Supporting international medical graduates' transition to their host-country: Realist synthesis

Introduction

International Medical Graduates (IMGs) – those who have gained their primary medical qualifications from countries outside of the host county in which they work, have been playing an increasingly crucial role over the past years in ensuring effective healthcare delivery[1]. For example, in the UK, more than a third of registered doctors have gained their medical qualification from outside the UK[2]. This number has risen since 2014, with a particular increase in European medical graduates applying for registration[1].

Concern has grown around the regulation and professional practice of those who qualified outside of the host-country. Research suggests that IMGs are likely to face difficulties with communication, culture, practical issues, team working and hierarchical structures[3], which in turn may lead to a greater risk of referral for fitness to practice[4].

Whilst recommendations arising from research have been made concerning IMG transition[5-8], the area is underdeveloped. Existing interventions, such as induction programmes and communication skills courses are currently being implemented[8], often at a regional rather than organisational level. For example, half day programmes are often implemented without sufficient consideration of what is likely to work, or how much training is appropriate. Combined with the probability that educators do not have specific experience with the particular needs of IMGs[9-11], this can pose a problem for those involved in developing interventions to support IMG transition.

Research is needed to provide guidance on implementation and on the most effective ways to facilitate IMG transition to new work environments, both theoretically and empirically[8, 12]. Another issue to recognise is that doctors in different stages of transition will face different problems and different training needs[13]. For example, the initial move to a host county can cause culture shock and cross-cultural adjustment difficulties. Once an individual has been living in the country for some time, however, they are likely to have developed personal resources, social support and adequate coping strategies. Employers should understand the needs of their IMGs in order to support them[14]. The induction of IMGs needs to be an ongoing, iterative process of learning which continues throughout training, perhaps through 'buddying' or peer support [5, 14].

If resources are to be invested in ongoing, rigorous interventions, it is important to understand what interventions work within a given context and what produces the desired outcome. A recent systematic review on this subject recommended an exploration of theory and evidence in their search of educational interventions for IMGs[8]. These processes of effective transition at the workplace level have, up until now, been taken for granted[1].

This synthesis provides the needed explanation by adopting a realist approach[15]. It enables interventions to be fully explored, through theoretical considerations and synthesis of evidence, so that details of interventions are explored in depth to enhance understanding about why interventions work, or not, and what is likely to be effective if implemented elsewhere.

Whilst the focus of this synthesis is on medical graduates, graduates from other healthcare professions have not been excluded from analysis. Lessons learnt from

looking at common forms of intervention across the healthcare professions can help us to further understand the conditions in which the interventions trigger differing mechanisms to generate both wanted and unwanted outcomes[16].

Method

The aim of this synthesis was to explore and synthesise evidence relating to interventions developed to enable IMGs to make a successful transition to the workplace.. The research questions were i) to identify what interventions have been used to support the transition of IMGs to the workplace ii) to identify how and why they are effective iii)to identify what factors are important to achieve a successful transition iv) to identify the theory that explains why interventions are successful and supports wider future interventions.

Design

Realist synthesis is a 'systematic, theory-driven interpretative technique'[17] that has emerged as a strategy for synthesising evidence and providing explanations (programme theories) on why interventions may (or may not) work, i.e. in what contexts, how and in what circumstances. It allows interrogation of evidence from primary and secondary data sources on the contextual factors that affect intervention success and articulates the mechanisms which lead to intervention success[18]. Mechanisms are processes operating within an intervention that illustrate the way in which available resources are used[15]. Key intervention components and exploration of the Context – Mechanism – Outcome Configurations (CMOCs) feed into the developing programme theory.

Realist And MEta-narrative Evidence Syntheses: Evolving Standards (RAMESES) quality standards were used to guide the method[19].

Initial programme theory

Realist synthesis involves the extraction of theories from a dataset to explain the influence of a certain context on a mechanism to produce an outcome. This synthesis sought to extract theories that would explain how interventions support the transition of IMGs to the workplace. Initial theory formulation was achieved through searching relevant IMG literature, policy documents, face-to-face discussions with stakeholders (Clinical Directors from various Trusts), and discussions within the research team, who were familiar with both IMG and transition literature. Kirwan and Birchall's transfer of learning model[20] was identified as being central to the development of initial programme theories that facilitated exploration of the concepts identified in this synthesis (see appendix 4[U1]). The focus was on three contextual levels (individual, training and organisational) and the transitional outcomes were based on Harrison and Shaffer's Adjustment – Effort – Performance Model[13]. They propose three elements of transition; cultural adjustment (process of acculturation and overcoming culture shock, also associated with non-work factors), work adjustment (performance and comfort with the job) and interaction adjustment (comfort associated with interactions with host-country nationals). These three areas are also evident in research into transition between healthcare contexts[21]. Like the transfer of learning model[20], it too looks at individual and organisational factors that influence job performance. These initial programme theories were used to aid data extraction and test the developing theory. Terms were also agreed upon at this stage to guide the synthesis and data extraction (see below).

Data sources and search

With the help of an information scientist, an initial systematic search was conducted to identify relevant evidence. The databases searched included Medline, PsycINFO, EMBASE and Educational Resource Information Centre (ERIC). The same key words were used across all databases relating to the target population (e.g. *overseas doctor* OR International Medical Graduate*)* and interventions (e.g. *support OR induction)* were used (see appendix 1[J2] for full list). It was decided that analysis would be enriched by the inclusion of grey literature, descriptive studies and theoretical papers. The results were filtered by title and then abstract by the first author. A random sample of 10% were selected and assessed by the research team to ensure quality assurance[19]. Papers were then coded for rigour and relevance[19], and key findings and themes highlighted.

Titles and abstracts were considered against the inclusion and exclusion criteria reflecting development of the initial programme theory (see appendix 2), and duplicates were removed. Contact was made via email with authors to retrieve evaluations which had been referred to in the article but not published, or when further information was required.

Data analysis and synthesis

Data were extracted from each study using a template that included study information, CMOCs, relevant theory, and an assessment of relevance and rigour. Relevance and rigour were assessed on a scale of 1-5 for each paper (see appendix 3). Articles low on relevance and rigour (i.e. score 2 or less) were excluded. However, descriptive pieces that provided rich data and added to theory development (high on relevance but low on rigour) were included[19]. On occasions outcomes were implied from the mechanisms highlighted rather than explicitly

stated. Extracted CMO configurations were inputted into an Excel spread sheet for further analysis. Data synthesis included further refinement of the CMO configurations and the generating of hypotheses. Results were extensively shared and reviewed with key stakeholders (Clinical Directors and policy makers), programme planning teams from healthcare organisations, IMGs, educators, UK doctors, educational directors, and tutors. Discussions took place concerning issues such as competing theories. Realist experts from RAMESES were contacted at appropriate times to provide guidance on the realist methodology, developing CMOCs and developing theory.

Interventions were identified at the synthesis stage, from grey literature and hand searching (primarily within the UK), which were developed into case studies to further aid and test theory refinement (a 'reality check'). The case studies were selected to ensure a range of themes were included (maximum variation). Data was collected through researcher observations and field notes (and via discussions with IMGs and those involved in programme development and implementation).

The basic task of the synthesis process was to refine the programme theory[15], (searches being iterative, not sequential[19]). As new elements of theory were developed from the data, secondary searches for evidence to support and refine those elements were required. The research team discussed the CMOCs to develop the overarching theory.

Findings

The initial search yielded 4124 results. Figure 1 illustrates the filtering process, which resulted in 62 papers being included.

Study characteristics: The interventions included communication and linguistic skills courses, acculturation courses, examination workshops, cultural and social skills workshops, shadowing, bridging programmes, pre-employment programmes, inductions, orientations, buddying programmes, peer support, supervised practice, observerships, simulation, and web-based resources. The articles found were from Australia, Canada, USA, and the UK.

Of the 62 papers, 48 reported on doctors and 13 on nurses who graduated outside of the host-country. One addressed physiotherapists. The duration of these interventions ranged from a one day course (5 hours) to three years of training. The majority of the interventions were implemented across a number of weeks or months and included a variety of components and levels of support. All but one of the 62 papers offered ongoing support in some way, whether through support groups, buddies, or ongoing training. Many regarded successful interventions to be between 3 to 5 days in length[22]. Different kinds of transition (e.g. social or work) were generally addressed separately. The interventions focussed on differing stages of transition: prior to starting work, beginning practice, and ongoing throughout employment.

Although some papers were based on rigorous evaluations of the interventions, others were merely descriptive (16 papers) and reported no outcome data. Others were small scale (n=<15) or focussed on one intervention in a single setting. Both qualitative and quantitative methodologies were used, the majority consisting of self-assessment pre/post-test, which is known to be problematic and unreliable[J3].

As theory developed, new areas of interest emerged and were explored further in secondary searches[19]. Twenty-six articles were included from secondary searches and interventions included buddying, simulation and web-based programmes.

Saturation was reached at this point as no other themes were identified to support further theory development and refinement [19].

Case studies: 14 case studies were included in this synthesis. The case studies (CS) have been numbered and details of duration are presented in Table 1. Interventions developed in the UK have generally been delivered over one day (or less). One exception was (CS1)[MJ(M4]], which was developed as a five day programme. The three case studies included from outside the UK offered ongoing support. Those from the UK largely lacked ongoing support. The case studies relied on participant feedback, but failed to evaluate the interventions independently. All but one of the interventions were aimed at doctors.

Refined programme theory

The presentations of findings from this synthesis are framed around the three contextual levels derived from the refined programme theory (see Figure 2). The three contextual levels (organisational, training and individual) will be described in detail, highlighting how the differing contextual factors may facilitate or hinder transition, referring to the relevant mechanisms (m) and outcomes (o).

Most of the primary outcomes found in this synthesis are related to work adjustment, such as performance[23-35], patient safety[36], quality of care and patient satisfaction[25, 26], retention[25, 37-41], staff satisfaction[42, 43](CS2,3), passing of assessments and registration[44-47](CS3), and employment[16, 34, 42, 47, 48](CS3). Outcomes in terms of life adjustment to a new country are not generally focused on, although cultural awareness was reported[49]. Interaction adjustment may occur through specific communication skills training and interaction with colleagues[23, 30, 61]. Cultural

adjustment was largely addressed through training and the development of support networks[28, 49, 53 56, 60, 62, 66, 70].

Organisational contextual factors

Organisational culture

The need for intercultural awareness within an organisation is essential [26, 50-52 5, 9, 16, 23, 34, 45, 53-59], as IMGs arrive with differing cultural experiences and expectations that can impact on both learning and practice[46, 60]. Organisations need to understand how IMGs are coping, accept that this group may have vulnerabilities, and handle this sensitively without being patronising or creating a sense of stigma (CS1). IMGs may only engage (m) and be motivated to transfer (m) what they have learnt in the programme if there is a sense of acceptance from colleagues[57] (CS1). This will impact on both professional development and performance (o).

Organisations must take responsibility and be responsive to both IMG and institutional needs[5, 12, 16, 32, 34, 37, 41, 42, 44, 47, 48, 50, 54, 55, 59, 61-74] (CS1-10, 13), also understanding how IMGs have previously practiced[72]. Organisations need to hold realistic expectations and not make assumptions[43]; either that they can simply move into practice without extra support[75-77] or cannot practice competently upon arrival[33] (CS1-3). Both supervisors and colleagues may benefit from cultural awareness training[34, 64, 78, 79] (CS6). IMGs need to feel confident (m) that the organisation in which they are working provides a high enough level of support, a supportive culture leading to retention and overall performance (o)[24, 30, 47, 52, 57].

IMGs should have the opportunity to build on their competencies, and not feel they must 'unlearn' what was previously known. A focus purely on host-country culture can be detrimental to IMG transition[46]. A lack of confidence and anxiety around

stigma (m) is likely to occur if employers treat IMGs as second rate employees[80]. Through organisational induction, support groups, reflection and ongoing evaluation of IMG adjustment[22], a healthier and culturally rich learning environment can be created[80] in order for work adjustment can occur (o).

Leadership

A key individual who thoroughly understands IMGs and will push interventions forward and strive for organisational change is needed[12, 16, 23-25, 32, 47, 52, 72, 74, 81, 82] (CS1-3, 6, 9, 11-12). It is acknowledged that there is a lack of time, resources and commitment in many cases, but an enthusiast particularly can increase overall organisational support (CS2-3, 6). Organisational commitment impacts on support felt by the IMG, in turn increasing their levels of organisational commitment and motivation to transfer their learning (m) and therefore improve performance (o).

Resources

The amount of resources invested into IMG transition will inevitably impact on the characteristics of the interventions offered[9, 23, 25, 26, 29, 37, 39, 42, 44, 47, 51, 52, 55, 58, 64, 67, 69, 74, 75, 78, 83-89] (CS1-4, 7-9, 11). Due to high cost, lack of time, practicalities and inflexibility[24, 84]; ongoing support may be problematic and interventions are therefore guided by available resources[54]. Many failed attempts are the result of a lack of resources and time[34, 46], meaning that interventions are often implemented half-heartedly. Limited resources from external organisations are also noted[36, 67] [MJ(M5].

Thorough and comprehensive interventions are needed to aid transition[72]. Whilst a one day induction is better than nothing (CS5-6, 10), it can be viewed as more of a 'welcome', not offering the ongoing support needed[30, 56, 63, 88, 90] (CS12). Although resource intensive[32], stakeholders need to balance improved efficacy of IMGs

against the amount of work inputted[34, 57]. IMGs report a preference for a longer orientation[41], ensuring a higher level of both engagement in the acculturation process (m) and overall benefits to adjustment (o)[54,88]. Organisations should aim to draw upon local faculty[9, 12, 33, 58], embedding programmes into their normal practice

Engagement with the intervention may decrease (m) if IMGs lack income to support attendance[48, 59]. Many needed income to support the living costs of both themselves and their families[5] and some were charged a fee to attend, reducing attendance (m)[42, 47, 79] (CS5-6, 14). Financial and practical support, such as accommodation and transport[22, 42] have been offered in some cases, the aim being to reduce any stress and financial hardship, while increasing costs and commitment to them by the employer.

Context of the healthcare organisation

Organisational context can affect the learning of IMGs[16, 22, 24, 41, 47, 67-69, 71, 72, 91] (CS9); examples including the sites of training (e.g. rural), type of speciality and level of training[78, 82, 91, 92]. Transition can be difficult if the area in which an IMG is working does not offer the necessary resources. This is likely to result in a reduction of both commitment and engagement (m), leaving IMGs more at 'risk' (o)[69]. For example, rural areas may not be ethnically diverse and may not meet cultural needs, leading to feelings of isolation (m)[52] which may lead the individual to return home (o). Conversely smaller communities may in fact provide a good transitional environment if there is a supportive atmosphere and a sense of teamwork[67].

IMGs must identify with the local community[5, 52] and recognise the different types of patients' needs, social norms and colloquial language that may be specific to that

area (m)[33,65]. Such issues must be taken into consideration, ensuring IMGs engage in the necessary training (m), for both the wellbeing of the IMG and patient (o).

Programme development

Organisations often fail to implement successful interventions due to poor development (CS12), reducing engagement from IMGs (m) who may feel their needs have not been addressed and leading organisations to give up. However, thorough planning, review of literature and theory, and responsiveness to changing needs[47, 70, 75] will undoubtedly improve the chance of success. Programmes should not be implemented as a 'tick box' or for convenience[52]. A steering group (including IMGs and experts), pilot programme, ongoing evaluation and development are necessary to meet IMG needs (o)[9, 12, 16, 23, 24, 33-35, 37, 41-44, 46-49, 53-57, 59, 62, 64, 65, 67, 71-74, 77, 79, 82, 86, 87, 89, 90, 93] (CS1-8, 10, 12-13).

Evidence suggests there needs to be a better HR process for identifying new IMGs within each organisation[12, 24, 34, 36, 41, 42, 45, 55, 57, 58, 62, 64, 71, 72, 77, 94] (CS3, 4, 6-8, 14), to ensure appropriate support and induction is put in place as early as possible and for all who require it[33]. The dissemination of information in advance is crucial to engagement and raising awareness of potential difficulties they may face (m). Information packs sent prior to arrival in the host-country may also aid work adjustment (o)[68, 93], through reducing anxiety (m) adding to perceived support and increasing initial commitment to the organisation[71]. These information packs can target IMGs at the earliest phase of their transition (before arrival) and capture those who start outside of normal contractual dates[93].

Training contextual factors (programme implementation)

Individual needs assessment

Findings highlight the importance of individual needs assessment, particularly when conducted upon arrival, before any intervention is implemented[2, 5, 23-26, 28, 29, 33-37, 42, 44-48, 51-55, 57-60, 62, 65, 67, 68, 70-72, 82-84, 87, 89, 90, 93-96] (CS2-4, 7, 9). This enables training to be tailored[43, 56, 69] and support given where necessary (CS9). IMGs will only benefit from training that is relevant and meaningful[9, 22]. Increased *transformative learning* (self-awareness, beliefs, behavioural) and engagement is likely to result from an initial needs assessment (m)[33, 56]. Organisations need align with individual IMG past experiences within different healthcare systems, social and cultural context[55]. Being aware of personal learning needs enables IMGs to reflect on these in practice (m) and aid their professional development (CS9) and resulting behaviours (o)[95].

Environment/learning styles

A safe environment, which is low risk and controlled, must be created when implementing interventions for IMGs[2, 12, 25, 26, 32, 36, 37, 42, 49, 55, 58, 60, 67, 68, 74, 76, 81, 83-85, 93, 94, 97-99](CS1-7, 10-11, 13). IMGs must feel able to recognise and admit mistakes and share challenges without fear, reducing anxiety both during the intervention and in practice (m) [29, 49]. In sharing experiences and reflecting on their own practice, engagement and levels of *cultural health capital* (wellbeing, resources, resilience, optimism)[100] are likely to increase (m)[49], acquiring resources to use in practice (o). Self-efficacy is also likely to increase (m)[24, 87, 91], removing self-blame and acknowledging that others are facing similar difficulties. These experiences are also likely to lead to transformative learning (m)[49], which will further be enhanced through experiential learning, involving feedback and reflection[27, 46, 49, 56]. Such learning will lead to better work adjustment (o).

Experiential learning with feedback and reflection[16, 24, 29, 32, 33, 36, 37, 39, 42, 44, 45, 47, 48, 53-55, 58, 62-64, 66-69, 71, 72, 76, 79, 83, 86, 88, 89, 91, 93, 97, 99, 101] (CS1-3, 7, 11, 13), such as simulation[70, 77] and role play[102], create active participation enabling IMGs to learn through error, problem solving and skill rehearsal[61, 87], whilst relating to real life practice[34]. Professional self-efficacy will increase (m) as IMGs feel more able to apply new knowledge and skills in practice[29, 87] (CS1-3), and acquire new resources that can be used in what were potentially stressful situations, enabling them to feel more prepared to meet demands in practice (o)[29, 77, 83]. Educators must be aware of differences in both learning styles and learner responsiveness, and accommodate them in a manner that will aid adjustment to practice (o)[27, 56, 70].

Learning is both an individual and social experience, small group discussion and peer feedback being essential[12, 16, 23, 24, 26, 32, 33, 37, 46, 48, 49, 55-58, 62, 65, 72, 78, 79, 83, 87-89, 91, 94, 96, 97, 99, 102] (CS1-3, 6,10, 14), promoting self-reflection and self-awareness (transformative learning) (m). Engagement is much more likely to occur in small groups than in larger groups (m)[77], once initial shyness is overcome[62, 87]. Identity formation within the group (transformative learning) (m), through sharing of stories and experiences[62], will likely occur and aid both work and cultural adjustment) (o).

Role modelling

The inclusion of role modelling is seen as important for IMGs[2, 12, 24, 33, 36, 38, 40, 42, 49, 50, 53, 70, 71, 73, 75, 78, 81, 83-85, 87] (CS4, 6-7, 9-10), enabling them to relate to those who have faced similar issues[22, 60]. Story telling of IMGs who have been through a similar transition will raise awareness that issues faced are 'universal', reducing anxiety and increasing cultural health capital (m)[37]. Seeing others succeed may also increase self-efficacy (m)[22, 87] and lead to work adjustment (O[MJ(M6]).

Programme content/design

Content must be relevant to IMGs and reflect issues of concern to them [5, 23, 24, 27, 32, 33, 35, 37, 40-42, 44, 46-49, 51, 54, 56, 57, 61, 62, 65, 67, 69-73, 75, 76, 82, 87, 89, 93, 97, 103] (CS1-7, 9, 13-14), being learner focussed and meeting individual needs[32, 56] (CS2-3, 10). IMGs are more likely to engage with the content (m) if a rationale for learning is identified. This will then lead to increased knowledge, skills and understanding[16, 23, 27, 30, 33, 35, 44-46, 48, 49, 56, 57, 59, 66, 67, 70, 73, 79, 89], in areas such as communication and language, professionalism, cultural awareness and development of clinical and organisational workplace competence (o).

Interventions should not be built purely on deficiencies in medical knowledge and communication[22, 60, 70] (CS11), but should include the professional role[90] and survival skills to enable future difficulties to be managed succesfully[9, 60, 79]. Organisations often focus on clinical competence and ignore crucial learning needs.

Training contextual factors (external to programme implementation)

Ongoing support (training/peer/supervisory)

Ongoing support is central to IMG transition[2, 12, 16, 25, 26, 28, 30, 32, 34-38, 40, 41, 44, 47, 50, 53, 55, 56, 59, 62, 64, 67, 68, 70-72, 74-78, 81, 83-87, 90, 91, 101] (CS7, 9, 11), helping them to manage stress (m) and adjust in a healthy manner[104]. High levels of support at an early stage[26, 40] would be most beneficial as it will help identify any initial problems and prevent escalation[22]. Monitoring of progress after an induction programme is needed[22, 58] to ensure transfer of learning (m) and fitness for practice (o)[16, 87] (see appendix 6).

Implementing a buddying or mentor scheme is an effective way to provide ongoing support, enhancing the efficiency of an initial programme[42, 52, 67, 69, 85, 87, 104], without being costly. The needs of the individual will determine whether they will benefit from a host-country buddy[52] (CS2-3) or an IMG buddy[53, 90] (CS9). Both have advantages and disadvantages, offering different types of support. Having a personal buddy who can provide information when necessary, will reduce stress and anxiety (m) and support cultural health capital (m)[37, 38, 103]. An increase in self-efficacy (m) is likely to result from this support[26, 37, 87] (CS2), this confidence ultimately being applied to the learning environment (o)[67]. Retention is also more likely with ability to adapt and master new skills (o)[47, 87].

Supervisors are key to providing ongoing support and regular feedback[2, 5, 9, 23, 27, 32, 34, 37, 42, 44, 47, 48, 54, 58, 59, 64, 65, 67, 73, 74, 76, 78, 83, 87, 89, 101]. Supervisors should be involved with both the implementation of the intervention and individual needs assessment [47], aiding transformative learning (m) and providing a platform for continued professional development (o)[58, 67, 85] (CS9). The quality of supervision is important, IMGs often requiring more support than host-country graduates[2, 32, 54, 76], which can be time consuming[27, 67] (CS1-3[MJ(M7]).

Peer support in practice is also essential to ensure necessary support is available[25, 26, 33, 35, 42, 47, 48, 53, 54, 56, 67, 83, 84, 97]. It is noted that there is often a lack of support and cultural awareness amongst colleagues[55, 64, 78, 79] (CS6,14), which may lead to a rick of stereotyping, prejudice and discrimination[34, 50, 52, 96] (CS14). Where there are perceptions of hostility, this can hinder bridging social capital and lead to stress, anxiety, feelings of exclusion and poor cultural health capital (m)[34, 55, 52]. This will impact upon resilience in overcoming difficulties[55, 79] and hinder both performance

and retention (o)[52]. For example, if there is no support from supervisors or peers, they may feel unable to apply the skills they learnt within the training, such as communication skills with colleagues, and will not ask questions if unsure in practice (o)[52] (see appendix 5[JJ8]).

Colleagues must understand both equality and diversity, feeling able to give feedback to IMGs without the fear of being seen as discriminating. Where colleagues illustrate empathy and support[82], being appreciative of past experiences, bridging social capital is much more likely to increase, impacting intercultural communications and cultural health capital (m)[37, 38, 55, 103]. This support is also likely to increase feelings of acceptance, empowerment and both personal and professional self-efficacy (m)[37, 55, 67, 77, 81, 87] (CS4). Transfer of learning is much more likely to take place (o)[34, 55].

Supervised practice (opportunity to use)

Opportunities to perform learned skills in practice with feedback will both reinforce learning and aid in behaviour change (transformative learning) (m)[59, 76, 79]. All team members need to be involved in supporting IMGs if they are to transfer what has been learnt in the intervention and ultimately be prepared for practice (o).

Support network (including social integration)

Support networks should consist of IMGs and host-country graduates to ensure both bridging and bonding social capital occurs (m)[12, 97] (CS7, 10). Silo social development hinders the acquisition of necessary communication with colleagues (o)[46, 55]. IMGs will benefit from learning through social interactions with all groups[12, 25], increasing self-efficacy, resolution of personal conflicts and lead to expression of feeling (m)[78]. However, where there are feelings of isolation and hostility from

colleagues, there can be a dependency on those from the same culture. A well-resourced work environment is instead needed[12, 26]. This helps IMGs identify and connect with their network and impact upon transformative learning, particularly negotiation and awareness of differences (m)[12, 49, 60, 67, 78]. This in turn will lead to greater levels of professional development (o)[12, 78, 89]. Both IMGs and host-county graduates will benefit from bridging social capital (m), creating access to new resources [12, 60] that would enable more positive behaviours within the workplace (both work and interaction adjustment) and increase retention (o)[25, 40].

Individual contextual factors

Capacity to change

Commitment to change is necessary[57], IMGs having to participate in and understand the need for training [26, 34, 38, 39, 42, 45, 47, 49, 56, 61, 66, 67, 72, 75, 81, 83, 85, 87, 96, 104] (CS1-4, 6, 12) if transformative learning is to take place (m). If IMGs are not accepting of the new culture[52], it will not allow for bridging of differences between the two cultures (m)[55] and overall work adjustment (o).

Holding an unrealistic self-image will also impact on this capacity to change[12, 26, 45, 46, 58, 66, 70, 76, 78, 79, 82, 86, 97] (CS2, 12). Lack of awareness is likely to result in a lack of motivation to learn (m)[48, 62, 63, 71], for example wanting to complete the programme in the shortest possible time[34]. Many IMGs focus on acquiring medical skills and knowledge only, not seeing the need for other training[60, 62]. Self-awareness is also important in acceptance of feedback (m)[43] and professional development (o)[51, 85].

Incentives and expectations

Incentives for IMGs participation in a programme will impact upon motivation to learn (m) and transfer into practice (o)[12, 24, 30, 35, 36, 39, 41, 44, 48, 54, 55, 58, 60, 65, 67, 69, 72, 79, 83, 85, 87, 91] (CS2-4, 7, 11). An individual motivated by the outcome of passing exams may focus heavily on this[32, 47, 57, 89, 102] (CS9), however may be less motivated for wanting to improve practice (m)[46, 67]. They may learn within the assessment context but may not necessarily transfer this to practice (o)[23]. If IMGs participate when attendance is voluntary (CS3, 5-6, 14), or if there is a fee requirement[47] (CS11), their motivation to learn is likely to be high (m), whereas mandatory attendance or not requiring a fee (CS1-3, 12), may produce a less motivated group (m). However, if there is a lack of insight into the new ways of practicing, or if IMGs do not have the self-awareness to assess their own needs, individuals will not participate voluntarily (CS2) and transformative learning will not occur (m). Yet without incentives, individuals may be less motivated to learn (m) and more susceptible to drop out (o)[67]. As discussed at the organisational level, where high commitment and support is demonstrated by the organisation, the incentive to learn is also likely to increase (m)[32, 68, 93].

IMGs often make real sacrifices to take up job opportunities in another country, either leaving family behind or uprooting them (CS1-3, 6, 14), therefore they are likely to arrive highly motivated. However, this motivation may not last if IMGs arrive with unrealistic expectations and goals[54], with regard to quality of life, work experiences, and their future employment opportunities[48, 89]. IMGs must arrive aware of cultural and organisational expectations[42, 44-46, 67, 68, 72, 96] (CS1-4, 6, 14, 9-10), otherwise they will likely face culture shocks that will hinder the acculturation process (m)[52] and overall work adjustment (particularly performance and retention) (o). Training and support programmes can therefore aid in asserting expectations of both the organisation and culture, and aid in developing realistic career goals[56, 89] and

highlighting any potential barriers to practice (m)[48]. IMGs may experience changes in self-esteem, related to these unrealistic aspirations and discrepancy with achievement (m)[80]. These are likely to hinder their motivation and ultimately professional development within the organisation (o).

Role identity

Unrealistic expectations can also link to role identity[26, 38, 45, 48, 64, 65, 67, 71, 72, 74, 76, 78, 86, 87, 101] (CS2, 6), for example if IMGs arrive and have to take up a post that is a lower grade than expected or a different speciality[78]. The job role in comparison to their previous role may be lower in status and power[34, 42, 54, 96], perhaps resulting in personal, cultural and professional loss of status and identity[41]. If a lack of responsibility is perceived and there is an inability to use their skills/knowledge[2, 34], or if they feel they must deskill or 'unlearn' their old ways and conform to practice[59], this feeling of identity loss will be heightened. Taking up the role of learner can be difficult if it is perceived to involve a loss of identity[42, 54], leading to a loss of self-efficacy (m)[42]. IMGs have reported feeling unappreciated, targets of racism and being seen as a 'group'[67] rather than individuals, further hindering levels of self-efficacy (m). IMGs have also reported that their qualifications are not recognised by their peers or employer[72, 78]. If this is the case, motivation to learn will likely be low and resistance high (m)[96]. IMGs must be supported to maintain a positive self-image[67] and seek to establish themselves in the new social and learning environment, which is likely to be different to what they are used to. Combining both old and new skills[34] will reframe their professional identity and enable them to modify practice (m), taking control and leading to professional growth and cultural adjustment (o)[41, 96].

If IMGs feel they need to 'prove' themselves[42, 58, 63] (CS2), their level of self-esteem and self-worth may be affected (m)[60, 72]. The feeling of not belonging, as well as not wanting to appear incompetent or weak by admitting difficulties[58, 94], may lead to increased anxiety[38] and communication barriers (m), therefore hindering interaction with colleagues (o)[59].

Preparedness for practice

IMGs will have varying levels of clinical knowledge and experience (including learning styles)[12, 16, 23, 24, 28, 29, 31, 41, 45, 48, 52, 54, 56, 58, 59, 61, 64, 65, 67, 68, 70-72, 76-79, 83, 89] (CS1-4, 7, 11). A lack of clinical knowledge and competence[32, 46] will likely hinder interventions for IMGs as their focus may turn to lack of knowledge, rather than engaging in the learning outcomes of the intervention (m)[59] (CS2, 3). Educators will expect a certain level of competence and therefore will incorporate this into the content[33]. Differences in previous practice must also be acknowledged, and initial reluctance to question seniors or share views during ward discussions perhaps hindering transformative learning (m) and overall practice (o)[34].

Individual differences

Individual differences are likely to play a role in transition[5, 12, 26, 34, 40, 42, 47, 49, 54, 62, 70, 75, 83, 84, 96, 99, 104] (CS1-4, 6, 12). The acculturative process is mediated by individual factors such as age, gender, ethnicity, culture, personality etc.[26, 27, 37, 59, 102, 105]. For example, women IMGs often have differing needs to men and may need different support. 'Home' gender roles and gender role expectations may be in conflict with those in the new culture[105]. Yet females have been reported to experience less feelings of isolation and higher levels of engagement (m)[37]. Transition is likely to be influenced by the personality of the individual and how resilient they are, culture

shock being experienced by some individuals but not others (m)[26]. It is essential to be aware that culture shock has been linked to poor mental health[89]. Individual differences may impact on acculturation and create a barrier for transfer to practice (o)[48]. Individual differences may also limit the emotional support offered by educators for fear of violating gender or cultural boundaries[79]. The differences between those from international and European countries must also be recognised (CS1-3), for example, attitudes to mistakes and acceptance of feedback (m)[99].

There may well be differences in individual circumstances that impact on adjustment[41, 52, 59, 71, 75, 76, 89](CS1-4), for example the nature of migration, barriers faced in gaining employment and length of time living in the host-country[101]. The process of migration itself may be stressful (m), both practical issues and lack of social network impacting on this [67, 80]. For example, if the individual has a spouse that has moved with them, or family and friends already living there[101] (CS2, 6), they may be able to adjust quicker. Acculturation can however be hindered by family issues, such as spouses or children finding it difficult to adjust (o)[60].

Perceived barriers

IMGs may feel the system is unfair, particularly where barriers make entering the system and career progression difficult[67, 68, 78, 89]. A programme for international graduates may therefore be seen as another hurdle that they have to clear[59], perhaps decreasing motivation to learn (m). Being told that extra training is needed can also impact on self-esteem (m)[55] and impact upon work adjustment (o) Barriers may also be perceived following training. For example, a sense of being unnecessarily questioned will act as a threat to their sense of self (m)[96].

Discussion

This synthesis has investigated interventions designed to aid the transition of IMGs to healthcare organisations, specifically looking at contextual factors that will mediate mechanisms that will likely lead to a successful transition (see Figure 2). Successful interventions seem to be those that not only offer a developed programme targeting individual needs of the IMGs within a supportive learning environment, but offer ongoing support from both peers and supervisors; during and following implementation. These factors are key in triggering IMGs to engage in transformative learning, increase their self-efficacy and cultural health capital, and reduce feelings of stress and anxiety. Where cultural awareness and support of the organisation are evident, interventions are likely to be more successful with increased engagement, motivation and commitment from IMGs. Interventions will be most effective for those individuals who have the capacity to change and maintain their role identity, organisations having to understand that IMGs will be making their transition with differing levels of preparedness and individual differences. Organisations must aid IMGs with their loss of natural support networks, feelings of isolation and pressure to take on new cultures[60].

Findings were organised into three contextual levels - individual, training and organisational; developing the initial programme theory. The findings were presented in an applicable manner focussing on context as the synthesis intends to provide guidance for those implementing programmes for IMGs. This is primarily important for educators currently implementing or developing their own interventions. At a regional level, policy makers can use the findings to develop guidelines that healthcare organisations can use at a local level. Programmes are currently being implemented within some organisations, but if the necessary contextual factors are

not embedded, the necessary mechanisms may not be triggered, so transitional outcomes (in terms of adjustment) may be hindered. It should be the responsibility of both local and regional levels to ensure these issues are addressed.

Providing a variety of safety nets such as induction, buddying and enhanced supervision is crucial for successful transition, supporting recommendations from earlier research[7]. There are more issues to address than merely lack of skills. A smooth transition takes about one year[59], and resources are needed once IMGs begin[35]. Stress is likely to be high for this group of doctors, facing challenges both inside and outside of work. Dysfunctional adjustment may not only lead to poor job performance, but result in IMGs resigning[13], impacting on organisations

As the 'cogs' illustrate in Figure 2, the most efficient transition process will occur if all levels are operating effectively. Whilst adjustment will take place at the individual level, inputs from the organisational and training level are crucial (see appendix 5 and 6 for examples). The complexity of issues at all levels must be understood in order to ensure transfer of learning into practice.

Although programme content and delivery is important, an organisational culture that creates a social support network and a feeling of being 'welcomed' and accepted stands out as having the biggest impact on IMG transition[106]. Individual organisations should be encouraged to develop and pilot interventions taking into account the recommendations proposed in Figure 3[MJ(M9].

Strengths and limitations

The realist approach is emerging as a popular choice of methodology for understanding intervention effects in context. It is an exciting, iterative approach, involving the negotiation between stakeholders and researchers, adding more depth

than the traditional systematic approach. As a result, a vast amount of context-mechanism-outcome patterns were drawn from the findings in order to build and refine the developed programme theory. This synthesis has begun to extend the knowledge base in the area of IMG transition and help understand the process, filling the gap that has previously been noted[8]

All of the interventions vary in terms of what they offer the IMG transition process, therefore in synthesising the data, the researchers were able to see what elements are crucial to successful outcomes and make recommendations for best practice. It further highlights the vast difference in the ways interventions are being developed both within and between different countries. Therefore it is suggested that a standardised set of guidelines are developed within each country, using recommendations made from this research, to ensure effective development and implementation of interventions[MJ(M10].

A limitation of this synthesis was the lack of objective outcome measures within the literature, the majority being either satisfaction surveys or descriptive pieces. Small sample sizes were also common. This highlights a weakness in the current literature on IMG transition, which has been noted in a recent literature review[8]. Therefore there was a lack of complete rigour in the conclusions drawn, the researchers being unable to test all aspects of the programme theory in detail. However, when outcomes were lacking, they were inferred. The use of secondary searches also helped to refine theory where lacking. Where outcomes were explored in a rigorous manner, the studies often lacked the rich description needed to explore the theory in detail. A realist evaluation of primary data is currently being conducted to aid in further refinement and development of the proposed programme theory.

An overlap between categories, particularly mechanisms and outcomes, arose on a number of occasions, illustrating the subjective nature of the realist approach. However, these were discussed extensively and realist experts consulted when facing difficulties.

Case studies were largely limited to the UK as this was the context of the research. It did however highlight that the UK is lacking the ongoing support being offered to IMGs that other countries seem to offer. Since ongoing support is a core theme from the findings, this is something that needs addressing. Although the theory was tested in a UK context, there is international relevance, in the same way that we have benefitted from international experiences in conducting the work.

As discussed previously, it was decided that graduates from different health professions would be included, despite the focus of the synthesis being on medical graduates. Future research may therefore wish to look at the transition of other professions separately. There could however be an opportunity to develop interventions within organisations for all international health professionals. As this synthesis shows, the transitional needs of doctors and nurses are relatively similar and may aid in acculturation.

What still remains unclear from the findings is how to target IMGs who start outside of normal contractual dates, interventions largely being implemented yearly. The suggested ongoing support, such as buddying, and information packs prior to arrival may help to overcome this issue, but further exploration is needed.

Conclusions

Designing interventions for IMGs is a complex task[107], therefore this synthesis describes the theory and processes needed to support IMGs to make a successful transition to their host-country. The findings illustrate why interventions work (or not) and in what ways, therefore enabling those implementing interventions to make more informed choices. Systematic reviews rarely look at the underlying theories of interventions or explain the context, mechanisms, and outcomes that will aid in future implementation[18]. Contextual factors at three levels; organisational, training and individual, have been proposed, highlighting the particular importance of their interaction. Ongoing support and cultural awareness from both the organisational and training level are crucial, whilst taking into consideration individual factors. Organisations should not expect a quick or easy transition and ignore potential difficulties at any of the proposed levels.

References

1. Castagnone E, Salis E. *Workplace integration of migrant healthcare workers in Europe. Comparative report on five European countries*. Work-Int. July 2015. Available from: http://www.work-int.eu/ [Accessed on 27 January 2016]
2. Webb J, Marciniak A, Cabral C, Lima Brum R, Rajani R. A model for clinical attachments to support international medical graduates. *BMJ Careers* 2014.
3. Slowther A, Lewando Hundt GA, Purkis J, Taylor R. Experiences of non-UK-qualified doctors working within the UK regulatory framework: a qualitative study. *Journal of the Royal Society of Medicine* 2012; **105**(4):157-65.
4. Tiffin PA, Illing J, Kasim AS, McLachlan JC. Annual Review of Competence Progression (ARCP) performance of doctors who passed Professional and Linguistic Assessments Board (PLAB) tests compared with UK medical graduates: national data linkage study. *BMJ: British Medical Journal*. 2014; **3**:48.
5. Curran V, Hollett A, Hann S, Bradbury C. A qualitative study of the international medical graduate and the orientation process. *Canadian journal of rural medicine : the official journal of the Society of Rural Physicians of Canada* 2008; **13**(4):163-9.
6. Ohr SO, Jeong S, Parker V, McMillan M. Organizational support in the recruitment and transition of overseas - qualified nurses: Lessons learnt from a study tour. *Nursing & health sciences*. 2013.
7. Illing J, Kergon C, Morrow G, Burford B. The experiences of UK, EU and non-EU medical graduates making the transition to the UK workplace: Full Research Report, ESRC End of Award Report. 2009.
8. Lineberry M, Osta A, Barnes M, Tas V, Atchon K, Schwartz A. Educational interventions for international medical graduates: a review and agenda. *Medical Education*. 2015; **49**(9):863-79.
9. Steinert Y, Walsh A. Faculty Development Program for Teachers of International Medical Graduates. *The Association of Faculties of Medicine of Canada* 2006.
10. Bhat M, Ajaz, A., Zaman, N. Difficulties for international medical graduates working in the NHS. *BMJ Careers* 2014.
11. Walsh A, Banner S, Schabort I, Armson H, Bowmer I, Granata B. International medical graduates-Current issues. *Association of Faculties of Medicine of Canada (AFMC)*. 2011.
12. Harris A, Delany C. International medical graduates in transition. *The clinical teacher* 2013; **10**(5):328-32.

13. Harrison DA, Shaffer MA. Mapping the criterion space for expatriate success: task-and relationship-based performance, effort and adaptation. *The international journal of human resource management* 2005; **16**(8):1454-74.
14. Warwick C. How international medical graduates view their learning needs for UK GP training. *Education for Primary Care* 2014; **25**(2):84-90.
15. Pawson R, Tilley N. Realistic evaluation: Sage 1997.
16. Greig A, Dawes D, Murphy S, Parker G, Loveridge B. Program evaluation of a model to integrate internationally educated health professionals into clinical practice. *BMC Med Educ*. 2013; **13**(8).
17. Greenhalgh T, Wong G, Westhorp G, Pawson R: Protocol – realist and meta narrative evidence synthesis: Evolving standards (RAMESES). *BMC Medical Research Methodology* 2011; **11**(1): 115.
18. Greenhalgh T, Kristjansson E, Robinson V. Realist review to understand the efficacy of school feeding programmes. *BMJ: British Medical Journal* 2007; **335**(7625):858.
19. Quality standards for realist ynthesis (for researchers and peer-reviewers). The RAMESES Project 2014. Available from: http://www.ramesesproject.org/media/RS_qual_standards_researchers.pdf [Accessed on 15 November 2014]
20. Kirwan C, Birchall D. Transfer of learning from management development programmes: testing the Holton model. *International Journal of Training and Development* 2006; **10**(4):252-68.
21. Rothwell C, Morrow G, Burford B, Illing J. Ways in which healthcare organisations can support overseas-qualified doctors in the UK. *Int J Med Educ* 2013; **4**:75-82.
22. MacPherson G. Examining an orientation program for international medical graduates (IMGs) through the lens of critical theory a learner-centered program 2012.
23. Baker D, Robson J. Communication training for international graduates. *The clinical teacher* 2012; **9**(5):325-9.
24. Cohen Castel O, Ezra V, Alperin M, Nave R, Porat T, Cohen Golan A, et al. Can outcome-based continuing medical education improve performance of immigrant physicians? *Journal of Continuing Education in the Health Professions* 2011; **31**(1):34-42.
25. Eisen S, Sukhani S, Brightwell A, Stoneham S, Long A. Peer mentoring: evaluation of a novel programme in paediatrics. *Archives of Disease in Childhood* 2014; **99**(2): 142-6.
26. Taherian K, Shekarchian M. Mentoring for doctors. Do its benefits outweigh its disadvantages? *Medical Teacher* 2008; **30**(4):e95-e9.
27. Woodward-Kron R, Flynn E, Delany C. Combining interdisciplinary and International Medical Graduate perspectives to teach clinical and ethical communication using multimedia. *Communication & medicine* 2011; **8**(1):41-51.
28. Xu Y, Bolstad AL, Shen J, Colosimo R, Covelli M, Torpey M, et al. Speak for success: A pilot intervention study on communication competence of post-hire international nurses. *Journal of Nursing Regulation* 2010; **1**(2):42-8.
29. Smalligan RD, Bharat, Richey HK, Bell T, Jordan R, Weis B. Preparing for a shock: A pilot simulation internship for incoming residents. *Journal of General Internal Medicine* 2011; **26**:S571.
30. Shen JJ, Xu Y, Bolstad AL, Covelli M, Torpey M, Colosimo R. Effects of a short-term linguistic class on communication competence of international nurses: implications for practice, policy, and research. *Nursing economic$* 2012; **30**(1):21-8.
31. Rothman AI, Cohen R, Ross J. Evaluating the clinical skills of foreign medical school graduates participating in an internship preparation program. *Academic Medicine* 1990; **65**(6):391-5.
32. Romem Y, Benor DE. Training immigrant doctors: Issues and responses. *Medical Education* 1993; 27(**1**):74-82.
33. Porter JL, Townley T, Huggett K, Warrier R. An acculturization curriculum: Orienting international medical graduates to an internal medicine residency program. *Teaching and Learning in Medicine* 2008; **20**(1):37-43.

34. Gerrish K, Griffith V. Integration of overseas Registered Nurses: evaluation of an adaptation programme. *Journal of Advanced Nursing* 2004; **45**(6):579-87.
35. Christie J, Pryor E, Paull AM. Presenting under pressure: Communication and international medical graduates. *Medical Education* 2011; **45**(5):532.
36. Blencowe NS, Van Hamel C, Bethune R, Aspinall R. 'From scared to prepared': targeted structured induction training during the transition from medical school to foundation doctor. *Perspect Med Educ* 2015 **4**(2):90-2.
37. Fleming GM, Simmons JH, Xu M, Gesell SB, Brown RF, Cutrer WB, et al. A Facilitated Peer Mentoring Program for Junior Faculty to Promote Professional Development and Peer Networking. *Academic Medicine* 9000;Publish Ahead of Print.
38. Nigah N, Davis AJ, Hurrell SA. The Impact of Buddying on Psychological Capital and Work Engagement: An Empirical Study of Socialization in the Professional Services Sector. *Thunderbird International Business Review* 2012; **54**(6):891-905.
39. Hiraoka M, Kamikawa G, McCartin R, Kaneshiro B. A pilot structured resident orientation curriculum improves the confidence of incoming first-year obstetrics and gynecology residents. *Hawai'i Journal of Medicine & Public Health* 2013; **72**(11):387.
40. Lockyer J, Fidler H, De Gara C, Keefe J. Mentorship for the physician recruited from abroad to Canada for rural practice. *Medical teacher* 2010; **32**(8):e322-7.
41. Carlier N, Carlier M, Bisset G. Orientation of IMGs: a rural evaluation. *Australian family physician* 2005; **34**(6):485-7.
42. Ballard K, Laurence P. An induction programme for European general practitioners coming to work in England: Development and evaluation. *Education for Primary Care* 2004; **15**(4):584-95.
43. Sierles FS. Using Film as the Basis of an American Culture Course for First-Year Psychiatry Residents. *Academic Psychiatry* 2005; **29**(1):100-4.
44. Coffey S. Educating international nurses: curricular innovation through a bachelor of science in nursing bridging program. *Nurse educator* 2006; **31**(6):244-8.
45. MacLellan AM, Brailovsky C, Miller F, Leboeuf S. Clerkship pathway: A factor in certification success for international medical graduates. *Canadian Family Physician* 2012; 58(6):662-7.
46. Fry M, Mumford R. An innovative approach to helping international medical graduates to improve their communication and consultation skills: whose role is it? *Education for Primary Care* 2011; **22**(3):182-5.
47. Maudsley RF. Assessment of international medical graduates and their integration into family practice: The clinician assessment for practice program. *Academic Medicine* 2008; **83**(3):309-15.
48. Atack L, Cruz EV, Maher J, Murphy S. Internationally educated nurses' experiences with an integrated bridge program. *Journal of continuing education in nursing* 2012; **43**(8):370-8.
49. Majumdar B, Keystone JS, Cuttress LA. Cultural sensitivity training among foreign medical graduates. *Medical Education* 1999; **33**(3):177-84.
50. Allan H. Mentoring overseas nurses: Barriers to effective and non-discriminatory mentoring practices. *Nursing Ethics* 2010; **17**(5):603-13.
51. Remedios L, Deshpande A, Harris M. Helping international medical graduates (IMGs) to success in the nMRCGP. *Education for primary care: an official publication of the Association of Course Organisers, National Association of GP Tutors, World Organisation of Family Doctors* 2010; **21**(3):143.
52. Baldacchino G, Chilton L, Seaman J, Chung S-JY, Mathiang BM, Arsenault KJ, et al. The Host Program and Immigrant Retention on Prince Edward Island: University of Prince Edward Island in collaboration with the Prince Edward Island Association for Newcomers to Canada; 2009.
53. Cheung CR. NHS induction and support programme for overseas-trained doctors. *Medical education* 2011; **45**(5):531-2.

54. Hamoda HM, Sacks D, Sciolla A, Dewan M, Fernandez A, Gogineni RR, et al. A roadmap for observership programs in psychiatry for international medical graduates. *Academic Psychiatry* 2012; **36**(4):300-6.
55. Julian MA, Keane A, Davidson K. Language Plus for International Graduate Students in Nursing. *Image: the Journal of Nursing Scholarship* 1999; **31**(3):289-93.
56. Myers GE. Addressing the effects of culture on the boundary-keeping practices of psychiatry residents educated outside of the United States. *Academic Psychiatry* 2004; **28**(1):47-55.
57. Stenerson HJ, Davis PM, Labash AM, Procyshyn MM. Orientation of International Medical Graduates to Canadian Medical Practice. *Journal of Continuing Higher Education* 2009; **57**(1):29-34.
58. Wright A, Regan M, Haigh C, Sunderji I, Vijayakumar P, Smith C, et al. Supporting international medical graduates in rural Australia: a mixed methods evaluation. *Rural and remote health* 2012; **12**:1897.
59. Xu Y. Transitioning international nurses: an outlined evidence-based program for acute care settings. *Policy, politics & nursing practice* 2010; **11**(3):202-13.
60. Cole-Kelly K. Cultures engaging cultures: international medical graduates training in the United States. *Family medicine* 1993; **26**(10):618-24.
61. Cross D, Smalldridge A. Improving written and verbal communication skills for international medical graduates: A linguistic and medical approach. *Medical Teacher* 2011; **33**(7):e364-e7.
62. Duncan GF, Gilbey D. Cultural and communication awareness for general practice registrars who are international medical graduates: A project of CoastCityCountry Training. *The Australian Journal of Rural Health*. 2007; **15**(1):52-8.
63. Goldszmidt M, Kortas C, Meehan S. Advanced medical communications: support for international residents. *Medical education* 2007; **41**(5):522.
64. Horner M. A review of a supervised practice programme for overseas nurses. *Nursing times* 2004; **100**(27):38-41.
65. Horvath K, Coluccio G, Foy H, Pellegrini C. A program for successful integration of international medical graduates (IMGs) into U.S. surgical residency training. *Current Surgery* 2004; **61**(5):492-8.
66. Lax LR, Russell ML, Nelles LJ, Smith CM. Scaffolding knowledge building in a web-based communication and cultural competence program for international medical graduates. *Academic Medicine* 2009; **84**(SUPPL. 10):S5-S8.
67. McGrath P, Henderson D. The observer program: insights from international medical graduates. *Education for health (Abingdon, England)* 2009; **22**(3):344.
68. McGrath P, Henderson D, Phillips E. Integration into the Australian health care system: Insights from international medical graduates. *Australian Family Physician* 2009; **38**(10):844-8.
69. Neill D, Slattery H, Handrinos D, Holloway S. SIMG upskilling program 2010: An overview. *Australian and New Zealand Journal of Psychiatry* 2011; **45**:A46.
70. Nelles LJ, Smith CM, Lax LR, Russell L. Translating Face-to-Face Experiential Learning to Video for a Web-Based Communication Program. *Canadian Journal for the Scholarship of Teaching and Learning* 2011; **2**(1):16.
71. Ong YL, McFadden G, Gayen A. Induction for overseas qualified doctors. *Hospital medicine (London, England : 1998)* 2002; **63**(9):558-60.
72. Parry M, Lipp A. Implementation of an adaptation programme for Filipino nurses in a UK adult cancer hospice. *International journal of palliative nursing* 2006; **12**(2):83-9.
73. Woodward-Kron R, Fraser C, Pill J, Flynn E. How we developed Doctors Speak Up: an evidence-based language and communication skills open access resource for International Medical Graduates. *Medical teacher* 2014 (0):1-3.
74. Ehrich LC, Hansford BC, Tennent L. Mentoring in medical contexts. 2003.
75. Adeniran RK, Rich VL, Gonzalez E, Peterson C, Jost S, Gabriel M. Transitioning internationally educated nurses for success: A model program. *The Online Journal of Issues in Nursing* 2008; **13**(2).

76. Tan A, Hawa R, Sockalingam S, Abbey SE. (Dis)Orientation of International Medical Graduates: An Approach to Foster Teaching, Learning, and Collaboration (TLC). *Academic Psychiatry* 2013; **37**(2):104-7.
77. Tan RA, Alpert PT. A teaching intervention to improve the self-efficacy of internationally educated nurses. *Journal of continuing education in nursing* 2013; **44**(2):76-80.
78. Rabin S, Herz M, Stern M, Vaserfirer I, Belakovsky S, Mark M, et al. Improving the professional self-efficacy cognitions of immigrant doctors with Balint groups. *The Israel journal of psychiatry and related sciences* 1996; **33**(4):253-9.
79. Hawken S. Overseas-trained doctors' evaluation of a New Zealand course in professional development. *The New Zealand medical journal* 2005; **118**(1219):U1584.
80. Kalra G, Bhugra DK, Shah N. Identifying and Addressing Stresses in International Medical Graduates. *Academic Psychiatry* 2012; **36**(4):323-9.
81. Frei E, Stamm M, Buddeberg-Fischer B. Mentoring programs for medical students - a review of the PubMed literature 2000 - 2008. *BMC Med Educ* 2010; **10**(1):32.
82. Nestel D, Regan M, Vijayakumar P, Sunderji I, Haigh C, Smith C, et al. Implementation of a multi-level evaluation strategy: a case study on a program for international medical graduates. *Journal of Educational Evaluation for Health Professions* 2011; **8**:13.
83. McGaghie WC, Issenberg SB, Petrusa ER, Scalese RJ. A critical review of simulation-based medical education research: 2003–2009. *Medical Education* 2010; **44**(1):50-63.
84. Seritan A, Bhangoo R, Garma S, DuBé J, Park J, Hales R. Society for Women in Academic Psychiatry: A Peer Mentoring Approach. *Academic Psychiatry* 2007; **31**(5):363-6.
85. Webb J, Brightwell A, Sarkar P, Rabbie R, Chakravorty I. Peer mentoring for core medical trainees: uptake and impact. *Postgraduate Medical Journal* 2015; **91**(1074):188-92.
86. *Cross-Cultural Concepts Training for Medical Students and Acculturation Training for Residents*. April 1994. Available from: http://search.proquest.com/docview/62712084?accountid=14533 [Accessed on 3 November 2014]
87. Gandhi S, French B. Sharing what works: adaptation programmes for overseas recruits. *Nurse education in practice* 2004; **4**(2):114-9.
88. Rosner F, Dantzker DR, Walerstein S, Cohen S. Intensive one-week orientation for foreign medical graduates entering an internal medicine residency program. *Journal of General Internal Medicine* 1993; **8**(5):264-5.
89. Sullivan EA, Willcock S, Ardzejewska K, Slaytor EK. A pre-employment programme for overseas-trained doctors entering the Australian workforce, 1997-99. *Medical Education* 2002; **36**(7):614-21.
90. Ryan M. A buddy program for international nurses. *The Journal of nursing administration* 2003; **33**(6):350.
91. Higgins NS, Taraporewalla K, Edirippulige S, Ware RS, Steyn M, Watson MO. Educational support for specialist international medical graduates in anaesthesia. *Medical Journal of Australia* 2013; **199**(4):272-4.
92. Assiri AS, Al-Jarallah AS, Al-Amari O, Turnball J. Perception of Canadian training programs by Saudi resident trainees. *Annals of Saudi Medicine* 2002; **22**(5-6):320-3.
93. Rich AJ. An induction programme for first-appointment overseas doctors. *Medical Teacher* 1998; **20**(5):473-5.
94. Heal C, Jacobs H. A peer support program for international medical graduates. *Australian family physician* 2005; **34**(4):277-8.
95. Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: a review with suggestions for implementation. *Med Teach* 2013; **35**(5):395-403.
96. Neiterman E, Bourgeault IL. Professional integration as a process of professional resocialization: Internationally educated health professionals in Canada. *Social Science & Medicine* 2015; **131**(0):74-81.

97. Anderson K, Sykes M, Fisher P. Medical students and refugee doctors: learning together. *Medical Education* 2007; **41**(11):1105-6.
98. Jha V, Mclean M, Gibbs TJ, Sandars J. Medical professionalism across cultures: A challenge for medicine and medical education. *Medical Teacher* 2014 **0**(0):1-7.
99. Stock N. Advanced Study Module (MED8066) 2013-2014. Newcastle University. Masters thesis. 2014.
100. Hatzidimitriadou E, Psoinos M. Cultural health capital and professional experiences of overseas doctors and nurses in the UK. *Diversity and Equality in Health and Care* 2014; **11**(1):35-47.
101. Watt D, Violato C, Lake D, Baig L. Effectiveness of a Clinically Relevant Educational Program for Improving Medical Communication and Clinical Skills of International Medical Graduates. *Canadian Medical Education Journal* 2010; **1**(2):e70-e80.
102. Woodward-Kron R, Stevens M, Flynn E. The medical educator, the discourse analyst, and the phonetician: A collaborative feedback methodology for clinical communication. *Academic Medicine* 2011; **86**(5):565-70.
103. Gunasingam N, Burns K, Edwards J, Dinh M, Walton M. Reducing stress and burnout in junior doctors: the impact of debriefing sessions. *Postgraduate Medical Journal* 2015; **91**(1074):182-7.
104. Atri A, Matorin A, Ruiz P. Integration of International Medical Graduates in U.S. Psychiatry: The Role of Acculturation and Social Support. *Academic Psychiatry* 2011; **35**(1):21-6.
105. Bickel J. Gender stereotypes and misconceptions: unresolved issues in physicians' professional development. *Jama* 1997; **277**(17):1405-7.
106. Kalliath TJ, O'Driscoll MP, Gillespie DF, Bluedorn AC. A test of the Maslach Burnout Inventory in three samples of healthcare professionals. *Work & Stress* 2000; **14**(1):35-50.
107. Couser G. Twelve tips for developing training programs for International Medical Graduates. *Medical Teacher* 2007; **29**(5):427-30.

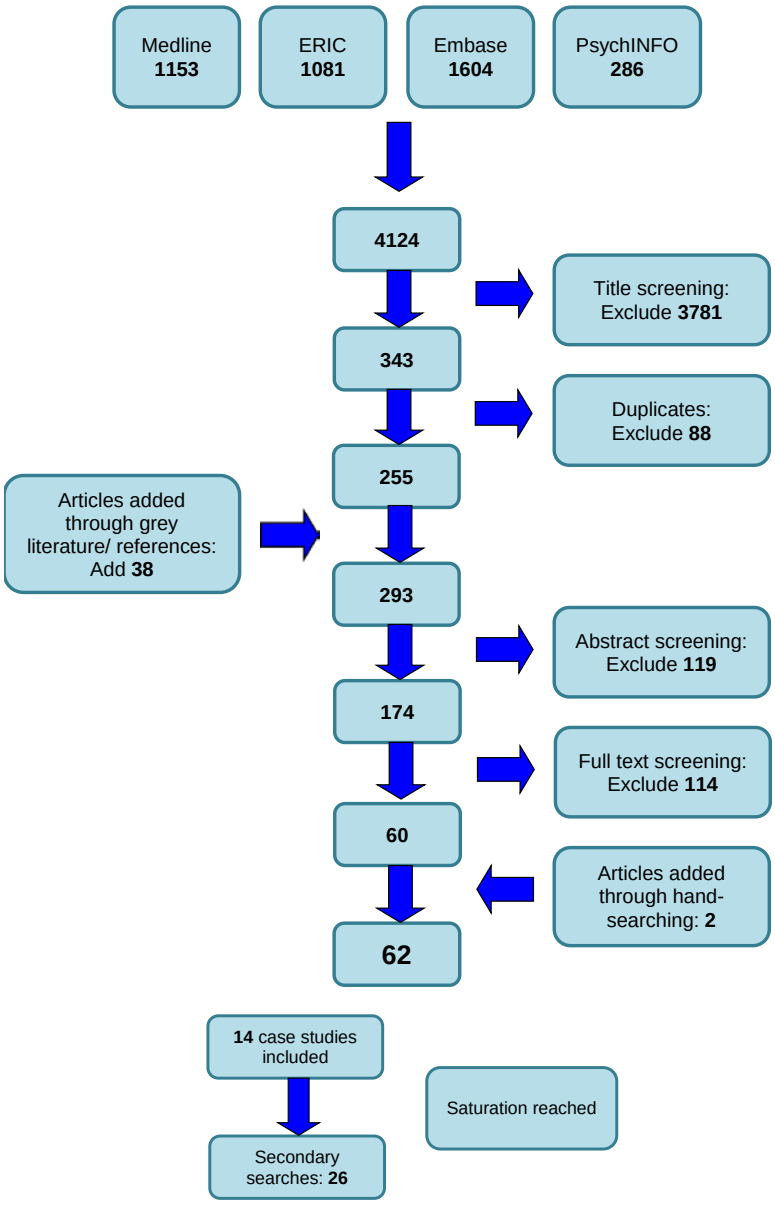

Figure 1. Diagram of search results.

Case Study	*Organisation*	*Year*	*Duration*	*Intervention*
1	University Hospital of North Tees	2013	5 days	Enhanced Shadowing Programme (POD) (Pilot 1)
2	University Hospital of North Tees	2014	2 days	Programme for overseas Doctors (POD) (Pilot 2)
3	University Hospital of North Tees	2014	2 days	Programme for overseas Doctors (POD) (Pilot 3)
4	College of Physicians and Surgeons of Nova Scotia	2013	5 days	Clinician Assessment For Practice Program (CAPP)
5	Health Education North East	2010-2013	1 day	Support for overseas doctors new to clinical practice in the UK
6	Health Education North East	2014	1 day (one day follow)	Support for overseas doctors new to clinical practice in the UK
7	Registered Nurses Professional Development Centre	2012	8 sessions, 1 per week (3 hours - 6-9pm)	Orientation to the Canadian Health Care System
8	London Deanery	2014	Online package	E-learning Induction Package for International Medical Graduates and EU doctors
9	Central Manchester University Hospital	2014	Onine/ongoing	Online induction and support system (peer 'buddy' support and educational supervisors)
10	GMC	2013	1 day	Welcome to UK Practice
11	Aukland District Health Board (ADHB)	2011	26 weeks	Ready-for-Work Training Programme
12	Yorkshire and the Humber Foundation School	2014	1 day	Induction to NHS
13	BMA	2015	Half day	Welcome to UK Practice seminar
14	Health Education North East	2015	1 day	Communication skills for Doctors New to UK Practice

Table 1. Case study characteristics.

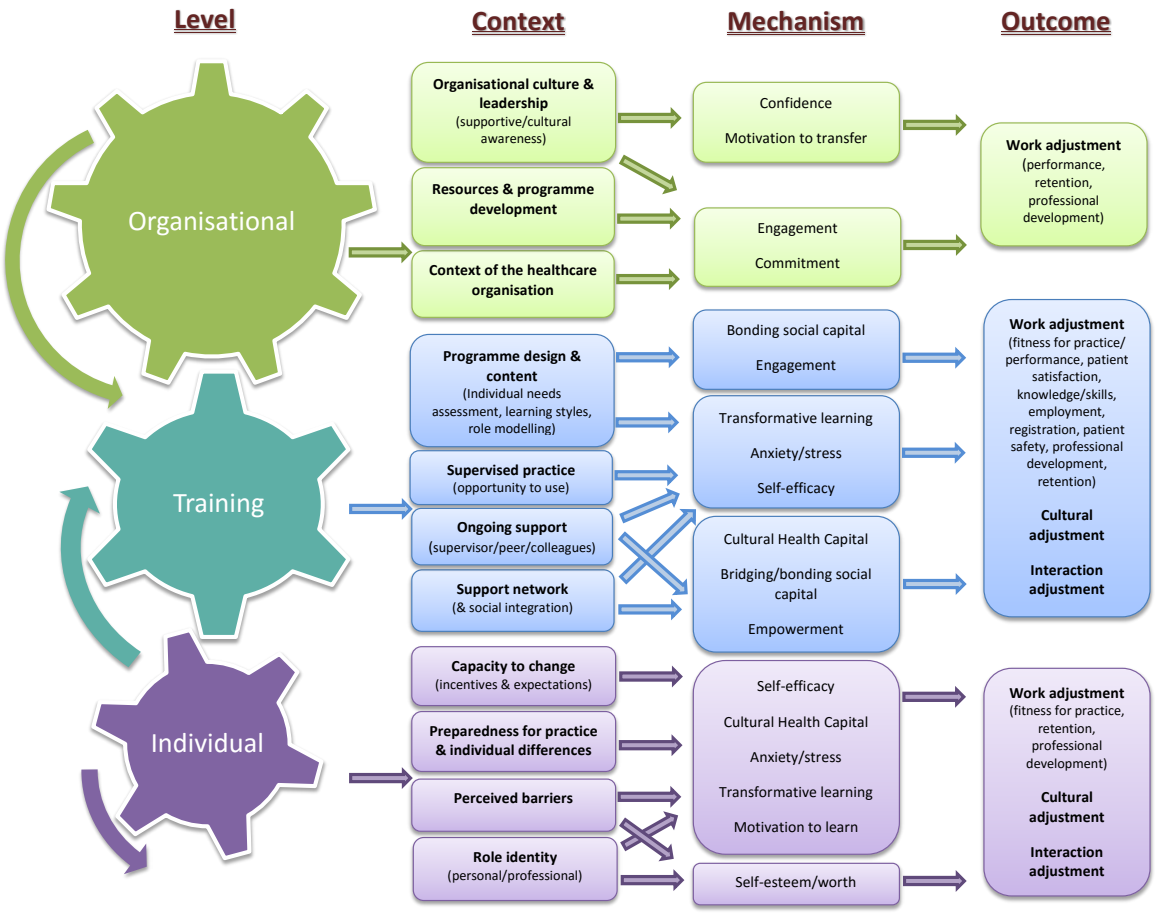

Figure 2. Refined programme theory illustrating IMG transition.

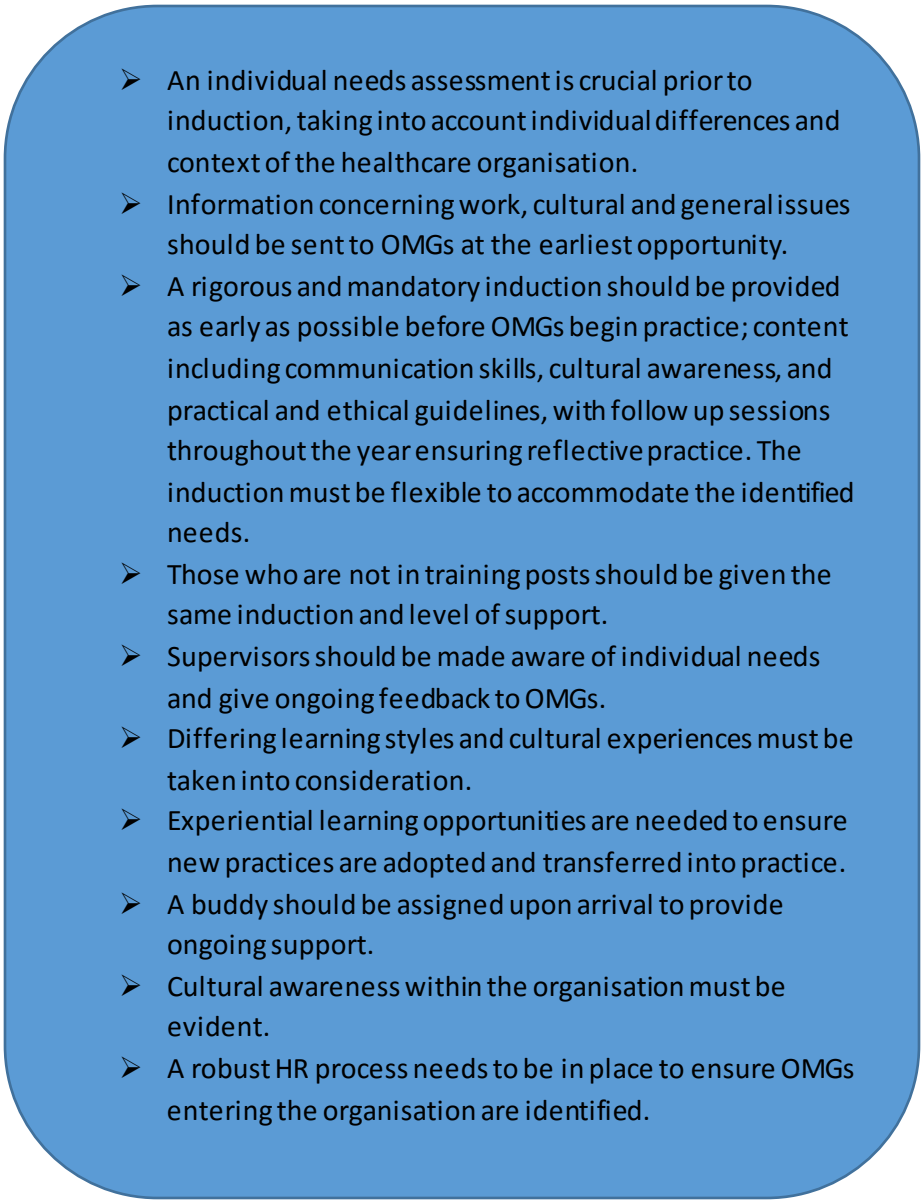

Figure 3. Recommendations for implementing interventions for IMGs.