



The Pain Education Special Interest Group of
the British Pain Society

Survey of undergraduate pain curricula for healthcare professionals in the United Kingdom

A short report

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Foreword

Pain is a common problem affecting the lives of millions of people. Pain is one of the main reasons for people seeking health care. Although some patients with pain are in hospital, the majority are not. Therefore health professionals in all settings require appropriate training in the diagnosis and treatment of pain.

This work is a comprehensive survey of the curricula of eight healthcare professions across the United Kingdom. It shows that pain education in many current undergraduate courses is inadequate preparation for professional practice. Teaching on pain is often delivered piecemeal as part of other topics. Rarely is it taught as a discrete module. Treatment of pain requires a multidisciplinary approach, but undergraduates learn about pain management in narrow professional groups. Multiprofessional education builds good team working and communication skills, which are key requisites for providing high quality pain care.

Earlier this year, the Chief Medical Officer's Annual Report for 2008 highlighted the extent of chronic pain, and the lack of services for those who live with it. One of the recommendations was to improve pain education for health professionals. An interprofessional review of Safety and Quality in undergraduate curricula has been established in Northern Ireland and chronic pain will be considered as a subject for review. Reports on chronic pain have recently been published in Scotland and Wales, and in Scotland a Lead Clinician for Chronic Pain was recently appointed. A new consultation is now underway to add pain to the National Health Service Essence of Care benchmarks in England. These developments all help promote high quality services for patients. This survey by the British Pain Society builds on this momentum by identifying significant gaps in the current training programmes for many different professional groups.

Health professionals need to be competent in assessing and managing pain. Competency in this area must be a universal requirement for professional registration for all professions. Pain education should include opportunities for health professionals to study together. We fully support the key recommendations from this survey and hope that it provides the impetus for pain education to become a critical component for the preparation of all health professionals.

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Summary

Despite pain being the most common reason for a patient to consult their general practitioner (GP), education about the identification, assessment and treatment of pain represents less than 1% of the university based teaching for healthcare professionals.

This new study illustrates the limited amount and type of pain education healthcare professionals receive including doctors and nurses. This may be a significant factor in the inadequate management of pain. The average pain content was 12 hours with physiotherapy and veterinary science students receiving the highest input.

The Chief Medical Officer's report¹ this year drew attention to the plight of millions of people in the United Kingdom (UK) who suffer with daily persistent pain. It is essential that the healthcare workforce is adequately prepared to assess and manage pain effectively. This report makes a series of recommendations to promote pain education, healthcare professionals learning together, assessment of competency and ensure that pain is a core part of the educational standards and quality assurance mechanisms.

Background

The Chief Medical Officer's Annual report¹ recently called for the inclusion of chronic pain in the curricula of all healthcare professionals as part of a major initiative to improve the lives of millions affected. Education was the first of eight recommended actions.

The management of pain in the UK and indeed worldwide is problematic with many millions of people experiencing pain. Pain is the main reason for primary care consultations² and back pain and musculoskeletal injuries make up the second and third cause of absence from work amongst British manual workers³. Pain and discomfort are the primary health problems for over half of older people aged over 75 years⁴ and for several decades surveys have found up to 80% of people continue to experience moderate to severe pain whilst in hospital^{5,6}. For cancer sufferers, pain can be a significant issue throughout their diagnosis, investigations, treatment, survivorship and palliative care. The reasons for the prevalence of unrelieved pain may be complex but the inadequate education of healthcare professionals has been implicated many times.

A survey of medical pain education over 20 years ago⁷ revealed minimal teaching in the curriculum and scrutiny of other professional curricula outside of the UK reveals similar inadequacies in terms of a fragmented teaching approach to the topic and variations across universities⁸⁻¹². Many subjects compete to appear in the curricula of healthcare professionals but priority is often given to those areas endorsed by the professional regulatory bodies such as the General Medical Council and the Quality Assurance Agency. These organisations have a role in regulating and evaluating undergraduate curricula for healthcare professionals.

Pain specific curricula have been published by the International Association for the Study of Pain (IASP)¹³ for dentistry, medicine, nursing, pharmacy, psychology, occupational and physical therapy. It is not clear whether these curricula are used with current programmes for healthcare professionals. A recent survey of major Canadian universities found that undergraduate pain education was generally inadequate and veterinary scientists received more education than healthcare professionals⁸. Our study replicated the Canadian project to investigate the amount and type of pain education received by British healthcare undergraduates.

Study's objectives

- Describe the nature and content of pain curricula in undergraduate/pre-qualification programmes for healthcare professionals in major British university regions
- Explore the strategies to promote learning in pain management and the extent of interprofessional education in programmes
- Identify the pain management content recommended by regulatory bodies of healthcare professionals and the Quality Assurance Agency subject benchmarks

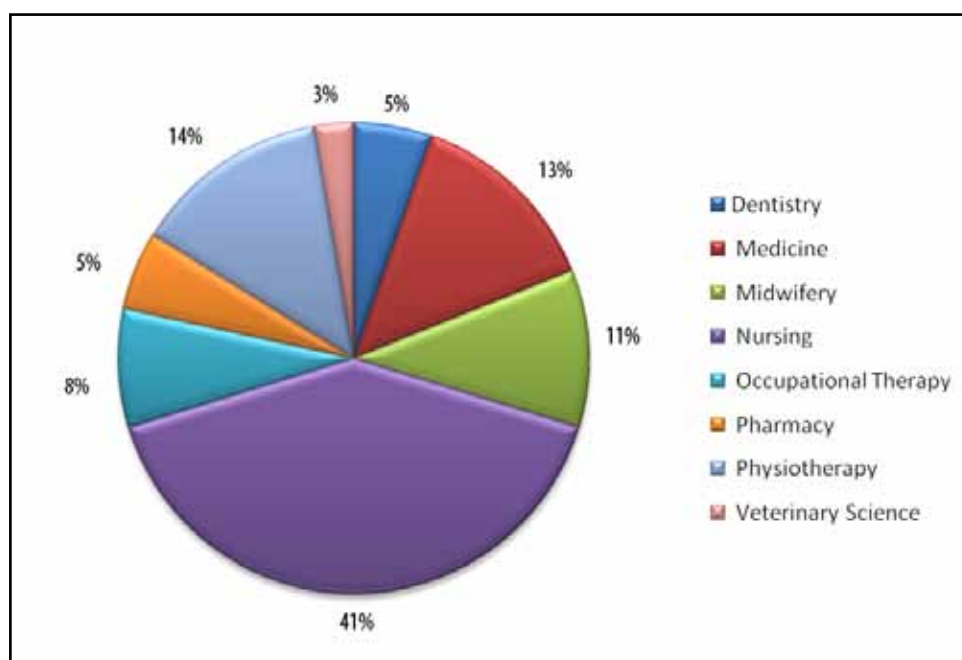
The study

This descriptive, exploratory survey involved 11 major university cities across the four countries of the UK. Nineteen higher education institutions were included who offered 108 undergraduate programmes from the following disciplines: dentistry, medicine, midwifery, nursing (adult, child, learning disabilities and mental health branches), occupational therapy, pharmacy, physiotherapy and veterinary science.

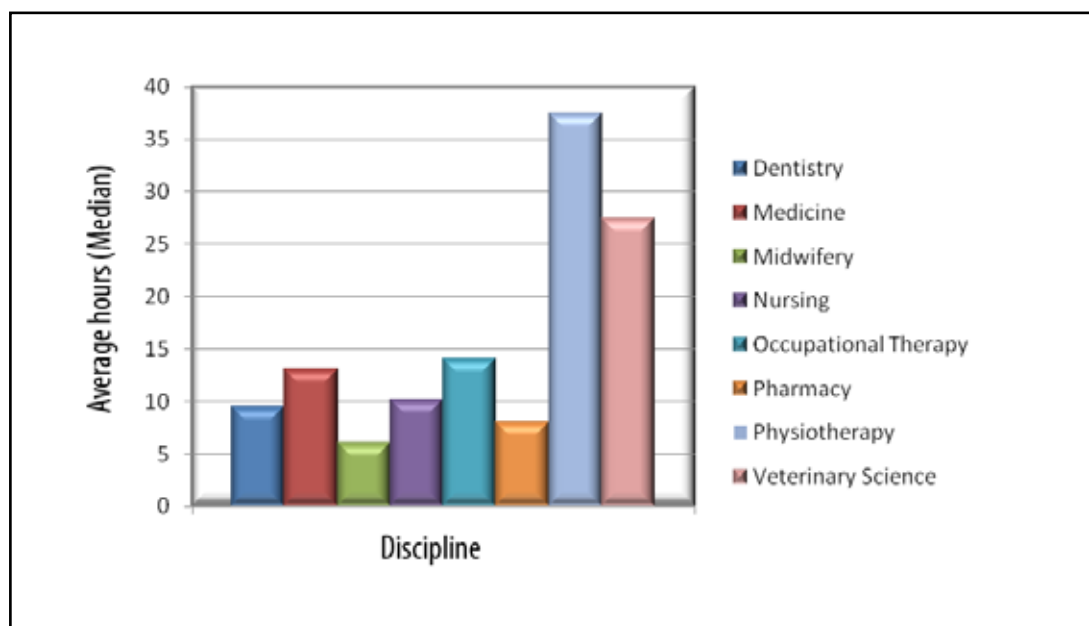
Following ethical approval for the study, a co-investigator for each region was recruited, through the British Pain Society Education Special Interest Group, who coordinated local approval arrangements. The UK Pain Education Questionnaire was adapted from previous work by Watt-Watson et al (2009)⁸ and designed to elicit the quantity and nature of the pain teaching, learning strategies employed, assessment techniques, IASP curricula implementation and extent of interprofessional education (IPE; learning with, from and about other disciplines). Data collection took place in the spring of 2009.

Results

Seventy four questionnaires were returned (68.5%) with the response rate between disciplines ranging from 2 (40.0%) for veterinary science to medicine and physiotherapy with 10 each (83.3%) (see Figure 1). Programme length varied from two year accelerated programmes for graduates to the six year veterinary science programme (mean 3.4yrs, SD 0.9). The average pain content of undergraduate curricula was 12.0 hours (n=65, 87.8%) although large variation exists ranging from 2 to 158 hours (see Table 1 and Figure 2). Physiotherapy undergraduates received the highest input averaging 37.5 hours with pharmacists (8.0 hours) and midwives (6.0 hours) receiving the least pain education. Eleven programmes offered (14.8%) a dedicated pain module that was either optional or compulsory.

Figure 1 Responses according to discipline (n=74)**Table 1** Average pain content in undergraduate curriculum (n=65)

Discipline	n	Hours in curriculum (median)	Min-Max
Dentistry	2	9.5	9.0-10.0
Medicine	9	13.0	6.0-50.0
Midwifery	5	6.0	4.0-39.0
Nursing (all branches)	30	10.2	2.0-36.0
Adult	12	13.0	5.7-36.0
Child	9	10.4	3.8-24.5
Learning disabilities	2	16.4	2.8-30.0
Mental health	7	3.5	2.0-23.0
Occupational therapy	5	14.0	9.0-28.0
Pharmacy	3	8.0	6.0-12.0
Physiotherapy	9	37.5	5.0-158.0
Veterinary science	2	27.4	8.8-43.0
Overall	65	12.0	2.0-158.0

Figure 2 Average hours of pain education in professional curricula

Lectures (n=65, 87.8%) and case studies (n=58, 78.4%) dominate as learning strategies used in pain teaching although student-led approaches such as enquiry or problem-based learning were a feature of some courses (41.9%). Technology was also used to support learning with 39.2% describing an element of electronic learning (e-learning) and blended learning (the combination of traditional teaching methods with e-learning) was used by a third of respondents.

The most frequently taught topics were neurophysiology and analgesics (pain relieving drugs) averaging 20% of the pain curricula each. All disciplines except dentistry included pain assessment although this varied from 4.8% in medical curricula to 27.2% in occupational therapy. Non-drug approaches featured heavily in physiotherapy (60.0%) but less so in medicine and veterinary science (4.8 and 7.2% respectively).

Interprofessional education (IPE) around pain was rare; only 18.9% (n=14) shared content with another health discipline. Predominantly medicine, occupational therapy and physiotherapy shared an average of 5.5hrs but this was typically lectures suggesting multi-professional approach of learning alongside one another rather than with, from and about each other that is traditional with IPE.

IASP pain curricula had been fully implemented on two undergraduate courses; one physiotherapy programme (with 40 hours content) and one nursing (child branch) programme (12 hours content). Many courses had either not integrated the curricula (40.1%) or had only partially done so (41.7%). The majority of academics (n=67, 95.7%) requested that generic pain resources are developed to support undergraduate learning suggesting case studies (n=36) and electronic resources (n=32) as the most useful through to whole modules (n=7).

Seventy percent (n=49) of programmes included formal (summative) assessments relating to pain with all disciplines reporting the use of exams and case-based essays as key strategies. Half this group simply used one assessment technique to assess learning in pain, usually an exam based technique.

Additional comments made by 58 (78%) respondents revealed five key themes; description of teaching content (n=21), difficulties estimating time in curricula (n=13), clinical placement learning (n=9), curriculum (n=10), teaching methods and resources (n=6). Four responses did not fit any theme. Comments illustrating these themes are presented in Box 1.

Box 1 Themes from additional comments made

How pain content is delivered

All students do an oncology project in year 3 when they follow a patient with malignant disease. Poor management will be included in tutorials associated with that project. Poor management is also included as a topic for discussion on clinical placements, especially post-operative care etc (12: Medicine).

Difficulties estimating hours for pain content

I can only comment upon the specific BN (Hons) nursing (mental health). I'm afraid pain management is not directly addressed at all, although pharmacology & cognitive behavioural therapy is relative to psychological distress are (17: Nursing – Mental Health Branch).

I am unable to quantify how much time is spent discussing pain in modules that cover topics such as rheumatology, teaching of manual skills etc, due to this integration (6: Physiotherapy).

Importance and variations in placement learning

Pain will be addressed also in clinical practice however due to the diverse nature of placement within OT practice, the content and amount of time given to this will differ for each individual student depending on their placement profile (71: Occupational therapy).

Documentary analysis of the programme standards issued by professional regulators and the Quality Assurance Agency (QAA) benchmark statements revealed limited emphasis on pain. Medicine, midwifery and physiotherapy had recommended standards by professional regulators or bodies but no QAA benchmarks. Veterinary science was the only discipline to have pain management referred to in regulatory and QAA documents which included subject knowledge and specific practice competencies for graduates. Guided by European Union Directives¹⁴, some professional regulators provided the minimum number of hours for undergraduate programmes; medicine, 5,500 hours (university and practice based), nursing, 4,600 hours (with 2,300 in practice), pharmacy 3,000 hours of direct study. Taking into account the taught aspects alone, the pain curricula revealed in this survey is less than 1% of the overall content for nursing and pharmacy.

A few respondents described the areas where successful elements of teaching and learning had been developed. These are presented in Box 2.

Box 2 Examples of developments within the curricula

Example of a compulsory pain management module (26: Adult nursing)	
Neurophysiology	1 hour
Aetiology and prevalence	2 hours
Misbeliefs and barriers to pain	1 hour
Pain assessment	2 hours
Multidimensional nature & mulitmodal approaches including analgesics	12 hours
Non-drug approaches	3 hours
Policy/guidelines and audit	1 hour
Total:	22 hours
Alternative approaches to stimulate learning Real patients in the classroom, role play, student presentations, visits to pain clinics, student portfolios, final year viva	
Shared learning alongside each other (77: Occupational therapy) Midwifery, nursing, OT, Physiotherapy, ODP (operating department practitioner) students have a cores skills module and share four hours of pain lectures	
Element of interprofessional learning (58: Physiotherapy) Physiotherapy undergraduates share six hours of problem-based learning and tutorials with occupational therapy students	
Different assessment strategies across a curriculum (27: Dentistry) Examinations (short answer, multiple choice or extended matching questions): year 2 (neurophysiology), year 3 (analgesics), years 4 & 5 (surgical complications & chronic pain management) Observed Clinical Structured Examination (OSCE, mock clinical scenarios) in acute pain management in year 3 Summative clinical assessment in pain management surgical cases in year 3 and 5	

Discussion

This survey revealed that undergraduate health professionals receive on average just 12 hours of pain education in a professional programme ranging from 2-6 years. Veterinary students received twice the amount of pain education compared to medical students and physiotherapy undergraduate three times as much.

Lectures and case studies dominated as the main methods to deliver pain education and assessment strategies reflected the emphasis on knowledge acquisition and recall through examinations. Effective pain management requires knowledge and assessment, interpersonal, communication and problem-solving skills. The amount of time devoted to specific topic areas within programmes varied even within disciplines. Key areas of knowledge and skills need to be identified to ensure core competencies for the assessment and management of pain.

The majority of pain education was delivered uni-professionally. Where shared lectures did occur this was rarely interprofessional; where learning with and about each professional group, and their role in pain management, was encouraged. The importance of interprofessional working across professional boundaries has been endorsed in NHS policy documents for several years^{15,16}. The benefits of IPE have included improved collaboration and communication which contributes to interprofessional working^{17,18}. Many respondents struggled with the known barriers to IPE including; rigid uni-professional structures¹⁹, logistical difficulties with timetables and expertise to develop relevant case study scenarios²⁰.

Guidance for pain content is available for most healthcare professionals through IASP but in this survey only two programmes had wholly adopted it. Nearly all respondents identified a need for more support through generic educational resources and in particular e-learning and case-studies. Despite the majority of respondents identifying the presence of formal pain content most of this was distributed throughout the curricula with less than 15% of programmes offering pain education as a separate module. The difficulty for the student is the integration of learning when it occurs sporadically across several modules, which can result in fragmentation and omission of important topics²¹.

Regulatory and QAA documents are powerful influences for professional curricula but veterinary science was the only discipline to have pain management referred to in both documents. From our survey it would appear that some medical and midwifery educators are not aware of this requirement and there have been concerns about how the QAA benchmarks can be used²².

This is first UK pain education survey that has investigated pain content and delivery across eight healthcare professions. A key strength was the recruitment of a co-investigator for each site who liaised with the academic staff responsible for the pain education; thus reducing the risk of a low response rate and facilitating a more accurate picture of content and delivery. Limitations of the survey include the possibility of bias due to regional co-investigators having an interest in pain education and this survey may represent an overly positive picture of pain education in healthcare professional curricula. Despite the limitations of this the generalisability of these findings to other undergraduate programmes could be cautiously made.

Conclusions

The amount of pain education in the curricula of healthcare professionals is woefully inadequate given the burden of pain in the general population in the UK. Teaching methods for pain education should encourage problem-solving, deeper learning and skill development rather than knowledge recall associated with surface learning. Students need to have the opportunity to learn together in a genuine interprofessional way, where they can gain an understanding of their roles in clinical practice. Educational standards from professional regulators and Quality Assurance Agency subject benchmark statements should include pain-related knowledge and competencies to ensure it is integrated into the curricula.

The Chief Medical Officer's Annual report¹ was timely and the detailed results from this survey clearly demonstrate the need to develop pain education further to adequately prepare the healthcare workforce to manage pain effectively.

Key recommendations

- Work with regulators of healthcare professionals and professional bodies to include pain as a core part of the educational standards and quality assurance mechanisms.
- Develop a strategy to facilitate the integration of pain content where this already exists through professional regulators and QAA subject benchmarks.
- Healthcare professionals should study pain management as a dedicated curriculum that includes an assessment of their knowledge and competencies.
- Promote deep learning methods and development of both knowledge and skills for managing pain.
- Identify and share good practices of undergraduate pain education and facilitate wider availability of pain education resources.
- Encourage opportunities for interprofessional pain education, in the undergraduate curriculum, to mirror practice and promote understanding of individual roles.

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Ethical Approval

The Psychiatry, Nursing & Midwifery Research Ethics Sub-committee, King's College London granted ethical approval: ref PNM/08/09-11



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