

BMJ Open

Pain education in pre-registration professional health courses – a protocol for a scoping review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2016-012001
Article Type:	Protocol
Date Submitted by the Author:	22-Mar-2016
Complete List of Authors:	Thompson, Kate; Leeds Beckett University Faculty of Health and Social Sciences, ; Milligan, James; Leeds Beckett University Faculty of Health and Social Sciences Johnson, Mark; Leeds Beckett University Faculty of Health and Social Sciences Briggs, Michelle; Leeds Beckett University Faculty of Health and Social Sciences
Primary Subject Heading:	Medical education and training
Secondary Subject Heading:	Health services research, Global health, Health policy
Keywords:	PAIN MANAGEMENT, EDUCATION & TRAINING (see Medical Education & Training), Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

SCHOLARONE™
Manuscripts

Title

Pain education in pre-registration professional health courses – a protocol for a scoping review

Correspondence should be sent to: Kate Thompson, Faculty of Health and Social Sciences, Leeds Beckett University, PD6 City Campus, Leeds LS1 3HE, United Kingdom

Telephone: +44 (0)113 8123617: Email: k.a.thompson@leedsbeckett.ac.uk

Authors

Kate Thompson¹

James Milligan¹

Mark I. Johnson¹

Michelle Briggs¹

¹Centre for Pain Research, Faculty of Health and Social Sciences, Leeds Beckett University, Leeds, UK

Keywords (MeSH)

Pain
Curriculum
Education
Health personnel

Word count

1780

Title

Pain education in pre-registration professional health courses – a protocol for a scoping review

ABSTRACT

Introduction: Pain is a global health concern causing significant health and social problems with evidence that patients experiencing pain are receiving inadequate care. The content of pain education in pre-registration professional health courses is thought to be lacking both in the UK and internationally which is unacceptable considering the prevalence of pain. Sufficient pain education within pre-registration professional health training is essential so that health care professionals are trained to competently manage the needs of patients.

In order to make advances in pain education it is necessary to locate and synthesise evidence, information and guidance that is able to inform and develop pain teaching in health curricula. A scoping review provides a practical and comprehensive strategy to locate and synthesise literature of varied methodology including reports from a variety of sources.

The aim of this article is to describe a protocol for a scoping review that will locate, map, and report research, guidelines and policies for pain education in pre-registration professional health courses. The extent, range and nature of reports will be examined, and where possible titles for potential systematic reviews will be identified.

Methods and analysis: Reports will be included for review that are directly relevant to the development of the pain curriculum in pre-registration professional health courses i.e. nursing, medicine, physiotherapy. The search strategy will identify reports that include [pain] AND [pre-registration education or curriculum] AND [health professionals] in the title or abstract. Two authors will independently screen retrieved studies against eligibility criteria. A numerical analysis regarding the extent, nature and distribution of reports will be given along with a qualitative analysis to describe areas of good pain education where possible.

Ethics and dissemination: Formal ethical approval was not required to undertake this scoping review. Findings will be published in scientific peer reviewed journals and via conference presentations.

Strengths and limitations of this study:

- This protocol provides a practical and comprehensive strategy to locate and synthesise literature to inform the advancement of pain education in professional health courses.
- The method allows a wide range of methodological approaches to be included, synthesising information from multiple sources.
- This review will not assess the methodological quality of included reports due to the heterogeneous nature of information that will likely be included.

INTRODUCTION

The prevalence of pain lasting more than three months (chronic pain) is estimated to be as high as 27% worldwide equating to approximately 17 million people in the United Kingdom (UK) ¹. Sufficient and appropriate pain education in professional health courses is key to producing healthcare professionals of the future that are adequately prepared to manage the needs of patients experiencing pain ². There is evidence that these needs are not currently being met. Nearly half of adults experiencing chronic pain in Europe reported receiving inadequate pain management with chronic pain seriously affecting the quality of social and working lives ³. Low back pain alone is the leading global cause of years lived with disability with neck pain and other musculoskeletal causes also making the top ten ⁴.

There is some evidence that current pain education provision across professional health courses is insufficient; documented pain teaching in the majority of European medical schools has been found to be inadequate given the prevalence and burden of pain described ⁵. A survey describing the nature, content and learning strategies for pain curricula in undergraduate healthcare programmes in major universities in the UK found pain education to be variable across and within disciplines ⁶.

Currently there is no synthesis of available evidence to inform appropriate content and structure of pain education in professional health courses. The design of health courses are guided by research literature, professional regulatory bodies, and subject specialist membership organisations yet information regarding pain education from these sources has not been evaluated. Considering the known health, social and economic burden of pain further investigation is warranted.

There are various approaches available for reviewing literature. A scoping review methodology is useful when examining a broad topic to systematically map the literature, identify key concepts, sources of evidence and identify research gaps ^{7 8}. A synthesis using

systematic review methodology is not appropriate due to the broad nature of this topic, and the need to include information from non-research sources such as professional regulatory bodies.

The aim of this article is to describe a protocol for a scoping review which will locate, map and report literature that informs the content and structure of pain education in pre-registration professional health courses. The scoping review will;

1. Examine the extent, range and nature of research relevant to pain education in professional health courses (i.e. physiotherapy, nursing, medicine, occupational therapy, midwifery). Research findings will be described e.g. the availability of research in each field, the type, location and year of publication of relevant research reports.
2. Examine the extent and nature of guidance for pain education from non-research organisations such as professional regulatory bodies, membership and special interest organisations.
3. Determine whether there is sufficient research to be able to conduct a full systematic review.

METHODS AND ANALYSIS

A two part process will be conducted using an established scoping review framework (Figure 1)⁷.

[Insert figure 1 here – see end of document]

Stage 1: Identifying the research question

Initial literature searching will be conducted to locate reports to answer the following research question: What research or information is available to inform pain education provision in pre-registration professional health programmes? An iterative process will be used where the research question will be refined with increasing familiarity with the literature.

Stage 2: Identifying relevant studies

Stage 2 will consist of 2 parts. Part 1 will identify studies that have investigated the content or structure of pain education in professional health courses. The following electronic

databases will be searched: Medline, Cinahl, ERIC, AMED, HMIC and EBM reviews. The following search terms will be used; [pain] AND [education OR curriculum] AND [physiotherapy OR allied health occupations OR nursing OR medicine]. MeSH or Thesaurus search terms will be used within databases where possible. Part 2 will gather information from policies, guidelines and frameworks relevant to pain education for professional health courses. The search will be extended to include websites of professional and regulatory bodies i.e. Health and Care Professions Council (HCPC), General Medical Council (GMC), Nursing and Midwifery Council (NMC), and websites of specialist organisations i.e. IASP.

Stage 3: Study selection

The full set of titles and abstracts retrieved in stage 2 will be independently screened for eligibility by two authors (KT & JM) after which the level of agreement will be discussed. The two authors will meet to pilot the study selection criteria and compare reports included at the beginning and midway through the screening process. A third reviewer (MB) will act as arbiter for any reports where agreement cannot be achieved. The following eligibility criteria will be applied;

- Published in the English language
- Directly relevant to the development of the pain curriculum in pre-registration professional health courses (i.e. physiotherapy, nursing, midwifery, dentistry, pharmacy, medicine).
- Human subjects
- Extractable data (Table 1)
- No date restriction

Reports will be excluded that have no relevance to the pain curriculum in professional health courses or are in reference to patient or post-graduate education

The full text of all reports that meet the inclusion criteria as a result of screening of title and abstract will be retrieved and their content screened against eligibility criteria developed as part of the iterative review process. If the relevance of a piece of literature is unclear from the abstract then the full report will be retrieved at which point the final decision will be made regarding inclusion in the review.

Stage 4: Charting the data

General information about each report (author, year of publication, study or report location, type of report, purpose and main findings) will be extracted by one author (KT). An example data extraction framework is included in table 1. The research team will meet to pilot data extraction and to ensure consistency in the exercise. The method and paperwork used to

extract data will be developed by all authors, followed by a piloting exercise. After the pilot phase authors will meet to discuss and refine the method and data that will be extracted from the full set of reports. The terminology and expressions used to describe pain/pain education will also be extracted as a means of identifying varying approaches and philosophies to be reviewed. An inventory of report design will be kept however none will be excluded based on quality of evidence.

Table 1 Data extraction framework	
Bibliometrics	Characteristics
Authors	
Country published/study completed	
Year of publication	
Type of paper	Primary Research Review Commentary/Discussion Theoretical/conceptual Policy document Published report Unpublished report Other
Study design	Systematic Review RCT Controlled Trial Cohort One group before/after study Survey Qualitative study Case study Cost effectiveness study, Literature review n/a Other
Pain education relevant to ..	Acute Sub-acute Chronic
Extractable data?	
Relevant to health professional	Physiotherapy Nursing Occupational Therapy Medicine Dentistry Psychology

	Social work Pharmacy Other
Did the report investigate an intervention/pain education strategy/skills and knowledge taught	Analyse characteristics of relevant papers

Stage 5: Collating, summarising and reporting the results

The scoping review will locate, map and report literature that informs the content and structure of pain education rather than report on methodological quality or provide any meta-synthesis of data. Results will be collated, summarised and reported in the following way:

I. Numerical analysis

A numerical analysis will be performed on the extent, nature and distribution of reports included in the review. Tables and charts will be produced demonstrating:

Part 1 – Research review

- the distribution of the studies geographically
- the timescale in terms of year of publication
- the range of education strategies (where applicable)
- the research methods adopted and study design
- the professional health course that the publication refers to (e.g. physiotherapy, nursing, medicine etc.)

Part 2 – Policy, framework, guideline website review

- the type of report i.e. policy document, guideline, framework
- the distribution of the reports geographically, and source of information
- the timescale in terms of year of publication
- the professional health course that the report refers to (e.g. physiotherapy, nursing, medicine etc.)

This will provide information regarding the dominant areas of research in terms of geography, health profession, research methods, and any pain education strategies that have been investigated.

II. Narrative synthesis

Once results have been organised and presented numerically a framework for presenting a narrative synthesis will be identified e.g. a thematic analysis of qualitative reports⁹. Characteristics of relevant papers will be analysed. Where possible themes within the dataset will be identified that demonstrate good pain education practice.

III. Conceptual analysis

Concepts (notions/ideas) will be presented with relationships between them indicated by connecting lines on a graphical map.

Conclusion

This scoping review protocol outlines the process we will follow to identify research or information that is available to inform pain education provision in pre-registration professional health programmes. This evidence synthesis will describe what information is available, who the key stakeholders are in pain education, and where the information is located. Qualitative thematic analysis will examine and record recurrent themes across the dataset, where possible identifying potential areas of good practice that can be taken forward for future research.

ETHICS AND DISSEMINATION

Formal ethical approval was not required to undertake this scoping review. Findings will be published in scientific peer reviewed journals and via conference presentations.

AUTHORS CONTRIBUTIONS

All authors have made a substantive intellectual contribution to the development of this protocol. All authors were involved in developing the review question and review design. KT, MB and MJ identified the framework from which KT developed and tested search terms. KT, MB and JM developed the data extraction framework, which was then further developed by input from all team members. KT initiated the first draft of the manuscript which was then followed by iterations with substantial input from all of the authors. All authors approve the final version of the manuscript.

FUNDING STATEMENT

This work was supported by a Health Education England (HEE) PhD Studentship.

COMPETING INTERESTS

None

REFERENCES

1
2
3
4
5 1. Elzahaf RA, Tashani OA, Unsworth BA, et al. The prevalence of chronic pain with an analysis of
6 countries with a Human Development Index less than 0.9: a systematic review without
7 meta-analysis. *Curr Med Res Opin* 2012;**28**(7):1221-9.
8 2. IASP. [Online] Available from <http://www.iasp-pain.org/Resources?navItemNumber=647>
9 [Accessed 5th January 2016]. 2015.
10 3. Breivik H, Collett B, Ventafridda V, et al. Survey of chronic pain in Europe: prevalence, impact on
11 daily life, and treatment. *Eur J Pain* 2006;**10**(4):287-333.
12 4. Global Burden of Disease Study C. Global, regional, and national incidence, prevalence, and years
13 lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-
14 2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet*
15 2015;**386**(9995):743-800.
16 5. Briggs EV, Battelli D, Gordon D, et al. Current pain education within undergraduate medical
17 studies across Europe: Advancing the Provision of Pain Education and Learning (APPEAL)
18 study. *BMJ open* 2015;**5**(8):e006984.
19 6. Briggs EV, Carr EC, Whittaker MS. Survey of undergraduate pain curricula for healthcare
20 professionals in the United Kingdom. *European Journal of Pain* 2011;**15**(8):789-95.
21 7. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal*
22 *of Social Research Methodology* 2005;**8**(1):19-32.
23 8. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci*
24 2010;**5**:69.
25 9. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology*
26 2006;**3**(2):77-101.
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

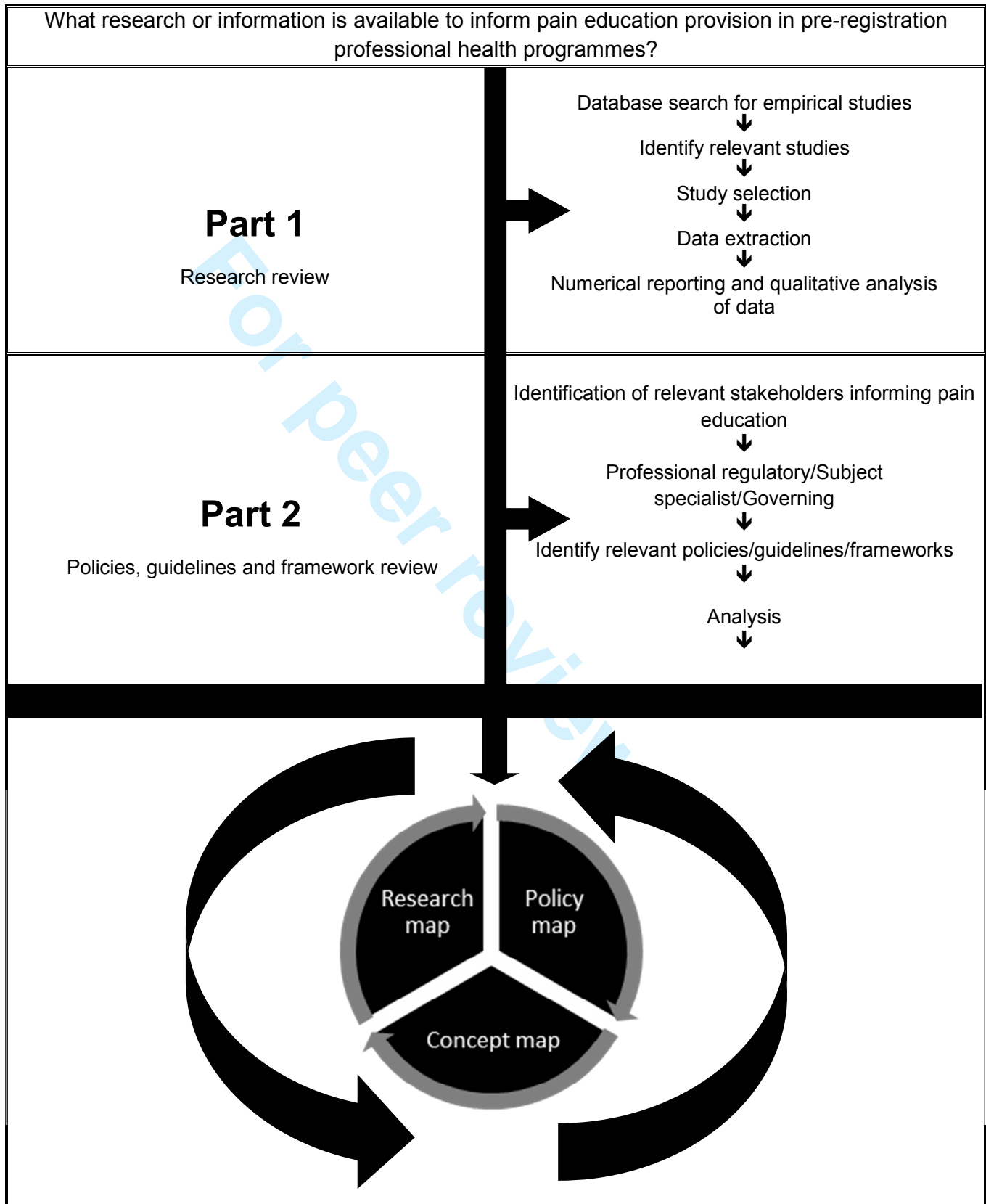


Figure 1. Scoping review method

For peer review only

BMJ Open

Pain education in pre-registration professional health courses – a protocol for a scoping review

Journal:	<i>BMJ Open</i>
Manuscript ID	bmjopen-2016-012001.R1
Article Type:	Protocol
Date Submitted by the Author:	08-Jun-2016
Complete List of Authors:	Thompson, Kate; Leeds Beckett University Faculty of Health and Social Sciences, ; Milligan, James; Leeds Beckett University Faculty of Health and Social Sciences Johnson, Mark; Leeds Beckett University Faculty of Health and Social Sciences Briggs, Michelle; Leeds Beckett University Faculty of Health and Social Sciences
Primary Subject Heading:	Medical education and training
Secondary Subject Heading:	Health services research, Global health, Health policy
Keywords:	PAIN MANAGEMENT, EDUCATION & TRAINING (see Medical Education & Training), Health policy < HEALTH SERVICES ADMINISTRATION & MANAGEMENT

SCHOLARONE™
Manuscripts

Title

Pain education in pre-registration professional health courses – a protocol for a scoping review

Correspondence should be sent to: Kate Thompson, Faculty of Health and Social Sciences, Leeds Beckett University, PD6 City Campus, Leeds LS1 3HE, United Kingdom

Telephone: +44 (0)113 8123617: Email: k.a.thompson@leedsbeckett.ac.uk

Authors

Kate Thompson¹

James Milligan¹

Mark I. Johnson¹

Michelle Briggs¹

¹Centre for Pain Research, Faculty of Health and Social Sciences, Leeds Beckett University, Leeds, UK

Keywords (MeSH)

Pain
Curriculum
Education
Health personnel

Word count

1788

Title

Pain education in pre-registration professional health courses – a protocol for a scoping review

ABSTRACT

Introduction: Pain is a global health concern causing significant health and social problems with evidence that patients experiencing pain are receiving inadequate care. The content of pain education in pre-registration professional health courses is thought to be lacking both in the UK and internationally which is unacceptable considering the prevalence of pain. Evaluating the effect of education is complex in that the outcome (improved healthcare) is some distance from the educational approach. Best evidence medical education (BEME) has been proposed as a continuum between 'opinion-based teaching' and 'evidence based teaching'.

Searching for evidence to inform best practice in health education is complex. A scoping review provides a practical and comprehensive strategy to locate and synthesise literature of varied methodology including reports from a variety of sources.

The aim of this article is to describe a protocol for a scoping review that will locate, map, and report research, guidelines and policies for pain education in pre-registration professional health courses. The extent, range and nature of reports will be examined, and where possible titles for potential systematic review will be identified.

Methods and analysis: Reports will be included for review that are directly relevant to the development of the pain curriculum in pre-registration professional health courses i.e. nursing, medicine, physiotherapy. The search strategy will identify reports that include [pain] AND [pre-registration education or curriculum] AND [health professionals] in the title or abstract. Two authors will independently screen retrieved studies against eligibility criteria. A numerical analysis regarding the extent, nature and distribution of reports will be given along with a narrative synthesis to describe characteristics of relevant reports.

Ethics and dissemination: Formal ethical approval was not required to undertake this scoping review. Findings will be published in scientific peer reviewed journals and via conference presentations.

Strengths and limitations of this study:

- This protocol provides a practical and comprehensive strategy to locate and synthesise literature to inform the advancement of pain education in professional health courses.
- The method allows a wide range of methodological approaches to be included, synthesising information from multiple sources.
- It is not the purpose of this review to assess the methodological quality of included reports. It is likely that reports will be heterogeneous in nature.
- Review team members include two physiotherapists, one nurse and one physiologist with expertise in the science of pain and its management. The team have experience in undertaking Cochrane reviews, Meta-ethnography and Scoping reviews.

INTRODUCTION

The prevalence of pain lasting more than three months (chronic pain) is estimated to be as high as 27% worldwide equating to approximately 17 million people in the United Kingdom (UK) alone ¹. Patients living with chronic pain have complex health and social care needs, which are well documented in the literature however there is evidence that these needs are not currently being met ². Nearly half of adults experiencing chronic pain in Europe reported receiving inadequate pain management with chronic pain seriously affecting the quality of social and working lives ³.

Evaluating the effect of health education and training on patient outcome is complex in that the outcome (improved healthcare) is some distance from the education received in pre-registration training. Best evidence medical education (BEME) has been proposed as a continuum between 'opinion-based teaching' and 'evidence based teaching' ⁴. Despite these complexities health education professionals are increasingly expected to base their practice upon best evidence. Searching for evidence to inform best practice in health education is difficult; there are few sources dedicated to health education itself therefore it is necessary to search a wide range of medical and education databases ⁵.

There is some evidence that current pain education provision across professional health courses is insufficient; documented pain teaching in the majority of European medical schools has been found to be inadequate given the prevalence and burden of pain

described⁶. A survey describing the nature, content and learning strategies for pain curricula in undergraduate healthcare programmes in major universities in the UK found pain education to be variable across and within disciplines⁷.

Currently there is no synthesis of available evidence to inform appropriate content and structure of pain education in professional health courses. This is likely due to the heterogenous nature of relevant information e.g. health courses may inform their curricula by incorporating research literature, guidance from professional regulatory bodies, and information provided by specialist membership organisations such as the international association for the study of pain (IASP). Considering the known health, social and economic burden of pain, further investigation to determine the type and location of literature available to inform professional health curricula is warranted.

There are various approaches available for reviewing literature. A scoping review methodology is useful when examining a broad topic to systematically map the literature, identify key concepts, sources of evidence and identify research gaps^{8,9}. A scoping review differs from a systematic review by sourcing literature through online databases and key organisational websites¹⁰. The differences between the two methodologies are demonstrated in table 1.

Table 1. Scoping review v systematic review methodology

SCOPING REVIEW	SYSTEMATIC REVIEW
The research question(s) develop as part of an iterative process with increasing familiarity with the literature.	Research question defined from the outset. The results of the study answer the focussed research question.
Data extraction may be broad depending on retrieved reports	Pre-defined parameters for data extraction
No grading of reports based on quality	Formal quality grading of included reports
Quantitative and qualitative synthesis of results	Quantitative synthesis usually performed

A scoping review is needed to determine the breadth and depth of research in this area which will inform the development of a systematic review should appropriate research reports be identified. A scoping review also allows for a systematic search of key websites that are vital to source policy documents relevant to pain education. It is not the purpose of a scoping review to grade literature based on quality of evidence.

Aim(s)

The aim of this article is to describe a protocol for a scoping review which will locate, map and report literature that informs the content and structure of pain education in pre-registration professional health courses. The scoping review will;

1. Review the extent, range and nature of research that has examined or evaluated pain education in professional health courses from online education and medical databases e.g. Medline/ERIC
2. Review the extent and nature of guidance for pain education from key organisational websites e.g. professional regulatory bodies, membership and special interest organisations.
3. Determine whether there is sufficient research to be able to conduct a full systematic review in line with BEME standards

A conceptual framework is included to demonstrate the underlying theory and action that will be taken to achieve the aim of this protocol (figure 1).

[Insert figure 1 here – see end of document]

METHODS AND ANALYSIS

A two part process will be conducted using an established scoping review framework (figure 2)⁸.

[Insert figure 2 here – see end of document]

Stage 1: Identifying the research question

Initial literature searching will be conducted to locate reports to answer the following research question: What information is available from online databases and key organisational websites to inform pain education provision in pre-registration professional health programmes? An iterative process will be used where the research question will be refined with increasing familiarity with the literature. This will be done by one researcher (KT) running preliminary searches to pilot research reports that are received. Retrieved reports will be discussed amongst the research team so that database searching can be refined.

Stage 2: Identifying relevant studies

Stage 2 will be conducted in two parts. Part [a] will identify studies that have investigated the content or structure of pain education in professional health courses from online medical and education databases. The following electronic databases will be searched: Medline, Cinahl, ERIC, AMED, HMIC and EBM reviews. The following search terms will be used; [pain] AND [education OR curriculum] AND [physiotherapy OR allied health occupations OR nursing OR medicine]. Exploded MeSH or Thesaurus search terms will be used within databases where possible to increase the number of retrieved reports.

Table 2 demonstrates the PICOS that will be used to guide the initial inclusion/exclusion of research reports.

Table 2. PICOS

Population	Nurses Medics Allied health professionals (see search strategy for more detail)
Intervention	Pain education in pre-registration training
Comparison	No criteria
Outcome	Examination or evaluation of pain education or pain knowledge
Study design	Not restricted e.g. Surveys, RCT's, Case studies, Cohort studies will all be included.

Part [b] will gather information from policies, guidelines and frameworks relevant to pain education for professional health courses. The search will be extended to include websites of professional and regulatory bodies i.e. Health and Care Professions Council (HCPC), General Medical Council (GMC), Nursing and Midwifery Council (NMC), and websites of specialist organisations i.e. IASP.

Stage 3: Study selection

The full set of titles and abstracts retrieved in part [b] will be independently screened for eligibility by two authors (KT & JM) after which the level of agreement will be discussed. The two authors will meet to pilot the study selection criteria and compare reports included at the beginning and midway through the screening process. A third reviewer (MB) will act as

arbiter for any reports where agreement cannot be achieved. The following eligibility criteria will be applied;

- Published in the English language
- Directly relevant to the pain curriculum in pre-registration professional health courses (i.e. nursing, medicine, allied health professions such as physiotherapy).
- Human subjects
- Extractable data
- No date restriction

Reports will be excluded that have no relevance to the pain curriculum in professional health courses or are in reference to patient or post-graduate education

The full text of all reports that meet the inclusion criteria will be retrieved and the content screened against eligibility criteria developed as part of the iterative review process. If the relevance of a piece of literature is unclear from the abstract then the full report will be retrieved at which point the final decision will be made regarding inclusion in the review.

Stage 4: Charting the data

General information about each report (author, year of publication, study or report location, type of report, purpose and main findings) will be extracted by one author (KT). An example data extraction framework is included in table 2. The review team (KT, JM, MJ, MB) include two physiotherapists, one nurse and one physiologist. The team will meet to pilot data extraction after the first ten papers. The data extraction form will be reviewed to evaluate whether it is extracting information that meets the aims of the scoping review. The method and paperwork used to extract data will be subsequently developed by all authors. Data extraction (table 3) has been developed and mapped to the conceptual framework (figure 1) that underpins the aim of this scoping review.

Table 3. Data extraction framework

Bibliometrics	Characteristics
Authors	
Country published/study completed	
Year of publication	
Type of paper	e.g. Primary Research Review Commentary/Discussion

	Theoretical/conceptual Policy document Published report Unpublished report Other
Study design	e.g. Systematic Review RCT Controlled Trial Cohort One group before/after study Survey Qualitative study Case study Cost effectiveness study, Literature review n/a Other
How is pain defined	e.g. Acute Sub-acute Chronic
Extractable data?	
Which professional health courses have been investigated?	e.g. Physiotherapy Nursing Occupational Therapy Medicine Other
How is pain knowledge measured	
What 'interventions' have been used to try measure pain knowledge	
Key organisational website & type of document	e.g. Professional regulatory Special interest

Stage 5: Collating, summarising and reporting the results

The scoping review will locate, map and report literature that informs the content and structure of pain education rather than report on methodological quality or provide any meta-synthesis of data. Results will be collated, summarised and reported in the following way:

I. Numerical analysis

A numerical analysis will be performed on the extent, nature and distribution of reports included in the review. Tables and charts will be produced demonstrating:

Part [a] – Research review

- the distribution of the studies geographically
- the timescale in terms of year of publication
- the type and range of education interventions used
- how pain knowledge is measured
- the research methods adopted and study design
- the professional health course that the publication refers to (e.g. physiotherapy, nursing, medicine etc.)

Part [b] – Policy, framework, guideline website review

- the type of report i.e. policy document, guideline, framework
- the distribution of the reports geographically, and source of information
- the timescale in terms of year of publication
- the professional health course that the report refers to (e.g. physiotherapy, nursing, medicine etc.)

II. Narrative synthesis

Once results have been organised and presented numerically a framework for presenting a narrative synthesis will be identified e.g. a thematic analysis of qualitative reports¹¹. The exact format cannot be established until data is charted and discussed with the review team. Characteristics of relevant papers will be analysed and where possible mapped to a framework demonstrating features of pain curriculum design.

III. Conceptual analysis

Concepts (notions/ideas) relating to pain education will be mapped and presented in a graphical format.

Conclusion

This scoping review protocol outlines the process we will follow to identify research or information that is available to inform pain education provision in pre-registration professional health programmes. This evidence synthesis will describe what information is available, who the key stakeholders are in pain education, and where the information is located. Qualitative analysis will examine and record recurrent themes across the dataset,

where possible identifying potential areas of good practice that can be taken forward for future research.

ETHICS AND DISSEMINATION

Formal ethical approval was not required to undertake this scoping review. Findings will be published in scientific peer reviewed journals and via conference presentations.

AUTHORS CONTRIBUTIONS

All authors have made a substantive intellectual contribution to the development of this protocol. All authors were involved in developing the review question and review design. KT, MB and MJ identified the framework from which KT developed and tested search terms. KT, MB and JM developed the data extraction framework, which was then further developed by input from all team members. KT initiated the first draft of the manuscript which was then followed by iterations with substantial input from all of the authors. All authors approve the final version of the manuscript.

FUNDING STATEMENT

This work was supported by a Health Education England (HEE) PhD Studentship.

COMPETING INTERESTS

None

REFERENCES

1. Elzahaf RA, Tashani OA, Unsworth BA, et al. The prevalence of chronic pain with an analysis of countries with a Human Development Index less than 0.9: a systematic review without meta-analysis. *Curr Med Res Opin* 2012;**28**(7):1221-9.
2. Toye F, Seers K, Allcock N, et al. A meta-ethnography of patients' experience of chronic non-malignant musculoskeletal pain. Southampton (UK), 2013.
3. Breivik H, Collett B, Ventafridda V, et al. Survey of chronic pain in Europe: prevalence, impact on daily life, and treatment. *Eur J Pain* 2006;**10**(4):287-333.
4. R MHJGGBIRH. BEME Guide No. 1: Best Evidence Medical Education. *Med Teach* 1999;**21**(6):553-62.
5. Haig A, Dozier M. BEME Guide no 3: systematic searching for evidence in medical education--Part 1: Sources of information. *Med Teach* 2003;**25**(4):352-63.
6. Briggs EV, Battelli D, Gordon D, et al. Current pain education within undergraduate medical studies across Europe: Advancing the Provision of Pain Education and Learning (APPEAL) study. *BMJ open* 2015;**5**(8):e006984.

7. Briggs EV, Carr EC, Whittaker MS. Survey of undergraduate pain curricula for healthcare professionals in the United Kingdom. *European Journal of Pain* 2011;**15**(8):789-95.

8. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology* 2005;**8**(1):19-32.

9. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;**5**:69.

10. Armstrong R, Hall BJ, Doyle J, et al. Cochrane Update. 'Scoping the scope' of a cochrane review. *J Public Health (Oxf)* 2011;**33**(1):147-50.

11. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative Research in Psychology* 2006;**3**(2):77-101.

For peer review only

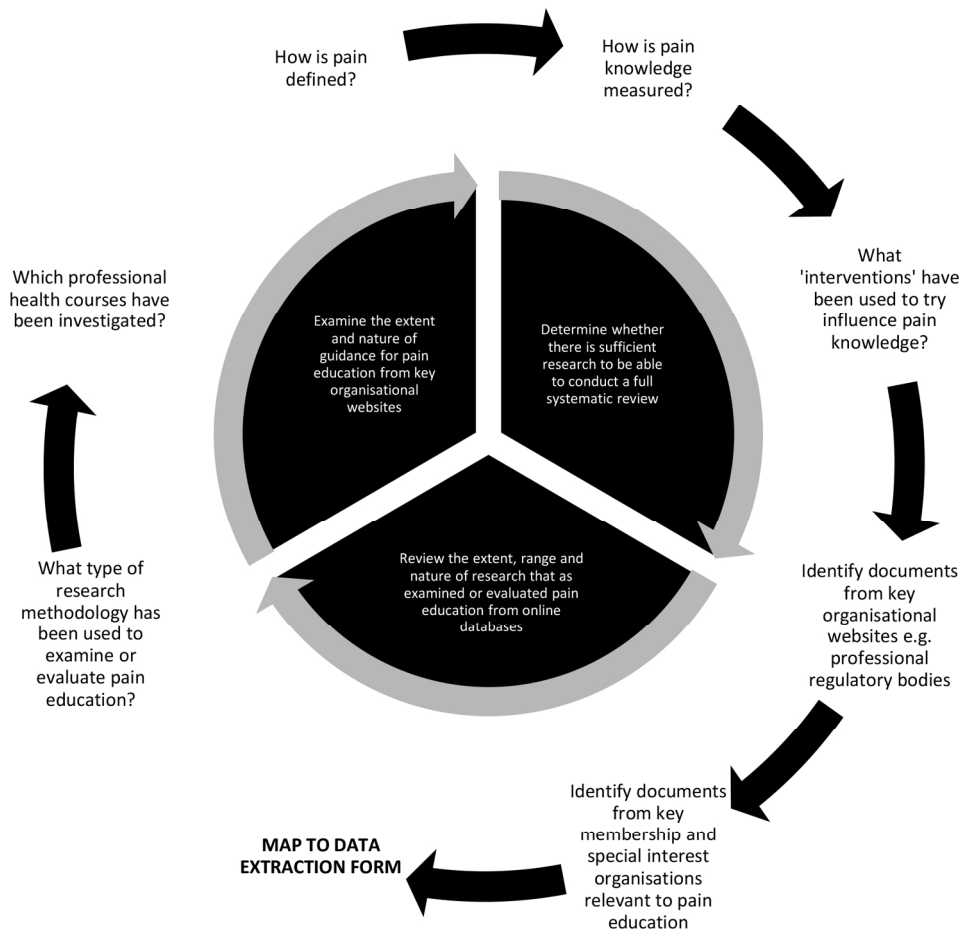


Figure 1. Conceptual framework

159x166mm (300 x 300 DPI)

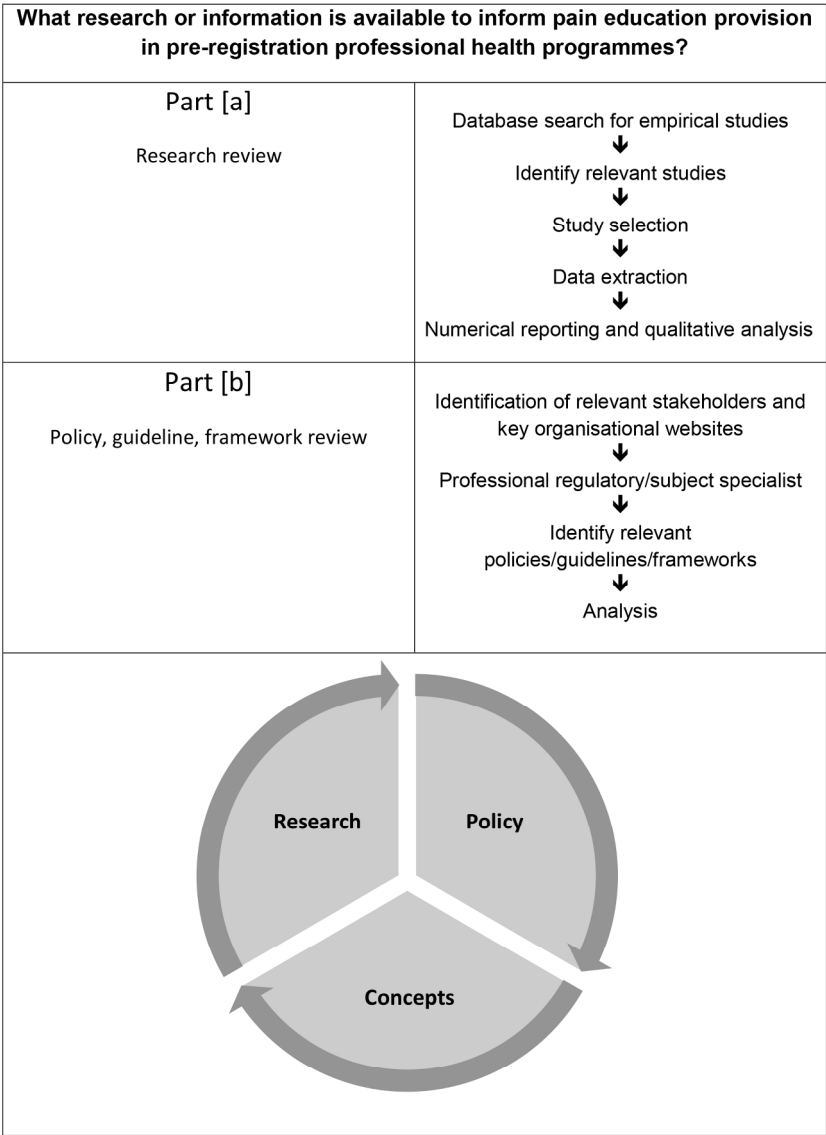


Figure 2. Scoping review methodology

165x231mm (300 x 300 DPI)

Scoping review pilot search strategy

Medline (Ebsco)

- S1 (MH "Pain+")
- S2 (MH "Education+")
- S3 (MH "Allied Health Occupations+")
- S4 (MH "Medicine+")
- S5 (MH "Nursing+")
- S6 S3 OR S4 OR S5
- S7 S1 AND S2 AND S6

ERIC (Ebsco)

- S1 Pain
- S2 Education (explode narrower terms)
- S3 Curriculum (explode narrower terms)
- S4 Medicine (explode narrower terms)
- S5 Allied health occupations (explode and search related terms)
- S6 Nursing (explode and search related terms)
- S7 S4 OR S5 OR S6
- S8 S2 OR S3
- S9 S1 AND S7 AND S8