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Exploring the mechanisms driving the award gap between international and UK medical graduates in general practice training: A realist review protocol

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Abstract

Background: International medical graduates (IMGs) currently account for 41% of the UK medical workforce. IMGs in training posts face challenges in progression including a significant 'award gap' (previously differential attainment) in postgraduate training compared to UK medical graduates. General practice (GP) is disproportionately impacted by these issues in progression as over 50% of GP trainees are IMGs.

Aim: To explore the phenomenon of the 'award gap' existing between international medical graduates (IMGs) and UK medical graduates in general practice training.

Design and setting: The realist review will be reported according to the RAMESES quality standards for realist synthesis. Included papers will report on UK GP training outcomes for IMGs.

Method: Searches will build on those from an earlier scoping review whose results were also used to develop an initial programme theory (IPT). Those data which support the further development of the IPT will be extracted and coded. Codes will be prioritised according to the insight they provide into the mechanisms (M) and contexts (C) which impact outcomes (O) for IMG GP residents and their patients. Context mechanism outcome configurations (CMOCs) will be built from the codes and mapped against the IPT.

Conclusion: This realist review will advance knowledge by examining the mechanisms and contextual factors at play in general practice training, providing explanations for educational outcomes for IMGs themselves and impacts on patient populations they serve. This will enable the development of interventions and policy to support the GP IMG resident workforce.

How this fits in

- International medical graduates (IMGs) make a significant contribution to UK general practice, but continue to face problems with progression in training known as the 'award gap'.
- Any explanations of the 'award gap' are likely to be complex and have context-sensitive outcomes, hence a realist approach is required.
- The initial programme theory for this realist review draws on results from a previous scoping review the aim of which was to identify literature addressing the factors underlying the award gap.
- This review will provide evidence based theoretical explanations of causation which are currently missing in the literature which examines the award gap in general practice training.

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Introduction

International medical graduates in the UK workforce

International medical graduates (IMGs) are doctors practicing medicine in a country which differs from their country of primary medical qualification(1). In 2025, 52% of general practice (GP) trainees in the United Kingdom (UK) were IMGs(2). Recent changes in legislation to favour UK medical graduates (UKMGs) for speciality training positions have resulted in a marked reduction in the number of IMGs applying to register with the UK medical regulator, the General Medical Council (GMC), for a licence to practice medicine in the UK(3). However, considering only around a third of UKMGs apply to GP training programmes every year(4), opportunities for IMGs to secure GP training positions in the UK and add their valuable skills and experience to the NHS workforce are likely to remain.

The award gap

For those IMGs who secure an increasingly competitive GP training position, progression through GP training can be problematic. GP resident doctors are required to undergo annual reviews of competency and progression (ARCPs) at which time supervisors review the results of formative workplace-based assessments and feedback from colleagues and patients. Training also involves two postgraduate examinations set by the Royal College of General Practitioners (RCGP); the applied knowledge test (AKT) and the simulated consultation assessment (SCA). To obtain the certificate of completion of training (CCT) required to practice as a UK GP, residents must pass both postgraduate exams and obtain satisfactory outcomes in each of their ARCPs.

IMGs are more likely to receive unfavourable outcomes in ARCPs than UK medical graduates (UKMGs)(5). In 2013, Esmail et al reported a significant award gap affecting IMGs in RCGP postgraduate examinations (6). These differences in training outcomes were previously referred to as ‘differential attainment’, a term which this research team are keen to move away from due to the negative connotations for IMGs.

Implications for primary care

Unfavourable ARCP outcomes and exam failures lead to extended training time which can be costly for the GP resident, and the wider NHS. Estimates suggest that the annual cost of GP training is approximately £57800 per year(7). GP residents must pay every time they sit a postgraduate exam; AKT £481, SCA £1207(8). Some GP residents may leave training if they are unsuccessful in their exams, meaning the time and cost of training is wasted, which has significant implications for the resident and the NHS.

Implications for patients

Demand for and access to appointments continues to be a major issue for patients and the public; this is especially true in areas of deprivation(9). Results of a recent quantitative analysis of GP placements show that IMGs are more likely to be placed in areas of high deprivation than UKMGs(10). The loss of IMGs from training has significant impacts for the patient populations in deprived areas, further widening the disparity in access to appointments.

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Methods

Realist review

The award gap which exists between IMGs and UKMG is a multifactorial phenomenon directly influenced by individuals as well as the system of UK GP training in which it is situated. Realism defines a system as a 'complex and open set of relationships, structures and processes influenced by sociopolitical, cultural and historical factors'(11). By applying realist methodology to explore the award gap phenomenon, we can consider the influence of the complex system that is GP training across a variety of contexts.

Realist reviews are an explanatory approach aiming to developing theoretical explanations of causation through the analysis of secondary data(12). Initially relationships between context (C), mechanism (M) and outcome (O) are sought from a broad range of sources(12, 13). These relationships are described as CMO configurations (CMOCs) and are a form of middle-ranged theory (MRT), which provide explanations of causation (11, 14). Such context-sensitive explanations of causation are currently missing in the literature which examines the award gap in general practice training.

Aim

This realist review will explore the phenomenon of the 'award gap' existing between international medical graduates (IMGs) and UK medical graduates in general practice training.

Research questions

1. What are the mechanisms underlying the award gap?
2. How does context influence these mechanisms?
3. What are the impacts of the award gap for patients and the public?

Study design

The review will be conducted following the process as described by Pawson et al (15). Findings will be reported using the RAMESES reporting standards(13).

Step 1: Shaping the scope of the review

At the beginning of a realist review, researchers are required to present an initial programme theory (IPT). The aim of a programme theory is to explain how, why, for whom and in what circumstances intended and unintended outcomes occur(11). For this review, our IPT has been informed by the findings of the preceeding scoping review(16), and was developed with input from stakeholders with lived experience as IMGs within UK GP training, and members of a patient and public involvement (PPI) group.

Step 2: Searching for evidence

2a. Search strategy

The documents for inclusion in the realist review will be drawn from a broader search conducted for a scoping review which explored the literature addressing the award gap between IMGs and UKMGs in UK general practice training. Further details of the search strategy and inclusion/ exclusion criteria have been previously published(17).

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Starting a realist review with published and gray literature identified from a previous scoping review has been described previously(18). If required, we will build on these results by modifying the search strategy to either broaden or narrow the focus for this realist review.

We will also perform separate searches for substantive theory which may inform aspects of the programme theory generated by the realist review. This will involve searching for theories from published articles or based on suggestions from co-authors and stakeholders, and snowballing from other theories.

2b. Screening process

The screening process for the scoping review has been previously published(17). During the process of title and abstract screening for the scoping review, LE set aside all documents that were judged to have data relevant for the realist review. Studies were rated for their potential relevance to the realist review as per Table 1.

Table 1: Definitions for the classification used to identify potential relevance of studies for the realist review

High	Documents which explore the experiences of international medical graduates in GP training
Intermediate	Documents which discuss substantive theories with possible relevance to the review
Low	Documents which explore the experiences of IMGs based in the UK in specialities other than GP, or explore the experiences of family medicine trainees in countries other than the UK

Although the aim of the review is to explore the experiences of IMGs in GP training within the UK, it is acknowledged that international insights may be valuable, therefore integration of relevant data from studies conducted outside of the UK will be considered.

Step 3: Selection and appraisal

Following the initial screening process described in Step 2, data will be selected based on its contributions to the evolving programme theory(11-14). Articles will be selected according to:

1. Relevance; the value for building the theory
2. Rigor; how trustworthy and credible the research methods were(19)

Formal assessments of quality will not be routinely undertaken as is common for realist reviews(11). For a realist review, even data which may otherwise be considered to be of poor quality can be valuable in informing programme theory development(19). If such data adds significant and important insights about causal factors, then this may be included(20).

Quality assessments of a document will be considered in circumstances where a document contributes significant amounts of data to programme theory development. In this instance, we will consider the trustworthiness and coherence(21).

Step 4: Extracting and organising data

A data extraction form will be developed with input from PPI members and stakeholders. An initial pilot testing will be undertaken with a small number of studies, and the form will be subject to iterative change during the review. Extracted data will focus on narratives which support PT development.

Data will be extracted by LE with a second reviewer (VF) completing a random 10% subsample to identify systematic errors. Covidence will be used for review organisation, with support from Excel if required. EndNote will be used to manage references.

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Step 5: Analysis and synthesis

Codes will be inductively developed from the data(19). Review across codes will identify patterns and enable codes to be grouped and prioritised. CMOCs will be built from these codes and mapped against the existing programme theory to align with or refute existing theories, or to extend thinking.

It is possible that limitations in the data will result in under-developed areas within our CMOCs and programme theory. This will be specified within the PT to support the identification of under-explored patterns in the research and resulting data in this area.

Data analysis will be led by LE with discussions with the wider research team, stakeholder and PPI group members. These discussions will enable interpretation of CMOCs through retroductive thinking; reasoning which supports identification of the 'hidden' causal mechanisms behind observed patterns(22). The involvement of stakeholders and PPI members will ensure that the PT is reflective of their experiences and relevant in real world situations.

Patient Participation and Involvement (PPI)

The Yorkshire and Humber Deep End Research Alliance (DERA) patient and public involvement (PPI) group were involved in defining the scope of the research. Discussions with the group highlighted that the award gap had not been explained by previous research therefore leading directly to the development of the research question for this realist review.

A project specific PPI group has since been recruited for LE's DPhil project. Members were recruited from the DERA PPI group, and the University of Oxford Medical Education patient participation group to ensure a wide range of individuals were represented by age, gender, ethnicity and socio-economic status. Members will be involved through all stages of the review.

Stakeholder group

VF is a co-researcher for this review and is currently working as an IMG GP trainee. Further IMG involvement in this research will be sought by establishing stakeholder group of IMGs with experience of training and working in the UK. Stakeholder involvement will mirror that of the PPI participants, in being involved from early development, through all stages of the review as it progresses.

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Discussion

Summary

This is the first study to attempt to use a realist approach in an attempt to determine causation of the phenomenon of the award gap in UK GP training. Previous research has focused on individual factors which predict exam success(16); for example correlations between Professional and Linguistics Assessment Board (PLAB) score and MRCGP examination results(23). However, as evidenced by this quote, the authors were often not interested in exploring 'the demographic factors which would be of sociological interest for understanding and explaining differences'(24).

Another major facet of the literature is in describing educational interventions to assist IMGs in adapting to practice in a new country. Kehoe et al (25) conducted a realist synthesis to identify how and why interventions to support IMG transition to the workplace were effective, suggesting recommendations for future intervention development. To date the interventions developed have been ineffective; recent statistics show there has been little improvement in training outcomes(26, 27).

Strengths and limitations

Realist methodology is appropriate to explore the award gap phenomenon because rather than simply considering if something works, the aim is to uncover how, why, for whom, and under what circumstances outcomes occur. This theory-driven approach is especially valuable in complex social or healthcare systems where context shapes results. Potential limitations of this methodology are that it requires interpretive judgement, and is dependent on the quality and richness of available data. Limiting our search to UK based GP training will also have impacts for the transferability of findings.

Implications for future research and/or practice

The objective for this review is to gain an understanding of the mechanisms driving the award gap, the context in which these mechanisms act and the impacts for patients and the public. Without an understanding of the causal factors which result in the award gap, or the contexts in which these mechanisms act, we cannot hope to develop and implement meaningful interventions to support IMGs in general practice training. The programme theory developed from this review will be tested in a subsequent realist evaluation. Findings from the realist review and realist evaluation will increase the understanding of this complex phenomenon across a range of contexts thereby enabling evaluation of current policy and interventions to address this important issue.

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