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Literature Review on approaches and impact of interventions to facilitate Widening Participation in Healthcare Programmes

Health Education North West

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Dr Axel Kaehne
Michelle Maden
Prof Liz Thomas
Dr Jeremy Brown
Prof Brenda Roe
(all Edge Hill University)

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Executive Summary

Widening participation has become an important issue for health education in the UK as the NHS aims to ensure that its workforce reflects the increasing diversity of its patient population. Recruiting from disadvantaged population groups is also motivated by the need for improved equality in access to health professions. Training and educational requirements for nursing and allied health professions have changed considerably and continue to be subject to changes (Glasper, 2010). Most recent changes in terms of affecting widening participation relate to access requirements and access pathways into the professions.

This literature review gathers and synthesizes information on widening participation for healthcare professionals, social workers working in the health service, dentists and allied health professionals. It also reviews issues of retention in these professional groups insofar as they are related to disadvantaged or under-represented groups.

The literature search identified a limited number of studies (n=23) relevant to widening participation in health care studies. These publications were mainly reporting on small scale, isolated research projects into widening participation for these professional groups. There was also a lack of differentiation in studies between groups potentially affected by widening participation interventions and their differing needs (with the exception of dyslexia and physical disabilities).

There also appears to be a lack of studies on the delivery mechanisms that may facilitate effective widening participation interventions such as local partnerships and cross-sectoral collaborations. There can be no doubt that these exist, yet the literature does not appear to contain systematic descriptions or evaluations of what works best in terms of delivering best outcomes. There may also be a missed opportunity with regard to shared learning across higher education providers and widening participation teams insofar as there appears to be little cross-fertilisation of existing projects and some examples of duplication without evaluating outcomes.

Recommendations include strengthening the evidence base for widening participation to healthcare programmes through a systematic collection and assessment of locally and regionally implemented projects, the improvement of methodological rigour of ongoing evaluations and studies using the *What works for Whom* framework, and the creation of a dedicated shared learning portal for practitioners by Health Education England.

Background

This literature review was commissioned by Health Education England North West and its remit was set following the award of the tender and an informal discussion with the commissioner. The wider remit of the literature review was set by the commissioning brief which specified to include into the review 'the approaches and impact of interventions designed for and applied within the context of specifically widening participation in further and higher education based healthcare training programmes' (Health Education North West Widening Participation Programme Tender document, Health Education England - Incubator Project Widening Participation Programme, 2013, p. 2)

The most significant change affecting widening participation for health care professions relates to access requirements. Whilst foundation degrees have played a substantial role in widening recruitment from disadvantaged or under-represented groups, the government recently stipulated that educational achievement at graduation level is required to access nursing from 2011 onwards (Glasper, 2010). This has substantially lifted the bar for access requirements and there has been some concern expressed that it may have an adverse impact on widening participation and for the recruitment of learners with lower educational achievements (Glasper, 2010). The government defended these changes in access requirements with the need to standardise professional competences and skills as well as the introduction of a robust regulatory framework which requires uniform educational levels for the NHS workforce.

To counter a potential narrowing of entry into health care professions, five different routes or pathways were formulated or retained. Four of these are educational pathways, one of them relates to an employment route (Glasper, 2010). The first model anticipates progression from foundation degrees to year 2 of a pre-registration nursing degree. Foundation degrees have traditionally played a 'conveyor belt' function for high achieving students facilitating their access into the health care profession. In addition to the traditional route, a bridging unit of two modules will allow students to move from foundation degrees into the second year of a nursing degree course.

The second model offers students who may be in danger of failing the educational requirements for nursing degrees an option to enroll for foundation degrees. This would allow students who may find nursing degree courses too challenging a way to access the role of assistant practitioners through foundation degrees at a later stage. The third model opens up the opportunity for those already working in the NHS with a NVQ level 3 to access the second year of a nursing degree subject to the successful completion of a bridging programme similar to that in model 1. The NHS currently employs a large number of professionals who hold equivalents of an NVQ 3 and this model would allow them to progress further to graduate from pre-registration nursing courses (Glasper, 2010).

The fourth model is based on existing apprenticeship schemes in the NHS. These apprenticeships would however now require additional educational standardisation to allow apprentices to move into the second year of nursing degree programmes. The fifth model relates to employment of staff by current health care providers and are essentially 'pathway models to show how organisations can map the ongoing development of their support staff' (Glasper 2010: 925). In essence, all five models set out to strengthen the academic educational requirements for access into the health care professions in the UK.

In terms of widening participation, the concern has been that formulating more stringent access requirements and lifting the educational entry point will result in a substantial

narrowing of progression opportunities for those potential recruitment groups that are under-represented in health care professions and have traditionally low educational achievements. For example, the standardisation of the nursing profession may counteract the need to create a more diverse workforce that would reflect an increasingly diverse patient population.

There are two domains that may have relevance for a widening participation agenda under these altered circumstances. The first domain relates to increased academic participation of disadvantaged groups and their progression through one of the five models mentioned above. Issues such as information about progression routes, motivation, and accessibility in general fall into this domain.

Retention of students who have embarked on healthcare degrees or progression of students from foundation degrees to nursing degrees is also an issue with particular relevance in this context. Improving student retention and success in HE more generally has been shown to relate to student engagement and belonging, which are the outcome of peer engagement, meaningful interaction with academic staff, developing the capacity and identity to be an effective learner and a curriculum that is relevant to current interests and future aspirations (Thomas, 2012).

The second domain relates to the institutional context that may facilitate or hinder increased participation of disadvantaged and under-represented groups in the newly formed progression routes. This cluster of issues revolves around possible collaboration between current health care providers and academic institutions, target setting for recruitment from disadvantaged or under-represented groups and involvement of local communities in recruitment or information dissemination events.

All these issues are discussed in the grey literature with regard to the changes that have recently been introduced, yet the nature of the debate is mostly reflective of personal opinions and offering only anecdotal evidence rather than informed discussion. The aim of the literature review was to gather and synthesize information to identify the evidence base for interventions and their impact on widening participation for the selected health care professions as well as summarise their impact on retention of health care workers.

This literature review used a general definition of widening participation that may apply to all under-represented groups in health care studies or those potentially disadvantaged in access to these studies. Whilst it may be permissible to work with a general definition of the target population to capture a wide range of the relevant literature, studies should define their populations more clearly (see Discussion below). A clear definition of the study population is essential to identify the barriers and challenges that any given population faces and which the designed intervention is supposed to mitigate. It must of course be recognised however that individual students may experience multiple barriers, as their characteristics transcend a single category. Student diversity can incorporate difference across a number of dimensions: previous education, personal disposition, current circumstances and cultural heritage, summarised with examples in Table 1 below.

Table 1: Dimensions of student diversity

Diversity dimensions	Examples
Educational	Level/type of entry qualifications; skills; ability; knowledge; educational experience; life and work experience; learning approaches.
Dispositional	Identity; self-esteem; confidence; motivation; aspirations; expectations; preferences; attitudes; assumptions; beliefs; emotional intelligence; maturity; learning styles perspectives; interests; self-awareness; gender; sexuality.
Circumstantial	Age; disability; paid/voluntary employment; caring responsibilities; geographical location; access to IT and transport services; flexibility time available; entitlements; financial background and means; marital status.
Cultural	Language; values; cultural capital; religion and belief; country of origin/residence; ethnicity/race; social background.

From *Thomas and May* 2010, p5.

Method

Aim

The aim of the literature review was to gather and synthesise evidence on widening participation for the selected health care professions as well as summarise impact on retention of health care workers.

Design

The literature review utilised a systematic search strategy and a narrative synthesis of the studies identified.

Literature search

In consultation with the commissioner, a comprehensive but focused search strategy was developed around the key concepts of 'widening participation', 'higher education', 'minority populations' and 'health related subjects' (see Appendix 1 for full search strategy). In order to minimise publication bias both published and unpublished literature databases and resources were searched. This included a search of key health, social care and education databases, scanning of relevant organisational websites, relevant conference proceedings, key journal titles, and references of relevant studies (see Appendix 1 for full list). The search strategy was adapted to specific databases in order to utilise the unique thesaurus terms and advanced search operators within them. To reflect the current practice the search was limited to the last 5 years (2008-2014) and studies published in the English language.

Two reviewers independently screened the list of titles and abstracts to identify studies requiring full-text retrieval. Three reviewers assessed the full-text of retrieved studies against a pre-defined inclusion and exclusion criteria (2008 to 2014; 'access' and 'retention'; English language only.) Disagreement regarding the inclusion of studies was resolved by consensus of opinion. A data extraction sheet was developed to aid the screening process of the included studies. Fifty seven studies were identified from the screening of titles and abstracts of which 23 were included in the review. Fourteen pamphlets and web publications identified by the search were also retrieved and their full text read. None were included in the findings but have provided context and have informed the discussion of the literature reviewed. A data extraction sheet was used to document the screening process of each paper and this was integrated into the data extraction exercise. Data were extracted to summarise the scope of each identified study/publication and included; author, year, country of study, study design, participants/sample, study aims and study findings (Appendix 3). Two reviewers agreed the data extracted. No formal appraisal of the quality of the studies was undertaken.

Evidence synthesis

Full text analysis revealed six clusters of 23 relevant papers that represented different types of literature: policy and legal review papers with relevance to widening participation in health care professions (1), previously conducted literature reviews (2), secondary data analysis papers (3), empirical studies on widening participation (4), studies evaluating interventions and their impact on widening participation (5), and studies on student support and student retention (6). The following section provides an overview of these papers and

a descriptive narrative synthesis around these clusters of themes reflecting the wide range of scope, aims, designs, and findings of included publications. Twenty three published papers were included in the synthesis (see Appendix 3).

Overview of identified literature

Legal and policy context of widening participation in health care studies

Only one study was identified and included in this category. The nature of the study however is sufficiently different to any other paper that inclusion in a separate category is warranted. The study by Smith et al. (2009) focused on the role of a particular pipeline programme that was supposed to facilitate an increased participation of racial and ethnic minorities in health care professions in the US (Smith et al., 2009). It charts the legal context in which the pipeline programme was situated and concludes that affirmative action as defined within the US educational context is warranted.

The paper is relevant with respect to the UK Higher Education (HE) context insofar as affirmative action provides an example of positive discriminatory practice in academic selection processes. The paper itself however does not present empirical evidence on the effectiveness of the pipeline programme but concentrates on the legal context which has posed challenges to affirmative action in the US educational context. It nevertheless underlines the importance and feasibility of positive discrimination programmes.

Previously conducted literature reviews

The search identified one previously conducted literature review in the field of widening participation with respect to health care professions. A paper by Murphy (2008) reviewed the experience of dyslexic students of radiography. This identified issues around disclosure of disabilities by students, coping strategies and additional support as being important to ensure successful transition into higher education institutions for this group as well as for their retention (Murphy, 2008).

Secondary data analysis studies

The third cluster of studies is grouped around a concerted effort by researchers to gauge the current admissions practice of HEIs in England and Wales and the impact of widening participation strategies. The preferred method is secondary analysis of existing Universities and Colleges Admissions Service (UCAS) data sets which contain characteristics of groups such as gender, ethnic belonging, and academic achievement. Some studies use performance related data to compare the subsequent academic performance of these groups. This analysis yields some information about potential educational barriers or challenges to successful entry and retention of students from disadvantaged backgrounds as far as they are coterminous with group characteristics.

There are six studies in this category and all of them review UK data. A paper by Gallagher et al. (2009) analysed the admissions to pre-clinical medicine and dental schools in the UK in 2006. The analysis reveals that both types of courses attracted a larger number of BME students than general HEI applications. When all factors are being controlled however the authors state that the likelihood to be accepted to pre-clinical or dental school are lower if applicants are male, mature, from lower socio-economic background and if they belong to an ethnic minority. White females with higher socio-economic status are more likely to be successful applicants (Gallagher et al., 2009).

A similar approach is taken by Mulholland et al. (2008) who explore UCAS data and completion data with respect to various variables such as gender, ethnicity, age, and educational qualifications. Their paper however focused on nursing course applications and examined in particular the completion rates of students. Mulholland et al. conclude that males had lower odds of completing the programme than females. There was also a difference between the completion rates of foreign born students as compared to UK students. Foreign born students were found to be more likely to complete a nursing study programme if they were born in a country with English as a first language. The paper included data on application and completion of nursing studies between 2003 and 2005 (Mulholland et al., 2008). It therefore takes into account a period prior to the changes to pre-registration nursing requirements.

Niven et al. (2013) carried out a retrospective analysis of UCAS data to ascertain the characteristics of applicants to dental programmes in the UK. Their study examined more recent data however, from the years 2007 and 2008, and the authors conclude that the female over-representation amongst applicants continues unabated with equally high representation of Asian females amongst them. In contrast, representation of black and 'other' ethnic minority students are underrepresented which corroborates the figures in the previous study by Gallagher et al. (2009). This demonstrates that the various group representation in dental programmes in UK HEIs persists. The evidence indicates that access and retention of dental students who are black, male and mature appear to be the biggest challenge in this profession.

Reddy and Moores (2008) conducted a similar analysis of UCAS data for those students who have progressed to psychology, pharmacy, optometry and biology courses from foundation years in the UK. They compare progression and completion rates for students from Access courses to those attending foundation degrees and conclude that the foundation phase fails to prepare potential students in these fields adequately for HEI study (Reddy and Moores, 2008). In comparison, students from Access courses fare better and the authors recommend to review the foundation year courses as a stepping stone to HEI attendance for these subjects.

Given that this analysis compares the completion rates of Access and foundation year students across all subjects with those studying the selected subjects, it is difficult to draw any general conclusions from this. Access courses may work particularly well with students in pharmacy, biology, psychology and optometry whilst foundation degrees may be beneficial to learners in other subjects. The evidence about the role of Access courses may also be more contradictory than this single study suggests.

Another study by Wintrup et al (2012/2013) examines the progression data of foundation students in the years 2007 to 2011 and complements the analysis of admission cohort data with an in-depth study of student experiences (n=39). The authors argue that it is useful to consider contextual and social factors, and not only personal characteristics as factors influencing progression (Wintrup et al., 2012/2013). The analysis of progression data showed that whilst male students were more likely to leave the programme early, younger, 'non-A-Level students and students from minority ethnic backgrounds persisted and constituted a quarter of all continuing students' (Wintrup et al. 2012/2013: 184).

The last study in this cluster examined a particular selection practice which is supposed to enhance participation of disadvantaged groups in HEI in health care studies. Hammond reports that over a four year period, admission staff used an adjusted criteria scheme. Thirty four students benefited from this adjusted criteria scheme and the paper compares

their performance with other students (Hammond et al., 2011/2012). The adjusted criteria scheme allowed admissions tutors to consider the applicant's performance in context and in relation to their peer group, rather than the national average. It was based on a formula that was designed to account for a student's performance in relation to the peer group with which he or she has studied. Hammond's paper reveals that, whilst students admitted through the adjusted criteria scheme are more likely to fail their first year exams, there are no significant performance differences between them and their peers in examination results in the first and second years of study.

Empirical studies relevant to widening participation without intervention

Whilst secondary data analysis of existing admissions data is critical to assess the current state of widening participation and access to HEI for disadvantaged groups, it gives little or no insight into what works in terms of increasing their participation in health education programmes in the HE sector. The search identified only one study that assessed an 'early intervention scheme' which was designed to heighten awareness of school leavers about health care programmes in higher education. The study was conducted by an Australian team and targeted so-called 'young achievers' in school (Cuthill and Jansen, 2013). The definition of 'young achievers' may however require a more precise definition to assess the transferability of the study's findings to the UK context.

The study by Cuthill and Jansen (2013) interviewed parents, carers and school staff (n=35) to assess the factors contributing to decision making by school leavers. Four key themes were identified that may have significant impact on decision making processes: recognition, raised awareness, relief and social connections (Cuthill and Jansen, 2013). Although Cuthill and Jansen's study may not be applicable in the UK context, it presents important findings since it comes on the back of legal changes which introduced mandatory targets for recruiting students in health care studies in Australia. It thus reports findings from some of the initial institutional responses that have been informed by this changing legal requirement for the HEI sector in widening participation. The study comprises only a small sample and does not specify in detail what the institutional response to the new legal requirements is. This makes the transferability to the UK context difficult.

Interventions facilitating widening participation and their impact

In this cluster we have grouped those publications that report studies with specific interventions to improve widening participation in health care studies (Appendix 3). They are the most relevant to the original remit of the commissioning brief but due to differing study aims and designs they are diverse and heterogeneous. One study applied a methodological framework and reports on a pilot at Manchester University in 2007/08 where the information about the educational and social background of applicants was used by undergraduate admissions staff to flag members of disadvantaged groups who were then considered again for admission (Allison, 2013).

This intervention represents a half-way house between positive discrimination and monitoring of progress on widening participation and, given the legal context in the UK and the general hesitancy to apply strong affirmative action principles to admissions centrally through UCAS, it may be the most preferred solution by admissions staff. The study has only a small sample (n=4) but it is clear from it that the findings will be useful to inform

future practical interventions to improve widening participation through specific adjustments in admissions processes. In particular, the fact that progress of all students was monitored and recorded throughout the study enhanced its methodological rigour.

There are various other means of increasing the knowledge amongst potential students about progression routes and access to health care studies, and Watson (2005) reported on the evaluation of a summer school at the University of Southampton. The paper discusses the evaluation which shows generally positive feedback from attendees (Watson, 2005) but there is little evidence that this has been an event which targeted specifically hard to reach or under-represented groups in health care studies. It is therefore unclear whether summer schools as such may be a robust mechanism to facilitate widening participation. It does demonstrate however that summer schools may be a positive tool to ease transition into HEI for the general population. The national evaluation of summer schools (HEFCE 2010/32) found that they do make a contribution to improving aspirations, attainment and admission to HE
 (https://www.hefce.ac.uk/pubs/year/2010/201032/name,63889,en.html).

More promising in terms of widening participation is a paper by Smith et al. (2013) that reports on a mentoring scheme in college. Given the paucity of evaluations of collaborative schemes to facilitate widening participation, the study was included here as it may be instructive for widening participation practices in other professional contexts as well. Year 12 students in an academy in an area of high deprivation were paired with mentors from a medical school (Smith et al., 2013). The mentoring process was conducted online. This contributed to the low costs of the project. The paper reports the findings of an evaluation of this project which has been ongoing for several years.

Annually between 29 and 74 students from schools/academies take part in e-mentoring. The e-mentoring was delivered in conjunction with a summer school and 147 students took part in the scheme. Admission data were then analysed as to the number of students participating in the e-mentoring scheme who subsequently applied to the medical school (Smith et al., 2013). Although the numbers of students subsequently applying were low, the effect of e-mentoring may not be solely measurable through subsequent admissions to this particular medical school. Therefore a slightly adjusted design may have captured other outcomes of the scheme, such as increased familiarity with academic requirements, improved knowledge about progression and access routes, improved levels of confidence amongst year 12 students, and applications to other HEIs.

The scheme is also relevant for widening participation because it represents a genuinely collaborative project between local schools/academies, outreach officers and a medical school. It therefore has implications for the question as to which type of partnership may increase opportunities for disadvantaged groups. It resonates with anecdotal evidence that direct links between HEI providers and local colleges/academies promise to reach relevant groups of potential applicants. Furthermore, mentoring is well-documented as contributing to widening access more generally (Moore et al 2013).

Rhodes-Martin et al. (2010) report on an evaluation of an entry level course which was developed at Staffordshire University. The course was supposed to enable potential nursing students without standard entry qualification to demonstrate their skills in numeracy and literacy (Rhodes-Martin and Munro, 2010). The results of the students were collated and analysed. The findings show that there was no obvious pattern of higher fails and lower grades when compared to standard entry students which, the authors argue, proves the success of the portfolio entry route. There is less evidence that this was

specifically targeting disadvantaged groups as participants in the portfolio entry route however. It is also not entirely clear how this course fits into the new model pathways and entry requirements that came into effect in 2011.

The search also identified some smaller qualitative studies that investigated the effects of various interventions with small samples of students. O'Driscoll et al. (2009) report on a qualitative evaluation of an adult diploma nursing programme with 24 students. The authors write that the programme was successful in attracting female mature students but 'did not succeed in reducing role conflict for female mature students' (O'Driscoll et al., 2009: 208).

This has implications for the issue of retention of students who have entered health care studies through non-standard routes. It also resonates with messages from the grey literature that transition into HEI for disadvantaged groups does not represent the end of social and educational challenges for these groups. Lack of confidence, low academic skills and other factors that predict difficulties of access to HEI often persist in the first and second year of study for this population. This highlights the need to define widening participation as an issue continuing beyond admission to HEI.

Previous studies have noted that one significant barrier to applications for HEI in health care is the familiarity of potential students with the various progression opportunities of health care studies. Greenwood et al. (2007) assessed in a study with 194 students whether providing them with more information about health care studies increases their willingness to apply to health care courses. In effect, Greenwood measured through a questionnaire if some standardised information about allied health care professions increased the chances that students would consider a career in this field (Greenwood et al., 2007). Greenwood et al (2007) do not measure the actual effects of more information for potential students on applications received but the study findings mirror commentaries in the grey literature which relates to the dissemination of knowledge about professional careers amongst potential learners.

Once students have been admitted to health care studies, their experiences may reflect a continuation of some of the barriers and challenges that stand in the way of participation in HEI in the first place. Charting the experiences of those students who access HEIs through non-conventional pathways is therefore an important part of assessing the factors that may lead to the long term success of widening participation schemes. Frankland (2010) reports a narrative account of the experiences of students in the foundation phase who may progress on to HEIs health care studies. He finds that one positive aspect of the foundation phase is that it positively influences the formation of a professional identity of students (Frankland, 2010).

The paper makes a useful contribution to the debate about what works in terms of creating an identity and a sense of belonging to health care professions. Yet, in itself, it recounts the experiences of two students so the merits of the foundation phase cannot be compared in any great detail to other access routes.

Studies on student support and retention

Attrition of students from under-represented and disadvantaged groups in health care studies may significantly undermine any success in widening access to those groups. Providing adequate and effective support to those students who have been admitted

through non-conventional pathways to HEIs therefore requires specific attention and is often perceived by commentators as part of the widening participation agenda. The literature reflects this approach since many studies reviewed here bridge the gap between facilitating access to HEIs and providing support to those who have been admitted.

The last group of papers that was identified through the literature search deals with publications that focus on student retention, success and associated support mechanisms (Appendix 3). We have concentrated in this section on those students who have already entered HEIs and excluded those studies that are concerned with retention of students in foundation phase courses or non-traditional access courses.

Hamshire et al. (2012/2013) recently published a paper that represents a study with one of the largest student samples in this category. They investigated the views of students on existing support systems and how they could be improved (Hamshire et al., 2012/2013). The main findings resonate with anecdotal evidence that has been articulated in the grey literature. They found that students had difficulty accessing support, that support was patchy across satellite campuses (the site was located in the North West of England) and that there were significant problems contacting personal tutors. Students also identified some ways to improve student support such as improved communication with academic staff, a more flexible provision of support on campus and raising awareness of existing support services (Hamshire et al., 2012/2013).

The study by Hamshire et al. clearly outlines some important general issues around student support which affect the general student population as well as those coming from disadvantaged backgrounds. Yet it is not entirely clear how these aspects affect the two groups differentially. It is also unclear whether or not these issues are predominantly articulated by the general population and whether they represent critical issues for the disadvantaged student population. As such, the study lacks a meaningful differentiation between the needs of different student populations reflecting potentially different needs.

Awareness amongst staff about the legal requirements regarding disability was the focus of a study by Ryan (2011). The team investigated the familiarity of staff at HEIs in Victoria (Australia) with the Disability Discrimination Act (DDA) (Ryan, 2011). The study surveyed university staff, nursing students as well as clinical placement staff. The questionnaire was returned by 415 participants in the study and allowed the team to draw conclusions as to the level of awareness amongst staff, students and placement staff.

The authors report that there is a significant lack of understanding of the legislative and institutional requirements enshrined by the DDA and that this may feed into negative attitudes towards students with disabilities, especially in clinical placements (Ryan, 2011). This is an important message that relates to the barriers facing students with disabilities in health care studies and in particular, in placements and professional practice. The study shows that issues about discrimination do not only pertain to HEIs but extend to the study relevant placements outside the university environment.

Experiences of nursing students have been subject of several qualitative studies in the past and O'Brien et al. (2009) contribute a much needed comparative perspective. Their study is small scale yet innovative insofar as they contrast the experiences of female with male students of nursing (O'Brien et al., 2009). The authors note that female participants found it more difficult to engage in their studies whilst male students were given more freedom to pursue their studies. The small sample size in this study and the qualitative approach may caution against these findings, especially given its counterintuitive thrust.

McKendry (2012/2013) provides a more detailed picture of student experiences in a pre-entry programme at a UK university. The study is mainly of interest because of its innovative use of web-based learning development and a peer-support blog that allowed students to blend campus activities with online learning. The key lesson from this project appears to be that students need sufficient digital literacy to make effective use of these new conduits for learning. The author notes that insufficient levels of digital literacy may have the opposite effect to widening participation in disenfranchising some learners (Mckendry, 2012/2013).

A similar project tested the effectiveness of an e-learning strategy which consisted mainly of the use of blackboard and a blog for students at Buckinghamshire University. The study by Griffiths and Nicolls (2010) interviewed 17 students about their experiences with e-learning. The findings indicate that, within this small sample, students were generally positive about the activities and noted an improvement in their writing skills (Griffiths and Nicolls, 2010). It is not clear however how much this can be attributed solely to the e-learning strategy as this study, as most of the studies we identified through our search, utilised a qualitative approach and was therefore not able to control for compounding factors.

Disabled students face particular challenges in HEIs and Foster's study on a specific accommodation strategy for dyslexia in teaching and learning is instructive about the impact such adjusted teaching practices may have on student progression for this population (Foster, 2008). Foster gathered data on examination results for 3 exams and the data demonstrate that there was improvement for at least one student (n=3). She argues that this shows the need for assessing and understanding students' preferred learning styles and how they can be accommodated within the teaching practice of HEIs. The very small scale of the sample however means that her findings require up-scaling and proper testing to acquire sufficient external validity for the HEI sector.

The last study in this cluster also relates to e-learning practices. Allan et al. (2013), however, investigate the experiences of teachers of e-learning strategies as opposed to most other studies which examine the students' point of view. Allan et al. interviewed 12 teachers from an English HEI and asked whether e-learning enhanced the availability of knowledge amongst the faculty about the non-traditional status of their students (Allan et al., 2013). In addition, they investigated whether the potential knowledge about the status of their students prompts them to tailor their teaching and learning strategy.

The authors report that there is a conspicuous lack of knowledge amongst faculty about the non-traditional status of their students and that, where such knowledge exists, little effort is made on the side of the teachers to amend teaching styles and delivery modes to take account of additional needs of their students (Allan et al., 2013). Allan et al. paint a sobering picture of the lack of flexibility in teaching and learning strategies that may contribute to the challenges students from non-traditional backgrounds face in HEIs. Their findings indicate that access and successful transition into HEIs is only the first step for successful completion of health care studies.

This concludes the overview of literature that was identified through a systematic search.

Discussion

The following section summarises the main findings from the overview of the literature and discuss their relevance for widening participation and retention for disadvantaged and under-represented groups in health care studies. It compares the findings from the synthesis of published studies and papers identified with broader literature on this topic and identifies key recommendations and implications for policy, practice, shared learning and research.

More general literature in the field of widening participation has explored alternative ways of conceptualising and responding to the widening participation (1997- 2011) and social mobility (from 2011) agendas. For example, Jones and Thomas (2005) identify three distinct strands to recent Government 'Access' discourse:

Academic: Differential rates of entry are due to attitudinal factors, such as 'lack of aspiration', and consequently there is a vast pool of under-utilised talent within 'under-represented' groups merely because they lack 'proper' aspiration to progress to HE. Therefore the focus must be on raising aspirations in order to attract these gifted and talented young people to the 'top' institutions.

Utilitarian: HEIs and potential applicants both need to adapt to the realities of the economy which requires a more highly trained workforce. An expansion in higher level vocational provision will meet this economic need and at the same time widen access to HE for those groups currently under-represented. Higher education institutions support this through new curriculum and providing academic support.

Transformative: The existing system is fundamentally unfair. Diversity is a strength and major structural change should take place within the higher education system informed by individuals from groups who are currently under-represented. The whole institution's activities should be informed by valuing learning from a diverse range of groups and perspectives.

In the broader field of widening access to higher education there have been two significant literature reviews (Gorard et al., 2006 and Moore et al., 2013), both commissioned by HEFCE. These studies point towards the importance of appropriate identification of target groups, collaboration between stakeholders (including a wide range of influencers), starting early and engaging with potential students in an on-going way, sharing good practice and improving evaluation and research. The importance of admissions is recognised, and the sector is encouraged by 'Supporting Professionalism in Admissions' (SPA) and the Office for Fair Access (OFFA) to make greater use of contextual data and other admissions good practice to widen access in a fair and transparent way. More generally, pre-entry interventions do seem to make a positive contribution to retention and success in higher education (Thomas 2011).

Research on retention and success across a wide range of disciplines has identified the importance of student engagement and support being provided through the academic programme of study. An inclusive learning and assessment approach, benefits all students, and the development of academic capacity allows all students to maximise their success (Thomas 2012).

There is a large body of work about decision-making in relation to progression to higher education, and it is widely agreed that information advice and guidance is an important aspect of improving access to HE by students from under-represented and disadvantaged groups (see Moore et al., 2013). Good quality, impartial IAG for potential students and

influencers is associated with an increase in access to HE, but this is particularly lacking for mature and vocational learners. Furthermore the impact is increased when it is combined with other interventions providing access to less formal 'hot knowledge', e.g. interactions with current students from similar backgrounds.

The theme of awareness and knowledge about health care education pathways and routes into health care professions appears repeatedly in the grey literature but there is little evidence as to what works in terms of effective knowledge dissemination amongst school leavers. This also appears to inform the ImpAct Universal: Pathways to Healthcare presentations that were organised in the UK. Unfortunately, there has been no comprehensive evaluation of this UK dissemination practice apart from a summary of general attendance data (Town, 2010).

Literature reviewed in this study were either of narrative nature (experiences of students or teachers) or simply descriptive (secondary data analyses and support system studies). Another prominent feature of the empirical studies identified is the small sample size which may indicate that studies are often conducted on the back of already implemented interventions in specific localities. As there were no controls or comparisons to non-intervention arms it is difficult to assess the usefulness or effectiveness of these studies for the wider context of widening participation in health care studies. The quality of research and evaluation in the field of widening participation is noted by Gorard et al. (2006). They make similar points about scale, methodology and writing up of research studies, in addition they note that much of the research focuses on those who have entered HE, as opposed to those who have not overcome the barriers and do not participate in HE.

There is sufficient evidence in the grey literature to suggest that different groups of potential students face different challenges and barriers to access HEIs and to successfully complete their studies. It is therefore striking that most studies (with the exception of those on students with disabilities such as dyslexia) identified here failed to either define their study population clearly or did not give sufficient descriptions of their characteristics. Guidance on targeting has been more firmly directed towards Aimhigher partnerships, and institutions have only been encouraged rather than required to target their work. Analysis of how institutions target their WP work (Thomas et al 2009) found a lack of clarity about target groups and targeting, for example at least ten proxies for socio-economic status were identified.

The assumption that barriers to widening participation are the same for all types of disadvantaged groups is at least counterintuitive. The failure to either clearly define the characteristics of the study sample or to differentiate sufficiently between participants in terms of their different needs and abilities decreases their usefulness for formulating widening participation strategies that address individual group barriers, such as language proficiency, skills and confidence levels. It is important to remember however the intersectionality of characteristics that contribute to exclusion.

There were also no studies that took a comprehensive approach to widening participation in terms of modes of delivery of interventions and evaluation of their outcomes. Where studies assessed specific interventions, they either concentrated on outcomes and then failed to describe delivery processes, or vice versa. There is some evidence however that the way in which widening participation strategies are implemented locally affects their success. Future studies would need to take a more comprehensive approach to examine both domains, the intervention itself and its mode of delivery.

There is also a paucity of studies on the effectiveness of local partnerships in increasing widening participation. Although the grey literature clearly articulates the insight that recruitment and knowledge dissemination at the local community college may be a key factor in successful widening participation in higher education in health care, there are few studies that take up explicitly the need to define and describe effective local delivery partnerships. It is recognised that evaluating the impact of partnerships is challenging, but the synthesis of grey literature on the contribution of collaboration to widening access is a useful resource (Wiggans 2012).

Overall, the identified papers do not sufficiently define study populations which makes it difficult to utilise a differentiated and informed set of barriers and challenges for the different groups. Studies also rarely defined the types of barriers to the study population or the nature of the challenges. Consequently, the studies often lacked a foundation in an adequate needs based analysis of a specific group to be investigated. Interventions to facilitate widening participation are often inadequately embedded in thick descriptions of their delivery mode or so piecemeal that a fair evaluation of their impact is difficult to conduct. A good example is the study by Smith et al. (2013) which assessed the effects of knowledge dissemination amongst potential applicants. The study examined subsequent applications to one university department only, which may fail to capture an increase in application to other HEIs (Smith et al., 2013).

On the other hand, Greenwood et al. (2007) assessed the effects of knowledge dissemination amongst potential students with a questionnaire following the intervention which may give a more adequate picture. However, the study then fails to investigate actual applications received so its measure only captures immediate effects rather than long term outcomes (Greenwood et al., 2007). This seems to highlight the need for a more comprehensive study design with adequate measures to capture the effects of specific interventions.

In general, widening participation in health care studies suffers from a poor knowledge base and a tendency to embark on small scale, boutique qualitative studies. Although there may be a significant number of innovative local practices, many of them are either not systematically evaluated, or when assessed, not sufficiently contextualised to identify contributory factors for widening participation outcomes. There is also a significant lacuna around a clear understanding of the differentiated needs of different groups that may benefit from widening participation. This may blunt the effects of widening participation practices for specific groups or, make it difficult to assess their effectiveness specifically for individual groups.

Recommendations

Implications for Health Education England

• The target groups for widening access to health-related higher education need to be made explicit by Health Education England so that initiatives to widen access can be directed towards the most appropriate groups.

• Long-term, collaborative and integrated approaches have been shown to have the greatest impact on widening participation to higher education. Health Education England should therefore consider how it can encourage and support stakeholders to work together to provide an integrated suite of activities rather than one-off interventions that start engaging children, young people and adults early, rather than just at the recruitment phase.

Implications for institutional policy and practice

• Targeting of potential entrants to HE needs to be explicit (e.g. based on a clear understanding of who the under-represented groups are), carefully implemented and monitored.

• Students need better information, advice and guidance (IAG) about progression routes into higher education. This should include all possible routes in health-related higher education; this is particularly important to widen participation to potential students in the health workplace.

• Mentoring provides potential students with an informal and non-threatening way of accessing information and understanding about educational and career opportunities in health. Institutions should make greater use of their current students and alumni to act as mentors and contribute to widening access.

• Summer schools have been an effective approach to widening access across the HE sector and in the health sector. They provide an intensive experience that helps inform decision making and prepare students for the successful transition into higher education.

• Alternative entry qualifications provide a useful mechanism for older learners and those without the usual entry qualifications to enter into health-related higher education. There is evidence of high rates of progression and success for students entering via the Access route.

• The admissions process appears to disadvantage some students, for example in some fields applicants that are male, mature, from lower socio-economic background and from an ethnic minority group are less likely to be successful than white females with higher socio-economic status. It is therefore recommended that programmes review patterns and biases in the admissions processes and consider addressing them through approaches such as the use of contextual data, compact arrangements, and/or training for admissions staff.

• Student withdrawal undermines efforts to widen access. Institutions should review the retention and success of students in health programmes, and consult students about effective ways of addressing the challenges faced.

Implications for Shared Learning

• Improve knowledge and practice dissemination across HE practitioner sector.

• Create a *Register of Innovative Practice* in the health sector.

• Disseminate innovative practice through a web-based portal at Health Education England.

Implications for Research

• Conduct a *Research Priority Exercise* to identify gaps in evidence relating to the effects of widening participation on groups that may currently be disadvantaged in the admission process, such as male students from lower social economic backgrounds and ethnic minority groups; mature students; and students from social group D.

• Investigate the impact of the location of learning or placement on student retention given identified geographical disparities on retention rates across England.

• Conduct research on the effect of loss of financial support for mature students' participation in healthcare programmes.

• Formulate and implement standards for local and regional studies and for evaluations of good practice in Health Education England.

• Implement the *What works for Whom* question as guideline for future research.

• Research projects should be based on a clear definition of target groups, clear definitions of intervention, an understanding of barriers to be mitigated, and a detailed description of delivery contexts.

• Encourage studies on a larger scale to improve transferability of project findings.

• Conduct review of barriers to access and retention through group differentiated studies.

• Review experiences of non-traditional students as new pathways and access models are being introduced.

• Review access data linked with performance data of non-traditional students differentiated by groups of learners.

• Encourage research studying the local delivery mechanisms for widening participation in health care.

References

Allan H. T., O'Driscoll M., Simpson V. & Shawe J. (2013) Teachers' views of using e-learning for non-traditional students in higher education across three disciplines [nursing, chemistry and management] at a time of massification and increased diversity in higher education. *Nurse Education Today,* 33**,** 1068-1073.

Allison D. G. (2013) Innovative Practice. Putting Undergraduate Admissions into Context: A Case Study. *Widening Participation and Lifelong Learning,* 15**,** 77-82.

Cuthill M. & Jansen D. (2013) Initial results from a longitudinal impact study focusing on a higher education 'widening participation' program in Australia. *Widening Participation and Lifelong Learning,* 15**,** 7-21.

Foster I. (2008) Enhancing the learning experience of student radiographers with dyslexia. *Radiography,* 14**,** 32-38.

Frankland S. (2010) Can higher education improve the professional identity of CNNs? *Community Practitioner,* 83**,** 34-36.

Gallagher J. E., Niven V., Donaldson N. & Wilson N. H. F. (2009) Widening access? Characteristics of applicants to medical and dental schools, compared with UCAS. *British Dental Journal,* 207**,** 433-445.

Glasper A. (2010) Widening participation in pre-registration nursing. *British Journal of Nursing,* 19**,** 924-925.

Greenwood N., May S., Lissouba P. & Bithell C. (2007) Widening participation: accessing careers in the allied health professions. *International Journal of Therapy and Rehabilitation,* 14**,** 494-501.

Griffiths L. & Nicolls B. (2010) e-Support4U: An evaluation of academic writing skills support in practice. *Nurse Education in Practice,* 10**,** 341-348.

Hammond J. A., Lewis K., White H. & Bowman D. (2011/2012) Adjusting the academy: developing an adjusted entrance criteria scheme in a specialist healthcare and bioscience higher education institution. *Widening Participation and Lifelong Learning,* 13**,** 45-59.

Hamshire C., Willgoss T. & Wibberley C. (2012/2013) Mind the gaps – Health Professions students' views of support systems. *Widening Participation and Lifelong Learning,* 14**,** 108-127

Jones, R. and Thomas, L. 2005 The 2003 UK Government Higher Education White Paper: A critical assessment of its implications for the access and widening participation agenda' Journal of Education Policy, 20(5), 615-630.

Mckendry S. (2012/2013) Investigating the possibilities for online delivery of a successful campus-based pre-entry programme. *Widening Participation and Lifelong Learning,* 14**,** 216-234.

Moore, J., John Sanders and Louise Higham (2013) Literature review of research into widening participation to higher education. Bristol: HEFCE

Mulholland J., Anionwu E. N., Atkins R., Tappern M. & Franks P. J. (2008) Diversity, attrition and transition into nursing. *Journal of Advanced Nursing,* 64**,** 49-59.

Murphy F. (2008) The clinical experiences of dyslexic healthcare students. *Radiography,* 15**,** 341-344.

Niven V., Cabot L. B. & Gallagher J. E. (2013) Widening participation - a comparison of the characteristics of successful UK applicants to the five-year and four-year dental programmes in 2007 and 2008. *British Dental Journal,* 214**,** 117-122.

O'Brien F., Keogh B. & Neenan K. (2009) Mature students' experiences of undergraduate nurse education programmes: the Irish experience. *Nurse Education Today,* 29**,** 635-640.

O'Driscoll M. F., Smith P. A. & Magnusson C. M. (2009) Evaluation of a part-time adult diploma nursing programme -- 'tailor-made' provision? *Nurse Education Today,* 29**,** 208-216.

Reddy P. A. & Moores E. (2008) Widening Access to Higher Education: An evaluative case study of a foundation year alternative to access. *Psychology Teaching Review,* 14**,** 51-64.

Rhodes-Martin S. & Munro W. (2010) Literacy and numeracy for pre-registration nursing programmes: 1. An innovative way to widen access to nursing programmes for students without formal qualifications by enabling them to give evidence of their literacy and numeracy skills. *Nurse Education Today,* 30**,** 321-326.

Ryan J. (2011) Access and Participation in Higher Education of Students with Disabilities: Access to What? *Australian Journal of Educational Research,* 38**,** 73-93.

Smith S., Alexander A., Dubb S., Murphy K. & Laycock J. (2013) Opening doors and minds: a path for widening access. *The Clinical Teacher,* 10**,** 124-128.

Smith S. G., Nsiah-Kumi P. A., Jones P. R. & Pamies R. J. (2009) Pipeline programs in the health professions, part 2: the impact of recent legal challenges to affirmative action. *Journal of the National Medical Association,* 101**,** 852-863.

Thomas, L. 2011 Do pre-entry interventions such as 'Aimhigher' impact on student retention and success? A review of the literature, *Higher Education Quarterly.* vol. 65. No. 3, 230-250.

Thomas, L. (2012) Building student engagement and belonging at a time of change in higher education. London: Paul Hamlyn Foundation

Thomas L. (2012/2013) What works? Facilitating an effective transition into higher education. *Widening Participation and Lifelong Learning,* 14**,** 4-24.

Thomas, L. and May, H. (2010) Inclusive learning and teaching in higher education. York: Higher Education Academy.

Town L. (2010) Evaluation of ImpAct Universal's PATHWAYS TO HEALTHCARE. Aim Higher Healthcare Strand, London.

Watson J. (2005) Supporting Success in Diverse Student Populations. *British Journal of Occupational Therapy,* 68**,** 34-38.

Wiggans, J. (2012) Collaboration and partnership working in a competitive environment. A literature synthesis of the Widening Access, Student Retention and Success National Programmes Archive. York: Higher Education Academy.

Wintrup J., James L. & Humphris D. (2012/2013) Beyond inequality? A case study of progression, achievements and experiences of health and care workers in higher education, 2005–2011. *Widening Participation and Lifelong Learning,* 14**,** 172-189.

Appendix 1

Search Terms

(N.B. Database specific search strategies are available from the authors upon request)

"widen* participat*" OR "increas* access*" OR "widen* access*" OR "social mobility" or "social justice" OR "fair admission*" OR "aimhigher" OR "participat* in learning" OR "access agreement") AND ("minority group*" OR "ethnic group*" OR "under-represented group*" OR disadvantaged OR "excluded group*" OR "low* socio-economic status" OR "low participation" OR poverty OR "low income" OR "mature student*" OR disabled OR disability OR "protected characteristics" OR "looked after children" OR equalit* OR diversit* OR minorit* OR migrant* OR depriv* OR "social* isolate*" OR "social* exclu*" OR "mental* ill*" OR "mental disorder*" OR "learning disorder*" or "learning disabilit*" OR "low* social class" OR "hard to reach") AND (degree* OR "higher education" OR universit* OR postgraduate* OR "further education" OR college* OR NVQ OR "national vocational qualification*" or "pre-reg") AND (health* OR nurs* or "allied health" OR midwife* OR midwive* OR "social care" OR "social work*" OR "health visit*" OR pharmac* OR "occupational therap" OR physiotherap* OR dietician* OR nutritionist* OR radiograph* OR "speech therap*"

Appendix 2

Databases searched

Database	Platform/URL
Medline	Evidence Search (www.evidence.nhs.uk)
Cinahl	Evidence Search (www.evidence.nhs.uk)
British Nursing Index (BNI)	Evidence Search (www.evidence.nhs.uk)
HMIC	Evidence Search (www.evidence.nhs.uk)
Applied Social Sciences Index and Abstracts (ASSIA)	ProQuest via http://0-search.proquest.com.library.edgehill.ac.uk/assia/index?accountid=10671
The Cochrane Library	http://www.thecochranelibrary.com/
The Campbell Collaboration	www.campbellcollaboration.org/
Joanna Briggs Institute	http://joannabriggs.org/
EPPI Centre Systematic Reviews	http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=56
Centre for Reviews and Dissemination (CRD)	http://www.york.ac.uk/inst/crd/
British Education Index (BEI)	ProQuest/Dialog via http://0-search.proquest.com.library.edgehill.ac.uk/professional/britisheducationindex?accountid=10671
ERIC	http://eric.ed.gov/
Australian Education Index (AEI)	ProQuest/Dialog via http://0-search.proquest.com.library.edgehill.ac.uk/professional/australianeducationindex?accountid=10671
Web of Science (citation searching)	Thomson Reuters via http://0-wok.mimas.ac.uk.library.edgehill.ac.uk//
Education Research Abstracts	https://libraries.ucsd.edu/info/resources/educational-research-abstracts-online-era

Widening Participation Journals, Conference proceedings and Websites

Widening Participation and Lifelong Learning (OU)

Society for Research in Higher Education (SRHE). Available at: http://www.srhe.ac.uk/ [Last accessed 20th Feb 2014]

European Access Network. Available at: http://www.ean-edu.org/ [Last accessed 20th Feb 2014]

Forum for Access and Continuing Education (FACE) Available at: http://www.f-a-c-e.org.uk/publications-and-research/face-conference-proceedings.htm [Last accessed 20th Feb 2014]

Higher Education Academy. Available at: http://www.heacademy.ac.uk/retention-archives [Last accessed 20th Feb 2014]

Action on Access. Available at: http://www.actiononaccess.org [Last accessed 20th Feb 2014]

Higher Education Funding Council for England. Available at:
http://www.hefce.ac.uk/whatwedo/wp/ourresearch/researchandevaluation/ [Last accessed 20th Feb 2014]

Appendix 3

Tables of included studies

Legal and policy context of widening participation in health care studies

Study ID	Study design	Participants/ sample	Study aims	Study findings
Smith et al., (2009) **USA**	Legal framework account	N/A	Discussed the role of pipeline programs in increasing the number of racial and ethnic minorities in the health professions	The authors argue that affirmative action remains a necessary tool to increase representation of ethnic minorities in health professions

Previously conducted literature reviews

Study ID	Study design	Participants/ sample	Study aims	Study findings
Murphy, (2008) **UK**	Literature review	Dyslexic student radiographers	Reflects on healthcare students' experiences with dyslexia	Identifies issues around disclosure and the efficacy of coping strategies student radiographers with dyslexia require additional support

Secondary data analysis

Study ID	Study design	Participants/ sample	Study aims	Study findings
Gallagher et al., (2009) **UK**	Secondary data analysis	UCAS (UK) anonymised data set of focused applicants whose preferred subject was preclinical dentistry or medicine and accepted applicants to same programme in 2006. Data compared to publicly available data	Explored the association of age, sex, ethnicity, socio-economic group, region, school type and tariff score with being accepted onto the course	Study reveals under-representation of BME students in medicine

Mulholland et al., (2008) UK	Longitudinal cohort study	Data collection took place between 2003 to 2005 of 2530 preregistration nursing students who joined during 1999,2000,2001	Explored the association between selected diversity variables (sex, country of birth, ethnicity, age and educational qualification and additional visa status, application route and absence rates) and the students progression and attrition rates	Males had lower odds of completing the programme than females, as did younger students. Compared with United Kingdom-born students, those born in Ireland, Zimbabwe, or other English-speaking countries were more likely to complete the programme. Students born overseas in non-English-speaking countries did not differ statistically significantly from United Kingdom-born students. Those at all qualification levels had similar odds of completion, except students already qualified at degree level, who were less likely to complete.

Niven et al., (2013) **UK**	Secondary data analysis	2,274 dental students cohort accepted for a 4 or 5 year dental school programme in 2007/08	Explored the association of demographics (age, sex, ethnicity, social status, disability, country/region) and academic experience (school type) of UK students accepted onto a 5 year and a 4 year dental programme in 2007 and 2008	Study revealed that 4 year programmes accepted a higher proportion of black and 'other' BME students than 5 year programmes. Females are slightly over-represented on both types of programme, one tenth of accepted students were mature
Reddy & Moores (2008) **UK**	Evaluative Case Study using secondary data analysis	284 mature students entering a Foundation Programme for progression into Psychology, optometry and biology courses UCAS (UK) data set	Compared progression and success rates for Access course students with those students on Foundation courses in psychology, biology, optometry and pharmacy between 1993 and 2003.	The authors argue that Foundation year is not satisfactory and conclude that Access courses may be the best vehicle to achieve widening participation

Wintrup et al. (2012/3) **UK**	Case study using secondary data analysis	39 Foundation course students Several cohorts over 3.5 years (2007-2011) UCAS (UK) data and university progression data	Analysis of progression data of foundation students Semi-structured interviews with respondents over 3.5 years (previously reported, not included in this paper)	Study shows that students report contextual and social factors as important Respondents also mentioned that personal characteristics are not only important factors for progression
Hammond et al. (2011/12) **UK**	Pilot study	34 out of 587 medical students entered under the adjusted criteria scheme over 4 years	Describes the model and application of an adjusted A Level results criteria scheme in one programme at one higher education institution (HEI).	Study shows that students who entered through adjusted entry scheme were more likely to fail initially but there was no difference to other students in long term

Empirical studies to widening participation without intervention

Study ID	Study design	Participants/sample	Study aims	Study Findings
Cuthill & Jansen (2013) **Australia**	Longitudinal cohort study	23 females, 12 males (n=35); 11 parents or guardians, and 13 school staff	Examined the impact of a Young Achievers Programme designed to widen participation for educationally disadvantaged state secondary school students Tracking of student participants over 5 year period with regular annual interviews, staff, parents and guardians interviewed every two years	The study identified 4 key themes: 'recognition', 'raised awareness', 'relief' and 'social connections' The authors argue that these four themes underpin the decision making process of participants

Interventions facilitating widening participation and their impact

Study ID	Study design	Participants/sample	Study aims	Study Findings
Allison (2013) **UK**	Pilot study	1,262 applications to a MPharm programme, School of Pharmacy, Manchester University	Used contextual data (educational and social background) in the admissions process to widen participation Contextual data examined included: 1. Average A-level performance 2. Area based indicator of disadvantage and low progression to HE 3. H.E. experience of applicant's parents 4. Applicant experience of local authority care prior to application Rejected students were flagged and then their admissions contextualised for re-consideration	341 (27%) satisfied contextual requirements. 229 were invited for interview, of which, contextual data was used positively on 20 20 applicants invited for interview that would otherwise have been rejected. From these 20, offers of a study place were made to 13. Four students accepted a place. 3 students successfully completed the full MPharm programme and graduated in July 2012 with upper second class degrees

Watson (2005) UK	Evaluation study	30 students with non-traditional entry qualifications commencing an Occupational Therapy programme invited to attend a summer school.	Evaluation of the University of Southampton summer school for easing transition into HEI Student evaluation questionnaire	30 students attended The study reveals that most students thought the summer school is useful as a preparatory course for students the questionnaire generally contained good feedback from participants
Smith et al. (2013) UK	Evaluation Study	Medical students	Evaluation of mentoring scheme Pairing of Year-12 participants (29–74 annually) from schools in areas of deprivation with e-mentors from the medical student population	E-mentoring is an effective and low cost alternative to expensive recruitment drives in socio-economically disadvantaged populations

Rhodes-Martin & Munro (2010) **UK**	Evaluation Study	70 nursing students without standard entry qualifications at Staffordshire University 3 cohorts over 18 months	Evaluation of a 'Portfolio of Evidence for Entry to Level 1 Study' to enable potential nursing students without standard entry qualifications to demonstrate their numeracy and literacy skills Examined the performance and progression rates of students who had entered using the portfolio route	The academic performance of students on the Portfolio course did not exhibit lower or higher fails or grades compared to standard entry students
O'Driscoll et al. (2009) **UK**	Evaluation study	24 participants in part-time pre-registration adult diploma nursing programme	Evaluated the effect of a part-time pre-registration adult diploma nursing programme on widening participation. Three focus groups were undertaken	The programme had a widening participation effect on female mature students although it did not reduce the role conflict for them

Greenwood et al. (2007) **UK**	Questionnaire based study	194 participants from 7 colleges in south London and Surrey on Access to health and caring professions and nursing courses	Investigated the effect of providing access students with a small amount of information on their subsequent level of interest in career in health care profession Report through questionnaire	If given more information about AHP, students consider career in this area
Frankland (2010) **UK**	Experiential account	2 students nursery nurses at UK HEI	Narrative of experiences of 2 students on a foundation programme	Study revealed positive influence on professional identify of students through foundation phase

Studies on student support and retention

Study ID	Study design	Participants/ sample	Study aims	Study Findings
Hamshire et al. (2012/3) **UK**	Evaluation study	9 North West Health HEI 1k+ students	Explored student views on student support systems	There are various difficulties with existing support systems, such as, lack of services at satellite campuses and placement sites Concludes that support systems need to adapt to needs
Ryan (2011) **Australia**	Research synthesis and survey	Survey conducted at three Victorian universities, at the universities' sites of clinical placements, and included university disability officers 415 questionnaires returned	Survey of university staff and students' knowledge of the legislative responsibilities of universities under the DDA and their attitudes towards the inclusion of students with a disability in nursing education programs	Study reveals that there is lack of understanding of DDA amongst respondents This lack of understanding may sustain negative attitudes about students with disabilities in practical placements

O'Brien et al. (2009) Ireland	Qualitative study	28 mature students HEI in Ireland	Explored experiences of pre-registration general, psychiatric and intellectual disability mature nursing students enrolled on a Bachelor in Science in Nursing. Looked also at gender differences.	Study found that students in the sample struggled with the academic component of the course In addition, striking a balance between home and university proved difficult for them Female students continued to fill their previous roles more than males, and hence males were given more freedom to pursue their studies
McKendry (2012/3) UK	Evaluation study using action research	Nursing students and academic staff at a UK university	Evaluated a pre-entry programme to provide nursing students with the academic skills required for Higher Education transition. Interviews with participants and academic staff. Also, a web-based learning development and peer-support blog was published and evaluated	Study shows that certain learners do not prefer alternative learning opportunities that are off campus to campus learning activities Alternative learning activities (through e-learning) may also assume levels of digital competencies that not all students have where digital proficiency is not sufficient, some students may be disenfranchised

Griffiths & Nicolls (2010) UK	Evaluation study	17 students in the Faculty of Society and Health at Buckinghamshire University who had taken part in face-to-face academic writing skills development the previous semester	Evaluation of an e-learning strategy, e-Support4u, as part of learning and teaching Study assessed the impact of the e-learning strategy through Blackboard and blog	Positive feedback was given by all students Students reported improved writing skills
Foster (2008) **UK**	Pilot study	3 student radiographers in a HEI	Aimed to introduce a flexible teaching and learning strategy that accommodated the preferred learning styles of dyslexic students	Performance results of 3 exams – some improvements for one student Study reveals the need to use different teaching and learning strategies , and shows the need for assessing and understanding preferred learning styles of affected students

Allan et al. (2013) UK	Three phase mixed methods study – reporting on Phase 2	12 teachers across 3 disciplines including nursing (n=7)	Examined teachers views of using e-learning for non-traditional students in HE using focus groups	Limited knowledge amongst teachers of whether or not students are non-traditional and their status Knowledge about their status also does not seem to affect the tailoring of teaching and learning strategy of teachers

Research Team

Dr Jeremy Brown was previously member of the research steering group of the Centre for Widening Participation at Edge Hill University (EHU) and has managed a research programme on behalf of Health Education North West (Mersey) (formerly Mersey Deanery) for over ten years. This included the publication of two Best Evidence in Medical Education Systematic Reviews (BEME Guides 15 and 22). Jeremy assisted in defining the search strategy and advised on key terms relating to health care education. He also commented on the final report.

Dr Axel Kaehne has been principal investigator for several externally funded research projects at the School of Medicine, Cardiff University. He joined Evidence-based Practice Research Centre in April 2013 and currently leads on various research projects in the health care field. Axel was project lead, conducted the analysis of the retrieved literature, synthesized the findings and wrote up the final report.

Michelle Maden is Clinical Information Specialist and Associate Tutor at EHU. She teaches clinical research methods, in particular evidence synthesis methodologies including systematic information retrieval, quality assessment, data extraction and synthesis. Michelle also delivers workshops on behalf of the North West Evidence Synthesis Network on quality assessment and advanced information retrieval for systematic reviews and has co-authored several systematic reviews. She is currently undertaking a systematic review of systematic reviews. Michelle carried out the search and retrieval procedures as well as assisted in the analysis of the literature.

Brenda Roe is Professor of Health Research at EHU and member of the EPRC. She is a Fellow of the Queen's Nursing Institute and Fellow of the Royal Society for Public Health. She is an Editor of the Journal of Advanced Nursing and was one of the founding editors of the Cochrane Incontinence Review Group (1996-2000) with particular responsibility for reviews on behavioural interventions for the management of urinary incontinence. She has led or been a reviewer of nine systematic reviews and one metastudy of four Cochrane Reviews and is currently leading a systematic review of systematic reviews. Brenda is a member of the steering committee of the North West Evidence Synthesis Network involved in organising and delivering workshops. She teaches on all aspects of systematic review methods and evidence synthesis. Brenda advised on the methodology of systematic reviews.

Liz Thomas is Professor of Higher Education in the Faculty of Education at EHU. Her work, previously in the Widening Participation Research Centre, now in the Faculty of Education, has spanned a wide range of studies for educational and public sector bodies. It contributes in-depth and credible knowledge about widening access, student retention and success and institutional transformation at both the policy and practice levels, as well as extensive relevant evaluation experience. Liz assisted in defining an appropriate search strategy and identifying relevant key terminology. She also commented on the final report.