care within the health system will improve. ⁽¹¹⁾
‘Direction’	The OHSC communicates its requirements through a set of written standards; these were first published and circulated in 2011 as the ‘National Core Standards for Health Establishments in South Africa’ ⁽⁴⁾ and were used to conduct mock EQAs i.e. EQAs without consequence of health facilities. ^(6,69) In 2015, the first regulations for norms and standards were published and circulated for public comment: these have not as yet been promulgated into law. ⁽⁷⁶⁾
‘Detection’	The National Health Amendment Act makes provision for the OHSC ⁽⁴⁷⁾ to appoint inspectors who have the powers to enter a health facility and ensure that it is compliant with the National Health Amendment Act. ⁽⁴⁷⁾ In addition the National Health Amendment Act empowers inspectors to interview health personnel, request to see documentation and take samples or photographs of materials that will assist in determining whether the health facility is compliant. ⁽⁴⁷⁾
‘Enforcement’	Persistent non-compliance with the National Core Standards may result in disciplinary proceedings for the persons responsible for non-compliance, closure

	of the health facility, and the imposition of fines against the responsible person or facility and referral of the matter to the National Prosecuting Authority. ⁽⁴⁷⁾ However according to the website of the OHSC: ‘The OHSC will however only begin to exercise its full powers once regulations are in place setting out the norms and standards with which various types of health establishments must comply.’ ⁽⁶⁹⁾
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Row headings cited directly from Walshe’s ‘Framework for evaluating regulation’, p.33 ⁽¹⁴⁾

In addition to its quality assessment activities, the OHSC is responsible for receiving, investigating and acting upon complaints made by citizens with regards to the quality of services they receive. ^(65,70) Such complaints must be made through the office of an ombudsman located within the OHSC. ^(65,70) This function of the OHSC is beyond the scope of this research.

In order to ensure its objectivity, the OHSC was moved out of the National Department of Health in 2013, and set up as an independent body accountable to the Minister of Health but not involved in or responsible for quality improvement activities. ^(61,63) At the time of the EQAs that are the subject of this research, the OHSC had not yet started operating as an independent body, nor had the empowering regulations been promulgated into law that will allow the OHSC to certify health facilities and impose sanctions. ⁽¹¹⁾

1.6.1. The National Core Standards

The OHSC’s quality standards, called the National Core Standards, are grouped into seven domains (see Table 3), which are areas considered to be vulnerable to poor quality of care. ⁽⁶⁾ The quality of the clinical management of patients, such as the

degree of clinician adherence to disease management protocols, is not as yet covered by the National Core Standards. ⁽⁶³⁾

Table 3: Seven domains of the National Core Standards

1	‘Patient Rights’
2	‘Patient Safety, Clinical Governance and Care’
3	‘Clinical Support Services’
4	‘Public Health’
5	‘Leadership and Corporate Governance’
6	‘Operational Management’
7	‘Facilities and Infrastructure’

Contents of table taken from the South African National Department of Health’s paper on National Core Standards for Health Establishments in South Africa ⁽⁶⁾

The first three domains are related to the activities of the health facility itself and the extent to which quality care is delivered to patients. ⁽⁶⁾ The remaining four domains are concerned with the support infrastructure within which health facilities operate, and with the ways in which these support services can best ensure that health facilities provide quality health care. ⁽⁶⁾ To ensure objectivity during EQAs and for purposes of comparison, the domains are further divided into subdomains. ^(6,38,63) These subdomains are further divided into nearly 100 distinct standards, criteria and measures which include the various assessment methods employed to collect the evidence, such as patient interviews, staff interviews, staff observations, review of documents and checklists. ^(6,38,63) These can be found summarised in Figure 1 below. The data collected against these measures are used to determine whether the EQA criteria have been met and form the EQA tool. ⁽⁶⁾ There are more than 500 different measures ⁽⁶³⁾ and they have been grouped into risk categories, i.e. extreme, vital, essential and developmental categories, according to the probability of occurrence and

severity of impact if they are not observed.⁽⁶⁾ This risk rating system serves to weight the findings on EQA and determines whether a compliance certificate should be awarded. It also serves to identify those health facilities that pose the greatest risk to the community and to inform the prioritisation of responses and resources.^(6,11) In EQA, health facilities receive a percentage score for each domain, subdomain and standard with which they comply, and these scores are weighted differently according to the risk category under which they fall.⁽⁶⁾ Health facilities are given an opportunity to perform an initial internal assessment against the EQA standards so that they can remedy areas of concern before formal EQA occurs.⁽⁶⁾

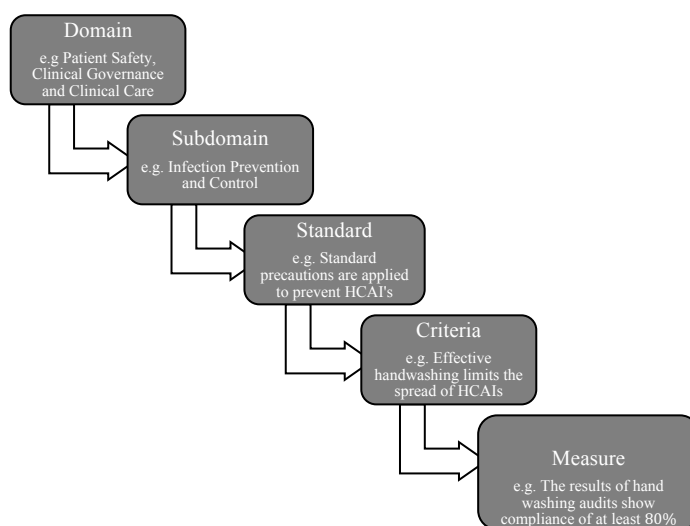


Figure 1: Structure of the National Core Standards

- Adapted from the South African National Department of Health's paper on National Core Standards for Health Establishments in South Africa, p.13⁽⁶⁾

1.6.2. The Office of Health Standards Compliance's programmatic work

Initially thirty inspectors were recruited and trained by the OHSC and four team leaders from the thirty inspectors were sent on a benchmarking exercise with the Care Quality Commission⁽⁶²⁾, England's health and social care regulator.⁽⁷¹⁾ The OHSC then embarked on a national training programme between 2011 and 2012, orientating

health facility managers and district managers on the National Core Standards EQA tool and the EQAs in general. ⁽⁶²⁾ In late 2011, the OHSC began conducting mock EQAs. ⁽¹¹⁾ These were without consequence (because the law had not as yet been passed) on state-funded health facilities. ⁽¹¹⁾ They were conducted to test the EQA tool, to train inspectors and to familiarise health facilities with the EQA process and what would be expected of them. ⁽¹¹⁾ At the time of this research, the OHSC had conducted EQAs on almost 2000 health facilities. ⁽⁷²⁾ Analyses done by the OHSC in 2012 on a sample of health facilities that had undergone EQA found that there was great variation in the performance of health facilities, even between those facing similar resource constraints. ⁽⁷³⁾

It is unclear what role COHSASA's EQAs will play once the EQAs of the OHSC are mandated by law for both public and private health facilities. Some authors have suggested that the activities of the two EQA bodies are not mutually exclusive and that the OHSC's EQAs could play the role of a quality assurance entity that sets minimum standards ensuring a basic standard of quality of care across all health facilities. ⁽⁵⁵⁾ In such a scenario COHSASA's EQAs could play the role of a continuous quality improvement entity, setting maximum achievable standards that stimulate health facilities to continuously strive for excellent care. ⁽⁵⁵⁾ At present, COHSASA's founder and chief executive, Professor Stuart Whittaker sits on the board of the OHSC. ⁽⁶⁸⁾ His positioning suggests that there may be scope for some sort of synergistic cooperation between the two entities in the future. ⁽⁶⁸⁾

1.7. The Office of Health Standards Compliance's Programme Theory

To date, no programme theory features in the published literature on the Office of Health Standards Compliance's (OHSC) External Quality Assessments (EQA) and how they are expected to result in the desired end outcome, i.e. improved patient outcomes. Programme theory, sometimes also referred to as programme logic or theory of change ⁽⁷⁴⁻⁷⁶⁾, is broadly defined as an explanation of how the intended outcomes of a programme are expected to occur. ⁽⁷⁴⁾ The programme theory developed in this research is informed by my interactions with the OHSC, observation of programme implementation ⁽⁷⁴⁾, the publications of the South African National Department of Health ^(6,78-83), policy papers on National Health Insurance in South Africa (in which the work of the OHSC plays a key role) ^(66,84), the National Health Amendment Act of 2003 ^(47,85) and the OHSC website. ^(86,87) Many of the initial programme documents on the work of the OHSC were written by the South African National Department of Health ^(6,78) because at the time of their publication the OHSC was not as yet an independent entity, and sat within the National Department of Health. ^(61,63) A narrative account of the programme theory and underlying mechanisms is presented below and is further illustrated using a logic model that depicts how the various programme activities are expected to result in the desired outcome. ⁽⁸⁸⁾

The aim of the programme theory presented here is to shed light on how the architects of the OHSC EQAs implicitly or explicitly anticipate EQA might result in the desired end outcome, i.e. to improve quality of care in the South African health system. ⁽⁷⁴⁾ The programme theory focuses solely on the work of the inspectorate division of the OHSC and not that of the ombudsman. This aspect of the work of the

OHSC is beyond the scope of this research. The programme theory presented below is restricted by the relatively limited available data publicly available on the work of the OHSC. The programme theory is also limited because of the reliance on published documentation on the current and future work of the OHSC. What is in the public domain may intentionally or unintentionally be incomplete and therefore not wholly make evident the full complexity of the assumptions underlying the introduction of the new policy. ^(75,90) Future research should look to developing this programme theory further through, for example, discussions with key informants on their assumptions and beliefs around the mechanisms through which national mandatory EQA in South Africa is expected to result in improved patient outcomes. ^(75,77)

Based on the literature mentioned above, one might deduce that at its core the OHSC's programme theory is that:

Establishing an independent, adequately funded External Quality Assessment (EQA) agency, that employs competent and skilled inspectors who are afforded the powers to conduct mandatory EQAs of all health facilities in South Africa based on credible, defined, published and measurable quality standards (i.e. the National Core Standards), that reflect expected best practices and with which health facilities will be compelled by law to comply, will result in health facilities bringing about the changes within their institutions so as to:

- *Be awarded compliance certificates and avoid compliance notices for non-compliance and the associated penalties and sanctions,*
- *Qualify for funding from the proposed National Health Insurance Fund and,*
- *Be on par with their peers.*

As a result, high quality care within the health system will be achieved resulting in improved patient outcomes. The National Core Standards will also serve as a tool for continuous quality improvement, as a benchmark against which health facilities can continuously self-assess, prior to and between EQAs, and conduct necessary remedial actions within their facilities in order to remain compliant with the National Core Standards. The EQA report generated for each facility after their EQA will further help guide those health facilities to where quality improvement activities need to be directed.

This programme theory is illustrated below using a simple logic model ⁽⁷⁶⁾, which details the inputs, processes and outputs that are expected to result in the desired outcomes as is articulated in the publications described above. ^(74,91) It is worth bearing in mind the limitations inherent in logic frameworks to adequately represent complex health system interventions. ⁽⁷⁵⁾

Table 4: Logic Model of the Office of Health Standards Compliance's External Quality Assessment Programme

Inputs →	Processes →	Outputs →	Outcomes →	Impact
Independent and adequately funded External Quality Assessment (EQA) agency with regulatory powers Qualified and trained Inspectors Enabling regulation Credible, defined, published, measurable quality standards for the entire country, i.e. The National Core Standards	Health facilities conduct internal assessments based on National Core Standards and perform remedial actions in order to achieve compliance Formal health facility EQAs by the Office of Health Standards Compliance (OHSC) inspectors, health facilities receive EQA reports Issuing of compliance certificates to compliant health facilities Issuing of compliance notices to non-compliant health facilities Enforcement of penalties and sanctions for non-compliant health facilities Repeat EQAs every four years	All South African health facilities have undergone EQA by OHSC	<i>Proximal:</i> Non-compliant health facilities will make changes within their organisations to comply with the standards, e.g. by developing health facility improvement plans Compliant health facilities will maintain standards of quality of care <i>Distal:</i> Increased compliance with quality standards across the South African health system will be achieved	Improved patient outcomes

Some authors have attempted to identify empirically and test the specific mechanisms that underlie EQA. Much of this literature is limited to the mechanisms that underlie the EQA inputs-process links, and less so between the mechanisms that underlie the EQA process-outputs links. An example of such research is Pomey's work on the Canadian EQA programme and the French EQA programme.^(94,95) Pomey's research on the impact of EQA on organisational processes in the Canadian health system suggests that the internal assessment phase of EQA alerts health facilities to areas of their work where quality of care is sub-standard and by so doing prompts health facilities to make the necessary changes in these areas.⁽⁹⁵⁾ In addition, the internal assessment and impending EQA visit raise the profile of these problem areas within health facilities which then become a management priority.⁽⁹⁵⁾ As a result, the resources necessary to resolve them are unlocked.⁽⁹⁵⁾ According to Pomey's research, EQA also prompts health facilities to consider what additional inputs are required by the organisation to enable the sustained quality of care required by the EQA standards.⁽⁹⁵⁾ For example a new information management strategy may improve the implementation of improvements.⁽⁹⁵⁾ Pomey's research also supports the assumption that health facilities will act on the findings of the EQA report and make necessary changes to align themselves with required quality standards.⁽⁹⁵⁾ An example of this can be found in Pomey's case study which demonstrates how a hospital addresses issues around equipment and space in one of their departments in response to findings in their EQA report that points to deficiencies in these areas.⁽⁹⁵⁾ Pomey's research into a French teaching hospital's response to EQA has many useful parallels with the South African EQA programme.⁽⁹⁴⁾ These include, for example, the mandatory nature of the French EQA programme, at the time of Pomey's research run by a state-funded

entity.⁽⁹⁴⁾ Pomey's findings are that the nationally recognised profile of the EQAs and the consequences of non-compliance, for example loss of employment, hospital budgetary restrictions and the risks of legal action, placed pressure on health facility administrators to take notice of and participate in quality of care processes in the health facility.⁽⁹⁴⁾ Pomey's research found that because internal assessment of the health facility requires a significant amount of teamwork across disciplines, participation in EQA resulted in higher levels of cohesion between a diverse range of professionals, greater awareness of interdependence between disciplines and improved communication flows and coordination.⁽⁹⁴⁾ This confirms what others have documented about how these factors improve patient outcomes.⁽⁹⁶⁾ Pomey's research does, however, highlight the importance of context as a mediator to these mechanisms.⁽⁹⁶⁾ This includes, for example, variables such as whether the health facility is undergoing EQA for the first time or whether this is a follow-up assessment, as well as taking into consideration wider organisational reforms, performance in previous EQAs and the economic climate within which the health facility finds itself.⁽⁹⁵⁾

Another example of a programme theory in the published literature that describes the mechanisms through which EQA might result in improved patient outcomes can be found in the UK's Office for Public Management (OPM) 2009 research paper.⁽⁹⁷⁾ In its paper OPM, a research and consultancy organisation that focuses on issues of public interest⁽⁹⁸⁾, proposes a set of mechanisms through which EQA might result in reductions in HCAIs.⁽⁹⁴⁾ This research was done in the context of the then Health Care Commission (now Care Quality Commission) being mandated to inspect how acute trusts (i.e. organisations within the English National Health Service that manage

health facilities and are responsible for ensuring that hospitals run efficiently and provide high quality health care⁽¹⁾) failed when measured against the infection prevention and control quality criteria set out in the 2006 Code of Practice for the Prevention and Control of Health Care Associated Infections (HCAIs). ⁽⁹⁹⁾ A further research question was about how successful acute trusts were in safeguarding patients from acquiring HCAIs. ^(97,99) OPM's 2009 theory of change (presented in figure 2 below) maps out various mechanisms, based on interviews with a number of stakeholders and a review of the literature. ⁽⁹⁷⁾ This shows how the Health Care Commission's EQA programme might have been expected to reduce the rate of HCAIs and their related morbidity and mortality. ⁽⁹⁷⁾ These mechanisms include activities such as improving routine cleaning practices; updating policies and procedures related to infection prevention and control and increasing levels of awareness amongst healthcare workers about activities that might reduce HCAIs. ⁽⁹⁷⁾ All of the above activities are believed to have an impact on hospital HCAI rates. ⁽⁹⁷⁾

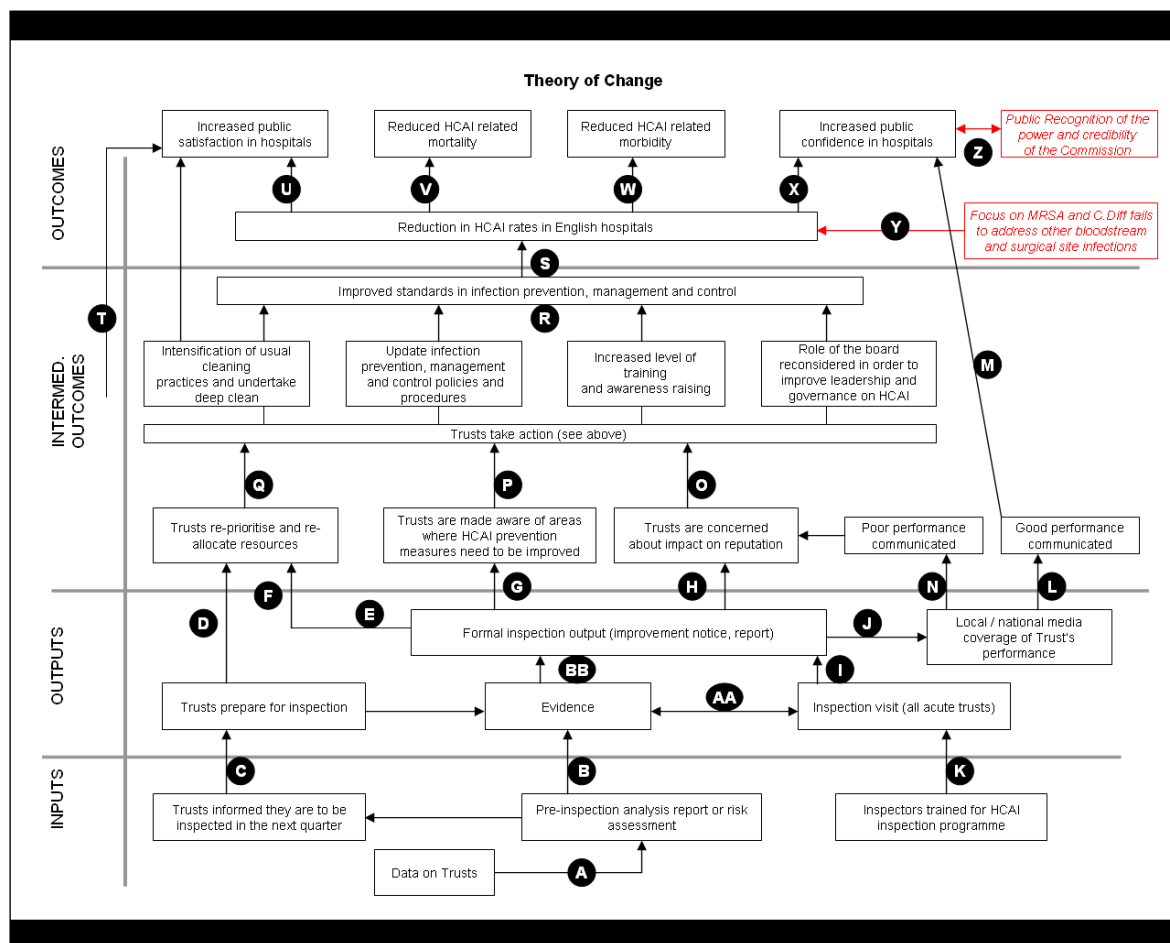


Figure 2: The 'theory of change' for the Health Care Commission's External Quality Assessment programme

Figure taken directly from OPM report, p.12 ⁽⁹⁷⁾

The OPM report identifies key points in the EQA process whereby impact on hospital HCAI rates might be affected as a result of behaviour changes within trusts. These key points are presented in further detail in Table 5 below.

Table 5: Key points in the Healthcare Commission's External Quality Assessment process hypothesised to have an impact on Healthcare Associated Infection rates

Contents of table taken directly from OPM report, p.54 ⁽⁹⁷⁾

Key point in EQA process:	Hypothesised behaviour change:
‘Notification that an EQA would take place’ p.54 ⁽⁹⁷⁾	‘The prospect of inspection (and preparations for it) may lead trusts to take steps that improve infection control arrangements before any inspection visit actually takes place.’ p.54 ⁽⁹⁷⁾
‘Verbal feedback given during the EQA visit’ p.54 ⁽⁹⁷⁾	‘Trusts may take action based on problems identified by the inspectors during the observation and interviews, and in their short verbal feedback at the end of their interviews.’ p.54 ⁽⁹⁷⁾
‘The inspection report’ p.54 ⁽⁹⁷⁾	‘Trusts may take action based on receiving the report itself... and/or the recommendations identified in the report.’ p.54 ⁽⁹⁷⁾
‘An improvement notice’ p.54 ⁽⁹⁷⁾	‘Trusts that receive an improvement notice will have to take actions to address the areas identified in the improvement notice’ p.54 ⁽⁹⁷⁾

In their research, the OPM evaluation team used interviews and surveys of staff of acute trusts and Healthcare Commission inspectors to assess whether the key points of the Healthcare Commission EQA process did in fact result in the hypothesised behaviour changes by acute trusts. ⁽⁹⁷⁾ They found that the large majority of trusts did not make any significant changes in preparation for EQA, even after receiving notice that an EQA would take place. ⁽⁹⁷⁾ Where actions were taken, these largely related to the logistical preparations for the EQA rather than the hypothesised pre-EQA behaviour changes described above. ⁽⁹⁷⁾ Interviewees did, however, report that the feedback received during the EQA had a positive impact and helped to raise the profile of HCAI prevention and control in the trusts and thus expedited HCAI prevention and control activities. ⁽⁹⁷⁾ After receiving their Healthcare Commission report post-EQA, the majority of trusts reported that they had implemented the

recommendations made in the EQA reports.⁽⁹⁷⁾ There was also evidence from OPM's research that undergoing EQA encouraged trusts to look more deeply into HCAI issues.⁽⁹⁷⁾ There was evidence that such a process injected renewed energy and focus into addressing the issues identified.⁽⁹⁷⁾ OPM found that the greatest changes to HCAI prevention and control within trusts related to the EQA visit itself.⁽⁹⁷⁾ The majority of interviewees and survey respondents were of the view that HCAI control practices had improved in the period after undergoing EQA.⁽⁹⁷⁾ The reasons given by interviewees and survey respondents as to why participating in the EQA improved HCAI control practices supported some of the hypotheses made in OPM's theory of change.⁽⁹⁷⁾ In particular hypotheses related to trusts making preparations for an onsite EQA that resulted in resources being prioritised for activities related to standard compliance. Trusts responding to findings in their post-EQA report and making changes in their health facilities as a result (see hypotheses P, Q and R in Appendix B for further details) were hypotheses also found to be true in practice.⁽⁹⁷⁾ The OPM research was unable to demonstrate quantitatively that a statistically significant relationship between acute trust performance in Healthcare Commission EQA and reduced rates of HCAs exists.⁽⁹⁷⁾

1.8. The Research Opportunity

The relationship between EQA and patient outcomes

The introduction of a national policy on EQA in South Africa is a change in the structure of the national health system, and this change has potential to generate performance gains.⁽¹⁶⁾ This health policy change can be considered a natural experiment, defined by the UK's Medical Research Council as 'events, interventions or policies which are not under the control of researchers, but which are amendable to

research which uses the variation in exposure that they generate to analyse their impact.’ p.4 ⁽¹⁰⁰⁾ Thus this health policy change presents us with a research opportunity to assess the relationship between EQA and patient outcomes, and to test relevant components of the OHSC’s programme theory, assessing whether undergoing mandatory EQA has a quantifiable impact on patient outcomes in the context of South Africa. The findings of the OPM research have specific relevance for the South African EQA programme. Many of the inputs, processes and outputs in the OPM theory of change have similarity to those of the South African EQA programme. ⁽⁶⁾ Although the Healthcare Commission’s EQA focused specifically on assessing acute trust performance against improvements in HCAIs reductions, reduction in HCAIs is an explicit goal of the OHSC and there is an entire subdomain in the National Core Standards specifically dedicated to HCAI reduction (see Table 6). Reductions in HCAI were also prioritised in an abridged version of EQAs called ‘Fast Track to Quality- The six most critical areas for patient-centered care’ ⁽⁷⁸⁾ which identified priority EQA standards that health facilities were required to attend to with a matter of urgency. A reduction in HCAIs was identified as one of these six priority areas (see Appendix C for full list of priority areas). ⁽⁸³⁾ There has been research in the international literature suggesting a relationship between EQA and improvements in HCAI control. ⁽¹⁰¹⁾ It might thus be reasonable to expect that undergoing EQA would result in some impact in HCAIs in South African hospitals. This research will test that hypothesis.

Table 6: Domain 2.6 of the National Core Standards- Infection Prevention and Control

Domain 2.6: Infection Prevention and Control
‘2.6.1 An Infection Prevention and Control Programme is in place to reduce health care associated infections’
‘2.6.1.1 An infection prevention and control policy outlines the health establishment’s approach to managing health care associated infections’ ‘2.6.1.2 A qualified health professional is responsible for infection control’
‘2.6.1.3 A formal surveillance and reporting system is in place’
‘2.6.1.4 A formal system is in place to monitor infection prevention and control and ensure appropriate actions are taken to minimise infection rates’
‘2.6.1.5 The health establishment reports health care associated infections and notifiable diseases to appropriate public health agencies’
‘2.6.1.6 Staff and patients and, as appropriate, family and other caregivers, are educated on infection control practices’
‘2.6.2 Specific precautions are taken to prevent the spread of respiratory infections’
‘2.6.2.1 A programme for the prevention and control of respiratory infections is in place (e.g. for tuberculosis)’

‘2.6.3 Standard precautions are applied to prevent health care associated infections’
‘2.6.3.1 Standard precautions to prevent health care associated infections are actively implemented and applied in all clinical areas of the health establishment’
‘2.6.3.2 Sharps are safely handled and disposed of’
‘2.6.3.3 Effective hand washing is used to limit the spread of health care associated infections’
‘2.6.3.4 Appropriate facilities are provided for patients with hazardous infections to reduce the risk of transmission’
‘2.6.3.5 Equipment used by infected patients is safely disinfected’
‘2.6.4 Strict infection control practices are observed in the designated infant feed preparation areas’
‘2.6.4.1 Infant feeds are prepared to ensure safety of infants’

Table taken directly from South African National Department of Health p. 23-24 ⁽⁶⁾

The facilitators of and barriers to health facility performance in External Quality Assessment

In this dissertation I am interested in whether EQA as intervention has an impact on patient outcomes, the desired end goal. In addition, I investigate what the facilitators of and barriers to health facility performance (i.e. with regards to attainment of compliance with standards) in EQA are. This is an important question given that it is a model of health system quality assessment that is unlikely to be changed ⁽¹⁰²⁾, and one that will in time potentially have far-reaching consequences for the health facilities that participate in it. ⁽⁴⁶⁻⁴⁹⁾ Where research has been undertaken, EQA has been found to be particularly useful in singling out non-compliers with pre-determined quality standards but also those that achieve quality standards successfully, despite facing similar resource constraints as their poor performing counterparts. ⁽⁷³⁾ This aspect of EQA is particularly useful in helping various stakeholders identify areas that need to be prioritised for further improvement, particularly in a low or middle-income country setting where resources are limited. ⁽¹⁸⁾ By exploring the facilitators of and barriers to health facility performance in EQA, this research responds to the call by the World Health Organization not only to evaluate which health systems interventions work but which groups of people they work for, and under what types of conditions. ⁽¹⁰³⁾

The experience of External Quality Assessment by frontline healthcare workers

In this dissertation I seek to explore how frontline healthcare workers experience the new health policy on EQA, since we know that health policies succeed or fail based on how they are received, understood and acted upon at the frontline. ^(16,104) This type of system-level intervention is difficult to implement and takes time to take effect. ⁽¹⁶⁾

If one focused solely on outcomes one would miss the opportunity to understand the manifestation of the health policy in the health system, how this might differ between differing contexts, the meaning various policy actors make of the intervention, how these meanings affect the implementation of the health system intervention and how we might respond to these insights to further strengthen the health system.^(16,104) A major failure of health policy implementation in low and middle-income countries in the last three decades has been a linear focus on the content of health policies, and neglecting to take into account policy actors (their behaviours, values, morale and interests), the context and history of the health system, and how these factors interact to produce the lived reality of health policy reform.⁽¹⁰⁴⁾ There has been an expressed demand in the literature for ‘thick descriptions’ of how health policies find expression in the health system in an effort to support effective implementation.⁽¹⁰⁴⁾ This research responds to that call and aims to fill the research gaps described above.⁽¹⁰⁴⁾ Thus far, no research of this nature has been done on the work of the OHSC and its impact on the South African healthcare system. Moreover, research in general has been limited on EQA programmes in low and middle-income countries⁽¹⁰⁵⁾, where they are gaining traction.⁽¹⁰⁶⁾ The establishment of the OHSC in South Africa thus provides a unique opportunity to make a contribution to the literature on this under-researched area.

1.9. The Research Context:

South Africa is an upper middle-income country⁽¹⁰⁷⁾ located at the southern tip of the African continent. South Africa has a Gross Domestic Product of \$350.6 billion and a population of 52.98 million people.⁽¹⁰⁷⁾ Despite being one of the highest spenders on health care on the African continent⁽¹⁰⁸⁾, South Africa’s public health facilities are

plagued with quality issues. ^(109,110) The literature does not support agreement on a single definition of quality (see Table 7). ^(111,112) Whichever way one wishes to define quality, the South African public health care system, which is the health system most South Africans rely upon ⁽¹⁰⁹⁾, performs poorly on all counts. The South African public health care system is inefficient ^(78,113), inequitable ^(109,114), unsafe ⁽⁷⁸⁾, inaccessible to many of its people ⁽¹¹⁵⁾, has poor patient outcomes ^(116,117) and levels of patient satisfaction are suboptimal. ^(82,118,119)

Table 7: Definitions of Quality of Care

Author/Organisation	Definition
‘Donabedian (1980)’	‘Quality of care is the kind of care which is expected to maximize an inclusive measure of patient welfare, after one has taken into account the balance of expected gains and losses that attend the process of care in all of its parts.’
‘Institute of Medicine (1990)’	‘Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.’
Department of Health, (South Africa) 2011	‘Quality is getting the best results possible within available resources.’ South African National Department of Health, p.8 ⁽⁶⁾
‘Department of Health (UK) 1997’	‘Quality of care is: • Doing the right things (what) • To the right people (to whom) • At the right time (when) • And doing things right the first time.’
‘Council of Europe	‘Quality of care is the degree to which health services for individuals and

Author/Organisation	Definition
(1998)'	populations increase the likelihood of desired health outcomes and diminishes the chances of undesirable results, having regard to the current state of knowledge.'
'WHO (2000)'	'Quality of care is the level of attainment of health's intrinsic goals for health improvement and responsiveness to legitimate expectations of the population.'

Table taken directly from Legido-Quigley et al., p. 2 ⁽¹¹¹⁾, with definition from the South African National Department of Health as an additional insertion.

The South African health system is described as a two-tiered system, with the under-resourced public sector servicing the socioeconomically deprived majority and the highly-resourced private sector servicing the wealthy minority. ⁽⁶⁶⁾ The structure of the South African health system has its roots in the country's history of colonialism and apartheid (a 46-year long period of political, social and economic subjugation of the majority of South Africans by an oppressive government based on racial discrimination). ^(116,120) The unequal distribution of resources, which began in the colonial era and was entrenched during apartheid, did not spare the health system and thus the roots of South Africa's poor quality health care system can be traced back to the practice of deliberately dividing healthcare resources according to perceived racial hierarchies, at the expense of the black majority of the South African population. ⁽¹²⁰⁻¹²²⁾ The post-apartheid government inherited a hospicentric, highly fragmented health system, with inequalities in the distribution of resources (both human and financial) and infrastructure, and was tasked with unifying and strengthening an under-developed and divided health system. ⁽¹¹⁶⁾ A number of gains were made in the early post-apartheid period, such as the integration of the health system into a single inclusive system, the strengthening of the primary health care system and the building

of health facilities in previously under-served areas. ^(116,123,124) These gains were constrained by budgetary austerity during that period, severe human resource shortages (particularly in the district health system), the strain on the health system caused by the Human Immunodeficiency Virus epidemic and a poor leadership at all levels of the health system. ^(116,123,124)

The focus of this research is the public sector, which is the tier of the health system that the majority of South Africans access. ⁽¹²³⁾ The governance and accountability relationships between the two administrative tiers of the South African health system (national and provincial), as well as the specific functions of the different levels of public sector health facilities, are specified in the National Health Act no. 61 of 2003 and the related Policy on the Management of Hospitals. ⁽¹²⁵⁾ According to the National Health Act, the Minister of Health and the National Department of Health are responsible for drawing up and enforcing the implementation of policies that advance the well-being of the South African population, as well as for developing norms and standards related to how health services are delivered. ^(64,123) The provincial departments of health are responsible for the implementation of these policies and for delivery of all health services in their respective provinces, amongst other functions. ^(64,123)

South African hospitals are classified according to five levels. ⁽¹²⁶⁾ Level 1 hospitals are the district hospitals, and together with clinics and Community Health Centres, make up the district health system. ⁽⁶⁶⁾ The district health system is considered to be the cornerstone of the South African public health system ⁽⁶⁶⁾ and by design is the first point of contact of the patient with the health system ⁽⁶⁶⁾ and the gateway to

higher levels of specialised care. ⁽¹²⁷⁾ Regional hospitals are classified as level 2 hospitals and provide generalist care and receive patients from district hospitals that fall outside the scope of care of primary health care services. ⁽¹²⁶⁾ Tertiary hospitals, which are classified as level 3 hospitals, provide services that require specialist clinicians and in addition serve as a primary training site for healthcare workers. ⁽¹²⁶⁾ Central hospitals make up level 4 of the hospital classification and provide highly specialised care, such as organ transplant services, and make use of sophisticated technologies and highly skilled healthcare workers. ⁽¹²⁶⁾ Level 5 hospitals comprise psychiatric and rehabilitation hospitals that limit their scope of work to a particular disease entity or care function. ⁽¹²⁶⁾ A 2011 audit of all South African health facilities found that there were a large number of health facilities functioning at a level of care different from their classification. ⁽¹²⁸⁾

Revenue in South Africa is largely collected at the national level and equitably shared across the nine provinces. Provincial governments have the autonomy to decide how they allocate the funds received from treasury across their various government departments, including health. ⁽¹²³⁾ It is reported in the literature that budgetary requests of the various health facilities do not necessarily inform the allocations made. ^(123,124) Provinces are held accountable for their expenditure through the Public Finance Management Act. ⁽¹²³⁾ Authority around the use of resources within health facilities in provinces is centrally held at the level of the provincial departments of health. ⁽¹²³⁾ Health facilities are not permitted flexibility to veer far from their annually approved line item budgets. ⁽¹²³⁾ At the health facility level, hospital Chief Executive Officers' decision-making powers regarding the use of resources do not extend very far beyond activities related to the monitoring of expenditure. ⁽¹²³⁾

In response to the dire state of the quality of care in the South African health system, the South African government has identified the improvement of the quality of the country's health care system at the forefront of its healthcare priorities. ^(6,78,83,114) In the last decade, the health sector has seen an increase in public commitments, working papers, draft policies and even amendments to health bills, all promising to improve the quality of health care in South Africa. ^(6,64,78,83,114,129,130)

Improving quality of care is part of the much wider healthcare reforms in South Africa that seek to achieve Universal Health Coverage through the establishment of a mandatory healthcare prepayment system known as National Health Insurance. ⁽⁶⁶⁾ Nonetheless, improving quality of care has repeatedly been singled out as one of the core priorities of the reforms ^(63,78,83,109) and an important first step towards achieving Universal Health Coverage. ⁽¹¹⁾

The work of the OHSC plays a key role in these reforms and the chapters that follow will present the reviews of the literature that has underpinned this thesis, describe the methods used to answer the research questions presented in this chapter, share the results of the empirical work and close with a discussion of the findings as well as some analytic remarks about implications for policy, practice and future research.

Chapter 2: Literature review

2.1. Introduction

In this chapter I conduct three literature reviews that answer the following questions:

- 1) What is the relationship between External Quality Assessment (EQA) and patient outcomes?
- 2) What are the facilitators of and barriers to health facility performance in EQA?
- 3) What is the experience of frontline healthcare workers of EQA?

For the first and third literature reviews I systematically searched the literature for articles on the relationship between EQA and patient outcomes (in general and not limited to Healthcare Associated Infections) and on the experiences of EQA by frontline healthcare workers. The detailed methods followed for each review are described below. For the second review I used the methodology of the narrative synthesis, as described by Popay et al.⁽¹³¹⁾, in order to identify the facilitators and barriers to performance in EQA. The reasons for the use of the narrative synthesis methodology and the methods followed are described below.

2.1.1. The relationship between External Quality Assessment and patient outcomes

This review focuses specifically on the relationship between EQA and patient outcomes. A number of authors have raised the concern that the empirical evidence base to support the belief that EQA improves patient outcomes is weak.^(28,53,132,133) According to Donabedian, considered to be the father of quality assurance⁽¹³⁴⁾, quality of healthcare can be measured in terms of the quality of the structures of the

health facility, quality of the processes the health facility employs and quality of the health outcomes experienced by those who interact with the health facility. ^(112,135) There has been some research that has demonstrated an association between EQA and improved structure and process indicators ^(24,42,95), but less so with regards to the impact of EQA on patient outcomes ^(53,136), the desired end goal. ⁽¹³⁵⁾ The following review seeks to systematically search the literature for empirical studies that attempt to answer this important research question. Five systematic reviews exist in the English language published literature that attempt to answer a related research question. ^(39,137-141) Of these five systematic reviews, the reviews by Flodgren et al. and Brubakk et al. employ strict inclusion criteria and as a result the authors find only two and four papers respectively. ^(137, 141) The systematic review conducted in this thesis expands on the work of these authors by relaxing the inclusion criteria to include any empirical research which assesses the relationship between organisation-level EQA of health facilities and patient outcomes. ⁽¹⁴²⁾ This approach allows for the identification of empirical research that might not be suited to the RCT-type study design but nonetheless remains policy-relevant and can provide valuable insights into the effects of EQA on patient outcomes. ⁽¹⁴²⁾ The other three systematic reviews identified in the literature that answer similar research questions to the one posed here ^(39,138,140) include in their reviews a wide variety of EQA type programmes such as EQA of healthcare personnel training programmes or department-specific EQA programmes. ^(39,138,140) Furthermore these authors do not limit their inclusion criteria to organisation-level health facility EQA programmes. ^(39,138,140) The heterogeneity of the types of EQA programmes included in these reviews make it difficult to ascertain whether the review findings can truly be attributed to organisation-level health facility EQA programmes which is the concern of this thesis. What is needed is a systematic

review that focuses solely on organisation-level health facility EQA and its relationship with patient outcomes.

Search strategy:

A systematic search of the literature published between 1980 and week 15 of 2016 was conducted using the search terms listed in Table 8 below. The search was limited to the period from 1980 onwards, as it was only in the 1980s that the practice of EQA became widespread. (29,34)

Table 8: Search terms used: Relationship between External Quality Assessment and patient outcomes

1.	((relationship) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR 'external quality assessment' OR 'external quality evaluation' OR 'quality evaluation' OR 'quality standards' OR 'quality monitoring' OR 'hospital standards' OR 'external inspection') AND ('patient outcomes'))
2.	((impact) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR 'external quality assessment' OR 'external quality evaluation' OR 'quality evaluation' OR 'quality standards' OR 'quality monitoring' OR 'hospital standards' OR 'external inspection') AND (patient outcomes'))
3.	((effectiveness) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR 'external quality assessment' OR 'external quality evaluation' OR 'quality evaluation' OR 'quality standards' OR 'quality monitoring' OR 'hospital standards') AND (improve*) AND ('patient outcomes'))

- The above terms were entered into MEDLINE (Ovid), Scopus, PubMed, CINAHL, Embase and PsycINFO
- Google Scholar was searched using the above key words to ensure no relevant articles were missed

- Included articles were used to find related articles in PubMed and thus to identify other potentially relevant articles
- Reference lists of articles included in the review were also searched for further relevant articles
- Inclusion criteria
 - Empirical research of which the subject was organisation-level EQA programmes of health facilities
- Exclusion criteria:
 - Non-empirical pieces such as commentaries, editorials, letters and non-systematic literature reviews
 - Studies that addressed the relationship between quality improvement exercises in general (and not specifically EQA) and its impact on patient outcomes
 - Studies whose focus of interest was departmental, discipline, condition-specific or service level EQA programmes e.g. laboratory EQA programmes or trauma unit EQA programmes and not organisation-level, system-wide EQA programmes
 - Studies whose focus was accreditation of individual groups of healthcare workers (e.g. nurses) rather than the entire scope of services offered by health facilities
 - Non-English language articles - due to the costs involved in translating foreign language articles.

A total of 11 829 articles were retrieved from the search. These titles and abstracts were uploaded onto *RefWorks*, an online bibliographic management programme. The

large number of studies retrieved was likely due to the use of non-specific search terms ⁽¹³⁹⁾ which were used deliberately, as there exist a large variety of EQA programmes globally that go by different names and thus non-specific search terms had to be used to ensure no relevant papers were missed. After duplicate titles were removed, 9172 titles remained for screening. These titles were screened for subject matter that was of relevance to the review question, and those that were not considered relevant were deleted. A total of 9152 non-relevant titles were removed, leaving twenty titles whose abstracts were screened for relevance. This literature search was conducted by a single reviewer i.e. the present author. Because so few relevant titles were found, the search was repeated on a separate occasion to ensure no relevant titles were missed. Furthermore, as was the case for the other systematic reviews conducted in this thesis, the search strategy, approach and the terms used were discussed extensively with a professional librarian.

Of the twenty abstracts found in the literature search, only fifteen were found to meet the inclusion criteria of the review. These fifteen full-length papers were obtained and assessed for eligibility for inclusion in the review. Upon reading all fifteen papers, only five were found to be suitable for inclusion in the review (see Appendix D for references of excluded papers and reasons for exclusion). Figure 3 below, adapted from the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) flow diagram, p.3 ⁽¹⁴³⁾ presents the details of the literature search at its various stages.

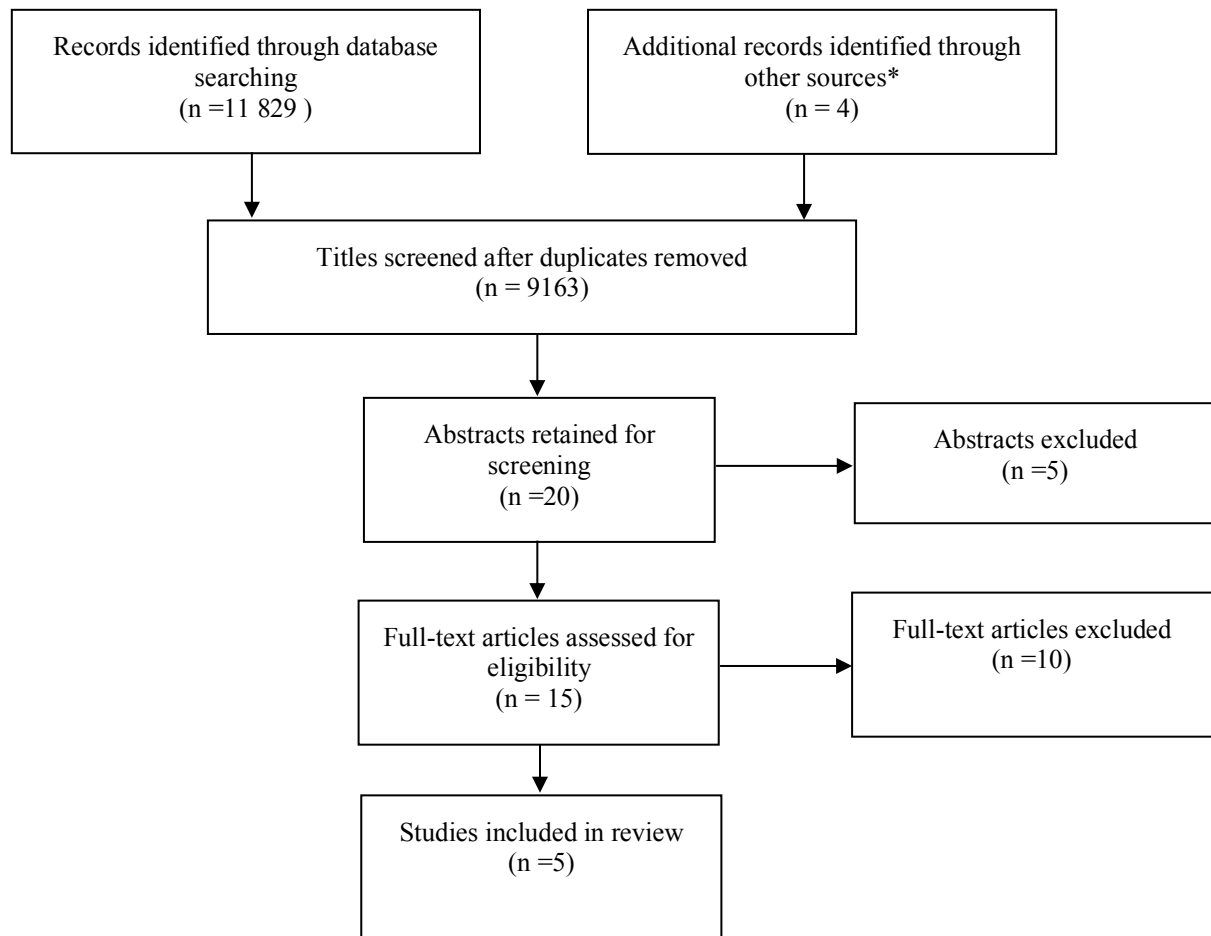


Figure 3: Flow diagram of search strategy-Relationship between External Quality Assessment and patient outcomes
-Adapted from PRISMA Flow Diagram, p.3 ⁽¹⁴³⁾

*Other sources include: Google Scholar, reference lists of included articles, articles found conducting other searches

As only five papers were found that responded to the review question, no attempt was made at synthesising the findings. Instead a narrative summary of the results is given below.

⇒ Chen et al., 2003 ⁽¹⁴⁴⁾

Using the United States of America's (USA) Acute Myocardial Infarction (AMI) data from 1994-1996, Chen et al. ⁽¹⁴⁴⁾ conducted a study that examined the relationship between Joint Commission on Accreditation for Health Care Organizations' (JCAHO)

EQA and thirty-day mortality rates of patients hospitalised with AMI, amongst other process indicators of hospital quality of care.⁽¹⁴⁴⁾ Chen et al. used thirty-day mortality rates for deaths associated with AMI as their patient outcome of interest, because they argued that after thirty days post AMI one should be able to see the benefits of good quality hospital care.⁽¹⁴⁴⁾ The other quality indicators assessed for by Chen et al. were not suitable for inclusion in this review as they were clinical process quality indicators and not measures of patient outcomes.⁽¹⁴⁴⁾

Chen et al.⁽¹⁴⁴⁾ compared thirty-day mortality rates associated with AMI in hospitals that had undergone JCAHO EQA with those that had not, and found that hospitals that had not undergone JCAHO EQA had higher thirty-day mortality rates than those that had, and that this finding remained statistically significant even after adjusting for hospital and patient characteristics.⁽¹⁴⁴⁾

However as participation in JCAHO EQA is voluntary in the USA, and is funded by the hospitals themselves who, according to Chen et al., have a huge incentive to seek JCAHO accreditation for marketing purposes, it is unclear whether the association found by Chen et al. between hospitals that had undergone JCAHO EQA and lower thirty-day mortality rates was a function of self-selection amongst high-performing and well-resourced hospitals for JCAHO, rather than the JCAHO EQA process itself having an impact on hospital thirty-day AMI mortality rates.⁽¹⁴⁴⁾ This alternative explanation for the difference in thirty-day mortality rates between hospitals that had undergone JCAHO EQA and those that had not is particularly compelling in light of the fact that Chen et al. found that the hospitals that had not undergone JCAHO EQA

tended to be small, rural, non-academic state hospitals with limited facilities for cardiac interventions. ⁽¹⁴⁴⁾

Amongst the hospitals that had undergone JCAHO EQA, Chen et al. found that those hospitals that had achieved the highest JCAHO EQA score, namely those with ‘accreditation with commendation’ p.244 ⁽¹⁴⁴⁾, had lower thirty-day mortality rates than those that had achieved lower EQA scores. ⁽¹⁴⁴⁾ But when the thirty-day mortality rates were risk-standardised this correlation, between level of EQA score and thirty-day mortality rates, did not hold and there were hospitals with high thirty-day mortality rates which had achieved ‘accreditation with commendation’ status and hospitals with low thirty-day mortality rates in the ‘conditional accreditation’ p.244 ⁽¹⁴⁴⁾ category i.e. a lower level of compliance with EQA standards. ⁽¹⁴⁴⁾

⇒ Devkaran and O’Farrell, 2015 ⁽¹⁴⁵⁾

Between 2009-2012 Devkaran and O’Farrell ⁽¹⁴⁵⁾ collected clinical quality measures from an acute care hospital in Abu Dhabi that had undergone EQA in 2010. ⁽¹⁴⁵⁾ They then analysed the impact of EQA on these clinical quality measures, using an Interrupted Time Series Analysis (ITSA) and compared the level and slope of the clinical quality measures pre-intervention (i.e. pre-EQA) to those of the post-intervention period (i.e. post-EQA). ⁽¹⁴⁵⁾ Of the twenty-seven clinical quality measures collected, only four were patient outcome measures i.e. hospital *Methicillin-resistant Staphylococcus Aureus* (MRSA) rates, Healthcare Associated Infections (HCAs) hospital-wide, surgical site infection rate and mortality rate. ⁽¹⁴⁵⁾

The authors found that, following EQA, the level of the hospital MRSA rate and the number of HCAs hospital-wide increased, and the post-EQA slopes of hospital MRSA rates, number of HCAs hospital-wide and surgical site infection rates all increased. These findings were statistically significant for the post-intervention change in level and change in slope in the hospital MRSA rate.⁽¹⁴⁵⁾ The authors attributed these counterintuitive findings to the possibility that perhaps the hospital was identifying more HCAs post-EQA as a consequence of a more sophisticated infection control process put in place after EQA.⁽¹⁴⁵⁾

The ITSA did not reveal any significant impact of EQA on mortality rates post intervention.⁽¹⁴⁵⁾

Not only were the authors unable to demonstrate a positive impact of EQA on any of the four patient outcome measures, but also neither in the large majority of the other clinical quality measures assessed.⁽¹⁴⁵⁾ Thus in conclusion this review revealed that the relationship between EQA and patient outcomes in the hospital that was the subject of this study remained unclear if not discouraging.

⇒ Heuer, 2004⁽¹⁴⁶⁾

Heuer in her study of the relationship between EQA and the patient outcome, patient satisfaction, looked at independently measured patient satisfaction surveys at forty-one not-for-profit hospitals in New Jersey and Pennsylvania and compared these results with overall Joint Commission (JC) EQA scores as well as selected categorical JC EQA scores, using statistical methods, to assess whether a relationship could be found between performance in JC EQA and patient satisfaction.⁽¹⁴⁶⁾

Heuer was unable to demonstrate a meaningful relationship between JC EQA scores and patient satisfaction.⁽¹⁴⁶⁾ This is a troubling finding as JC accreditation was at the time of Heuer's research, the most commonly used indicator of quality of care in the American health system and a quality assurance programme to which over 95% of United States hospitals subscribed.⁽¹⁴⁶⁾

⇒ Salmon et al., 2003⁽⁴²⁾

Between 1998-2000 Salmon et al. conducted a randomised controlled trial in order to investigate the impact of the Council for Health Service Accreditation of South Africa's (COHSASA) EQA programme on public sector hospitals' compliance with COHSASA standards.⁽⁴²⁾ They also analysed compliance with quality indicators developed by an independent research team.⁽⁴²⁾ Of the COHSASA standards and the quality indicators measured in the research, only one was a patient outcome measure; the rest were all structure and process measures.⁽⁴²⁾

In the twenty hospitals included in their randomised controlled trial, ten of which were intervention arm and ten of which were control arm, Salmon et al. were unable to demonstrate a statistically significant impact of EQA on the only patient outcome measured, namely, patient satisfaction with quality.⁽⁴²⁾ Salmon et al. were also unable to demonstrate a statistically significant impact of EQA on any of the other quality indicators measured, and were only able to demonstrate improvements in compliance with COHSASA standards when comparing pre-intervention to post-intervention EQA scores.⁽⁴²⁾

⇒ Thornlow et al., 2009 ⁽¹⁴⁷⁾

Thornlow et al.'s research sought to assess the relationship between patient safety processes (as measured in EQA) and patient safety outcomes, such as Healthcare Associated Infections (HCAI), pressure ulcers, post-operative respiratory failure and failure to rescue rates (that is failure to prevent death after a treatable complication ⁽¹⁴⁸⁾). ⁽¹⁴⁷⁾ All of the above are patient outcome measures that have been shown to be closely related to organisational characteristics and clinical care practices. ⁽¹⁴⁷⁾

Thornlow et al. performed their analysis by collecting secondary data on patient-safety-related EQA standards from publicly available 2005 JC EQA performance reports and quantitatively comparing them to patient outcomes in 115 United States acute care hospitals. ⁽¹⁴⁷⁾ What they found was that higher performance in EQA, as it related to the patient-safety-related EQA standards, was associated with reduced HCAI and pressure ulcer rates. ⁽¹⁴⁷⁾ No difference in rates of failure to rescue and postoperative respiratory failure was seen in hospitals that performed well on patient-safety-related EQA standards, compared with those that did not. ⁽¹⁴⁷⁾

Thornlow et al. conclude in their study that perhaps certain patient outcomes such as HCAs and pressure ulcers are responsive to preventative protocols that tend to be assessed for in EQA-type assessments, and that other patient outcome indicators such as failure to rescue or postoperative respiratory failure, might require multipronged strategies that are not easily measured through EQAs. ⁽¹⁴⁷⁾

The systematic search of the literature to answer the research question: 'What is the relationship between EQA and patient outcomes?' resulted in only five empirical

research papers which, as has been raised by a number of authors in the literature, do not confidently support the belief that EQA is effective in improving patient outcomes. ^(28,44,133,149) The empirical research responding to this important question remains limited and further research is needed, particularly in low and middle-income country settings where EQA is gaining traction. More research is needed on the relationship between EQA and patient outcomes in contexts where EQA is mandatory, to avoid for the self-selection bias that may explain the positive results seen in some of the US studies such as Chen et al. above. ⁽¹⁴⁴⁾

2.1.2. Facilitators of and Barriers to health facility performance in External Quality Assessment

The practice of EQA of health facilities has been widely accepted as beneficial and as a consequence has flourished in the developed world. ⁽⁴⁴⁾ Today, many countries consider EQA a necessary step in any national strategy to assure quality of care. ^(38,150) Some have questioned the premise that EQA improves quality of care, and many have raised concern about the dearth of literature attesting to its capabilities. ^(34,41,44) Yet despite this there continues to be widespread investment in EQA. ⁽¹⁰²⁾ EQA even has the support of international organisations such as the World Health Organization and it remains the mainstay for assessing performance of health facilities not only by patients, the public and funding institutions, but also by policymakers who have to respond to the inadequacies in health facilities exposed by EQA. ^(46,102) Research done, particularly in low and middle-income countries, has found that health facilities struggle to meet EQA standards, even when these standards are based on local guidelines, informed by context-specific needs, created in collaboration with local stakeholders and are deemed to be realistic and achievable by the very healthcare workers who are responsible for their implementation. ⁽³⁸⁾ Nevertheless EQA is likely

to continue to play a prominent role in the quality improvement arena ⁽¹⁸⁾, as at this stage there does not exist a viable alternative model. ^(18,102) While recognising the important role EQA plays in the health system, this review seeks to systematically explore the literature to answer the research question: ‘What are the facilitators of and barriers to health facility performance in EQA?’, that is, what are the facilitators of and barriers to health facilities attaining compliance with standards? To date, there is not a systematic review in the English language published literature that answers this research question. Addington et al.’s 2010 systematic review answers a related question, namely, what are the facilitators of and barriers to implementing quality measurement in primary care mental health facilities? ⁽¹⁵¹⁾ The review question that is the subject of this thesis is interested in the factors that enable health facilities to achieve high scores in EQA and the factors that contribute to health facilities scoring poorly in EQA. Addington et al.’s research in contrast is interested in what facilitates and what acts as a barrier to the adoption of healthcare innovations and clinical guidelines that are believed to improve quality of care. ⁽¹⁵¹⁾

The methodology of the narrative synthesis was favoured for this review question because it is a technique of synthesising literature from heterogeneous methodologies and contexts, yet retains methodological rigour in a manner that is accessible to policymakers and other potential beneficiaries of the research. ⁽¹³¹⁾ The use of a narrative synthesis is particularly appropriate when one is not attempting to answer an effectiveness question, the subject of most systematic reviews, but other equally important but less black and white, policy-relevant questions such as the facilitators and barriers to the implementation of an intervention. ⁽¹³¹⁾ Popay et al.’s guidelines on the conduct of a narrative synthesis review, which include ‘developing a preliminary

synthesis of findings of included studies (and) exploring the relationships in the data (and) assessing the robustness of the synthesis' p.11 ⁽¹³¹⁾ were used to inform the methods used. ⁽¹³¹⁾

Search strategy:

A systematic search of the literature published between 1980 and week 44 of 2014 was conducted using the search terms listed in Table 9 below. The search was limited to 1980 onwards, for the same reasons given in the previous review.

Table 9: Search terms used: Facilitators and Barriers to health facility performance in External Quality Assessment

1.	((Facilitator* OR Barrier*) AND (performance OR implementation OR achieve OR compliance) AND (accreditation OR certification OR external quality assessment OR external quality evaluation OR quality evaluation OR quality standards OR quality monitoring OR hospital standards) AND (hospital OR hospitals OR health*))
2.	((Determinant* OR Predictor* OR 'Enabling factors' OR Enabler*) AND (Performance OR implementation OR achieve OR compliance) AND (accreditation OR certification OR 'external quality assessment' OR 'external quality evaluation' OR 'quality evaluation' OR 'quality standards' OR 'quality monitoring' OR 'hospital standards') AND (hospital OR hospitals OR health*))
3.	((Implementation) AND (facilitator* OR enabler* OR 'enabling factors' OR predictor OR determinant) AND (accreditation OR certification OR 'external quality assessment' OR 'external quality evaluation' OR 'quality evaluation' OR 'quality standards' OR 'quality monitoring' OR 'hospital standards') AND (hospital AND hospitals AND health*))
4.	((Implementation) AND (challenge* OR barrier* OR obstacle*) AND (accreditation OR certification OR 'external quality assessment' OR 'external quality evaluation' OR 'quality evaluation' OR 'quality standards' OR 'quality monitoring' OR 'hospital standards') AND (hospital AND hospitals AND health*))

- These terms were entered into MEDLINE (Ovid), Scopus, PubMed, CINAHL, Embase (Ovid) and PsycINFO.
- Advice for the search strategy was obtained from a professional librarian.
- Google Scholar was searched using the above key words to ensure no relevant articles were missed.
- Included articles were used to find related articles in PubMed and thus to identify other potentially relevant articles.
- Reference lists of articles included in the review were also searched for relevant articles.
- Inclusion criteria
 - Studies whose subject is organisation-level EQA programmes of health facilities.
- Exclusion criteria:
 - Non-empirical pieces such as commentaries, editorials, letters and non-systematic literature reviews
 - Studies that solely address clinical indicators or clinical quality assessment schemes such as practice guidelines or medical specialty peer review
 - Studies that address quality improvement initiatives in general and not EQA specifically
 - Studies whose focus of interest is departmental, discipline or service-level EQA programmes e.g. laboratory EQA programmes or trauma unit EQA programmes and not organisation-level, system-wide EQA programmes

- Non-English language articles: due to the costs involved in translating foreign language articles.

A total of 41 633 articles were retrieved from the search. These titles and abstracts were uploaded onto *RefWorks*, and 18 969 duplicate titles were deleted. The remaining titles were screened for relevance, and those that were completely unrelated to the search criteria were discarded. After duplicates and non-relevant titles were discarded, 99 titles remained and their abstracts were read for candidate papers. This literature search was conducted by a single reviewer, the author of this dissertation, in consultation with a professional librarian.

Of the abstracts read, nine full-length papers were selected for assessment of eligibility. Upon reading all nine papers, seven papers were found to be suitable for inclusion in the review (see Appendix E for excluded papers and reasons for exclusion). Figure 4 below presents a flow diagram that details the search results at its various stages.

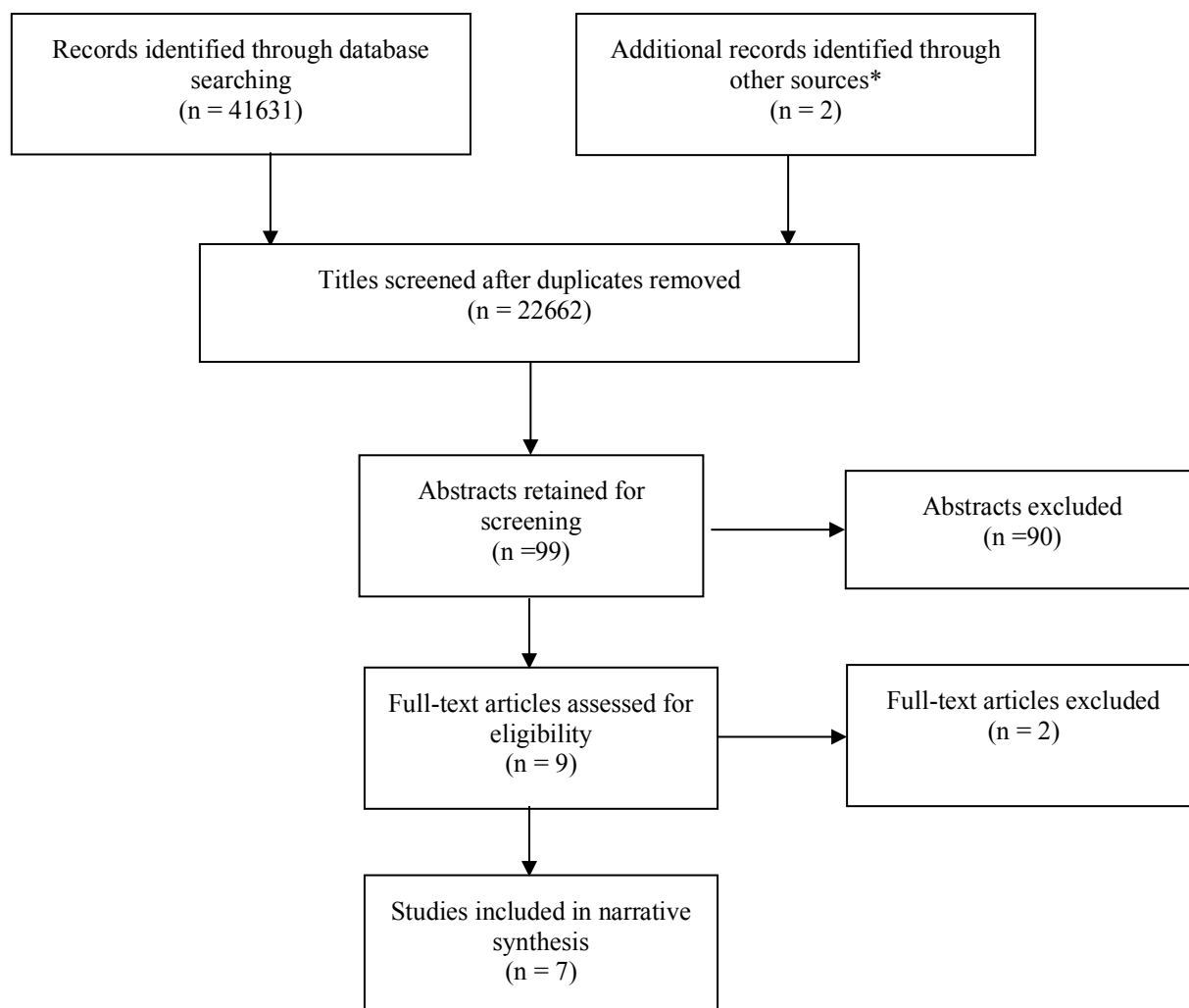


Figure 4: Flow diagram of search results-Facilitators and Barriers

-Adapted from PRISMA Flow Diagram, p.3 ⁽¹⁴³⁾

*Other sources include: Google Scholar, citation searches, reference lists of included articles

Assessing methodological quality of papers included in a review is an important step in narrative synthesis. ⁽¹³¹⁾ The seven papers selected for inclusion in this review use both qualitative and mixed methods. There is no consensus on a set of criteria to assess the methodological quality of mixed methods research ⁽¹⁵²⁾, and one is instead left having to use a variety of method-specific appraisal tools, which makes

comparison across studies difficult. In 2009 Pluye et al. ⁽¹⁵²⁾ developed a scoring system for mixed methods research; however, at the time of this research this scoring system had not been tested for reliability.⁽¹⁵²⁾ It was thus decided that in the absence of a quality appraisal tool for mixed methods studies, none of the seven studies would be excluded from the review on the basis of methodological quality, but that instead the study characteristics would be tabulated (see Table 10) to assist the reader in the interpretation of the review findings.

Table 10: Characteristics of studies included in narrative synthesis

Study	Date of Publication	Region	Objective	Methods	Setting	Context
Avery et al. (153)	2012	Australasia	To identify the common management and organisational drivers in health facilities that were awarded 'Outstanding Achievement' rating in the Australian Council on Healthcare standards' (ACHS) EQA programme.	A qualitative content analysis of summary reports of inspectors observations of health facilities that were awarded 'Outstanding Achievement' Rating (between 2003-2008)	Health facilities within Australia	To build on the work of the Australian Accreditation Research Network, which has produced evidence that argues that EQA is positively associated with good quality of care.
Bateganya et al. (154)	2009	Africa	To 'elicit hospital staff's knowledge, attitudes and current practices regarding hospital standards and to assess the level of motivation for staff and hospitals to meet new standards.'p.421 (154)	Qualitative study using in-depth interviews and focus groups	Four rural hospitals in Uganda (Two public and two private not-for-profit hospitals)	Recent survey reveals suboptimal quality of care in national health facilities; it is proposed (at the time of the research) that a national EQA programme should be

Study	Date of Publication	Region	Objective	Methods	Setting	Context
						launched in Uganda.
Bukonda et al. ⁽³⁸⁾	2002	Africa	To discuss the achievements and challenges of the Zambian Hospital Accreditation Programme, as well as to shed light on the process of its development.	Qualitative interviews with major stakeholders, hospital visits and review of written documents.	Zambian hospital sector	EQA of Zambian hospitals formed part of Zambian health system reform that sought to improve accessibility of high quality health care for all Zambians.
Braithwaite et al. ⁽¹⁰²⁾	2010	Australasia	To ‘determine whether accreditation performance is associated with self-reported clinical performance and independent ratings of four aspects of organisational performance’ p.14 ⁽¹⁰²⁾	Blinded random stratified assessment of health facilities using mixed methods for data collection, including quantitative analyses and ethnographic observations, semi-structured interviews and	Small to large acute care health facilities in Australia	The authors argue that there is a lack of research validating EQA as a predictor of healthcare performance. The Australian Network for the Evaluation of Accreditation and Standards in Healthcare sought to address this research

Study	Date of Publication	Region	Objective	Methods	Setting	Context
				focus groups.		gap.
El-Jardali et al. ⁽¹⁵⁵⁾	2014	Eastern Mediterranean Region	To gain insight into Lebanon's Primary Health Care (PHC) EQA programme and its impact on quality of care from the point of view of PHC staff members and directors. This study also sought to unpack the programme's impact on staff and patient satisfaction and to identify challenges in its implementation and how it might be strengthened.	Cross-sectional mixed methods approach; data collected using self-administered questionnaires and semi-structured interviews.	25 PHC health facilities distributed across Lebanon	Lebanese Ministry of Health seeking to introduce EQA in PHC health facilities in order to improve quality of services offered and strengthen its regulation of these health facilities.
Hinchcliff et al. ⁽¹⁵⁶⁾	2013	Australasia	To 'identify factors that enable effective implementation of accreditation programmes across	Multiple focus groups and semi-structured interviews of Australia's healthcare	Every Australian State and Territory was represented	This research was conducted in response to the poor evidence base supporting the

Study	Date of Publication	Region	Objective	Methods	Setting	Context
			different healthcare settings.’p.1 ⁽¹⁵⁶⁾	stakeholders.	and a total of 258 interviewees participated.	effectiveness of EQA.
Mannion et al ⁽⁴⁶⁾	2005	Europe	‘To compare and contrast the cultural characteristics of “high” and “low” performing hospitals in the United Kingdom (UK) National Health Service (NHS)’ p.431 ⁽⁴⁶⁾	Multiple case studies using semi-structured interviews.	Acute hospital trusts in the UK.	Health reforms were being directed at ‘organisational culture’ within the UK health system at the time of Mannion’s research, yet there existed little literature linking organisational culture to quality of care and patient safety.

Papers included in the review were read and data on facilitators of and barriers to performance in EQA were identified and extracted. These ‘facilitators and barriers’ were then coded and the codes grouped into categories that shared conceptual overlaps. ^(131,157) The major categories were then compared and contrasted and condensed into themes. ⁽¹⁵⁷⁾ These themes are detailed below, supported by illustrations from the primary studies.

⇒ Facilitators to performance in External Quality Assessment

‘Strong directional’ leadership

‘Strong directional’ Mannion p.435 ⁽⁴⁶⁾ leadership came out prominently across the majority of included studies as a key facilitator to performance in EQA. ^(46,102,153,155,156) One of Hinchcliff’s ⁽¹⁵⁶⁾ interviewees, whose study findings identified having credible leaders who champion EQA as a key enabler to health facility performance, had this to say:

“[Leadership] is what drives quality and safety because it requires people’s motivation. Accreditation is really what drives or gives us direction, but you won’t get very far if you don’t have that leadership and support.” p.5 ⁽¹⁵⁶⁾

The leaders of high-performing health facilities were described as having a leadership style characterised by ‘strong directional leadership’ p.435 ⁽⁴⁶⁾, where staff had a clear understanding of their set of responsibilities, where performance goals were made explicit and staff were held accountable for meeting these. ^(46,155) These leaders tended to be visionary in their approach, but made sure that this vision was clearly communicated and that the staff shared in and felt supported in achieving these ideals.

(46,153,155) These leaders were also capable of balancing the tension between, on the one hand being ‘mission-driven’ Avery, p.84 ⁽¹⁵³⁾, whilst on the other hand being consultative, relationship-orientated and ‘highly interpersonal’ Avery, p.84 ⁽¹⁵³⁾ in their approach. ⁽¹⁵³⁾ Furthermore the leaders of high-performing health facilities demonstrated a strong commitment to quality and the performance of their organisation against quality standards. ^(46,155)

Collaborative and ‘can-do’ organisational culture

Like leadership, organisational culture was identified as a key determinant of performance in EQA across the majority of the included studies. ^(46,102,153,155) Teamwork, collaboration and collective responsibility for organisational performance against quality standards were identified as important facilitators for success in EQA. ^(102,153,155,156) It was found that high-performing health facilities demonstrated a ‘can-do’ p.435 ⁽⁴⁶⁾ culture ^(46,156), where, as described by Mannion et al. in their study of the cultural characteristics of high and low-performing hospitals in the UK’s National Health Service (NHS), ‘...the most heinous cultural taboo was identified as not meeting national performance targets.’ p.435 ⁽⁴⁶⁾

‘Whole-Systems Approach’

Partnering with external stakeholders and synergising collective efforts to manage the local health system was identified as an important facilitator to performance in EQA. ^(46,153,154) High-performing health facilities actively sought out these relationships and saw them as key to achieving performance targets. ⁽⁴⁶⁾ In Bateganya et al.’s ⁽¹⁵⁴⁾ study on incentives and barriers to implementing hospital standards in Uganda, study participants were asked whether partnering with other health facilities would assist

them in meeting quality standards, and they stated that ‘they often (felt) isolated and would benefit from more interaction with colleagues from other hospitals.’ p.424 ⁽¹⁵⁴⁾

Staff development

Harnessing the potential of staff through training and development was identified as another important facilitator to performance in EQA. ^(46,153,155) High-performing health facilities were found to have enabling environments where staff felt supported and where learning and personal development were a priority. ^(153,155) High-performing health facilities also used staff training as an opportunity to ‘enculture’ staff into the broader performance agenda. ⁽⁴⁶⁾ In Avery et al.’s study of health facilities that were awarded an ‘Outstanding Achievement’ rating on the Australian Council on Healthcare Standards (ACHS) EQA programme, the authors note that these organisations ‘...were not driven by rigid application of standards (although a focus on standards was apparent) but by extensive and continuing efforts to maintain and develop the people and relationships that contribute to achieving these standards. In other words, excellent systems are not enough: they need outstanding development of people for their enactment...’ p.84 ⁽¹⁵³⁾

Incentives

Bateganya et al., Bukonda et al. and Hinchcliff et al. found in their research that the provision of incentives, either financial or in the form of recognition, was considered to play an important role in facilitating performance in EQA. ^(38,154,156) Hinchcliff et al. found in their study that financial incentives could mediate negative perceptions (see barriers below) healthcare workers held on EQA and win their buy-in. ⁽¹⁵⁶⁾

Robust information systems

Avery et al. and Mannion et al. found in their studies that high-performing health facilities had given priority to the use and development of robust information systems to ensure the monitoring and the delivery of their performance goals. ^(46,153) Mannion et al. found in their study that the high-performing health facilities had done this proactively, and that this robust performance management architecture had allowed them to adopt a more inclusive and participatory style of management. ⁽⁴⁶⁾

Supportive External Quality Assessment agency

Bateganya et al. and Hinchcliff et al. found in their studies that EQA agencies that were supportive of health facilities as they underwent the EQA process helped to facilitate their performance. ^(154,156) Study participants in both studies emphasised that receiving regular and timely feedback from the EQA agency, in the form of technical assistance on how the standards could be met, would facilitate their achievement. ^(154,156) It was felt by participants in both studies that EQA agencies that took on a consultative and supportive style and had a mentoring ethos helped to motivate health facilities and win the buy-in of staff. ^(154,156) One of the participants in Hinchcliff et al.'s study expressed it this way:

“Engaging with the organisation in terms of, we are here to assist and support you. This is a partnership. This is not an audit. This is not a tax investigation where we’re just going to tick boxes or cross boxes. If that partnership can develop, then there’s a real opportunity ... to educate and support and strengthen and sow those seeds that the organisation can then continue to grow in the continuing cycle of improvement.” p.5 ⁽¹⁵⁶⁾

⇒ Barriers to performance in EQA

Poor alignment of EQA standards with greater regulatory environment

There was agreement across the studies done by Bukonda et al. ⁽³⁸⁾, El-Jardali et al. ⁽¹⁵⁵⁾ and Hinchcliff et al. ⁽¹⁵⁶⁾ that EQA standards that were not aligned with the greater regulatory environment placed a burden on health facilities and were a key barrier to performance in EQA. ^(38,155,156) In El-Jardali et al.'s study on the key enablers, challenges and strategies for implementation of EQA standards at the PHC level in Lebanon, one study participant explained this point in this manner:

“Accreditation standards should be tailored to the Lebanese context so that we can be more compliant to them.” p.7⁽¹⁵⁵⁾

These studies emphasised the importance of EQA standards speaking to existing quality assurance efforts within the respective health systems. ^(38,155,156)

Under-developed and limited human resources impede performance

Low-performing health facilities were found by Mannion et al. to be characterised by neglected human resource policies. ⁽⁴⁶⁾ Mannion contrasts these health facilities with the high performers where staff were actively developed, carefully recruited for fit with the ‘performance ethos’ p.437 ⁽⁴⁶⁾ of the organisation and trained and educated into the culture of the health facility. ⁽⁴⁶⁾

Furthermore, El-Jardali et al. and Bateganya et al. found in their studies that limited human resources played a significant role in hampering the EQA process and the implementation of quality standards. ^(154,155)

Limited financial resources

The research done by Bateganya et al., Bukonda et al. and El-Jardali et al. identified limited financial resources as a major barrier to performance in EQA. ^(38,154,155)

Interviewees stressed that a lack of financial resources disabled them from making the necessary changes to their organisations in order for them to achieve EQA standards.

^(154,155) El-Jardali et al.'s interviewees explained it this way:

“(Introducing primary healthcare EQA was) like providing a system that works on electricity but not providing electricity to allow functioning of these services.” p.7 ⁽¹⁵⁵⁾

This particular barrier featured prominently in El-Jardali et al. and Bateganya et al.'s work as a significant source of stress for the interviewees ^(154,155), to the extent that there was a threat of resignation by a study participant in Bateganya et al.'s research.

⁽¹⁵⁴⁾

The use of penalties

The studies by Bateganya et al. and Bukonda et al. identified that the use of penalties as a motivator for compliance with standards was in reality a barrier to performance in EQA. ^(38,154) Bateganya et al.'s study participants highlighted that meeting quality standards was part of their professional duty and that penalising staff, especially in light of resource constraints, would only serve to demoralise staff. ⁽¹⁵⁴⁾

“At this hospital they (the Ministry of Health) are supporting 50% of what's required to meet standards, and that is the level we should meet... I don't think the government needs to come in and punish us... We want to be helped and not be punished.” p.424 ⁽¹⁵⁴⁾

Negative staff perceptions of EQA

Staff's negative perceptions of EQA were identified by El-Jardali et al. and Hinchcliff et al. as a major barrier to engagement with EQA and implementation of EQA standards.^(155,156) Where healthcare staff harboured doubts on the utility of EQA or doubted that the benefits of EQA outweighed its costs, or where staff had little understanding of EQA, there tended to be resistance towards engaging in it.^(155,156)

EQA of health facilities remains the cornerstone of quality assurance in many of the world's developed health systems.^(18,38) Despite the lack of evidence supporting its effectiveness^(18,34,41-44), there are far-reaching consequences for health facilities that fail to comply with it.⁽⁴⁶⁻⁴⁹⁾ This review attempts to identify the facilitators of and barriers to performance in EQA through systematically combing through the literature for empirical evidence on the subject. The review reveals that strong directional leadership driving quality as a core part of its greater mission, holding staff accountable whilst supporting staff in achieving performance goals through good communication and nurturing relationships are key facilitators to performance in EQA.⁽¹⁵⁶⁾ An organisational culture that is characterised by a 'can-do' spirit and one that values collaboration features prominently in the literature as another key facilitator to performance in EQA.^(46,102,153,155) In these organisations, performance in EQA is a collective responsibility.^(102,153,155,156) Other facilitators that featured prominently in the literature (detailed in Table 11) are a 'whole-systems approach' Mannion, p.437⁽⁴⁶⁾, staff development, incentives for performance, robust information systems and an EQA agency that is supportive of the health facilities it assesses.^(46,153-155) A significant barrier to performance in EQA was EQA standards that were poorly aligned to the greater regulatory environment.^(38,155,156) EQA standards that did

not speak to existing quality and safety priorities placed a significant burden on health facilities.⁽¹⁵⁶⁾ In addition, it was identified in the literature that limited and under-developed human resources^(46,154,155) as well as limited financial resources^(38,154,155) made it difficult for health facilities to fully engage with EQA, particularly in low and middle-income country settings, and placed a significant amount of stress on healthcare workers, especially if they were to face penalties (also identified as a barrier)^(38,154) for non-compliance with EQA. Finally the negative perceptions of staff on EQA, fuelled by either doubts on the validity or effectiveness of EQA, resulted in staff disengaging from the process and thus acted as a barrier to performance.^(155,156)

Table 11: Summary of facilitators and barriers to health facility performance in EQA as identified in systematic literature review

Facilitators -And their characteristics	Barriers -And their characteristics
Strong directional leadership • ‘Mission-driven’ Avery, p.84⁽¹⁵³⁾ leadership • Quality embedded in greater organisational vision and mission • Staff responsibilities clearly communicated • Staff held accountable for achieving goals • Staff supported through relationship-orientated approach	Poor alignment of EQA standards • EQA standards not aligned with greater regulatory environment
Collaborative and ‘can-do’ organisational culture • Teamwork • Collective responsibility for organisational performance • Belief in ability to comply with quality standards	Under-developed and limited human resources • Staff shortages • Under-developed staff • Human resources policies ignored

Facilitators -And their characteristics	Barriers -And their characteristics
‘Whole-systems approach’ • Collaborate with external stakeholders • Proactively seek out partnerships with external stakeholders • View partnerships with external stakeholders as key to successful performance	Limited financial resources
Staff development • Learning and personal development given priority • Staff encultured into broader performance goals	Penalties • Penalties used as deterrence to non-compliance
Incentives • Financial incentives or recognition given for performance	Negative staff perceptions of EQA • Doubt benefits of EQA • Doubt validity of EQA standards • Staff have poor understanding of EQA
Robust Information Systems (IS) • Proactively develop and use IS to ensure monitoring and delivery of performance goals	
Supportive EQA agency • Regular and timely feedback • Technical assistance provided • Mentoring ethos	

This review sheds some light on the factors that have an impact on health facilities’ performance in EQA. However, these findings are supported by only seven papers,

with only two of these seven identifying facilitators of and barriers to performance in EQA as an explicit aim of their research, and in the others a secondary (and in some cases extrapolated) finding. There is thus a need for more empirical work in this area, particularly in light of the consequences of non-compliance with EQA for health facilities in many country health systems.

2.1.3. The experience of health facility EQA

We know from the literature that health policies succeed or fail based on how they are received, understood and acted upon at the frontline.^(16,104,158) The question, ‘What is the experience of frontline healthcare workers of EQA?’ is thus an important one, as it gives us an insight into some of the mediators of health facility performance in quality assessment programmes such as South Africa’s national policy on EQA. In addition, answering this research question illuminates the lived experience of the policy (as opposed to how it is documented) and highlights some of the areas where policymakers can act to strengthen its implementation.⁽¹⁶⁾ No systematic review exists in the English language published literature that answers the above question. Alkhenizan and Shaw in their 2012 systematic review⁽²⁹⁾ and Greenfield and Braithwaite in their 2008 systematic review⁽³⁹⁾ both look at professionals’ attitudes towards EQA, which is a related question. But both sets of researchers include in their reviews research papers whose subject matter is not organisation-level health facility EQA but rather discipline/department specific EQA programmes such as EQAs of laboratories⁽²⁹⁾, and in the case of Greenfield and Braithwaite an EQA of higher education training programmes.⁽³⁹⁾ This makes it difficult to ascertain the extent to which their findings can be attributed to organisation-level health facility EQA.

Search strategy

A systematic search of the literature published between 1980 and week 15 of 2016 was conducted using the search terms listed in Table 12 below to answer the research question: ‘What is the experience of frontline healthcare workers of EQA?’ The search was limited to the period from 1980 onwards, for the same reasons as the reviews above.

Table 12: Search terms used: Experience of External Quality Assessment

1.	((Experience) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR ‘external quality assessment’ OR ‘external quality evaluation’ OR ‘quality evaluation’ OR ‘quality standards’ OR ‘quality monitoring’ OR ‘hospital standards’) AND (‘healthcare worker’ OR healthcare professional OR nurse OR doctor))
2.	((Perception) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR ‘external quality assessment’ OR ‘external quality evaluation’ OR ‘quality evaluation’ OR ‘quality standards’ OR ‘quality monitoring’ OR ‘hospital standards’) AND (‘healthcare worker’ OR healthcare professional OR nurse OR doctor))
3.	((Impression) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR ‘external quality assessment’ OR ‘external quality evaluation’ OR ‘quality evaluation’ OR ‘quality standards’ OR ‘quality monitoring’ OR ‘hospital standards’) AND (‘healthcare worker’ OR healthcare professional OR nurse OR doctor))
4.	((Participation) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR ‘external quality assessment’ OR ‘external quality evaluation’ OR ‘quality evaluation’ OR ‘quality standards’ OR ‘quality monitoring’ OR ‘hospital standards’) AND (‘healthcare worker’ OR healthcare professional OR nurse OR doctor))
5.	((Exposure) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR ‘external quality assessment’ OR ‘external quality evaluation’ OR ‘quality evaluation’ OR ‘quality standards’ OR ‘quality monitoring’ OR ‘hospital standards’) AND (‘healthcare worker’ OR healthcare professional OR nurse OR doctor))

6.	((Experience OR perception OR impression OR participation OR exposure OR encounter) AND (hospital OR hospitals OR health*) AND ('quality visit OR 'quality survey') AND ('healthcare worker' OR healthcare professional OR nurse OR doctor))
7.	((Encounter) AND (hospital OR hospitals OR health*) AND (accreditation OR certification OR 'external quality assessment' OR 'external quality evaluation' OR 'quality evaluation' OR 'quality standards' OR 'quality monitoring' OR 'hospital standards') AND ('healthcare worker' OR healthcare professional OR nurse OR doctor))

- The above terms were entered into MEDLINE (Ovid), Scopus, PubMed, CINAHL, Embase (Ovid) and PsycINFO.
- Google Scholar was searched using the above key words to ensure no relevant articles were missed.
- Included articles were used to find related articles in PubMed and thus to identify other potentially relevant articles.
- Reference lists of articles included in the review were also searched for relevant articles.
- Inclusion criteria
 - Studies whose subject was organisation-level EQA programmes of health facilities
- Exclusion Criteria:
 - Non-empirical pieces such as commentaries, editorials, letters and non-systematic literature reviews.
 - Studies that addressed related topics, such as benefits of EQA, but did not specifically investigate the experiences of healthcare workers of EQA.

- Studies that addressed the experience of quality improvement initiatives in general and not EQA specifically.
- Studies whose focus of interest was departmental, discipline or service-level EQA programmes e.g. laboratory EQA programmes or trauma unit EQA programmes and not organisation-level, system-wide EQA programmes.
- Non-English language articles: due to the costs that would have been involved in translating foreign language articles.

A total of 25 537 articles were retrieved from the search. These titles and abstracts were uploaded onto *RefWorks*, and 6648 duplicate titles were deleted. Remaining titles were screened for relevance, and those that were completely unrelated to the search criteria were discarded. After duplicates and non-relevant titles were discarded, thirty-six titles remained and their abstracts were read for candidate papers. As was the case for the other systematic reviews conducted in this thesis, this literature search was conducted by a single reviewer, the current author, and the search strategy, approach and terms used were discussed extensively with a professional librarian.

Of the abstracts read, fourteen full-length papers were selected for assessment of eligibility. Upon reading all fourteen papers, seven were found to be suitable for inclusion in the review (see Appendix F for excluded papers and reason for exclusion). Figure 5 below presents a flow diagram, adapted from PRISMA Flow Diagram, p.3 ⁽¹⁴³⁾ that details the search strategy at its various stages.

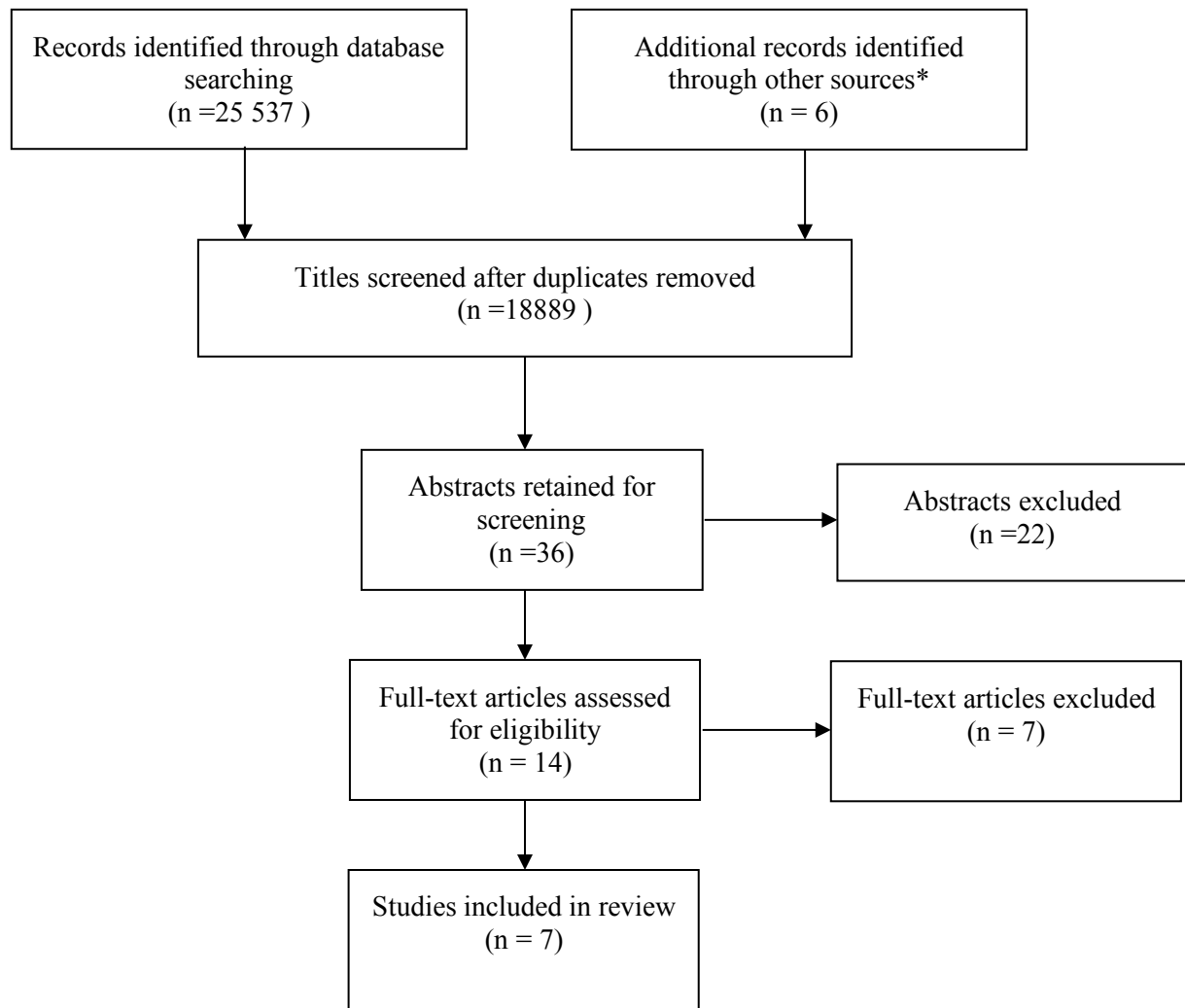


Figure 5: Flow diagram of search strategy- Experience of External Quality Assessment
-adapted from PRISMA Flow Diagram, p.3 ⁽¹⁴³⁾

*Other sources include: Google Scholar, citation searches, reference lists of included articles

Experiences extracted from the articles included in the review are described by country, highlighting only the major themes that arose from the articles. This was done because EQA programmes vary according to region and each EQA needs to be evaluated within the socio-economic context within which it exists. ⁽¹⁵⁹⁾

⇒ Australia

Context

Grenade's research described below refers to EQA of aged care health facilities in the late 1990s and early 2000s by an independent EQA body specifically established to assess and monitor quality of care in Australian aged care health facilities. ⁽¹⁶⁰⁾ In contrast, both Greenfield et al. ⁽¹⁶¹⁾ and Fairbrother and Gleeson's ⁽¹⁶²⁾ research is set in Australian teaching hospitals and both refer to the EQAs of the Australian Council on Healthcare Standards (ACHS), one of Australia's oldest EQA agencies. ⁽¹⁶¹⁻¹⁶³⁾

Experience

Grenade's 2003 research on EQA of residential aged care health facilities in Australia found that healthcare workers appreciated an EQA that was supportive in nature and sought to develop the health facility and the staff rather than to catch them out for not being compliant with standards. ⁽¹⁶⁰⁾ They valued the fact that the EQA agency took a partnership approach to EQA, seeking to work alongside these health facilities to assist them in achieving a high standard of quality of care. ⁽¹⁶⁰⁾ These healthcare workers also appreciated an EQA that involved all healthcare workers in the health facility and covered all areas of the health facility's business. ⁽¹⁶⁰⁾ They found their EQA to be educational and a form of continuous professional development and for those who performed well in EQA, it was a morale booster. ⁽¹⁶⁰⁾ Some of the negative aspects of the EQA experience identified by these healthcare workers was the demand preparation for EQA put on the time of healthcare workers, some of whom were unable to take annual leave or had to work after-hours in order to prepare the necessary documentation. ⁽¹⁶⁰⁾ The healthcare workers also identified a lack of recognition from the inspectors for the amount of effort they put into preparing for the

EQA, the stress they experienced during the EQA, subjectivity of EQA inspectors and difficulty in understanding some of the concepts related to the EQA as negative aspects of their experience of EQA.⁽¹⁶⁰⁾ Issues were also raised by the participants in Grenade's research about the credibility of the inspectors, some of whom were felt not to be adequately qualified for the role they were playing.⁽¹⁶⁰⁾ These healthcare workers also stated that the language used by inspectors during EQA could at times be very distressing for staff, particularly for low-level healthcare workers, when inspectors used bureaucratic jargon and made reference to the legislation under which the EQA was formed to intimidate healthcare workers.⁽¹⁶⁰⁾ Grenade's research highlights that the experience of the on-site EQA largely had to do with how inspectors conducted themselves and that even when some health facilities performed poorly, if the inspectors who assessed them were supportive, professional and friendly, healthcare workers still described their experience as positive, despite a poor overall score.⁽¹⁶⁰⁾ However, if inspectors were found to be hostile or unprofessional, the entire EQA experience was described by healthcare workers as negative.⁽¹⁶⁰⁾ Grenade's interviewees also blamed the EQA and its associated stresses for playing a role in the loss of healthcare workers due to burnout. For healthcare workers whose organisations performed poorly in EQA, it had negative impacts on staff morale.⁽¹⁶⁰⁾

Greenfield et al.'s 2011 research on healthcare workers' experience of health facility EQA at a large teaching hospital in Australia found that the interviewees were largely positive about their EQA experience and this was as a consequence of feeling that the EQA was a way for them to reflect on their work and to assess how it fitted into the broader workings of the organisation.⁽¹⁶¹⁾ Furthermore, Greenfield et al.'s interviewees found that the EQA validated the good work they were already doing

and was an opportunity to learn from areas where there were gaps.⁽¹⁶¹⁾ The issue of inspector subjectivity was again raised by interviewees, with interviewees complaining that inspectors interpreted standards differently and approached the EQA differently.⁽¹⁶¹⁾ These healthcare workers, particularly the frontline staff, admitted feeling afraid and anxious during the EQA.⁽¹⁶¹⁾ The authors also reported that, like some of the studies from other parts of the world, inspectors who were believed to have inadequate expertise for the role they were playing undermined the confidence healthcare workers had in the EQA process. The inspectors' credibility was carefully scrutinised by healthcare workers.⁽¹⁶¹⁾ The authors reported that interviewees described the preparation for EQA as burdensome and, as has been stated by interviewees in other studies, the interviewees in Greenfield et al.'s research raised the importance of inspectors recognising the efforts that had gone into preparing for the EQA.⁽¹⁶¹⁾ As was confirmed in Grenade's research⁽¹⁶⁰⁾, Greenfield et al. found that inspectors' surveying style, open and supportive versus auditing and interrogative, had an impact on healthcare workers' experience of the EQA, with the open and supportive style being favoured.⁽¹⁶¹⁾

Fairbrother and Gleeson's 2000 study on EQA of an Australian teaching hospital found that the majority of interviewees reported that going through an EQA process was highly burdensome and almost half of the participants were unclear on what value it added to service delivery.⁽¹⁶²⁾ The healthcare workers in Fairbrother and Gleeson's study also raised their disappointment when surveyors did not recognise the efforts they had put into preparing for the EQA.⁽¹⁶²⁾

⇒ Brazil

Context

Manzo et al.'s 2012 research is concerned with the Brazilian Programme on Hospital Accreditation and the experiences of healthcare workers who participated in an EQA conducted by this EQA agency in a Brazilian private hospital. ⁽¹⁶⁴⁾

Experience

Manzo et al.'s research on the impact of hospital EQA on the everyday lives of Brazilian healthcare workers, found that they experienced EQA as an opportunity for continuous professional development. ⁽¹⁶⁴⁾ Those whose departments were successful in achieving the accreditation status also shared feelings of pride at being able to contribute to the success of their health facility. ⁽¹⁶⁴⁾ However, Manzo et al.'s interviewees complained that participation in EQA caused significant amounts of stress for healthcare workers, particularly as a result of feeling unable to cope with all the demands EQA placed on the healthcare worker. ⁽¹⁶⁴⁾ Manzo et al.'s interviewees raised the concern that EQA came at a huge cost to them, and while it may have been of benefit to the patients, they felt that no mind was paid to what the implications were for the healthcare worker. ⁽¹⁶⁴⁾ The interviewees also stated that they felt that the EQA placed little emphasis on recognising work done well, but instead placed great stress on gaps or errors and that this contributed to heightened stress levels amongst healthcare workers. ⁽¹⁶⁴⁾ Manzo et al.'s research revealed that there was also disappointment amongst healthcare workers post-EQA, as there was an expectation that achieving EQA status would result in some sort of salary increase, which did not happen. ⁽¹⁶⁴⁾ These healthcare workers felt that there was no real benefit to them in

participating in EQA, considering the high levels of stress under which it placed them.

(164)

⇒ England

Context

In her 1995 book on accreditation in health care, Scrivens dedicates a chapter to describing healthcare workers' experiences of going through EQAs by the then King's Fund Organisational Audit Scheme (which at the time was the closest the UK had to a national EQA programme) ⁽¹⁵⁹⁾ and the then Hospital Accreditation Programme (HAP). ⁽¹⁵⁹⁾ At the time of Scrivens' research, the King's Fund Organisational Audit Scheme was distinct from many other EQA programmes because inspectors actually assisted health facilities to prepare for their EQAs. Relatedly, the EQA report did not award the health facility any sort of EQA score but simply reported on what was found and health facilities were left to decide for themselves what they would do with the recommendations given in the report. ⁽¹⁵⁹⁾

The HAP is the UK's earliest EQA agency and functioned like a traditional EQA agency, awarding accreditation status based on performance against pre-determined standards, and requiring that the healthcare facilities undergo EQA again when the accreditation status lapsed. ⁽¹⁵⁹⁾ Scrivens interviewed managers of health facilities that had undergone EQA either through the King's Fund Organisational Audit Scheme or through the HAP, and found their experiences to be surprisingly similar, despite very different approaches taken by the two EQA bodies. ⁽¹⁵⁹⁾

Experience

Many of the interviewees identified the pre-EQA preparation as a significant part of their EQA experience, one that was time-consuming and demanded a lot of hard work, but was also enlightening and forced them to carefully analyse parts of their systems of work with which they would not ordinarily engage. ⁽¹⁵⁹⁾ Scrivens' interviewees also admitted to creating policies specifically for the purpose of the EQA visit. ⁽¹⁵⁹⁾ The healthcare managers Scrivens interviewed reported the difficulty they faced in getting their staff to be motivated and enthusiastic about the EQA, and that a lot of effort from management level had to be put in, in order to bring healthcare workers, particularly doctors, on board. ⁽¹⁵⁹⁾ However once this was achieved, managers reported that preparing for the EQA built a culture of teamwork amongst the staff, as it demanded that healthcare workers from various disciplines and departments come together to work together. ⁽¹⁵⁹⁾ Like Grenade and Greenfield et al. ^(160,161), Scrivens' interviewees reported that interactions with inspectors influenced whether EQA was perceived as a success or not. ⁽¹⁵⁹⁾ Healthcare workers appreciated inspectors who were friendly, fair and approachable and who asked them questions in a non-threatening way. ⁽¹⁵⁹⁾ As in the research findings reported by Grenade and Greenfield et al. ^(160,161), the credibility of inspectors was again under scrutiny by healthcare workers with issues of qualification, understanding of the standards and inconsistencies in the manner they assessed health facilities being of great importance to healthcare workers. ⁽¹⁵⁹⁾ In addition, as has been reported by Grenade and Manzo et al. ^(160,164), healthcare workers shared great disappointment when inspectors did not recognise the hard work that went into preparing for EQA. ⁽¹⁵⁹⁾

⇒ Iran

Context

Jaafaripooyen's 2011 research makes reference to Iran's National Accreditation Programme, which was founded in 1997. At the time of Jaafaripooyen's research, the National Accreditation Programme was Iran's sole healthcare EQA agency responsible for regulating quality of care and conducting EQAs in all of the country's health facilities. ⁽¹⁶⁵⁾

Experience

Jaafaripooyen's research on the performance of Iran's National Accreditation Programme found that at times healthcare workers had difficulty understanding the EQA standards of the country's national EQA system. ⁽¹⁶⁵⁾ Jaafaripooyen's interviews also raised the concern that the scoring process was not clear to them and that they did not fully understand how the final scores they were given were arrived at or how they could improve their scores. ⁽¹⁶⁵⁾ These interviewees also revealed that the standards did not always reflect recent innovations happening within the health system and that over time they were at risk of becoming irrelevant. ⁽¹⁶⁵⁾ Another concern raised by these interviewees was that the standards required by the EQA agency were not always achievable within their resource constraints. ⁽¹⁶⁵⁾ As with much of the research found in the literature on experiences of frontline healthcare workers of EQA, the interviewees of Jaafaripooyen's research raised concerns over the qualifications and credibility of the inspectors, questioning whether they were adequately qualified to perform the role they were playing, adequately trained and adequately skilled. ⁽¹⁶⁵⁾ The interviewees in this research also reported heightened levels of stress and fear

associated with participating in an EQA.⁽¹⁶⁵⁾ Some positive views reported about the EQA process were that the interviewees found the inspectors of the Iranian EQA agency to be supportive and interactive and that they did not find fault with their interactions with the inspectors themselves.⁽¹⁶⁵⁾ Healthcare workers also appreciated that inspectors brought a fresh perspective to the evaluation of their work and identified blind spots that had gone unnoticed by them.⁽¹⁶⁵⁾ Interviewees reported that they experienced the EQA to be an educational exercise for them, as well a refresher of old knowledge and an opportunity to clarify areas of confusion.⁽¹⁶⁵⁾

⇒ United States of America

Context

A study that sought to understand the effects of perceived stress levels related to participating in JCAHO accreditation from the perspective of frontline healthcare workers working at a large United States hospital.⁽¹⁶⁶⁾

Experience

Elkins et al.'s 2010 study on perceived stress among nursing and administrative staff related to EQA found that nurses at a large hospital in Texas experienced significant increases in stress levels associated with a JCAHO EQA. This stress was associated with increased levels of anxiety, depression and decreased job satisfaction amongst the staff.⁽¹⁶⁶⁾ Elkins et al. argue that these findings have implications for healthcare workers' wellbeing during EQA, as well as for policymakers who Elkins et al. argue have a responsibility to consider whether health facilities undergoing EQA have adequate resources to support them through the process.⁽¹⁶⁶⁾

⇒ Zambia

Context

The article by Bukonda et al. describes Zambia's process of forming a national EQA programme between the late 1990s and early 2000s, the first such national EQA programme reported to exist on the African continent at the time. ⁽³⁸⁾

Experience

A study undertaken about the implementation of a national accreditation programme in Zambia found that hospital staff expressed the need for accreditation surveys to be complemented with technical assistance, so that they could meet quality standards, and that this kind of support needed to be continuous. ⁽³⁸⁾

2.2. Summary

Although the literature cited in this review is derived from very different health systems that exist in a range of socioeconomic and cultural contexts, there are some similar experiences of EQA shared among healthcare workers across the diverse settings. The key positive experiences of EQA by healthcare workers is that it is an educational opportunity and serves as a form of continuous professional development, exposing gaps in the healthcare system that healthcare workers may not have been previously aware of and forcing them to engage with areas of their own work and each other's work (as organisation-level EQAs tend to cut across disciplines and departments) in a manner in which they would not ordinarily. For those healthcare

workers whose health facilities performed well in EQA, EQA served as a great morale booster and provided an important form of validation.

There were also commonly shared frustrations with EQA across the studies included in this review, such as that the preparation for EQA and participation in EQA was extremely burdensome for healthcare workers, many of whom had to put in additional hours over and above their day-to-day work to ensure they were ready for the EQA. Healthcare workers also reported that participating in EQA was a great source of stress for them, and many reported feeling afraid and anxious and in some cases even demoralised as a result of participating in EQA. This was aggravated by a general sense amongst healthcare workers across a number of the studies included in this review that inspectors and the EQA process placed a lot of emphasis on what was missing and what healthcare workers had not done. They expressed that the assessments often did not show recognition for the effort healthcare workers put into their work and the areas where degrees of success had been achieved. Across almost all of the studies, scepticism was expressed about the credibility of inspectors and whether they were qualified for the role they played. Healthcare workers were also sensitive to perceived bias by the inspectors and to whether inspectors were consistent in the manner in which they assessed for quality. The behaviour and conduct of inspectors in general played an important role in how healthcare workers experienced EQA.

This literature review sheds some light on how healthcare workers from various health systems experience EQA. As EQA systems differ widely within and across health systems, the findings of the review do not attempt to identify a definitive list of

experiences but instead try to identify some common experiences across countries that might help illuminate the South African experience, which is presented in the results chapters of this thesis.

Chapter 3: Methods

3.1. Introduction

In this chapter I describe the aims and objectives of the thesis, the over-arching methodology, the justification for the use of this methodology and background demographic details on the study site, and outline the ethical considerations that informed the design and deployment of this research. In the development of the research strategy presented in this chapter, I was guided by the research questions outlined in Chapter 1 namely:

1. What is the relationship between EQA and patient outcomes (specifically Healthcare Associated Infections) at the specialist-care facility level in South Africa?
2. What are the facilitators of and barriers to health facility performance (i.e. attainment of compliance with standards) in EQA at the district hospital level in South Africa?
3. What has been the experience of EQA by frontline healthcare workers at the district hospital level in South Africa?

3.2. Aim

The aim of this research is to explore and evaluate South Africa's national policy on EQA by assessing the impact of EQA on patient outcomes (research question one), by unpacking the determinants of health facility performance in EQA (research question two) and by illuminating the experiences of frontline healthcare workers as they relate to EQA (research question three).

3.3. Objectives

- To assess the relationship between EQA and patient outcomes (specifically Healthcare Associated Infections) at the specialist-care facility level in South Africa
- To identify the characteristics of health facilities which enable them to comply successfully with the National Core Standards
- To identify the characteristics of health facilities which impede them from complying with the National Core Standards
- To describe the manner in which frontline healthcare workers experience this new health policy.

3.4. Methodology

The research questions outlined in Chapter 1 were answered sequentially through a convergent parallel mixed methods design. ⁽¹⁶⁷⁾

3.4.1. Justification for Mixed Methods Design

The use of a mixed methods design is most appropriate when no single data source, be it qualitative or quantitative, is sufficient to answer the research questions posed.

⁽¹⁶⁷⁾ At the time of this research there had not been a single research study on South Africa's Office of Health Standards Compliance (OHSC) EQA programme. Employing different methods to assess the effects of South Africa's EQA programme on quality of health care in the health system allowed for a greater insight into the new health policy. ⁽¹⁶⁷⁾ As discussed in Chapter 1, South Africa's national policy on EQA is a complex health system intervention with multiple possible effects on the

health system. ^(103,168) Exploring only a single aspect of South Africa's EQA programme would only have told us a part of the story. Using only a single method to answer the research questions would have been equally inadequate. ⁽¹⁶⁷⁾

3.4.2. The convergent parallel mixed methods design

The convergent parallel mixed methods design refers to how the quantitative and qualitative components of the study were employed in this research and how they interacted. ⁽¹⁶⁷⁾ When using the convergent parallel mixed methods design the quantitative and qualitative components are employed separately and independently of each other during the same time period. ⁽¹⁶⁷⁾ Each component has equal priority and is analysed separately. ⁽¹⁶⁷⁾ It is only in the overall interpretation of findings that the mixing occurs. ⁽¹⁶⁷⁾

The convergent parallel mixed methods design is the most commonly used mixed methods design and is favoured in this research study for its ability to provide a rich answer to a complex question, whilst allowing for pragmatism and efficiency. ⁽¹⁶⁷⁾

3.5. The theoretical lenses

The theoretical lens that informed the analysis and discussion of this research draws from the Systems Thinking literature. In addition to my interest in Systems Thinking theory, I draw on the broader regulatory theory literature, specifically the work of Walshe. ⁽¹⁴⁾

3.5.1. Why Systems Thinking theory?

Systems Thinking is a mindset that recognises that systems and their multiple component parts are interrelated and interact with each other, and that through explicitly considering these relationships one can better understand the system and anticipate the consequences of the interactions of the component parts.^(103,171,172) It is increasingly being recognised that health systems are Complex Adaptive Systems, that is systems that are composed of system agents that are interdependent, constantly changing, non-linear, governed by feedback, self-organising, path-dependent and influenced by context.^(103,173-179) Maintaining a Systems Thinking perspective is important in the analysis of health systems.^(171,173)

Many authors have raised the concern that the methods used to analyse health systems are often reductionist, narrow and simplistic, and result in inappropriate interventions that disturb the balance within these Complex Adaptive Systems and result in policy resistance and other unintended negative consequences.^(173,174,176,180-182) As a consequence over the past two decades there has been increasing interest amongst global health stakeholders in approaching the analysis of Complex Adaptive Systems more systematically.⁽¹⁷¹⁾ Complex health system interventions with system-wide effects, such as South Africa's national policy on EQA^(103,168), are vulnerable to the law of unintended consequences.^(50,168,183-185) By using a Systems Thinking lens, i.e. viewing the health system as a living organism rather than a machine⁽³⁾, one is better able to understand the complex characteristics of the health system and its associated intervention.^(103,173-175,180,186) This places one in a better position to pre-empt or identify potential unintended negative consequences and optimise potential strengthening synergies.^(103,173-175,180,186) Maintaining a Systems Thinking perspective is particularly important when analysing weak health systems such as those found in

low-and-middle-income-countries (LMIC). ⁽¹⁰³⁾ Literature demonstrating the application of Systems Thinking tools and approaches in the analysis of LMIC health systems remains limited. ⁽¹⁷¹⁾

Furthermore, with regards to external approaches to health facility performance improvement ⁽¹⁴⁾, such as South Africa's national policy on EQA, some of the key reasons identified by Walshe as to why these types of interventions fail (arguments that support the use of a Systems Thinking lens), are that these types of national EQA programmes do not give sufficient consideration to the complexities and nuances of the prevailing organisational behaviours within the health facilities they are assessing. ⁽¹⁴⁾ In addition, Walshe argues that these types of quality assurance programmes tend to have naïve and simplistic assumptions about how change occurs within health facilities and they apply one-size-fits-all interventions across health facilities that do not always speak to individual facility needs. ⁽¹⁴⁾

By applying a Systems Thinking lens to the case study methodology used in this thesis, I am able to answer the research questions more systematically, and account for the complexity of the intervention and the complexity of the health facilities that are the subject of the intervention.

3.5.2. Why regulatory theory?

The work of the Office of Health Standards Compliance is a form of healthcare regulation. Regulation has been defined by Julie Black as 'the sustained and focused attempt to alter the behaviour of others according to defined standards or purposes with the intention of producing a broadly identified outcome or outcomes, which may

involve mechanisms of standard-setting, information-gathering and behaviour modification.’ p. 26 ⁽³⁵⁾ A vast number of theoretical perspectives from a large variety of disciplines have been applied to the field of regulation, with some of the prominent ones being economic perspectives on regulation that seek to correct ‘market failures’ in the interest of the public’s collective welfare ⁽¹⁸⁷⁾, Braithwaite and Ayres’ Responsive Regulation theory, cybernetic conceptions on governance ⁽¹⁸⁸⁾, Moran and others’ work on the regulatory state ^(35,189,190) and Power’s work on the so-called ‘Audit Society’ - that cautions against relying too heavily on systems of verification at the expense of deeper forms of ‘organisational intelligence’. p. 123 ⁽¹⁹¹⁾ Systems Theory has also been applied as an approach to understanding regulation, with the work of Gunther Teubner being a prominent example of this approach. ⁽¹⁸⁷⁾ In illuminating the findings of this thesis i.e. the experience of the OHSC’s EQAs, their impact on the South African health system and some of their unintended negative consequences, I draw lightly and pragmatically on the vast regulatory theory literature only what was found to be useful in furthering our understanding of the research findings within the limitations of a DPhil thesis, and in no way claim to have covered the entire breadth of the regulatory theory literature.

3.6. Geographical sampling

Sampling for the quantitative analysis happened at the national level and is described in greater detail in section 3.9 below. With regards to the qualitative research, two provinces (out of nine South African provinces) were selected to be the sample population. Within each province, two district hospitals were identified, that is four hospitals in total. The two provinces that were the site of my study were recommended by the OHSC, as they argued that these provinces were more receptive

to the mock EQAs than some of the others, and that they and were likely to approve research activity on the work of the OHSC in their provinces. As I was only looking to select one district per province (and two district hospitals per district), I was happy to proceed with the suggestion of the OHSC. Neither the OHSC nor the provincial departments of health would influence or have knowledge of which specific districts and which specific hospitals formed part of my research. The organisational sample population included all district hospitals in Provinces A and B that had undergone EQA by the OHSC as of 1 August 2013. From the register of health facilities that fulfilled the above requirements, two pairs of district hospitals (one pair in Province A and one pair in Province B) were purposively selected on the basis of their scores in EQA. Each hospital in each pair needed to fall within the same district and be on opposite ends of the performance spectrum. In each pair, a high performer and a low performer were selected. This was done to ensure that there was enough of a divergence in their performance in EQA to allow for identification of the facilitators of and barriers to performance in EQA at the district hospital level whilst limiting some of the variability in context at the level of the district office (both hospitals in each pair were managed by the same district office) and limiting some of the variability in context at the level of the province (both hospitals in each pair fell within the same province). It was deemed important to select health facilities that fell within the same district and province as one might argue that health facilities are as good as their district offices and provinces because of the limited decision-making autonomy health facilities themselves have. Of the health facilities in the dataset provided by the OHSC, it so happened that all four health facilities that were selected fell within the rural parts of Province A and Province B, although rural location was not in of itself an initial criterion for selection. Further descriptive identifiers on

Province A and Province B have been intentionally omitted from this thesis to prevent deductive disclosure i.e. traits mentioned in the thesis that would make the hospitals identifiable ⁽¹⁶⁹⁾, especially in light of the detailed health facility characteristics tabled in Results Chapter II.

3.7. Study population

Quality of health care in South Africa has been particularly problematic in the district health system ^(110,192), which is the level of health care service-provision closest to the home ⁽¹¹⁰⁾, and from where Primary Health Care services are largely delivered. ⁽¹⁰⁹⁾ Research has shown that many South Africans avoid using public sector Primary Health Care services (despite them being free of charge ⁽¹¹⁰⁾) because they perceive them to be of poor quality, and instead present with inappropriate complaints at secondary and higher level health facilities, where care is considered to be superior, ⁽¹⁹³⁾ or access highly priced services in the private health care sector. ⁽¹¹⁰⁾

Exploration of how the OHSC EQA policy is experienced by frontline healthcare workers was undertaken at the district health system level, as this is the level of care where health facilities performed worst in EQA. ⁽⁷³⁾ The district health system and the Primary Health Care services delivered at that level of care will be the cornerstone of the reformed South African health system and thus the level of health care that was prioritised in this research. ^(109,121)

3.8. Ethical considerations

Ethics approval for this research was received from Oxford University's Tropical Research Ethics Committee, reference number: 514-13. Local ethics approval was

also received from the University of Cape Town's Human Research Ethics Committee, reference number: 555/2013. Furthermore, written approval and support for the research was received from the Director General of the South African National Department of Health as well as the research review committees of the departments of health of the provinces that constituted the sampling pool for the health facilities included in the qualitative component of the study.

Although only two district hospitals per province were included in the qualitative component of the study, again to prevent deductive disclosure, approval to conduct the research for all health facilities in the respective provinces was sought so as not to reveal which hospitals were the subject of this research. For Province A, this involved having to acquire ethics approval from all eleven district offices within that province. Careful consideration was given to ensuring that the names of the health facilities and interviewees included in this study were not revealed to the National Department of Health or the provincial departments of health. As per good ethical practice, voluntary written informed consent was obtained from all study participants. No study interviewees approached declined to participate in the study.

As policy relevance is considered an important ethical consideration when performing health systems and policy research ⁽¹⁷⁰⁾ as cited by ⁽¹⁶⁾ thoughts on potential research questions that were policy-relevant were sought from a key policy actor in the South African quality assessment arena. This policy actor's insights into the work of the OHSC informed the development of research question two regarding facilitators of and barriers to health facility performance in EQA. As this research was being shaped, I attended a session on preliminary findings of the OHSC mock EQAs at the

National Department of Health, where feedback was given by the leadership of the OHSC to managers of various health districts around the country on the performance of district hospitals in mock EQAs. Although sitting in on this meeting did not form part of my data collection, it nonetheless sensitised me to the thoughts and concerns of district managers about the impending national policy on EQA and how it would affect them at the district level. I also attended a meeting with the OHSC held in the Free State Province with the district managers of the various health districts. Here the OHSC requested feedback from the district managers on the various standards against which the health facilities were being assessed. Again at this meeting many questions and concerns on not just the standards but the EQAs as a whole were raised, sensitising me to some of the pressing concerns at the Primary Health Care (PHC) level and helping to inform the research questions (particularly those in the qualitative component of the study) that were to be developed.

Finally in accordance with the ethical principle of ‘Benefit Sharing’, once this research has been examined and is complete, the anonymised results will be shared with participating health facility management teams as well as with the OHSC itself.

3.9. Study design

3.9.1. Quantitative component

In this research I build on the work of the Office for Public Management (OPM) evaluation team described in Chapter 1 ⁽⁹⁷⁾ and seek to assess whether a statistically significant quantifiable effectiveness relationship can be demonstrated between EQA and health facility Healthcare Associated Infections (HCAI), specifically *Methicillin-resistant Staphylococcus Aureus* (MRSA) bacteraemia at the specialist-care health

facility level. An Interrupted Time Series Analysis (ITSA) was used to estimate whether EQA has an impact on patient outcomes significantly greater than the underlying secular trend at the time of on-site EQA as well as during the period following EQA. ⁽¹⁴²⁾ A number of authors have identified the internal assessment phase, as well as the period of onsite EQA, as the most propitious moments for behaviour change within health facilities. ^(28,94,194) Similarly OPM's research identified the period of onsite EQA to be a high impact period in terms of behaviour change within acute trusts. ⁽⁹⁷⁾ Pomey's research argues that it is when health facilities undergo EQA for the first time that the greatest benefits of EQA are seen. ⁽⁹⁵⁾ Thus based on the above I sought to determine whether a step change in MRSA levels could be discerned at the time of the on-site EQA, as well as whether the effects seen were sustained into the post onsite-EQA period.

In an ITSA design, data are collected at multiple instances over time, before and after an intervention, to detect whether the intervention has an effect on the outcome of interest significantly greater than the underlying secular trend. ⁽¹⁴²⁾ The ITSA is a quasi-experimental research analysis method that allows one not only to calculate the effect of the policy intervention on the outcome of interest, but also whether the effect occurred immediately or was delayed and whether this change was transient or sustained. ⁽¹⁹⁵⁾ ITSA is an alternative research method to evaluate the effectiveness of health policy interventions, as often randomised controlled trials are often infeasible, unethical or impractical. ⁽¹⁹⁵⁾ The use of an ITSA has a number of additional benefits: it allows one to account for underlying secular trends. ⁽¹⁴²⁾ This is particularly important in the case of MRSA, as the limited literature on MRSA epidemiology in South Africa suggests that MRSA bacteraemia is on the decline in the country as a

whole^(196,197) (although some provinces report increasing trends of MRSA⁽¹⁹⁷⁾). If one conducted a simple before and after EQA analysis, one would have difficulty detecting whether EQA had any influence on the MRSA levels over and above the existing secular trend.⁽¹⁴²⁾ In addition the ITSA design allows one to account for the reported seasonal or cyclical changes in MRSA patterns described in the international literature^(198,199), as is demonstrated in greater detail in Results Chapter I.

The standard ITSA regression model for a single-group analysis with a single intervention period is displayed below. The meaning of each of its variables, taken from Linden 2015^(200,201), are displayed in Table 13 below:

$$Y_t = \beta_0 + \beta_1 T_t + \beta_2 X_t + \beta_3 X_t T_t + \varepsilon_t$$

Table 13: Definitions of variables used in the Interrupted Time Series Analysis regression model

Variable	What it represents:
Y_t	The sum outcome variable measured at each time point t ⁽²⁰⁰⁾
β_0	The beginning level of the outcome variable or the intercept. ⁽²⁰⁰⁾
β_1	The pre-intervention trend/slope ⁽²⁰⁰⁾
T_t	The time since the beginning of the study ⁽²⁰⁰⁾
β_2	The change seen in the level of the outcome in the post-intervention period, immediately following the intervention ⁽²⁰⁰⁾
X_t	An indicator variable that represents the intervention ⁽²⁰⁰⁾
β_3	The difference between the pre-and-post intervention trends. ⁽²⁰⁰⁾
ε_t	Random error term ⁽²⁰⁰⁾

Contents of table adapted from Linden, p.2⁽²⁰⁰⁾

In the ITSAs performed in this research, the patient outcome of interest or dependent variable is HCAI levels. This has been selected as the patient outcome of interest as it is the most commonly occurring adverse healthcare-associated event worldwide ⁽²⁰²⁾ and is largely preventable through basic hygiene practices. ⁽²⁰³⁾ Reduction in HCAIs has been identified as an explicit goal of South Africa's EQA programme. ⁽⁶⁾ There are many HCAIs, but the one selected as the subject of this research was *Methicillin-resistant Staphylococcus Aureus* (MRSA) bacteraemia, because of its association with high levels of mortality and the high cost burden it places on the health system. ^(204,205)

The intervention or exposure variable is EQA. The experimental units are tertiary and central hospitals in South Africa. These are hospitals with highly specialised staff and equipment that also tend to have academic responsibilities ⁽²⁰⁶⁾ (referred to in this thesis as specialist-care hospitals). An initial attempt was made to run the ITSAs on MRSA levels as reported at the district hospital level, in order to complement the qualitative work that was undertaken at the district hospital level. However, once those datasets were obtained, it was found that there were not enough cases of MRSA being captured at the district hospital level to make the analysis feasible. This is to be expected, as the average length of stay at the district hospital level is comparatively shorter than at higher levels of care, and length of stay has been identified in the literature as a predictor of MRSA infection. ⁽²⁰⁷⁾ A decision was taken to re-request MRSA data for South Africa's specialist-care hospitals. These hospitals, also described as level 3 and level 4 hospitals, were used as the experimental unit for the analysis. These specialist-care hospitals had higher levels of reported MRSA cases than their district hospital counterparts, were a manageable number for the scope of a

DPhil thesis compared to regional hospitals ⁽¹²⁸⁾ and had also undergone EQA by the OHSC and thus were most appropriately suited for the time series analysis.

3.9.2. *Qualitative component*

The design of the qualitative component of my research was a multiple embedded case study ⁽²⁰⁸⁾ of two pairs of district level health facilities that had undergone EQA by the OHSC. The term *multiple* refers to the number of cases, in this study two, and the term *embedded* refers to the levels of analysis. In this study I analysed my findings at the level of the health establishment management team as well as at the level of the organisation i.e. the hospital (see figure 6). ⁽²⁰⁸⁾ Each pair of health facilities was located within the same province, fell under the same district and were managed by the same district office. The difference between case one and case two was that the same Chief Executive Officer (CEO) managed the health facilities in case two. This case was specifically juxtaposed against case one in this manner to rival theories that point to poor leadership as the cause of poor quality of care.

Yin defines a case study as: ‘...an empirical inquiry that

- 1) investigates a contemporary phenomenon in-depth and within its real-world context, especially when
- 2) the boundaries between phenomenon and context may not be clearly evident.’

p. 16 ⁽²⁰⁸⁾

Case studies are particularly useful when studying complex social phenomena ⁽²⁰⁸⁾, such as a national policy on EQA of health facilities, particularly because they provide empirical support to theoretical principles. ⁽²⁰⁸⁾ The two cases in this research each consist of a health facility that performed well on the OHSC EQA and a health

facility that performed poorly. There is a positive and negative deviant in each case. *'Positive deviants'* p.27 ⁽²⁰⁹⁾ are defined by Pallas as '...organisations that consistently demonstrate exceptionally high performance in an area of interest'. p.27 ⁽²⁰⁹⁾ The positive deviant approach argues that often the answers to the challenges a community faces already exist within the community. ^(209,210) Certain groups within a community practise beneficial behaviours from which lessons can be learnt and shared with the rest of the community. ^(209,210) These behaviours are likely to be culturally acceptable, affordable and sustainable because they stem from within the community and exist because they harness the community's strengths. ^(209,210) In this research I examine both positive and negative deviants, in order to discover culturally acceptable, affordable and sustainable enabling behaviours for high performance in EQA, and to identify those behaviours and circumstances that disable health facilities from achieving quality standards. ⁽²¹⁰⁾ This approach is supported by the work of Plsek et al., ⁽²¹¹⁾ who argue that poor performers should not be condemned but that their failure to comply with quality standards should be seen as a research opportunity to help our understanding of what the predictors for variation in outcomes are. ⁽²¹¹⁾ Jordan et al. have stressed the importance of paying attention to outliers in this kind of research, because 'it is often the exceptional that drives change in Complex Adaptive Systems (CAS)'. p.229 ⁽²¹²⁾

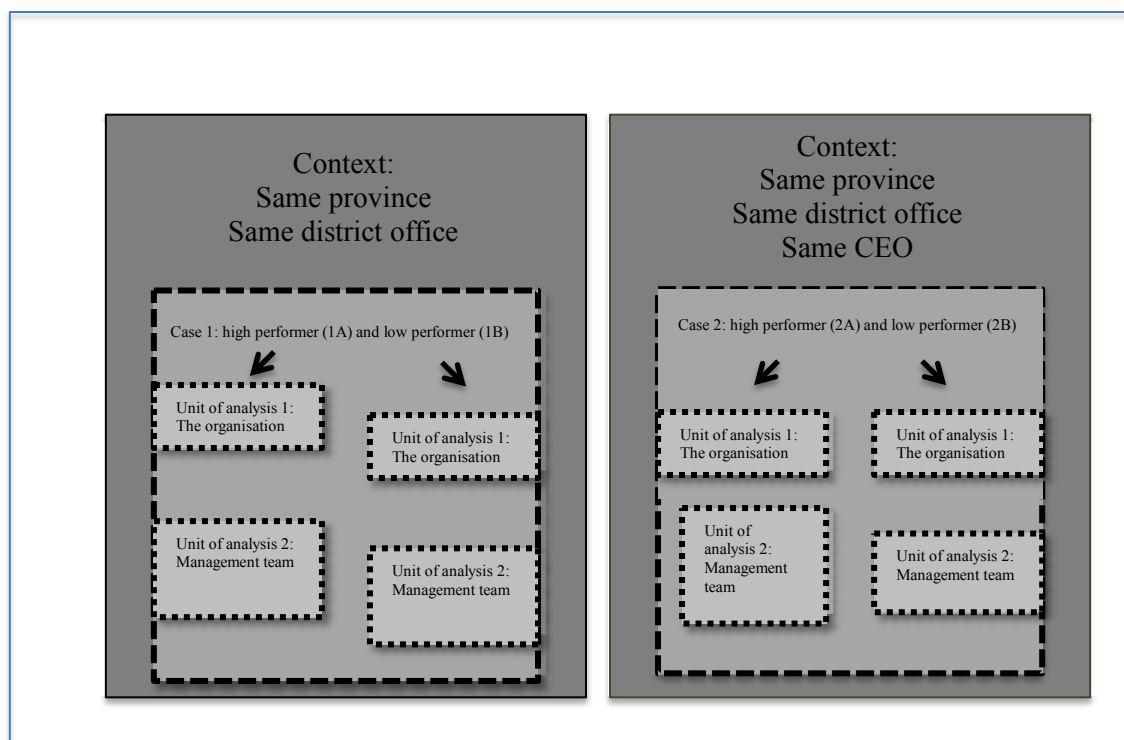


Figure 6: Multiple embedded case study design
-Adapted from Yin, p.50 ⁽²⁰⁸⁾

3.10. Data collection and analysis

3.10.1. The Quantitative component

Patient-level data for MRSA on blood culture for the period January 2004-June 2014 was obtained from South Africa's National Health Laboratory Services (NHLS) for all of South Africa's specialist-care hospitals which had undergone EQA, and for which dates of EQA and performance outcomes of EQA were available in the OHSC EQA database as of August 2013. Ten of the country's specialist-care hospitals ⁽¹²⁸⁾ met this criteria, and were considered for inclusion in the analysis. Many authors have written about the difficulty of calculating sample sizes for ITSAs, particularly when assessing the effects of policy interventions. ^(195,213-215) A minimum of fifty time points (twenty-five pre-intervention and twenty-five post-intervention are recommended ⁽²¹⁴⁾ and more is ideal if there are high levels of autocorrelation and the

post-intervention trend is much shorter than the pre-intervention trend.^(195,214) Thus MRSA data as far back as January 2004 were requested to ensure that the length of the time series, particularly the pre-intervention trend, was long enough to ensure the analysis was adequately powered.⁽¹⁴²⁾ It would have then been ideal to access hospital active-bed data for the same period in order to calculate MRSA rates for the hospitals included in the analysis. I was concerned about the difficulties of obtaining high quality historical hospital active-bed number data directly from specialist-care hospitals for a period dating as far back as 2004. These concerns were particularly in light of health information systems in South Africa being described by the Development Bank of South Africa as ‘weak, unreliable and in some cases unusable’.

p.28 ⁽¹²⁴⁾ A decision was thus taken to settle on performing the ITSA using MRSA counts rather than MRSA rates. The use of MRSA count data rather than MRSA rates requires that we assume that there were no statistically significant changes in active-bed numbers at the specialist-care hospitals that are the subject of this research over the period of the analysis i.e. 2004-2014. It is recognised that this assumption is a major limitation of the ITSA analysis and that the use of MRSA rates would have resulted in a more robust analysis.

The MRSA dataset obtained from the NHLS contained 136 296 patient-level entries for the ten central hospitals. After specimen types that were not labelled as blood were deleted, 19 637 entries remained. The dataset was then disaggregated by hospital into ten separate datasets. Two hospitals were excluded from the dataset because their MRSA data only went as far back as 2011 because the province under which they fell only started to make use of the electronic laboratory information system from 2010/2011.

The case definition used was MRSA on automated or manual blood culture or *Staphylococcus Aureus* cultured on blood and resistant to Cefoxitin or Oxacillin antibiotics, as is consistent with the research of others. ⁽²⁰⁷⁾

For each hospital dataset, patient-level cases of MRSA that shared the same episode number were treated as duplicates. Cases that were reported within the same twenty-one-day window were also treated as duplicates (even if they did not share the same case number), as is standard practice. ⁽¹⁹⁷⁾ Cases with the same date for the same patient with different episode numbers were also identified as duplicates and removed from the datasets. Intervention dates, i.e. EQA dates for each hospital, were obtained from the OHSC database. For two of the hospitals (Hospital I and Hospital III), the intervention date was missing from the dataset received, and, instead, date of entry into dataset was used. Date of entry into dataset tended to correlate with date of intervention for all of the other hospitals for which intervention dates were provided. For this reason, date of entry into dataset was used as the intervention date for the two hospitals for which the date of intervention information was missing. This was considered a reasonable alternative as capture of data usually occurs during EQA, as was witnessed on participant observation. The data within each dataset was then organised by date, time period and number of cases per time period and then aggregated by month. For each hospital a dataset that was organised by date, time period (i.e. every month was assigned a numerical number) and number of MRSA cases per month was created. An example of a hospital dataset can be found in Appendix G. An Ordinary Least Squares regression-based model, specifically designed for time series data and available in STATA 13 was run for each of the

datasets. ⁽²⁰⁰⁾ An Ordinary Least Squares regression-based model that assumes a Moving Averages autocorrelation structure was fitted. The Cumby-Huizinga general test for autocorrelation was used to assess for autocorrelation in the error distribution and to confirm that the Ordinary Least Squares model used was appropriate for this analysis. ⁽²⁰⁰⁾ Autocorrelation refers to the extent to which observations close together in time are related to one another. ⁽¹⁴²⁾ A Moving Averages autocorrelation structure refers to autocorrelation at the level of the random error terms of the preceding time points, rather than to the preceding time points themselves as would be the case in an autoregressive autocorrelation structure. ⁽²¹⁶⁾ Where autocorrelation was found at higher order lag orders i.e. at one or more preceding time periods in the dataset ⁽²¹⁷⁾, the Ordinary Least Squares model was adjusted to account for autocorrelation at these lag orders and the analysis was rerun. ⁽²⁰⁰⁾

The ITSA measures both change in level of outcome of interest at the time of the intervention (i.e. an immediate change), as well as change in the post-intervention trend (calculated as a difference between the pre-intervention and post-intervention slopes). ⁽²⁰⁰⁾

I was unable to identify research that reports on MRSA seasonal trends in the South African setting. The international MRSA epidemiology literature does however report pronounced seasonal trends in MRSA infections. ^(198,199) Thus, to strengthen the analysis for all of the ITSAs where a statistically significant effect of EQA on MRSA trends was found, a robustness test was conducted to assess whether the statistically significant findings might otherwise be attributable to an underlying seasonal trend. To do this, the intervention time period was moved back to the same time of year in

the previous year and the analysis rerun using the pseudo-intervention time period (see Results Chapter I for more detail).

In addition, where outlier values were identified in the pre-intervention series, the effects of outliers on the series were tested to assess whether the outliers were accounting for the pre-intervention trend seen. This was done by replacing the outlier values with an average of MRSA levels for the series for that period and rerunning the ITSA with the adjusted value.

Finally a random effects meta-analysis was conducted using the post-intervention trends of all eight hospitals to assess whether in aggregate, EQA might be associated with an effect on MRSA levels in specialist-care hospitals in South Africa. A meta-analysis is a statistical technique to summarise effect sizes across studies by calculating the weighted average of those effect sizes across studies. ⁽²¹⁸⁾

Data was managed in Microsoft Excel 2010 and analysed in STATA 13

3.10.2. The Qualitative component

Data Collection took place in three phases between June 2014 and May 2016. Phase one consisted of a four-day participant observation of a district hospital EQA, 'District Hospital Z' (June 2014). Phase two consisted of fifteen in-depth interviews of frontline healthcare workers (June-July 2014). Phase three consisted of thirteen in-depth interviews of OHSC inspectors (July 2014-June 2016). Some of the interviews with the inspectors were conducted face to face, others telephonically. Figure 7 below

depicts graphically how these three phases were deployed. The phases are described in greater detail below:

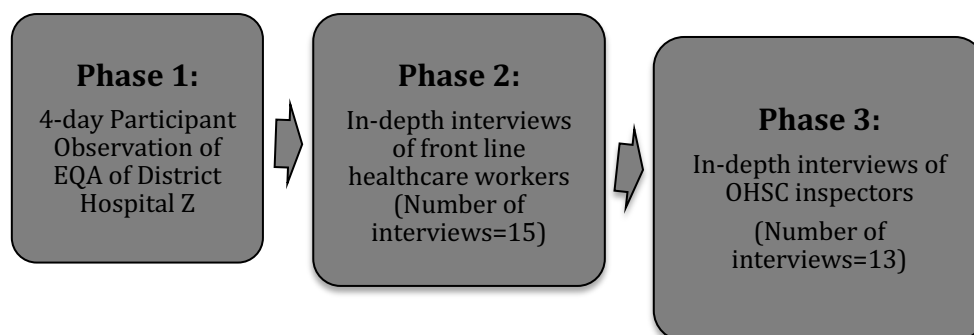


Figure 7: Phases of Qualitative Research

The qualitative interviews and field notes from participant observation were also triangulated with findings from the health facilities' EQA reports.

⇒ Phase One- Participant observation

Participant observation is when the researcher joins the community being studied to gain first-hand experiential knowledge of the events and interactions that occur.⁽²¹⁹⁾ During this component of the study, I joined an OHSC inspectorate team on an unannounced four-day EQA of a district hospital, District Hospital Z. This gave me an opportunity to gain insight into the actual process of health facility EQA and helped give context to the rest of the findings in the study.⁽²¹⁹⁾ The literature describes different degrees of immersion of the participant observer.^(220,221) I was a passive/peripheral participant observer⁽²²²⁾, meaning that I did not get involved in the activity of assessing the health facility, but simply shadowed a different inspector each day as they performed the EQA in the various departments of the health facility. This was a more appropriate form of participant observation for the purposes of my

research as EQA is a regulatory exercise and I did not possess the necessary authority to assume the role of inspector. I also did not want to compromise the quality of my data collection by being too involved in the intricacies of scoring the health facility. I had met many of the inspectors in my initial visit to the OHSC when I was first attempting to get buy-in from the OHSC for the research. On the first day of District Hospital Z's EQA, I was introduced by the team leader of the inspectors to the healthcare workers as a researcher from the United Kingdom doing research on the work of the OHSC. I captured data through detailed field notes of people's (both inspectors and healthcare workers) behaviours and conversations. ⁽²²⁰⁾

The selection of the district hospital that was the subject of phase one of data collection was made on the basis of convenience sampling, i.e. on the basis of which hospital was scheduled to undergo EQA by the OHSC during the period of my fieldwork, as well as based on which hospital was within easy driving distance to my own location during my period of fieldwork. This is the manner in which sampling is commonly conducted when performing participant observation, as it is understood that the arrangements of access to a community can and do change unpredictably. ⁽²²¹⁾

The selection of District Hospital Z had no relation to the hospitals where in-depth interviews of healthcare workers were conducted. The time and resources I had at my disposal for conducting fieldwork as well as the inspectors' own EQA schedule limited me to observing an EQA of a single district hospital. This was deemed to be sufficient, considering the time and resource constraints, as it spanned a period of four full working days and during the four-day EQA I had an opportunity to observe a number of different inspectors assessing a wide variety of hospital domains.

My time spent as a participant observer of an EQA at District Hospital Z served to strengthen the quality of my in-depth interviews (described below) as well as to strengthen the interpretation of my findings from the in-depth interviews. ⁽²²³⁾

⇒ Phase Two - In-depth interviews of health facility management teams

In their seminal paper on health policy analysis in low and middle-income countries Gilson and Walt argue that health policy analysis fails because much of the focus is on the content of the policies and not nearly enough on the actors involved in policy reform, the process of policymaking and its implementation and the context within which the policy is developed. ⁽¹⁰⁴⁾ System Thinkers seek to amplify the voices of the system actors who interact with the health policy intervention at the coalface. ⁽¹⁰³⁾ Hajer and Wagenaar (2003, p. 8) as cited by Walt, p. 309 ⁽⁹⁾ argue that ‘...policy analysis has to become more deliberative: less top-down, involving expanded networks, and more interpretative, taking into account people’s stories, their understandings, values and beliefs as expressed through language and behaviour.’ Walt, p.309 ⁽⁹⁾

For this reason I selected to interview four frontline workers per health facility. A total of sixteen interviews were planned. Only fifteen healthcare workers from the four health facilities were available for interview. The number of interviews of frontline healthcare workers was limited by the amount of time and resources available to me to reach and spend at each of these remote rural health facilities. The frontline healthcare workers who were initially selected in this study were, for the most part, members of health facilities’ management teams (e.g. Chief Executive Officer (CEO), Nursing Manager, Quality Assurance Manager, etc.) as they are the

healthcare workers who will be primarily held responsible for the outcomes of EQA, once the National Core Standards are promulgated into law. ⁽⁶⁾

During my time at District Hospital Z as a participant observer, it became clear to me that not only the health care management team but also operational staff such as professional nurses could be considered for inclusion in the research as they interacted directly with the inspectors and had first-hand experience of the manner in which the OHSC EQA policy was being implemented on the ground. Thus, when I was setting up my interviews and found out that some of the health facility management team members I was seeking to interview had resigned or that a recent new appointment had been made, and that the new employee had not been present for that specific health facility's EQA, I opted for other operational staff members who were present during the health facility's EQA, even if they did not necessarily form a part of the executive team.

CEOs of the hospitals selected for participation in the study were contacted telephonically and given information on the study. Participant information sheets, ethics approval letters and consent forms were electronically mailed to the respective CEOs, so that they had full information on the study before interviews were confirmed. Access to the health facility staff had to be obtained via the health facility CEOs, who acted as gatekeepers. The CEOs gave guidance on which members of their health facility staff were present at the time of the EQA and how best to get in touch with these various members of staff. From the list of staff members provided to me by the CEOs, I then proceeded to contact them independently of the CEO, stressing that their participation was voluntary, confidential and would have no

impact on current or future employment. I paid particular attention not to mention to any of the study participants which one of their colleagues had confirmed meeting with me. Where staffing information was available via the provincial departments of health's websites, further study participants were approached using this publicly available information. I was initially concerned that the CEOs might try to direct me to interview staff members who would share views that were sympathetic to their own, but once in the field it became apparent that many of these health facilities were severely understaffed, that all senior operational and management staff who were present at the time of EQA were made known to me and that in fact because of the severe staff shortages at one health facility, only three staff members remained who had been present at the time of their health facility EQA. Hence the total number of healthcare interviewees was fifteen rather than the planned sixteen healthcare workers.

Despite my attempts at trying to conceal from study participants which members of their team I would be interviewing, I found once I arrived in the field that study participants had already shared this information amongst themselves, and news had spread very quickly amongst the colleagues that 'Dr. Mabaso from the UK is coming to see us'. In fact this made it quite challenging once in the field as the study participants had shared the discrete appointments for days (and sometimes times) that I had made with them individually, with each other, and would at times show up together or as a group, revealing their identities to each other. This was particularly more common at the 'high-performing' hospitals, where it quickly became very evident that nothing is a secret.

An initial topic guide was developed for the in-depth interviews based on key themes arising from the literature, particularly the work of OPM on the Healthcare Commission's HCAI programme, which, although was an evaluation of a specific HCAI code of practice of the Healthcare Commission, raised themes in their interviews of healthcare workers that were relevant to the objectives of this research. ⁽⁹⁷⁾ The topic guide served as a starting point for conversation and, as the interviews progressed, previous interviews informed future lines of enquiry. The themes that made up the interview can be found in Table 14 below. The interview was also used as an opportunity to extract hidden assumptions of frontline workers on the national policy on EQA using the Distinction, System, Relationship, Perspective (DSRP) conceptual model described below.

Table 14: Themes explored in in-depth interviews with healthcare workers

Themes
Experience of EQAs
Perceived value of EQAs
Reactions to score
Motivation for change
Perceived barriers to quality improvement
Perceived facilitators to quality improvement

Interviews took place at the respective health facilities, except for three interviewees who had to attend a workshop at short notice and requested that the interview location be shifted to the site of the workshop. This was done. All the interviews were audio-recorded, except for one interview where I felt as the interviewer that the interviewee had launched straight into quite personal and sensitive information before the formal

interview had begun and felt that the use of an audio-recorder would invade the space and disrupt the rapport that had been established. In this case, detailed notes were taken. Audio recordings were transcribed by myself as well as by professional transcribers, who signed a confidentiality agreement. Once the transcriptions were returned to me, all transcripts were checked against audio recordings to ensure no meaning was lost in the transcription process.

Interview transcripts and, in the case of the interview that was not recorded, a summary of the discussion notes, were emailed to interviewees and they were given an opportunity to correct any misunderstanding or misinterpretations. One participant however no longer had an active email account and was unable to receive the transcript via post due to the postal office strikes underway in South Africa at the time. Interview lengths tended to exceed an hour with the first interviewee at each respective health facility. The interviews shortened in length with each subsequent interviewee as data saturation was reached. On average interviews were forty minutes in length. Careful consideration was taken not to allow interviews to exceed ninety minutes, so as not to disrupt patient care, or, in the case of the interviewees attending a course, professional development.

⇒ In-depth interviews of inspectors

One of the key characteristics of using a Systems Thinking approach is to pay careful attention to the views of various stakeholders and to garner perspectives from various levels of scale.⁽¹⁸⁶⁾ With this in mind, thirteen OHSC inspectors were interviewed on their thoughts on the facilitators of and barriers to achieving quality standards at a district hospital level, based on their experience of inspecting almost two thousand

health facilities collectively as an inspectorate team at the time of the research.⁽⁷²⁾ In addition their views were important to triangulate what had been shared by the healthcare workers, to account for the gatekeeping bias⁽²²⁴⁾ that might have been applied by the CEOs who were the ones who suggested the interviewees from their health facilities. Selection of inspectors was opportunistic, based on the availability of inspectors. As inspectors work on a tight schedule, access had to be obtained from the director of inspectors and team leaders. The themes explored in the topic guide used for interviews with inspectors were similar to those explored with healthcare workers interviewed and outlined in Table 14 above.

3.11. Researcher Positionality

Researcher Positionality is the consideration of how one's situation (be it institutional, professional, by gender, race, prior work experience etc.) influences how access is negotiated, data is collected, interpreted and analysed.⁽⁹⁾ There is call in the literature for research analysing health policies and their implementation to take into account how the researcher's position in the research process shaped the collection of study data, its interpretation and the conclusions drawn, particularly when conducting research that engages with policy elites and sensitive issues.⁽⁹⁾

A number of the healthcare workers interviewed shared their surprise when seeing me and confessed that they had assumed I was male, middle-aged and of a big sturdy build. This was especially emphasised at a hospital which had called in the entire staff complement to receive me in the boardroom upon arrival, as if I was some sort of 'very important person', even though I had arranged to interview only a single member of the management team on that particular day. There were also times during

the interviews where interviewees would stress that perhaps I could take some of their concerns back to ‘national’ i.e. the National Department of Health. I thus had to re-emphasise in the interviews that I did not work for the National Department of Health, that I was doing research, and that although the National Department of Health had given support for the research, they were unaware of which health facilities I had chosen and which individuals were participating in the interviews. In the interviews themselves, I often had to give the interviewees permission to be critical if that indeed was how they truly felt. For example, if I asked them about the perceived benefits or disadvantages of introducing the OHSC EQA policy, I would have to add “*Do you think it is adding something useful, and beneficial or do you feel that it is just another burden for people who are already over worked?*” I also had to de-emphasise my identity as a medical doctor (traditionally deferred to by the nursing profession, a profession which most of my interviewees stemmed from) and rather to over-emphasise my identity as a young student seeking to understand the implementation of the policy that is the subject of this research. I would do this by referring to the interviewees as ‘Ma’ if they were female; a sign of respect shown to an older woman in the South African culture, or ‘Ntate’ or its equivalent (i.e. father) if the interviewee was male. I thus found that by being reflexive about my positionality in the interviews, and bringing forward parts of my identity that allowed for a balance of power in the interviews, I was able to give my interviewees the freedom to express themselves without restraint. As a result, once rapport was established, many of the healthcare workers were eager to share their views and seemed to value an opportunity to air some of their frustrations and challenges, something that it did not seem they had frequent opportunity to do.

My sense from interviewing the inspectors, as well as participating in the onsite EQA alongside the inspectors, was that the inspectors saw me as a safe impartial outsider with whom they could be open. I think it was helpful in this respect that I was affiliated with a foreign institution. I did expect there to be some caution in how much was disclosed to me by the inspectors with regards to the challenges the OHSC had been experiencing, but I found most of them to be very forthcoming and generous with their responses to my questions.

As has been argued by Bourke ‘to achieve pure objectivism is a naïve quest’ p.3⁽²²⁵⁾ and what is more important is to be ‘ever mindful of our subjectivities’ p.3⁽²²⁵⁾ when conducting qualitative research. Thus in the analysis of my findings I had to be careful not to project my own experiences and frustrations as a public sector healthcare worker in South African, both before commencing my Doctorate in Philosophy (2010-2012) as well as during the finals weeks of my thesis write up (August 2016-to July 2017). However, upon reflecting upon my time in the field collecting data, I see now that my ‘insider/outsider’^(225,226) status (i.e. insider: South African healthcare worker; outsider: Doctorate in Philosophy student living in the UK) had its advantages. It allowed me to establish trust rapidly with the healthcare workers I interviewed because I had a keen understanding of the challenges they faced and could easily empathise, but also, as an ‘outsider’, I was perceived as safe and trustworthy (particularly by the inspectors), with no agenda but rather sincerely seeking to understand the lived experience of this new health policy in the South African health system. My insider status and depth of experience within the South African healthcare system as a frontline healthcare worker also meant that very early on in my interviews, I was able to quickly pick up on issues of work place motivation

raised by some of the interviews. Thus I was able to pursue these lines of inquiry in subsequent interviews and to gain valuable data on this potential unintended consequence of the EQA policy that might have been missed by an outsider researcher. My 'outsider' status meant that the inspectors felt safe to reveal the degree of gaming taking place in relation to the EQAs and how this threatened to undermine the introduction of the new health policy and its intended impact on quality of care in the health system. (Please see results section for further details).

3.12. Data analysis

Initial coding of data was informed by some of the principles of grounded theory coding as described in Charmaz's book, *Constructing Grounded Theory* ⁽²²⁷⁾, namely coding for actions, staying close to the data and comparing data with data. ⁽²²⁷⁾ This thesis however does not claim to have conducted a full grounded theory study.

Before applying the themes or sensitising concepts ⁽²²⁷⁾ that were identified in the literature review to the data, I sought to discover any new and emergent themes. Grounded Theory is a useful way of inductively identifying emergent themes that are grounded in the data itself. ⁽²²⁷⁾ Thus, following some of the guidelines outlined in Charmaz's book, initial coding involved naming each segment of the data in three of the most interesting transcripts. In this initial phase, I endeavoured to be as open as possible to all the possible theoretical directions to which the data was pointing. ⁽²²⁷⁾ These transcripts were then sent to two of my supervisors, along with the initial coding framework, to discuss whether my initial impressions with the data were consistent with theirs.

Prominent themes arising from the data were then mapped using Cabrera’s Systems Thinking MetaMap software and the four rules of Systems Thinking proposed by Cabrera, i.e. Distinction, System, Relationship, Perspective (DSRP) rules, see Table 15, which Cabrera argues underlie the various Systems Thinking approaches in the literature. ⁽²²⁸⁾ These ‘cognitive patterns’ p.52 ⁽²²⁸⁾, as Cabrera refers to them, were used to analyse some of the prominent themes that emerged from the qualitative data. Cabrera’s DSRP framework facilitated analysing the qualitative data with a Systems Thinking lens in a systematic way. ⁽²²⁸⁾ Thus for example, in applying DSRP to the theme ‘EQA is an audit and its purpose is to standardise quality of care across the health system’- a theme that spoke to what healthcare workers understood the OHSC’s EQAs to be- I systematically tried to tease out the distinctions the healthcare workers were making, i.e. what are they saying EQA is and what are they saying it is not (Distinction Rule). I also tried to tease out what they understood EQA to comprise of and what greater systems they saw it belonging to (Systems Rule). I then tried to identify which perspectives these views were coming from, i.e. high-performers versus low-performers (Perspective Rule) as well as how this conceptualisation of EQA related to other themes (Relationship Rule). ⁽²²⁸⁾ This was an iterative exercise and did not necessarily happen in the order described here. An example of the MetaMap generated from applying DSRP to this specific theme and its related key can be found in Appendix H.

Table 15: The four rules of Distinction, System, Relationship, Perspective conceptual lens

Rule	Description
‘Distinction Rule’	‘Any idea or thing can be distinguished from the other ideas or things it is with’ ⁽²²⁸⁾

Rule	Description
'Systems Rule'	'Any idea or thing can be split into parts or lumped into a whole' ⁽²²⁸⁾
'Relationship Rule'	'Any idea or thing can relate to other ideas or things' ⁽²²⁸⁾
'Perspective Rule'	'Any thing or idea can be the point or the view of a perspective' ⁽²²⁸⁾

Table contents taken directly from Cabrera, p.9 ⁽²²⁸⁾

Data was managed and coded using NVivo10 software

3.13. Summary

This chapter describes the methods used in answering the research questions posed in this thesis. It sets out the aims and objectives of this work and how these were achieved using the convergent parallel mixed methods design. The results of the application of these methods are presented in the chapters that follow.

Chapter 4: Results Chapter I - Relationship between External

Quality Assessment and patient outcomes

4.1. Introduction

In this chapter I present the results of the Interrupted Time Series Analysis (ITSA), as described in the Methods chapter above. The aim of this analysis is to assess whether the intervention i.e. External Quality Assessment (EQA), may be associated with a quantifiable impact on hospital *Methicillin-resistant Staphylococcus Aureus* (MRSA) levels. This is in response to the call in the literature for more empirical research into the relationship between EQA and patient outcomes. ^(18,34,41)

An ITSA is a quantitative research method that allows one to assess whether key points in the EQA process (i.e. the period of onsite EQA as well as the post EQA period) are associated with an impact on hospital MRSA levels significantly greater than the underlying secular trend. ⁽¹⁹⁵⁾ When performing an ITSA data are collected at multiple instances over time, before and after an intervention, to detect whether the intervention has an effect on the outcome of interest. ⁽¹⁴²⁾ In the ITSAs performed in this research, the patient outcome of interest or dependent variable is hospital MRSA levels, the intervention or exposure variable is EQA, and the experimental units are specialist-care hospitals in South Africa.

When performing ITSAs one must adjust for autocorrelation. ⁽²⁰⁰⁾ Autocorrelation refers to the extent to which observations close together in time are related to one another. ⁽¹⁴²⁾ In the ITSAs conducted in this research an Ordinary Least Squares

(OLS) Regression model that accounts for autocorrelation is used. First I ran an OLS ITSA regression model that assumed a moving averages autocorrelation structure with zero autocorrelation at the time lag orders (number of preceding time points ⁽²¹⁷⁾) for each hospital dataset (i.e. assumes no autocorrelation at preceding time points). I then conducted the Cumby-Huizinga general test for autocorrelation to assess the number of lag orders for which autocorrelation was present in the individual datasets, and if this was greater than zero, my initial OLS model was adjusted to account for the number of lag orders for which autocorrelation was observed. ⁽²⁰⁰⁾ Where statistically significant effects on MRSA levels or trends were found, I conduct a test for seasonality, to ensure that the significant findings demonstrated could not be better explained by a seasonal effect. ^(142,200) This involved replacing the true-intervention date with a pseudo-intervention date that was exactly 12 months prior to the true-intervention date and thus in the same season i.e. the same month, the year before and running the OLS regression model with the pseudo-intervention date. ⁽²⁰⁰⁾

In the results below, the findings for hospitals that had statistically significant changes in MRSA levels or trends are presented first and are accompanied by figures representing these trend analyses graphically. This is then followed by the results for hospitals for which no statistically significant changes in MRSA levels were found. Figures for hospitals where no impact of EQA on MRSA levels or trends could be demonstrated can be found in Appendix I.

The results below reveal that statistically significant changes in MRSA levels related to EQA were only found for three of the eight hospitals included in the analysis i.e. Hospital I, V and VII. Hospital I and V were found to have a statistically significant

decrease in MRSA levels post EQA as well as a statistically significant change in the rate of decrease of MRSA levels post EQA. Hospital VII in contrast demonstrated a statistically significant increase in MRSA levels at the time of EQA. This increase in MRSA levels was however not sustained in the post EQA period. Furthermore there did not seem to be a relationship between high performance in EQA and an impact on patient outcomes, as might have been expected. The two highest performing hospitals (II and III), see Table 16, were amongst those where no impact of EQA on MRSA levels was found, and the two hospitals (I and V) where an effectiveness relationship between EQA and MRSA levels was suggested, did not necessarily have superior performance on EQA to their peers.

Table 16: Health facility overall performance score in External Quality Assessment

Hospital	Score (%)
I	70-80
II	80-90
III	80-90
IV	30-40 (in first EQA) 50-60 (in second EQA)
V	60-70
VI	60-70
VII	40-50
VIII	50-60 (on first EQA) 70-80 on second EQA)

A higher percentage score indicates superior performance in EQA

The number of lags for which autocorrelation was adjusted for in each hospital's OLS ITSA can be found in the table of results for each hospital. The Cumby-Huizinga tests

for autocorrelation that were performed for all hospital datasets can be found in Appendix J.

4.2. Hospitals where an effect of External Quality Assessment on *Methicillin-resistant Staphylococcus Aureus* was found:

⇒ Hospital I

As shown in the regression table below, the starting level of the monthly number of MRSA cases at Hospital I was estimated at 24.61 cases ($p < 0.01$; CI= 22.52, 26.70). The trend of monthly number of cases of MRSA decreased by 0.09 cases per month in the months leading up to the intervention and this decrease was statistically significant ($p < 0.01$; CI= -0.15, -0.04). In the month of the intervention there was a statistically non-significant increase in the number of MRSA cases of 0.74 ($p > 0.05$; CI= -4.22, 5.70). This was followed by a statistically significant decrease in the monthly number of MRSA cases (relative to the pre-intervention trend) of 0.29 cases per month ($p < 0.05$; CI= -0.51, -0.07). We also see from the post intervention rate of change estimate, that after the intervention, the MRSA cases decreased monthly at a rate of 0.38 cases per month, and this decrease was statistically significant ($p < 0.01$, CI= -0.60, -0.17). For the Hospital I dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at up to 3 lags. Thus the model was adjusted to account for 3 lag orders. Figure 8 shows a graphical display of the results.

Table 17: Interrupted Time Series Analysis Hospital I

Number of observations:	120			
Maximum lags:	3			
Pre-intervention Mean:	19.90 (stdev. 7.65)			
Post-Intervention Mean:	12.32 (stdev. 3.86)			
Overall Mean:	18.63 (stdev. 7.57)			
Overall performance score on EQA: 70-80%				
Cases	Coefficient	Standard Error	P value	95% Confidence Interval
Starting level	24.61	1.05	<0.01	(22.52, 26.70)
Pre-intervention trend	-0.09	0.03	<0.01	(-0.15, -0.04)
Month of intervention	0.74	2.51	>0.05	(-4.22, 5.70)
Post intervention trend	-0.29	0.11	<0.05	(-0.51, -0.07)
Post intervention rate of change	-0.38	0.12	<0.01	(-0.60,-0.17)

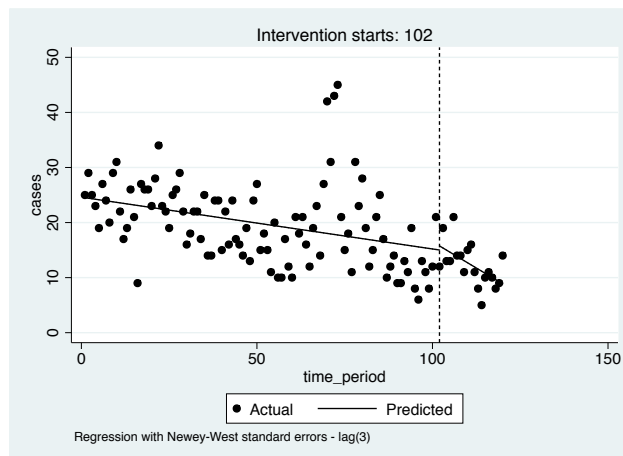


Figure 8: Graphical display Interrupted Time Series Analysis Hospital I

As the intervention was found to have a statistically significant effect on post intervention monthly number of MRSA cases and the post intervention rate of change of MRSA cases at Hospital I, a robustness test was conducted to assess whether the above findings might be attributable to seasonality. To do this, the intervention time

period was moved back to the same time of year in the previous year (i.e. from time period 102 to time period 90) and the analysis rerun using the pseudo-intervention time period. The results for this robustness test are displayed below.

Table 18: Hospital I robustness test

Cases	Coefficient	Standard Error	P value	95% Confidence Interval
Starting level	23.35	1.27	<0.01	(20.85, 25.86)
Pre-(pseudo)intervention trend	-0.05	0.04	>0.05	(-0.13, 0.02)
Month of pseudo-intervention	-5.84	2.90	p=0.05	(-11.58, -0.10)
Post (pseudo)intervention trend	0.02	0.09	>0.05	(-0.16, 0.19)
Post (pseudo)intervention rate of change	-0.04	0.08	>0.05	(-0.19, 0.11)

We see from the robustness test that the starting level of the monthly number of MRSA cases at Hospital I remains largely the same, this time estimated at 23.35 cases ($p < 0.01$; CI= 20.85, 25.86). The pre-(pseudo)intervention trend is again estimated as a decreasing trend, however in contrast to the true analysis, the decrease of 0.05 cases per month in the months leading up to the intervention, is not found to be statistically significant ($p > 0.05$; CI= -0.13, 0.02). In the month of the pseudo-intervention there is a weakly statistically significant decrease in the number of MRSA cases of 5.84 cases ($p = 0.05$, CI= -11.58, -0.10). This is in contrast to the non-statistically significant increase in the number of MRSA cases in the intervention analysis of 0.74 ($p > 0.05$, CI= -4.22, 5.70). This is followed by a statistically non-significant increase in the monthly number of MRSA cases (relative to the pre-intervention trend) of 0.02 cases per month ($p > 0.05$, CI= -0.16, 0.19). The post (pseudo)intervention linear trend estimate demonstrates a non-significant monthly decrease in MRSA cases at a rate of

0.04 cases per month ($p > 0.05$, CI= -0.19, 0.11). Figure 9 shows a graphical display of the results:

The robustness test supports the evidence of the first analysis that there is indeed a statistically significant decrease of MRSA levels post intervention and a statistically significant decrease in the rate of change of MRSA post intervention and that this change is associated with the intervention itself rather than an effect of seasonality.

There is no statistically significant effect of the intervention in the month of the true intervention, and this might be because the effects of the intervention may take time to have a measurable impact. An interesting finding is that in the robustness test, we see an effect on MRSA levels at the time of the pseudo intervention, however this effect is only weakly statistically significant. The reasons for this effect are unclear.

We also see that for this hospital there are outlier values of MRSA at time points t71, t73 and t74. To assess whether the outliers might be influencing the pre-intervention trend, the ITSA was rerun replacing the MRSA levels at t71, t73 and t74 with an average value for the series for that period (based on MRSA levels before and after the outlier values). Adjusting for outliers did not however change the findings in any significant manner. As can be seen from the output below there remains a statistically significant reduction in the monthly number MRSA cases post intervention of 0.27 cases per month ($p < 0.05$; CI= -0.49, -0.06), as well as a statistically significant post intervention monthly decrease in MRSA cases at a rate of 0.38 cases per month ($p < 0.01$; CI= -0.60, -0.16). Figure 9 shows a graphical display of the findings.

Table 19: Interrupted Time Series Analysis Hospital I post adjustment for outliers

Cases	Coefficient	Standard Error	P value	95% Confidence Interval
Starting level	24.75	0.98	<0.01	(22.80, 26.70)
Pre-intervention trend	-0.11	0.02	<0.01	(-0.15, -0.07)
Month of intervention	2.03	1.87	>0.05	(-1.67, 5.73)
Post intervention trend	-0.27	0.11	<0.05	(-0.49, -0.06)
Post intervention rate of change	-0.38	0.11	<0.01	(-0.60, -0.17)

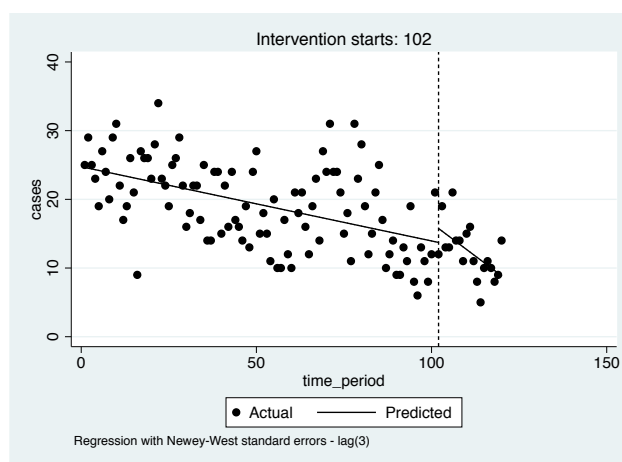


Figure 9: Graphical display Interrupted Time Series Analysis Hospital I post adjustment for outliers

⇒ Hospital V

As shown in the regression table below, the starting level of the monthly number of MRSA cases at Hospital V was estimated at 8.25 cases ($p < 0.01$; CI= 6.23, 10.29). There is a marginal non-statistically significant increase in the pre-intervention number of MRSA cases of 0.01 cases per month ($p > 0.05$; CI= -0.04, 0.05). In the month of the intervention there is a statistically non-significant increase in the number of MRSA cases of 0.22 ($p > 0.05$, CI= -3.46, 3.90). There is however a statistically significant decrease in the monthly number of MRSA cases post intervention (relative to the pre-intervention trend) of 0.25 cases per month ($p < 0.05$; CI= -0.49, -0.01). We also see from the post intervention rate of change estimate that after the intervention,

the MRSA cases decreased monthly at a rate of 0.25 cases per month, and this estimate was found to be statistically significant ($p < 0.05$, CI= -0.48, -0.01). For the Hospital V dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at up to 2 lags. Thus the model was adjusted to account for 2 lag orders. Figure 10 shows a graphical display of the results.

Table 20: Interrupted Time Series Analysis Hospital V

Number of observations:	126			
Maximum lags:	2			
Pre-intervention Mean:	8.55 (4.04)			
Post-Intervention Mean:	6.62 (3.15)			
Overall Mean:	8.24 (3.95)			
Overall performance score on EQA: 60-70%				
Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	8.25	1.03	<0.01	(6.23, 10.29)
Pre-intervention trend	0.01	0.02	>0.05	(-0.04, 0.05)
Month of intervention	0.22	1.86	>0.05	(-3.46, 3.90)
Post intervention trend	-0.25	0.12	<0.05	(-0.49, -0.01)
Post intervention rate of change	-0.25	0.12	<0.05	(-0.48, -0.01)

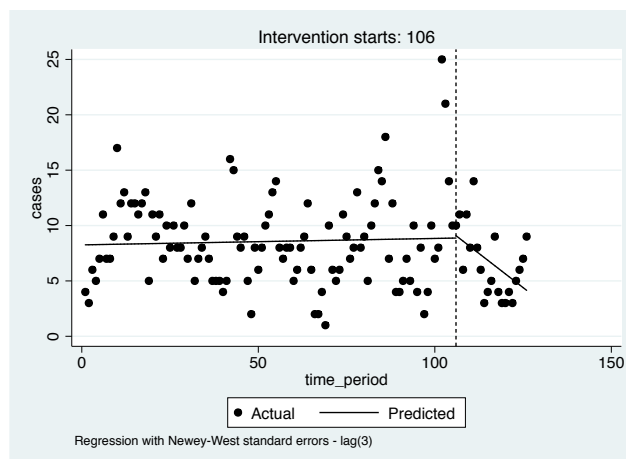


Figure 10: Graphical display Interrupted Time Series Analysis Hospital V

Like Hospital I above for which statistically significant changes in MRSA were seen at the time of the intervention and in the post-intervention trend, a robustness test was

performed for Hospital V as well, to assess whether seasonality might account for the changes seen.

Table 21: Hospital V robustness test

Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	8.80	0.99	<0.01	(6.84, 10.77)
Pre-(pseudo)intervention trend	-0.01	0.02	>0.05	(-0.05, 0.03)
Month of pseudo-intervention	2.70	2.92	>0.05	(-3.08, 8.49)
Post (pseudo)intervention trend	-0.16	0.12	>0.05	(-0.39, 0.08)
Post (pseudo)intervention rate of change	-0.17	0.12	>0.05	(-0.39, 0.06)

We see from the robustness test that the starting level of the monthly number of MRSA cases at Hospital V remains largely the same, this time estimated at 8.80 cases ($p < 0.01$; CI= 6.84, 10.77). There is again no significant pre-intervention trend of monthly number of cases of MRSA, the estimate is = -0.01 ($p > 0.05$; CI= -0.05, 0.03). In the month of the pseudo-intervention there is a statistically non-significant increase in the number of MRSA cases of 2.70 cases ($p > 0.05$, CI= -3.08, 8.49). This is then followed by a non-significant decrease in the monthly number of MRSA cases of 0.16 cases per month ($p > 0.05$; CI= -0.39, 0.08). The post (pseudo)intervention rate of change demonstrates a statistically non-significant monthly decrease in MRSA cases at a rate of 0.17 cases per month ($p > 0.05$, CI= -0.39, 0.06)

The robustness test supports the evidence of the first analysis that there is indeed a statistically significant decrease of MRSA levels post intervention and a statistically significant decrease in the rate of change of MRSA post intervention and that this

change is associated with the intervention itself rather than an effect of seasonality. There is no statistically significant effect of the intervention in the month of the intervention, and this might be because the effects of the intervention may take time to have a measurable impact.

Like Hospital I, we also see that for this hospital they are outlier values of MRSA at time points t103 and t104. To assess whether the outliers might be influencing the pre-intervention trend, the ITSA was rerun replacing the MRSA levels at t103 and t104 with an average value for the series for that period (based on MRSA levels before and after the outlier values). From the output below, we see that the effect of EQA on the monthly number of post intervention MRSA cases remains a negative one i.e. a decrease of 0.24 cases per month, but is only weakly statistically significant ($p=0.05$; CI= -0.48, 0.00) post adjustment for outlier values. The effect on the post intervention monthly rate of change however remains largely the same, at a decreasing rate of 0.25 cases per month ($p<0.05$; CI= -0.48, -0.01). Figure 11 shows a graphical display of the results.

Table 22: Interrupted Time Series Analysis Hospital V post adjustment for outliers

Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	8.68	0.90	<0.01	(6.90, 10.46)
Pre-intervention trend	0.00	0.02	>0.05	(-0.04, 0.02)
Month of intervention	1.10	1.54	>0.05	(-1.97, 4.16)
Post intervention trend	-0.24	0.12	0.05	(-0.48, 0.00)
Post intervention rate of change	-0.25	0.11	<0.05	(-0.48, -0.01)

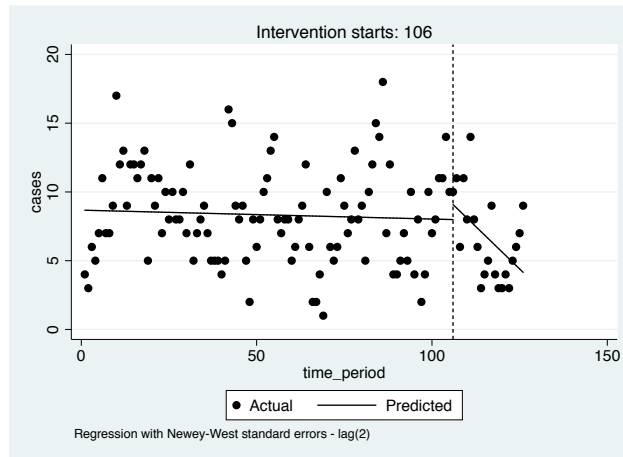


Figure 11: Interrupted Time Series Analysis Hospital V post adjustment for outliers

⇒ Hospital VII

As shown in the regression table below, the starting level of the monthly number of MRSA cases at Hospital VII was estimated at 8.04 cases ($p < 0.01$; CI= 6.95, 9.14). The trend of monthly number of cases of MRSA decreased by 0.05 cases per month in the months leading up to the intervention and this decrease is statistically significant ($p < 0.01$; CI= -0.06, -0.03). In the month of the intervention there is a statistically significant increase in the number of MRSA cases of 3.43 ($p < 0.01$; CI= 1.30, 5.56). There is a statistically non-significant decrease in the monthly number of MRSA cases post intervention (relative to the pre-intervention trend) of 0.03 ($p > 0.05$; CI= 0.16, 0.10). We also see from the post intervention rate of change estimate, that after the intervention, the MRSA cases decreased monthly at a rate of 0.08 cases per month, however this estimate is not statistically significant ($p > 0.05$; CI= -0.20, 0.05). For the Hospital VII dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at none of the lag orders, thus the model was left unadjusted, as the initial model specifying lag (0) was found to be appropriate. Figure 12 shows a graphical display of these results.

Table 23: Interrupted Time Series Analysis Hospital VII

Number of observations:	126			
Maximum lags:	0			
Pre-intervention Mean:	5.65 (stdev 2.72)			
Post-Intervention Mean:	5.88 (stdev 1.92)			
Overall Mean:	5.71 (2.58)			
Overall performance score:	40-50%			
Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	8.04	0.55	<0.01	(6.95, 9.14)
Pre-intervention trend	-0.05	0.01	<0.01	(-0.06, -0.03)
Month of intervention	3.43	1.08	<0.01	(1.30, 5.56)
Post intervention trend	-0.03	0.07	>0.05	(-0.16, 0.10)
Post intervention rate of change	-0.08	0.07	>0.05	(-0.20, 0.05)

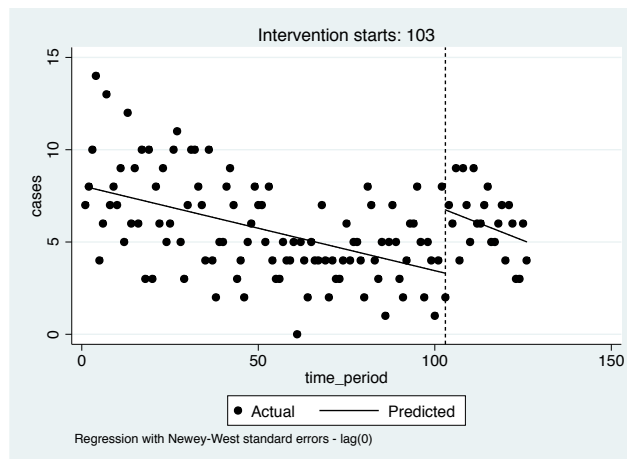


Figure 12: Graphical display Interrupted Time Series Analysis Hospital VII

As was the case with the hospitals above, we see that for Hospital VII there are outlier values of MRSA at time points t5 and t8. To assess whether the outliers might be influencing the pre-intervention trend, the ITSA was rerun replacing the MRSA levels at t5 and t8 with an average value for the series for that period (based on MRSA

levels before and after the outlier values). From the output below, we see that the statistically significant positive effect of EQA on the number of MRSA cases in the month of the intervention is sustained i.e. a 3.20 increase in the number of MRSA cases in the month of the intervention ($p < 0.01$; CI= 1.09, 5.30). There is a statistically non-significant decrease in the monthly number of MRSA cases post intervention (relative to the pre-intervention trend) of 0.04 ($p > 0.05$; CI= -0.17, 0.09). We also see from the post intervention rate of change estimate, that after the intervention the MRSA cases decreased monthly at a rate of 0.08 cases per month, however this estimate is not statistically significant ($p > 0.05$; CI= -0.20, 0.05). These findings are largely akin to the pre-adjustment for outliers findings, thus suggesting that the outlier values did not have a significant effect on the MRSA pre intervention trend and its response to EQA. Figure 13 shows a graphical display of the results.

Table 24: Interrupted Time Series Analysis Hospital VII post adjustment for outliers

Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	7.55	0.46	<0.01	(6.63, -0.02)
Pre-intervention trend	-0,04	0.01	<0.01	(-0.05, -0.02)
Month of intervention	3.20	1.06	<0.01	(1.09, 5.30)
Post intervention trend	-0.04	0.07	>0.05	(-0.17, 0.09)
Post intervention rate of change	-0.08	0.07	>0.05	(-0.20, 0.05)

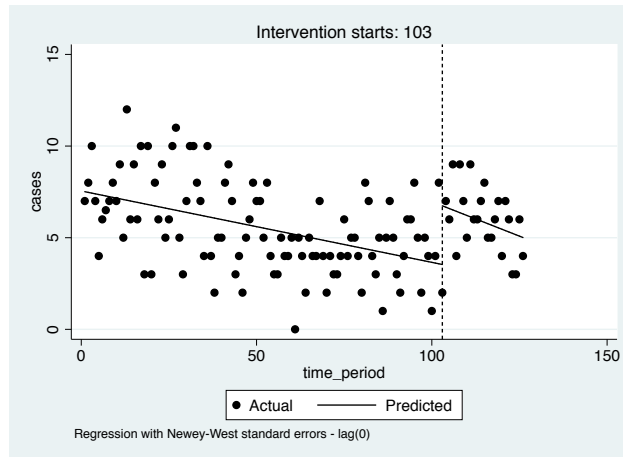


Figure 13: Interrupted Time Series Analysis Hospital VII post adjustment for outliers

4.3. Hospitals where an effect of External Quality Assessment on *Methicillin-resistant Staphylococcus Aureus* was not found:

⇒ Hospital II

As shown in the regression table below, the starting level of the monthly number of MRSA cases at Hospital II was estimated at 9.54 cases ($p < 0.01$; CI= 8.26, 10.83). The trend of monthly number of cases of MRSA decreased by 0.07 cases per month in the months leading up to the intervention and this decrease was statistically significant ($p < 0.01$; CI= -0.09, -0.05). In the month of the intervention there was a statistically non-significant decrease in the number of MRSA cases of 0.33 ($p > 0.05$, CI= -2.24, 1.58). This is followed by a statistically non-significant decrease in the monthly number of MRSA cases (relative to the pre-intervention trend) of 0.02 cases per month ($p > 0.05$, CI= -0.14, 0.10). We also see from the post intervention rate of change estimate, that after the intervention, the MRSA cases decreased monthly at a rate of 0.09 cases per month, however this estimate is not statistically significant ($p > 0.05$, CI= -0.21, 0.03). For the Hospital II dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at none of the lag

orders, thus the model was left unadjusted, as the initial model specifying lag (0) was found to be appropriate.

Table 25: Interrupted Time Series Analysis Hospital II

Number of observations: 111				
Maximum lags: 0				
Pre-intervention Mean: 6.49 (stdev 3.39)				
Post-Intervention Mean: 2.15 (stdev 2.13)				
Overall Mean: 5.66 (stdev 3.62)				
Overall performance score: 80-90%				
Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	9.54	0.65	<0.01	(8.26, 10.83)
Pre-intervention trend	-0.07	0.01	<0.01	(-0.09, -0.05)
Month of intervention	-0.33	0.96	>0.05	(-2.24, 1.58)
Post intervention trend	-0.02	0.06	>0.05	(-0.14, 0.10)
Post intervention rate of change	-0.09	0.06	>0.05	(-0.21, 0.03)

⇒ Hospital III

As shown in the regression table below, the starting level of the monthly number of MRSA cases at Hospital III was estimated at 4.57 cases ($p < 0.01$; CI= 3.73, 5.41). There is a marginal decrease in the pre-intervention trend of monthly MRSA cases of 0.01 cases per month, however this decrease is not statistically significant ($p > 0.05$; CI= -0.03, 0.00). In the month of the intervention there is a statistically non-significant increase in the number of MRSA cases of 0.88 ($p > 0.05$, CI= -0.89, 2.65). This is followed by a statistically non-significant decrease in the monthly number of MRSA cases (relative to the pre-intervention trend) of 0.06 cases per month ($p > 0.05$, CI= -0.25, 0.13). We also see from the post intervention rate of change estimate that

after the intervention, the MRSA cases decreased monthly at a rate of 0.07 cases per month, however this estimate is not statistically significant ($p > 0.05$, CI = -0.27, 0.12). For the Hospital III dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at none of the lag orders, thus the model was left unadjusted, as the initial model specifying lag (0) was found to be appropriate.

Table 26: Interrupted Time Series Analysis Hospital III

Number of observations: 126				
Maximum lags: 0				
Pre-intervention Mean: 3.86 (stdev 2.13)				
Post-Intervention Mean: 3.50 (stdev 1.97)				
Overall Mean: 3.83 (stdev 2.10)				
Overall performance score: 80-90%				
Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	4.57	0.42	<0.01	(3.73, 5.41)
Pre-intervention trend	-0.01	0.01	>0.05	(-0.03, 0.00)
Month of intervention	0.88	0.90	>0.05	(-0.89, 2.65)
Post intervention trend	-0.06	0.10	>0.05	(-0.25, 0.13)
Post intervention rate of change	-0.07	0.10	>0.05	(-0.27, 0.12)

⇒ Hospital IV

Hospital IV underwent EQA on two occasions because its performance on the first EQA was very poor. This first EQA occurred at time point 101 (t101) and the second EQA occurred at time point 107 (t107) i.e. six months after the first EQA. The hospital managed to improve its EQA score by 16% between the first EQA and the second. In this analysis I run ITSAs for both intervention (EQA) dates.

As shown in the regression table below, the starting level of the monthly number of MRSA cases at Hospital IV was estimated at 1.42 cases ($p < 0.01$; CI= 0.72, 2.11). There is a statistically significant increase in the pre-intervention trend, in the months leading up to the first intervention date of 0.02 cases per month ($p < 0.01$; CI= 0.01, 0.03). In the month of the first intervention (t101), there is a statistically non-significant decrease in the number of MRSA cases of 0.65 cases ($p > 0.05$; CI= -2.77, 1.47). This is followed by a statistically non-significant decrease in the post intervention trend (when compared to the pre-intervention trend) of 0.05 cases per month ($p > 0.05$; CI= -0.58, 0.49). In the month of the second intervention there is again a statistically non-significant decrease in the number of MRSA cases of 0.93 cases ($p > 0.05$; CI= -3.05, 1.18). This is followed by a statistically non-significant increase in the monthly number of MRSA cases, following the second intervention date (when compared to the trend post the first intervention date) of 0.03 cases per month ($p < 0.05$; CI= -0.53, 0.59). The post-intervention rate of change estimates show that for both intervention dates, the rate of change in MRSA levels was not statistically significant. The monthly rate of decrease in MRSA levels was 0.03 cases per month after the first intervention date ($p < 0.05$; CI= -0.57, 0.51) and 0.00 ($p > 0.05$, CI= -0.16, 0.16) after the second intervention date. Thus in conclusion, this analysis run to compare the first intervention date to the secular trend and the second intervention date to the first (which occurred 6 months after the first and for which there was a 16% improvement in EQA scores between the two intervention dates) shows no statistically significant impact on MRSA levels and trends, before, between and after the two intervention dates. For the Hospital IV dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at none of the

lag orders, thus the model was left unadjusted, as the initial model specifying lag (0) was found to be appropriate.

Table 27: Interrupted Time Series Analysis Hospital IV

Number of observations: 119				
Maximum lags: 0				
Pre-intervention Mean: 2.34 (1.77) / 2.32 (1.75)				
Post-Intervention Mean: 2.34 (1.27) / 1.46 (1.20)				
Overall Mean: 2.24 (1.71)				
Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	1.42	0.35	<0.01	(0.72, 2.11)
Pre-intervention trend	0.02	0.01	<0.01	(0.01, 0.03)
Month of first intervention (t101)	-0.65	1.07	>0.05	(-2.77, 1.47)
Post (t101) intervention trend	-0.05	0.27	>0.05	(-0.58, 0.49)
Month of second intervention (t107)	-0.93	1.07	>0.05	(-3.05, 1.18)
Post (t107) intervention trend	0.03	0.28	>0.05	(-0.53, 0.59)
Post intervention (t101) rate of change	-0.03	0.27	>0.05	(-0.57, 0.51)
Post intervention (t107) rate of change	-0.00	0.08	>0.05	(-0.16, 0.16)

⇒ Hospital VI

As shown in the regression table, the starting level of the monthly number of MRSA cases at Hospital VI was estimated at 9.01 cases ($p < 0.01$; CI= 7.51, 10.52). The trend of monthly number of cases of MRSA decreased by 0.03 cases per month in the months leading up to the intervention and this decrease was statistically significant

($p < 0.05$; CI= -0.06, -0.01). In the month of the intervention there was a statistically non-significant decrease in the number of MRSA cases of 1.62 ($p > 0.05$, CI= -3.62, 0.37). This was followed by a statistically non-significant increase in the monthly number of MRSA cases post intervention (relative to the pre-intervention trend) of 0.09 cases per month ($p > 0.05$ CI= -0.05, 0.23). The post intervention rate of change estimate reveals that after the intervention, the MRSA cases decreased monthly at a rate of 0.06 cases per month, however this estimate was not statistically significant ($p > 0.05$, CI= -0.08, 0.19). For the Hospital VI dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at none of the lag orders, thus the model was left unadjusted, as the initial model specifying lag (0) was found to be appropriate.

Table 28: Interrupted Time Series Analysis Hospital VI

Number of observations: 125				
Maximum lags: 0				
Pre-intervention Mean: 7.30 (stdev 3.81)				
Post-Intervention Mean: 4.45 (2.24)				
Overall Mean: 6.82 (3.74)				
Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	9.01	0.76	<0.01	(7.51, 10.52)
Pre-intervention trend	-0.03	0.01	<0.05	(-0.06, -0.01)
Month of intervention	-1.62	1.01	>0.05	(-3.62, 0.37)
Post intervention trend	0.09	0.07	>0.05	(-0.05, 0.23)
Post intervention rate of change	0.06	0.07	>0.05	(-0.08, 0.19)

⇒ Hospital VIII

Hospital VIII underwent EQA on two occasions because its performance on the first EQA was very poor. This first EQA occurred at time point t95 and the second EQA occurred at time point t108 i.e. 13 months apart. The hospital managed to improve its EQA score by 15% between the first EQA and the second. In this analysis I run ITSAs for both intervention (EQA) dates.

As shown in the regression table below, the starting level of the monthly number of MRSA cases at Hospital VIII was estimated at 0.50 cases ($p < 0.01$; CI= 0.16, 0.83). There was a marginal statistically significant increase in the pre-intervention trend, in the months leading up to the first intervention date of 0.01 cases per month ($p < 0.05$; CI= 0.00, 0.02). In the month of the first intervention, there is a statistically non-significant increase in the number of MRSA cases of 0.61 cases ($p > 0.05$; CI= -0.83, 2.05). This is followed by a statistically non-significant decrease in the post intervention trend (when compared to the pre-intervention trend) of 0.04 cases per month ($p > 0.05$; CI= -0.18, 0.11). In the month of the second intervention there is again a statistically non-significant increase in the number of MRSA cases of 0.07 cases ($p > 0.05$; CI= -1.66, 1.80). This is followed by a statistically non-significant increase in the monthly number of MRSA cases, following the second intervention date (when compared to the trend post the first intervention date) of 0.04 cases per month ($p > 0.05$; CI= -0.19, 0.27). The post-intervention rate of change estimates above shows that for both intervention dates, the rate of change in MRSA levels post both intervention dates was not statistically significant. The monthly rate of decrease in MRSA levels was 0.03 cases per month after the first intervention date, however this estimate was not statistically significant ($p > 0.05$; CI= -0.17, 0.12). There was a

marginal statistically non-significant increase in the rate of change of MRSA level post the second intervention date of 0.01 cases per month ($p>0.05$; CI= -0.17, 0.19). This analysis run to compare the first intervention date to the secular trend and the second intervention date to the first (which occurred 13 months after the first and for which there was a 15% improvement in EQA score between the two intervention dates) showed no statistically significant impact on MRSA levels and trends, before, between and after the two intervention dates. For the Hospital VIII dataset, the Cumby-Huizinga general test for autocorrelation showed that autocorrelation was present at none of the lag orders, thus the model was left unadjusted, as the initial model specifying lag (0) was found to be appropriate.

Table 29: Interrupted Time Series Analysis Hospital VIII

Number of observations: 121				
Maximum lags: 0				
Pre-intervention Mean: 0.86 (stdev 0.96) / 0.96 (stdev 1.06)				
Post-Intervention Mean: 1.67 (stdev 1.30) / 1.64 (stdev 1.22)				
Overall Mean: 1.05 (stdev 1.09)				
Cases	Coefficient	Standard Error	p value	95% Confidence Interval
Starting level	0.50	0.17	<0.01	(0.16, 0.83)
Pre-intervention trend	0.01	0.00	<0.05	(0.00, 0.02)
Month of first intervention (t95)	0.61	0.73	>0.05	(-0.83, 2.05)
Post (t95) intervention trend	-0.04	0.07	>0.05	(-0.18, 0.11)
Month of second intervention (t108)	0.07	0.87	>0.05	(-1.66, 1.80)
Post (t108) intervention trend	0.04	0.12	>0.05	(-0.19, 0.27)
Post intervention (t95) rate of	-0.03	0.07	>0.05	(-0.17, 0.12)

change				
Post intervention (t108) rate of change	0.01	0.09	>0.05	(-0.17, 0.19)

4.4. Discussion of Findings

As we see from the individual hospital results, as well as Table 30 below, the various specialist-care hospitals had differing burdens of monthly MRSA cases, that ranged from as little as 0.50 cases per month to as high as 24.61 cases per month. We also see that for four of the hospitals, MRSA levels decreased over time from the start of the series to the intervention period that spanned from June 2012-June 2013. This is consistent with the limited existing literature on MRSA trends in South Africa ⁽¹⁹⁶⁾, which suggest that for the country as a whole MRSA rates are decreasing. ^(196,197) For two of the hospitals, both of which were hospitals with the lowest case burdens of MRSA to start off with, MRSA levels were found to be increasing in the months leading up to the intervention period, which may be explained by possible increased reporting at these hospitals. For the remaining two hospitals, no pre-intervention trend was observed at all.

For almost all the hospitals, there was no statistically significant change in the level of MRSA immediately following the intervention. The only exception was Hospital VII, which showed a paradoxical statistically significant increase in MRSA levels immediately following the intervention period. This counterintuitive finding is reminiscent of Devkaran and O'Farrell's ⁽¹⁴⁵⁾ findings on EQA and patient outcomes, reported in their 2015 paper (see literature review chapter 2) where they also found that following EQA, hospital MRSA rates and number of HCAs hospital wide

increased. ⁽¹⁴⁵⁾ Devkaran and O'Farrell suggest that these findings might be attributable to '...a more developed infection control programme and surveillance process after the survey, thus resulting in the identification of more infections.' p.6

⁽¹⁴⁵⁾ This might also be the case for the changes we see at Hospital VII and further research into the events surrounding EQA at this hospital is needed to fully interpret these findings. Unlike in Devkaran and O'Farrell's research ⁽¹⁴⁵⁾, the effect on MRSA levels was however not sustained in the post intervention period at Hospital VII.

Hospital I and Hospital V were the only two hospitals where an improvement effect of EQA was seen on post EQA levels of MRSA and rate of decrease of MRSA cases. The intervention resulted in a statistically significant decrease in the trend of MRSA levels post intervention of 0.29 ($p < 0.05$; CI= -0.51, -0.07) and 0.25 ($p < 0.05$; CI= -0.49, -0.01) respectively as well as a decrease in the rate of MRSA cases post intervention of 0.38 ($p < 0.01$, CI= -0.60, -0.17) and 0.25 ($p < 0.05$; CI= -0.48, -0.01) respectively, in both hospitals. The robustness tests performed did not support seasonality as a possible explanation for these changes seen.

Table 30: Summary of Interrupted Time Series Analyses findings

Hospital Name	Starting level of monthly no. of MRSA cases	Pre-intervention trend	Pre-intervention Mean and standard deviation (in parenthesis)	Immediate effect of intervention on pre-existing trend?	Effect of intervention on monthly trend of MRSA cases post intervention	Effect of intervention on monthly rate of MRSA cases post intervention	Post intervention Mean and standard deviation (in parenthesis)	Overall mean number MRSA cases per month (2004-2014) and standard deviation (in parenthesis)
I	24.61	-0.09 p<0.01	19.80 (7.65)	0.74 p>0.05	-0.29 p<0.05	-0.38 p<0.01	12.32 (3.86)	18.63 (7.57)
II	9.54	-0.07 p<0.01	6.49 (3.39)	-0.33 p>0.05	-0.02 p>0.05	-0.09 p>0.05	2.15 (2.13)	5.66 (3.62)
III	4.57	-0.01 p>0.05	3.86 (2.13)	0.90 p>0.05	-0.06 p>0.05	-0.07 p>0.05	3.50 (1.97)	3.83 (2.10)
IV (first EQA)	1.42	0.02 p<0.01	2.34 (1.77)	-0.65 p>0.05	-0.05 p>0.05	-0.03 p>0.05	2.34 (1.27)	2.24 (1.71)
IV	As above	N/A	2.32	-0.93	0.03	-0.00	1.46	

<i>(second EQA)</i>			(1.75)	p>0.05	p>0.05	p>0.05	(1.20)	
V	8.25	0.01 p>0.05	8.55 (4.04)	0.22 p>0.05	-0.25 p<0.05	-0.25 p<0.05	6.62 (3.15)	8.24 (3.95)
VI	9.01	-0.03 p<0.05	7.30 (3.81)	-1.62 p>0.05	0.09 p>0.05	0.06 p>0.05	4.45 (2.24)	6.82 (3.74)
VII	8.04	-0.05 p<0.01	5.65 (2.72)	3.43 p<0.01	-0.03 (p>0.05)	-0.08 p>0.05	5.88 (1.92)	5.71 (2.58)
VIII <i>(first EQA)</i>	0.50	0.01 p<0.05	0.86 (0.96)	0.61 p>0.05	-0.04 p>0.05	-0.03 p>0.05	1.67 (1.30)	1.05 (1.09)
VIII <i>(second EQA)</i>	As above	N/A	0.96 (1.06)	0.07 p>0.05	0.04 p>0.05	0.01 p>0.05	1.64 (1.22)	

Figures in bold represent statistically significant findings, defined as p<0.05

Table 31 below presents the results of a random effects meta-analysis conducted using the post-intervention trends of all 8 hospitals, conducted to assess whether in aggregate, EQA might be associated with an effect on post EQA Health Care Associated Infection (HCAI) trends if assessed at the level of all specialist-care hospitals (eligible for this study) in South Africa. The meta-analysis only assessed for the combined effect of EQA on post intervention changes in slope of trends for the eight hospitals, and did not assess for the combined effect of changes in levels of EQA at the time of the intervention as change in level was an absolute number for each of the hospitals and not a proportion and thus difficult to compare across hospitals.

Where hospitals underwent EQA twice, only the first post intervention trend was used, as that is where we would expect the EQA to have had the biggest impact.⁽⁹⁵⁾ In this analysis a random-effects meta-analysis was used to calculate the weighted average, which, unlike the fixed-effects meta-analysis, assumes the different studies to be heterogeneous, and that there exists a distribution in effect sizes across the studies rather than one true effect size.⁽²²⁹⁾ Thus the overall combined effect presented in Table 31 below calculated using a random effects meta-analysis represents the mean of the population of true effects.⁽²²⁹⁾ This method was considered more appropriate than a fixed effects meta-analysis for this research, as using a fixed effects meta-analysis would require us to assume that the factors which influenced the effect sizes in the study populations i.e. hospitals I-VIII were the same, which we know cannot be the case.⁽²²⁹⁾ Thus it was deemed more appropriate to use a meta-analysis technique that recognises that the individual ITSAs were conducted on hospital

populations that differ from each other in a manner that could have an impact on post intervention trends of MRSA.⁽²²⁹⁾ We see from Table 31 that the estimated combined effect of EQA on MRSA trends was a decrease of 0.06 cases of MRSA per month in the post intervention period. However this effect on MRSA levels was not statistically significant. (CI= -0.13, 0.02).

Table 31: Random-effects meta-analysis of post intervention trend estimates

Hospital	Weighted post intervention trend estimate	95% Confidence Interval	% weight
I	-0.51	(-0.51, -0.07)	9.29
II	-0.14	(-0.14, 0.10)	19.11
III	-0.25	(-0.25, 0.13)	11.41
IV	-0.58	(-0.58, 0.49)	2.02
V	-0.49	(-0.49, 0.01)	8.15
VI	-0.05	(-0.05, 0.23)	16.45
VII	-0.16	(-0.16, 0.10)	17.73
VIII	-0.18	(-0.18, 0.11)	15.84
Combined post intervention trend	-0.06	(-0.13, 0.02)	100

The forest plot below, presents the same results graphically. We see that Hospitals I and V had a statistically significant decrease in MRSA levels post intervention, however the combined effect across all 8 hospitals was not found to be statistically significant.

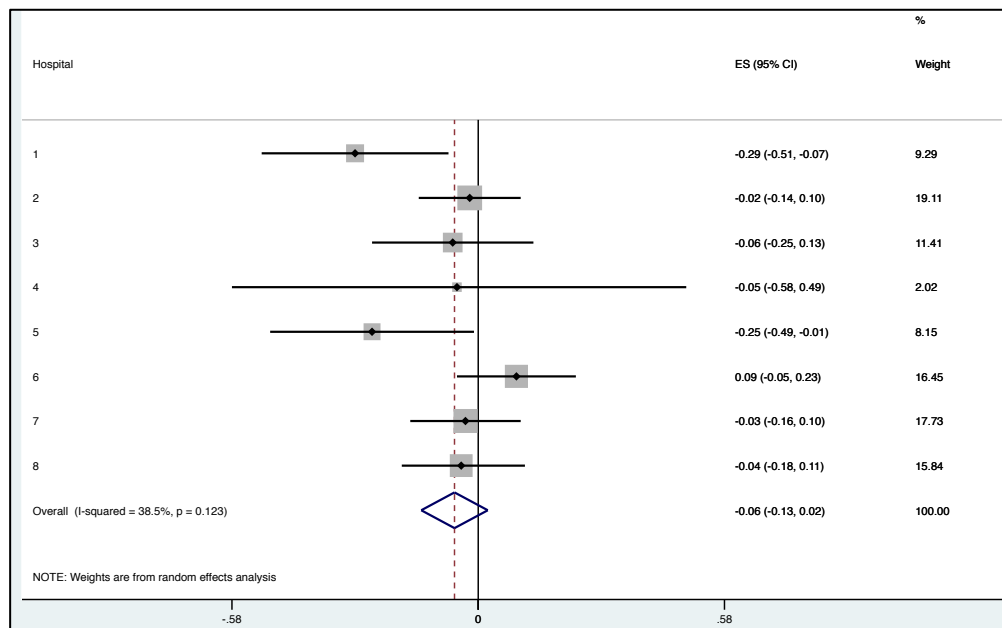


Figure 14: Forest plot random-effects meta-analysis

4.5. Summary

In this chapter I make use of an ITSA to assess whether EQA might be associated with an effect on hospital MRSA levels. The analysis is only able to demonstrate that EQA may be associated with an improvement on MRSA levels in two of the eight central hospitals included in this research. Even when an effect is assessed for at the level of all hospitals combined, the meta-analysis above reveals that no such impact on post EQA MRSA is demonstrable, specifically with regards to post-intervention change in slope of trend. This analysis was however limited by the use of MRSA counts rather than MRSA rates. It thus remains unclear what possible impact EQA may (or may not have) on MRSA levels in South African hospitals. This calls for more in-depth case study research to unpack the inner workings of EQA in the South African setting, and this is what the next three chapters aim to do.

Chapter 5: Results Chapter II: Facilitators of and Barriers to health facility performance in External Quality Assessment

5.1. Introduction

In this chapter I present the results of in-depth interviews with healthcare workers and inspectors on the facilitators of and barriers to health facility performance (i.e. attainment of compliance with standards) in External Quality Assessment (EQA). I present the findings for each case, comparing these with how health facilities performed against related measures in their EQA reports. I then triangulate these findings with the views of the inspectors. The healthcare workers interviewed were all largely from the nursing profession, bar the Acting Chief Medical Officer of Hospital 2b who was a medical doctor by profession. The positions held by the individual interviewees at their respective health facilities at the time of interview are presented in Table 32 below.

Table 32: Positions held by health facility interviewees

Case 1		Case 2	
Hospital 1a	Hospital 1b	Hospital 2a	Hospital 2b
CEO	CEO	Acting-CEO	
Quality Assurance Manager	Nursing Manager	Acting-Nursing Manager	Acting-Chief Medical Officer (Former Acting CEO of Hospital 2a and 2b and Acting CEO of Hospital 2a and 2b at time of EQA)
Safety and Risk Manager	Quality Assurance Manager	Quality Assurance Manager	Nursing Manager
Monitoring and Evaluation Manager	Occupational Health Manager	Human Resources Manager	Professional Nurse

5.2. Case 1

The Hospitals in Case 1 (Hospital 1a and Hospital 1b) both fell within the same province and were managed by the same district office. Both were located in a rural area and both were district hospitals. Hospital 1a was a slightly larger hospital than Hospital 1b and served a larger population. Both hospitals underwent initial EQA within months of each other. Hospital 1a scored almost 30% more than Hospital 1b on EQA. Hospital 1b underwent EQA on a second occasion due to its low performance in initial EQA. Hospital 1a and Hospital 1b were paired together in this manner

because they represented two ends of the performance spectrum in Province H. ⁽²⁰⁸⁾

The full profiles of Hospital 1a and Hospital 1b can be found in Table 33 below. The Human Resource (HR) and catchment area data need to be interpreted with caution, as this was self-reported data by the health facilities, and some health facilities admitted to not possessing accurate historical data.

Table 33: Profiles of Hospitals 1a and 1b

		Case 1a	Case 1b
Description of Facility	Province, District	Province H, district 1	Province H, district 1
	Surrounding area	Rural	Rural
	Classified as	District Hospital	District Hospital
	Number of beds	403	360
	Number of active beds	385	236
Staff establishment	Number of full time staff	802	837
	Number of clinical staff:		
	• Nurses	412	422
	• Doctors	11	7
	Number of vacancies in management staff	1	3
Staff establishment	Number of vacancies in administrative and support staff	27	Unable to retrieve statistics-all vacant posts had been frozen*
	Number of vacancies in clinical staff	88	Unable to retrieve statistics-all vacant posts had been frozen*
Leadership	Post of CEO filled at time of EQA?	Yes	No (2012) Yes-but CEO absent on day of EQA (2013)
	Post of Nursing Manager filled at time of EQA?	Yes	No (2012) Yes (2013)
Work load	Size of population served	203 032	136 651
	Nurse: active bed	1:1	2: 1
	Nurse: population share	1:493	1:324
	Doctor : population share	1:18 457	1:19 522

EQA	Performance (national average 63%, May 2013)	80-85%	50-55%
	Year and period of EQA	July-September 2012	July-September 2012 and April-June 2013 [#]

*The “freezing” of vacant posts refers to official/unofficial moratoria placed on hospitals by their provincial departments of health on the filling of vacant posts. ⁽²³⁰⁾ These moratoria take the form of official or unofficial complete blocks on the filling of new posts or strict control of the filling of new posts. ⁽²³⁰⁾ It is argued by some authors that the primary reason for these moratoria is budgetary constraints. ⁽²³⁰⁾

#Case 1b underwent External Quality Assessment (EQA) on two occasions, scoring between 50-55% on both EQAs, with a marginal positive difference between the first EQA and the second.

5.2.1. Facilitators of health facility performance in External Quality

Assessment-Case 1

Below are the facilitators of health facility performance in EQA as identified by the hospitals in Case 1. The facilitators are listed in order of prominence in interviews with the healthcare workers at each hospital.

⇒ Leadership style of CEO

When asked what they thought was the ‘secret’ behind their high performance in EQA, all interviewees at Hospital 1a identified the leader of their hospital, the CEO, as the primary reason for their high performance. She was described by her management team as extremely knowledgeable and a hard worker, who was easily approachable and highly supportive of her staff. They used terms like ‘mother’ to refer to her and shared that they felt comfortable enough to call her even at night, as is illustrated by the following two quotations:

“Our CEO is easily approachable, you go to her office, ‘Mrs. X, I’ve got xyz problem’ she makes time for you. (She’ll respond to say:) ‘Lets meet, call the people, they must come with their files, to see where we are stuck.’ She is very supportive I tell you, we wouldn’t be where we are if it wasn’t for her.”

-Quality Assurance Manager, Hospital 1a

“Nobody here fears the CEO, they just go (to her) and report, this one, two, three, four, five (problem) and she will stand up and she will act and things will move.”
-Safety and Risk Manager, Hospital 1a

The CEO was also praised for her consultative leadership style, demonstrated by the manner in which she involved the management team in decision-making as well as sought their opinions when trying to resolve problems. The Safety and Risk Manager shared that the CEO was generous with praise and made the staff feel valued. The following quotation illustrates:

“You know, sometimes she comes (to you) and you feel wow. She asks and says ‘I’ve got a problem with this unit, can somebody assist me on how I should go about addressing this problem’ and you find people coming up with ideas and she will take them, she will appreciate them, she will write them down and say ‘Wow! You have assisted me with one, two, three’...”
-Safety and Risk Manager, Hospital 1a

When the CEO herself was asked why some health facilities, with comparable resources performed better than others, she too identified leadership as a primary factor. The CEO described her leadership style as disciplinarian, uncompromising on ensuring that the senior management team shared a common vision, whilst simultaneously allowing very familial relations with her staff. The following extract from our interview illustrates:

“All of these six or seven people that sit in the executive must sing the same song... And ya, to be like a mother, and just take the people you work with like your children, even if they are older than you... You need that kind of personality, to love the one that is doing wrong purposefully, more than these others who are doing well, until one day she changes. And at the same time, you penalise, you discipline, you do everything with love...”
-CEO, Hospital 1a

In contrast, the CEO of Hospital 1b was described by his management team as a “*nice man*” who “*tries his best*” and works hard, but was considered by some of the

interviewees to be too lenient and that a health facility like Hospital 1b needed strong firm leadership. The following quotation illustrates this:

“The CEO is very strong and energetic but I think he is too much of a gentleman he believes that you are an adult, you are a manager...He will come at 6am, but if you come at 10am he is not worried. If you are not found to be around at 1pm, he is not worried.”

-Nursing Manager, Hospital 1b

When asked what kind of leadership style was needed for Hospital 1b, the Nursing Manager responded as follows:

“...you can’t be democratic with Hospital 1b... really and truly we need managers with (a) backbone, that is what we are missing...”

-Nursing Manager, Hospital 1b

The Nursing Manager recalled the last time the hospital was well managed, and said this was in 2002, when a “strong” CEO supported by a “very strong” team led the hospital.

The CEO himself admitted to his reluctance to be the leader of Hospital 1b and shared that he had ended up in the role ‘*by mistake*’. The following quotation explains:

“I came to this hospital by mistake in 2012. I came at night. If I had come during the day I would have left. It was a terrible place when I arrived. The infrastructure was terrible, it did not look like a hospital, the roads were bad and there were potholes everywhere...”

-CEO, Hospital 1b

⇒ Management buy-in

It was clear from my interviews with the management team at Hospital 1a that quality improvement and the National Core Standards in particular were a priority for the hospital, so much so that they had become a part of the identity of the hospital, as is illustrated by the following quotation:

“It takes time for people to absorb and internalize what we are doing (here), but by and by, people know that Hospital 1a, is a National Core Standards hospital, is a risk management hospital, is a quality improvement hospital, so as soon as a person comes to Hospital 1a we have that reputation that you’ve got to be quality assurance material when you come here, because there is a quality improvement fanatic at the top which is myself. (Laughs)”

-CEO, Hospital 1a

The interviewees at Hospital 1a explained that their CEO had invested time in training the staff on the National Core Standards, dispelling myths, communicating expectations and securing their buy-in, as well as communicating the National Core Standards in such a way that they could understand the role they played in helping the hospital achieve the standards. This approach also served to hold them accountable.

The following quotation illustrates:

“I think Hospital 1a has reached this point, because our CEO is hands-on and the staff also understand what is needed and also why it is needed. Also her calling meetings and also giving training to the staff on the standards, (explaining) why National Core Standards (is important) and what it is, now everybody understands National Core Standards are here for these reasons... Everybody now understands the part they play (in the hospital) achieving the National Core Standards and what their responsibility is. As a result you find everybody in the hospital saying, ‘I don’t want to fail the hospital so I’m doing my part’. Because in the end, you will need to answer to the CEO... For me that’s what makes the hospital move.”

-Safety and Risk Manager, Hospital 1a

In contrast, the CEO of Hospital 1b was not present on both occasions when his health facility underwent EQA and generally had a negative and cynical outlook on the EQAs, describing the inspectors as subjective and biased, and complaining that without CEOs being given the necessary powers to effect change in their health facilities, penalizing them for non-compliance was unjust. The following quotation illustrates:

“I think the National Core Standards came just in time, because the Minister (of Health) was under the impression that enough decentralization of power has been given to CEOs at district hospitals, that all the necessary ground work has been done, and that CEOs can now be held accountable for their facilities performance. But maybe it will take a single CEO being penalised for poor performance of their facility

and then rising up against that penalty and pointing to the lack of power CEOs have, to make things change.”
-CEO, Hospital 1b

⇒ Organisational Culture: Teamwork

The management team at Hospital 1a identified teamwork as an important factor in the achievement of quality standards and performance in EQA. They described their team as committed and willing to work well after hours together to get things done. When asked where this culture of teamwork stemmed from, they attributed it to the CEO.

In stark contrast to Hospital 1a, the interviewees at Hospital 1b reported that the atmosphere at their hospital was typified by tension and disharmony between members of the management team as well as between the management team and the rest of the staff. The Quality Assurance manager complained that a lack of team spirit existed at all levels of the organisation, and when preparations needed to be done for EQA, the rest of the management team abdicated all responsibility. They argued that as Quality Assurance manager, it was her job to ensure the hospital was ready for EQA. She gave an example of how, when it was necessary for the various managers to provide her with documentation needed for the EQA, they were dishonest about what they had done and what they hadn't done, and were nowhere to be found when the inspectors arrived. The following quotation illustrates:

“...sometimes they will give you false things, saying they have done it. ‘Have you done the policy?’ And they will say yes, and you say ‘(but) I can’t see the policy’, and there is no policy. When the auditor comes there is nothing or they decide not to be around if the date (of EQA) is known.”
-Quality Assurance Manager, Hospital 1b

⇒ Organisational Culture: Shared conviction in ability to perform

The management team at Hospital 1a all shared strong convictions that they were capable of achieving the quality standards and that on the next EQA they would outdo their previous performance of >80% in the last EQA.

When asked if there were areas in which they performed poorly and that were outside of their control or where they felt they did not possess the necessary powers to influence change, they acknowledged that they did experience challenges but concluded:

“No, no, there is nothing out of our power. You have to utilize whatever you have got....”

-Monitoring and Evaluation Manager, Hospital 1a

“Nothing is insurmountable...

... there will always be challenges, but it depends (on) how you approach them and I like challenges because they make you grow”

-CEO, Hospital 1a

The Quality Assurance Manager said that because of their determination, hard work and with the support of their CEO, they had already managed to increase their EQA score to >85% on their own internal assessment, post their formal EQA by the OHSC.

In contrast some of the interviewees at Hospital 1b reported that their staff had gotten into the habit of abdicating responsibility for their poor performance and shifting the blame to infrastructure challenges, human resource shortages, resource constraints and long supply chain processes. The Quality Assurance manager argued that it was not always the case that things were out of their control and that the staff needed to take greater responsibility for the performance of the hospital.

The Nursing Manager held similar opinions, and said that there were indeed areas of performance that were within their control, and that there was no excuse for scoring as low as 50-55% in EQA. She argued that the excuses for poor performance that the staff at Hospital 1b were giving did not account for a score as low as theirs, and that those kinds of excuses were only valid once a health facility had achieved a reasonable level of performance. The following quotation illustrates:

“I would understand if the person would say at times it is politics and then the person gives examples that I tried to do this and politics brought me down by this. I tried to purchase this equipment and I could not get it, that is why I’m sitting at 70%. The rest (of) the policies... that is within my capability, I have achieved in those areas but here because this equipment is not available that is why I’m sitting at 70%. ...At least (then) you can start saying you are brought down by the other person otherwise I wouldn’t agree. For Hospital 1a sitting at >80% if they start giving such reasons, it will make sense.”

-Nursing Manager, Hospital 1b

⇒ Risk Management System

The staff of Hospital 1a shared that the ‘secret’ to their success as a hospital, was an innovative electronic risk management register that they adopted well before the National Core Standards. They had integrated this risk management system into their quality assurance strategy. This came about through an offer made by a local academic institution to CEOs of hospitals in the area, to assist with areas of their work where they were experiencing challenges. The CEO of Hospital 1a took advantage of this opportunity, shared her concerns with the local academic institution and together this risk management information system was developed for Hospital 1a and its management team. Hospital 1a entered ‘poor performance’ or ‘non-compliance’ with the National Core Standards as an ‘extreme risk’ to their hospital into the risk register, and systematically followed the steps that needed to be taken to mitigate against this

risk. This, according to the CEO of Hospital 1a, was their “ammunition” and resulted in the >80% score they achieved on EQA. The CEO explains:

“One thing I did not tell you, the strategy that we are using is-... we adopted the risk management before the national core standards came along, and I think that is my ammunition. I drilled (my staff) on risk management, and then they (the local academic institution) developed a system for us, a live register for us, and then we identified one nursing manager who’s (responsibility is) monitoring and evaluation, to be the risk manager, and she does that (for us). So she is the one who is managing the risk, and then everybody then started identifying risks, reporting risks with her, with action plans and when the risks are (mitigated against) it changes to green (status on the register) just like in the national core standards (report)... Now when the national core standards came, and we got this ‘B non-compliant’ (score in the first baseline assessment), then we said to ourselves, that (score) is an ‘extreme risk’, being non complaint with the national core standards is an extreme risk, so let us manage this risk now... And then it is monitored; action plans and improvement plans are (made) until we mitigate (it) to be low. So it (all) goes hand in hand, when you talk national core standards, quality, risk management, you are talking one language to us.”

-CEO, Hospital 1a

The Monitoring and Evaluation Manager, who is the member of staff who had been given the role to be custodian of the risk management system, explained that she saw herself as a “*Progress Chaser*” and that the risk management system was the vehicle that helped them achieve their goals as a hospital.

The Quality Assurance Manager at Hospital 1a explained that the risk management system, also facilitated their culture of working together as a team, as it easily captured the challenges that other members of staff were experiencing, and they all focused their energies on turning that challenge or risk from the red ‘extreme risk’ colour coding, to the no/low risk green colour coding.

In addition the CEO of Hospital 1a explained that the risk register system helped her keep her staff accountable, and was the manner in which they had been successful as a hospital in improving their compliance with the OHSC quality standards. She

explained that she only accepted changes in levels of risk to be made to the risk register system when tangible pieces of evidence were brought to the Monitoring and Evaluation manager to prove that the level of risk had indeed been lowered.

In contrast, the interviewees at Hospital 1b did not report the use of any specific type of information management system when asked for facilitators of and barriers to health facility performance in EQA.

⇒ Incentives and Recognition of good performance

The staff at Hospital 1a shared that they felt valued and that the recognition that they received from the CEO, as well as from colleagues in the district on their performance in EQA, kept them motivated. The Safety and Risk Manager had the following to say in this regard:

“Yeah, no we felt special... And also we were recognised within our district to say yes we have done wonders. You know, we had some trophies and all those things to say wow!

...

I’ve been in (this) hospital, it’s my 3rd year now, and our practice of recognising and acknowledging that you have done this and this and this, it motivates the staff, it makes them want to work. I’ve seen also (it) on these quality days we have been having, also we had one in the district office, where we came (and were told) ‘we are first’, that also gives us motivation to say that we don’t want to be knocked off by another hospital, we want to always be at the top. We want to lead. Those are some of the things that keep us motivated so that we go further.”

-Safety and Risk Manager, Hospital 1a

The Monitoring and Evaluation Manager shared that she had won a ‘service excellence’ gold award from the Member of the Executive Council (MEC) for health from her province for her role at Hospital 1a as Risk Manager and custodian of their risk register. In a separate interview the CEO shared that the province had in fact created an unprecedented salaried post for a Risk Manager position at their hospital

after hearing about their work. Hospital 1a was also awarded a trophy for innovation, and representatives from the provincial department of health (PDOH) visited their hospital to learn more about their risk management system and how they went about using it.

The CEO herself spoke with great pride about how she ensured that all of her staff members knew that they were appreciated and that their work and contribution to the hospital was recognised. She shared that she did this by regularly issuing staff members with certificates for commendable work or improvement in work. The quotation below illustrates:

“And I am very good at issuing certificates, if people are doing well. ‘So you are compliant with your little area, here is your certificate’. So when we are finished with our self-assessment, we will be doing that. All our components will come together, we announce their results, we display them, even the general order, the cleaner, they are told, they are called, they come and they are told ‘You see, your component is green and you see so and so is green and so and so is red, Oh!’ and Then they will say “Oh she is red!” and so they understand the colour coding.... And then for the green ones they get their accolades, and the most improved ones, the ones that were really down down down and improved, they also get a certificate, so that nobody goes out without something.”

-CEO, Hospital 1a

The CEO of Hospital 1a added that she thought the OHSC would do well to take on the practice of rewarding health facilities that perform well in EQA with certificates, and shared that she thought this would motivate for good performance.

This theme did not arise in interviews with the staff from Hospital 1b.

⇒ ‘Whole-System Approach’

The CEO of Hospital 1a shared that it was also through engaging with community stakeholders that she was able to make progress in achieving EQA standards that she

had performed badly in, in their previous EQA. She shared that one of the quality measures assessed for by the OHSC was that access to their hospital was kept clear for emergency vehicles, but that she was non-compliant on this standard because local hawkers used the site of the access gate of the hospital as their base for trading activities. She shared the story of how she engaged with the hawkers, inviting them into the hospital board room, showing them the hospital EQA report and where the hospital was performing poorly, winning buy-in with some of them, and as a result beginning the process of moving them away from the access gate. Through this ‘whole-systems approach’ Mannion p.437 ⁽⁴⁶⁾ she was in the end successful in achieving the standard. The following extract from our interview illustrates:

CEO, Hospital 1a: One of the things that the inspectors, assessors said is, “Mrs. X, you will never be compliant with access (to the hospital)”. I said ‘Why?’ He said ‘You see the hawkers, they were sitting right at the gate.’

So what did I do? I called the hawkers in, cleaned the boardroom, arranged tea for them-

Interviewer: The hawkers?

CEO, Hospital 1a: The hawkers, all of them, women and men. Then I asked them, please come (in), lets chat. And I told them about the National Core Standards, and the area where I got naught (zero) for access at the gate, and then I said (to them) ‘You know why (I got zero?), it’s because you are sitting at the gate and are selling there, and the only way for you to assist your hospital to get a good mark is for you to go away from the gate by so many (meters)’. And then they said OK. I think we had three successive meetings, and then I showed them the area (where they could move to), somewhere in between (the hospital and the gate) and then (some of them) started moving, others did not, and then once we had agreed, I said to my guys, lets create a flower garden by the gate... to push them back away from the gate (laughs), but I had to do it with them.

In contrast the CEO of Hospital 1b was very suspicious of his environment and other actors in his local health system. He described the area around the hospital, as an

opposition political party base and that for those reasons he felt that their health facility was being willfully neglected by local authorities.

5.2.2. Barriers to health facility performance in External Quality Assessment- Case 1

Below are the barriers to performance in EQA as identified by the hospitals in Case 1. The barriers are listed in order of prominence in interviews with the healthcare workers at each hospital.

⇒ Infrastructure Challenges:

The primary barrier to optimizing their performance in EQA identified by the management staff at Hospital 1a, was the inadequate infrastructure of their hospital, as is illustrated by the following quotation:

“It’s only the infrastructure (that is a barrier). The infrastructure is our problem. We are working with what we have got... We have no Out Patients’ Department. (Our) Out Patients’ Department (OPD) is just a passage, and some of the (standards) we don’t comply (with) because of the infrastructure (problems).”
-Quality Assurance Manager, Hospital 1a

The Safety and Risk Manager echoed similar sentiments to those of the Quality Assurance Manager, taking it as far as to blame the infrastructure of the hospital for their human resource challenges (discussed in greater detail below), primarily their inability to retain doctors. The following extract from our interview illustrates:

“There are things which are not in our powers, you understand me. When you talk about the practices in the hospital or when you talk about the things we do, our actions and things like that, then yes everything is up to standard. But we can’t change the fact that the hospital is old or the building is cracking or the roof is leaking. That we cannot change, it is like that.

...

The main main challenge here is, is the infrastructure, I don't want to lie. If that infrastructure would change, we wouldn't be having a problem with (retaining) doctors and so on. Wow, there would be magic, I tell you, we would be number one."
-Safety and Risk Manager, Hospital 1a

The CEO of Hospital 1a explained that the challenge with the infrastructure of the hospital was that it was old and inadequately sized for the population they served, and impeded their ability to adequately accommodate patients, as is illustrated by the following quotation:

"This hospital was built in 1937 by the missionaries. I don't even have the plans for it. And among these (infrastructure) challenges is our OPD. You know our OPD and Emergency Department are the face of our hospital, if I cannot get that area right, I will always have problems with waiting times and I cannot do triage properly because there is no space at all. So that's where I lose a lot of marks..."

...

Like, you know the fire drills; we do the fire drills, but not up to my satisfaction. There are many constraints. If you call for a fire drill, you want to check the response, how do people respond to this siren? You find that there are areas where people have not heard it at all. They can't hear the siren, because of the structure of the hospital. So I can never get a 100% response (rate). And the structure of the hospital is in such a way that, it will even be very difficult to evacuate."
-CEO, Hospital 1a

Infrastructure challenges were not raised as key barrier to performance in EQA by the interviewees at Hospital 1b

⇒ Human Resource Challenges

Another issue that was identified by the senior management staff of Hospital 1a as a barrier to their performance in EQA was a shortage of staff, particularly doctors. The CEO added that the high turnover of clinical staff meant that one was constantly re-teaching the quality improvement ethos that she was trying to enculture in the staff, which made maintaining high performance a challenge. The following quotation illustrates:

“You have it (right) today, and then the people (staff) change, you’ve got to teach and re-teach. The turnover is high. That’s one area that you know that, ok, I had this (right), but because so and so has gone and so and so are gone, we are on the teaching ward again.”
-CEO, Hospital 1a

The interviewees at Hospital 1b also reported human resource challenges as a barrier to performance for them. The nature of their human resource challenges was different from those of Hospital 1a, and had to do with critical managerial posts not being filled and other staff members moved into those positions to act in those roles. The following quotation illustrates:

“I was frustrated (on the day we were inspected) because management was not there, it was a disaster. It was ‘acting syndrome’: It was acting CEO, acting Pharmacy, acting Public Relations Office, acting who. I was the only one who was in a (permanent) post. I was in (the) Monitoring and Evaluation (post), but acting as a Nursing Manager, taking the CEO’s office, taking the Public Relations Officer, taking Quality (post), and taking Pharmacy issues. Safety (post) was not there. Most of the critical (were not there) and the doctors, there was a lot of shortage, so the medical manager who was supposed to be acting was busy with clinical work...”
-Quality Assurance Manager, Hospital 1b

The Nursing Manager and Quality Assurance Manager explained that when a person was appointed into an acting role, they were not as committed as someone who was fully appointed into that role. The Quality Assurance Manager gave an example of the Acting-Human Resources Manager who was asked to assist in preparations for the OHSC EQA and refused on the basis that she was not the Human Resources Manager but simply acting in the role and also not getting the full pay of a Human Resources Manager. The Quality Assurance Manager, who had worked at Hospital 1b for 10 years, explained that things started to deteriorate at their hospital when the CEO role was left vacant for five years. The trend continued with other managerial roles this had a negative impact on the staff’s attitude and commitment to their work.

The Quality Assurance Manager attributed Hospital 1a's superior performance in EQA, in comparison to theirs, to Hospital 1a having most of their managerial posts filled at the time of EQA.

The CEO of Hospital 1b shared that the only way he was able to make progress on their human resource crisis at Hospital 1b was to make what he called "*deliberate errors*" and break the rules to get staff appointed at their hospital.

"I had to make deliberate errors to get things done. I had to break the rules. When I arrived here there were only three doctors. I applied for approval to appoint more and it wasn't forthcoming so I made a decision to hire doctors with or without the provincial approval. I was warned by people that I could be fired but I persisted and once the doctors were hired the province approved the appointments retrospectively. Now it's become quite fashionable to do things that way. I don't condone breaking rules. I don't encourage it cause it undermines the authority of the province but if our mandate is patient care then all the money should be directed there..."
-CEO, Hospital 1b

⇒ Organisational Culture- Poor work ethic

The issue of poor work ethic, particularly amongst the management team, was a barrier to performance that featured prominently in interviews with staff from Hospital 1b. The Quality Assurance Manager complained that a number of the managers were not doing their work to an adequate standard. She spoke at length about a number of managerial staff who did not do their work, and gave examples of the mortuary supervisors not knowing how many corpses they had received for that month and being unaware of decomposing bodies. Other examples were managerial staff running the Out Patients' Department (OPD) being unaware of expired medication and managers in general refusing to leave their offices and engage with the rest of the staff. The following extract from our interview, which is in response to

a question on what she would do differently if she was CEO, illustrates some of her concerns:

“We are forcing them to do walk-about but the managers are not coming. We will ask to (accompany you) to your section with you as a manager and you will find that the manager will discover the mistakes together with us because he doesn’t know they existed. So we see that (the staff) are not supported, (the manager) doesn’t know his area’s problems, there are no monthly reports and he doesn’t sit down with his staff on a monthly basis to share (their) unit’s challenges and when it comes to the executive meeting there is nothing that is discussed from the managers. If the CEO doesn’t have an issue (to discuss) it becomes quiet but there are issues (that exist) down there.”

-Quality Assurance Manager, Hospital 1b

The Nursing Manager echoed many of the concerns raised by the Quality Assurance Manager, and complained that despite some of their managerial posts being filled, because the management staff had such poor work ethic, it was as if the posts were unfilled. The following quotation illustrates:

“I’ll tell you a disappointment I had, I came on duty last week Tuesday... I noticed that oh my goodness (this bin) is just full of blood even the wall is dirty, full of blood. I looked for the people, there is even a privately paid outsourced service, how can we have poor things when we have outsourced work?... Then this morning I went again... If I can say let us go there, the blood is still there, the blood is still there and yet there is a private company that is cleaning. We have a Systems supervisor, we have a House Keeping supervisor, we have a Quality Manager, we have an Infection Control Manager, we have a Waste Management Officer, we have a Monitoring and Evaluation Manager, those people are there... I think it’s (the problem is) management, no it’s management issues... I told the CEO and said it, we used to think that the nurses here are lazy and rude, no but the problem is here...If these people who are sitting there (points to the manager’s chairs in her office) they are not doing their work, the situation is going to be like this...”

-Nursing Manager, Hospital 1b

⇒ Organisational culture- resistance to change

The issue of fierce resistance to change was another barrier to performance identified by some of the interviewees at Hospital 1b. The Nursing Manager argued that it was difficult to change the work ethic issues at the hospital because the staff ganged up

against the leadership if attempts at enforcing discipline were made. The following quotation illustrates:

“... When you speak, you become an enemy....and they club against you. That is the problem. ... they even politicize things just because you are disciplining this one. ... and they even (say) ‘What type of a matron is she? All the matrons who were here previously they were sitting in the office and knock off at 16h00 and she is knocking off at 20h00, what is she doing in the office? Why is she in the wards?’ things like that...”

-Nursing Manager, Hospital 1b

⇒ Unsupported by the district office

The interviewees at Hospital 1b complained that another barrier that stood between them and performance in EQA was the lack of support they received from their district office. The CEO of Hospital 1b described the district office as not having the necessary powers to effect change and called them “*ceremonious*” and concluded that “*they might as well be a post office.*”

When asked whether they receive adequate support from their district office, the Nursing Manager laughed and described the district office as effectively non-existent and as a result ineffective. She blamed this on the district office staff being too hands off and not leaving their offices to engage with the challenges that health facilities faced at the coalface. The following quotation illustrates:

“I think the district office has a crisis, District Office 1 is just not there. It is just not there, such that I wouldn’t even take a post of the district manager because even those that are there are confused and don’t know their roles...”

...

They are supposed to go out, they think that they are big because they are in the district office, they (think they) have to sit in the offices and institutions have to work and bring the work to them, yet we have to work together.”

-Nursing Manager, Hospital 1b

Interestingly, Hospital 1a, that is under the jurisdiction of the same district office as Hospital 1b, argued differently and reported that they were well supported by District Office 1.

The CEO of Hospital 1b attributed the perceived difference in support Hospital 1b received from District Office 1 as compared to Hospital 1a, to be related to what he perceived as a greater number of supporters of the ruling political party living in the area that is served by Hospital 1a as compared to that which is served by Hospital 1b.

⇒ Perceived subjectivity of Inspectors:

The CEO of Hospital 1b perceived the inspectors to be subjective and saw this as a barrier to performance in EQA. The CEO took it as far as to suggest that Hospital 1a's higher performance in EQA, as compared to theirs, might have been as a result of subjective inspectors. The CEO's views on the inspectors are discussed in further detail in Results Chapter III-Experiences of EQA. The Quality Assurance Manager shared that she too had noticed that some health facilities facing similar challenges to their own were assessed differently to theirs. She did not seem to think this fully accounted for Hospital 1b's poor performance.

The interviewees at Hospital 1a however in contrast, did not raise any concerns with their experience of the inspectors.

⇒ Limited decision-making powers of CEOs

The CEO of Hospital 1b raised the limited decision-making powers of CEOs as a barrier to performance in EQA. He argued that the OHSC EQAs measure health

facilities across the country with the same yard stick, but that decision-making powers for CEOs varied across provinces. In their province, they were extremely limited. The following quotation illustrates:

“If I need to procure medical equipment, I need to get it approved centrally. If it is not approved or takes many months to be approved, and I am found to be without a ventilator, then I get penalised. But nowhere is it recognised that I made multiple attempts at procuring a ventilator. Another example is procuring drugs. In this province that is still centralized, I need to get drugs from a depot, unlike in Province Y where I can purchase the drugs I want from various vendors. If the central depot does not stock that drug, I cannot access it. It then comes out in the media that Hospital 1b is not supplying drug x, but the reasons behind why hospital x doesn’t and cannot have the drug are never explored.”
-CEO, Hospital 1b

In contrast, the CEO of Hospital 1a only raised concerns with decision-making powers, when it came to her ability to improve the infrastructure of her health facility. She did not however raise concerns with regards to procurement issues or hiring powers.

5.2.3. Comparing and Contrasting Hospital 1a and Hospital 1b

Hospital 1a and Hospital 1b are both district hospitals in a rural setting within the same province, little more than 50km apart from each other. Hospital 1a and Hospital 1b fall under the management of the same district office. From the profiles of Hospital 1a and 1b presented in Table 34, we see that Hospital 1a is a larger hospital (in terms of bed size) than Hospital 1b and serves a larger population share than does Hospital 1b.

Table 34 below presents the performance of Hospital 1a and Hospital 1b in EQA by domain. The percentage scores are presented as ranges so as to protect the identity of the health facilities that participated in this research. As mentioned above, Hospital 1b

underwent EQA on two separate occasions, 2012 and 2013, because of its initial poor performance in its first EQA. The detailed performance breakdown for Hospital 1b that was available for inclusion in this research was the most recent one, the 2013 EQA, and that is the one that is referred to in the table and subsequent interpretation below. I had access to the overall score of Hospital 1b from 2012, and Hospital 1b's performance in the 2013 EQA was only a marginal improvement from that of 2012, with <5% difference in overall scores.

Table 34: Breakdown of performance of Case 1 hospitals by domain

Domains 1-7	Hospital 1a (%)	Hospital 1b (%)
1		
Patients Rights	75-80	45-50
Respect and dignity	95-100	50-55
Reducing delays in care	55-60	45-50
Complaints management	85-90	5-10
Physical access	80-85	90-95
Access to information for patients	80-85	55-60
Continuity of care	70-75	30-35
Emergency care	60-65	30-35
Access to a package of services	95-100	95-100
2		
Patient Safety / Clinical Governance / Clinical Care	85-90	60-65
Patient care	95-100	65-70
Infection prevention and control	85-90	80-85
Clinical leadership	85-90	50-55
Adverse events	85-90	35-40
Clinical management for improved health outcomes	95-100	95-100
Clinical risk	80-85	50-55

Domains 1-7	Hospital 1a (%)	Hospital 1b (%)
3		
Clinical Support Services	80-85	50-55
Diagnostic services	80-85	60-65
Health technology	65-70	60-65
Therapeutic support services	95-100	55-60
Sterilisation services	60-65	35-40
Pharmaceutical services	80-85	40-45
Mortuary services	95-100	50-55
4		
Public Health	75-80	55-60
Population-based planning and service delivery	90-95	75-80
Environmental controls	30-35	0-5
Health promotion and disease prevention	95-100	70-75
Disaster preparedness	50-55	40-45
5		
Leadership and Corporate Governance	90-95	25-30
Oversight and accountability	95-100	5-10
Strategic management	75-80	50-55
Risk management	95-100	0-5
Quality improvement	95-100	30-35
Effective leadership	85-90	20-25
Communications and public relations	95-100	0-5
6		
Operational Management	75-80	60-65
Information management	85-90	65-70
Financial management	95-100	60-65
Supply chain and asset management	75-80	35-40
Human resource management and development	65-70	60-65

Domains 1-7	Hospital 1a (%)	Hospital 1b (%)
Staff welfare and employee wellness	85-90	65-70
Medical records	60-65	90-95
Transport and fleet management	95-100	95-100
7		
Facilities and Infrastructure	75-80	55-60
Buildings and grounds	85-90	65-70
Machinery and utilities	75-80	65-70
Hygiene and cleanliness	75-80	65-70
Safety and security	90-95	35-40
Waste management	35-40	70-75
Food services	75-80	40-45
Linen and laundry	80-85	40-45
Grand Total	80-85	50-55

⇒ Leadership style of CEOs

If we compare the CEOs of the two hospitals we find that both are described as hard workers, however the CEO of Hospital 1b is considered as too soft a leader, allowing too much freedom amongst the management team and not exercising enough authority. Interestingly when we look at the performance of the two hospitals by domain, we see that even in EQA there was a stark difference between the recorded performance of the two hospitals when it came to standards related to leadership and corporate governance. Hospital 1b scored as low as 5-10% on the sub-domain related to ‘Oversight and Accountability’, whereas Hospital 1a scored 95-100%. Similarly in the sub-domain ‘Effective Leadership’ there is a 50% difference in the performance of Hospital 1a (scoring 85-90%) compared to Hospital 1b (scoring 20-25%). Appendix K provides a further detailed breakdown of the performance of Hospital 1a

and 1b in the areas of relevance to this analysis. We see in Appendix K-Domain 5 that, echoing the perceptions of the interviewees that the CEO does not wield strong enough leadership, Hospital 1b performs particularly badly on the criterion related to the CEO's effectiveness in holding his senior managers accountable. Hospital 1b scored as low as 35-40% in this criterion as compared to Hospital 1a which scored 95-100%.

⇒ Organisational Culture

Tension and disharmony, poor work ethic, resistance to change and an abdication of responsibility for poor standards of quality of care within the hospital characterised the organisational culture of Hospital 1b. In contrast the organisational culture of Hospital 1a was characterised by a good work ethic and a belief in teamwork, as well as, strong buy-in to the National Core Standards and the quality improvement ethos in general. This contrast in commitment to quality improvement at the organisation-level was reflected in the performance of the two hospitals in the measures related to quality improvement, giving them a difference in performance of almost 70%. Hospital 1a scored 95-100% for the criterion: 'An active programme to assure and improve quality is implemented and its effectiveness is monitored and evaluated.' (Domain 5) and Hospital 1b scored 30-35%.

In addition, the collaborative culture that was apparent in Hospital 1a and not so apparent in Hospital 1b, was reflected in their performance in the following criterion: 'Staff are able to actively participate in decision-making on quality related issues in the health establishment' (Domain 5), with Hospital 1a scoring 95-100% and Hospital 1b scoring 0-5%

It was also clear from the interviews that unlike Hospital 1a, where all interviewees held strong convictions in their ability to perform well in EQA, the interviewees from Hospital 1b were at best non-committal and at worst pessimistic about their hospital's ability to improve its performance in EQA.

⇒ Robust Information System

Hospital 1a boasted an innovative information management system in the form of a risk register, which they described as the “*ammunition*” that had facilitated their high performance in EQA, which also supported their collaborative organisational culture and was found to be useful by the CEO in keeping her staff accountable. Hospital 1a, the highest performing hospital of all four hospitals included in this research, was the only hospital that identified the use of a robust information system as a facilitator of performance on EQA. This finding was reflected in how Hospital 1a performed under the sub-domain ‘Information Management’ in comparison to Hospital 1b, scoring 85-90% as opposed to Hospital 1b's 65-70%, including under the sub-domain ‘Risk Management’ where Hospital 1a scored 95-100% and Hospital 1b scored 0-5%.

⇒ ‘Whole-Systems Approach’

There were multiple examples of Mannion's ‘Whole Systems Approach’ p.437 ⁽⁴⁶⁾ (see literature review Chapter II) given by the CEO of Hospital 1a. Perhaps this proactive approach to engagement with the wider community and other stakeholders to ensure they achieved and maintained high quality standards, explains the slightly superior performance of Hospital 1a (90-95%) in comparison to Hospital 1b (75-80%)

in the sub-domain 'Population-based planning and service delivery' (Domain 4) related to community engagement.

⇒ Human Resource Challenges

Human resource challenges were identified by both Hospital 1a and Hospital 1b as a barrier to performance in EQA. Hospital 1a and 1b were both understaffed. However we see from Table 34 that Hospital 1a was more understaffed than Hospital 1b when it came to clinical posts, specifically nurses. Hospital 1b however was more understaffed than Hospital 1a when it came to management staff. Both hospitals shared that human resource shortages in general made it difficult to achieve quality standards, however Hospital 1a raised the issue of retention and high turnover as their primary human resource barrier, whereas Hospital 1b raised the concern of critical senior management posts going unfilled for a number of years as their primary human resource barrier to performance in EQA. The issues raised by the interviewees were reflected in the staffing statistics of the two hospitals, with Hospital 1a having a greater shortage of clinical staff than Hospital 1b and Hospital 1b having a greater number of vacancies in the senior management team (see Table 34). This is further illustrated by Hospital 1b not having the post of CEO and the post of Nursing Manager filled in their first EQA. In their second EQA, the post of CEO was filled but the CEO was absent on the day of EQA and the Nursing Manager post had only recently been filled. Interestingly the performance of the two hospitals under sub-domain 'Human Resource Management and Development' was only marginally different, with Hospital 1a scoring 65-70% and Hospital 1b scoring 60-65%.

⇒ Infrastructure challenges:

Despite their infrastructural challenges i.e. the lack of decision-making power to improve their hospital's infrastructure. Hospital 1a performed relatively well in the facilities and infrastructure domain, scoring between 75-80% compared to Hospital 1b's 55-60%.

⇒ Poor support from District Office

Hospital 1b raised that they felt unsupported by their district office and that this was a barrier to their performance in EQA, whereas Hospital 1a reported receiving adequate support from the district office.

⇒ Limited decision-making powers of CEOs

The CEO of Hospital 1b raised what he perceived to be limited decision-making powers given to CEOs as a barrier to performance in EQA. This was reflected in the measure: 'The health establishment's management structure and delegations of authority is at the appropriate levels to ensure efficient service delivery at the establishment' (Domain 5), with Hospital 1a scoring 65-70% in this measure (compared to Hospital 1b's 30-35%). As Hospital 1a and Hospital 1b were managed by the same district office at the time of interview, and fell within the same province, it is unclear why this discrepancy in delegations of authority existed between the two health facilities.

⇒ Subjectivity of Inspectors

Finally the CEO of Hospital 1b raised that he saw (his perceived) subjectivity of the inspectors as a barrier to his hospital's performance in EQA. Whereas Hospital 1a shared that they had no concerns with the conduct of the inspectors.

5.3. Case 2

The hospitals in Case 2, Hospital 2a and Hospital 2b both fell within the same province and were managed by the same district office. In addition, Hospitals 2a and 2b were managed by the same Acting-CEO, who at the time of interview was not based at either of the hospitals but had her office in a neighbouring hospital. The Acting-CEO interviewed was not in the role of Acting-CEO of Hospitals 2a and 2b at the time of EQA but at the time the Acting Chief Medical Officer (CMO) of Hospital 2b occupied this role.

Both hospitals are located in rural areas, in the same province and district, approximately 90 kilometers apart from each other. Hospital 2a was very slightly larger than Hospital 2b in terms of the number of active beds. Yet, Hospital 2a served double the size of the population that was served by Hospital 2b. Both hospitals underwent initial EQA within months of each other. Hospital 2a scored almost 15% more than Hospital 2b on EQA. The full profiles of Hospital 2a and Hospital 2b can be found in Table 35.

Table 35: Profiles of Hospitals 2a and 2b

		Case 2a	Case 2b
Description of Facility	Province, District	Province I, District 2	Province I, District 2
	Surrounding area	Rural	Rural
	Classified as	District Hospital	District Hospital
	Number of beds	58	58
	Number of active beds	38	28
Staff establishment	Number of full time staff	44	54
	Number of Clinical staff:		
	• Nurses	22	17
	• Doctors	3	2
	Number of vacancies in management staff	1	2
Leadership	Post of CEO filled at time of EQA?	No	No
	Post of Nursing Manager filled at time of EQA?	Yes	No
Work load	Size of population served	150 000	72 437
	Nurse: active bed	1: 2	1: 2
	Nurse: population share	1:7000	1:4000
	Doctor: population share	1:50 000	1:36 219
EQA	Performance (national average 63%, May 2013)	60-65%	45-50%
	Year and period of EQA	April-June 2013	April-June 2013

5.3.1. Facilitators of performance in External Quality Assessment-Case 2

Below are the facilitators of performance in EQA as identified by the hospitals in Case 2. The facilitators are listed in order of the prominence they were given in interviews with the healthcare workers at each hospital.

⇒ Organisational Culture-teamwork and commitment

The management team at Hospital 2a attributed their relatively high performance in EQA (in relation to Hospital 2b) to their ability to work well as a team. The Quality Assurance Manager described how the staff assessed each other's components in preparation for the OHSC EQA, in order to give an objective assessment of their colleague's functional areas as well as to create empathy amongst the staff through fostering better understanding of the challenges other colleagues face. The CEO of Hospitals 2a and 2b described the staff at Hospital 2a as highly committed to their work, particularly given the difficult conditions (see barriers below) under which they were working, as is illustrated by the following quotation:

"...and they (staff at Hospital 2a) make my heart ache because of (their) commitment. Sometimes I tell them that I really just do not understand how you people work (under these circumstances). I mean, I was also committed to my work) as a professional nurse, but really they are surpassing..."
-CEO, Hospital 2a and 2b

Interestingly the interviewees at Hospital 2b also reported working well as a team, and the CEO of Hospital 2a and 2b rejected the notion that Hospital 2b's inferior performance to that of 2a was because of a lack of teamwork. The interviewees shared

that they were very supportive of each other and often stood in for each other, to cover gaps in their severely human resource constrained health facility.

“Yes we work well as a team, we support each other... Even the doctors, when they are off, even if they are off, when we are having a problem in the ward we can call them and ask them ‘doctor what (should) I do?’... We work as a team, you don’t say you are on leave or you are off, we don’t speak that language.”

-Acting Nursing Manager, Hospital 2b

⇒ Leadership style of Nursing Manager

The interviewees at Hospital 2a identified the supportive and affirming leadership style of their Nursing Manager as a facilitator of their performance in EQA. The Nursing Manager at Hospital 2a was described as a strict leader, but one who was also empathetic to the conditions under which the staff at Hospital 2a was working and did not hesitate to show her support and appreciation of the staff, as is illustrated by the following quotation:

“Yes Mrs. M (she is) very, very strict. But when it comes to applauding you, when it comes to affirming you- I remember I was working one time, I was so demoralised because I’m trying to do this quality (assurance) thing and I don’t get time, I don’t have staff, I can’t have the meetings (because) I’m on night duty, and then it was time for her to sort of assess me on my performance and then she said, no you assess yourself, I mean you are an adult, you are senior. I was so cross, I was marking myself, 1s and 2s because I hadn’t performed (well), and she sat me down and she looked me in the eye, and I’m telling you I was in tears, and she said to me, no, the fact that you cannot achieve and the fact that you cannot move, it is the system that causes you to fail. And by acknowledging that, you know you feel valued in this place and people like that, you feel like you want to go the extra mile, and I think that is what makes the difference”

-Quality Assurance Manager, Hospital 2a

The interviewees at Hospital 2b did not report leadership as a facilitator of performance in EQA, and at the time of interview, the post of Nursing Manager was unfilled and had been unfilled for a number of years prior.

5.3.2. Barriers to performance in External Quality Assessment-Case 2

Below are the barriers to performance in EQA as identified by the hospitals in Case 2.

The barriers are listed in order of prominence given to them in interviews with the healthcare workers at each hospital.

⇒ Human resource constraints

All interviewees representing Hospital 2a were unanimous in their assessment that the greatest barrier to high performance for Hospital 2a was their human resource constraints. This is illustrated by the following quotation:

“No, it’s very short staffed here. I will give you an example. Last night, I brought my brother here to casualty who was a Priority 1 (unstable and/or high priority ⁽²³¹⁾) patient and there was just one nursing sister in casualty, just one, just one in (the) maternity unit and a nurse and a nursing sister at the general ward, and that nurse must help in all (of) the three areas. It’s impossible.”

-Human Resources Manager, Hospital 2a

Like Hospital 1b presented in Case 1 above, the Nursing Manager also explained that they had not had a permanently employed CEO leading their hospital since 2011, and that it had been “*acting CEO, after acting CEO, after acting CEO*” at their hospital.

The Acting-CEO of Hospital 2a and 2b argued that she believed that she could turn Hospital 2a into a centre of excellence if she was provided with enough staff. She argued that commitment to achieving high quality of care already existed amongst the staff of Hospital 2a and that they were being prevented from realizing this because of their severe human resource constraints.

The interviewees at Hospital 2a shared that following their EQA they had lost more staff members and were pessimistic about how they would perform in the next EQA unless staffing improved. The following two quotations illustrate this:

“Because of not having staff, now things are bad, now they (OHSC) will get us (being) nowhere. Ok we are trying, we don’t want to compromise our patient care, we are trying to (deliver) quality patient care, but sometimes, even if you want to (deliver) quality, if you don’t have hands, it’s impossible.”
-Nursing Manager, Hospital 2a

“Like I’m saying to you, you can walk through (the hospital) with me, you won’t believe how dirty it is, and it’s one cleaner, you can’t (expect) the man to clean the whole hospital. One person for laundry, for the whole hospital, you can’t expect. Even the kitchen here, one person (is) on duty there, so that is why I say the score will definitely drop, because it (staff shortages) influences patient care.”
-Quality Assurance Manager, Hospital 2a

When asked why Hospital 2a suffered such severe human resource constraints, the staff explained that their provincial department of health was under administration, that National Treasury had taken over managing the finances of their provincial department of health and that as a result a number of budget “stringencies” had been imposed on all spending in their provincial department of health, including the hiring of new staff.

The Nursing Manager argued that the problem predated the current provincial financial crisis and that it was down to the neglect of one of their previous CEOs. The following quotation illustrates this:

“We were in this thing that we call a complex of three hospitals, and in that complex of three hospitals, we had one CEO. I think we were one of the hospitals that was very neglected by the CEO. People resigned, left and those posts were never filled and at the end they became redundant or frozen. So that is what resulted in that Hospital 2a ultimately is so short staffed.”
-Nursing Manager, Hospital 2a

Like their colleagues at Hospital 2a, the management team at Hospital 2b identified

human resource shortages as their major barrier to performance in EQA. The CEO of both hospitals argued that the staff shortages at Hospital 2b were even more severe than those of Hospital 2a, and that the 45-50% score Hospital 2b achieved in EQA, was excellent on their part, considering their staff shortages. The following quotation illustrates this:

“Hospital 2b is even worse (affected) with the resources. When I got there, they had about six professional nurses running three wards, working twenty-four hours, having to go on leave, being sick, doing night duty, it’s quite impossible, you cannot get quality. And there was no doctors too, that is why they scored so low.”
-CEO, Hospital 2a and 2b

The interviewees explained that all staff were preoccupied with clinical work and unable to attend to the paper work that is required to be produced upon EQA. Even post EQA, they reported, they were unable to address the areas in which they had performed poorly because of their worsening human resources situation. This is illustrated by the following quotation:

“...We don’t have a problem with the policies, because we are capable of sitting down and doing the policies, but there is not time... we want to sit down and do these things, but there is no time.”
-Acting-Nursing Manager, Hospital 2b

⇒ Poor alignment of External Quality Assessment standards

A barrier to performance in EQA that was raised by some of the interviewees at Hospital 2a was that they felt that the OHSC’s National Core Standards were not aligned to recommendations they received from other standard setting authorities within the wider health system. The Nursing Manager explained that she found it exasperating that what the National Core Standards required to be contained in an emergency trolley was different from what was required by their provincial department of health. She added that she felt very frustrated on the day of EQA when

she was being penalised for having non-compliant emergency trolleys by the OHSC, when her emergency trolleys were compliant with what was required by her provincial department of health. Similarly, the CEO of Hospital 2a and 2b complained that the National Core Standards required their hospitals to have a milk room, but that that was in tension with the standards required for them to remain a baby friendly hospital by the World Health Organization. The following quotation illustrates this:

“...We are one hundred percent baby friendly, when they (OHSC) come here, they are demanding a milk room while the other side (Ministry of Health) says we must be baby-friendly, so now we are confused. We are really confused, now we don't know. And if you do not have a baby-room they penalise you which I feel is unfair. Why must I be penalised when on this side (Minister of Health) is promoting breastfeeding while the other side, they also want bottle-feeding. No I think that is something they must really sort out... It's really confusing...”
-Acting-CEO, Hospital 2a and 2b

Alignment of EQA standards was not raised as a concern by interviewees at Hospital 2b.

⇒ Lack of support from district office and province

The Nursing Manager of Hospital 2a raised the fact that they had communicated the challenges they were experiencing with the district office, particularly those with regarding the human resource constraints. To date, there had been many promises but nothing had been done. The Acting-CMO of Hospital 2b, and former Acting CEO of hospitals 2a and 2b (who was in fact Acting CEO of hospitals 2a and 2b at the time of EQA) also said that they received limited support from the district office, but she did not think it was the district office's fault. She reasoned that the district office manager, like themselves had limited powers and there was little they could do to effect change. The quotation below illustrates this:

“First thing, the district manager's powers are limited. They are almost similar to the CEO's powers basically. It's just that he oversees more facilities than the CEO of a

hospital. But in terms of when it comes to the money issue in (this) province, the (provincial) Head of Department (for health) and the MEC (Member of Executive Council for Health) call the shots, and nobody else.”
-Acting-CMO, Hospital 2b

⇒ Negative Perception of External Quality Assessment

The Acting-CMO of Hospital 2b had strong negative views on the EQA process, including about the inspectors themselves and regarding the EQA tool. Although he was the only interviewee from Hospital 2b who expressed such strong negative views, his sentiments are presented here, as he was the Acting-CEO of Hospitals 2a and 2b at the time of EQA of both hospitals, and his attitude towards the EQA process may, based on the barriers to performance identified in the literature review, have had an impact on the performance of both these hospitals.

The Acting-CMO's dissatisfaction with the EQAs largely related to his concern with the fact that he did not think the inspectors were adequately qualified for the role they were playing. The Acting-CMO took issue with the OHSC's EQA tool and with the manner in which it was used to assess health facilities for quality of care. This theme of the National Core Standards EQA tool is discussed separately in Results Chapter III-Experiences of EQA.

The Acting-CMO also took issue with the OHSC and complained that they as a hospital felt unsupported by the OHSC in the EQA, that they received the EQA tool late and were not supported in understanding its contents. He compared the OHSC with EQAs to which their hospitals had been subject through the Council of Health Service Accreditation of Southern Africa (COHSASA)'s facilitated EQA programme. He explained that he thought an un-facilitated EQA programme was premature for the

South African health care system. The quotation below illustrates this:

“We couldn’t have prepared, unlike with the then COHSASA, COHSASA we knew the tool (and) we could prepare. And also they (COHSASA) had facilitators who came during the course of the year, prior to taking us to a final assessment. So we knew what we had to prepare...”

...

“Look, I think they (the OHSC EQAs) were premature. Alternatively what they should have done- I like the approach of COHSASA. COHSASA came with its programme. They had their document that they introduced to us but in their process they had facilitators that were sort of, you know, coming to give us lectures, monitoring how far you have gone, you know, and taking you through. And at the end of the day we were good, a lot of things were in place under COHSASA- policies, everything, and relevant ones, and by the time we got assessed- Okay we (would initially) fail (but) then again, re-do the whole thing and then pass, and then get accreditation. And at that stage when you get (the) accreditation (status), the hospital is so well-run, so well organised... COHSASA got us a lot of things.”

-Acting CMO, Hospital 2b.

Similarly, a professional nurse interviewed at Hospital 2b demonstrated ambivalent feelings towards the OHSC’s EQAs. She described them as being “*on the right track*” but complained that in the context of being severely understaffed, which was a recurring theme at this health facility, they were a burden for the staff, as is illustrated by the following quotation:

“It adds a lot of work, especially cause here we are short staffed, it is really tough... It is too much to ask, we cannot even do (keep) the statistics at the moment, nothing, we cannot achieve anything, it is really tough, because already we have burn-out.”

-Professional Nurse, Hospital 2b

At Hospital 2a, it was only the Nursing Manager who expressed negative sentiments towards the EQAs, but this was largely due to her unhappiness about EQA standards not being aligned to other quality standards in their health system.

⇒ Resource Constraints:

Some of the interviewees at Hospital 2b also identified resource constraints (financial

and other resources like equipment) as a barrier to their performance, as the following two quotations illustrate:

“Take a look at the trophies there, this was a centre of excellence, now (look) what has happened, it is because now we were stopped from hiring, we were stopped from buying equipment. We haven’t bought equipment for a very long time.”

-Acting CEO, Hospitals 2a and 2b

“...the CTGs (cardiotocographs) in maternity, you go to maternity, CTGs are broken. Like right now, I don’t have BP (blood pressure) machines. I had to go to the (neighbouring) clinic to go and check somebody’s blood pressure who was referred to us for uncontrolled hypertension.”

-Acting Chief Medical Officer, Hospital 2b

The Acting-CMO of Hospital 2b warned that without the necessary resources their performance in subsequent EQAs would continue to deteriorate. Resource (other than human resource) constraints were not identified as a key barrier to performance in EQA by the interviewees at Hospital 2a.

⇒ Limited decision-making power of CEOs

The Acting-CMO of Hospital 2b raised as an issue the limited decision-making powers of CEOs as a barrier to performance in EQA. He explained that they, as the senior management of Hospital 2b, had no power to purchase large equipment or to change the infrastructure so as to become compliant with the National Core Standards.

The issue of CEO decision-making power was not raised by the Acting-CEO of Hospitals 2a and 2b, possibly because the Acting CEO was not fully appointed into the role of CEO and thus may have been less concerned with the limitations of the full powers of a CEO.

5.3.3. Comparing and Contrasting Hospital 2a and Hospital 2b

Hospital 2a and Hospital 2b were both district hospitals in a rural setting within the same province. Both Hospital 2a and Hospital 2b fell under the management of the same district office, as well as the same Acting-CEO. From the profiles of Hospital 2a and 2b presented in Table 35 above, we see that Hospital 2a was a slightly larger hospital (in terms of active bed size) than Hospital 2b and served almost double the population size than did Hospital 2b.

Table 36 below presents the performance of Hospital 2a and Hospital 2b in EQA by domain. Appendix L provides a further detailed breakdown of the performance of Hospitals 2a and 2b in the areas of relevance to this analysis.

Table 36: Breakdown of performance of Case 2 hospitals by domain

Domains 1-7	Hosp. 2a (%)	Hosp. 2b (%)
1		
Patient's Rights	65-70	45-50
Respect and dignity	75-80	60-65
Reducing delays in care	75-80	50-55
Complaints management	40-45	15-20
Physical access	80-85	55-60
Access to information for patients	75-80	35-40
Continuity of care	35-40	35-40
Emergency care	35-40	40-45
Access to a package of services	95-100	95-100
2		
Patient Safety / Clinical Governance / Clinical Care	50-55	40-45

Domains 1-7	Hosp. 2a	Hosp. 2b
	(%)	(%)
Patient care	40-45	65-70
Infection prevention and control	55-60	40-45
Clinical leadership	40-45	15-20
Adverse events	25-30	30-35
Clinical management for improved health outcomes	60-65	60-65
Clinical risk	60-65	45-50
3		
Clinical Support Services	75-80	55-60
Diagnostic services	85-90	70-75
Health technology	70-75	45-50
Therapeutic support services	30-35	30-35
Sterilisation services	90-95	25-30
Pharmaceutical services	70-75	60-65
Mortuary services	80-85	60-65
4		
Public Health	50-55	50-55
Population-based planning and service delivery	60-65	65-70
Environmental controls	0-5	0-5
Health Promotion and disease prevention	75-80	95-100
Disaster preparedness	55-60	35-40
5		
Leadership and Corporate Governance	30-35	30-35
Oversight and accountability	30-35	30-35
Strategic management	40-45	40-45
Risk management	0-5	0-5
Quality improvement	35-40	0-5
Effective leadership	25-30	30-35

Domains 1-7	Hosp. 2a (%)	Hosp. 2b (%)
Communications and public relations	0-5	0-5
6		
Operational Management	50-55	30-35
Information management	65-70	50-55
Financial management	40-45	40-45
Supply chain and asset management	55-60	50-55
Human resource management and development	20-25	20-25
Staff welfare and employee wellness	25-30	10-15
Medical records	95-100	50-55
Transport and fleet management	95-100	25-30
7		
Facilities and Infrastructure	75-80	55-60
Buildings and grounds	90-95	75-80
Machinery and utilities	70-75	55-60
Hygiene and cleanliness	70-75	50-55
Safety and security	60-65	40-45
Waste management	70-75	30-35
Food services	90-95	40-45
Linen and laundry	50-55	75-80
Grand Total	60-65	45-50

⇒ Organisational Culture: Team-work and Commitment of Staff

The interviewees from Hospital 2a pointed to their organisational culture of teamwork and a committed work force as a facilitator of their performance in EQA. The interviewees at Hospital 2b also reported working well as a team, and the CEO of Hospital 2a and 2b rejected the notion that Hospital 2b's inferior performance to

Hospital 2a was because of a lack of teamwork amongst the staff.

⇒ Leadership

As both Hospital 2a and 2b are led by the same Acting-CEO, there was little to compare and contrast on this theme, and this is reflected in their comparable performance in Domain 5: Leadership and Corporate Governance. Both hospitals achieved near identical results on a number of the quality standards related to leadership and corporate governance. This is most likely because much of the evidence required for these standards comes from the office of the CEO, who was the same person in this case. It is worth noting however, that the performance of both health facilities in this domain (Domain 5: Leadership and Corporate Governance) was very poor (both hospitals scoring between 30-35%). This was likely to be a result of the fact that the post of the CEO was unfilled at Hospital 2a and 2b for a number of years, including at the time of EQA and at the time of the interviews.

The interviewees at Hospital 2a did however identify the leadership style of their Nursing Manager as a facilitator of their performance on EQA, and this seemed to have buffered their lack of leadership capacity at the highest level of the organisation. This is different from the case of Hospital 2b, which also had the post of Nursing Manager unfilled at the time of EQA as well as at the time of interview. The shortage of staff in critical senior management positions at Hospital 2b was reflected in the relatively poor performance of the hospital on the following criterion as compared to Hospital 2a: 'Key senior positions are filled by persons with appropriate competencies/ qualifications/ experience/ knowledge' (Domain 5). Hospital 2b scored 20-25% on this criterion compared to Hospital 2a's 70-75%.

⇒ Human resource constraints

Both hospitals identified severe human resource shortages as a major barrier to performance in EQA. Hospital 2a served almost double the population size than did Hospital 2b and had fewer clinical staff members per population share. Hospital 2b, as mentioned above, was more understaffed than Hospital 2a when it came to senior management. Interestingly Hospitals 2a and 2b had identical scores on the sub-domain 'Human resources Management and Development' (Domain 6). This might have been because these standards were assessed from the office of the CEO, which in the case of these two hospitals was the same office.

⇒ Poor Support from District Office

Both Hospitals 2a and 2b pointed to poor support from their district office as a barrier to their performance.

⇒ Negative Perceptions of External Quality Assessment

There were strong negative views on the introduction of EQAs into the South African health system stemming from Hospital 2b. At Hospital 2a it was only the Nursing Manager who held negative views on EQA but her dissatisfaction lay primarily with the standards not being aligned to other standards with which they were required to comply by other powers in the health system.

5.4. The views of the Inspectors

Thirteen Inspectors from the OHSC participated in individual in-depth interviews to elicit their views on the facilitators of and barriers to health facility performance in EQA at district hospital level. These interviews were based on their experiences having inspected close to 2000 health facilities at the time of the interviews,. ⁽⁷²⁾ This

section presents the results of these interviews. A number of inspectors' views were aligned around common themes and only extracts from interviews that represent these prominent themes are presented.

5.4.1. Facilitators of health facility performance in External Quality Assessment-Inspectors

The key facilitator of success in EQA identified by the inspectors was the leadership style of the CEO and the greater management team. They shared that where health facilities did well in EQA, the management team had a 'hands-on' leadership style, were always visible within their organisation and were receptive to feedback from the healthcare workers. One inspector explained that these CEOs tended to recognise and acknowledge the difficult circumstances under which their healthcare workers were working, but encouraged them that they could achieve their goals despite these constraints.

A number of the inspectors remarked that the leaders of the high-performing health facilities tended to prioritize the National Core Standards and have it high up on the health facility agenda. At these health facilities there tended to be strong buy-in by the management teams, as is illustrated by the following quotation:

"...at Hospital x, when we talk about the National Core Standards, it is at the top of their agenda. The CEO has made it his responsibility, so they talk it, they live it, there is nobody in the management structure who does not talk National Core Standards. They have put it high up in their agenda and that is why you find they are reaping those rewards..."

-Inspector 13

The inspectors identified that the high-performing health facilities tended to have an organisational culture where teamwork was actively practiced. Another facilitator of

success identified by some of the inspectors was the tendency of high-performing health facilities to be in urban centres, and it was thought that this association was largely due to the urban areas being better resourced and less susceptible to high healthcare worker turnover rates as is commonly seen in rural health facilities.

5.4.2. Barriers to health facility performance in External Quality Assessment- Inspectors

The most common barrier to health facility performance identified by the inspectors was the lack of support provided to health facilities, particularly by district offices who were not adequately supporting district hospitals. Various reasons were given for this, such as people at the district offices being political appointments, or not being adequately qualified for the roles they were appointed into or a culture of poor work ethic at some district offices. The following two quotations illustrate:

“The dependency of district hospitals on a district office is something that really somehow impedes (their performance) on the basis that there are certain aspects that the hospital management, including the CEO and his whole management team are unable to implement on their own.”

-Inspector 8

“...most of the CEOs do not have delegation (of authority)... they have to rely on the district (office) for them to approve purchasing of material resources. If they need to fix their own facility in terms of facility infrastructure, they have to obtain approval from the district. So that in itself, that they do not have delegation powers, it also serves as a major challenge.”

-Inspector 10

Another commonly cited barrier to performance by inspectors was the so called ‘Acting Syndrome’, which was also raised by the healthcare workers interviewed, where critical management posts were not filled, and instead people were chronically placed in those roles in an acting capacity. This was perceived to result in a whole

host of problems, such as these (acting) managers not feeling that they had the legitimacy or power to effect change in their organisations, or that they were not adequately skilled for the demands of that managerial role and as a result were ineffective leaders. The following quotation illustrates this:

“The very facility that I’ve been to that performed the worst to date, I mean it is still the worst in our list, there was no leadership, there was absolutely no leadership. You have somebody (there) who has been acting in that position for many many years, and she is not capacitated to manage (health) facilities.”
-Inspector 4

Other barriers identified by the inspectors were weak and ineffective leadership within the health facilities, rurality and the associated high turnover of staff. Inspectors identified that the problem of limited resources available to rurally placed health facilities, demotivated and burnt-out healthcare workers who did not see how the National Core Standards would improve their situations and the fact that the EQAs being conducted at the time were mock EQAs without penalties (and thus not taken seriously by healthcare workers) were barriers to health facility performance in EQA. The quotation below illustrates:

“...but probably by the time we get to a point where as an office we have the powers that are stated in the Act, people will start to understand that what is (required) by the national core standards really needs to be done, because people now think ag (never mind), there are no implication, they (the inspectors) are going to come again and still find the same things and they are no implications. My thinking is that probably when we get to that point (when the Act is enshrined into law), people are going to take us very seriously. From the CEO who will understand (that) my job is at stake if my people are not delivering.”
-Inspector 2

5.5. Summary

In this chapter I presented the findings of in-depth interviews with healthcare workers and inspectors about what they regarded as the facilitators of and barriers to health

facility performance in EQA. I compared and contrasted these findings across the pairs of health facilities and triangulated these findings with health facility EQA reports and the views of the inspectors. The findings of this analysis reveal that across the cases, leadership within the health facility, that is hands on, that is collaborative and consultative, that is hard-working and visionary and that is supportive yet disciplinarian was identified as a key facilitator of health facility performance in EQA in the South African setting. These successful leaders also tended to prioritize the National Core Standards in their health facilities and ensured that they won the buy-in of their management team and staff around the quality improvement ethos. The high-performing health facilities also tended to have organisational cultures that were typified by a strong commitment to teamwork.

Human resource challenges featured prominently as a key barrier to health facility performance in EQA in the South African setting. This included both human resource shortages as well as the failure of local authorities to fill critical managerial posts. Another key barrier that was mentioned in many of the interviews, despite their different vantage points, was the poor support coming from the district offices, particularly in the context of district hospital CEOs having limited decision-making powers to effect change themselves, independently of the district office and province. These findings are discussed in greater detail in light of the literature in the discussion chapter. The chapters that follow present further results from the qualitative interviews related to healthcare workers' experiences of EQA and the unintended negative consequences of the Office of Health Standards Compliance's EQAs in the South African health system.

Chapter 6: Results Chapter III: Experience of Office of Health Standards Compliance's External Quality Assessments

6.1. Introduction

The following chapter presents the experience of the Office of Health Standards Compliance's (OHSC) External Quality Assessments (EQA) from the perspective of individual healthcare workers as well as through the reflections of inspectors and observations from the time spent on a four-day participant observation of District Hospital Z. The in-depth interviews referred to in this chapter are the same ones as those that yielded the results presented in the previous chapter (Results Chapter II). This chapter answers research question three, namely 'What has been the experience of EQA by frontline healthcare workers at the district hospital level in South Africa?' As already discussed in the introduction, we know that health policies succeed or fail based on how they are received, understood and acted upon at the frontline. ^(16,104) This chapter explores the expression of the national policy on EQA from the perspective of healthcare workers and inspectors, as well as through my own observations. By combining these perspectives we have an opportunity to further our understanding of the lived experience of the new health policy in the health system. ^(16,104) The results presented in this chapter were obtained through in-depth interviews of frontline healthcare workers from four district hospitals located in rural parts of South Africa, from in-depth interviews with inspectors of the OHSC and from what was witnessed on a four-day participant observation experience of an EQA of a district hospital. There is no other research study that has investigated the manifestation of the national policy on EQA in South Africa in this manner.

6.1.1. Healthcare workers' perspectives on the Office of Health Standards Compliance's External Quality Assessments

⇒ The OHSC's EQA functions as an audit which aims to standardise quality of healthcare across health facilities in the country

The interviewees generally expressed a good basic understanding of what EQA was, and what its purpose was. Almost all of the interviewees had experienced some form of EQA prior to the introduction of the OHSC's EQAs. This had taken place either through the Council of Health Service Accreditation for Southern Africa (COHSASA), the Health Systems Trust (a non-governmental organisation that was contracted by the National Department of Health in 2011 to conduct baseline audits of South Africa's health facilities ⁽¹²⁸⁾) or through the South African Nursing Council's audits. Healthcare workers recognised that the EQAs performed by the OHSC were distinct from those they had experienced previously. A common word or concept used by the healthcare workers to describe the EQA was 'audit' and that the purpose was primarily to standardise quality of care across health facilities, as is illustrated by the following quotation:

"Patients should be able to come to a public hospital and be treated just as well like patients in a private hospital. There shouldn't be a difference and there shouldn't be a rural area and an (urban area) because that is what has happened in the past that when you go to bigger towns you will find better things and when you come to smaller towns- you know things like that...They (OHSC) are trying to standardise, that is what I'm seeing..."

-Quality Assurance, Hospital 2a

The comparison between the standard of quality of care provided in public hospitals versus that provided by private hospitals came up in a number of the interviews, and the OHSC's EQAs were described as a vehicle that could potentially improve state

funded health facilities so that they could approximate the level of quality of care that can be found in private health facilities, as is illustrated by the following quotation:

“No, no, no, this thing (EQA of health facilities) is so important, I don’t think it’s wise to leave it out, no, because it’s having an improvement in our district hospitals, so that we must reach like private hospitals. I’m not thinking we can leave it, no.”
-Occupational Health Manager, Hospital 1b

⇒ The Office of Health Standards Compliance is the National Department of Health

During my participant observation of the four-day EQA at District Hospital Z, I noted how healthcare workers interacted with the inspectors from the OHSC as representatives from the National Department of Health. During the EQA of the clinical management team, I witnessed the Clinical Manager convey, in a highly emotive way, his frustration with their referral hospitals and how they consistently refused to accept patients from his facility. He requested that the inspectors give the referral hospital *“a talking to”*.

This observation, that some healthcare workers saw the OHSC as their ‘mouthpiece’ or go-between, between themselves as frontline healthcare workers and the National Department of Health, was validated by a remark made by one of the inspectors interviewed, who described how they are often received by healthcare workers when they arrive to perform EQAs:

“Some people think this office will give them a voice, which will get to the Minister of Health. Especially (us) coming from the National Department of Health currently or this being a national office (at present). So they think whatever they have been trying to deal with at a local level or provincial level, which has not been attended to, is suddenly going to get through, or penetrate through to the person who will hear that.”
-Inspector 1

This is an interesting observation as the OHSC has itself reiterated on a number of occasions that it is not a part of the National Department of Health (although at the time of interview its offices were physically located within the National Department of Health), but rather an independent body. The OHSC considers this an important distinction to make and has emphasised on a number of occasions that it cannot be both ‘player and referee’ and that its work has to be seen as separate from that of the National Department of Health in order for it to be effective. It does not appear that this distinction is very clear on the ground, as is illustrated by this quotation:

“They finished before lunch on the third day and called us in for feedback. We were also trembling. What was it going to be like to be given feedback from these people from National?”

-Quality Assurance Manager, Hospital 1a

⇒ The Office of Health Standards Compliance is teacher

The role of the OHSC as a ‘teacher’ also emerged in healthcare workers’ descriptions of its purpose, as is illustrated by this quotation:

“I look at the Office of (Health) Standards Compliance as a watchdog for quality, for quality of care, across the board, public or private, clinic or hospital, all levels. I look at them as people that are developing a yardstick, a yardstick to measure how we (are) doing and to teach us how to do things and to sustain the best performances.”

-CEO, Hospital 1a

There was only one healthcare worker who stated that she had no understanding of what EQA was, and it is important to note that this healthcare worker was from Hospital 2b, a low-performing facility. On the whole there was little difference in understanding of the EQA process between healthcare workers from high-performing health facilities and healthcare workers from low-performing health facilities. The attitudes towards the EQA process and whether it was deemed valuable did range widely, and this is discussed in greater detail below.

6.1.2. Attitudes towards External Quality Assessment

The attitudes towards EQA by healthcare workers and whether the policy change was perceived to be of value were largely positive. Where there were negative attitudes, these were strongly negative, and at times such extreme responses were elicited from the most senior members of the health facility.

One of the key reasons why healthcare workers valued EQA was that they perceived it as having an educational role. This understanding was particularly strongly held by healthcare workers from the high-performing health facilities, and raises the question whether this attitude towards EQA leads to or enables high performance. Noteworthy was that this perspective was not always consistent with how the inspectors viewed their role, and in situations where the inspectors were reluctant to play an educator role, as they were expected to do by some of the healthcare workers, this resulted in frustration and dissatisfaction with the EQA process. This finding is presented in greater detail further on in this chapter. Other reasons why healthcare workers valued the introduction of this new policy on EQA included the belief that it helped to accelerate change within their health facilities *“because someone is watching”*, and that it helped them hold each other accountable. It was also seen as a means of moving the health system closer towards Universal Health Coverage and the future policy on National Health Insurance. The high-performing health facilities shared the view that it served to validate the efforts they had been investing in the maintenance of standards of quality, efforts that until the introduction of EQAs were largely going unnoticed. This acknowledgement boosted morale amongst their healthcare workers, as is illustrated by the following two quotations:

“...I have been doing things and nobody has been telling me that I have been doing things correctly, nobody was looking as I was doing things. So now when somebody

comes and asks me for this policy and that policy, things that were in place, and that I had developed single-handedly, I felt (like) 'Oh this is the correct thing to do!'... I was pleased to be assessed properly, using a yard stick which you can go back to and check if you have done (things) correctly and whether you are improving or not."

-CEO, Hospital 1a

"...I mean the fact that you keep going, you're working under very bad circumstances and now people come assess (you) in the very place that you are at, 'Let's see how you are faring' and so it boosted guys ... It really boosted our people (laughing) even the young ones, the fact that they are new, and they made it, they gave us that score, it meant a lot to them."

-Quality Assurance Manager, Hospital 2a

What was interesting was that the only hospital where the entire health facility management team held a shared (positive) attitude towards the EQA policy was Hospital 1a, the highest-performing hospital of the four hospitals included in this research.

The primary grievances healthcare workers interviewed had against the EQAs were that, within the context of their severe resource constraints, they felt the introduction of these EQAs added to what was perceived to be an unfair additional work burden on an already overburdened workforce, as is illustrated by the following quotation:

"It adds a lot of work, especially because here we are short-staffed, it is really tough"

-Professional Nurse, Hospital 2b

Some healthcare workers complained that, as a result of the shortage of staff, undergoing EQA could compromise patient care, as is illustrated by the following quotation:

"...if the assessors (inspectors) come, they need to be with somebody who is working in that department, and as you (now understand) it is sometimes only one (nursing) sister in that department. She (thus) has to leave the patient care to attend to the assessors, so as such, patient care is suffering. If we were having unit managers that are lose (uninvolved) in patient care, at least they could (accompany) the assessors, but we do not have that, and everybody is hands-on. Even the Quality Assurance

Officer is hands-on, she can't just leave what she is doing (to accompany the assessors)."

-Nursing Manager, Hospital 2a

A number of the healthcare workers stated that what soured their perspectives on the EQA was that the manner in which it was being implemented did not acknowledge the resource constraints under which they were working and the efforts they put in to achieve quality standards, despite their difficult working conditions.

The second prominent grievance raised by some of the healthcare workers interviewed was the perceived subjectivity of inspectors. They stated that the inspectors were not objective in their assessment of health facilities and that between health facilities there were reported inconsistencies concerning the manner in which they were assessed for quality standards. This is illustrated by the following two quotations:

"...they (the inspectors) asked one question and they ask another one, you get a point for this one, but this (other) one they do not give you a point. When it comes to the district office meetings we found that people who have the same problems (as us) were credited, but we were not credited, then we said no it is not consistent and it became a challenge."

-Quality Assurance Manager, Hospital 1b

"I do not think the inspectors were objective. They sometimes asked questions they themselves did not understand. They request to see something they themselves do not understand... I think the inspection (EQA) tool itself is fair. My only concern is the subjectivity of the inspectors."

-CEO, Hospital 1b

Some interviewees also expressed scepticism about the credibility of the inspectors and whether they were adequately qualified to perform the role they were playing. This is illustrated by the following extract from my interview with the Acting Chief Medical Officer (CMO) of Hospital 2b:

Acting-CMO, Hospital 2b: *I had reservations about their conduct. Firstly, in that they were not really that friendly, and secondly when we talk about the assessment of a professional we talk about peer review, these are not our peers. These people are not professionals, we didn't even know they are professionals. And some of them- the word was that they were matriculants (high school graduates).*

Interviewer: *Is that so?*

Acting-CMO, Hospital 2b: *Now, we found it very strange, for me to be really assessed by somebody who is not in my profession.*

Interviewer: *What would you have liked? Would you have liked for them to be doctors or professional nurses?*

Acting-CMO, Hospital 2b: *I think, I think for me I would like to be assessed by a doctor.*

Interviewer: *By a doctor?*

Acting-CMO, Hospital 2b: *By a doctor, not even a nurse. Yes. If they are coming to me, a doctor has to come to me... we had a company that was called COHSASA running quality, same in line with what (the Office of Health) Standard Compliance was doing but it was an external company. But those guys were professional enough to, when they came to assessments they were bringing people who were relevant to each discipline. And we felt comfortable with that, being assessed by our peers rather than bringing people who are definitely not health professionals. We don't know how they were appointed, and they come to assess us... somebody who is not in the medical field, asking you about maternal health and then you try to explain (to them) this is what we do and he tells you no, my document says you are wrong. You get my point? This is exactly what happened, and even myself I lost interest.*

Not all healthcare workers held negative views of the inspectors and the majority of interviewees reported that they found them to be professional, thorough, supportive,

and friendly. However, where the above criticisms of the inspectors were made, these criticisms came largely from the most senior people at Hospitals 1b, 2a and 2b. This might be explained by the possibility that these individuals were the ones who felt most able to be critical of the inspectors and to raise the issue of subjectivity and credibility. There was no discernible correlation between the performance of the health facilities in EQA and the perspective on inspectors. Noteworthy was that when the inspectors were individually presented with these findings during my in-depth interviews with them, they too conceded that subjectivity in the measurement of quality standards and inconsistencies between inspectors was a concern identified by them as well, as is illustrated by the quotations below:

“We get it all the time, on Fridays when we give our feedback (reports to the health facilities) the people from the provinces and the districts, they complain about that thing with regards to, team x was here three months ago, this is what they said this measure means, and then three months (later) comes another (inspection) team and this is how they explained the measure or this is how they want the document to look like. That is frustrating a whole lot of us, because how do you answer that? Apparently last week, another team was put under the grill and asked ‘Oh, it seems like with these inspections, we need to know that team x is coming so that we can prepare what team x wants.’”

-Inspector 6

“...I’m not going to beat about the bush around that issue, you know, inspectors are human beings and sometimes their judgement gets clouded by looking at circumstance and you would-I had experiences where I would go and re-inspect a (health) facility that was inspected by another team and then you get there (and) what you see-because we will take information of the first inspection just for verification and cross-mapping and you find that indeed the evidence that they provide to you at that time it’s still valid for you to look at, but it does not meet the requirements but it has been given a (score of) 1 (by the previous team).”

-Inspector 10

A number of reasons were provided for why this was the case, and most of these reasons related to the reported fact that inspectors were inadequately trained for conducting EQAs by the OHSC. According to the inspectors, this was the case in the early years when the office was still new and poorly-resourced, but persisted even in

the more recent years after the expansion of the office. The following two quotations illustrate this:

"I think what might have also happened was that with the aggressive recruitment the office (OHSC) had to make, with new people coming in and not being trained properly and people expected to go to the field not well cooked, so those challenges would have contributed."

-Inspector 11

"Between us inspectors, there is still a very big training gap in terms of us being at par... The process to teach, say for example, you were on my team, it will be a matter of, we are inspecting a clinic, so the new inspector will go with me. I'll be assessing the manager, you just sit there and listen to how I ask questions. And then the next inspection, well you are a clinician after all, what is (so) hard about it? That's it, you see one, you do one."

-Inspector 6

Others blamed the inconsistencies in the ways in which onsite EQAs were conducted on the fact that the inspectors did not all come from the same educational backgrounds and that, although the requirements were that all should come from a health background, these health backgrounds did not always include clinical experience. This is illustrated by the quotation below:

"...because we are from different backgrounds, there are nurses, there are physios (physiotherapists), there are lab technicians, so, as a nurse, I will reason based on my background and also based on my post graduate qualifications, but you don't know about somebody (an inspector) who is asking the very same measure, who comes from a different profession, how they reason it. Since I have been appointed, I haven't seen any training, so I think we must just start from training."

-Inspector 5

A further issue raised by inspectors, and one which some felt contributed to inconsistencies in the manner in which EQAs were conducted, was the working conditions of inspectors. It was reported that inspectors were under a tremendous amount of pressure to meet EQA targets. They had to inspect a fixed number of health facilities each year, and this resulted in significant stress and fatigue amongst

inspectors. These working conditions resulted in a high turn-over of inspectors and thus a constant influx of new, inadequately trained inspectors being sent out to the field to conduct EQAs. This is illustrated by the following quotation:

“...the turn-over of staff is increasing, people are resigning, so I do not know how they can help to manage the fatigue of inspectors, because basically half of the year you are out (in the field), so people get tired, and I think maybe some of the errors in interpretation issues come from there. And the challenge is also that now you have these Annual Performance Plan targets that you must meet, the inspectors themselves will complain that it is as if we are pushing numbers, we don’t take stock of what we are doing.”
-Inspector 11

Some inspectors stated that the OHSC was attempting to address this issue of inspector subjectivity or inconsistency through a variety of measures, such as intra-team validation (which entails the comparison of notes post-EQAs, in order to ensure that everyone in the team was interpreting the evidence provided by health facilities in the same manner), as well as subjecting a team’s report to peer review for further validation. A further response was to include inspectors’ error rates in their performance reviews. Others argued that external technical support for inspectors was needed, as the internal systems are defeated by personality and ego clashes.

6.1.3. Thoughts on Office of Health Standards Compliance’s External Quality Assessment tool

The majority of healthcare workers interviewed were content with the EQA tools that were used by the OHSC. They praised the standards included in the EQA tool as reasonable and comprehensive, and stated that they covered all the areas that they considered to be important. They also stated that the OHSC has taken into consideration the suggestions they had made as healthcare workers during the early development stages of the tool. Where there was discontentment, it mainly related to

the perception that the EQA standards were not aligned with the quality standards required by other standard-setting bodies within the health system. This concern was not only raised by healthcare workers during the in-depth interviews, but also witnessed on participant observation when an Infection Prevention and Control (IPC) nursing sister expressed her frustrations at having to comply with the standards that are set by the OHSC which contradict what is required of her by her district.

Other concerns raised were that, unlike the approach taken by COHSASA, the OHSC did not support health facilities to understand the tool and its requirements, instead leaving them to figure it out for themselves. One interviewee in particular, the Acting CMO of Hospital 2b, complained that the standard of care required by the OHSC was unreasonably high for the South African setting, as is illustrated by the following quotation:

“... I felt this was probably a first world document, which was being implemented in a third world country. Yeah, that was my feeling. All that they wanted, I don’t know if even Medi-Clinic (a private hospital) would pass with that tool, with that document... I think that the standards that they set there, the benchmark is too high... Probably maybe in the UK, you would get, that document would work, but I think for a third world set-up, the standard is too high.”
-Acting-CMO, Hospital 2b

When interviewed, some of the inspectors agreed that health facilities struggled to meet the standards and that (at the time of interview), only one hospital had been successful in achieving compliance status (that is scoring 100% on all the extreme measures) out of a total of 1888 healthcare health facilities inspected. ⁽⁷²⁾ This inspector further stated that the OHSC was in the process of reviewing their standards, and developing a sub-set of regulated standards that will operationalise the National Health Amendment Act, and that these standards had to take the South African context and its health system inequities into consideration.

6.1.4. Thoughts on penalties

The National Health Amendment Bill (B24B-2011) (a document that was a precursor to the National Health Amendment Act) stated that if a health facility is persistently non-compliant with prescribed norms and standards, the health facility might face closure and that the person in charge of the health facility might be fined a monetary amount up to the value of R10 million and/or face prosecution by the National Prosecuting Authority.⁽⁶⁵⁾

Healthcare workers interviewed were asked for their opinions on the penalties stipulated in the National Health Amendment Bill. All except two of the interviewees opposed the introduction of penalties. It is important to note that all interviewees were aware of the threat of penalties for non-compliance, particularly the details around the potential fine that the head of the health facility might face once the Bill is promulgated into law. Although there was wide variation across the scores of the four health facilities that participated in this research, ranging from 80% to <50% none of the health facilities achieved compliance status in EQA. Even Hospital 1a, which scored >80% in EQA had some 'extreme measures' that were found to be non-compliant. According to the OHSC's National Core Standards, a health facility must be compliant with all 'extreme measures' in order to achieve compliance status.

The primary reason why interviewees were not in support of the penalties for non-compliance (as stipulated in the National Health Amendment Bill (B24B-2011)) was that they did not think it was fair to impose penalties when healthcare workers were

not provided with the necessary resources and support to achieve quality standards.

This is illustrated by the following two quotations:

“... I personally would take the penalty if you have provided me with the resources and I failed, while I had the resources. Then would I gladly take it. But then if you are going to say penalty, you must then say to me: ‘I have given you this and I have given you that, now why did you not perform?’ Then it is my performance and I failed it. But then you cannot come and penalise me if the environment is not really conducive that I must function at my optimum best.”

-Acting-CEO, Hospitals 2a and 2b

“...it’s unfair, I remember that they said they are going to amend something like a policy (referring to the National Health Amendment Bill) where people are going to be disciplined. How can they discipline a person in a situation like this really? How can I be disciplined?”

-Nursing Manager, Hospital 2b

The CEO of Hospital 1b stated that he thought the penalties were unfair under the current governance structures within the health system, which gave CEOs of hospitals few decision-making powers and limited procurement autonomy. He also thought the penalties were unfair as a blanket policy as the extent of decision-making autonomy varied between provinces. He did not think it fair to penalise CEOs without giving them the necessary powers that would enable them to achieve quality standards.

A number of the interviewees warned that there were likely to be unintended negative consequences if these penalties were put into effect, such as deterring people from taking on the role of CEO, compromising patient care (if penalties are to be paid out of hospital budgets), litigation against the OHSC and a paradoxical deterioration in quality standards if the OHSC were unable to follow through on the threats made.

The few who supported the introduction of penalties, like the Nursing Manager of Hospital 1b, supported them because they felt that they would hold health facilities

accountable. The Nursing Manager of Hospital 1b argued that the concerns raised by her colleagues regarding the penalties, such as not having enough decision-making power to effect change, only affected a small percentage of the quality standards that they needed to achieve. There was, she said, no excuse for being unable to comply with all the other standards.

6.1.5. External Quality Assessment as an educational opportunity

A theme that emerged prominently from the qualitative data is that EQA was perceived to be an educational opportunity by healthcare workers. This view of EQA (as an educational opportunity) was particularly strongly held by the healthcare workers from the high-performing health facilities. Healthcare workers were reporting that they were learning new skills, consolidating existing knowledge and developing professionally from going through the EQA process. This was also observed on participant observation. The quotations below illustrates:

“And also the National Core Standards have taught me to talk to the people, other departments, what do you do, collaborate. Just last week we came out with a memorandum of understanding- you know this problem of blood-taking by nurses from drunken drivers, their forms changed from doctor or nurse to doctor only. So the nurses said, hmm it means we cannot take bloods now, so when I brought this up they said, ‘but who changed the form? It might have been changed by mistake.’ But (nevertheless) the nurses had nowhere to write and sign, it was only a doctor that could sign, so after two years of struggling, not knowing what to do, I called a meeting and said guys where is the leadership in the National Prosecuting Authority, South Africa Police Service (SAPS), traffic, health and there was another department that we called in, I called them into a meeting last week. I said: ‘Let us take a decision as leaders now, this thing is not getting solved and it makes us to quarrel all the time and it’s important to reduce the long waiting time for patients, and we are losing cases, because the person (drunken driver) will stay for two hours and after two hours the alcohol has gone down, so it’s no more (above the legal limit). We came out with a memorandum of understanding, a very good one, and I said thanks, cause this thing has haunted me for so many years, and we rectified it within one hour... So I’m taught that by the National Core Standards, because it asks ‘Do you attend to patient care using other...’ (Referring to criterion 4.1.1.4 below) you know, and it does work.”

-CEO, Hospital 1a

4.1.1.4 Other relevant government entities or departments are actively engaged to promote policies and practices that improve health

- 4.1.1.4.1 Evidence shows that integrated/intersectoral collaboration in addressing policies and practices in relation to environmental hygiene/adolescent health/nutrition/health promotion/school health

Doc		
D		

Figure 15: Domain 4 Public Health

The CEO of Hospital 1a, a high-performing facility, remarked that as she was preparing for EQA she encountered quality standards she had never heard of before, and that the assessment checklists facilitated her learning around these quality standards and helped her develop policies relevant to her setting. This is illustrated by the following quotation:

“I’ll mention a few things, that I learned and picked up. I learn to pick up things from that big document (pointing to the National Core Standards tool), like the Morse Fall Scale (referring to measure 2.4.3.1 of National Core Standards EQA tool- see Figure 17 below) that assesses the falls, prevents the falls, what have you, things that are never heard of, that has never been heard of in South Africa, I’ve never seen it being implemented. But looking at this Morse Fall Scale, (I asked myself) what is Morse Fall Scale?... What is that? And then I googled (it). Oh, it’s about the falls! ...I took it, got it, then tried to look at my own situation, developed this policy and procedure, implemented it through calling the meetings, training them (the staff), how to do it, then we implemented it. By the time they (the inspectors) came, the thing was there.”
 -CEO, Hospital 1a

2.4.2.3 Vulnerable patients are assessed for potential risks and receive special observations and care as needed

- 2.4.2.3.1 CHECKLIST – The files of frail or aged patients indicate that a risk assessment was conducted of the risk of developing pressures sores for example Waterlow Scale and the risk of falling for example Morse Fall Scale

PRA		
V		

When asked whether the introduction of EQA was something that was necessary for the health system, one interviewee remarked:

“It’s necessary! This thing is adding... It’s teaching us. It makes us to grow...”
-Head of Monitoring and Evaluation, Hospital 2a

One interviewee even remarked that she found the National Core Standards EQA tool useful in helping her in her professional development of newly qualified nursing staff under her guidance. This is illustrated by the quotation below:

“So for me, like I said, the previous inspections I never liked (them), but this one, not because I’m into it but also for the newly qualified (staff), you have got a clear cut direction as to where you want to take this professional nurse, you can start somewhere and you can take her somewhere and you can grow her into something, do you understand what I’m saying? So for me it’s a very nice, it’s a very very nice document and I am using it now. I have been placed now to groom or mentor the newly qualified (staff). And I know exactly where to start....”
- Quality Assurance Manager, Hospital 2a

This finding, that EQA was perceived as an educational opportunity for healthcare workers, was also confirmed by one of the inspectors, who made the following statement:

“I think also with the issue of the CEOs that have been hired now, the minister gave them a clear mandate of what they need to do, even though, some of them find that when they are still new, they say ‘We didn’t know what to do’, but once you come and assess them then suddenly they say, ‘At least the way you ask these things, it gives me a guide of what I need to achieve’... It’s educational for them...”
-Inspector 1

It was not only the standards (and their related criteria and measures) that were found to serve the function of professional development, skills transfer and retraining, but also the inspectors themselves.

During my time as participant observer I was allowed to accompany a different inspector each day as they assessed various departments and functional areas. During this period I witnessed inspectors educating staff on a number of occasions.

I witnessed an inspector educating the Infection Prevention and Control nursing sister at District Hospital Z on how to conduct a hand-washing campaign and how to audit hand-washing compliance at her facility within her existing resources, in order that she might be compliant with criterion 2.6.3.3. (See Figure 17 below), a criterion for which she was unable to provide the necessary evidence in order to meet the measures assessed for.

2.6.3.3 Effective hand-washing limits the spread of healthcare associated infections

- 2.6.3.3.1 There is evidence that a hand-washing drive or campaign is held at least annually in the establishment

Doc		
D		

- 2.6.3.3.2 The results of hand-washing audits show compliance within the health establishment of at least 80 percent

Doc		
D		

Figure 17: Domain 2-Patient Safety/Clinical Governance/Clinical Care

I witnessed another inspector educating the health facility management team on the importance of and the manner in which they should go about conducting emergency drills, so as to be compliant with measure 4.3.1.3.2 (see Figure 18 below).

4.3.1.3 The health establishment has an annually updated disaster management plan (including health emergencies)

- 4.3.1.3.1 An annually updated disaster management plan is available and displayed at strategic points

OBS		
E		

- 4.3.1.3.2 The health establishment conducts at least yearly drills to test the preparedness of their disaster plans including emergency/disease outbreak/ fire/ natural disaster

Doc		
E		

Figure 18: Public Health

I sat in on a discussion between an inspector and the head of the maternity ward during which she explained to the nursing sister why she was marking the nursing sister down on criterion 6.7.1.1.1 (see Figure 19 below). She also explained the importance of having pre-operative consent forms signed by the attending doctor, alongside the name and signature of the patient, and why it was necessary for the doctors to print their name legibly next to their signatures. The nursing sister argued that there was not a field on the form for the doctor's name to be written (in addition to the field requiring a signature) and that she anyway was able to identify the signatures of all the doctors who worked in her ward, and thus did not think it was fair that she was being failed on this measure. The inspector went on to educate the nursing sister on the importance of following the quality standards by giving a detailed example of a court case that resulted in a hospital being sued for a similar neglect of obtaining consent in the correct manner.

6.7.1.1 Patient records are complete and contain all legal and statutory requirements

- 6.7.1.1.1 CHECKLIST- Patient files comply with legal and statutory requirements for record keeping

PRA		
E		

Figure 19: Domain 6: Operational Management

During the four-day EQA, where I was present as a participant observer, healthcare workers would take copious notes of the advice the inspectors were giving them and of the detailed explanations of what was required to meet the quality standards. At the end of the four-day EQA, the clinical manager of the hospital concerned thanked the team leader and the inspectors for the way in which they had conducted EQAs, and stated that he personally had learnt a lot from the process.

It emerged from the interviews that healthcare workers not only demonstrated great appreciation for the EQA process as educational but also great disappointment when it was not. This is highlighted by this extract from an interview with the Nursing Manager of Hospital 2a:

Nursing Manager, Hospital 2a *And another thing, the assessment for me, yes it is an assessment, but at the same time, if people are doing things wrong, I think it is better to give them information to say maybe this is how these things should be done, but they were lacking that for us.*

Interviewer: *So they weren't giving feedback?*

Nursing Manager, Hospital 2a *They were giving feedback in terms of after they have assessed us they will go somewhere and*

then- but I mean they were not doing it on a one-to-one (basis), I mean if you (could just) say Mrs. X this should not be white but it should be pink because of 1, 2, 3. So they were lacking that for me.

A willingness to educate healthcare workers was not always consistently demonstrated by inspectors, and sometimes a healthcare worker would ask a question of an inspector and the inspector would refuse to answer. For example the inspector mentioned above who educated the Infection Prevention and Control nursing sister on how to conduct a hand-washing campaign was unwilling to engage with the healthcare worker on how to achieve standard compliance. When this inspector was asked by the nursing sister for advice on how to monitor antibiotic usage, after having failed to find this information from her Infection Prevention and Control colleagues at other hospitals, he did not give her an answer. Her query stemmed from the fact that her health facility was unique in the sense that patients were referred to the neighbouring referral hospital for more serious medical conditions and thus never stayed admitted long enough to complete a course of antibiotics in the ward. He responded:

“Well I don’t know then how you will do it, but I need evidence that it is done.”
-Inspector 8, EQA District Hospital Z

A similar incident was witnessed when the nursing sister in charge of the maternity ward asked (at the end of EQA of her ward) that she be given feedback. The inspector responded that their discussions throughout the EQA were the only feedback that she would get and that no formal feedback would be given in addition to that.

This was in marked contrast to how the team leader of the inspectors introduced the EQA process at the start of the unannounced four-day EQA. After introducing himself

and the rest of the EQA team, and giving background on the EQA process and its importance and the manner in which it would be conducted, he went on to add:

“The inspection will also be educative for the staff”

- Team leader of inspectors, EQA of District Hospital Z

Upon pursuing this line of inquiry in interviews with inspectors, it was revealed that some inspectors did not agree that it was their obligation to educate healthcare workers whilst conducting EQAs.

“... from the office there has been roadshows to educate people about National Core Standards. We can't say we need to keep on teaching, teaching, teaching, once you have done the teaching, now we have to monitor or enforce all those things. So that part can't be done by us, unfortunately. That needs to be done by the managers within the (health) facilities.”

-Inspector 2

This inconsistency in the willingness to teach, as displayed by some inspectors, may be a product of a difference in experience and capabilities between inspectors, as well as of the varying experience and capabilities of the inspectors in some areas compared to others. A sense of their own lack of capabilities might have made some inspectors feel less confident in their ability to teach. This is confirmed by this quotation:

“So we started in 2011... but it took a while for us to grasp what is it exactly we are trying to get in terms of (health) facilities complying with the National Core Standards... Most of the time you were sort of not clued up about most of the things that you were asking yourself, you know. So we had to do a lot of researching in terms of what is the measure... some of them are open to a lot of interpretations. They are not clear. You will ask the measure as it is and the respondent will say what exactly are you looking for?...considering that our experiences are also limited to the field where we coming from, you know what I mean? So it has been a learning experience and we are still learning...”

-Inspector 4

Nonetheless, the importance of inspectors' readiness to take on the role of educators was made apparent when one inspector I was accompanying asked the nursing sister who headed up the maternity unit to demonstrate to her how she and her staff go

about doing their daily check of the ward defibrillator. The nursing sister picked up the defibrillator pads and progressed to apply them to her chest, an extremely dangerous action that could have resulted in her sustaining a potentially fatal electric shock. It was thus immediately clear that not only were the ward staff not conducting the necessary daily defibrillator maintenance check, but that this nursing sister was putting her own life and those of her team in danger by handling the defibrillator in that manner. The inspector entered a zero for this measure, but also progressed to educate her on the correct method of checking that a defibrillator is working.

Interviewees admitted that they often didn't understand the importance or purpose of the things they were required to do, but that the education they received from inspectors during EQA served to demystify a lot of things, as is illustrated by the following quotation:

Safety and Risk Manager, Hospital 1a: *Some (policies) we did not know why should we have those things. Why should we have a policy about disposing of water in the hospital?*

Interviewer: *You didn't understand the usefulness?*

Safety and Risk Manager, hospital 1a: *Yes, you understand? But when these things were explained, then we did them after (the EQA) ...*

What emerges from this research is that healthcare workers not only perceived EQA to be an educational opportunity, but also expected that it should be. Healthcare workers demonstrated disappointment with inspectors who were reluctant to participate in such learning exercises. What was interesting is that it was almost exclusively in interviews with healthcare workers from high-performing health facilities that this finding emerged most clearly. It appears from this data that an

attitude towards learning and therefore a positive inquiring attitude to the EQA process as an opportunity for professional development is a characteristic of high-performing health facilities. It is possible that this attitude towards EQA correlates with as well as enables better performance. There appears to be mixed feelings amongst inspectors towards assuming this role, as many of them do not see it as part of their primary job function. One inspector suggested that those who were more willing to play this educational role were those who had wider clinical experience and were more comfortable imparting advice to healthcare workers.

6.2. Summary

The results of this chapter reveal that all of the healthcare workers interviewed were familiar with the concept of EQA and were aware that the national policy on EQA of the OHSC was a new development for the health system. Healthcare workers perceived the primary purpose of EQA to be to standardise the quality of healthcare across the country. Another perspective that was revealed through the interviews was that healthcare workers perceived the OHSC inspectors to be representatives of the National Department of Health. Healthcare workers did not make a clear distinction between the newly established quality assurance regulatory body and the state entity that is responsible for providing them with the resources necessary to assure quality of care. The interviews also revealed that overall attitudes towards the EQA and whether the policy change was perceived as a useful addition to the health system were largely positive. Where negative attitudes were expressed, these were fiercely negative and at times held by the most senior member of the health facility. Despite overall positive attitudes, all healthcare workers were able to identify aspects of the implementation process that needed to be adjusted. Most healthcare workers reported contentment

with the OHSC EQA tool, but, where concerns were raised, these were related to how it was implemented (discussed in greater detail in the next chapter). Views on the inspectors themselves were largely positive, although some raised unhappiness with regards to the perceived incompetence of some inspectors for the roles they were playing. Issues related to inconsistency and the subjectivity of inspectors were also raised. Almost all healthcare workers interviewed opposed the introduction of penalties for poor performance on EQA (as they stood in the National Health Amendment Bill B24B-2011 ⁽⁶⁵⁾), primarily for the reason that they thought it unfair to be penalised for not meeting quality standards when they were not provided with the resources necessary to meet those standards.

Chapter 7: Results Chapter IV: Unintended negative consequences of national policy on External Quality Assessment in South Africa

7.1. Introduction

In this chapter I present two unintended negative consequences of the national policy on External Quality Assessment (EQA) in South Africa that emerged from this research.

7.2. Malicious Compliance

An unanticipated finding that emerged from the interviews with the inspectors of the Office of Health Standards Compliance (OHSC) was a reported phenomenon referred to as ‘malicious compliance’. This is a term given by the inspectors to describe the behaviour of health facility managers who produce policy documents or practice guidelines for the purposes of onsite EQA, documents that were not necessarily implemented by the health facilities or even written by the health facilities themselves, and at times received from sources outside of the healthcare facility. The following two quotations illustrate:

“...people (healthcare workers) will even go (to the extent) to do, sort of malicious things to pass, you know this whole thing of trying to, I normally say, you want to comply maliciously, because people go-especially when you are asking for documents, people will go out of their way to create those documents so that they can be compliant. (But) when you interview the staff that need to use that particular document, they don’t know anything about it...”

-Inspector 1

“So what they do is to develop whatever evidence that they need (for the EQA), they create evidence files for you, but when you look at that information and you say, Ok, I’ve got this information in front of me, but I need to check it for reliability. Let’s say for arguments sake you have minutes of a meeting, and you say (to them), Ok, you’ve got this copy of minutes in the file, can you give me other copies for the last three

months? You find that those are not there. In essence those were just prepared for the inspection...

-Inspector 10

Another inspector shared information on how health facility managers would source policy documents from colleagues at other hospitals and present those to the inspectors as if they were internally created policies that guide the practices within their organisation, the following quotation illustrates:

“...when they realise they don’t have the thing you are asking for, they will communicate with someone on email, they will send them that document and they will give that to you as evidence... Just recently we were in Limpopo province and I was inspecting this guy from finance in the morning and he told me that he was still looking for the file because the finance manager was not around, later he tells me he has found the file... Oh ya, the policy was there and he’d shown it to me, but it wasn’t signed. So now he gives me another one that is signed. And the paper is fresh, fresh, fresh, you can see it’s still hot from the printer. So I want to establish, where did you get this? So he says, no he has just downloaded it. I ask, where did you download it from, do you have an intranet service? He says no I downloaded it from the email. The email? Where did the email come from? ‘No the email came from one of the finance managers from one of the other hospitals.’ So I ask, when did they email it? Was it there before we arrived? Because if it had arrived before we came that would be a different story. So I go to his mailbox to check the time and the date, and I see it was received that day at about 12h00, and I had been with him at about 09h00. So we don’t credit things like those, because when we entered the hospital premises that policy was not there. So they do game (the system).”

-Inspector 5

When asked how common this behaviour of healthcare workers gaming the system was, all inspectors were of the view that the prevalence of so-called ‘malicious compliance’ was high, even though none were able to quantify this prevalence using objective measures. When asked how they were always sure that the documents put before them during EQAs were indeed a product of ‘malicious compliance’, the inspectors argued that they had an eye for these things, and that there were often telltale signs on the documents that revealed that they were not representative of the actual practice within the healthcare facility. This is illustrated by the following quotation:

“Perhaps we inspectors have an eye for these things. For example, let’s say you receive a document now and you inspect it. You’ll see even small little things that are, let’s say there was a stain somewhere in that document, you go to the next facility and the same stain is still there. Very simple things like that. So things like that will obviously raise concerns... Or maybe it had been stained by a drop of tea, somebody had been reading it while drinking tea. You recognise that now (that) same tea stain is here again. So there are small little things that we are able to see using the eye of an inspector that makes you realise, this document, I’ve seen it somewhere.

-Inspector 9

The inspectors themselves acknowledged that it is the nature of the evidence required by the EQA tool, which lends itself to being easily gamed. The current EQA standards largely require paper evidence i.e. documentation and not evidence of the process that led to the document being created or evidence that it is indeed being implemented. This illustrated by the following two quotations:

“The problem is (that) they are just going to comply because we are looking for a document, but we are not looking for the process (i.e.) is this policy actually implemented? I think it’s one thing if the policy is there and then the people (healthcare workers) on the ground know about the policy and they’re practicing it. But now, because our (EQA) tools are still lacking somehow, people (healthcare workers) just develop a policy and show it to you in a file and that’s it, they have passed the inspection. But is that what we (want)? No. We want to see-are our patients really safe? Are we giving them quality care? That’s what we were (as the OHSC) intending to do, (but) our tool sometimes don’t represent that well.”

-Inspector 6

“It’s easy to game the system on the basis that mostly we require documentation. So you can always ask for documents and they can always provide the documents that are actually Ok and accurate at that particular time...

...

They actually organise the documents and when you get there all the documents are there, everything is there, but in actual practice, whatever has been practiced is not in line with what the documents are actually saying”

-Inspector 8

The interviews with inspectors on the issue of malicious compliance revealed that inspectors took serious offense to this behaviour and that it could at times result in quite adversarial and hostile interactions between inspectors and healthcare workers.

This is illustrated by the following quotation:

“You know what I nearly freaked out this morning. My day was nearly spoilt because of that, just this morning, just this morning, as I was doing my walkabout, I think the (health facility) manager realised the extent to which I was going, in terms of checking things, and subsequent to that he told the staff quickly to go to the other consulting rooms to clear whatever it was that I was not supposed to see. Unfortunately I saw (them do) that. I was so upset, I was very upset. I had to follow those people because I saw what they wanted to do. I had to reprimand them telling them, ‘You do not do that. You do not do that.’ I also told the manager that, ‘When you do that, it actually gives a very bad reflection of your leadership and management. Don’t do that. Let us find things as they are so that systems can be put in place should there be any findings...’ ”
-Inspector 7

One of the strategies introduced by the OHSC to mitigate against ‘malicious compliance’ was to change EQAs from announced EQAs, where health facilities were informed in advance of an EQA visit, to unannounced EQA visits, where inspectorate teams arrived at health facilities for onsite EQAs without prior warning. Some inspectors alleged that even this system did not always work, because it appeared that EQA dates were being leaked to health facilities, by unknown sources, as is illustrated by the following quotation:

“Honestly, one other big challenge is that no matter how much we say we are conducting unannounced inspections, you find (that) when you get to (health) facilities on a Monday morning, people are already expecting you. It happened to my team this week. I was told, ‘Actually we expected to see you last week. We were told that we should be on the lookout and be ready for you people.’ It just came out without the person being aware that they’re actually leaking information...”
-Inspector 7

One inspector also reported that because healthcare workers at times doubted the expertise of the inspectors (a theme presented in Chapter 6), particularly those inspectors who do not come from a clinical background, healthcare workers would attempt to pass off incorrect equipment for the equipment that is being asked for during the EQA, with the assumption that the inspector who is requesting that piece of equipment would not know the difference. This is illustrated by the quotation below:

“In one facility I asked them to show me a tuning fork and they showed me an artery forceps, then I went on (with the inspection). Normally after the inspection, we normally revise and say, I’ve given you a zero here, because I didn’t see it and what have you. They said no, no, no, we showed you. I said no I didn’t see it. They brought it back and I said but no that is not a tuning fork it’s an artery forceps, so people laughed.”

-Inspector 3

The above findings reveal that gaming of EQAs may potentially exist in the health system. This according to the inspectors is enabled by the type of evidence that is required by the OHSC for compliance, largely in the form of documentation and easily lending itself to being easily gamed. The findings reveal that there may also be an impression amongst healthcare workers that the inspectors of the OHSC are not clinically proficient and thus can easily be misled. It must be born in mind however that these findings were based solely on the views of inspectors, and interviews with healthcare workers did not allude to the practice of so called ‘malicious compliance’. This line of inquiry i.e. with regards to the issue of ‘malicious compliance’ was not actively pursued with healthcare workers as it only emerged late in the data collection process.

7.3. Impact on healthcare worker motivation

An unexpected finding that emerged particularly from interviews with healthcare workers from low-performing health facilities was a sense that the EQA process, as it is currently implemented by the OHSC might have an impact on healthcare worker’s motivation, particularly for those working in severely resource constrained environments. Themes of feeling helpless, feeling unseen and unheard, feeling

demoralised, and disillusioned came up repeatedly in interviews with healthcare workers from (but not exclusively) poor performing hospitals.

These healthcare workers complained that it was impossible to achieve the quality standards that were set by the OHSC in the circumstances within which they operated.

The Acting-Nursing Manager for Hospital 2b shared that the working conditions were resulting in many of them experiencing burnout, as is illustrated by the following quotation:

“We really love this hospital, we love our profession but we don't know when our challenges will be heard...”

We are not coping. We are not coping. You can even see people started having attitude, it is not attitude of maybe they are against you, they started having the burnout”

-Acting Nursing Manager, Hospital 2b

The issue of burnout was raised also by an interviewee at Hospital 1b- the Quality Assurance Manager, who had to stand in for the CEO on the day of their hospital's EQA because the CEO was on leave.

“Sometimes you get burned out. Sometimes you will see that this poor patient doesn't know that there is no doctor today. Someone must come to say where can we find the doctor, where can we find that ambulance. Someone must push someone somewhere.”

-Quality Assurance, Hospital 1b

Even the Human Resources Manager of Hospital 2a, a high-performing hospital, shared that their facility too faced severe human resource constraints.

On interviewing the inspectors, they too shared that at times they were met with frustration and fear when they arrived unannounced at health facilities. They shared stories of incidents where healthcare workers would be in tears because they felt they

were being unjustly penalised for the poor state of their health facilities, these kinds of experiences were challenging even for them as inspectors, as is illustrated by the following quotation:

“They (the health care staff) say ‘I mean, I’m alone in this facility what do you expect me to do? Whether it is right or wrong there is nothing that I can do, it is just me and myself.’ You (as the inspector) understand that that person is really alone there but it is not about the person, it is about getting the system right. And some of the people they feel so frustrated when you get there, do an inspection, things are not right, they even end up crying, weeping, feeling like they are the ones that are failing, but we try to say (to them) we are not looking at you as an individual but we are looking at the system as a whole. I remember once I went to this clinic and there was once this (nursing) sister who was working with a junior nurse and things were just not in place, and she was crying, literally crying and you feel so bad, thinking this person shouldn’t be crying, because sometimes if you are the only one working at the clinic, it becomes very very difficult to attain standards.”
-Inspector 2

Interviewees were asked how they felt after receiving their score, a professional nurse at Hospital 2b responded to say:

“We were not happy doctor, it was just like that, but we were not happy. We need to change, but due to this shortage (of staff), things are very heavy for us. We want to be there (up top), but we can’t... We are demoralised, even the cleaners are demoralised by that.”
-Professional Nurse, Hospital 2b

The CEO of hospitals 2a and 2b reiterated similar sentiments to those expressed by the Professional Nurse, by saying the following:

“You know we looked at it and there was some sort of- it ‘took a knock’. You see I was not yet there when they (Hospital 2b) were assessed, but when I got there, I tried to talk to them about it and they have just taken it and said, ok one day when we are having staff (we will perform better) ...I mean, they are trying...”
-Acting-CEO, Hospitals 2a and 2b

The Acting-Chief Medical Officer (CMO) of Hospital 2b confirmed the same:

Acting CMO, Hospital 2b: People were unhappy. Some wanted to walk away from the whole programme

Interviewer: Walk away from?

Acting CMO, Hospital 2b: Not doing it anymore. As in, I'm a nurse I work strictly as a nurse, nothing else

Interviewer: Not interested in quality or anything?

Acting CMO, Hospital 2b: No quality or anything

An interview with the Quality Assurance Manager of Hospital 2b revealed that there were similar sentiments present at Hospital 2b, illustrated by this response when asked how the staff reacted to their performance on EQA:

"They were depressed"
-Quality Assurance Manager, Hospital 2b

When interviewees were asked if anything was done post EQA about the areas they were scored poorly on, the CEO of hospitals 2a and 2b responded to say:

"You know I really don't think anything was really done because it is not possible; it really is not possible.... with the amount of people that are there."
-CEO, hospitals 2a and 2b

The Acting-Nursing Manager of Hospital 2b responded to the same question by saying:

"We were unable, till today. Because even a person from the province came and gave me the (EQA) report again and said 'Sister, I don't know'. And even the very same day when she was here, I had to leave her in the office to go help with a delivery."
-Acting Nursing Manager, Hospital 2b

This illustrates that even the provincial authority figures struggled to hold the healthcare workers accountable because they too realised just how challenging the working conditions were for healthcare workers.

The Quality Assurance Manager of Hospital 2a, a high-performing hospital, also admitted to being unable to address any of the areas where they were scored poorly in their EQA. The following extract from our interview illustrates:

“I have not been able (to make changes) to tell the truth. Because you know I’m working on it, like I’m saying you want to take bigger steps, but it’s not possible.”
-Quality Assurance Manager of Hospital 2a

When asked how she thought the hospital would perform if they were subjected to another unannounced EQA by the OHSC her response was:

“I think our score will definitely drop”
-Quality Assurance Manager, Hospital 2a

The Quality Assurance Manager of Hospital 1b shared that even if the OHSC were to come again, they would find that the same areas that scored zero on their first two EQAs would score zero again.

When asked how she would feel if they showed up unannounced that subsequent day, she responded with a disillusioned:

“I don’t care, because they know.”
-Quality Assurance Manager, Hospital 1b

Surprisingly even the Nursing Manager of Hospital 2a, a high-performing hospital, shared that if the OHSC inspectors were to show up at their hospital unannounced again they would find that things had deteriorated because of the worsening staff shortages.

The interviewees that participated in this research shared that they had tried to innovate and make the most of the scarce resources at their disposal in order to provide patients and their families with reasonable quality care. However they felt that these efforts went unacknowledged during the EQA and if anything, felt that they were being penalised for their innovations. This is illustrated by the following extract from an interview with the Acting-CMO of Hospital 2b

Acting-CMO, Hospital 2b ...you find that the infrastructure has been like that for many years and to redo it, it has to go through (the department of) infrastructure, to public works, it's not in our hands. Then your own facility will not comply. And then the equipment that we use inside, we are using domestic fridges. Domestic fridges that we (feel) at least we are doing something, because to get the right fridge that has calibrations, time switches, alarms and all, that fridge alone will cost you R30 000 to R40 000... look certain things where you have worked very hard for (them).. you say (to yourself) okay, I have done (a lot), I have spent sleepless nights trying to get these things right, the documentation, the equipment and everything in order and then... comes the guys (from the OHSC) and they say okay you've got A, B, C, D, E, F, G, you don't have, H

Interviewer: and then zero for everything?

Acting-CMO, Hospital 2b: (nods)

What was interesting was that it was not so much that the interviewees felt that the standards themselves were unreasonable. In fact the interviewees themselves admitted that the short-cuts they had created in order to cope within their context were not to the standard of their training, but that those shortcuts were the only way health care could be delivered within the limitations of their severe resource constraints. This is illustrated by the following extract from an interview with the Acting-Nursing Manager of Hospital 2b:

"No it was not overboard let me make an example, they were asking me about mortuary book, where is the mortuary book because it is supposed to be at the mortuary? It was like that when we were trained in the older days. They found it in the wards and they said "No sister this is the mortuary book, it is written outside 'mortuary book' it is supposed to be there." But due to shortage like the way I tell you, we don't have a porter, my nurses are porters that is why we have taken that register and put it in the ward so that when the family comes to collect the corpse they start in the ward first, then we delegate someone to go and help them."

Acting-Nursing Manager- Hospital 2b

The majority of the inspectors interviewed argued that this dissatisfaction with their efforts going unacknowledged was a product of healthcare workers not understanding

the purpose of the OHSC and their EQAs. The inspectors explained that the OHSC was not inspecting individuals but rather the system, and that if healthcare workers put temporary measures in place out of their own initiative and did not allow the gaps in the health system to be exposed, they did more harm to the healthcare system and the patients the healthcare system serves in the long term. The following two quotations illustrate:

“We are not inspecting the individual. If people are going to improvise and say “at least we bought a bar fridge for ourselves to store vaccines”, that’s not enough, that’s not quality. They can improvise for just that period. We know that we need fridges that will be suitable for our (health) facilities, (like) sub-zero fridges (minus 40’s). All those kinds of things we can’t compromise, because compromises are -meaning that if we score them ‘compliant’ or ‘half-mark’, even though the bar fridges they have introduced are domestic fridges, we are not helping them, because we know that those (domestic) fridges are not meant for storing vaccines. Some day they (might) defrost, some times it’s difficult to regulate (their) temperatures, so on and so on. So if we improvise that means we are killing our patients because they will get vaccines whose efficacy is affected and they will be injected with those. If something happens to our patients and we say “but we’ve told them that they’re half-compliant”. Half-compliance can cost a patient’s life.”

-Inspector 9

“My view is that the improvisation that the (health) facilities do, It’s ok but it’s a short-term solution. Because they tell you many things about maybe the grounds man, they don’t have a grounds man for example, so they hire somebody to come and cut the grass, they don’t have cleaning material so they put money together and- but that does not help the system in the long term. What it will do, it will just mask-because now if we go as inspectors and say oh the grounds are ok, but actually within the system there is nobody that is delegated to do that full time, the intervention will be temporary and we want sustainable solutions in the system”

-Inspector 11

Another inspector added that if a CEO of a hospital was dissatisfied with how they had been scored by the OHSC and felt that the measures they were scored poorly on were beyond their control, they had the option of submitting a written response to the OHSC explaining their situation. However the inspector acknowledged that many healthcare workers did not know that they had this option and he blamed this on

healthcare workers not making effort to engage with the contents of the National Health Amendment Act.

Not all inspectors were of this view however, and one inspector shared that this issue raised concerns for her as well and that she did think it was necessary for the office to find a way of recognising the initiatives of healthcare workers, as is illustrated by the following quotation:

“I mean for example, you come to a clinic, the lady who cleans the bathroom has brought in her own cleaning cloths from home so that she can ensure the health facility is clean. And then we come and say, this cleaning cloth does not belong in a hospital, not acknowledging that she went out and bought it at a local store with her own money, the material that should be used for cleaning is this and this and this. That demoralises people, because people are putting in effort-for example, something from their pockets, even long hours, yeah, it demotivates people because they get a low score which does not represent their efforts...The thing is what we have been telling them, trying to prepare them and telling them that, when you see your report, don’t be disheartened, it doesn’t represent what you are doing. Our tools don’t appreciate, or don’t measure their efforts. I don’t know how we can incorporate it into the tool that it recognises their initiatives.”

-Inspector 6

The approach taken by the OHSC is that for each measure, a facility must meet the standard to its last letter, and you are scored a 1 for compliance or a 0 for non-compliance, there are no half marks given for partial compliance.

Some interviewees expressed their frustration with this method by saying:

“And then the way they were going on about it, I’ll give you an example. With Council for Health Service Accreditation of South Africa (COHSASA), or what we used to run as a department before, that was, let’s say you’ve got something, a computer like this (points to computer on his desk), and I’m going to mark you on that you’ve got a computer, you are compliant. If you don’t have a computer, you are non-compliant. But then they (COHSASA) would come and say you’ve got a computer granted, but your computer is not a Mecer. So COHSASA will say, you have a computer, which is not a Mecer, (therefore) you are partially compliant. With (National) core standards, you’ve got a computer, which is not a Mecer, you are not compliant, it’s zero!”

-Acting CMO, Hospital 2b

The majority of inspectors interviewed however asserted their unwavering support for the binary scoring method, even after sharing the concerns of healthcare workers that emerged from my interviews. The inspectors maintained that awarding partial compliance would instill a culture of complacency amongst healthcare workers and that they would not be motivated to move from partial compliance to full compliance. The inspectors saw themselves as the custodians of patients' health and that awarding partial compliance would jeopardize that. The following two quotations illustrates:

"My personal input in terms of half marks, and this is what I always explain to people, that as an inspector we are dealing with health, and health is a matter of life and death and if we are going to say, ok let us consider giving people a half mark, which is partial compliance, are we basically saying that within the health system we are promoting mediocre performance? Because that's basically what we would be meaning, and we are basically also saying that it's fine to make clinical errors in terms of our judgement because at least we tried halfway but the most unfortunate thing is that it's patients' lives that are going to be impacted negatively from that half mark."

-Inspector 10

"Just yesterday we were giving a report to Hospital K, I don't know if you heard, but Hospital K was in the news last week because 5 neonates died there because of an infection control issue that was Klebsiella related. So yesterday our director was giving them a report and presenting it himself and explaining why we don't give partial compliance. Because if you start to give people partial compliance, they will be partial. They will never move to full compliance. They will be satisfied with at least being partial, but here we are talking about people's lives. People don't have partial life. He's alive or he's dead."

-Inspector 5

It wasn't all inspectors however who were fervently opposed to the concept of partial compliance. One inspector acknowledged the challenges of the binary scoring method and the potential impact it might have on healthcare worker motivation, but argued that the solution did not lie with abolishing it, but that inspectors had a responsibility to deliver performance results in a manner that communicates that the OHSC is not failing the individual but rather the system. The inspector added that the initial mandate given to inspectors by the OHSC was to measure the 'what and not the why'

but that he felt that inspectors needed to enquire about the ‘why’ in order to help healthcare workers correctly interpret their performance report and protect healthcare worker motivation, the following quotation illustrates:

“...it also goes with the way the message is being portrayed towards the particular facility or the particular individual, cause remember again, if I come to you and explain to you that you are not performing well because the infrastructure does not allow you to. I see you are doing your best in terms of the clinical expertise you are providing, It’s ok, however you are unable to do beyond (that) on the basis of the infrastructural constraints. That will enlighten you to understand that, I did not fail because I am failing, I am failing because somebody else up there is failing me. So to some extent I think the way an inspector portrays a message to particular individuals or to an organisation also plays a role...The inspection, initially it was based on, you don’t ask the ‘why’ you ask the ‘what is there and what is not there’, however when we have to explain to people and give them advise and give them guidance, we also need to understand, where they come from, how they found themselves in the circumstances they find themselves in. Hence that is why I said it will depend on the inspectors or the team that is inspecting a particular facility as to whether, are we going to look into the why? Did they fail on the basis of things that are beyond their control? Are we able to clarify and explain and help them to understand? But to some extent, some (inspectors) don’t care. They ask the ‘what’ question, you don’t have it, case closed, I’m going to give you a zero and that’s it and that’s when you find that the staff morale is not protected”

-Inspector 8

Only one inspector shared complete dissatisfaction with the scoring method and explained that she did not believe in the validity of the score, but that she instead believed that the EQA process should be a mirror for the health facilities, so that they have an opportunity to get a reflection of where they are at with regards to quality of care. The following quotation illustrates:

“Number one, I don’t believe in scoring. Scoring is misleading. It is just that we are still nurturing these inspections, but our inspections shouldn’t be driven by a score, a score is a number.”

-Inspector 3

Often times, the interviewees, particularly from Hospital 2b (as is illustrated in the quotation by Acting-CMO of Hospital 2b above) would slip into a ‘nostalgic discourse’ ⁽²³²⁾ about their experience of EQA with COHSASA which employed a

very different scoring method to that of the OHSC, training staff within health facilities to understand their standards before EQA, awarding partial compliance for standards that are of reasonable quality and using a graded accreditation programme which seeks to recognise progress already made and encourage health facilities to continue on their path to accreditation.⁽²³³⁾

The interviewees at Hospital 2b lamented that it was only a few years ago when they had undergone EQA by COHSASA and had performed well, achieving full accreditation status. The CEO of hospitals 2a and 2b even insisted on showing me their COHSASA accreditation certificates that still hung outside of her office. They expressed frustration with not being able to perform, as they once were able to and with the failure of the OHSC to recognise the efforts they were making, despite the severe resource constraints they were working under. The following two quotations illustrate this:

“I do not think there is anything we can do, other than getting more staff. You know doctor, if we can have enough staff and be equipped, I do not think we will have problems. When we had enough staff, there was nothing that we could not achieve. There were no meetings or workshops that we could not attend because we had enough staff... The thing is we really want to be (up) there, but due to lack of equipment we become demoralised. Sometimes one comes to work because one has to and that thing is not nice because at times we end up taking it out on patients, and that is not good at all.”

–Professional Nurse, Hospital 2b

“I think the issue then was that thing of, you know, well these hospitals had gone through COHSASA and passed but I mean the marks that we found, they gave us, were so low. I mean, we failed badly. I mean looking at it, it was that thing where we were partially compliant and then we were penalised and a lot of things. The standard had gone down after COHSASA obviously, things that were compliant were now partially compliant, and then the (National) Core Standard came and found them not being compliant and just marked, made things worse and people were unhappy”

-Acting-CMO Hospital2b

However it was not all interviewees who remembered their previous EQA experience with COHASA as positive, the Nursing Manager from Hospital 2a, a high-performing hospital, felt that the COHASA EQA was too expensive and shared that she was glad that the state had set up their own agency, but felt that the approach in which the OHSC conducted their EQAs needed to change, as is illustrated by the following extract from our interview:

Nursing Manager, Hospital 2a: For me it (the OHSC EQA) has value because previously we used to have this, what we call COHSASA and I saw the department paying a lot of money for COHSASA to come and help us have standards and whatever, but since it is from department of National, it is helping and from what I see, it is not for only Province A or Hospital N to have it, is for the whole system.

Interviewer: Okay, so you think it's helpful?

Nursing Manager, Hospital 2a: Yes if the approach can maybe change.

There was a sense amongst many of the healthcare workers interviewed at the low-performing hospitals that they were going unnoticed and a number of interviewees spoke at length of their need to be seen and heard. As is illustrated by the following three quotations:

"We do not have a voice and that is painful, that is painful. Sometimes when you sit alone you ask yourself, I work so very hard but my efforts are not seen. You think a lot of things doctor. Sometimes you think maybe I should just quit, but then I think I have children and they have to go to school and they need clothes... it is tough, it is tough, you have a dilemma about what you should do exactly. That is why some people, when they see that they can't anymore, they end up killing themselves.. but that is the last thing I am considering..."

-Professional Nurse, Hospital 2b

What is interesting is this emphasis on wanting to be recognised for the efforts made was not just made by the low performers but the high performers as well, as

illustrated by this quotation from a CEO of a high-performing facility, when asked what she thought should be done to encourage health facilities to perform better:

CEO Hospital 1a: ...And perhaps the attitudes from the Office of Health Standards Compliance as well, to do the little things that we do to our staff, to the managers.

Interviewer: You mean the actual inspectors?

CEO Hospital 1a: Yeah, just doing the little things we do ...certificates, and those kinds of things. Just to acknowledge what we are doing. They have never acknowledged me except for telling people I am doing well.

Interviewer: They've never actually said anything to you?

CEO Hospital 1a: I've never gotten anything from them... People need to be told if they are doing well, not only when they have not done well. That kind of recognition.

The healthcare workers (primarily those from low-performing hospitals) interviewed in this research expressed dissatisfaction with being expected to meet standards of quality of care for the patient when they themselves were not provided with the necessary standards in their work environments. From a Systems Thinking perspective, these healthcare workers were saying: the work they do forms part of a greater system and that it is just as important for the system to relate well to them, just as it is expected that they will relate well to the patients the system is designed to serve. As illustrated by the following quote:

"Patients, the community, sometimes they like to point fingers at us and those things are hurting because we do not have anyone to complain at, you know? There is no where for us to complain. At least they have someone to complain at. Some of the things they complain about are not true while others are true... Ok sometimes some of the things are true, but we have nowhere to go and complain. Where are we supposed to go and complain? ...where we can take our grievances? That thing is demoralising."

-Professional nurse, Hospital 2b

7.4. Summary

We know from the Systems Thinking literature that changes in Complex Adaptive Systems (CAS), such as health systems, can result in unanticipated and sometimes unintended negative consequences. This chapter reveals that the manner in which the national policy on EQA is being implemented in South Africa, might have unintended negative consequences on healthcare worker motivation as well as potentially create an environment that enables gaming of the regulatory policy. These themes are discussed in greater detail, in light of the literature in the chapter that follows.

Chapter 8: Discussion and Conclusions

8.1. Introduction

In this research I sought to achieve three objectives, to determine the relationship between the new policy on External Quality Assessment (EQA) in South Africa and patient outcomes (specifically Healthcare Associated Infections) at the specialist-care facility level, to determine the facilitators of and barriers to health facility performance in EQA at the district hospital level in the South African context and to illuminate how this new policy has been experienced in the South African health system, from the perspective of frontline healthcare workers at the district hospital level. All these objectives were met and the findings of the research questions that underlie these objectives are discussed in greater detail below. At the end of this chapter, I also reflect on the limitations of this research as well as the implications for policy, practice and future research.

8.2. Relationship between External Quality Assessment and patient outcomes

Research question number one sought to determine the relationship between EQA and patient outcomes. EQA has empirically been credited with influencing a number of structures and processes that support quality improvement within health facilities, such as fostering an organisational culture of teamwork ⁽⁹⁵⁾, encouraging the implementation of the latest clinical protocols ⁽²³⁴⁾ and improving communication channels within health facilities. ⁽¹⁹⁴⁾ The evidence base for EQA having a similar influence on patient outcome measures however is less clear. ^(28,53,132,133) By looking specifically at a patient outcome measure that is closely related to healthcare processes, that is health facility *Methicillin-Resistant Staphylococcus Aureus* (MRSA)

and its relationship to EQA, this research sought to contribute to the literature seeking to unpack the relationship between EQA and patient outcomes. MRSA was selected as the patient outcome metric for the analysis conducted in this thesis because it is closely related to health facility quality of care processes (as opposed to morbidity and mortality outcome measures for example). MRSA was also selected as the patient outcome metric of interest because it is a patient outcome improvement area that is listed as an explicit goal of the South African EQAs ⁽⁷⁸⁾, and because of its association with significant levels of mortality and the associated high cost burden it places on the health system. ^(204,205) This thesis does not attempt to suggest that findings related to MRSA changes as a result of EQA are necessarily generalisable to all other patient outcome measures. Instead, it seeks to contribute to the literature, which is rather meager but which also shows contradictory evidence about the relationship between EQA and patient outcomes, MRSA being one such example.

My findings in this Interrupted Time Series Analysis (ITSA) of MRSA trend data for eight specialist-care hospitals over a period of ten years concur with what has been reported in the literature with regards to the relationship between EQA and patient outcomes. There is little empirical evidence to suggest that EQA has an impact on patient outcomes and is effective in improving patient outcomes. ^(28,42,145) The literature that does exist is inconsistent and inconclusive. ^(28,42,145) For the majority of the hospitals analysed (i.e. six out of eight hospitals), I was unable to demonstrate a statistically significant improvement relationship between EQA and the patient outcome, despite using a patient outcome measure that is aligned to the activities of EQA, and is within the control of healthcare workers to influence.

Reasons suggested in the literature for why researchers have had difficulty in demonstrating an effectiveness relationship between EQA and patient outcomes include: (18,23,28)

- a) The various country EQA programmes that exist around the world are not homogenous, making it difficult to compare them to each other as well as to compare their impact
- b) There exist few outcome indicators that can directly and solely be linked to the EQA process, and
- c) The EQA process itself consists of multiple discrete activities, and not a single intervention, thus making it much harder to draw links between EQA and patient outcomes.

This research attempted to account for some of the above-mentioned challenges, by:

- 1) Comparing South African hospitals with themselves, i.e. post-EQA period vs. pre-EQA period, to account for the issue of heterogeneity at the hospital level, and comparing the findings of the ITSAs of individual hospitals with ITSAs of hospitals that had undergone the exact same type of EQA,
- 2) Using an outcome indicator that is closely related to quality of care provided in the hospital and one that was an explicit outcome measure of the Office of Health Standards Compliance (OHSC) EQA programme,
- 3) As well as using a research method that can account for the multiple discrete activities of EQA, i.e. the ITSA accounts for the pre-EQA period, time of EQA and post-EQA period.

As was highlighted in Results Chapter I, the analysis was limited by the use of MRSA counts rather than MRSA rates, and this limitation compromised the robustness of the

analysis and might have contributed to the inability to demonstrate an effectiveness relationship between EQA and MRSA levels.

Other possible explanations for why the analysis was unable to demonstrate an effectiveness relationship between EQA and MRSA levels may be related to the following:

External Quality Assessments not being considered as ‘real’

At the time of this research, the EQAs being conducted by the OHSC were still mock EQAs, that is EQAs without enforceable consequences, as the National Health Amendment Act, which supports the policy upon which the EQAs are based, had not as yet been fully promulgated into law. Thus, one might hypothesise that health facilities were not taking their participation in the EQAs as seriously as they would have if the National Health Amendment Act had been fully enshrined into law, giving poor performance in EQA ‘real’ consequence.

A ceiling effect

In the better-performing hospitals, such as Hospitals II and III, a ceiling might have been reached during the pre-EQA preparatory period, leaving little room for further improvement post-EQA. This is unlikely, since district hospitals reported not having time to prepare for EQAs (although this may not have been the case with specialist-care hospitals). The overall percentage scores reflect performance across all seven domains and not just standards related to Infection Prevention and Control. When one pulls out the performance scores in the subdomain specifically related to Infection Prevention and Control, it becomes apparent that overall high performance in EQA

does not necessarily imply high performance in standards related to Infection Prevention and Control (see Table 37 below). We also see from the Infection Prevention and Control performance scores that the hospital with the highest performance in this subdomain, was also one of the hospitals where a statistically significant improvement in MRSA levels was seen, thus making the ceiling effect hypothesis unlikely as an explanation.

Table 37: Health facility performance on Subdomain 2.6

Hospital	Overall performance on EQA (%)	Average performance on subdomain 2.6: Infection Prevention and Control (%)
Hospital I	70-80	90-95
Hospital II	80-90	85-90
Hospital III	80-90	80-85
Hospital IV	30-40 (On 1 st EQA) 50-60 (On 2 nd EQA)	75-80
Hospital V	60-70	80-85
Hospital VI	60-70	70-75
Hospital VII	40-50	85-90
Hospital VIII	50-60 (On 1 st EQA) 70-80 (On 2 nd EQA)	75-80

‘A rising tide phenomenon’

The decreasing secular trend of hospital MRSA levels between 2004-2014 seen in this analysis is consistent with what has been reported in the literature.⁽¹⁹⁷⁾ Levels of MRSA have decreased in South African hospitals.⁽¹⁹⁷⁾ This might have been influenced by what Chen et al. have referred to in the literature as the ‘rising tide phenomenon’ p.303⁽²³⁵⁾ where uptake in service delivery improvement innovations

occur spontaneously across organisations and independently of a controlled service delivery improvement intervention. ⁽²³⁵⁾ Instead the uptake can be ascribed to a response to societal pressures such as increasing public interest in the issue. ⁽²³⁵⁾ This makes it difficult to assess the impact of the intervention on the outcome of interest as improvements are seen in both control and intervention groups because of the ‘rising tide phenomenon’. ⁽²³⁵⁾ Following this line of reasoning, one might hypothesise that specialist-care hospitals may have started adopting strategies to reduce HCAs in their health facilities well before and independently of the OHSC EQAs, thus making it difficult to discern that there is a statistically significant improvement effect attributable to EQA. Is this a plausible explanation for the null effect seen in this research? It is unlikely that this explains what has been observed at the district hospital level, as the qualitative research suggests that the severe human resource constraints made it difficult for healthcare workers to implement any innovations outside the basic clinical services they routinely provide. It could perhaps be so at the specialist-care hospital level as these facilities tend to be located in urban areas and do not suffer from human resource shortages to the extent seen at the district hospital level. Further research is necessary to investigate these alternative hypotheses fully.

The validity of External Quality Assessment measures

The criteria used by the OHSC to assess whether health facilities are adequately protecting patients, family members and caregivers from HCAs may not be valid and reliable measures of actual day-to-day Infection Prevention and Control behaviours within health facilities. ⁽²³⁶⁾ Much of the evidence required by the OHSC from health facilities is in the form of documentation (55% in version 03/05/2013 of the National Core Standards). ⁽²³⁷⁾ Examples of the types of documentation required are statistics

to demonstrate that health facilities are monitoring HCAs consistently, minutes from Infection Prevention and Control committee meetings, documentation demonstrating that the health facilities report information on HCAs to the relevant public health agencies, and educational material aimed at staff- educating them about universal precautions for the prevention of the spread of HCAs. ⁽²³⁷⁾ It is unclear whether this type of paper-based evidence is a true reflection of the actual practices that healthcare workers adopt within the health facilities on a day-to-day basis. This doubt about the validity of the documentation is amplified in light of the suspected gaming of EQAs by healthcare workers reported by inspectors interviewed.

The gaming of External Quality Assessments

The possibility that healthcare workers might be gaming EQAs (a finding of the qualitative research) might be undermining the possible gains on patient outcomes that EQA is theoretically meant to achieve.

8.3. Facilitators of and Barriers to health facility performance in External Quality Assessment at the district hospital level in South Africa

Research question number two sought to identify the facilitators of and barriers to health facilities performance in EQA at the district hospital level in the South African setting. Much of what was found through the in-depth interviews of healthcare workers and inspectors confirmed that the facilitators of and barriers to health facility performance in EQA in the South African setting were largely akin to what had been identified in the literature from studies done in other country contexts. Some of the factors enabling performance include: strong directional but supportive leadership, an organisational culture characterised by teamwork and a shared conviction in ability to

achieve, recognition of and incentives for improvement and a robust information system. Barriers identified were: under-developed and limited human resources, financial constraints, poor alignment of EQA standards and negative staff perceptions of EQA.

In the section below only those facilitators of and barriers to South African health facility performance in EQA that featured prominently across the case studies as well as in the interviews with the inspectors are discussed in greater detail within the specific context of the South African health system.

8.3.1. Facilitators of health facilities' performance in External Quality Assessment at the district hospital level

This research revealed that the leadership style of the CEO (or where there was no CEO appointed, the Nursing Manager) of the health facility was considered to be one of the most important facilitators of success in EQA, by both healthcare workers and inspectors of the OHSC. These enabling leaders were described as knowledgeable, hands-on and visible, they employed a collaborative and consultative leadership style, were highly supportive of their staff, and yet still maintained strong accountability standards. These leaders also prioritised the National Core Standards in their health facilities and ensured there was buy-in from the entire management team. In contrast the interviewees described inadequate health facility leaders as those who were not qualified for the role they were playing, or were considered weak and ineffective as a barrier to performance of health facilities in EQA. This finding is consistent with what has been reported in the literature on the South African healthcare system, namely that where differences in performance between similarly disadvantaged health

facilities exist, the superior performance of some over others is as a result of better leadership within that health facility (amongst other factors).⁽¹¹⁶⁾ As early as 2005 Couper and Hugo, in their study of what made a South African rural district hospital function well, identified leadership as critical to the successful functioning of well-performing district hospitals.⁽²³⁸⁾ The leaders they interviewed in their research demonstrated strong problem-solving capabilities and a tendency to take initiative and implement processes without waiting to be told to do so by higher authorities⁽²³⁸⁾, findings that are corroborated in the research presented in this dissertation.

There is a vast literature that identifies leadership as a key contributing factor to organisational performance in the healthcare sector.^(239,240) Baker found in his study of high-performing health systems around the world that consistently good leadership was a critical contributor to the success of these health systems.⁽²³⁹⁾ These successful leaders were effective in creating a climate in their organisations where quality and compliance were valued and this supported their performance in external performance measures such as EQA.⁽²⁴¹⁾

Both healthcare workers and inspectors identified an organisational culture of collaboration and teamwork as key to performance in EQA. This was again echoed in Couper and Hugo's 2005 research described above, which found that well-functioning South African district hospitals were characterised by a culture of 'team spirit' at all levels of the health facility.⁽²³⁸⁾ In this dissertation, organisational culture is used to describe what practitioners call 'the way things are done here' p.432 as has been defined by Mannion and others in the literature.⁽⁴⁶⁾ No attempt is made to analyse organisational culture beyond the boundaries of the above definition due to the scope

limitations of a Doctor of Philosophy thesis. Baker in his 2011 study of high-performing healthcare systems around the world, identified teamwork characterised by trust and interaction instead of hierarchy as a critical contributor to the success of organisations. ⁽²³⁹⁾ This claim is supported by the Complex Adaptive System literature, which argues that increased collaboration and communication allow for a diversity of perspectives in decision-making and result in effective self-organisation of these Complex Adaptive Systems. ⁽²⁴²⁾ A number of authors have suggested that a change in the organisational culture within South African health facilities is needed if South Africa is to improve the quality of healthcare services rendered to its people. ^(243,244) Poor leadership and poor human resource practices have been identified as some of the factors that create negative working environments in South African public health facilities. ^(245,246) The empirical literature on the organisational cultures of South African hospitals, particularly state funded public sector hospitals, is limited. ⁽²⁴⁷⁾

A facilitator of performance in EQA that featured prominently in the interviews, but was not discussed in any of the scholarly works presented in the literature review, was a prioritisation of the National Core Standards in the health facility. It was clear from the interviews that health facilities that put the National Core Standards high up on their management agenda and integrated quality of care into their health facility' identity tended to perform better than their peers in EQA. Hospital 1a for example, the highest performing hospital of all four case hospitals, demonstrated strong management buy-in and commitment to quality monitoring and a quality improvement ethos.

In contrast, the CEO of Hospital 1b was highly suspicious and critical of EQAs and had little faith in their ability to effect change. According to Donabedian, considered the father of Quality Assurance ⁽¹³⁴⁾, the importance of top structure's buy-in into the quality-monitoring ethos cannot be under-estimated. ⁽¹⁵⁾ He describes a commitment to quality as the most important factor for ensuring that quality monitoring programmes succeed in a health facility. ⁽¹⁵⁾ Donabedian goes on to say that without a degree of commitment to quality monitoring within health facilities, such programmes are difficult if not impossible to implement. ⁽¹⁵⁾ He explains that this commitment needs to be genuine and not simply performed under pressure from higher authorities. ⁽¹⁵⁾ In addition, this commitment needs to exist at all levels of the health facility but most importantly in the health facility leadership. ⁽¹⁵⁾ Hospital 2a is an example of a health facility where the rest of the management team demonstrated an enthusiasm for EQA, but the most senior leader (the Nursing Manager) was ambivalent towards it. The impact of this ambivalence was evident in their slightly inferior performance in EQA in comparison to Hospital 1a, although significantly better than Hospital 2b where there was even fiercer opposition to EQA.

Donabedian suggests that one of the ways in which health facilities can institutionalise commitment to quality of care and its monitoring is through putting systems in place that facilitate the sharing of information and that enable individuals within these facilities to act on this information. ⁽¹⁵⁾ A positive example of such a mechanism is the innovative information management system utilised by Hospital 1a, used to monitor risks within the organisation. This monitoring included taking note of their performance in EQA and tracking activities in order to protect against clearly identified risks of non-compliance. This risk register not only served to facilitate

Hospital 1a's high performance in EQA but also supported their collaborative organisational culture and helped the CEO's governance activities by providing her with a tool through which to keep the staff accountable. Baker in the same 2011 study cited above, also identified through his research that high-performing healthcare systems invested in sophisticated information management systems that provided real-time data which could then be used to support decision-making, to monitor programmes and to track progress.⁽²³⁹⁾ Kaplan, in her study of the contextual factors that contribute to the successful implementation of quality improvement initiatives in health facilities, also pointed to the existence of what she calls 'data infrastructure' p.517⁽²⁴⁰⁾, a system that allows for the collection and management of information that facilitates performance improvement as a key contextual factor that contributes to success in quality.⁽²⁴⁰⁾

8.3.2. Barriers to health facilities' performance in External Quality

Assessment at the district hospital level

Both healthcare workers and inspectors were in agreement on the fact that human resource challenges were a major barrier to performance. This includes both shortages in staff and a high turnover of staff, particularly in rural areas. Related to this was the so called 'Acting syndrome' where critical senior leadership posts were left unfilled year after year, an inappropriate person instead placed in the post in an acting capacity. According to Wolvaardt et al., in some health districts in South Africa up to half of hospital managers are in acting positions.⁽²⁴⁶⁾ This is disempowering for these managers, who do not feel they have the authority to implement change.⁽²⁴⁶⁾ Unpublished research cited by Wolvaardt suggests neglecting to fill a CEO post at a district hospital is associated with poor performance in Office of Health Standards

Compliance's EQA. ⁽²⁴⁸⁾ cited in ⁽²⁴⁶⁾ A number of authors, including the South African National Department of Health, have highlighted the far-reaching impact of the human resource crisis in South Africa on the functioning of health facilities, healthcare worker retention, service provision, quality of care and healthcare worker morale ^(116,125,249), particularly in rural areas which are the hardest hit by human resource constraints (home to almost 50% of the population yet served by only 12% of doctors and 19% of nurses). ⁽²⁴⁹⁾ This dissertation supports the evidence that suggests that severe human resource shortages, particularly in rural areas, and in this case particularly when it comes to key management positions, act as a barrier to compliance with quality of care standards such as the National Core Standards. The literature suggests that the purported culture of laziness amongst South African healthcare workers can be understood within the context of the above-mentioned issues of under-developed and insufficient human resources. ⁽²⁵⁰⁾ These human resource constraints result in poor working environments that have an impact on healthcare worker motivation and performance. ⁽²⁵⁰⁾ Von Holdt and Murphy argue that neglecting to fill CEO posts in South African public sector hospitals shows that the provincial departments of health do not take the office of the CEO seriously at the hospital level and this has obvious impact on the morale of hospital CEOs. ⁽¹²⁵⁾ A number of government statements and policy papers (dating as far back as 2010) adequately and extensively define and outline the human resources problem, and its impact and how it needs to be resolved ^(66,130), yet on the ground, as this research demonstrates, the human resource crisis in South Africa's health system continues to cripple the health system and sabotage all new policies that seek to improve quality of care. The implementation and monitoring of health policies continues to be a challenge in South Africa, where health care provision is characterised by a number

of excellent and progressive health policies drawn up at the national level, which are then not adequately implemented and monitored at the frontline. ^(116,251)

A related issue to human resource shortages, raised by interviewees, was the problem of hospital managers not being capable of performing the role they were required to play. Some were simply not qualified for the job, some felt disempowered because they were in an ‘acting’ capacity and others were inappropriate appointments made because of political affiliations. The issue of poor management capacity in public sector hospitals in South Africa has been linked to a recent history of political appointments of inexperienced and poorly qualified managers who are placed in senior managerial positions in order to transform the public sector from a white male-dominated industry to one that is more representative of the South African demographic. ⁽¹¹⁶⁾ Unfortunately this was done without ensuring the necessary training, support and supervision required. ⁽¹¹⁶⁾ This has resulted in poor stewardship, poor accountability and widespread incompetence in the public sector. ⁽¹¹⁶⁾ This cadre of inappropriate, inexperienced or unskilled managers are reported to have contributed to the human resource shortage crisis in South African hospitals, by failing to address critical staff shortages with the urgency required, by failing to create a work environment that promotes job satisfaction and by failing to actively refill vacant posts because of a lack of understanding of the impact of critical shortages on the healthcare system. ⁽¹²⁷⁾ Further aggravating this are very real challenges regarding a lack of financial resources to fill the large number of unfilled vacancies, as a result of moratoria on the filling of public health sector posts. ⁽²⁵²⁾ This is partly a consequence of a rise in healthcare sector salaries as a retention strategy in the last couple of years, without an associated increase in the overall health budget. ⁽²⁵²⁾ The

financing challenges of the South African healthcare system are, however, beyond the scope of this thesis.

A further central barrier to health facility performance in EQA identified by both healthcare workers and inspectors was the failure of some district offices to provide their health facilities with the necessary support to achieve the EQA standards. This was particularly important in the context of district hospital CEOs having limited decision-making powers to effect the necessary change in their health facilities. An example would be an inability to recruit new employees. Recruitment is for the most part centralised at the provincial level and is often slow and protracted, resulting in a vicious cycle of attrition of existing healthcare workers who struggle to bear the burden of the work load in a skeleton team.⁽²⁴⁶⁾ The weakness of the district health system continues to be a challenge for South Africa, and has been documented extensively by others.⁽¹¹⁷⁾ One of the key challenges to the effectiveness of the district health system is limited decision-making autonomy at the hospital level, since most decisions are centralised and hospital managers have little decision-space i.e. effective choices that central authorities allow local authorities to make⁽²⁵³⁾ to manage their hospitals effectively.^(66,238) The increasingly decentralised management of the South African health system is a stated objective of the National Health Act of 2004.⁽⁶⁴⁾ This is the legislation that provides the framework for the South African health system.⁽⁶⁴⁾ Power, in his 1999 book on the *'The Audit Society'*, argues that the rise in auditing practices, of which EQA is a close cousin, prevalent since the 1900s can be in part explained as a consequence of a breakdown in trust between social actors.⁽¹⁹¹⁾ However as Power and Moran point out, the irony in this auditing transaction is that even the act of checking or auditing requires a degree of trust.

^(190,191) We are required to trust the judgment and capabilities of those doing the checking and similarly those being checked need to be entrusted with a degree of autonomy that allows them to get on with the business that requires the checks in the first place. ^(190,191) This is what seems to be lacking in the South African health system i.e. trusting hospital CEOs with the necessary autonomy to get on with the business of leading health facilities effectively. ^(190,191) A number of authors have identified this very issue, namely the decentralisation of management autonomy to public hospitals, as one of the most important structural changes that needs to happen in the South African health system in order for the country to achieve its policy aspirations. ^(117,254)

The much-anticipated and recently released white paper on National Health Insurance (NHI) in South Africa, in which the work of the OHSC plays a central role in the reforms seeking to bring South Africa closer to Universal Health Coverage (UHC), identifies strengthening management capacity and delegating greater management autonomy to the district level as essential changes that need to be made to the health system to allow it to function effectively. ⁽⁶⁶⁾ The OHSC programme theory assumes that health facilities have the autonomy to effect remedial actions within their facilities (in preparation for and post-EQA) in order to be compliant with the National Core Standards. In contrast this research reveals that there remains a great lack of decision-making space at the district hospital level which acts as a barrier to the ability of health facilities to comply with the National Core Standards and to move closer to being ready for a National Health Insurance system. The Service Delivery Agreement of 2009-2014 states that compliance with ‘an Independent Body for Accreditation and Compliance’ p.27 ⁽⁶⁷⁾ (referring to the now-established OHSC) will

be a prerequisite for providing health facility managers with increased decision-making autonomy.⁽¹³⁰⁾ This research suggests that, without first being provided with this decision-making autonomy (and the necessary funding support alluded to above), health facility managers will remain constrained in their ability to comply with the National Core Standards of the OHSC.

Another key barrier to performance in EQA identified by the interviewees and conceded to by the inspectors, was the inconsistency in the manner in which inspectors conducted EQAs, and the related subjectivity of inspectors. These concerns undermined the credibility of the OHSC and the EQAs and negatively affected the ways in which healthcare workers perceived EQA, shown in the literature review to impede health facilities' performance in EQA. The inspectors believed this to be a function of the limited training they receive, the high workload with which they are expected to cope and the high turnover of inspectorate staff in the OHSC due to poor job satisfaction. This theme is discussed in greater detail in the section that follows.

8.4. Experience of External Quality Assessment

Research question three of this thesis sought to answer the question: What has been the experience of EQA by frontline healthcare workers at the district hospital level in South Africa? This question was believed to be important for its ability illuminate the lived experience of the policy in the South African setting (as opposed to how it is documented) and to highlight some of the areas where policymakers can act to strengthen its implementation.⁽¹⁶⁾

⇒ Healthcare workers' perspectives on External Quality Assessment

Systems thinking suggests that the wicked problems (defined as problems that are 'intractable because of partial information, interdependencies, non-linearity and changing environments.' p.437 ⁽²⁵⁵⁾) we see in Complex Adaptive Systems, such as the unintended negative consequences of health policy reform, are a consequence of a misalignment between the way we perceive the world to work and the way it actually works in reality. ⁽²²⁸⁾ In other words, these problems are the consequence of a mismatch in perspectives. ⁽²²⁸⁾ Greenfield et al. write in their article on the impact of EQA on quality of care that one of the greatest challenges facing EQA agencies today is to ensure that there is a shared understanding of the purpose of their work, both within the agency and amongst the various stakeholders. ⁽¹³³⁾ Braithwaite adds that a gap in the sense-making of regulation, between those being regulated and the regulator, may result in poor co-operation with the regulation. ⁽²⁵⁶⁾ This dissertation has shown that the perception of healthcare workers about EQA and their experience of the implementation of the EQAs are not closely aligned with the organisational perspectives of the OHSC.

As can be seen from the OHSC's programme theory, the OHSC believes that it needs to remain separate and independent of the National Department of Health in order to be effective at reaching its goals. These goals include the improvement of the quality of care within the health system and, as a result, of patient outcomes. It is evident from the interviews that healthcare workers did not always make a distinction between the OHSC and the National Department of Health, and struggled to reconcile why the authority figure that they felt was not providing them with the support they needed to provide good quality care was now penalizing them for not maintaining

high standards of care. Braithwaite cautions that if regulatees perceive regulation to be unfair or unjust they are less likely to comply with the regulator's standards. ⁽²⁵⁶⁾ Perceived fairness or reasonability of regulatory standards comes out strongly in the regulatory theory literature as one of the determinants of regulatory legitimacy by regulatory targets. ⁽²⁵⁷⁾

Healthcare workers seemed to take the EQA process very personally, either as a personal validation as is seen with the high performers, or as a rebuke, as is seen with the low performers. This is despite the inspectors' assertion that it is the system, and not the individual, that is being assessed. This is not unique to the South African setting as Scrivens in her research on EQA in the United Kingdom in the early 1990s found. ⁽¹⁵⁹⁾ Scrivens shows that English healthcare workers were also emotionally affected by how they performed in EQA. ⁽¹⁵⁹⁾ Kanfer reminds us that 'Worker motivation is a function of the worker's perception of the situation—not the objective situation.' p.7 ⁽²⁵⁸⁾ There exists a misalignment of perspectives in the South African setting, between the frontline healthcare workers and the OHSC. This may be a consequence of the OHSC leaving the communication of the objectives and rationale for the EQAs to the provinces. From the admission of the inspectors, the provinces have done so to varying degrees of satisfaction. Franco et al. note the importance of health system reformers communicating their goals in adequate and transparent ways to healthcare workers, in order to avoid transition periods that result in unintended negative consequences ⁽¹⁵⁸⁾, as we see in this research. Van Lerberghe argues that health interventions should include a 'human resources impact assessment' p.583 ⁽²⁵⁹⁾ so as to protect against potential disinvestment of healthcare workers working under conditions of pressure. ⁽²⁵⁹⁾

It is important to acknowledge that the negative responses to the EQAs were largely expressed by healthcare workers from low-performing health facilities. From Attribution Theory we know that such workers are more likely to make external attributions for performance than are healthcare workers from high-performing health facilities. ⁽²⁶⁰⁾ Attribution Theory argues that low-performing organisations are more likely to blame external factors for their poor performance than are high-performing organisations. ⁽²⁶⁰⁾ The latter are more likely to take personal credit for their high performance than they are to attribute it to external factors. ⁽²⁶⁰⁾ Whilst bearing that in mind, in this dissertation I argue that healthcare systems are Complex Adaptive Systems and that we know from the Complex Adaptive Systems literature that ‘Small or incremental inputs to a (complex adaptive) system can have dramatic or revolutionary effects’ p.29 ^(261,262) cited in ⁽¹⁸²⁾ and thus the negative sentiments on EQA expressed by the healthcare workers from low-performing health facilities should not be underestimated in their ability to result in the emergence of unintended consequence, such as a negative impact on motivation.

⇒ External Quality Assessment as an educational opportunity

Scrivens writes that EQA standards have from the outset been conceptualised in such a way as to serve an educational purpose. Voluntary EQA programmes have retained this as a central part of their offering, to ensure that their clients - paying health facilities - see the value in participating in EQA. ⁽¹⁵⁹⁾ The educational role of EQA is widely accepted ⁽¹⁶⁴⁾ and there is a long history of EQA acting not only as an exercise of inspection, but also as an exercise of professional development and education. ⁽²⁶³⁾

One of the findings of this dissertation is that healthcare workers, in this case specifically rural healthcare workers, found EQA to be and indeed expected EQA to be an educational opportunity, both from the EQA tool itself and through the interactions with inspectors.

This educational aspect of EQA does not feature at all in the OHSC's programme theory and a number of OHSC inspectors interviewed stated that they did not see this educational role as part of their responsibility when conducting EQAs. In an article written by the founding leadership of the OHSC, the OHSC raises this issue. ⁽⁶²⁾ The article documents the tension experienced quite early on in the implementation of the EQAs between their role as objective regulator and the critical learning needs of the health facilities undergoing EQA. ⁽⁶²⁾ In a separate report they make the claim that it is the responsibility of the departments of health to support health facilities in achieving compliance with the National Core Standards. ⁽¹¹⁾ The interviews with OHSC inspectors revealed that some of them felt constrained by their role as regulator, a role they felt needed to be exercised outside the transaction between healthcare provider (in this instance the ministry of health), healthcare worker and patient. Perhaps too-although this is not something the inspectors themselves said- they were constrained by the title 'inspector' rather than surveyor, assessor or reviewer. These job titles have been adopted by other EQA agencies around the world and give more room for managing the dual role of both regulator and educator. Scrivens argues that this tension between EQA surveyors adopting the role of educator and professional reviewer versus inspector is a function of EQA moving away from its original use as a method of receiving feedback from peers using agreed-upon standards to becoming a tool for the state to police the healthcare sector. ⁽¹⁵⁹⁾

Berwick argues that framing EQA as an educational opportunity for skills improvement and empowerment of healthcare workers, as opposed to an exercise for identifying bad apples, is more likely to bring about improvements in the quality of the health system.⁽²⁶⁴⁾ Similarly, Braithwaite suggests that ‘capacity building, over control’ p.125 is a more effective means for achieving compliance with regulatory standards.⁽²⁶⁵⁾ When regulatees see the benefits of regulation to them, they are more likely to cooperate with the regulator.⁽²⁵⁶⁾ Research suggests that healthcare workers do not respond well to inspectors who take on an auditing, investigative approach.⁽¹⁶¹⁾ Berwick posits that the ‘Theory of Bad Apples’ p.53⁽¹⁹⁷⁾, or what is referred to in the regulatory literature as a ‘command-and-control’⁽²⁶⁶⁾ approach, builds hostility and defensiveness between healthcare workers and the inspecting authority and can result in creative compliance.^(14,264) This is defined by Walshe as the appearance of compliance with regulatory standards through making superficial changes, but not actually changing underlying practices⁽¹⁴⁾ as well as engaging in other antagonistic activities.^(14,264) The ‘Theory of Bad Apples’ p.53⁽¹⁹⁷⁾ explains how healthcare workers become preoccupied with the fear of penalties and shows how this robs them of the learning opportunity on which improvement in quality of care depends.⁽²⁶⁴⁾ Elloker et al. argue, that because health systems are Complex Adaptive Systems, in order for them to be successful, a learning culture needs to be built into activities that seek to strengthen the health system.⁽²⁴³⁾

The regulatory theory literature describes an alternative model to Berwick’s ‘Theory of Bad Apples’ approach.⁽²⁶⁴⁾ This is called Responsive Regulation, which is considered to be a smarter form of regulation, as it encourages regulatory reflexivity

and gives the regulator room to custom-fit regulatory instruments to the context and to feedback. ^(14,187) Walshe characterises Responsive Regulation as follows: Contingency, Hierarchy, Flexibility, Tripartism, Parsimony and Empowerment ⁽¹⁴⁾, all of which are described in greater detail in the Table 38 below.

Table 38: Characteristics of Responsive Regulation

‘Contingency’ ⁽¹⁴⁾	The concept of contingency refers to a style of regulation where the actions of the regulator are dependent on the behaviour of the individual organisation i.e. the manner in which the regulator interacts with the regulated organisation is determined by the behaviour of the individual regulated organisation. ⁽¹⁴⁾ Thus well-behaved organisations are treated differently to less scrupulous organisations and benefit from less severe regulatory interventions as a consequence of their good compliance history. ⁽¹⁴⁾
‘Hierarchy’ ⁽¹⁴⁾	This concept refers to a regulatory style where the regulating organisation employs a hierarchy of regulatory interventions that are adapted to the behaviours of individual organisations, with the bottom rung interventions being the ones that are most commonly used and comprise of the least severe interventions e.g. making performance on regulating standards publicly available, and the top rung interventions being the ones that are least commonly used (reserved for the most deviant of organisations) and comprise the most severe interventions e.g. closure of a poor-performing health facility. ⁽¹⁴⁾
‘Flexibility’ ⁽¹⁴⁾	This concept is self-explanatory and is also implied in the above-mentioned concepts of Contingency and Hierarchy and refers to a regulatory organisation able to adapt its regulating behaviour to the behaviours of the regulated organisations in order to be effective. ⁽¹⁴⁾
‘Tripartism’ ⁽¹⁴⁾	This concept refers to a regulating organisation that does not only engage in a bilateral relationship between itself and the regulated organisations, but actively seeks out a third group of partners whose objectives are aligned with the goals it

	strives to achieve e.g. patient groups, so as to strengthen its regulatory activities. (14)
‘Parsimony’ (14)	This concept refers to a regulating organisation which makes use of the most cost-effective methods to achieve its objectives. (14) This promotes sustainability, but also keeps it nimble enough to be able to respond to unintended consequences of its regulatory intervention as they arise. (14)
‘Empowerment’ (14)	This concept refers to a regulatory organisation that supports the organisations it regulates in improving their performance. (14)

Table headings and concepts taken from Walshe, p.41-48 (14)

The issue of ‘Empowerment’ has the most significance for this research. As detailed in the table above, the concept of Empowerment refers to the regulatory organisation ‘supporting improvement across the spectrum of performance’. p.47. (14) One way in which the OHSC could become more responsive, particularly with regards to how it empowers the organisations it regulates, would be to embrace and to formalise its role as an educator and to use the unique interactions it has with healthcare workers to educate them on how they can better comply with healthcare standards and use the EQA visits to also share and distribute knowledge on best practice. Braithwaite writes about this very concept in his article on Responsive Regulation in developing economies. (267) His argument is that regulators who seek to be responsive must, while assessing for deviant behaviour, support the regulated organisations so that they are empowered to adopt correct behaviours. (267) Scrivens’ research supports this viewpoint, and argues that inspectors (or surveyors as she calls them) have a unique opportunity to play an educative role during the EQA visits and to identify and to spread information about good practices across health facilities. (159)

⇒ Subjectivity of inspectors

The interviewees included in the research for this dissertation perceived the inspectors as subjective and thought that there were inconsistencies in the manner in which they inspected health facilities. Healthcare workers attributed the perceived subjectivity of inspectors to the inspectors' being inadequately qualified for the role they were playing, and questioned the credibility of the inspectors. Interestingly, the inspectors did not refute this accusation and admitted it was a concern for them and the OHSC, too. The inspectors blamed the poor training that they as well as incoming inspectors had received as one of the primary reasons for the inconsistencies in the manner in which health facilities were assessed. They also blamed their stressful working conditions - having to be in the field conducting EQAs nearly every alternate week - as a contributing factor to the concerning measurement error rates amongst them.

The reliability of EQA inspectors has been identified as critical to the success and sustainability of EQA programmes. ^(36,133,268) Reliability of EQAs is determined by inspectors achieving process consistency and interpreting EQA standards and measures in the same manner. ⁽³⁶⁾ The inability of an EQA programme to achieve reliability can undermine the goals of the EQA programme. ⁽³⁶⁾ Some barriers to inspector reliability that have been identified in the literature include: a complex EQA tool, limited time within which to conduct the EQA, a difficult relationship with the health facility that is being assessed (particularly if there is suspicion that the health facility is gaming the process), inexperienced inspectors (particularly with regards to healthcare sector experience), poor working relationships amongst inspectors, an inspector recruitment process that lacks rigour and does not prioritise the quality and

credibility of incoming inspectors, and overworked inspectors who are not given appropriate amounts of recovery time between EQAs. ⁽³⁶⁾ Tightly packed EQAs, with inappropriate recovery time between them, according to Greenfield et al., could result in incomplete EQA reports, the denial of opportunities to participate in training, confusion of findings between consecutive EQAs and poor preparation for subsequent EQAs. ⁽³⁶⁾ Consequently, the reliability of EQA reports was undermined. ⁽³⁶⁾ Almost all the factors listed above were identified by the inspectors interviewed in this research as challenges they were experiencing. Considering that ‘qualified and trained inspectors’ is a key input into the OHSC’s programme theory, the inadequate training of OHSC’s inspectors described above threatens to undermine the legitimacy of the OHSC’s regulatory exercise. Particularly as the regulatory theory literature identifies perceived legitimacy of the regulatory authority as an important contributor to fostering voluntary compliance. ⁽²⁶⁹⁾

⇒ Thoughts on penalties

This research found that the majority of healthcare workers were opposed to penalties for non-compliance (as stipulated in the National Health Amendment Bill (B24B-2011)-detailed in chapter six) ⁽⁶⁵⁾, particularly in a context where they did not feel that the state was adequately providing them with the resources necessary to comply with quality standards. Concerns were raised around hospital CEOs not having enough decision-making powers to effect change within their health facilities, yet having to face penalties for the non-compliance of their institutions. Healthcare workers warned that if the penalties were brought into effect, a number of number of unintended negative consequences were likely. These included deterring people from taking on the role of CEO, compromising patient care (if penalties are to be paid out of hospital

budgets), litigation against the OHSC and a paradoxical deterioration in quality standards if the OHSC is unable to follow through on the threats made, i.e. under-enforcement. The regulatory theory literature supports the concerns of the interviewees on under-enforcement, and suggests that under-enforcement, whether it is an explicit policy of the regulator or a consequence of limited resources, can result in unintended negative consequences and worsening of the problem the regulation was designed to address. ⁽²⁵⁷⁾

The sentiments of the healthcare workers in this research on the OHSC's penalties echo those of Bateganya's Ugandan interviewees, who called for positive reinforcement rather than penalties. ⁽¹⁵⁴⁾ Bateganya's interviewees argued that it was unfair to penalise healthcare workers for not complying with standards when they were not being provided with the necessary resources to do so. ⁽¹⁵⁴⁾ Even in high-income country settings where resource constraints are not as severe as low and middle-income country counterparts, the use of penalties to ensure compliance with standards is discouraged. ^(264,270,271) The OHSC views the use of penalties and sanctions as a key mechanism in its programme theory to achieving improved quality of care in the health system and, as a result, patient outcomes. The OHSC argues that other mechanisms to ensure compliance with quality standards have failed in South Africa, and that it has become necessary to use punitive measures to ensure decent quality of care in the South African health system. ⁽¹¹⁾ Berwick warns in his essay on continuous improvement in the American healthcare system that attempting to achieve standard compliance by fear and intimidation only results in a frightened and defensive workforce that does not attempt to understand the purpose of the standards but seeks to comply with them at all costs, including fraudulently. ⁽²⁶⁴⁾ Berwick

continues, ‘Fear of the kind engendered by the disciplinary approach poisons improvement in quality, since it inevitably leads to disaffection, distortion of information and the loss of the chance to learn.’ p.54 ⁽²⁶⁴⁾ Although Berwick’s essay is written in the context of a healthcare system in a high-income country, the work of Bateganya et al. and Bukonda et al. (both of which are presented in the literature review in Chapter 2) suggests that healthcare workers in low and middle-income countries similarly resent the type of regulatory approach described by Berwick. ^(38,154) Bevan and Hood, in their report on governance by ‘targets and terror’ p.3 ⁽²⁷¹⁾ in the English National Health Service (NHS) in the 2000s, give examples of how following the regulatory style described by Berwick often results in reactive gaming and other negative consequences ⁽²⁷¹⁾, like surgeons refusing to operate on high risk patients because of fears that a death on their table might negatively affect their publicly available mortality data. ^(271,272)

8.4.1. Unintended negative consequences of External Quality Assessment- ‘Malicious Compliance’

Walshe argues, in his book on healthcare regulation, that regulation is ‘a socially constructed task’ p.35 ⁽¹⁴⁾ and that the cultures of these bodies determine how they perceive their mission as regulators as well as how they perceive the organisations they regulate (that is, their regulatory paradigm). ^(14,273) Reiss first grouped these paradigms into two sub-types: Deterrence and Compliance, and the work of Reiss has subsequently been developed by others. ^(14,189,273) Deterrence regulators are of the view that the organisations they regulate are self-interested and need to be closely monitored to ensure that they behave in an acceptable manner. ^(14,273) In order to ensure this, these regulators use punitive measures to enforce adherence. ^(14,273) The

relationship between these regulators and the organisations they regulate is described as poor, antagonistic, fearful and resentful, and the subjects of the regulatory process tend to be preoccupied with how they can avoid the regulatory process ⁽¹⁴⁾, as is described by Berwick below ⁽²⁶⁴⁾:

‘Any good foreman knows how clever a frightened work force can be. In fact, practically no system of measurement - at least none that measures people's performance - is robust enough to survive the fear of those who are measured. Most measurement tools eventually come under the control of those studied, and in their fear such people do not ask what measurement can tell them, but rather how they can make it safe. The inspector says, "I will find you out if you are deficient." The subject replies, "I will therefore prove I am not deficient" – and seeks not understanding, but escape’

-Berwick, p.53 ⁽²⁶⁴⁾

The Deterrence model is most commonly seen in sectors where the regulator does not routinely interact with the regulated organisations, or where the organisations being regulated are entrepreneurial in nature and have a dominant business culture. ⁽¹⁴⁾ Compliance regulators, on the other hand, perceive their subjects as well-meaning and trustworthy, with a genuine desire to achieve compliance. ⁽¹⁴⁾ These regulators are less concerned with how they can develop sophisticated systems to catch out their subjects, but take a partnership approach, providing guidance, support and education, and using punitive measures as a very last resort. ^(14,273) The Compliance model is most commonly seen in sectors where regulators only have to regulate a small number

of quite similar organisations or where the regulated organisations possess a dominant ethical or professional culture. ⁽¹⁴⁾

In this dissertation I argue that the OHSC possessed (at the time of study) more of the characteristics of the Deterrence model of regulation than that of the Compliance model. I base this on the typology put forth by Walshe in his 2003 ⁽¹⁴⁾ book on healthcare regulation. Table 39 below, taken directly from Walshe p.38-39, ⁽¹⁴⁾ presents the two models in greater detail. A third column has been added, tabulating which of the two regulatory paradigms the OHSC most closely resembled at the time of this research, based on qualitative interviews with both healthcare workers and inspectors.

Table 39: Deterrence and Compliance models of regulation versus regulatory style of the Office of Health Standards Compliance

	‘Deterrence’	‘Compliance’	Model of the OHSC
‘Settings in which the model is most often found’ ⁽¹⁴⁾	‘Where regulator deals with a large number of small organisations, heterogeneous in nature, and with a strong business culture’ ⁽¹⁴⁾	‘Where regulator deals with a small number of large organisations, homogenous in nature, and with a strong ethical culture’ ⁽¹⁴⁾	Compliance The OHSC assesses healthcare facilities against quality standards. ⁽⁶⁹⁾ These healthcare facilities are largely run by healthcare workers who by nature of their professional oaths subscribe to a strong ethical culture.
‘Regulator’s view of regulated organisations’ ⁽¹⁴⁾	‘Amoral calculators, out to get all they can, untrustworthy’ ⁽¹⁴⁾	‘Mostly good and well-intentioned, if not always competent’ ⁽¹⁴⁾	Deterrence The inspectors were largely of the view that health facility managers were taking every opportunity they could find to game the system. When asked how prevalent they suspected this behaviour was, many of them argued that it was the majority of health facilities.
‘Regulated organisations’ view of the regulatory	‘Policeman, enforcer-feared and often respected, usually disliked’ ⁽¹⁴⁾	‘Consultant, supporter-not seen as a threat or problem, may be respected and liked’ ⁽¹⁴⁾	Deterrence Healthcare workers spoke of feeling great anxiety during the EQAs. This heightened sense of anxiety was also witnessed during the four days spent on participant observation of an EQA of a district hospital.

	‘Deterrence’	‘Compliance’	Model of the OHSC
agency’ ⁽¹⁴⁾			The inspectors themselves reported health facility managers breaking down in tears during EQAs.
‘Temporal perspective’ ⁽¹⁴⁾	‘Retrospective (identify, investigate and deal with problems when they have happened)’ ⁽¹⁴⁾	‘Prospective (aim to prevent problems occurring through early intervention and support)’ ⁽¹⁴⁾	Deterrence The OHSC monitors health facilities that have failed to achieve its quality standards in EQA.⁽⁶⁹⁾ Once the legislation is fully promulgated, health facilities that are persistently non-compliant with quality standards will be liable to face penalties and sanctions.⁽⁶⁹⁾ This will occur however after the health facility has been found to be non-compliant with the National Core Standards, and in this sense the temporal perspective is retrospective and thus more closely aligned with a Deterrence paradigm of regulation.
‘Use of regulatory standards and	‘Many, detailed and explicit written standards, often with	‘May have detailed written standards and policies often accompanied by	Deterrence The National Core Standards which are the standards against which health facilities are inspected, can be found in three separate large

	‘Deterrence’	‘Compliance’	Model of the OHSC
inspection’	statutory force; highly standards-focused approach to inspection and enforcement’ ⁽¹⁴⁾	guidance on implementation; standards play a less prominent role in interaction with regulated organisations’ ⁽¹⁴⁾	files each for primary health facilities, hospitals and district offices which are made up of hundreds of detailed standards and their related measures that inform the EQAs, and which are followed by inspectors to the last letter. At the time of writing there was an ongoing legal process to enshrine a subset of these standards into law ⁽⁶⁹⁾ , and in this respect the OHSC’s National Core Standards are more closely aligned to a Deterrence paradigm of regulation.
‘Enforcement and use of sanctions or penalties’ ⁽¹⁴⁾	‘Part of routine practice, valued for deterring both those penalised and other regulated organisations’ ⁽¹⁴⁾	‘Seen as the last resort, used only when persuasion has been exhausted’ ⁽¹⁴⁾	Deterrence Inspectors of the OHSC speak with great fondness of the penalties and the powers they will have once the National Health Amendment Act has been fully promulgated. They see the penalties as central to achieving the objectives of the OHSC.
‘Provision of advice and support to regulated	‘Not part of the regulator’s role-seen as risking regulatory capture and conflict of interest	‘Essential part of regulator’s role-valued as an opportunity to understand, build cooperative relationships and influence	Deterrence The OHSC sits outside the Ministry of Health and in personal communications with the leadership of the OHSC has highlighted the importance of this, by arguing that they cannot be both ‘player and

	‘Deterrence’	‘Compliance’	Model of the OHSC
organisations’ ⁽¹⁴⁾	with policing and punishing role’ ⁽¹⁴⁾	performance’ ⁽¹⁴⁾	referee’. The inspectors have, when interviewed on their role as not only inspectors but educators of healthcare workers, shared their discomfort with the latter role and some have argued that that does not form part of their mandate and opens them up to being accused of miseducating healthcare workers. Some however who shared they had the experience and confidence to educate and impart advise during EQAs shared that they did so out of a personal desire but not because it was a part of their role as inspectors. For these reasons, with regards to this characteristic, the OHSC is more closely aligned to the Deterrence paradigm of regulation.
‘Relationship between regulator and regulated organisations’	‘Distant, formal and adversarial’ ⁽¹⁴⁾	‘Close, friendly and cooperative’ ⁽¹⁴⁾	Deterrence The relationship between the health facilities and the OHSC was indeed distant and formal, although not necessarily adversarial. The EQAs occurred unannounced and during the EQAs the inspectors maintained a professional distance from the healthcare workers and the facility being inspected. During the unannounced EQA I

	‘Deterrence’	‘Compliance’	Model of the OHSC
			participated in as an observer, an unused boardroom was opened up for the inspectorate team to be used as the base for the day, efforts were made to order a catered finger lunch and ensure that the inspectorate team was comfortable. The inspectorate team ate separately from the staff and although interactions were professional there was no mingling. Thus, for these reasons, in terms of this characteristic, the OHSC is more closely aligned to the Deterrence paradigm of regulation.
‘Costs of regulation’ (14)	‘High cost to both regulator and regulated organisations, in inspection and enforcement’ (14)	‘Lower costs, particularly in inspection and enforcement, although costs to regulator of providing advice and support to regulated organisations can be higher’ (14)	Deterrence Onsite EQA exercises are well known to be high cost activities, as they pay managerial level healthcare workers who travel extensively around the country to spend 2-5 days inspecting health facilities. In 2015/16 the OHSC’s expenditure was R76 953 000 (approximately £3 531 498) and it is anticipated to rise to R125 711 000 (£5 769 082) by 2019/20. (274) In 2015/16, the OHSC had a staff of 96 people, which it anticipates will increase to 137 by 2017/2018. (274)

	'Deterrence'	'Compliance'	Model of the OHSC

Columns 1-3 of table taken directly from Walshe's 'Table 2.4' in his book titled *'Regulating Healthcare'*. p.38-39 ⁽¹⁴⁾ Column 4 represents the application of Walshe's model to the work of the OHSC.

We see from the table above that the OHSC exhibits many of the characteristics of the Deterrence model of regulation (as defined by Walshe ⁽¹⁴⁾), rather than those identified with the Compliance model. The Deterrence approach of the OHSC is in conflict with the Compliance setting where much of the OHSC's regulatory activities take place, i.e. public sector health facilities comprising healthcare professionals whose field of practice has historically been driven by a strong professional and ethics-rooted culture. Walshe argues that a mismatch between the regulatory paradigm and the organisational culture of the regulated organisations, such as the one we see here, might result in well-intentioned organisations becoming bad apples over time. ⁽¹⁴⁾ This is because they come to resent the aggressive Deterrence regulation regime and see no benefit in remaining 'good-hearted compliers'. p.36 ⁽¹⁴⁾ Moreover, although the Deterrence model is effective in getting regulated organisations to respond expediently to the demands of the regulator, it often results in perverse behaviours. ⁽¹⁴⁾ The regulated organisations are drawn to activities that can be characterised as 'creative compliance' as has been suggested by the findings of this research. ⁽¹⁴⁾ Walshe argues that the Deterrence approach to quality improvement is in conflict with what we know about achieving organisational change and improving quality of care. ⁽¹⁴⁾ The literature does acknowledge that the Compliance model has its drawbacks, and that when it encounters a truly bad apple it is powerless to effect change, and is vulnerable to 'regulatory capture' p.37 ⁽¹⁴⁾, where an overly friendly and conflict-adverse approach results in standards that reflect the status quo and invoke little change. ^(14,189,275)

Others have taken the Deterrence and Compliance regulatory models a step further by suggesting that there might be a relationship between the regulatory model and the behaviour of the regulated organisation. ^(14,189) If a regulator adopts the Deterrence model, there is no incentive to behave as a ‘good-hearted complier’ and this approach can make for bad apples in time, by undermining the will of the well-intentioned to comply. ^(14,189) This suggestion is supported by the work of Bevan et al. who found reactive gaming in response to target setting in the NHS. ⁽²⁷¹⁾ If we apply that reasoning to this research, the literature suggests that the Deterrence approach taken by the OHSC may be the cause of the malicious compliance being reported by the inspectors. ⁽¹⁴⁾ ‘Good-hearted compliers’ are likely to resent the adversarial Deterrence approach and are offended by the mistrust implied in the model. ^(14,189) They are thus discouraged from cooperating with the regulator, or bothering with self-regulation. ^(14,189) This should not be surprising if we acknowledge that health systems are Complex Adaptive Systems, and that health system agents are intelligent and learn to adapt to changes to the conditions of their environments. ⁽⁴⁾ As argued by Teubner ⁽²⁷⁶⁾ cited in ⁽¹⁸⁷⁾, who applies a Systems Theory lens onto understanding regulation, ‘Regulations do not at all change social institutions, they produce only a new challenge for their autopoietic adaptation.’ ⁽²⁷⁶⁾ cited in ⁽¹⁸⁷⁾

Another perspective to the ‘malicious compliance’ perceived by the inspectors is to view this behaviour not as deriving from perverse motives but rather a sense of camaraderie amongst health facilities, working together to support each other through the EQA process. Scrivens writes about this phenomenon in the English NHS in the early 1990s, where hospitals going through the then Hospital Accreditation Programme (HAP) would get in touch with each other and share advice on how to

achieve accreditation status. ⁽¹⁵⁹⁾ Scrivens writes that this sense of comradeship was so strong that hospital managers were distressed if their colleagues at other hospitals were unsuccessful in achieving the desired accreditation status. ⁽¹⁵⁹⁾ Perhaps this is one way of looking at the behaviour that the inspectors are calling ‘malicious compliance’, particularly since we do not have the points of view of healthcare workers on this issue. These viewpoints might help us make a full assessment of what exactly is happening at the level of the health facility with regards to gaming, particularly in an environment where healthcare workers feel unable to legitimately comply with the standards of the OHSC within their context of severe resource constraint. Furthermore when one looks at the performance scores of the health facilities in this research, as well as health facilities to date, they do not support a great proficiency in gaming the system as no more than one hospital in the country had been successful in achieving full compliance in the OHSC EQA at the time of this research. ⁽⁷²⁾

8.4.2. Unintended negative consequence of External Quality Assessment:

Impact on healthcare worker motivation

It is accepted in the literature that regulatory interventions can do harm, as well as good. ⁽¹⁴⁾ Baldwin et al. caution that regulation can be ‘both a technical fix to a problem and a source of problems itself.’ ⁽³⁵⁾ The literature abounds with examples of well-meaning regulatory exercises that create more harm than the regulatory target they were trying to hit in the first place. ⁽²⁵⁷⁾ A great deal of uncertainty remains about how countries should effectively regulate their healthcare systems. ⁽¹⁴⁾ Consequently, attempts at regulating certain aspects of the healthcare system might have unanticipated and sometimes negative effects in other areas of the health system. ⁽¹⁴⁾

This research suggests that a potential unintended negative consequence of South Africa's national EQA policy is that it might undermine healthcare workers' motivation. The interviewees in this research, particularly those from the low-performing hospitals, stated clearly that they wanted to be recognised for the efforts they made to achieve quality standards in the context of severe resource constraints. These frontline healthcare workers argued that they did not think the standards themselves were unfair. In fact, many of them thought that they were an important addition to the health system, but that it was unfair to 1) be expected to meet the standards without being provided with the necessary resources and 2) receive no recognition for attempts at meeting standards within their severely resource-constrained environments. The results underline the degree of strain under which these rural healthcare workers work, combined with an absence of the usual foundation upon which a successful EQA programme needs to be built. This includes the provision of sufficient resources and the existence of channels of accountability. The absence of these could have the unintended negative consequence of further demotivating already over-burdened healthcare workers and potentially driving them out of the health system.

There exist a number of definitions of work place motivation but few of these have been developed for specific use in the health sector, which, it has been argued, needs unique consideration as it is a highly emotive work environment. ⁽²⁷⁷⁾ Franco et al.'s definition of work place motivation is that it is 'an individual's degree of willingness to exert and maintain an effort towards organisational goals'. p.1255 ⁽²⁷⁸⁾ This definition is commonly cited in the public health literature, particularly with specific reference to the low and middle-income country context. ⁽²⁷⁸⁻²⁸²⁾ A number of authors

have argued that work place motivation is critical to ensuring that the services offered by the health system are of a high standard of quality. ^(8,278,280,283,284) Franco et al. argue that healthcare work is particularly labour-intensive and that work place motivation thus plays an important role in determining the performance of the health system. ⁽²⁷⁸⁾ This is particularly the case in rural areas, or in contexts that are otherwise deemed to be resource-constrained settings. ^(285,286) In such settings, healthcare workers are often necessarily driven by a sense of vocation. ^(285,286)

Work place motivation has been written about extensively in the literature and there are a number of theories that attempt to make sense of its various drivers and mediators. ⁽²⁶⁰⁾ Examples include Lewin's Leadership Climates and Level's of Aspiration, McClelland's Achievement Motivation Theory, Herzberg's Two Factor Theory, Hackman et al.'s Job Characteristics Theory, Vroom's Expectancy Theory, Adam's Equity Theory, Lock et al.'s Goal Setting Theory and Mitchell's Attribution Theory are amongst the most prominent. ⁽²⁶⁰⁾ In this discussion, I take from the various work place motivation theories that which is useful in furthering our understanding of how EQA of health facilities in South Africa might unintentionally undermine the intrinsic motivation of rural healthcare workers. My approach is to avoid placing too much emphasis on individual personality theories of work place motivation, as this is an area one is less able to influence at a health system and health policy level. Furthermore, this literature is beyond the scope of this dissertation's research objectives.

We know from the literature that worker motivation is a result of a transactional process between the worker and the work environment, and that organisational or

broader societal changes, such as health policy reforms, can have a positive or negative impact on this interaction between worker and work environment and thus impact motivation. ^(8,158,258,278) According to Franco et al., worker motivation is driven by two parallel components at the individual level, which the authors describe as a ‘will do’ p.1256 ⁽¹¹⁹⁾ component, i.e. ‘the extent to which workers adopt the goals of the organisation’ p.1256 ⁽¹¹⁹⁾, and a ‘can do’ p.1256 ⁽¹¹⁹⁾ component i.e. the extent to which workers feel they are able to mobilise their own personal capabilities to realise these goals. ⁽¹⁵⁸⁾

I argue in this dissertation that a potential unintended negative consequence of the EQA policy in South Africa is that, because of the way it is currently implemented, it could serve to compromise the ‘can do’ component of healthcare workers’ motivation by scoring health facilities in such a manner that does not recognise the personal capabilities and personal resources these healthcare workers mobilise to achieve organisational goals.

It is important to clarify at this point that motivation is not an empirically observable factor as it is an internal psychological process. ⁽²⁸⁷⁾ What researchers are able to do is observe the inputs and outputs (that is the affective responses) of these internal motivational processes, and these are what are discussed in this chapter. ⁽²⁸⁷⁾

The low-performing hospital interviewees stated that they had tried to innovate and to make the most of the scarce resources at their disposal in order to provide patients and their families with good quality care, yet they felt that these efforts went unrecognised during the EQAs. Instead they felt that they were being penalised for their

innovations. Often the interviewees, particularly from Hospital 2b, would slip into a ‘nostalgic discourse’ ⁽²³²⁾ about a time when they were high performers, and would lament the fact they were now performing badly under the OHSC’s EQA. The interviewees complained that it was only a few years ago that they had undergone EQA by COHSASA and had performed well, achieving full compliance status at the end of COHSASA’s facilitated accreditation programme. They expressed frustration at not being able to perform as they were once able to do. They ascribed this to worsening resource shortages and to the failure of the OHSC to recognise the efforts they were currently making to meet quality standards despite the severe resource constraints under which they were working.

The approach taken by the OHSC is that, for each quality measure, a facility must meet the requirements to the last letter. A facility receives either a score of 1 for compliance or a 0 for non-compliance. There are no half marks awarded for partial-compliance. Interviewees felt that this scoring method did not fully recognise their efforts.

‘Recognition’ emerges repeatedly in the literature as an important contributor to work place motivation, particularly for healthcare workers in resource poor settings, where the external motivating factors such as remuneration are often meagre. ⁽²⁸⁸⁻²⁹³⁾ Herzberg in his Two-Factor theory on motivation, highlights the importance of recognition as a driver for work place motivation and its ability to encourage high levels of performance. ⁽²⁶⁰⁾ In fact, research that tests Herzberg’s theory identifies recognition as one of the dominant motivators of the Two-Factor theory. ⁽²⁶⁰⁾ Lewin in his work on ‘Levels of Aspiration’, which predates the existence of the field of

organisational behaviour, writes about the positive impact graded recognition can have on a worker's sense of being able to achieve a goal.⁽²⁶⁰⁾ He also shows that enabling workers to continuously feel as if they are succeeding reduces turnover rates.⁽²⁶⁰⁾ Adams' Equity Theory suggests that if workers feel that their inputs, such as job effort, are reciprocated by inequitable outputs such as a lack of recognition of their efforts, this can result in emotional distress and can potentially have a negative impact on job effort, job quality and the intention to remain in the position.⁽²⁶⁰⁾ A systematic review done by Willis-Shattuck et al., on motivation and retention of healthcare workers in low and middle-income countries, found that 70% of the papers they reviewed identified recognition/appreciation as a key motivational factor in retaining healthcare workers in low and middle-income country settings.⁽²⁹⁴⁾ Similarly, a study conducted in India on job satisfaction and motivation of healthcare workers in private and public sectors found that recognition was of particular importance to healthcare workers employed in the public sector.⁽²⁹⁵⁾ Greenfield et al. in their 2011 paper on what motivates healthcare workers to participate in EQA, identified recognition of the efforts of healthcare workers by EQA assessors as a factor of great importance to healthcare workers.⁽¹⁶¹⁾

Kanfer writes in her paper on worker motivation that workers experiencing impediments to the 'can do' component of worker motivation are likely to express negative affective reactions to their work environment, such as a sense of helplessness or hopelessness.⁽²⁵⁸⁾ If healthcare workers perceive their performance or in this instance efforts to provide good quality care in a resource-scarce setting to be unrecognised by the OHSC this could negatively impact the 'can do' component of their intrinsic motivation and thus also affect their performance.⁽¹⁵⁸⁾

We know from the literature that healthcare workers who choose to stay in resource-poor settings, especially rural areas, are driven by unique personal factors. ⁽²⁹¹⁾ The way in which these personal factors interact with external factors, is crucial to influencing workers' willingness to devote time and effort to work tasks. ⁽²⁹¹⁾ Many of the interviewees confided that they were in fact struggling to retain healthcare workers at their health facilities. In fact, on attempt to get in touch with interviewees at Hospital 1b (in order to share interview transcripts with them), six months post-field work, it was found that all of the interviewees, bar one who was waiting for retirement in 2016, had resigned.

The reasons why individual healthcare workers choose to leave (or indeed choose to stay at a health facility) vary and, because they are driven by unique personal factors these reasons are as distinct as the individuals are different. ^(158,296) What we know from the literature is that these personal motivations exist in a delicate tension with external factors ^(291,297) and that reducing the service delivery difficulties faced by healthcare workers to a binary measure (a 0 or a 1) could potentially disrupt this delicate balance and compromise the intrinsic motivation that keeps these healthcare workers in a difficult setting. ^(278,286,291)

A commonly expressed grievance is that interventions to improve quality of care are targeted mainly at health professionals and not at the whole system. ^(159,298,299) What is interesting is that the earliest EQA programmes formed by the Joint Commission on Accreditation for Health Care Organizations (JCAHO) in 1917 were created to protect healthcare workers from poor working environments. ⁽¹⁵⁹⁾ Yet the modern version of

EQA, as has been seen in the South African example, seems to communicate that the poor quality service received by the healthcare worker is of lesser importance than the quality of care rendered to the patient. Similar concerns are raised in the work of Agyepong et al., whose research suggests that in the Ghanaian context there is a tendency to neglect the poor quality service received by internal clients, namely healthcare workers. ⁽²⁹⁸⁾ This, they write, can result in poor motivation amongst healthcare workers. ⁽²⁹⁸⁾ West argues that the quality of patient care may be related to the quality of life experienced by healthcare workers at work ⁽³⁰⁰⁾, and thus if the sentiments of demotivation and dissatisfaction amongst healthcare workers are left unaddressed, a vicious cycle may result. Agyepong describes this as a ‘cause becoming problem and problem becoming cause’ p.5 cycle. ⁽²⁹⁸⁾

In the 2006 World Health Report, it is argued that, although audit and feedback can improve the performance of healthcare workers, the nature of how it is conducted, especially if it takes on the form of a ‘sterile administrative event’ p.75 ⁽⁵⁾, can result in negative effects. ⁽⁸⁾ This is supported by the research of Scrivens who found that the manner in which EQA surveyors conducted EQAs in English hospitals had consequences for the morale of healthcare workers. ⁽¹⁵⁹⁾ This was particularly so if healthcare workers felt unseen or unengaged with during the EQA process. ⁽¹⁵⁹⁾ Greenfield et al., in their 2011 paper on what motivates healthcare workers to participate in EQA, argued that the interaction between EQA inspectors and healthcare workers could have an impact on the motivation of healthcare workers, and that healthcare workers not given recognition for their efforts may be negatively impacted by the encounter with EQA. ⁽¹⁶¹⁾

Blacklock et al., in their meta-ethnographic synthesis of qualitative research, explore the reasons why African healthcare workers migrate to high-income countries.⁽³⁰¹⁾ They found that, amongst other psychosocial factors, emotional strain associated with working in a resource-poor setting, and the associated erosion of public respect, were important push factors, particularly in rural settings.⁽³⁰¹⁾ Against the background of a global human resources for health crisis^(289,301), particularly in low and middle-income countries and most severely so in the rural regions of low and middle-income countries^(283,294,296), the South African health care system should be careful not to employ a regulatory paradigm that might unintentionally demotivate workers who are intrinsically committed to remaining in difficult settings.⁽²⁸⁶⁾ Second to healthcare worker shortages, some authors have argued that low healthcare worker motivation is the global health system's greatest challenge.⁽²⁹¹⁾ With EQA gaining traction in the low and middle-income world, this is not only a consideration for the South African health system but also for other low and middle-income countries seeking to establish a national mandatory EQA programme.

It has to be acknowledged that healthcare worker motivation was not directly measured in this research. Instead, the arguments made here are based on the affective responses to the work environment communicated by the interviewees. No attempt was made to assess the temporal relationship between EQA and the frustrations shared by interviewees, nor to analyse the long-term effects of these sentiments. As was acknowledged earlier in the chapter, Attribution Theory suggests that these healthcare workers are more likely to blame external factors for their poor performance than to take personal responsibility.⁽²⁶⁰⁾ This dissertation does not attempt to attribute all the frustrations of these healthcare workers to EQA alone, but

attempts to demonstrate how one discrete change in the policy environment of a Complex Adaptive System can potentially have far-reaching and unanticipated adverse effects in other parts of the health system.

8.5. Conclusion

This research sought to achieve four objectives. These are:

- To assess the relationship between EQA and patient outcomes (specifically Healthcare Associated Infections) at the specialist-care facility level in South Africa
- To identify the characteristics of health facilities which enable them to comply successfully with the National Core Standards
- To identify the characteristics of health facilities which impede them from complying with the National Core Standards
- To describe the manner in which frontline healthcare workers experience this new health policy.

With regard to the first research objective, the research was unable to demonstrate an effectiveness relationship between undergoing EQA and improvements in patient outcomes. This is a potentially concerning finding, as improving patient outcomes is the ultimate goal of the work of the OHSC, as is illustrated in the programme theory presented in Chapter 1. The analysis was limited by the use of MRSA count data rather than rates (among other limitations detailed further below) and future studies should look to conducting more robust analyses in addressing this critical research question. The research revealed that, despite an inability to demonstrate an effectiveness relationship between EQA and patient outcomes, the introduction of the

EQA policy into the South African system did possess a number of strengths. These strengths include the provision of a valuable standardised quality assessment tool that allows us to compare South African health facilities against each other, a first for the country⁽³⁰²⁾, as well as a potential means to professionally develop healthcare workers and build a quality culture in the country's health facilities.⁽³⁰³⁾

Wider health system challenges limit the extent to which health facilities themselves can improve quality of care. Within the constraints of these broader economic, political and societal challenges, in addressing objectives two and three, this research reveals that they are levers that can be pulled at the level of the local health facility resulting in greater compliance with quality standards and potentially improved quality of care.

Finally, with regards to the last objective, the research revealed that South Africa's national health policy on EQA does have some shortcomings in its implementation that need to be addressed. The EQA policy could result in potentially unintended negative consequences if its impact on the wider health system and health system actors is not carefully considered. At present, the OHSC exhibits characteristics that embody a Deterrence model of regulation. This is not suited for the particular professional context and may lead to potential unintended consequences such as an adverse impact on healthcare worker motivation and gaming of the EQAs.⁽¹⁴⁾

8.5.1. Limitations of this study

A major limitation of the quantitative analysis is the use of MRSA counts rather than MRSA rates. The use of counts over rates was based on concerns around the difficulty

in accessing hospital active-bed data for a period dating back ten years, as well as the quality of the said data.⁽¹²⁴⁾ It is, however, acknowledged that use of counts does weaken the robustness of the ITSA and limits the interpretation of the ITSA findings.

This analysis only makes use of a single patient outcome indicator, namely MRSA levels, to assess the relationship between EQA and patient outcomes. The case was made in Results Chapter 1 as to why this indicator is an appropriate proxy for the relationship between EQA and patient outcomes. It nevertheless must be acknowledged that it cannot be assumed that this one patient outcome indicator accounts for the impact of EQA on other patient outcome indicators. Future research should look to assess the relationship between EQA and patient outcomes using different outcome indicators.

I am not aware of any major policy shifts, but have been unable to exclude with full confidence the existence of a major Healthcare Associated Infection (HCAI) control policy shift that occurred during the post-intervention periods at Hospital I and Hospital V that may account for the statistically significant decreases between MRSA trends at these hospitals in their respective post intervention periods. Differences in blood culture taking practices at different hospitals and within the same hospitals over the years might have caused this study to underestimate the true burden of MRSA bacteraemia at some of the hospitals included.⁽²⁰⁷⁾ Furthermore this analysis does not account for community acquired MRSA, which is believed to be on the rise.⁽¹⁹⁷⁾

The in-depth qualitative interviews conducted were limited to twenty-eight. However a great deal of time and effort was put into building trust with these interviewees,

many of whom like the inspectors were not an easily accessible population. Rich and as yet unreported insights were obtained from the interviews that, despite the limited number, nonetheless illuminate some of the challenges experienced by frontline healthcare workers and inspectors in South Africa. Their responses to the OHSC EQAs give us some valuable insights into what might be happening elsewhere in the health system. These interviews were triangulated with data from four days spent on participant observation and careful analysis of EQA reports.

A further limitation of this research is that the programme theory presented in Chapter 1 is based solely on what was available in the published literature and was not supported by inputs from the OHSC itself and other key informants.

8.5.2. Implications for policy and practice

⇒ Recommendations for policymakers

This research confirms the recommendation made by others, that districts should be given the necessary decision-making space to function effectively. ⁽²⁴⁶⁾ Key managerial and other critical health sector posts should be filled as a matter of urgency with people who are skilled and competent. ⁽²⁴⁶⁾ Where incompetent leaders are found, they should be replaced. Strong managerial capacity is particularly important where resources are scarcest. ⁽³⁰⁴⁾ In order for health facilities to achieve the National Core Standards (which are not ends in themselves, but reflect wider progressive policy goals in the South African health system), district hospital management autonomy needs to be strengthened. ⁽³⁰⁴⁾ This increased decision-making autonomy should include budget determination so that these leaders have the necessary decision-making space to make operational decisions that will allow them

to comply with the National Core Standards.⁽¹²⁴⁾ In order for these frontline managers to effectively use this increased decision-making space, they need to be capacitated with leadership skills to enable them to do so.⁽²⁵³⁾ Although increasing management capacity at the primary health care level is a much discussed topic in the South African policy arena⁽²⁴⁴⁾, a disconnect continues to exist between policy intentions and real visible change on the ground.⁽²⁴⁶⁾ Without addressing the management challenges faced by the district health system in South Africa, the healthcare reforms envisioned in the white paper on National Health Insurance in South Africa (which includes the work of the OHSC) will not gain momentum, as, by design, the district health system forms the cornerstone of the South African health system.⁽²⁴⁶⁾ Addressing these challenges, such as management capacity, delegation of management authority to the district level and the filling of critical management posts, is a prerequisite for the successful implementation of all other policies that seek to improve quality of care in the South African health system.⁽²⁴⁶⁾ Without these changes being effected, it is unfair and demoralising to hold district hospital CEOs accountable for the shortcomings of their health facilities.⁽²⁴⁶⁾ Further detail about such restructured delegations of authority across the South African health system (including within health facilities and at the district health level) can be found in the Development Bank of South Africa's report on the South African health system.⁽¹²⁴⁾

This research has shown that, when the entire management team buys into the quality improvement and monitoring culture, health facilities can perform well in EQA. I therefore argue that it would be helpful for the South Africa health system to employ strategies that ensure collective responsibility for quality of care. This collective responsibility should operate at all levels and should be formalised as part of

employment contracts signed by all managers and healthcare workers, including support staff. This has been argued elsewhere by Engelbrecht et al.⁽²⁴⁵⁾ This approach might bring us a step closer to seeing more hospitals being compliant with the National Core Standards.⁽²⁴⁵⁾ These changes, however, cannot take place without addressing the organisational culture challenges within South African hospitals that act as barriers to management personnel working effectively as teams.

A key process in the OHSC's programme theory is that health facilities will perform remedial actions within their health facilities in order to be compliant with the National Core Standards. These remedial actions will be as a result of the findings of their own internal assessments against the National Core Standards as well as in response to the findings of their EQA reports. This research reveals that, in reality, the capacity of South African healthcare workers to perform these functions is limited due to severe human resource constraints, particularly in rural areas. Thus the assumptions underpinning this process do not hold in practice. Moreover, the establishment of the OHSC and the implementation of EQAs cannot take place in a vacuum and needs to occur simultaneously with other urgent reforms within the health system in order to avoid unintended negative consequences. These reforms include urgently addressing human resource shortages especially with regards to critical managerial posts. In addition, the needs of frontline healthcare managers should be addressed, this could include in the short-term (whilst wider human resource challenges are being addressed) introducing interventions that have been found to strengthen resilience of frontline healthcare managers working in the South African health system.

⇒ Recommendations for the Office of Health Standards Compliance

The OHSC's programme theory identifies an 'independent and adequately funded EQA agency with regulatory powers' as a key input in its pathway to change. This research has revealed that it was not always clear to healthcare workers that the OHSC functioned independently from the National Department of Health. As a result, healthcare workers had expectations of the OHSC that were not aligned to the OHSC's own concept of its mandate. In order to address the divergence in perspectives between frontline healthcare workers and the organisational perspectives of the OHSC, additional information sessions for healthcare workers about the objectives and role the OHSC plays in the health system should be conducted. This critical function should not merely be left to the provinces to perform on behalf of the OHSC. Forums should be created that allow healthcare workers to air their concerns and have any questions and misconceptions on the OHSC addressed.

The work of Baldwin and Black on 'Really Responsive Regulation' ⁽²⁹⁵⁾ provides us with a refinement of Ayres and Braithwaite's earlier work on Responsive Regulation. ⁽¹⁸⁹⁾ Baldwin and Black emphasise the importance of regulators being reflexive and assessing their own performance (in achieving their objectives) and the effects of their performance. ⁽³⁰⁵⁾ This involves assessing whether regulatory instruments used by the regulator in practice achieve the regulator's objectives. ⁽²⁹⁵⁾ This research suggests that the regulatory instrument 'Qualified and trained inspectors', identified as a key input in the OHSC's programme theory, is undermined by a lack of rigorous and standardised training of the OHSC inspectors. Rigorous and standardised training of inspectors has been recognised in the literature as critical to ensuring inspector reliability and consistency. ⁽³⁶⁾ It has been argued in the literature that the failures we

see in regulation tend to be as a result of a misalignment between the objectives of the regulatory exercise and the regulatory instruments used.⁽³⁵⁾ The OHSC, I argue, needs to address training needs amongst their inspectors as well as issues around job dissatisfaction that are compromising the quality of the inspectors' work. If the threats to the credibility of inspectors are not addressed with a degree of urgency, the OHSC risks healthcare workers losing confidence in the EQA process and disengaging.⁽¹⁶¹⁾

The OHSC's programme theory and interviews with inspectors suggests that the OHSC anticipates that behaviour change in the health system and compliance with quality standards can be brought about through the threat of punitive measures. The regulatory theory literature suggests, however, that even outside of healthcare, in industries such as business, appeals to integrity rather than punitive measures are more likely to result in compliance with standards.⁽²⁶⁷⁾ Braithwaite argues that this is an even more important consideration for regulators in low and middle-income country settings where the resources required to enforce compliance and enact penalties are limited.⁽²⁶⁷⁾ The healthcare workers interviewed in this research concur with Braithwaite when he cautions that threats to enforce penalties that are then not implemented may have the unintended negative consequence of revealing to the truly deviant actors just how much they can get away with.⁽²⁶⁷⁾

The long-standing public dissatisfaction with the quality of care provided in South Africa's state funded health facilities and the 'sense of crisis' p.67⁽¹⁸⁷⁾ in the South African health system may have precipitated the regulatory space for an EQA agency with 'command and control' institutional characteristics.⁽¹⁸⁷⁾ Nonetheless, the OHSC needs to consider why the large majority of health facilities are failing to comply with

its quality standards. It needs to support them in addressing the root causes of their non-compliance as a starting point, and, only when it encounters true negligence, implement more severe sanctions. ⁽²⁶⁷⁾ This process of meeting health facilities where they are, understanding and supporting them, will, as some of the interviewees and the responsive regulation literature suggest, build fairness and thus legitimacy around the OHSC's EQAs and as a result encourage voluntary compliance. ⁽²⁶⁷⁾ By so doing, the OHSC will avert the inevitable capacity overload that seems inevitable once the standards are enshrined in law. At the time of this research only a single health facility had reached compliance status on the mock-EQAs in the entire country ⁽⁷²⁾, suggesting that if the OHSC does not reconsider its punitive model it will have to apply sanctions to almost every health facility in the country. This is an unsustainable exercise and a distraction from directing resources to the costly exercise of tackling the truly bad or truly incompetent apples. ⁽²⁶⁷⁾

It is important that the OHSC, in its implementation of the EQAs, sees and treats frontline healthcare managers as people. ⁽³⁰⁶⁾ Wilson et al.'s research reveals that South African frontline healthcare managers have identified an 'authoritarian, unsupportive, punitive and blaming organisational culture' p. 136 ⁽³⁰⁶⁾ from higher authorities in the health system as contributing to their poor wellbeing and undermining their ability to lead effectively. ⁽³⁰⁶⁾ As a new authority figure within the health system, the OHSC should be careful not to further aggravate poor wellbeing amongst frontline managers, by implementing the EQAs in a manner that further demotivates these healthcare workers. ⁽³⁰⁶⁾ Considering that the health facilities that participated in this research were from provinces recommended as receptive research sites by the OHSC, the negative sentiments on the implementation of EQAs identified

in this research are likely to be more pronounced in provinces that were less enthusiastic about piloting the OHSC's EQAs. This suggests that the findings of this research may be pointing to even greater cynicism and disillusionment than identified in this research amongst healthcare workers in the wider South African health system.

Health system reform is likely to have an impact on a number of the determinants of health worker motivation. ^(158,278) Policymakers need to give careful consideration to the implications of such impacts before implementing reforms and structure reforms in such a way that they promote worker motivation rather than diminish it. ^(158,278)

The interests of frontline healthcare workers should be taken into consideration in any intervention that seeks to improve quality of care, so as to avoid unintended negative consequences. ⁽²⁹⁹⁾ South Africa's oldest EQA agency, COHSASA, has recognised the need to encourage healthcare workers on the journey towards accreditation by issuing certificates at various stages of achievement. ⁽⁵⁹⁾ The OHSC would do well to give consideration to such an approach, particularly in light of the findings of this research which are supported by the work of others, suggesting that recognition of efforts to deliver high quality care is of particular importance to healthcare workers. ⁽²⁸⁸⁻²⁹³⁾ Furthermore, the regulatory theory literature suggests that procedural justice, which refers to how the regulating authority interacts with the regulatees and whether they show them respect, treat them with dignity and are seen to be fair in the manner in which they enforce the regulation, builds legitimacy in the regulatory exercise and encourages voluntary compliance. ⁽²⁶⁹⁾

Examining the OHSC's programme theory, and considering this alongside interviews with inspectors, suggests that the OHSC does not see the educational and professional

development potential of EQA as a key process for reaching its goals. This is a missed opportunity. The findings of this research suggest that the OHSC should consider activating this mechanism⁽⁷⁴⁾ and formalising its role as educator and using the introduction of mandated EQAs in the South African health system as an opportunity not only to assess compliance with standards, but also to professionally develop, capacitate and empower healthcare workers. This would serve also to increase the efficiency of the taxpayer's investment that has been made into the OHSC.⁽²⁵⁷⁾ COHSASA recognised from quite early on that South African health facilities would need a considerable amount of support in order to achieve EQA standards.⁽⁵⁶⁾ COHSASA built into their EQA process a capacity building programme, described in earlier chapters. The programme supported healthcare workers in understanding EQA standards and facilitated the implementation of systems to achieve the standards.⁽⁵⁶⁾ Even with the global trend of EQA agencies playing an increasingly regulatory function in the health system, the majority of EQA agencies provide coaching and support to healthcare facilities to facilitate them complying with EQA standards.⁽⁵²⁾

Complex Adaptive Systems are inherently made up of parts, components or individuals that co-learn from each other and from changes in their environment and co-evolve (in both positive and negative ways⁽⁴⁾) as a result of these learnings.^(3,307) This inherent nature of health facilities (which themselves are Complex Adaptive Systems⁽³⁾) should be leveraged by the OHSC, and used as a means to further its goals.⁽³⁰⁷⁾ An example of this would be identifying low cost but high impact innovations in use at some of the high-performing facilities, such as the risk register utilised at Hospital 1a, and sharing these best practices across health facilities. In

implementing its EQAs, the OHSC should bear in mind that ‘...the behaviours of complex adaptive systems can usually be more easily influenced than controlled.’

Rouse, p.18 ⁽⁴⁾

Table 40 below summarises some of the assumptions underpinning the OHSC’s programme theory and reflections on the assumptions that were not found to hold in practice as described above. The OHSC would do well to develop an explicit programme theory and published logic model which would serve to clearly articulate to the organisation, healthcare workers and the public how its EQAs intend on improving quality of healthcare and patient outcomes in South Africa. ⁽⁷⁶⁾ Understanding the causal processes that the OHSC seeks to disrupt is critical to preventing regulatory failure. ⁽²⁵⁷⁾ This process might also assist in aligning perspectives between healthcare workers, inspectors and other stakeholders on what the OHSC’s EQAs are and what they are not, what they can achieve and what they cannot achieve, as well as assisting in identifying missed opportunities and mechanisms that if activated would strengthen the OHSC programme theory. ^{(90) (74)}

Table 40: Reflections on Office of Health Standards Compliance's Programme Theory assumptions

Assumption	Empirical findings
<i>Inputs</i>	
Independent and adequately funded EQA agency	This research suggests that the independence of the OHSC was not always clear to frontline healthcare workers and that at times they saw the OHSC as an extension of the Ministry of Health. This research suggests that this misalignment of perspectives may have contributed to the resentment expressed by healthcare workers of having to comply with regulatory standards whilst not being adequately supported and capacitated to do so by the Ministry of Health. This research also suggests that there seems to be an assumption amongst the inspectors at least that to maintain their objectivity as an office they cannot get involved in educating healthcare workers on how to effectively implement the standards. This is a missed opportunity and this research (and the work of others ⁽²⁶⁴⁾) suggests that activating the educational potential of EQA might strengthen the OHSC's programme theory. The adequacy of the funding of the OHSC was not tested in this research.
Qualified and trained inspectors conduct EQAs	This research suggests that in practice inspectors were not adequately trained. This may account for the inconsistencies

	between EQAs reported by healthcare workers interviewed and acknowledged by inspectors. The poor training of inspectors threatens to undermine the credibility of the OHSC EQAs.
Enabling regulation	The assumptions underpinning this input were not tested in this research
Credible, defined, published and measurable quality standards are used to conduct EQAs	This research suggests that in practice there was, at times, misalignment of the OHSC standards with the wider regulatory environment which resulted in confusion and frustration amongst healthcare workers.
<i>Processes</i>	
Health facilities have sufficient staff and capacity to conduct internal assessments pre-EQA and perform remedial actions based on internal EQA findings	This research suggests that in practice health facilities (particularly rural health facilities) do not always have the human resources and the capacity to conduct pre-EQA internal assessments and address the shortcomings identified. Only a single hospital in this research reported making an attempt at conducting an internal assessment prior to their EQA.
Health facility leaders have the decision-making space to effect changes that result in improved compliance with the quality standards	This research reveals that district hospital CEOs do not always have all the necessary decision-making space to make operational decisions that will allow them to comply with the National Core Standards.
Health facilities act on EQA reports received post-EQA	This research suggests that due to the human resource constraints reported by interviewees, health facilities (particularly rural district health facilities) did not always have the human resources to act on the findings of their EQA reports. In this research only a single hospital reported acting on the findings of their EQA report.

The threat of penalties will motivate healthcare workers to comply with EQA standards	The findings of this research suggest that issuing penalties to healthcare workers as a result of non-compliance with EQA standards may result in unintended negative consequences as described above and a paradoxical deterioration in the quality of care in the health system.
<i>Outcomes</i>	
Compliant health facilities will maintain standards of quality of care	This research suggests that even within some of the better-performing health facilities, healthcare workers reported that they would be unable to maintain EQA standards post-EQA due to worsening human resource constraints.
Non-compliant health facilities will make changes within their organisations to comply with standards	This research suggests that district hospital CEOs do not have the decision-making autonomy to make effective changes within their health facilities that will allow them to comply with EQA standards.
<i>Impact</i>	
Improved patient outcomes	The quantitative analysis conducted in this research does not suggest a relationship between EQA and improved patient outcomes, specifically Healthcare Associated Infections.

The above assumptions are limited by the simplicity of the programme theory developed in this research and future research should look to develop a richer programme theory with multiple stakeholders that comes closer to accounting for the full complexity of the OHSC EQAs.

8.5.3. Implications for future research

The ITSAs performed in this research should be repeated again after the legislation has been fully enshrined in law. At this stage the ‘real’ EQAs with consequences will be in operation, and it will be necessary to assess the difference between the mock EQAs and the ‘real’ EQAs on patient outcomes. Furthermore as MRSA levels are decreasing in South African hospitals ^(197,308), future research should look at the impact of EQA on other patient outcome measures, such as pressure ulcers, that are attributable to organisational practices. ⁽¹⁴⁷⁾

This research only looked at facilitators of and barriers to health facility performance in EQA at the district hospital level. Future research is needed into facilitators of and barriers to health facility performance in EQA at lower and higher levels of care, e.g. clinics and specialist-care hospitals respectively. This research focused on rural district hospitals; future research should look into whether the findings of this research are consistent in urban settings and explore whether urban health facilities face unique challenges. Initiatives such as the Academy for Leadership and Management in Healthcare, launched by the South African Minister of Health in 2012 ⁽³⁰⁹⁾ seek to improve leadership capacity in South African state funded health facilities. These initiatives should be evaluated to assess whether they are successful in effecting change in the health system, and if found to do so should be scaled up so as to build capacity in health facility leadership teams in order to enable them to effectively use increased delegations of authority.

The literature on organisational cultures of South African state funded health facilities remains limited ⁽²⁴⁷⁾, and more research is needed into what factors contribute to organisational cultures that support teamwork, shared conviction in the ability to achieve and quality climates in South African state funded health facilities.

The use of Cabrera's 'Distinction, System, Relationship, and Perspective' conceptual lens ⁽²²⁸⁾ was helpful in supporting being deliberate about analysing prominent themes that emerged from the qualitative data using a systems thinking lens in a systematic way. It was this deliberateness that sensitised my analysis to the potential unintended consequences of the new EQA policy in South Africa. Future research would do well to apply Cabrera's conceptual framework to the analysis of health policy research, particularly in the low and middle-income country context.

This research reveals that there may be some gaming of EQAs by healthcare workers. However this finding was reported only by the inspectors and it was beyond the scope of this research to explore the extent and validity of this assertion with healthcare workers. Future research should explore the issue of so-called 'malicious compliance' in the South African health system as it relates to EQAs of the OHSC.

This research demonstrates that some of the findings on qualitative enquiry are aligned to how the facilities performed in EQA. This was reflected in the respective health facility EQA reports, specifically with regards to standards on the effectiveness of hospital leadership, organisational culture, information management and community engagement. This finding points to some validity in the standards themselves. Assessing the validity of the standards was not one of the objectives of

this research, and future research should look to answering this pertinent research question, particularly in light of the investment the South African government has made and intends to continue making into the EQAs of the OHSC. ⁽⁶⁶⁾ The issue is also crucial because of the amount of time health facilities dedicate to preparing for EQAs, as witnessed myself as a frontline healthcare worker in the South African healthcare system, and as has been reported as well by others in research on EQA in other country healthcare systems. ⁽¹³²⁾

The regulatory theory literature suggests that very detailed and restrictive standards, such as those of the OHSC, may result in regulatees focusing on ticking boxes rather than the spirit the standards are supposed to uphold. ⁽³¹⁰⁾ The literature suggests that this approach to standard setting may stunt the creativity of those being regulated and assessed. ⁽³¹⁰⁾ These healthcare workers might have other means of providing high quality services, that are not included in the formal standards. ⁽³¹⁰⁾ This is a point made by some of the interviewees in this research. Additional research is needed to explore these concerns fully in the context of the work of the OHSC.

The OHSC is being set up in such a way that, once fully established, it will be the primary regulator of quality of care in the South African health system. It will determine norms and standards for the quality of service provision in both public and private health facilities at all levels of service provision. It will have powers to decide which health facilities receive funding from the proposed National Health Insurance Fund, the soon-to-be major purchaser of healthcare for South Africa's people. ⁽⁶⁶⁾ This thesis has illuminated some of the strengths, weaknesses and potential unintended negative consequences of this largely under-researched health system intervention. It

is my hope that the findings in this dissertation will contribute to strengthening the further design and implementation of the regulatory work of the OHSC and support the delivery of high quality care to South Africa's people. ⁽²⁵⁷⁾

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Appendices

Appendix A: Functions of the Office of Health Standards Compliance

Functions of Office of Health Standards Compliance	
-As described in the National Health Amendment Act, no. 12 of 2013	
‘1) The Office Must-’	
‘a)	advise the Minister on matters relating to the determination of norms and standards to be prescribed for the national health system and the review of such norms and standards;’
‘b)	inspect and certify health establishments as compliant or non-complaint with prescribed norms and standards or, where appropriate and necessary, withdraw such certification;’
‘c)	investigate complaints relating to breaches of prescribed norms and standards;’
‘d)	monitor indicators of risk as an early warning system relating to serious breaches of norms and standards and report any breaches to the Minister without delay;’
‘e)	identify areas and make recommendations for intervention by a national and provincial department of health or a health department of a municipality, or health establishment, where it is necessary, to ensure compliance with prescribed norms and standards;’
‘f)	publish information relating to prescribed norms and standards through the media and, where appropriate, to specific communities;’
‘g)	recommend quality assurance and management systems for the national health system to the Minister for approval;’
‘h)	keep records of all its activities;’
‘i)	advise the Minister on any Matter referred to it by the Minister;’
‘2) The Office may-’	
‘a)	issue guidelines for the benefit of health establishments on the implementation of prescribed norms and standards’
‘b)	collect or request any information relating to prescribed norms and standards from health establishments and users’
‘c)	liaise with any other regulatory authority and may, without limiting the generality of power, require the necessary information from, exchange information with and receive information from any such authority in respect of-’

‘(i) matters of common interest’ ‘(ii) a specific complaint or investigation’
‘e) negotiate cooperative agreements with any regulatory authority in order to- (i) coordinate and harmonise the exercise of jurisdiction over health norms and standards (ii) ensure the consistent application of the Act’

Table taken directly from National Health Amendment Act, No. 12 of 2013 p.6⁽⁴⁷⁾

Appendix B: The ‘theory of change’ for the United Kingdom’s Healthcare

Commission External Quality Assessment programme

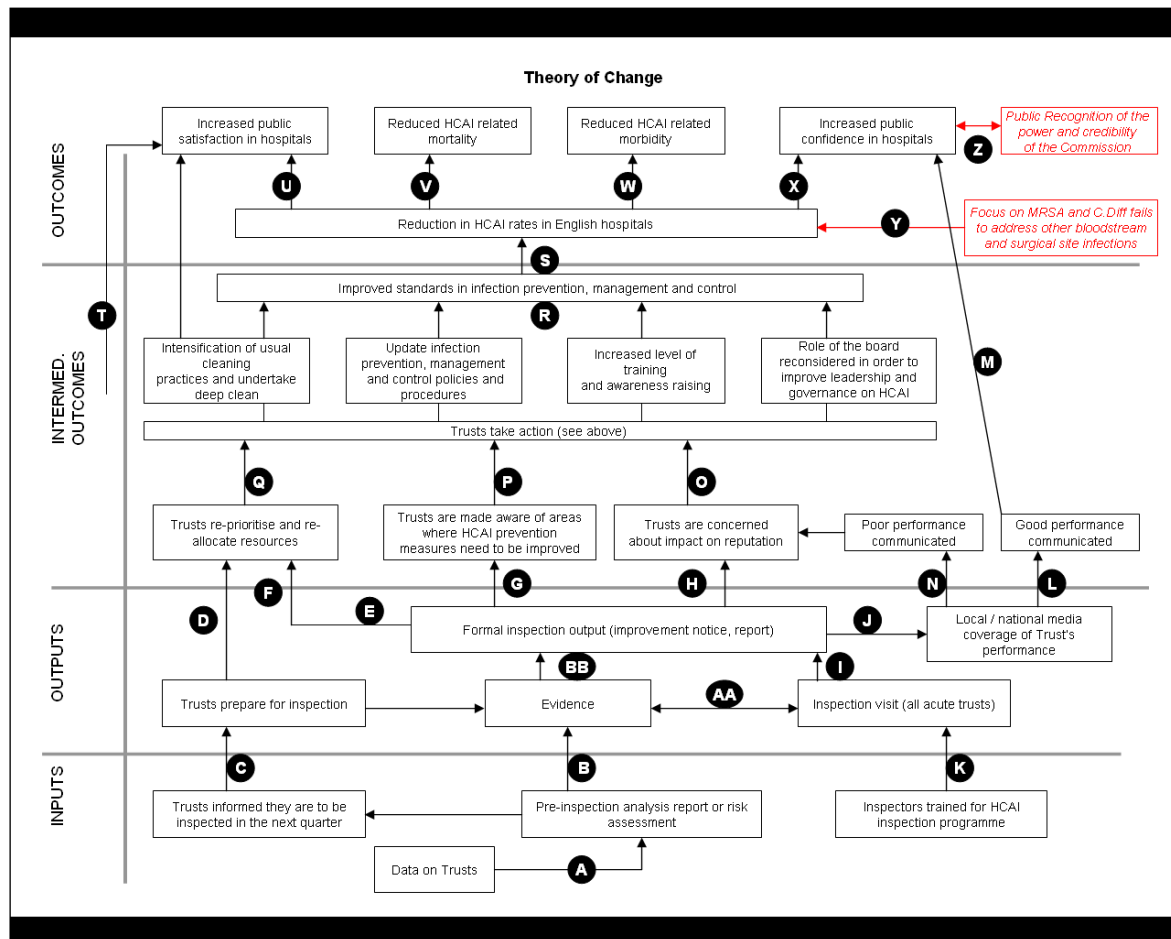


Figure taken directly from OPM report, p.12⁽⁹⁷⁾

Key to the 'connectors' in above 'Theory of Change'

- A. 'Data are used by the analyst team to create a risk matrix of all acute NHS trusts relating to the hygiene code. The risk matrix highlights potential breaches in the trusts. The analyst team reviews the risk matrix and selects a number of trusts to be inspected in the next tranche of inspections, based on the date of their last inspection and achieving a balance in terms of region location and between high, medium and low risk trusts. Ideally the highest risk trusts would be inspected as a priority, but in practice each tranche includes an even spread in order to stratify the workload (data from interviews).'
- B. 'Using the relevant data, the analyst team will produce a pre-inspection analysis report for each of the trusts that have been selected for inspection in the batch. This information can help the inspection team to determine what Hygiene Code duties to focus on during the inspection and to plan the inspection itself.'
- C. 'The trusts that have been selected to be inspected are informed that they will be inspected any time in the next quarter. As part of the notification process, the trust is asked to submit some documents to the Healthcare Commission which are used by the lead assessor when preparing for inspections.'
- D. 'The prospect of inspection (and preparations for it) may lead trusts to take steps that improve cleanliness before any inspection visit actually takes place.'
- E. 'Outputs such as an Inspection Report which highlights areas requiring improvement and makes recommendations as to how the trust needs to improve. The trust will act on those comments and takes steps to improve its practices. Another output is an improvement notice which may result from failure to observe the Hygiene Code, a trust is required to draw up an action plan to specify how it will remedy the material breaches of the code that have been identified and the notice will be lifted once these steps have been followed. Therefore, recommendations from the report or actions following an improvement notice may lead to the trust changing their practice.'

- F. 'Following a formal inspection output the trust may raise the priority of actions and improvements of which they were previously aware, but which have not yet been implemented.'
- G. 'Formal inspection output may also lead to raising awareness in the trust as to areas where HCAI prevention measures need to be improved.'
- H. 'A trust may be concerned about the impact of an inspection output such as a published summary report, or an improvement notice, on their reputation.'
- I. 'During the inspection, the inspection team will look for a likely breach of the Hygiene Code and this will feed into the formal inspection output, either an inspection report with recommendations or an improvement notice.'
- J. 'HCC or the trust issues a press release following improvement notice/publication of summary report to the media.'
- K. 'Inspectors trained around Hygiene Code and HCAIs in order to undertake inspections.'
- L. 'Outcomes for inspection made public in the national or local media and have a positive impact on the trust's reputation.'
- M. 'This has the effect of increasing the Public's confidence in their local hospital or in hospitals, generally.'
- N. 'Outcomes for inspection made public in the national or local media and have a negative impact on the trust's reputation.'
- O. 'Concern about the impact of the inspection on the trust's reputation may encourage Trusts to take action to reduce HCAIs.'
- P. 'Through either recommendations in the report or an action plan as a result of an improvement notice, a trust becomes aware of the areas to be improved and undertakes action to reduce HCAIs, as above.'
- Q. 'Through preparations for an inspection, a trust may re-prioritise and re-allocate resources to take actions to reduce HCAIs.'
- R. 'Actions taken to reduce HCAIs may lead to improved standards in infection prevention, management and control.'

- S. 'Improved standards in infection prevention, management and control lead to reduced incidences of HCAIs and the rate of HCAIs in English hospitals is reduced.'
- T. 'Intensification of usual cleaning practices and undertaking a deep clean leads to greater public satisfaction with the hospital because the hospital wards and equipment is visibly cleaner.'
- U. 'Reduction in the rate of HCAIs in English hospitals leads to greater public satisfaction.'
- V. 'Reduction in the rate of HCAIs in English hospitals leads to reduced HCAI related mortality.'
- W. 'Reduction in the rate of HCAIs in English hospitals leads to reduced HCAI related morbidity.'
- X. 'Reduction in the rate of HCAIs in English hospitals leads to greater public confidence in hospitals.'
- Y. 'In addition to increased public confidence in hospitals because of a reduction in the rate of HCAIs, there is public recognition of the power and credibility of the Healthcare Commission.'
- Z. 'An un-intended effect of the inspection programme on focusing solely on MRSA and C-Difficile may be that there is no impact on the rates of other surgical site and bloodstream infections.'
- AA. 'As part of the notification process the trust is asked to submit evidence which will be used by the Lead Assessor to plan the inspection. Evidence is also collected by the inspectors during the site visit.'
- BB. 'Both types of evidence will contribute to the formal inspection output.'

Key to connectors taken directly from OPM report, p.13-14 ⁽⁹⁷⁾

Appendix C: The Six Priority Areas of the National Core Standards

1. 'Caring staff and the feeling of being cared for'
2. 'Cleanliness of facilities'
3. 'Waiting times to receive care'
4. 'Safety from accidental harm or medical errors'
5. 'The risk of being infected in hospital'
6. 'Shortage of medicine'

Priority areas cited directly as described in the 2011 publication of the South African National Department of Health, 'Fast Track to Quality: The six most critical areas for patient centered care' p. 4-5 ⁽⁷⁸⁾

Appendix D: Excluded articles- Literature Review on the relationship between
External Quality Assessment and patient outcomes

Article reference:	Reason for exclusion
Daucourt, V.; Michel, P. <i>'Results of the first 100 accreditation procedures in France'</i> International Journal for Quality in Healthcare; 2003, 15(6); pp. 463-471	This paper does not answer the review question that is the subject of this research.
Flodgren, G.; Pomey, M.; Tabler, S.; Eccles, M. <i>'Effectiveness of external inspection of compliance with standards in improving healthcare organisation behaviour, healthcare professional behaviour or patient outcomes'</i> Cochrane Database of Systematic Reviews, 2011, 11; pp.1-44	This systematic review only yielded two papers, one of which is already included in the review conducted in this thesis i.e. Salmon et al. ⁽⁴²⁾ , the other an excluded paper i.e. OPM evaluation team ⁽⁹⁷⁾ (see below).
Griffith, J.; Knutzen, S.; Alexander, J. <i>'Structural versus Outcomes Measures in Hospitals: A Comparison of Joint Commission and Medicare Outcomes Scores in Hospitals'</i> Quality Management in Health Care, 2002, 10(2); pp29-38	This paper looks at the robustness of outcomes measures used by the Joint Commission on Accreditation of Healthcare Organizations and does not answer the review question that is the subject of this research.
Mumford, V.; Forde, K.; Greenfield, D.; Hinchcliff, R.; Braithwaite, J. <i>'Health services accreditation: what is the evidence that the benefits justify the costs?'</i> International Journal for Quality in Health Care; 2013, 25(5); pp.606-620	This paper represents a non-systematic review of the literature for studies that assess the economic evaluation of health services accreditation and does not empirically answer the review question that is the subject of this research.
Ng, G.; Leung, G.; Johnston, J.; Cowling, B. <i>'Factors affecting implementation of accreditation programmes and the impact of the accreditation'</i>	This article represents a non-systematic review of factors that impact the implementation of an accreditation programme and the impact of

<i>process on quality improvement in hospitals: a SWOT analysis</i>' Hong Kong Medical Journal, 2013, 19; pp434-436	accreditation on quality improvement in health facilities and thus does not answer the review question that is the subject of this research.
OPM evaluation team. <i>'Evaluation of the healthcare commission's healthcare associated infections inspection programme.'</i> Report for the Care Quality Commission, 2009:1-83	This research presents a report on an EQA programme specifically designed to inspect acute trusts in England against a HAI code of practice and does not represent an organisation-level EQA programme.
Sack, C.; Lutkes, P.; Gunther, W.; Erbel, R.; Jockel, KH.; Holtmann, G. <i>'Challenging the holy grail of hospital accreditation: A cross sectional study of inpatient satisfaction in the field of cardiology'</i>, BMC Health Services Research 2010, 10(120)	This paper compares patient satisfaction rates between accredited and non accredited German cardiology units i.e. a defined specialty area rather than organisation-level EQA.
Scrivens, E. <i>'Impact of accreditation systems upon patient care'</i>, Journal of Clinical Effectiveness, 2(4); pp.102-105	This paper presents a descriptive discussion of the relationship between EQA and patient outcomes, and does not empirically measure that relationship and thus does not fulfill the inclusion criteria for this review.
Shaw, C.; Groene, O.; Botje, D. <i>'The effect of certification and accreditation on quality management in 4 clinical services in 73 European hospitals'</i> International Journal for Quality in Health Care; 2014, 26(S1); pp. 100-107	This paper does not assess the relationship between EQA and patient outcomes but rather the relationship between EQA and compliance with quality management activities e.g. patient safety guidelines.
Telem, D.; Talamini, M.; Altieri, M.; Yang, J.; Zhamg, Q.; Pryor, A. <i>'The effect of national hospital accreditation in bariatric surgery on perioperative outcomes and long-term mortality.'</i> Surgery for Obesity and Related Diseases; 2015, 11; pp. 749-757	This study's focus is a discipline specific EQA programme i.e. Centres of Excellence in bariatric surgery EQA programme, and does not represent an organisation-level EQA programme.

Appendix E: Excluded articles-Narrative synthesis on the facilitators of and barriers to health facility performance in External Quality Assessment

Article	Reason for exclusion
Addington, D.; Kyle, T.; Desai, S.; Wang, J. <i>Facilitators and barriers to implementing quality measurement in primary mental health care</i> , Canadian Family Physician 2010; 56; pp. 1322-31	The majority of papers included in Addington et al's review are papers on health care innovations and clinical guidelines and not on External Quality Assessment (EQA) and of the included papers that were categorized under 'quality indicator studies' none of these papers were concerned with EQA.
Fairbrother, G.; Gleeson, M. <i>EQulP accreditation: Feedback from a Sydney teaching hospital</i> , Australia Health Review 2000; 23(1); pp. 153-62	The research singularly assesses the perspectives of hospital staff on the experience of EQA and does not extend to answering the questions of facilitators, barriers or determinants of performance, implementation or uptake of EQA.

Appendix F: Excluded articles-Literature review on the experience of health facility
External Quality Assessment by frontline healthcare workers

Article	Reason for exclusion
Bohigas, L.; 'Hospital accreditation: The Catalan experience', World Hospitals 1984; XX(2); pp. 20-23	A none-empirical piece of work
Boucher, B.; Francisco, M.; Øvretveit, J. 'The Zambia Quality Assurance Program: successes and challenges', International Journal for Quality in Healthcare 2002; 14(I); pp. 89-75	This research does not represent the views of frontline healthcare workers, but rather expert evaluators.
Chiu, A.; Seto, W.; Lai, L. 'Journey of a Hong Kong public teaching hospital in preparation of hospital accreditation', Hong Kong Medical Journal, 2007; 17; pp.231-236	A none-empirical piece of work
El-Jardali, F.; Jamal, D.; Dimassi, H.; Ammar, W.; Tchaghchaghian, V. 'The impact of hospital accreditation on quality of care: perception of Lebanese nurses', International Journal for Quality in Health Care, 2008; 20(5); pp. 363-371	Assesses healthcare workers perceptions of how EQA impacts patient care rather than how undergoing EQA was experienced.
El-Jardali, F.; Hemadeh, R.; Jaafar, M.; Sagherian, L.; El-Skaff, L.; Mdeihly, R.; Jamal, D.; Ataya, N. 'The impact of accreditation of primary healthcare centres: successes, challenges and policy implications as perceived by healthcare providers and directors in Lebanon', BMC Health Services Research, 2014; 14(86); pp.1-10	Assesses PHC healthcare workers perceptions of how EQA impacts patient care rather, patient satisfaction and staff satisfaction rather than how undergoing EQA was experienced.
Manzo, B.; Ribeiro, H.; Brito, M.; Alves, M. 'Nursing in the hospital accreditation process: practice and implications in the work quotidian', Rev. Latino-Am. Enfermagem, 2012; 20(1); pp.151-158	This research provides insights on the role of nurses in the EQA process and the benefits of EQA for nurses, as well the related theme: challenges nurses

	experience in undergoing EQA, it does not however adequately answer the review question.
Siman, A.; Brito, M.; Carrasco, M.; <i>'Participation of the nurse manager in the process of hospital accreditation'</i> , Rev Gaúche Enferm.; 2014; 35(2); pp.93-99	This research provides insight into the role the nursing manager plays in the EQA process, it does not however answer the review question.

Appendix G: *Methicillin-resistant Staphylococcus Aureus* patient level data Hospital I

by month:07/2004-06/2014

Date	Time_period	Cases
2004-07	1	25
2004-08	2	29
2004-09	3	25
2004-10	4	23
2004-11	5	19
2004-12	6	27
2005-01	7	24
2005-02	8	20
2005-03	9	29
2005-04	10	31
2005-05	11	22
2005-06	12	17
2005-07	13	19
2005-08	14	26
2005-09	15	21
2005-10	16	9
2005-11	17	27
2005-12	18	26
2006-01	19	26
2006-02	20	23
2006-03	21	28
2006-04	22	34
2006-05	23	23
2006-06	24	22

2006-07	25	19
2006-08	26	25
2006-09	27	26
2006-10	28	29
2006-11	29	22
2006-12	30	16
2007-01	31	18
2007-02	32	22
2007-03	33	22
2007-04	34	17
2007-05	35	25
2007-06	36	14
2007-07	37	14
2007-08	38	24
2007-09	39	24
2007-10	40	15
2007-11	41	22
2007-12	42	16
2008-01	43	24
2008-02	44	17
2008-03	45	16
2008-04	46	14
2008-05	47	19
2008-06	48	13
2008-07	49	24
2008-08	50	27
2008-09	51	15
2008-10	52	18
2008-11	53	15

2008-12	54	11
2009-01	55	20
2009-02	56	10
2009-03	57	10
2009-04	58	17
2009-05	59	12
2009-06	60	10
2009-07	61	21
2009-08	62	18
2009-09	63	21
2009-10	64	16
2009-11	65	12
2009-12	66	19
2010-01	67	23
2010-02	68	14
2010-03	69	27
2010-04	70	42
2010-05	71	31
2010-06	72	43
2010-07	73	45
2010-08	74	21
2010-09	75	15
2010-10	76	18
2010-11	77	11
2010-12	78	31
2011-01	79	23
2011-02	80	28
2011-03	81	19
2011-04	82	12

2011-05	83	15
2011-06	84	21
2011-07	85	25
2011-08	86	17
2011-09	87	10
2011-10	88	12
2011-11	89	14
2011-12	90	9
2012-01	91	9
2012-02	92	13
2012-03	93	11
2012-04	94	19
2012-05	95	8
2012-06	96	6
2012-07	97	13
2012-08	98	11
2012-09	99	8
2012-10	100	12
2012-11	101	21
2012-12	102	12
2013-01	103	19
2013-02	104	13
2013-03	105	13
2013-04	106	21
2013-05	107	14
2013-06	108	14
2013-07	109	11
2013-08	110	15
2013-09	111	16

2013-10	112	11
2013-11	113	8
2013-12	114	5
2014-01	115	10
2014-02	116	11
2014-03	117	10
2014-04	118	8
2014-05	119	9
2014-06	120	14

Appendix H: 'Distinction System Relationship Perspective' Metamaps and Keys

The 4 rules of DSRP, as defined by Cabrera, p.9⁽²²⁸⁾, are as follows:

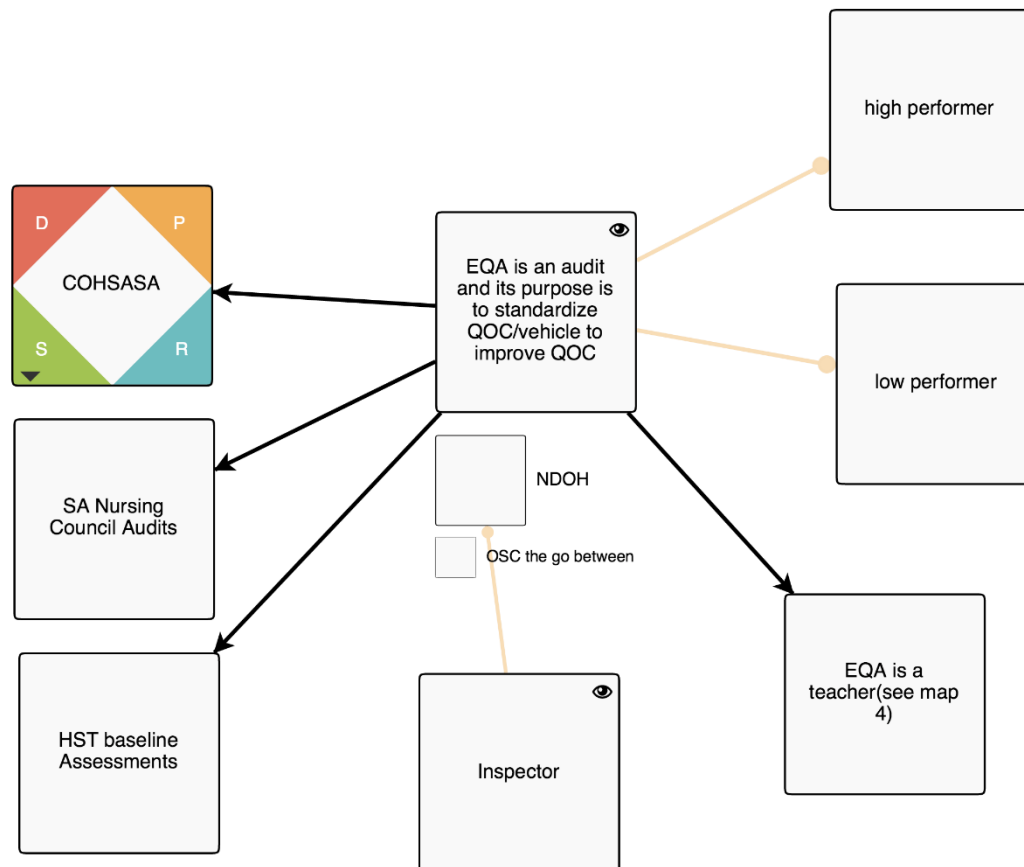
Distinctions Rule: 'Any idea or thing can be distinguished from the other ideas or things it is with' p.9⁽²²⁸⁾

Systems Rule: 'Any idea or thing can be split into parts or lumped into a whole' p.9⁽²²⁸⁾

Relationship Rule: 'Any idea or thing can relate to other ideas or things' p.9⁽²²⁸⁾

Perspective Rule: 'Any thing or idea can be the point or the view of a perspective' p.9⁽²²⁸⁾

The DSRP rules were used iteratively to analyse the themes that emerged from the qualitative data and to explore them more systematically, as is illustrated the example metamap and associated keys below

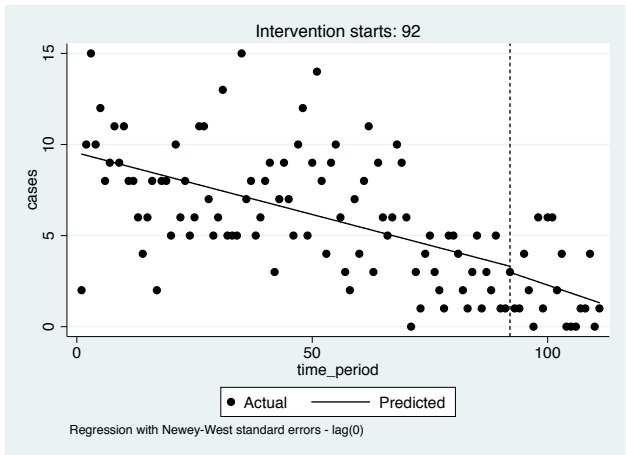


- D: EQA is an audit and its purpose is to standardise care
EQA is seen as distinct from HST baseline assessments, South African nursing council audits and COHSASA
- S: EQA is viewed as part of the National Department of Health, the OHSC is the go between (between the rural healthcare worker and the National Department of Health)
- R: Negative sentiments on EQA may be related to the perspective that the OHSC is a part of the National Department of Health
EQA is also viewed as teacher (related to map 2)
- P: The above perspectives are held by healthcare workers from high-performing health facilities as well as low-performing health facilities.

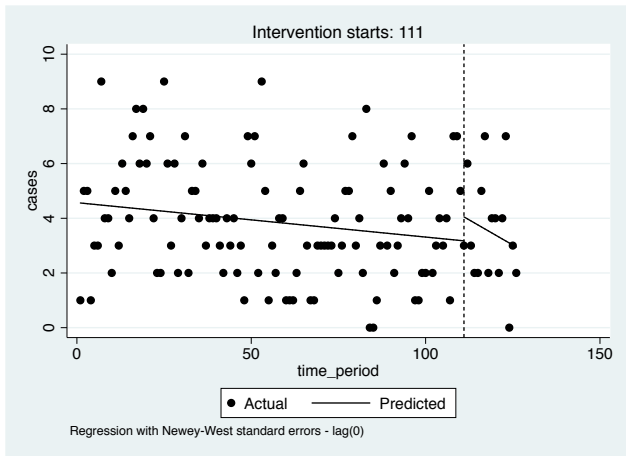
The perspective that OHSC is the mouthpiece for the district healthcare worker is also validated by the experiences of the inspectors in their shared interactions with healthcare workers.

Appendix I: Graphical representation of Interrupted Time Series Analyses for hospitals where an effect of External Quality Assessment on *Methicillin-resistant Staphylococcus Aureus* was not found:

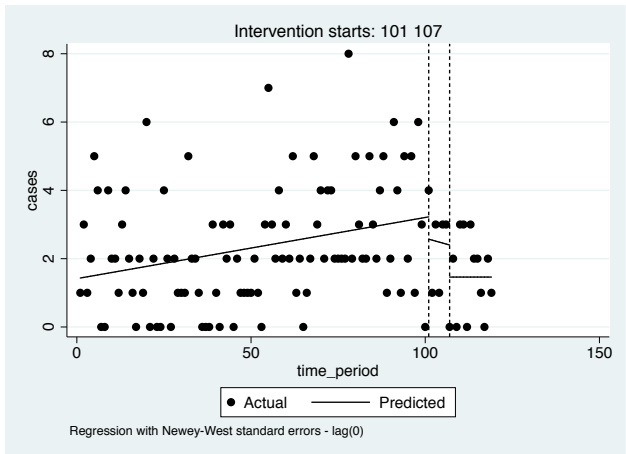
Hospital II



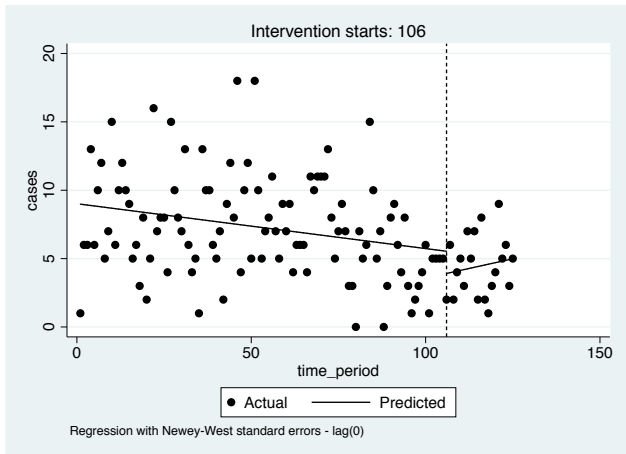
Hospital III



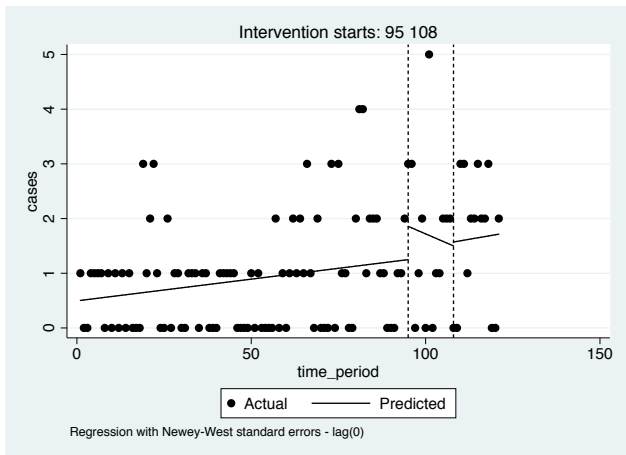
Hospital IV



Hospital VI



Hospital VIII



Appendix J: Cumby-Huizinga general tests for autocorrelation

The Cumby-Huizinga general test for autocorrelation tests for autocorrelation of a moving averages structure in a dataset and tells us how many lag orders are serially correlated i.e. autocorrelated. ⁽³¹¹⁾ The Cumby-Huizinga general test for autocorrelation tests for autocorrelation at a range of lags (left side table) as well as at specified lag orders (right side table). The null hypothesis for the range of lags is that the range of lags are serially uncorrelated i.e. there is no autocorrelation in the range of lags specified. The alternative hypothesis is that autocorrelation is present at the range specified. The null hypothesis for the specific lag orders is that there is no autocorrelation at the lag specified the alternative hypothesis is that there is autocorrelation at the lag specified.

The tables that follow present the results of the Cumby-Huizinga general tests for autocorrelation for all 8 Hospitals included in this research. The results of these tests were used to account for the correct level of autocorrelation in the OLS regression models used for each hospital ITSA.

Hospital I

H0: $q=0$ (serially uncorrelated) HA: serial correlation present at range specified			H0: $q=\text{specified lag}-1$ HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	22.83	<0.01	1	22.83	<0.01
1-2	22.98	<0.01	2	4.24	<0.05

1-3	25.30	<0.01	3	4.51	<0.05
1-4	25.96	<0.01	4	0.68	>0.05
1-5	26.44	<0.01	5	0.69	>0.05
1-6	26.68	<0.01	6	1.29	>0.05

Hospital II

H0: $q=0$ (serially uncorrelated) HA: serial correlation present at range specified			H0: $q=\text{specified lag}-1$ HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	1.39	$p>0.05$	1	1.39	$p>0.05$
1-2	1.97	$p>0.05$	2	0.38	$p>0.05$
1-3	3.15	$p>0.05$	3	0.81	$p>0.05$
1-4	4.42	$p>0.05$	4	1.90	$p>0.05$
1-5	5.01	$p>0.05$	5	0.79	$p>0.05$
1-6	5.01	$p>0.05$	6	0.00	$p>0.05$

Hospital III

H0: $q=0$ (serially uncorrelated) HA: serial correlation present at range specified			H0: $q=\text{specified lag}-1$ HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	0.70	$p>0.05$	1	0.70	$p>0.05$
1-2	0.72	$p>0.05$	2	0.04	$p>0.05$
1-3	1.42	$p>0.05$	3	0.66	$p>0.05$
1-4	1.47	$p>0.05$	4	0.01	$p>0.05$
1-5	1.81	$p>0.05$	5	0.35	$p>0.05$
1-6	1.82	$p>0.05$	6	0.06	$p>0.05$

Hospital IV

H0: $q=0$ (serially uncorrelated)			H0: $q=\text{specified lag-1}$		
HA: serial correlation present at range specified			HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	1.27	$p>0.05$	1	1.27	$p>0.05$
1-2	1.52	$p>0.05$	2	0.13	$p>0.05$
1-3	1.64	$p>0.05$	3	0.07	$p>0.05$
1-4	1.87	$p>0.05$	4	0.32	$p>0.05$
1-5	1.94	$p>0.05$	5	0.03	$p>0.05$
1-6	2.40	$p>0.05$	6	0.55	$p>0.05$

Hospital V

H0: $q=0$ (serially uncorrelated)			H0: $q=\text{specified lag-1}$		
HA: serial correlation present at range specified			HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	25.46	$p<0.01$	1	25.46	$p<0.01$
1-2	26.19	$p<0.01$	2	6.54	$p<0.05$
1-3	27.21	$p<0.01$	3	0.34	$p>0.05$
1-4	27.27	$p<0.01$	4	0.08	$p>0.05$
1-5	31.20	$p<0.01$	5	2.53	$p<0.05$
1-6	31.90	$p<0.01$	6	0.34	$p<0.05$

Hospital VI

H0: $q=0$ (serially uncorrelated)			H0: $q=\text{specified lag-1}$		
HA: serial correlation present at range specified			HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	0.85	$p>0.05$	1	0.85	$p>0.05$
1-2	1.42	$p>0.05$	2	0.68	$p>0.05$
1-3	2.04	$p>0.05$	3	0.81	$p>0.05$
1-4	7.59	$p>0.05$	4	4.47	$p>0.05$
1-5	8.89	$p>0.05$	5	0.66	$p>0.05$
1-6	9.73	$p>0.05$	6	0.78	$p>0.05$

Hospital VII

H0: $q=0$ (serially uncorrelated)			H0: $q=\text{specified lag-1}$		
HA: serial correlation present at range specified			HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	0.62	$p>0.05$	1	0.62	$p>0.05$
1-2	0.84	$p>0.05$	2	0.17	$p>0.05$
1-3	1.51	$p>0.05$	3	0.55	$p>0.05$
1-4	2.89	$p>0.05$	4	1.68	$p>0.05$
1-5	6.64	$p>0.05$	5	3.93	$p>0.05$
1-6	12.79	$p>0.05$	6	6.17	$p<0.05$

Hospital VIII

H0: $q=0$ (serially uncorrelated) HA: serial correlation present at range specified			H0: $q=\text{specified lag}-1$ HA: Serial correlation present at lag specified		
lags	chi2	p value	lag	chi2	p value
1-1	0.34	>0.05	1	0.34	>0.05
1-2	0.61	>0.05	2	0.30	>0.05
1-3	1.52	>0.05	3	0.83	>0.05
1-4	1.59	>0.05	4	0.10	>0.05
1-5	1.65	>0.05	5	0.14	>0.05
1-6	1.70	>0.05	6	0.03	>0.05

Appendix K: Detailed breakdown of Hospital 1a and Hospital 1b performance in Office of Health Standards Compliance's External Quality Assessment (as extracted from assessment report)

Domains, sub-domains	Hosp. 1a Percentage Score	Hosp. 1b Percentage Score
1		
Patients Rights	75-80	45-50
2		
Patient Safety / Clinical Governance / Clinical Care	85-90	60-65
3		
Clinical Support Services	80-85	50-55
4		
Public Health	75-80	55-60
<i>Population-based planning and service delivery</i>	<i>90-95</i>	<i>75-80</i>
<i>Public participation and intersectoral collaboration support service planning and delivery to improve population health</i>	<i>90-95</i>	<i>80-85</i>
The health establishment receives feedback from and participates in forums for public participation in health planning	95-100	95-100
Management identify community health needs / poor health outcomes and reduced access in their catchment area or	95-100	80-85

population		
Other relevant government entities or departments are actively engaged to promote policies and practices that improve health status	95-100	95-100
Collaboration with relevant authorities and stakeholders is pursued to ensure the health establishment is readily accessible and clearly signposted	65-70	65-70
<i>Effective partnerships and collaboration between different health authorities enhance service delivery to a defined catchment population</i>	<i>95-100</i>	<i>70-75</i>
Collaboration with other relevant health services (including ambulance services and private GP's) is pursued to ensure access to seamless health service delivery for the population	95-100	95-100
Health establishment staff provide direct support and services through outreach to facilities / organisations / patients in their catchment area	95-100	65-70
5		
Leadership and Corporate Governance	90-95	25-30
<i>Oversight and accountability</i>	<i>95-100</i>	<i>5-10</i>
<i>A functional governance structure is in place at the health establishment</i>	<i>95-100</i>	<i>0-5</i>
A governance structure is in place and functional at the health establishment (hospital facility board / community health forums / private sector equivalent)	95-100	0-5
<i>The governance structure provides appropriate oversight to assure the quality / accountability / good management of all business processes</i>	<i>95-100</i>	<i>10-15</i>

• The governance structure actively participates in setting strategic direction in accordance with stakeholder needs	95-100	0-5
• The governance structure ensures proper monitoring of quality of care including patient safety	95-100	0-5
• The governance structure ensures that organisational risks are identified and ameliorated	95-100	0-5
• The governance structure ensures that the financial sustainability of the establishment is assured	95-100	0-5
• The governance structure ensures that there is effective human resources management and development in the establishment	95-100	0-5
• The governance structure monitors senior management performance and compliance with ethical business practice	95-100	20-25
<i>Strategic management</i>	<i>75-80</i>	<i>50-55</i>
<i>The health establishment's management structure and delegations of authority is at the appropriate levels to ensure efficient service delivery at the establishment</i>	<i>65-70</i>	<i>30-35</i>
• The delegation of authority for the manager of the health establishment details his/her limits of authority	95-100	0-5
• A management structure is in place / communicated and is appropriate to the needs of the health establishment	50-55	50-55
<i>Strategic and operational plans support the delivery of services according to clear objectives</i>	<i>95-100</i>	<i>95-100</i>
• The delegation of authority for the manager of the health establishment details his / her limits of authority	95-100	95-100
• Delegation of authority for financial / HR and other processes are clearly documented and adhered to	95-100	95-100
<i>Strategic plans align with national / provincial / parent company priorities</i>	<i>95-100</i>	<i>95-100</i>
• The comprehensive strategic plan is aligned to the national / provincial or parent company strategic plans	95-100	95-100

<i>Operational plans support the delivery of services according to clear objectives</i>	95-100	0-5
The operational plans are aligned with the strategic plans to meet service delivery requirements	95-100	0-5
<i>Senior managers monitor and evaluate operational plans to ensure targets are met</i>	25-30	25-30
Internal and external financial audits are carried out annually to ensure financial sustainability	25-30	25-30
<i>Resources are allocated to meet the strategic and operational plans to ensure service delivery</i>	95-100	50-55
The annual budget is developed as part of the strategic and operational plan to meet agreed priorities within available resources and capacity	95-100	95-100
Efficiencies and savings are identified and incorporated into the budget	95-100	0-5
Human Resource allocation plan ensures sufficient staff to meet the service delivery objectives of the establishment	95-100	0-5
<i>Risk management</i>	95-100	0-5
<i>An effective risk management system ensures risks identified are management effectively</i>	95-100	0-5
Risks are actively monitored and managed to minimise or eliminate identified risks	95-100	0-5
<i>Quality Improvement</i>	95-100	30-35
<i>An active programme to assure and improve quality is implemented and its effectiveness is monitored and evaluated</i>	95-100	30-35
Action is taken and documented to address all identified quality improvement opportunities	95-100	30-35
<i>Effective leadership</i>	85-90	20-25
<i>The senior managers are held accountable for implementing the service delivery objectives of the health establishment against the strategic</i>	95-100	35-40%

<i>and operational plans</i>		
Performance management agreements of the senior managers are aligned with the strategic and operational plans	95-100	40-45
Key senior positions are filled by persons with appropriate competencies / qualifications / experience / knowledge	90-95	50-55
Each senior manager's responsibilities are defined in a current job description	85-90	0-5
<i>Senior managers display the leadership values of the health establishment</i>	65-70	0-5
Senior managers provide positive role models	95-100	0-5
Leadership development is actively supported at all levels	50-55	0-5
<i>Communications and public relations</i>	95-100	0-5
<i>Internal communication activities facilitate staff involvement in the health establishment's aims and improvement initiatives</i>	95-100	0-5
A communication strategy ensures that the staff are informed about all relevant issues within and affecting the establishment	95-100	0-5
Staff are able to actively participate in decision-making on quality related issues in the health establishment	95-100	0-5
6		
Operational Management	75-80	60-65
<i>Information management</i>	85-90	65-70
<i>Data is processed and analysed to provide reports used by management for decision-making and planning</i>	95-100	0-5
Managerial / clinical / administrative information is used to support decision-making and planning	95-100	0-5
<i>A health management information system collects / stores and provides data to meet the needs of management</i>	85-90	80-85

Contingency plans for system failure or other challenges are available and known to staff and managers	75-80	95-100
Health establishment staff have adequate IT skills and support to effectively use the systems provided	95-100	65-70
<i>Financial management</i>	<i>95-100</i>	<i>60-65</i>
<i>Expenditure is managed and monitored to ensure efficiency within legal frameworks</i>	<i>95-100</i>	<i>60-65</i>
Procedures ensure that expenditure meets defined service needs for staff and other inputs	95-100	65-70
Variance Analysis of actual expenditure to budget ensures continuity of service provision	95-100	50-55
<i>Supply chain and asset Management</i>	<i>75-80</i>	<i>35-40</i>
<i>All procedures for the acquisition of assets are transparent and reflect planned needs and budgets</i>	<i>95-100</i>	<i>60-65</i>
Asset and equipment needs are identified in the annual plans and budgets and incorporated into procurement plans	95-100	50-55
All local tendering and contracting processes are in accordance with relevant legislation	95-100	50-55
Policies and procedures to limit influences on purchasing decisions are enforced through transparency and segregation of duties	95-100	95-100
<i>Assets are managed effectively and efficiently to maximise use / maintain adequate levels / reduce losses</i>	<i>95-100</i>	<i>0-5</i>
Maintenance and disposal of assets ensures that assets are managed effectively and efficiently	95-100	0-5
Assets are monitored and variances are addressed	95-100	0-5
Potential loss or theft risks are identified and managed	95-100	0-5

<i>Contracts for the supply of goods and services are managed and monitored to ensure performance / quality / value-for-money</i>	0-5	65-70
• All contract management processes are in accordance with relevant legislation or policy	0-5	95-100
• Contract management is monitored proactively by management to ensure compliance by all parties	0-5	95-100
• Prompt action is taken to address any failure to deliver by the contractor against their service level agreements	0-5	0-5
<i>Efficient management of stock ensures that supplies meet planned service needs at all times</i>	80-85	15-20
• Designated supplier(s) for stock adhere to contractual obligations	65-70	30-35
• There is an up-dated computerised or manual (stock cards) inventory management system for supplies in place	95-100	0-5
<i>Human resource management and development</i>	65-70	60-65
<i>Human resources are managed in accordance with documented human resource policies to ensure safe and effective service provision</i>	55-60	80-85
• Current registration of health care professionals is used as authorisation to provide clinical services consistent with their qualifications	50-55	95-100
• Staffing availability levels in terms of absenteeism / turnover / vacancy rates are monitored and trends are identified and addressed	65-70	75-80
• The health establishment has the most up to date human resource policies and relevant legislation	0-5	95-100
• An approved staffing plan is in place in accordance with occupancy rates / utilisation rates / patient profiles	0-5	0-5
• Staff recruitment and selection procedures are adhered to by the health establishment	95-100	95-100

A human resource retention strategy is designed to ensure adequate and motivated staff	95-100	95-100
<i>Staff performance is reviewed against defined roles and responsibilities to ensure agreed outputs are delivered</i>	<i>95-100</i>	<i>30-35</i>
The responsibilities of each staff member is defined in a current job description	95-100	25-30
Staff are involved in periodic performance reviews to appraise their performance and set objectives and targets	95-100	3-35
<i>A comprehensive programme is implemented to support staff training and continuing professional development</i>	<i>80-85</i>	<i>30-35</i>
Staff members are orientated to the health establishment and to their specific responsibilities	95-100	0-5
Staff members receive on-going in-service education according to their roles and responsibilities	65-70	50-55
7		
Facilities and Infrastructure	75-80	55-60
<i>Buildings and grounds</i>	<i>85-90</i>	<i>65-70</i>
<i>Available infrastructure is appropriately used according to level of care</i>	<i>75-80</i>	<i>65-70</i>
Regular evaluation of the functional suitability of available facilities is undertaken	0-5	0-5
The layout of the health establishment is planned or adapted to ensure that there is space to meet service and patient needs	95-100	95-100
<i>Buildings are maintained to provide safety and promote a positive image of the establishment</i>	<i>50-55</i>	<i>25-30</i>
The establishment holds regular / documented / comprehensive inspections of its physical facilities	50-55	0-5
Maintenance work is carried out promptly and efficiently by appropriately skilled personnel	50-55	50-55

<i>Grounds are maintained to be safe and orderly</i>	<i>95-100</i>	<i>0-5</i>
All pedestrian and vehicular access routes are maintained to ensure the smooth running of the health establishment	95-100	0-5
Emergency vehicle access roads are kept clear	95-100	0-5
<i>The establishment is organised / furnished / equipped to meet patient needs and comfort</i>	<i>95-100</i>	<i>95-100</i>
All areas are adequately furnished and provide an acceptable environment for patient care	95-100	95-100
<i>Waiting areas are appropriately located and provide adequate shelter and seating for patients</i>	<i>95-100</i>	<i>95-100</i>
Waiting areas are appropriately located and adequate for the number of patients using them	95-100	95-100
<i>Machinery and utilities</i>	<i>75-80</i>	<i>65-70</i>
<i>Electrical power / water / sewerage systems are functional and adequate for the needs of the establishment</i>	<i>80-85</i>	<i>65-70</i>
Routine and emergency medical gas and vacuum systems meet the needs of the health establishment	95-100	95-100
Site and floor plans depict the location and layout of the main utility services (water / sanitation / electricity)	0-5	0-5
Emergency generators are regularly tested according to the specifications of the manufacturer	95-100	0-5
Routine and emergency electrical power services are functional and meet the needs of the health establishment	50-55	20-25
Routine and emergency water supplies are functional and meet the needs of the establishment	95-100	0-5
<i>The telephone system enables reliable internal and external communication for routine communication and emergency back-up</i>	<i>90-95</i>	<i>80-85%</i>
A functional back-up system ensures communication in the event of telephone system failure The back-up system is always	95-100	45-50%

functional		
The telephone system is functional and reliable	80-85	95-100
There are private telephone facilities which allow for the communication of private and/or confidential information	95-100	95-100
<i>A functional public communication system allows communication throughout the establishment in the event of an emergency</i>	<i>0-5</i>	<i>0-5</i>
<i>The health establishment has a system for alerting occupants in the event of an emergency</i>	<i>0-5</i>	<i>0-5</i>
<i>Operational plant / machinery / equipment is well maintained and fully functional according to the needs of the health establishment and complies with all regulatory requirements</i>	<i>0-5</i>	<i>0-5</i>
Operational plant / equipment / installations are tested and properly maintained	0-5	0-5
All systems and installations are maintained / tested and inspected according to regulations	0-5	0-5
The operational plant is upgraded / replaced / decommissioned / disposed of according to a documented system	0-5	0-5
Grand Total	80-85	50-55

Appendix L: Detailed breakdown of Hospital 2a and Hospital 2b performance in Office of Health Standards Compliance's External Quality Assessment (as extracted from assessment report)

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
1		
Patients Rights	65-70	45-50
2		
Patient Safety / Clinical Governance / Clinical Care	50-55	40-45
3		
Clinical Support Services	75-80	55-60
4		
Public Health	50-55	50-55
5		
Leadership and Corporate Governance	30-35	30-35
<i>Oversight and accountability</i>	<i>30-35</i>	<i>30-35</i>
A functional governance structure is in place at the health establishment	50-55	50-55

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
A governance structure is in place and functional at the health establishment (hospital facility board / community health forums / private sector equivalent)	50-55	50-55
The governance structure provides appropriate oversight to assure the quality / accountability / good management of all business processes	30-35	30-35
The governance structure actively participates in setting strategic direction in accordance with stakeholder needs	0-5	0-5
The governance structure ensures proper monitoring of quality of care including patient safety	0-5	0-5
The governance structure ensures that organisational risks are identified and ameliorated	0-5	0-5
The governance structure ensures that the financial sustainability of the establishment is assured	0-5	0-5
The governance structure ensures that there is effective human resources management and development in the establishment	0-5	0-5
The governance structure monitors senior management performance and compliance with ethical business practice	60-65	60-65
Strategic management	40-45	40-45
The health establishment's management structure and delegations of authority is at the appropriate levels to ensure efficient service delivery at the establishment	65-70	65-70
The delegation of authority for the manager of the health establishment details his/her limits of authority	95-100	95-100

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
A management structure is in place / communicated and is appropriate to the needs of the health establishment	50-55	50-55
Strategic and operational plans support the delivery of services according to clear objectives	30-35	30-35
The delegation of authority for the manager of the health establishment details his / her limits of authority	95-100	95-100
Delegation of authority for financial / HR and other processes are clearly documented and adhered to	0-5	0-5
Strategic plans align with national / provincial / parent company priorities	95-100	95-100
The comprehensive strategic plan is aligned to the national / provincial or parent company strategic plans	95-100	95-100
Operational plans support the delivery of services according to clear objectives	0-5	0-5
The operational plans are aligned with the strategic plans to meet service delivery requirements	0-5	0-5
Senior managers monitor and evaluate operational plans to ensure targets are met	0-5	0-5
Internal and external financial audits are carried out annually to ensure financial sustainability	0-5	0-5
Resources are allocated to meet the strategic and operational plans to ensure service delivery	75-80	75-80
The annual budget is developed as part of the strategic and operational plan to meet agreed priorities within available resources and capacity	95-100	95-100
Efficiencies and savings are identified and incorporated into the budget	0-5	0-5

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
Human Resource allocation plan ensures sufficient staff to meet the service delivery objectives of the establishment	95-100	95-100
<i>Risk management</i>	<i>0-5</i>	<i>0-5</i>
An effective risk management system ensures risks identified are management effectively	0-5	0-5
Risks are actively monitored and managed to minimise or eliminate identified risks	0-5	0-5
<i>Quality Improvement</i>	<i>30-35</i>	<i>0-5</i>
An active programme to assure and improve quality is implemented and its effectiveness is monitored and evaluated	30-35	0-5
Action is taken and documented to address all identified quality improvement opportunities	30-35	0-5
<i>Effective leadership</i>	<i>25-30</i>	<i>30-35</i>
The senior managers are held accountable for implementing the service delivery objectives of the health establishment against the strategic and operational plans	40-45	45-50
Performance management agreements of the senior managers are aligned with the strategic and operational plans	40-45	60-65
Key senior positions are filled by persons with appropriate competencies / qualifications / experience / knowledge	70-75	20-25
Each senior manager's responsibilities are defined in a current job description	0-5	0-5
Senior managers display the leadership values of the health establishment	0-5	0-5

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
• Senior managers provide positive role models	0-5	0-5
• Leadership development is actively supported at all levels	0-5	0-5
<i>Communications and public relations</i>	<i>0-5</i>	<i>0-5</i>
Internal communication activities facilitate staff involvement in the health establishment's aims and improvement initiatives	0-5	0-5
• A communication strategy ensures that the staff are informed about all relevant issues within and affecting the establishment	0-5	0-5
• Staff are able to actively participate in decision-making on quality related issues in the health establishment	0-5	0-5
Public relations are actively managed to provide accurate and appropriate information on the health establishment's services / programmes / policies	0-5	0-5
• A communication strategy ensures that the public are informed about all relevant issues within and affecting the health establishment	0-5	0-5
6		
Operational Management	50-55	30-35
<i>Information management</i>	<i>65-70</i>	<i>50-55</i>
Data is processed and analysed to provide reports used by management for decision-making and planning	50-55	0-5

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
Managerial / clinical / administrative information is used to support decision-making and planning	30-35	0-5
A health management information system collects / stores and provides data to meet the needs of management	85-90	80-85
Contingency plans for system failure or other challenges are available and known to staff and managers	75-80	95-100
Health establishment staff have adequate IT skills and support to effectively use the systems provided	90-95	50-55
Policies and legislation on data protection ensure confidential information is properly handled	30-35	0-5
Confidential patient and personnel records are archived securely and only accessed by authorised personnel	50-55	0-5
<i>Financial management</i>	<i>40-45</i>	<i>40-45</i>
Expenditure is managed and monitored to ensure efficiency within legal frameworks	40-45	40-45
Policies and procedures are followed for all financial processes in line with the Public Finance Management Act (PFMA) or Generally Accepted Accounting Principles (GAAP)	55-60	55-60
Procedures ensure that expenditure meets defined service needs for staff and other inputs	65-70	65-70
Variance Analysis of actual expenditure to budget ensures continuity of service provision	0-5	0-5
<i>Supply chain and asset Management</i>	<i>55-60</i>	<i>50-55</i>
All procedures for the acquisition of assets are transparent and reflect planned needs and budgets	25-30	25-30

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
Asset and equipment needs are identified in the annual plans and budgets and incorporated into procurement plans	0-5	0-5
All local tendering and contracting processes are in accordance with relevant legislation	0-5	0-5
Policies and procedures to limit influences on purchasing decisions are enforced through transparency and segregation of duties	95-100	95-100
Assets are managed effectively and efficiently to maximise use / maintain adequate levels / reduce losses	30-35	30-35
Maintenance and disposal of assets ensures that assets are managed effectively and efficiently	0-5	0-5
Assets are monitored and variances are addressed	0-5	0-5
Potential loss or theft risks are identified and managed	95-100	95-100
Contracts for the supply of goods and services are managed and monitored to ensure performance / quality / value-for-money	0-5	0-5
All contract management processes are in accordance with relevant legislation or policy	0-5	0-5
Efficient management of stock ensures that supplies meet planned service needs at all times	95-100	80-85
Designated supplier(s) for stock adhere to contractual obligations	95-100	65-70
There is an up-dated computerised or manual (stock cards) inventory management system for supplies in place	95-100	95-100
<i>Human resource management and development</i>	20-25	20-25
Human resources are managed in accordance with documented human resource policies to ensure safe and effective service	30-35	30-35

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
provision		
Current registration of health care professionals is used as authorisation to provide clinical services consistent with their qualifications	0-5	0-5
Staffing availability levels in terms of absenteeism / turnover / vacancy rates are monitored and trends are identified and addressed	20-25	20-25
The health establishment has the most up to date human resource policies and relevant legislation	0-5	0-5
An approved staffing plan is in place in accordance with occupancy rates / utilisation rates / patient profiles	0-5	0-5
Staff recruitment and selection procedures are adhered to by the health establishment	95-100	95-100
An human resource retention strategy is designed to ensure adequate and motivated staff	95-100	95-100
Staff performance is reviewed against defined roles and responsibilities to ensure agreed outputs are delivered	55-60	55-60
The responsibilities of each staff member is defined in a current job description	60-65	60-65
Staff are involved in periodic performance reviews to appraise their performance and set objectives and targets	55-60	55-60
A comprehensive programme is implemented to support staff training and continuing professional development	0-5	0-5
Staff members are orientated to the health establishment and to their specific responsibilities	0-5	0-5
7		

Domains, Subdomains	Hosp. 2a Percentage Score	Hosp. 2b Percentage Score
Facilities and Infrastructure	75-80	55-60
Grand Total	60-65	45-50

