Panel Symposium on

THE FUTURE OF HEALTHCARE INNOVATION

List of panelists:

1. Yasser Bhatti, Associate Professor of Strategy and Innovation, MBS College of Business and Entrepreneurship, KSA; Associate Scholar, Saïd Business School, Oxford, UK; Honorary Senior Lecturer, Imperial College London (Moderator)
2. Sue Dopson, Deputy Dean for People and Equity, Diversity and Inclusion (EDI) & Professor of Organisational Behaviour, Saïd Business School, Oxford, UK
3. Tomas Farchi, Professor of Management & Human Resources, HEC Doha, Qatar
4. Matthew Harris, Clinical Senior Lecturer in Public Health, Imperial College London; Honorary Consultant in Public Health Medicine, NHS, UK.
5. Grazia Antonacci, Improvement Science / Health Improvement Lead, Faculty of Medicine, Imperial College London
6. Jacqueline del Castillo, Post-Doc Fellow, Interdisciplinary Research Institute for the Study of (In)Equality, University of Denver
7. Benjamin Mogoye, National Health Insurance Manager, South Africa & PhD Candidate in Public Health, University of the Witwatersrand
8. Cyan Brown, Post-Doc and Biodesign Fellow, Stanford University
9. Chandni Hindocha, PhD Candidate, Imperial College London
10. Hafiza Sultana, PhD Candidate, Queen Mary University of London

Submitted to AOM Divisions:

1. Health Care Management
2. Technology and Innovation Management

Abstract

This symposium discusses future trends in innovation theory and practice as applied in the healthcare sector. It presents scholars dedicated to addressing the complexities of modern healthcare an opportunity to identify and scope out interdisciplinary research in healthcare innovation. The panel discussion focuses on three aspects reflective of the innovation process– development, diffusion, and evaluation. The symposium will conclude with a summary of the main takeaways for future research opportunities bearing in mind impact on healthcare practice and management.

Keywords: Global health, healthcare systems, diffusion of innovation, technology innovation.

Overview

In an era of rapidly evolving healthcare systems and the constant pursuit of improved patient outcomes, the need for innovation in healthcare has never been more pressing. Global expenditures on healthcare are at an all-time high, demands are increasing, and unexpected events complicate sustainability efforts.

The average per capita health expenditure for the world is projected to rise over 30 percent by the year 2050 (Statista, 2023a). While some countries deem themselves to be overspending on healthcare, others simply do not spend enough. For instance, the US share of GDP on healthcare expenditures was almost 19% in 2020. In contrast, Indonesia, which has the second closest population as to the US, spent a little over 3% in 2020 (World Bank, 2023). More money, however, does not necessarily mean better health outcomes.

Medical errors are responsible for an estimated 250,000 deaths annually in the United States alone, making it the third leading cause of death in the country (Makary and Daniel, 2016). Then,

there is a demographic shift, with some parts of the world experiencing a youth bulge, while others cope with an ageing population. However, countries are globally converging on many of these concerns. For instance, while it took Western Europe about 150 years to shift from a relatively young population to an older one, many emerging market economies in Asia and Latin America are projected to undergo similar demographic transitions by the 2030s (Emerging Markets Symposium, 2023).

This convergence in demographic shift, combined with the rising burden of healthcare spending on both communicable and non-communicable diseases, requires global collaboration to foster creative and transformative solutions. The Covid-19 pandemic exposed the vulnerabilities in the health care systems of even some of the most advanced economies. For instance, in England before the pandemic, diagnostics and elective care had experienced rising wait times, and access to emergency care was deteriorating. Throughout the healthcare system, targets were increasingly unmet. Hospitals, having seen years of declining bed availability, entered the pandemic with notably low bed counts (BMA, 2023). Where access to care in low and middle income countries was already relatively sparse, the pandemic had an even greater impact. However, as some of the panelists will discuss, this led to almost all countries innovating in new ways.

In the realm of healthcare practice, the need for innovation cannot be overstated. Innovation is the driving force behind improved patient care, enhanced treatment methods, the development of novel healthcare technologies, and new organisational forms (Bhatti et al., forthcoming). Although the focus of the healthcare sector is naturally on impacting human health, we should also be cognizant of its role on planetary health (Brown et al., 2023). Hence, this symposium aligns to the AOM theme of innovating for the future, aiming to discuss and debate how to further the healthcare innovation agenda based on identifying the latest trends and approaches

guided by developments in technologies, organizations and societies. It brings together a panel of mainly academics, some of whom work alongside as practitioners and policymakers, to debate and distil the latest advancements, ultimately to identify work that remains to be done.

Relevance to the Division of Health Care Management

The healthcare workforce is constantly seeking more effective ways to play catch-up with increasing demand, deliver optimal and equitable care, reduce errors, and enhance the patient experience. But it can be difficult to uphold and indeed, even fully comprehend the eventual implications of healthcare innovations. Having structures that can deal with unexpected outcomes boils down to effective management and leadership. Ultimately, the onus lies on managers and policymakers, who can exercise top-down leadership, to legislate, and formulate policies but also from bottom-up efforts that transpire from interdisciplinarity, entrepreneurship, and the integration of design thinking which brings the patient to the forefront.

For instance, research in healthcare innovation drives the development of evidence-based solutions but also informs management and policy decisions. Global pharmaceutical R&D spending exceeded $244 billion in 2022, almost twice as much as $137 billion dollars in 2012 a decade ago (Statista, 2023b). With such high stakes, investment choices and pro-innovation policies should benefit owners of IP as much as promote affordable access to patients for positive health outcomes and fast turnaround cycle of reimbursement to providers.

Relevance to the Division of Technology and Innovation Management

The healthcare technology market is booming, with a global market size projected to reach $720 billion by 2028 (Statista, 2023c), underscoring the demand for innovative solutions. Healthcare researchers increasingly discover new technological solutions and healthcare professionals are

asked to adopt these and evaluate the implementation of innovative practices in their respective fields. Through a discussion of the most promising trends in technological developments, this symposium enables healthcare stakeholders to consider meaningful steps to advance pertinent technologies, including digital, precision medicine, gene-based therapy, and through the use of artificial intelligence.

The panel will discuss the importance of understanding the context and culture in which a project takes place, in order to design effective interventions. Then there is the need to involve local stakeholders and communities in the design and development of solutions, to ensure their sustainability and relevance. Technology and innovation play a transformative role in healthcare, but also risk being relied upon too heavily without due consideration of the social and political implications. Hence, evaluation is a critical component of innovation, and in healthcare specifically it spans the whole journey from clinical trials to global diffusion and safe disposal.

Format of Panel Symposium

05 mins	Opening remarks
20 mins	Part 1: Development of healthcare innovations
20 mins	Part 2: Diffusion of healthcare innovations
20 mins	Part 3: Evaluation of healthcare innovations
20 mins	Moderated Q/A with audience
05 mins	Key takeaways

Appendix A: Initial briefs for panel discussion

Part 1: Development of healthcare innovations (20 mins)

The first part of the panel discussion covers developments in emerging models of innovations, such as disruptive, open, frugal, reverse, and social innovation. It will discuss the relevance of core innovation frameworks, challenges to identify innovations, and discuss new methods such as impeller approaches in managing the innovation process for optimal ideation, prototyping and testing of innovations. Organisations and entrepreneurs who invest in persuasion, marketing, lobbying, and in intellectual property of new types of innovation should also consider the development of new management practices and regulatory frameworks.

Understanding the development of new types of innovations is crucial because it is the foundation upon which the rest of the innovation process is built. By scrutinising this phase, healthcare professionals, researchers, and policymakers can identify where to begin innovating, anticipating challenges, and ensuring that innovations are relevant, safe, and patient-centred. Moreover, robust development processes contribute to more effective and efficient healthcare solutions. It also allows for the alignment of innovation with the healthcare system's priorities, objectives, and patient needs.

Sample questions to panelists:

1. In navigating the landscape of emerging innovation models (e.g. disruptive, open, frugal, reverse, and social innovation), what experiences or examples have you encountered that showcase effective alignment with healthcare priorities and patient needs?
2. How can organizations strike a balance between encouraging bold experimentation and ensuring the safety and relevance of emerging healthcare innovations?

3. What insights or recommendations might you offer to policymakers to enable healthcare systems to keep pace with innovations while maintaining necessary oversight in healthcare?
4. Is it possible to balance profit with fair and equitable access to innovative healthcare solutions, especially in resource-constrained environments?
5. Are there particular challenges in using design-thinking or impeller approaches in healthcare?

Part 2: Diffusion of healthcare innovations (20 mins)

Following on from the development of innovation, this part focuses on diffusion and adoption. Healthcare innovations often take a long time to develop and diffuse and have difficulty 'crossing the chasm' (Moore, 2014) into mainstream markets. One argument to expedite the process is to source existing solutions and there are increasing efforts by dedicated organisations to curate and make available knowledge of existing innovations. But even if innovations are developed from scratch or sourced from elsewhere, they need to be diffused into the new context, with specific concerns, expectations and barriers to entry. Change management theories abound on how to increase the attractiveness of innovations and to make contexts more receptive to them.

Analysing the process of diffusion is essential as it determines how quickly and effectively innovations are adopted and integrated into routine practice. By studying what disables diffusion, healthcare stakeholders can identify barriers to adoption, address disparities in access, and strategize on how to scale successful innovations. This information is important for enhancing the equitable distribution of innovations and ensuring that they reach the patients and communities that need them most. Effective diffusion strategies are key to realizing the full potential of innovations and reducing variations in healthcare quality. This part further merits the exploration

of socio-political considerations with respect to decolonization, social movements, and the human impact of delayering or phasing out existing solutions and practices.

Sample questions to panelists:

1. Can each of you outline one recommendation to cross the chasm (or in other words, avoid the valley of death), especially in contexts with lots of barriers?
2. What types of organizations disseminate information about innovations and assist with knowledge transfer across diverse healthcare context?
3. Can you share examples of successful strategies that have addressed disparities in access and effectively scaled innovations in healthcare?
4. Does the growing discourse in decolonization and social movements make healthcare innovation any easier or harder?
5. What ethical considerations should be taken into account when disrupting or simply phasing out existing solutions and practices?

Part 3: Evaluation of healthcare innovations (20 mins)

This third part discusses topics related to innovation evaluation for successful innovation implementation and sustainability. Innovations can be evaluated before selection, investment, during implementation, and after diffusion. Challenges of evaluation include delineating who benefits and who bears the cost, assessing the impact on the triple bottom line (economic, social, and environmental outcomes), and collecting data on new types of healthcare innovations from different contexts. Various evaluation strategies, methods, frameworks, and tools are available to different types of activities, organisations and contexts, including the evaluation of change

management initiatives, national health systems, health spending, delivery models, diagnostic, digital, and surgical technologies, as well as pharmaceutical innovations.

Evaluation is essential because it provides evidence-based insights into the effectiveness and value of innovative practices and technologies. By conducting rigorous evaluations, healthcare decision-makers can make informed choices about which innovations to continue, scale, or modify. Evaluations also offer the opportunity to refine and optimise innovations continuously, fostering a culture of learning and improvement within the healthcare system. Furthermore, comprehensive evaluations help address ethical concerns, ensure patient safety, and guide decisions related to resource allocation and policy development, contributing to the overall quality and efficiency of healthcare delivery. Participatory approaches to evaluation may help to ensure that the perspectives and needs of local communities are considered and that there is a sense of ownership among all stakeholders.

Sample questions to panelists:

1. Innovation evaluation spans various stages, from pre-selection to post-diffusion. Are we trying to do too much in evaluating innovations across these stages and also assessing against economic, social, and environmental outcomes?
2. Should evaluation strategies be tailored to accommodate the diversity in healthcare activities, organizations, and contexts, ensuring relevance and reliability in decision-making, or should we standardize as far as possible to make global knowledge more widely accessible?
3. Are current methods of evaluation well placed to assess potentially disruptive technologies, such as AI?

4. Do current methods of evaluation sufficiently engage local communities in the evaluation process to ensure their needs are considered?
5. Can you share examples of successful participatory evaluations that have influenced healthcare policies or practices?

References

Brown, C., Bhatti, Y., & Harris, M. (2023). Environmental sustainability in healthcare systems: role of frugal innovation. British Medical Journal, 383. https://www.bmj.com/content/383/bmj-2023-076381

Bhatti, Y., Dopson, S., Farchi, T., & Harris, M. (Editors, forthcoming). The Oxford Handbook of Healthcare Innovation. Oxford University Press.

BMA. (2023). COVID-19: Impact of the pandemic on healthcare delivery, British Medical Association. Available at: https://www.bma.org.uk/advice-and-support/covid-19/what-the-bma-is-doing/covid-19-impact-of-the-pandemic-on-healthcare-delivery (Retrieved 04 Nov, 2023)

Emerging Markets Symposium. (2023). Putting people first. Human development in millennial economies. Green Templeton College, University of Oxford. Available at: https://www.gtc.ox.ac.uk/emerging-markets-symposium/putting-people-first-human-development-in-millennial-economies/ (Retrieved 04 Nov, 2023)

Makary, M.A. and Daniel, M. (2016). Medical error—the third leading cause of death in the US. British Medical Journal, 353. https://doi.org/10.1136/bmj.i2139

Moore, G. (2014). Crossing the Chasm. Harper Business.

Statista. (2023a). Public and private per capita health expenditure in selected countries in 2022. https://www.statista.com/statistics/283221/per-capita-health-expenditure-by-country/ (Retrieved 04 Nov, 2023)

Statista (2023b). Medical Technology. https://www.statista.com/outlook/hmo/medical-technology/worldwide (Retrieved 04 Nov, 2023)

Statista (2023c). Total global spending on pharmaceutical research and development from 2014 to 2028. https://www.statista.com/statistics/309466/global-r-and-d-expenditure-for-pharmaceuticals/ (Retrieved 04 Nov, 2023)

World Bank (2023). Current health expenditure (% of GDP) https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS (Retrieved 04 Nov, 2023)