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A crisis in the countryside -
Barriers to nurse recruitment and retention in rural areas of high-income countries: A qualitative meta-analysis

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Abstract

A nursing workforce is pivotal for maintaining fundamental healthcare needs. However, recruitment and retention of this integral workforce in rural regions can be fraught with challenges. Whilst global research has identified barriers to working in rurality, these are often focused on the limited infrastructure and isolation of working in low- and middle-income countries. No previous qualitative meta-analysis has considered the factors affecting nurse recruitment in high-income countries. To provide a deeper understanding of the overarching barriers to nurse recruitment and retention in rural areas of high-income countries, a qualitative meta-analysis of primary qualitative research was conducted. Fourteen databases were reviewed systematically for qualitative research exploring barriers to nurse recruitment and retention. Twelve papers from Australia, Canada and the USA met the inclusion criteria. The current meta-analysis identifies themes around 'health service demands', 'challenges of accessing continuous professional development and clinical progression restrictions' and the 'rural demography' as overarching barriers for rural recruitment and retention of nurses in high-income countries.

The results of the qualitative meta-analysis have provided new insights into the overarching themes, reflecting the consistent barriers to nurse recruitment and retention in rural areas of high-income countries. Interpretation of these themes highlights the importance of employing the right nurse who possesses a multi-dimensional skillset traversing both the working and community environment. This is discussed in light of current healthcare and education models and the development of innovative recruitment strategies, with the meta-analysis identifying avenues for future research to better address this growing concern.

Keywords

Barriers, high-income countries, nurse, recruitment, retention, rural.

1. Introduction

Delivering quality patient care and ensuring accessible health services requires investment in the health workforce (Dhillon and Campbell et al., 2016); however, efforts to safeguard this has been hampered by a significant shortfall in numbers. A global shortage has long been identified (The World Health Organisation, [WHO], 2006), but recent statistics highlight that the deficit is a staggering 10.3 million healthcare workers (Scheil-Adlung, 2015). Alarmingly, this shortage appears exacerbated in rural areas (Gross et al., 2010; Paliadelis et al., 2012; Leipert and Anderson, 2012; Stroth, 2010), with the deficit of seven million healthcare workers in rural areas being more than twice as high as the three million healthcare workers that are lacking in urban areas (Scheil-Adlung, 2015). These shortages are observed across the spectrum of the healthcare workforce in rural areas (Lori et al., 2012; Daniels et al., 2007; Turner and Lane, 2006; Kippenbrock et al., 2004); however, a particular deficit of over four million doctors, nurses and midwives are noted (WHO, 2006).

Grobler et al., (2015) highlighted the unbalanced distribution of existing healthcare workers to rural locations. Specifically, the WHO (2010) identified the disparity that half of the world's population live in rural areas, yet their healthcare provision is provided by 24% of the world's doctors and 38% of the world's nurses. Indeed, in Canada only 11% of nurses were employed in rural areas which house 17% of the population (Canadian Institute for Health Information [CIHI], 2018); 403 doctors per 100,000 people serve the major urban population in Australia, whilst only 239 doctors per 100,000 people serve the rural population (National Rural Health Alliance, 2013). Similarly, although 43.6% of the South

African population live in rural areas, only 12% of doctors and 19% of nurses are employed there (Human Resources for Health South Africa, 2011).

Nurses comprise the largest group of health care professionals in rural areas (Daniels et al., 2007). When viewed in the context of the day to day roles of multidisciplinary team members (doctors, physiotherapists, dietitians, radiographers and the like), nurses provide the only constant role on hospital wards providing holistic, hands-on patient care and treatment, 24 hours a day, seven days a week, and continue to be one of the few remaining roles to provide consistent home-based visits and community care.

However, concern regarding future nurse staffing levels for rural areas comes at a time when the profession as a whole is in a state of flux regarding its overall numbers across the globe, in both rural and urban settings. It is particularly worrying that the supply projections of nursing workforces are disproportionate to the projected demand (Royal College of Nursing, 2015). The CIHI (2018), highlighted that 46% of regulated nurses who did not renew their licences in 2017 were 55 years or older; and a reduction in new graduates additionally contributed to the reduced employment growth of nurses in Canada. Similarly, the Nursing and Midwifery Council (2017) reported that, between 2016 and 2017, more nurses left the UK professional nursing register than entered it, indicating a 20% reduction in the overall nursing workforce. Comparable projections have been identified for the USA (Brewer et al., 2006) and Australia (Health Workforce Australia, 2012).

Whilst this situation is generally concerning, the nursing shortage is particularly critical in rural areas (Cramer et al., 2006), who have fewer nurses resident within the locality readily available to fill vacancies on a permanent basis. The lack of a substantive and stable workforce forces rural areas to consider alternative short-term options, such as employing non-licenced and support staff to address shortages in the rota (Brewer et al.,

2006). Moreover, the use of agency staff has increased, with National Health Service England reported to have spent £2.4 billion alone on agency staffing during 2017-18 (Ely, 2018).

The lack of an adequate workforce size therefore provides a significant challenge to ensuring quality nursing both at hospital and community levels. Crucially, increased infections, post-operative complications and mortality have been reported as a result of staffing shortages (Hugonnet et al., 2007). The lack of an adequate proportion of nursing personnel has also been linked to greater '*failure-to-rescue rates*' (Aiken et al., 2002, p. 1987). These challenges are likely to be greatly exacerbated in rural areas where the size of the nursing workforce is, by and large, severely reduced. Jakobs (2017) specifically highlights that health outcomes are far from ideal for rural residents. Problems such as heart disease, cancer, diabetes and chronic obstructive pulmonary disease see less favourable results for rural residents; with the additional complication of reduced access to public health, preventative health care measures and mental health provision. Therefore, the lack of an adequate nursing workforce inevitably impacts on patient care outcomes (Aiken et al., 2014; Francis, 2013; Shivam et al., 2014; Schwab et al., 2012), and numerous researchers have warned of the negative impact this could have on the quality of healthcare in rural areas (e.g., Rohatinsky and Jahner, 2016; Nowrouzi et al., 2015; Leipert and Anderson, 2012).

The critical role that nurses play means that a reduction in the workforce can also lead to reduced hospital inpatient capacity and hospital ward closures (Lintern, 2016; Longhurst, 2016; Holmas, 2002), further limiting the services available in rural areas. Whilst this is less than desirable in any geographic situation Longley et al., (2014) identified that rural populations typically must travel 40% further than their urban counterparts, which means that any rural service closures could have increased dire implications. This can be

detrimental given the importance of the golden hour in trauma literature for life or death situations (Little, 2010), and for positive patient outcomes (Longley, et al., 2014).

This demonstrates the potential health inequity that rural areas face, but understanding this concept is complex at best. Countries such as Australia and Canada have reported poor health outcomes for their rural populations (Health Council of Canada, 2005; Productivity Commission for the Steering Committee for the Review of Government Service Provision, 2016). Nonetheless, Public Health England (2017) argue that whilst rural areas experience ill-health and inequalities, they may not be fully reflective of the scale of the problem. The way data is captured and measured often means that rural areas have hidden pockets of need (Haynes and Gale, 2000). This was also identified by Scheil-Adlung (2015), who attributed the problem to the lack of '*disaggregated*' (p. 2) data to inform more national and global policies. This suggests it is immensely difficult to fully comprehend the true extent of inequalities and disparities on a more global rural stage.

Numerous studies have focused on exploring the health workforce in low- and middle-income countries (LMIC) (Wurie et al., 2016; Abimbola et al., 2015; Darkwa et al., 2015; Ojakaa et al., 2014), where the scale of available health services and access to resources were reported to be significant concerns. However, the WHO (2010) highlighted that health worker shortages were increasingly affecting rural areas of high-income countries, and this particular geographic locality was emerging as an area of significant concern. The challenges of rural recruitment in high-income countries can be hard to understand. In contrast to LMIC that report poor health or community infrastructure (Goma et al., 2014; Kwansh et al., 2012) and potential security and safety issues (Shemdoe et al., 2016; Mullei et al., 2010; Rao et al., 2010); rural living in high-income countries introduces idyllic notions of improved work life balance and lifestyle, and close community values

(Welsh Government: Rural Health Plan, 2009; Bourke et al., 2014). However, the continued shortages of nurses in such areas suggest that in reality, the perceived rural idyll is not adequate to attract a nursing workforce.

The challenges faced by rural areas of LMIC and high-income countries vary due to differing political landscapes and healthcare system arrangements, so the solutions are likely to be different as well. The WHO (2010) suggested a multifaceted suite of strategies and interventions, including education and regulatory recommendations, financial incentives and personal and professional support designed to redistribute health workers to where it is most needed. However, such recruitment and retention initiatives appear to have limited effectiveness (Gow et al., 2013; Buykx et al., 2010), which has led Behera et al., (2017), Mbemba et al., (2013) and Dolea et al., (2010) to highlight that further rigorous evaluations are required to monitor and measure the overall results of these interventions. This implies that despite targeted initiatives, working in rurality presents unique challenges which result in the majority of nurses opting to work in urban areas and as such raises important questions about the characteristics of rural nursing practice that appear unattractive to the wider workforce.

The challenge of rural recruitment is not new, with authors attempting to identify barriers to recruitment from as far back as the early 1990s (Szigeti et al., 1991; Stratton et al., 1993). Quantitative papers published since that time have provided valuable insights into this perpetuating problem, suggesting heavy workloads, limited resources, lack of continuous professional development (CPD), diminished job opportunities, family responsibilities and isolation (Wolfenden et al., 1996; Stratton et al., 1998; Hegney et al., 2002a; Betkus and Maclead, 2004) as key problematic factors. Although these quantitative papers are useful for identifying key reasons for recruitment and retention difficulties, the

methodological approach introduces limitations regarding the depth of understanding about how and why these factors are influential. For example, the use of some survey methodologies or questionnaires can restrict and/or introduce bias to the answers that a participant gives, by providing a list of pre-determined answers and then asking participants to rate them in a particular order. A participant may not be able to provide the answer that they wish to give or may not be able to expand or provide reasoning to their answer. Pre-empting the likely answers that participants will identify has the potential to restrict any new insights, and as such these will continue to be unidentified (Li, 2013).

In contrast, narrative data (if conducted with appropriate rigour) has the potential to provide deeper meaning and understanding to a particular phenomenon. While qualitative methodology has its own disadvantages as well, it is a paradigm that allows participants to express their own views and opinions on general questions without the restrictions of a limited number of responses as would be expected from some quantitatively-focused studies. Therefore, the use of the qualitative paradigm to explore issues within the nursing workforce in rural areas could arguably reveal self-identified barriers and provide further information that are relevant and individually meaningful. In addition, participants are able to fully articulate and explain why, how and to what extent these barriers are influential on recruitment and retention decisions. As a result, qualitative data has the potential to provide insightful and in-depth understanding of the barriers influencing nurse recruitment to rural areas. However, sample sizes are often small, particularly when recruiting from rural areas, and the intention of qualitative research is not to generalise to larger populations in the same way as quantitative research.

Nevertheless, collating and re-analysing the qualitative data provides a fresh opportunity to identify, explore and understand the potential salient barriers at play that

might inform future qualitative and quantitative research on this topic. Timulak (2009) presented a model of meta-analysis for such a process and has argued that an advantage of conducting re-analysis is that it introduces further rigour to the evidence base already published and provides potential new insights that may not have been previously evident when looking at individual results in isolation.

Taking the view that nurses are the backbone for health care delivery in rural areas in high-income countries, this qualitative meta-analysis of the literature explores the question 'What are the barriers to the recruitment and retention of nurses in rural areas of high-income countries?'

2. Methodology

2.1 Initial Steps

A protocol was created, and whilst it was not formally registered it did clearly set out the parameters for the paper and its focus. The Cochrane Library[1] and the Centre for Reviews and Dissemination[2] were searched for the presence of any existing analysis of this nature prior to commencing the current project. None were identified.

The PRISMA guidelines of reporting systematic reviews (Moher et al., 2009) were used in order to ensure rigour in the search process.

2.2 Search Criteria

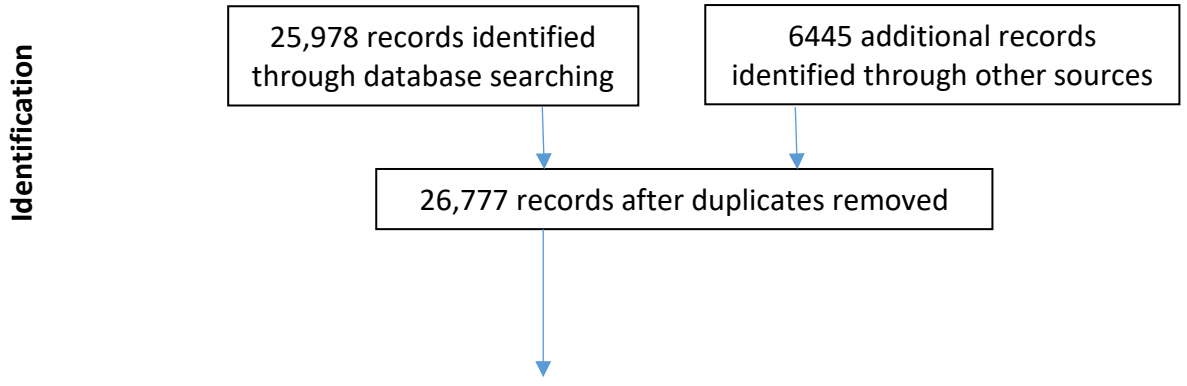
[1] The Cochrane Library is an on-line collection of databases that contain different types of high-quality, independent evidence to inform healthcare decision-making.

[2] The Centre for Reviews and Dissemination is a research department based at the University of York and aims to provide research-based health care information.

Key terms were identified (see Table 1) and were as inclusive as possible to capture all types of nurses working in a variety of rural settings. Boolean operators and truncations were used to perform a systematic search of the literature using Medline, PsychInfo, Embase, Web of Science, PsycArticles, Pubmed, Pubmed Central, Europe PMC, British Nursing Index, ERIC and CINAHL. These databases were then searched by the lead author until January 2018 (i.e. no papers published after January 2018 would have been available at this time); in addition, Google, Google Scholar, OpenGrey and WorldCat databases/search engines were also accessed. Searches were supplemented using hand-searching of the bibliographies of all identified papers. Searches were not constrained to a particular timeframe for published articles, so that all relevant papers could be considered. The full search process is shown in Figure 1.

Table 1:
Key terms used for all databases (including truncations and Boolean operators)

rural*; OR rurality; OR remote*; OR underserve*; OR isolate*
AND
nurs*; OR student nurs*; OR health worker* OR health professional*; OR health practitioner*
AND
staff*; OR recruit*; OR retain*; OR retention; OR stay*; OR leave*; OR supply*; OR workforce
**denotes truncation use* *two-word combinations utilised 'NEAR/3' or 'adj3' searching codes*



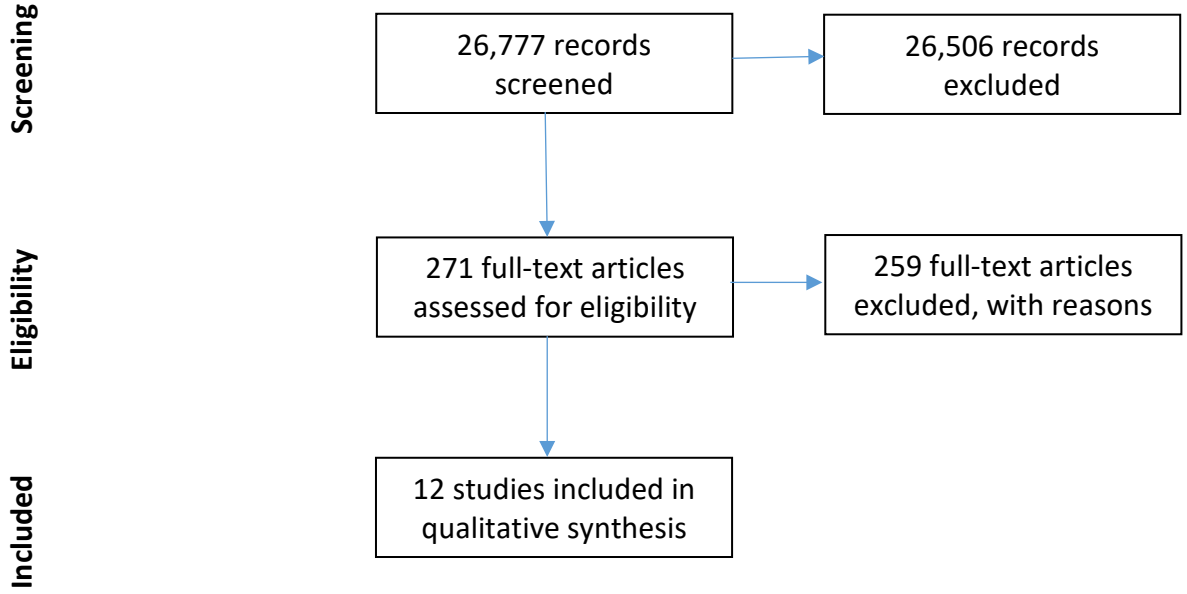


Figure 1: *Search process*

2.3 Selection

Electronic screening of title and abstracts was initially conducted by the lead author prior to full text retrieval, which focused on the articles' relevance to the research question.

To be included in the meta-analysis, studies needed to meet the following criteria: (1) be qualitative research, (2) be empirical peer reviewed research or grey literature that (3) identified data relating to recruitment and retention barriers for nurses in rural areas of high-income countries. Papers identifying reasons for barriers, who/what were involved, and their impact on the rural nursing workforce were included. Data extraction forms suggested from the Cochrane Collaboration (2014) helped to guide the process of data selection and extraction, which was completed by the lead author and reviewed for agreement by a second author.

Literature reviews, policy documents, professional guidance and opinion papers, were not included for extraction as they were not original research papers. Neither were papers that have explored interventions to address recruitment and retention unless

identifying barriers were explicitly part of the research aim. Of the 12 papers included in the meta-analysis, 11 were from peer reviewed journal sources, and one was a research report prepared for specific organisations. This report met the inclusion criteria for this meta-analysis and was therefore included in the final selection to avoid any publication bias, as cautioned by Rothstein et al., (2005).

2.4 Data evaluation

In accordance with guidance from the University of Canberra (2018) and Tyndall (2010), both black and grey literature have been assessed using the same appraisal tools. This is to ensure that all the data within included papers were treated uniformly and were of similar standard. As included papers within the meta-analysis consisted of both black and grey literature, in order to ensure additional rigour, two different appraisal checklists were used on all 12 papers. The first checklist used was newly devised and was based on existing models by Mays and Pope (1998) and the Critical Appraisal Skills Programme [CASP] (2013); the second model used was the AACODS checklist (Tyndall, 2010), which was specifically designed to appraise grey literature. Both checklists indicated that all 12 papers were of good quality and were therefore included in the meta-analysis.

2.5 Meta-Analysis Process

As a relatively new methodological approach, there is limited consensus regarding standardised approaches for meta-analysing qualitative literature (see Barnett-Page and Thomas, 2009). However, Timulak (2009) argued that as the number of qualitative research studies increases, so does the need to develop new ways to cumulatively and rigorously re-assess the findings from this paradigm. Whilst Stern and Harris first introduced a method of

qualitative meta-synthesis in 1985, latterly, Timulak (2007) presented a more formal model of qualitative meta-analysis. This involves a process where findings from qualitative studies with similar key concepts, are grouped together to create a new data set, which is then re-analysed so that a more concise and comprehensive picture of a research subject can be determined. Schreiber et al., (1997) earlier viewed this process as discovering the *'essential elements'* (p. 314) from across numerous studies. In addition, Thomas and Harden's (2008) framework of thematic synthesis is considered a robust framework to guide a meta-analysis process and is therefore utilised within this paper.

According to these frameworks, primary data results from selected qualitative research papers were identified and collated. These were then re-analysed in order to discover new meaning and understanding that may not have been previously evident when looking at individual analysis in isolation. This is especially important to overcome the criticism that qualitative research is not generalizable to a wider context, and is specific to time, place and participants (Thomas and Harden, 2008).

In line with Thomas and Harden's three stage framework (2008), all text included in the 'findings' or 'results' section of retrieved papers was included for meta-analysis and contributed towards the amalgamation of one large data set. A process of line by line coding [stage 1] was used to identify emerging key themes within the new data set. Eighty-eight codes were subsequently identified and were grouped into descriptive themes [stage 2]. Further probing regarding the context of the codes highlighted conceptual or analytical themes [stage 3] which considered new ways of interpreting the amalgamated data or strengthened narratives of prominent themes.

3. Meta-analysis Findings

From the initial pool of publications, 12 qualitative papers were identified as meeting the inclusion criteria (Table 2). The current meta-analysis identifies three overarching themes, each with subthemes. These are 'Health Service Demands' which comprises of the sub-themes 'reduced access to health resources and support', and 'perceived exacerbations for maintaining a rural nursing workforce'; 'Challenges of Accessing Continuous Professional Development (CPD) and Clinical Progression Restrictions'; and 'Rural Demography' which comprises the sub-themes of 'challenges of community integration and socialisation' and 'personal and family barriers to the rural lifestyle'.

Table 2*:*
Included papers

Author/Year	Country	Aim	Methods	Participants
Brewer, Zayas, Kahn, & Sienkiewicz. (2006)	USA	To identify recruitment and retention barriers so that strategic initiatives can be planned	Focus groups	56 nursing professionals
Bushy, & Leipert. (2005)	Canada and USA	To identify whether rural lifestyles and awareness of rural practice are important considerations for students when choosing where to work following graduation	Questionnaires	44 graduate and undergraduate nursing students
Courtney, Edwards, Smith, & Finlayson. (2002)	Australia	To evaluate student nurses' rural placement experiences to determine if such placements can be an effective strategy for rural recruitment	Pre and Post-test surveys	137 (pre-test) and 121 (post-test) nursing students
Hegney, McCarthy, Rogers-Clark & Gorman. (2002b)	Australia	To explore why rural nurses, resign from their posts	Mail surveys	146 registered and enrolled nurses
Hunsberger, Baumann, Blythe, & Crea. (2009)	Canada	To determine if rural nurses are adequately resourced and supported for rural clinical practice	Semi-structured interviews	21 health care managers and 44 staff nurses
Huntley. (1994)	Australia	To explore the characteristics of rural nurses, and to determine their intentions to stay in or leave their posts	Interviews and mail surveys	Interviews with 52 nurses and 115 nurses completed questionnaires
Lea, Cruickshank, Paliadelis, Parmenter, Sanderson, & Thornberry. (2008)	Australia	To determine whether rural clinical placements for student nurses are an effective strategy for rural recruitment post qualifying	Pre and post placement questionnaires, and 1:1 interviews	57 (pre-placement) and 40 (post placement) student nurses

Minore, Boone, & Hill. (2004)	Canada	To determine if a 'relief nursing pool' system could be viable in a rural area and to identify the support, concerns and strategies needed to promote rural practice	Surveys	237 registered nurses
Onnis. (2016)	Australia	To determine how rural health professionals define their workforce, and how can it be sustained	Interviews and questionnaires	24 interviews (participants included and managers and health professionals) 191 questionnaires (completed by health professionals)
Osmond. (2004)	Canada	To determine if rural Canada can learn from the recruitment and retention difficulties in the Eastern Shore/Musquodoboit area	Interviews	19 key informants
Rohatinsky, & Jahner. (2016)	Canada	To investigate the concept of mentorship in rural areas, including how it is perceived, how it can be created and supported, and the barriers preventing its implementation	Semi-structured interviews	7 registered nurses or licensed practical nurses
Warburton, Moore, Clune, & Hodgkin. (2014)	Australia	To determine how older rural nurses can be retained in post	Semi-structured interviews	17 nurses and allied health professionals

3.1 Health Service Demands

Eleven papers contributed towards the creation of this overarching theme. Nine of the 11 papers provided data for the first sub-theme with a further nine of the 11 papers contributing data to the second sub-theme.

3.1.1: Reduced access to health resources and support

The inability of rural areas to support some aspects of clinical practice, such as multidisciplinary working due to the limited resources or lack of specialists, was of concern to participants, and was considered to be of high importance. This lack of professional support meant that the opportunities to gain corroboration about decisions or to seek approval from experts in their field (opportunities that were typically available to nurse in urban areas) were found wanting.

"One nurse said that when someone calls and tells her to prepare the trauma team for an accident victim, she responds: 'I am the trauma team.'" (Hunsberger et al., 2009, p. 20)

The travel distance required to access specialist care was a significant consideration for rural health providers. Distance led nurses to feel that they were making clinical judgements based on timings to specialist centres or in light of adverse weather conditions that would not need to be considered in urban areas; where facilities were thought to be superior and more accessible.

"…the Operating Room (OR) schedule book says, 'labor induction due to distance' [which may not be the best reason for delivering a baby]." (Bushy and Leipert, 2005, p. 8)

The reality of health professionals having to make treatment decisions based on geographical distances and availability of resources to ensure positive patient outcomes, are unique characteristics of rural working. Similarly, the need for rural centres and hospitals to provide generalist health services requires rural nurses to possess advanced autonomous decision-making skills and have confidence in their clinical ability. Whilst nurses often highlighted this professional autonomy as an exhilarating positive element, they also viewed it as a barrier to recruiting new or urban nurses, who regarded working in this way as professionally isolating.

"They can't cope without back-up and I see the terror in their eyes." (Huntley, 1994, p. 18)

"One of the top of the line ICU nurses from a larger centre came, and couldn't handle our ICU because she was working alone." (Hunsberger et al., 2009, p. 20)

Nursing in rural areas therefore brings with it great responsibility, and senior support and management was identified as key to the morale, nurturing and subsequent retention and sustainability of staff. A lack of support from hospital administrators and senior staff was particularly evident in rural hospitals which were part of wider health districts incorporating urban centres. It was suggested that rural areas had the opportunity to be innovative within their scope of work, but they were often hampered in their efforts due to urban decision making which failed to understand the nuances of rural service delivery. Off-site decision making resulted in a lack of morale and frustration which nurses believed limited the attractiveness of rural posts.

"We are part of [the district] but we are not part of them…… Some things [that] work wonderful in the city do not work in a rural area." (Osmond, 2004, p. 25)

3.1.2 Perceived exacerbations for maintaining a rural nursing workforce

Whilst nursing shortages are a problem irrespective of urban or rural locations there was a perception that these difficulties were exacerbated in rural areas; which detracted from the appeal of working there.

Data highlighted that the rural workforce was characterised as an ageing group with significant numbers of retirements looming. The ability of rural areas to counterbalance their exit numbers through recruitment of new trainees was seen to be disadvantaged by the open career markets now available, in particular for women where a nursing career would historically have been the norm.

"The nursing profession must compete with the myriad of career choices that women have today: 'Women today have more choices—nursing is not number one,' …" (Brewer et al., 2006, p. 58)

The situation was further exacerbated by outmigration trends and the ageing of the rural population, suggesting that these areas were depleted of their youth. Although it was indicated by some participants that rural migrants may return to their roots, it was uncertain if they were truly able to do so in view of spousal job opportunities and financial implications.

"They looked at our practice and said yes, this looks great, we like it, we would like to live in an area like this. But when we sat down and worked out how our finances were going to go in the next few years, and it's going to take a dozen years to pay off our student loan let alone plan for retirement, savings and whatever else. So that is a factor too."

(Osmond, 2004, p. 28)

For rural areas, this resulted in them having fewer nurses available to fill increasing vacancies. Moreover, the drive to replace these experienced nurses was not only compounded by the lack of numbers available, but also by the inability to replace like for like. Studies identified the need for nurses to be comfortable in a generalist role which was believed to be a key feature of rural nursing; however, this role was being threatened by an increased focus in developing specialists suitable for urban models of care.

"Rural participants also raised the issue of the difficulty of hiring experienced nurses versed in many different areas of inpatient care and capable of functioning autonomously in various departments of rural, nonteaching hospitals. Unlike urban teaching hospitals, where nurses are placed in specialised departments and supported by residents and interns, rural hospitals often require nurses to be multiskilled generalists functioning with considerable autonomy."

(Brewer et al., 2006, p. 58)

In view of the specialist skill set required in rural nurses, including autonomy and responsibility as previously identified, it was felt that such posts reflected a lack of monetary acknowledgement. The use of financial remuneration incentives has long been a strategy to entice practitioners to work rurally; however, it was acknowledged that not all areas

awarded rural compensations and basic salaries were felt to be ineffective in attracting potential recruits. The level of debt, ability to payback student loans (in light of rising tuition fees) and ability to save for the future was felt to be harder to achieve in rural nursing posts where salaries were often lower.

"…students really had to go somewhere where they could make some good money fast and start paying off their debt. And that was the main factor in a few of the people that we tried to recruit." (Osmond, 2004, p. 28)

Nor was it recognised that other compensations such as policies, access to professional education or coproduction of work schedules could be effective in enabling nurses to enter the rural workforce, especially in view of the reduced infrastructure that was perceived in rural areas (e.g. no child care facilities).

"Queensland Health could spend millions of dollars on recruiting nurses to rural areas. However it's money wasted if the management of the facility does not have a real family friendly policy." (Hegney et al., 2002b, p. 132)

The lack of an available workforce in rural areas added additional pressures to existing staff. A retention challenge due to burn out was considered a very real possibility in light of high patient workloads, mandatory overtime and difficulty getting time off. Therefore, in an already competitive market, a combination of the requirement of increased skills, lack of financial incentive and unfavourable working conditions compared to urban

counterparts made rural nursing a potentially unattractive role, especially for a newly qualified nurse lacking in the experience and confidence required to fulfil the role.

3.2 Challenges of Accessing Continuous Professional Development (CPD) and Clinical Progression Restrictions

Nine papers contributed towards the creation of this theme.

The challenges in accessing opportunities for CPD was a notable concern for rural nurses, as it is a key requirement for maintaining professional registration, and it therefore contributed towards their retention decisions.

"The absence of continuing professional education…is my reason for leaving." (Huntley, 1994, p. 18).

The main obstacle for rural practitioners was one of access, as CPD modules and courses tend to be delivered in larger centres emphasising the lack of local education provision for rural practitioners. The additional travel, accommodation costs and increased time away from the workplace and families all contributed to the barriers to accessing CPD for the individual and the organisation. This was often compounded by the inability of organisations or grant funders/scholarships to recompense individuals for the additional travel times and costs incurred to access courses in urban centres.

As a result, rural hospitals were perceived to be less supportive of their staff engaging in CPD, citing workplace pressures and backfill capacity as key reasons for being unable to release staff. This made rural working unattractive for individuals who were keen to keep abreast of developments in their profession.

"….many participants reported that increased accessibility to continuing education (CE), both professional and academic would encourage retention. Inadequate staffing coupled with inflexible work scheduling for CE prevents nurses from leaving their workplaces to take classes." (Brewer et al., 2006, p. 61)

On-line and distance learning was considered as a solution to improve CPD access for rural areas; however, the mind-set to accept such advancements was identified as a constraint. There were concerns that older nurses were not as comfortable accessing information technology and e-learning as their younger colleagues, which was perceived as problematic, given the characteristic aging workforce in rural areas.

In addition to CPD obstacles, numerous participants highlighted the perceived reduction of clinical progression opportunities in rural areas, which was seen to make rural posts unattractive to applicants.

"Career development for nurses remains a retention challenge, …" (Brewer et al., 2006, p. 61)

Where research focused on final year nursing students considering rural employment, issues were expressed regarding the graduate programme which would detract them from working in rural areas. Staff shortages, lack of training support and high workloads were key concerns, and students felt that existing staff wouldn't have time to support their transition and develop them into confident autonomous registered nurses. Students also felt that experience and skills were best obtained in large urban hospitals.

The ability to perform clinical skills was seen to be a fundamental aspect of the nurses' role, and confidence and competence are key features retained through regular exposure to clinical situations and undertaking skills-based care. It was recognized that rural nurses were eager to embrace opportunities to maintain their skills and develop professionally; but the move to urban centralisation and specialisation of care created a situation where nurses working as generalists in rural areas perceived the potential to become de-skilled and their clinical competence diminished.

"We only do theatre two days a week and it's minor surgery. My skills took years to build up. I had skills in orthopaedics and neurosurgery that are now gone. I am now doing general surgery and I feel sad and resentful at times." (Huntley, 1994, p. 18)

Having generalist roles was also identified as reducing opportunities to rotate into specialist areas for clinical knowledge development or be promoted into specialist roles as these services tended to be based in larger, urban centres thus resulting in rural areas developing the reputation of being the graveyard of ambition.

In addition, some rural areas were seen to be resistant to the introduction of Nurse Practitioners[3], despite a need for this role being identified in some localities. Such a proposition was met with practice legislation obstructions, together with physician reluctance and negative public perceptions due to the historic views on the role of nurse and the physician.

[3] A nurse practitioner is a professional who has undertaken further specific training and qualifications to work at an advanced level of practice (RCN, 2012).

"…I think that the province, the stance that they took on the collaboration between physicians and nurse practitioners has been really limiting… I think we have a real need for a nurse practitioner here…." (Osmond, 2004, p. 24)

This perceived lack of vision or ability to transform services contributed to a feeling that urban colleagues looked down on rural areas and held negative perceptions of backward thinking in such areas, which hampered recruitment of urban nurses to rural areas.

3.3 Rural Demography

Eleven papers contributed to the creation this theme, with nine papers providing data for the first sub-theme, and six papers for the second.

3.3.1: Challenges of community integration and socialisation

Whilst nurses in general spoke positively about community life, enjoying the sense of belonging and community integration rural living provides, a few studies highlighted the existence of work and community conflict.

"'I only lasted two weeks on a northern reserve…no policing available, guns were easily available...'. A few individuals acknowledged that the nature of nurses' experiences depended on the stability of the particular community." (Minore et al., 2004, p. 157-158)

It was noted that rural areas placed a strong emphasis on the 'local' concept, which can be prejudiced by politics, familiarity and bias. The professional need to maintain

confidentiality and privacy can be threatened in such environments, where everyone knows everyone, and the level of community power can be overwhelming at times. The lack of anonymity was very apparent.

"…you don't know anyone, and everyone else knows you're the new nurse in town, that can get a bit intimidating..." (Rohatinsky and Jahner. 2016, p. 4)

Moreover, the nature of living and working in such close communities blurred professional boundaries with impinges into nurses' personal time occurring, by having phone calls at home or by the expectation of having to perform informal consultations at shops or local activities. Whilst some nurses accepted this as a matter of norm, for others, it influenced their recruitment and retention decision.

It was also suggested that newcomers to rural communities are considered as 'outsiders', making integration challenging. Indeed, it was identified that community members were sceptical of newcomers, and so for new nurses, it was *"hard to find [their] way into a small town"* (Rohatinsky and Jahner, 2016: p. 4). Being on the outside of society nurtured a sense of vulnerability within new nurses and there was a perception that living in rural areas threatened their sense of safety and security, influencing their decision to work in these locations. But despite integration difficulties, delivering health care in accordance with the need of the local population required a connection with the community; however, in instances where communities were not welcoming or when nurses did not attempt to integrate, retention was unsurprisingly low.

"I have a friend who came to the community to work and she did not have either local friends or community connections and moved after a year because there was no life for her outside of work" (Rohatinsky and Jahner. 2016, p. 5)

It was also highlighted that such close-knit communities required sensitive approaches and an appreciation of cultural differences, and working alongside community leaders would provide integration opportunities, which would alleviate safety concerns and encourage cultural acceptance. There was also a criticism that cultural diversity was not addressed within initial training programmes, acknowledging the long-term retention implications it presented. The lack of training preparation meant that nurses were often unprepared for working with rural populations who may have unique health needs. Together with the lack of understanding, respect in the beliefs of the rural community and negative approaches to rural values, some new nurses fostered disapproval with the community, which directly contributed to their decisions to leave.

"It's the repetitive nature of the work that gets to you. I get so frustrated with the community and the alcoholic fits. It's the 'revolving door' syndrome, the futility of my work." (Huntley, 1994, p. 18)

Integration within an ageing rural community also presented challenges, which subsequently restricted socialisation opportunities for younger generations. This had a detrimental effect for workforce attraction where the reduced ability to interact with similar aged peers were compounded by limited social amenities. Informal social structures in rural

areas form close knit communities, but the lack of community infrastructures could also lead to feelings of isolation.

"I miss the cinema. There are no restaurants. Nowhere to go." (Huntley, 1994, p. 18)

Informal and familiar social frameworks could also cause negative encounters, which participants revealed as a concern. Although communities outwardly presented a unique nuance of collaborative spirit, at times interpersonal conflict proved damaging. Workplace arguments and disputes were hard to disguise in rural areas, where the reduction of amenities and socialisation opportunities made it difficult to live a life removed from an adversary. It was identified that in some areas, unresolved issues relating to historic incidences were left to fester. This was identified to influence retention. The harmful effects of bullying and possible work conflict could overflow into the personal arena of nurses' lives, presenting additional difficulties for socialisation.

"…the negative effects were, at times, all consuming, and the toxicity of unresolved inappropriate behaviour had a direct negative impact on [nurses'] willingness to remain either in their current workplace or in the workforce at all." (Warburton et al., 2014, p. 9)

3.3.2: Personal and family barriers to the rural lifestyle

Choosing to work in a rural area is a decision made jointly with that of family and personal considerations. Quality family time contributed positively to work life balance; however, it was highlighted that large workloads and difficulty getting time off meant little time spent with families. Reduced family time was also exacerbated by some rural residents

sending their children away for their education, due to a belief that rural areas offered inferior schooling experiences. However, the increased cost implication to educate children away had workforce retention repercussions, as the financial burden was too great for rural practitioners to maintain.

"The education of my children is very important and we will probably leave because of it" (Huntley, 1994, p18)

The low economy in rural areas also inhibited rural workforce developments due to the aforementioned low salaries, combined with reduced spousal job opportunities. This made living in rural areas financially difficult, and as such, presented as negative reasons for choosing to relocate to these areas.

"My daughter just graduated from …nursing. She just got married and they were begging her to come here…to work… and she would have but what would her husband do. There is nothing here for him to do." (Osmond, 2004, p. 22)

The low economy also presented realities within the housing market in rural areas, which was identified as an important issue for re-location considerations. Limited accommodation options subsequently drove up private property prices on available housing, which overall made the cost of living high.

"One manager explained… 'accommodation is important because if people had 'dodgy accommodation… [it] doesn't matter what the manager does you [are] not going to keep them there'." (Onnis, 2016, p.6)

Although positive elements were noted for rural living, the realities of such a lifestyle posed distinct challenges for rural healthcare providers.

4. Discussion and implications

The concerns regarding rural nursing shortages have existed for a long time with the papers included in this meta-analysis ranging from 1994 to 2016. It is concerning therefore that the consistency with which these barriers and concerns were raised across papers from these varying dates indicated that little has changed over the intervening years to successfully improve the situation.

From the meta-analysis, it is evident, that in times of open career competition and reduced numbers entering nurse training courses, the ability to recruit for rural practice appears to be made harder by issues and advances created unintentionally by healthcare professions, regulators and policy makers. For example, the requirement of rural nurses to practice at an advanced autonomous and generalist level appears to be a casualty of the favoured economic model of urban centralisation, offsite senior management structures and specialist working. In the theme 'reduced access to health resources and support' and 'challenges of accessing professional development (CPD) and clinical progression restrictions', papers referred to instances where nurses new to rural practice were unable to work effectively in smaller and less specialised teams. In addition, rural nurses were faced

with difficulty maintaining their skills because the more intricate and complex patients were transferred out of area.

Such a difficulty can be seen within education and training models too, where studies highlighted the obstacles that rural nurses face when attempting to engage with CPD activities, as these again were mainly centralised in urban areas. This has created a unique situation for rural nurses, who unwittingly find themselves in a position where they are at odds with the requirements of their profession. The inability to access CPD puts them in breach of their registration requirements and has the potential to result in nurses being unable to deliver up-to-date evidence-based care. Working in rural locations and embracing learning opportunities are not new concepts within the nursing profession. However, centralising healthcare to urban areas was perceived by the evidence examined in the current meta-analysis, as polarising the skills and experiences between the rural and urban nursing workforce and therefore rendering it less attractive to work in the rural areas.

The move to develop specialities and centres for excellence is perhaps understandable and is a model of healthcare that is unlikely to change in the foreseeable future. Mungall (2005) highlighted that larger economies of scale can present certain benefits within centralised healthcare and suggested that training and clinical skills are easier to be maintained in areas where there is a high throughput of patients with particular conditions. But it is clear from the meta-analysis, that rural hospitals are unable to compete with the opportunities offered in urban hospitals. Moreover, specialisation and centralisation models of care nurtures reliance on a big team setting which focuses on specific information and experiences, rather than a whole generalist approach. This again is incompatible with rural practice, especially in relation to attracting and maintaining a generic rural workforce. In reality, rural areas are unlikely to become specialty treatment

centres or centralisation hubs; nevertheless, their generic skill set, and unique rural characteristics may make them a specialty area in their own right. Whilst this has been recognised in Australia with the development of a specialist category of nursing – Rural Area Nurses (CRANAplus, 2019), where possession of an advanced skill set is required, the extent to which this can be fully replicated more widely in all high-income countries, is uncertain.

In addition, rural living presents a way of life far removed from urban areas, with the meta-analysis highlighting a strong relationship between rural lifestyles and workforce intentions. The role that rural living has on the rural workforce suggests a two-way relationship, with failure on either side to integrate or accept having dire consequences, more so for the rural area, who would be yet again without a health resource. It appears from the studies analysed, that by striving to protect the very nature and essence of a rural community's character, a situation can be created where a rural community's outward projection potentially influences a nurses' decision to remain in the rural region. From a health policy point of view, not much can be done to change the nature and characteristics of rural communities in order to influence their acceptance of an individual perceived as an 'outsider' (Huntley, 1994; Onnis, 2016). Therefore, the ability of nurses to thrive personally in such environments relies on them either fully adopting and embracing a rural way of life, in view of the rural communities' nuances, or having that rural lifestyle ethos already instilled in them. This introduces a concept that suggests that rural nursing is not just about nursing.

Therefore, all three themes indicate that rural practice is complex at best, and in order to maintain a future workforce, success relies on different, but interlinked components. It is perhaps best described by Onnis (2016), who identified that the rural nursing workforce relied on the interweaving of three different elements - people, practice

and place - all of which being highly relevant to the themes identified within this meta-analysis. Therefore, it is evident from the studies examined that the barriers to nurse recruitment and retention will not be resolved through strategies to fill posts with any available nurse. Rural nursing recruitment appears to be about attracting the right person who holds a specific skill set, followed by retention strategies focusing on enabling autonomous rural practice which acknowledges and appreciates the advanced skillset on offer. In addition, such a nurse must be able to practice and personally thrive within the realities of a rural environment.

Finding and retaining such a nurse may prove elusive, as it is clear that not all nurses will be able to meet these specific criteria, and nor is it fair to expect the overall profession to rural proof its practices; nevertheless, it does raise critical considerations and questions about meaningful solutions to the current crisis that may explain the relative lack of success of previous interventions. This highlights that a different approach to that of a number of existing strategies are urgently needed, which address the specific barriers to rural working as identified within this meta-analysis.

Although this paper has not focused specifically on workforce initiatives, it is clear that more work is now underfoot globally to trial different and innovative new methods in order to create that elusive 'successful intervention'. In relation to the themes highlighted within this meta-analysis, three associated initiatives are identified and are discussed below.

One such initiative is the fly in fly out/drive in drive out [FIFO/DIDO] model. Wakerman et al., (2012) indicated that FIFO and DIDO models range from providing hub and spoke services to rotating staff, with month on, month off rotas. Hussain et al., (2015) highlighted the main advantage of FIFO/DIDO being that rural residents are able to receive healthcare services that they would otherwise be unable to receive, had the service not

exist. It also means that nurses and other healthcare staff need not work on a permanent basis in a rural healthcare environment, a feature highlighted within this meta-analysis as problematic. However, this intervention is not without its disadvantages (see Wakerman et al., 2012), and whilst this is addressing the symptoms of the problem, it does little to address the recruitment and retention issues directly. This poses an interesting consideration about whether solutions should focus on recruiting and retaining rural nurses or looking to innovative models of providing healthcare to rural populations at the expense of a permanent rural workforce.

Another intervention which addresses the identified concern of accessibility in relation to educational and CPD opportunities is that of providing decentralised training. This has been established in northern Norway for several years, as a means to address the educational access difficulties for its rural nurses (Skaalvik et al., 2014). By providing an off-campus curriculum, nurses are able to learn from their home rural environment, via engagement in videoconferencing and on-line educational modules, whilst having supervised clinical placements within their home rural locality. Where decentralised programmes are not yet a reality, training providers in other areas are utilising additional initiatives such as rural placements as a means to attract a future rural workforce.

The association between rural living and the increased likelihood of remaining/returning to the rural workforce is long established and is again a theme which is recognised as being highly relevant within this meta-analysis. This has been recognised by rural medical workforce initiatives such as the 'rural pipeline' and 'grow your own', which work by nurturing candidates from a rural background into training programmes, under the assumption that such candidates are increasingly likely to work in rural areas upon qualifying. Indeed, Dunbabin and Levitt (2003) wrote that a rural background is the single

most important characteristic which determines rural practice intentions. The rural pipeline can also consist of delivering training programmes in rural areas, rural issues featuring in the training curriculum, repeated rural exposure during clinical placements and building rural postgraduate pathways (Murray and Wronski, 2006).

Whilst it is encouraging to see new workforce initiatives which address the key barriers identified within the meta-analysis, some countries are more advanced than others in their implementation. Indeed, the extent to which these initiatives can be implemented in all high-income countries are unclear, due to legalities of university procedures, arrangements of health services and the scale of rural geography. However, it is apparent that new and radical solutions are possible, which presents new initiatives for other high-income countries to consider.

The three overarching themes identified provide some unique insights (e.g., identifying themes that are consistent across three different countries) into rural nursing's workforce issues; but it should be noted that there is a significant difference between recruitment and retention concepts, with the former focusing on attracting new entrants into a workplace, and the latter about keeping and maintaining that workforce. Therefore, in order to provide meaningful data for understanding the barriers within both concepts, appropriate participants must be identified within research projects. Within the papers included in this meta-analysis, it is interesting to note that whilst participants were able to voice their concerns regarding rural workforce issues, the extent to which these factors influenced recruitment as opposed to retention was unclear, especially within the themes of health service demands and the rural demography.

The majority of included papers focused on collecting data from rural participants only, and whilst they were able to articulate key areas of concern which they felt contributed

towards recruitment problems, in reality, these identified barriers are first hand lived assumptions and perceptions, they may be anecdotal and may not account for actual barriers identified by individuals considering rural practice. For example, a potential recruit may not be aware of the existence of tensions between rural practice and urban management decisions or may not realise the true nature of autonomous practice until they have started in post. Similarly, they may not realise the impact that rural living can have on their family until they had moved to such an area.

Engaging with rural nurses about their own workforce, provides only partial clarity to the problem and therefore in order to better understand actual recruitment barriers to rural areas, further research with wider participation from those that are outside of the rural workforce is required. It is equally important from a recruitment view point, to find out more about why urban nurses prefer to work in urban areas than rural ones and what might attract them to change their minds. Furthermore, the current meta-analysis shows that other relevant stakeholder groups have been under-represented within the research. In addition to low urban participants, only three papers included data from student nurse participants. In order to gain a full picture, more data from the student nurse body, is also required. Moreover, to completely appreciate the role that rural geography plays as a barrier for potential recruits entering into the nursing profession, research involving non-nursing participants from local/rural communities are also required, in order to test the rural pipeline concept and appetite for localised training programmes. These are perspectives that appears to be lacking thus far in the literature.

While the themes of the present meta-analysis are consistent across three different countries, the attempts to identify the barriers to rural nurse recruitment and retention in high-income countries are incomplete. The 12 papers included within the meta-analysis

contains data from three countries only, namely Australia, Canada and USA. Whilst these countries have been at the forefront of rural health research, a commonality shared between them is, that their rural geography is vast. As such, the data produced cannot be compared to all other high-income countries, such as many areas of Europe, whose rural geography may be somewhat different. This consideration of the scale of rurality invites new perspectives on the rural health debate from a more globalized lens.

5. Conclusion

This meta-analysis asked the question 'What are the barriers to the recruitment and retention of nurses in rural areas of high-income countries?' and aimed to collate and re-analyse data from a range of studies in order to highlight and understand the consistent barriers at play. Through a meta-analysis of existing qualitative literature, this paper is one of the first to bring together current global evidence that identifies the key issues which underlines the overarching barriers influencing rural nurse recruitment and retention, although it is recognised that further research in this area is required to reflect the situation around the world.

Although rural working has also provided fantastic opportunities and advances for a great number of rural nurses, nurturing a sense of adventure, achievement and respect within working and lifestyle practices (deValpine, 2014), the issues surrounding the maintenance of a rural nursing workforce perpetuates, and are intricate at best, with the current situation appearing bleak for rural nurses. However, basing the creation of future initiatives on the very real barriers facing the rural nursing workforce, as identified within this paper, provides a positive foundation to build upon.

By fully understanding the barriers to recruitment and retention, rural nurses, health authorities/health boards and the like, have the potential to radically change 21st century nursing models, be innovative in their future working practices and challenge urban bureaucracy. Such campaigning can change the narrative of rural nursing into a positive, innovative and highly specialist discipline area in its own right. However, such approaches warrant further championing and researching so that they come to the attention of workforce planners, policy makers, and healthcare/education providers. If unsuccessful in achieving so, the concern remains, in that doing what has always been done will result in the status quo remaining the same.

This meta-analysis has provided the impetus and the foundational knowledge for further extensive investigation into this critical issue affecting a significant proportion of the population in high income countries.

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Conflict of Interests

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