

Title: Developing trainee school teachers' expertise as health promoters.

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Developing trainee school teachers' expertise as health promoters.

Abstract

Purpose

Report the outcomes of an education and public health collaboration investigating the impact of adapted training to enhance teacher's potential role to promote child health and wellbeing.

Design

Study conducted in three phases: i) survey of health education content universities' in initial teacher training courses; ii) longitudinal survey at commencement and completion of course to capture trainees' knowledge, skills and attitudes towards health and their role in health promotion; iii) mapping curriculum content against qualified teacher standards and public health competencies.

Data Analysis

Data from the longitudinal survey of trainee teachers (N=384) was analysed using Wilcoxon's signed-rank test for matched data. Comparisons across University and course level were made using Fisher's exact test.

Findings

Training about health varies largely between institutions (Phase 1). Trainees' knowledge levels remained low after training; ranked importance of key health topics - nutrition, alcohol, smoking, decreased significantly; a majority thought teachers and schools play an important role in health promotion, but significant increases were also noted in the minority who thought health promotion is not part of their remit. (Phase 2).

Research Implications

Further research is needed to evaluate the effects of initial teacher training about health on their competence and confidence in implementing health-promoting schools.

Practical implications

Initial teacher training should include more explicit education about health promotion to enhance teachers' competence and confidence in influencing child health and wellbeing.

Originality/Value

To our knowledge similar work has not been reported. While teachers are in a prime position to influence child health, trainees require knowledge and skills to realise their public health potential.

Keywords: Health promoting schools, teacher training, public health competencies, attitudes, knowledge, UK, questionnaire surveys

Paper type: Research paper

Introduction

This paper describes the outcomes of an ongoing collaboration from 2007 between public health and teacher education departments at three higher education institutions (the Universities of Southampton and Brighton, and Brighton and Sussex Medical School) in south-east England. It is set in the context of an increasing national drive to embed public health and health improvement knowledge and skills in the 'wider workforce', i.e. those whose primary roles are not to improve health but who have a potential to impact on health in the way that they deliver their work or interact with their client groups. During this time the National Healthy Schools Programme for England has almost achieved its goals of having every school in England engaged with its health promoting school programme (99%) and is in the process of launching a new phase called the Enhancement Model (Department of Children, Schools and Families and

Department of Health, 2009). In addition there has been increasing recognition of the importance of Personal, Social, Health and Economic education (PSHE) (MacDonald, 2009), following consultation teaching PSHE will become a statutory requirement in all schools from 2011.

St. Leger (1998) has shown that teachers in Australian schools had little understanding and training in many health issues 'let alone the complexities of the health-promoting school' and later stated that professional development for teachers should be increased and be more rigorous (St. Leger, 2004). However progress on including knowledge and skills regarding health and wellbeing in the initial training and education of teachers entering the profession has been slow, both in England and elsewhere (Jourdan *et al*, 2008). As the authors state, factors affecting the way in which health promotion programmes in schools are implemented include teachers' perceptions of their role in promoting health and their belief in their effectiveness. There is some evidence that teachers who have received training in health promotion are more likely to be involved in health promotion activities in schools, and that personal competence and motivation have an effect on the amount of health promotion undertaken (Leurs *et al.*, 2007). Other recent studies highlight the need for better understanding of teachers' knowledge, skills and attitudes and more adequate teacher training (Davidson, 2007; Marks, 2009). The international call for action for 'Schools for health, education and development' (Tang *et al.*, 2008) also recommends investment in building the capabilities of teachers to implement health promotion in schools. While continuing professional development to raise teachers' knowledge and skills regarding health promotion is important, the work described here is based on the premise that by equipping trainee teachers with the basics of these competencies in their initial training they will be more motivated to address health and wellbeing issues and better able to contribute to health promoting schools when teaching.

This paper will describe the current policy background for public health development and health promoting schools in England; a survey undertaken to assess the content of teacher training courses in the south-east of England in terms of their inclusion of knowledge and skills regarding health and wellbeing; a

longitudinal survey of trainee teachers in two institutions at commencement and completion of their one-year post-graduate teacher education course; curriculum mapping of one initial teacher training course to explore health and wellbeing content in more detail; and plans for a revised curriculum intervention to be evaluated in 2010.

Background

Public Health Workforce Development

Over the last ten years there have been significant advances in the development of the public health workforce in the UK (Wright, 2007). There has been a growing recognition of the multidisciplinary nature of public health and the need to develop standards, education and training routes, and registration and regulation mechanisms to develop competence and to ensure public protection, for what is a very broad group of workers (Wanless, 2004). In the UK the public health workforce comprises three broad groups:- 'Specialists' whose primary function is public health and who work at strategic levels using specialist technical knowledge and skills; 'Practitioners' who spend some or a major part of their practice working with individuals and groups on public health, including health visitors, environmental health officers, and health promotion staff for example; and the 'wider workforce' whose roles outside public health may have an impact on health improvement (Department of Health, 1997). The latter is a diverse group including staff at all levels and in all sectors, and includes teachers and other school based staff.

In the UK professional standards are required to be met by public health consultants and specialists, and standards are also in development for public health practitioners (Faculty of Public Health, 2009). Given the disparate nature of the wider workforce, and the breadth of necessary public health skills and knowledge, an innovative approach was taken to develop the Public Health Skills and Career Framework (PHSCF), (Skills for Health, 2008). This provides a tool to describe the knowledge and competencies for all groups, levels and domains of the public health workforce. The PHSCF aims to ensure 'rigour and

consistency in skills, competence and knowledge at all levels, regardless of professional background, and [to enable] flexible public health career progression.’ The PHSCF encompasses core and defined areas of competence at nine levels of practice from basic to specialist (see Fig. 1). It is based on a skills escalator approach to life-long learning and aims to facilitate vertical and horizontal progression in public health training. It has been used in a variety of ways to inform the planning and delivery of public health education and training, however the use of the PHSCF to inform teacher training as described herein is innovative.

Establishment of Teaching Public Health Networks

In 2007, nine regional Teaching Public Health Networks were set up in England to help build educational capacity for teaching public health in a multi-disciplinary manner, with a particular focus on the wider workforce (Sim *et al*, 2007). In the South East region the Teaching Public Health Network (SE TPHN) covers an area with a population of some eight million, and a complex infrastructure of health, local government and higher education provision. The SE TPHN focussed on the training needs of teachers and other support workers in schools, initially with regard to their potential contribution to the increasing problem of obesity in children.

National Healthy Schools Programme

Government policy in England has clearly endorsed the importance of health promoting schools in improving both health and educational outcomes for children for a number of years (Department of Health, 2004). In the National Obesity Strategy the role of healthy schools in reducing childhood obesity has been confirmed, and the need to improve the associated skills and capabilities of staff acknowledged (Cross Government Obesity Unit *et al.*, 2008). The first priority of *The Children’s Plan: Building Brighter Futures* (Department of Children, Schools and Families, 2007) is to secure the health and wellbeing of children and young people. Extended Services have been introduced to offer a service to the community that goes beyond the educational remit of a school, such as child care and parent support including family

learning; and the goal of having all schools working with the National Healthy Schools Programme (NHSP) by 2009 is being realised. NHSP is a joint initiative between the Department of Children, Schools and Families and the Department of Health to promote a whole school / whole child approach to health, and to make healthy living an integral part of a child's school life. The programme has been running since 1999, at its 10th anniversary 80% of schools had achieved Healthy School Status, and 99% of schools were taking part in the scheme. It focuses on four core themes: Personal, Social, Health and Economic education, including education on sex and relationships, alcohol, smoking and drugs; healthy eating; physical activity and emotional wellbeing, (<http://www.healthyschools.gov.uk/Default.aspx>).

The Strategy for Children and Young People's Health (Department of Children, Schools and Families, 2009a), has set out plans to strengthen the National Healthy Schools Programme, and increase the requirements for time spent in sport and physical activity in schools. In order to achieve the desired changes it indicates the need for 'system level transformation', which will include promoting the better use of data and strengthening the child health workforce. The vision of the 21st century school 'has at its heart the need to address all elements of the lives of children and young people, with a particular focus on health and wellbeing' (Department of Children, Schools and Families, 2009b) , and the Healthy Schools Enhancement Model aims to increase the impact of the programme on achieving children's health and wellbeing outcomes, increasing the sustainability of behaviour change and targeting those most at risk (Department of Children, Schools and Families and Department of Health, 2009). Working closely with partners in health and education, schools will prioritise their own health and wellbeing agenda using local data about health needs and issues affecting children and the community, and work through a structured eight stage process to promote change. The Enhancement Model has been rolled out across England from autumn 2009.

Currently Personal, Social and Health and Economic education (PSHE) is not a statutory subject in the school curriculum, but a recent Government review has recommended that it should become so

(MacDonald, 2009). This has been accepted, by the Government as part of their vision and policy to ensure that every child should receive PSHE as part of their curriculum entitlement by September 2011 (Department of Children, Schools and Families, 2009b). MacDonald also recommended that all teacher training courses should include some focus on PSHE and there should be in time, 'a cohort of specialist PSHE education teachers'.

The Every Child Matters (ECM) strategy underpins all recent education policy and at its heart has five key outcomes for children, consisting of: Be Healthy, Stay Safe, Enjoy and Achieve, Make a Positive Contribution and Achieve Economic Wellbeing (<http://www.everychildmatters.gov.uk>). The fundamental importance of health is acknowledged, as this forms the foundation for the other four outcomes. The underlying intention is to influence schools to sustain child health and wellbeing, thus helping to reduce the educational inequalities and lack of educational opportunities that are associated with poor health (Feinstein *et al*, 2008; Mirowsky and Ross, 2005). Every Child Matters does not focus on a specific aspect of the curriculum but is an overarching strategy that should permeate every aspect of school life; it is therefore the responsibility of the whole school community. It is incumbent upon all teachers, as well as other school staff, to actively promote healthy lifestyles. The importance of adequately training teachers, including pre-service teachers, for this role is therefore paramount.

Routes to teacher training

A variety of three or four year undergraduate and one year postgraduate initial teacher training (ITT) courses are available at higher education institutions (HEIs). There are also opportunities through employment-based ITT routes for those who prefer to be working in paid employment in a school whilst training. Students can therefore train to meet the qualified teacher status (QTS) standards, for either the primary or secondary phase of education, in a way that meets their individual needs. All trainees must provide evidence against the standards for qualified teacher status (QTS) before they are able to take up a post in teaching (Training and Development Agency for Schools, 2008). The standards are underpinned by the five key outcomes identified in Every Child Matters and specifically, QTS Standard 21 'Health and wellbeing', includes awareness of current legal requirements, national policies and guidance on the safeguarding and promotion of the wellbeing of children and young people; and knowledge of how to identify and support children and young people. The six areas of the Common Core of skills and knowledge for the children's workforce (Effective communication and engagement, Child and young person development, Safeguarding and promoting the welfare of the child, Supporting transitions, Multi-agency working and Sharing information) also underpin the QTS standards. Thus those responsible for initial teacher training should be cognizant of the need to include health promotion as part of the curriculum.

Phase One: Survey of teacher training courses in South-east England

Methods

In the South-east England Region there were 35 organisations offering initial teacher training in 2007, including 10 universities, and 25 employment based schemes. The total number of students was approximately 6000, of which over half were training for the secondary phase of education and approximately 80% were postgraduate students. A questionnaire was designed, piloted and emailed in November 2007 to course managers of all initial teacher training organisations across the SE Region, identified through course websites. The aim of the survey was to review the content of current teacher training courses in the region with regard to health and wellbeing, with a particular emphasis on obesity prevention, and to assess the need for further research to determine necessary training or support for teachers.

The questionnaire covered issues including: how Every Child Matters (ECM) is addressed - with specific reference to QTS standard 21 on health and wellbeing; the amount of time over the year given to ECM, PSHE, emotional health and wellbeing, physical activity, and healthy eating; teaching resources used or recommended; external 'health' partners contributing to training; examples of current 'good practice' and needs for further resources or support.

A covering letter explained the purpose of the survey and that anonymity and confidentiality of respondents would be protected. Return of completed forms was an indication of consent. The email was resent after two weeks and non-responders were given telephone reminders.

Results

Out of the 35 organisations contacted, 15 (43%) responded either by e-mail or by telephone. The responding organisations represented 50% of the total number of trainees in the region (2977) the majority of which were from undergraduate or postgraduate courses, (2475: 83%; employment based schemes, 502:17%).

Most organisations were found to be incorporating ECM as a number of separate sessions, a half day or whole day, in many cases supported by Healthy Schools and other external specialists. Provision of information about the Healthy Schools Programme was also extremely variable, from nothing at all to inclusion in PSHE or emotional health and wellbeing. Employment based schemes were more likely to have connections with Healthy Schools. Very few organisations had any formal inclusion of healthy eating on their taught courses, several mentioned that it was likely to be covered within the school placement, particularly if the school had a Healthy Schools Award, but this was not guaranteed.

The amount of time spent on taught physical activity or physical education (PE) varied immensely from nothing at all, to over 20 hours per year in those secondary PGCE courses specialising in PE. Some courses linked with their local sports coordinator or sports experts, who assisted with the training. Others relied on placement schools to make this connection and to provide any training or experience. In primary courses input on physical activity ranged from a few hours to several days. A few examples of good practice were mentioned, and reasons cited for lack of inclusion were: insufficient time in a busy curriculum, and the extent to which placement schools were actively involved in the Healthy Schools Programme. Some course managers requested further information on how to better integrate physical activity and healthy eating into training, and how to address sensitive issues such as obesity in schools.

Discussion

The results demonstrated the enormous variability of teacher training provision across the region and the lack of any consistent approach to educating student teachers about their potential roles in promoting children's health in general, and specifically in reducing childhood obesity (Dewhurst, 2008). Awareness of health topics was very dependent on the manner in which the placement schools addressed the National Healthy Schools Programme and the student's ability to engage with these activities during their placement. While all schools are now involved to some degree with the Healthy Schools programme, this *ad hoc* approach cannot guarantee a consistent input of relevant knowledge and skills. There was also no

systematic way in which health specialists or topic experts were involved in designing or delivering training on health and wellbeing issues. The extreme variability in the amount of time allocated to health topics within the ITT curricula, despite the QTS standard requirement on health and wellbeing, demonstrates a lack of consistency in interpretation of the requirements of this in training, leading to very little provision in many institutions versus careful attention and innovative good practice in a few others. This variability is of concern given the strong links between academic achievement and pupil health (e.g. Feinstein, et al., 2008; Hammond, 2003; Mirowsky, & Ross, 2005; Sorhaindo & Feinstein, 2006). It will be important that all teacher training providers are made more cognizant of the connections between health and educational outcomes so that they recognize the value of incorporating health topics within their curricula in a planned manner.

However these results need to be interpreted with caution given the low response rate which may have been due to the timing of initial contact just before the holiday period, the length of the questionnaire or the perceived interest in and relevance of the topic. Respondents may have been biased towards those who were enthusiastic or interested in addressing health issues, willing to share 'good practice', and keen for further information and resources.

Phase Two: Longitudinal survey of trainee teachers in South-east England

Methods

In order to understand more about the knowledge and attitudes of trainee teachers towards health and wellbeing in general, and physical activity and healthy eating specifically, a survey was conducted at both the commencement and end of training for the Postgraduate Certificate in Education (PGCE) course at two Schools of Education in the University of Southampton and the University of Brighton. The aim was to explore trainees' knowledge of and attitudes to health, the role of teachers in promoting health in schools, and the perceived adequacy of the training received to equip them to promote health in schools. PGCE

students were selected as the one year course allowed access to trainees twice in the same academic year, and due to the large size of the cohort (n=777).

A structured closed answer questionnaire was developed based on a review of the literature and in discussion with experts in the field of nutrition, public health and education. It was pilot tested on a sample of graduate teacher trainees undertaking employment based training in Southampton. All students studying for their PGCE at Brighton and Southampton in 2008-2009 were invited to complete a questionnaire during October and November 2008. A covering letter as well as an oral explanation outlined the purpose of the survey and that their involvement was voluntary. The students were assured that participation or non-participation would not affect or undermine their education. Consent was seen to be given on return of a completed questionnaire. The questionnaire survey was repeated in both institutions with minor modifications at the conclusion of the courses in June 2009.

Data analyses

Data were entered and were analysed using STATA 10.1 statistical package (College Station, TX, 2007). Responses to open-ended questions included in the follow-up questionnaire were coded during data entry. Longitudinal comparisons were made using the Wilcoxon signed-rank test for matched data. The Mann-Whitney rank-sum test and Fisher's exact test were used to make comparisons across Universities and/or course level.

Results

Population characteristics

Of the 680 students still enrolled in the PGCE course at the end of the academic year, 384 responded to our questionnaire at both time points, yielding a response rate of 54%. The characteristics of the study population are shown in Table 1. Teacher trainees at the University of Southampton tended to be younger than those at the University of Brighton.

Questionnaire responses

Results for selected items from the questionnaire are presented from both surveys to illustrate aspects of the knowledge and attitudes of a sample of trainee teachers at the commencement of training, and how these changed at the end of their courses. Information about trainees' perceptions of their training and comments about development needs are presented from the follow-up survey.

Knowledge of recommendations for physical activity and healthy eating

Trainees' attitudes towards physical activity and obesity did not change much during the year and their knowledge of how much physical activity children need remained poor, (only 5% identified this correctly at both time points, according to the current recommendation for children of 60 minutes exercise per day). Knowledge about healthy eating was higher with good awareness of the 5-a-day recommendation for fruits and vegetables, (81% answering correctly at both time points), but trainees were less likely to be familiar with the proportions on the Food Standards Agency's Eat Well Plate (Food Standards Agency). This indicates 1/3 of the diet should be made up of starchy foods, (30% answering correctly at both time points). No improvements in knowledge of these items were noted at the end of the training.

Perceived importance of health and wellbeing topics

When asked at the beginning of the course about the perceived importance of covering different health and wellbeing topics during teacher training, trainees thought topics of the greatest importance were those related to children's personal safety, i.e., Child protection and Anti-bullying, as well as Social, emotional and mental health. Slightly lower on the list were those related to the school and its environment as well as staff health, and school policy development. These were followed by physical activity/playground activities, as well as those related to risk-taking behaviours, such as drugs, smoking and alcohol. Nutrition was considered the least important topic to be covered during teacher training by the greatest proportion of students (24%).

Over time, a significantly smaller proportion of trainees rated each topic as very important. The only exception was Child protection, where ratings did not change significantly over time and the new items (Safety/accident prevention and Sex and relationships) which were added to the questionnaire at follow-up (Table 2).. The changes resulted in Staff health and wellbeing and Drugs moving up in terms of the proportion of students rating them as very important.

Perceptions of role in influencing health behaviour

At baseline the overwhelming majority (96%) of trainees thought it was important for schools to take a major role in promoting the health of children (Table 3). Over 80% also believed the school environment affected food choices, that teachers can be role models for health, and they themselves would be able to positively influence their students. Although somewhat fewer trainees thought the nutritional health of students should be a school priority, still the majority of them (74%) strongly agreed or tended to agree with this statement. At the end of the year, the only statement for which there was a significant decrease in the proportion of trainees agreeing with it was “The school environment affects students’ food choices” (from 88% to 81%).

Trainees’ views of what would help teachers have more influence on health

At the end of their course it was agreed by the overwhelming majority (89%) of trainees that better partnerships with parents would be a factor which would help teachers positively influence the health of young people in schools (Table 3). This was followed by more resources, more training, more support from the Government and more involvement from school senior management. The proportion of trainees who thought more time would help teachers positively influence children’s health also significantly increased over time. The vast majority also disagreed that teachers would have no influence or that it was not their responsibility, although there was a significant increase at follow-up in the minority who did not think teachers have a responsibility to promote health.

All trainees recalled having information about ECM during their training year, and a majority stated they received some information about PSHE, and Social and Emotional Aspects of Learning (SEAL) (Table 4). However, provision of information about the NHSP was significantly lower in Brighton for both primary and secondary trainees (18% and 20%) than in Southampton, even though only around half of the students recalled receiving this in Southampton. In addition, significantly fewer primary trainees in Southampton recalled receiving information about the NHSP, as compared to secondary trainees (41% vs. 55%). On the other hand, primary trainees at Southampton were significantly more likely to recall receiving PSHE training than primary trainees in Brighton. Primary trainees at both HEIs were also significantly more likely to recall having SEAL training, again with Southampton primary trainees being more likely to do so than Brighton primary trainees. Input on the National Weighing and Measurement Programme was minimal at both HEIs and in both courses.

Phase Three: Curriculum mapping of PGCE course against the Public Health Skills and Career Framework

Methods

In order to understand a PGCE course content more clearly a detailed review was undertaken of the curriculum of one HEI's PGCE primary and secondary courses, which will be reported on more fully elsewhere. It was thought that the regional survey of teacher training courses had not adequately captured the detail of courses, and that individual respondents may not have been able to provide an overview of the total content of the courses. In order to structure this, curriculum content was mapped against relevant competencies and their associated knowledge statements in the PHSCF. Collaborative working between public health and teacher education providers led to the selection of an agreed subset of competencies that appeared to be at the appropriate level for trainees, and which encompass areas of 'public health' competence that could be readily transferred into the school context, and appear to be reasonable in terms of the potential role of teachers with respect to the QTS standards and expectations of health promoting schools. In general it was considered that competencies at Level 3 of the PHSCF were

appropriate from the four core areas of: Surveillance and assessment of the population's health and wellbeing; Assessing the evidence of interventions, programmes and services to improve population health and wellbeing; Policy and strategy development and implementation to improve health and wellbeing; and Leadership and collaborative working to improve health and wellbeing; and two of the Defined Areas, Health Improvement and Health Protection (Table 5).

Results

The mapping exercise revealed that, like the overall HEI trainee survey results, both the primary and secondary PGCE courses did provide trainees with specific inputs related to child health and wellbeing, for example lectures and seminars on ECM, child protection, bullying and PSHE. However, these contributions were individually planned and not incorporated into an overall coherent programme, which may have created a disconnected experience for trainees and left them with fragmented knowledge and understanding, rather than a holistic picture of their future role in the promotion of child health and wellbeing. These findings provided the evidence and impetus for the development of a more focussed health education/PSHE programme to be trialled with secondary PGCE trainees in 2009-10.

Discussion

The survey of HEIs, and the more detailed mapping exercise of one institution's primary and secondary PGCE curricula, show that whilst some aspects of health and wellbeing are included in teacher training they are often dealt with in an atomistic fashion resulting in a programme that lacks coherence. As a consequence trainees may find it difficult to make the fundamental connections between health and education and therefore the importance of this in their future role as health promoters. This is of concern as the Government's policies and intentions are quite clear about the involvement of schools in increasing children's life chances by improving their health and wellbeing. This must include teachers' understanding of how health and education outcomes are inextricably connected, as well as enabling them to acquire the

knowledge and skills to be effective health promoters and actively engage in that role. As St Leger (2004) states, health-promoting schools require teachers to embrace school-wide actions and community and health sector partnerships. This implies greater understanding not only of health improvement for individual behaviour change, but also public health competencies about population health, organisational and community change. In addition to continuing professional development, the inclusion of key public health skills in initial teacher training courses may contribute to fulfilling these expectations.

Although our survey of trainee teachers is limited in relation to its representativeness, if we were to assume those who participated in the survey at both time points were in fact more interested in health, then the results we obtained highlight the need for changes in the existing curricula to an even greater extent. Poor knowledge of physical activity recommendations which remained the same at the end of the year, as well as “bottom-of-the-list” ratings given to nutrition in a few of the questions, suggest that these are areas which could be expanded upon in the health-related content of the curriculum, especially in view of rising child obesity trends. On the other hand, the small decrease at the end of the year in the number of trainees who agreed that the school environment affects students’ food choices, as well as the slight increase in those who believe teachers have no influence on their students’ health also suggests the perception among a few that it is beyond their scope to address such issues. As recognized by the trainees themselves, it is perhaps through better partnerships with parents that teachers can find their role as health promoters in schools, including the areas of physical activity and nutrition. The more recent development of opportunities for family learning provided by Extended Services, may provide a context for this, but students will still need to be prepared for this role. The reduction at end of the course in some attitudes about the trainees’ role as health promoters and in the importance of inclusion in their training of health topics, such as physical activity, drugs, smoking, alcohol and nutrition, is of concern but may partly reflect the impact of trainees’ exposure to the reality of the pressures facing teachers in day to day teaching.

The PGCE course is only of nine months duration, of which four months are spent in placement schools. Providers of initial teacher education are funded on a single subject basis and are under pressure to respond to a range of separate initiatives, as well as preparing teachers once qualified to see the 'Big Picture' of the school curriculum (Qualifications and Curriculum Development Agency, 2008). This emphasises the importance to children and young people's learning experiences of cross-curricular learning and activities outside school; and highlights a number of overarching themes which include health as well as diversity, sustainable development, and global citizenship for example. Addressing all these issues in the PGCE course is logistically difficult and points to the need for further development and modification of courses to instil a better understanding of the fundamental linkages between these dimensions and realistic expectations of the wider professional role of teachers and schools to promote children's health. A revised curriculum, including knowledge about the links between health and education, building skills and confidence in addressing health topics, and developing partnerships with support and resources available from health and community sectors, is being evaluated. However it will be important for future research to follow a cohort of newly qualified teachers into the workforce to assess the longer-term impact of this training on their competence and confidence in health promotion, the impact of other factors such as school organisation and management and relationships with parents and to assess the training needs of existing teachers.

(total words 5188)

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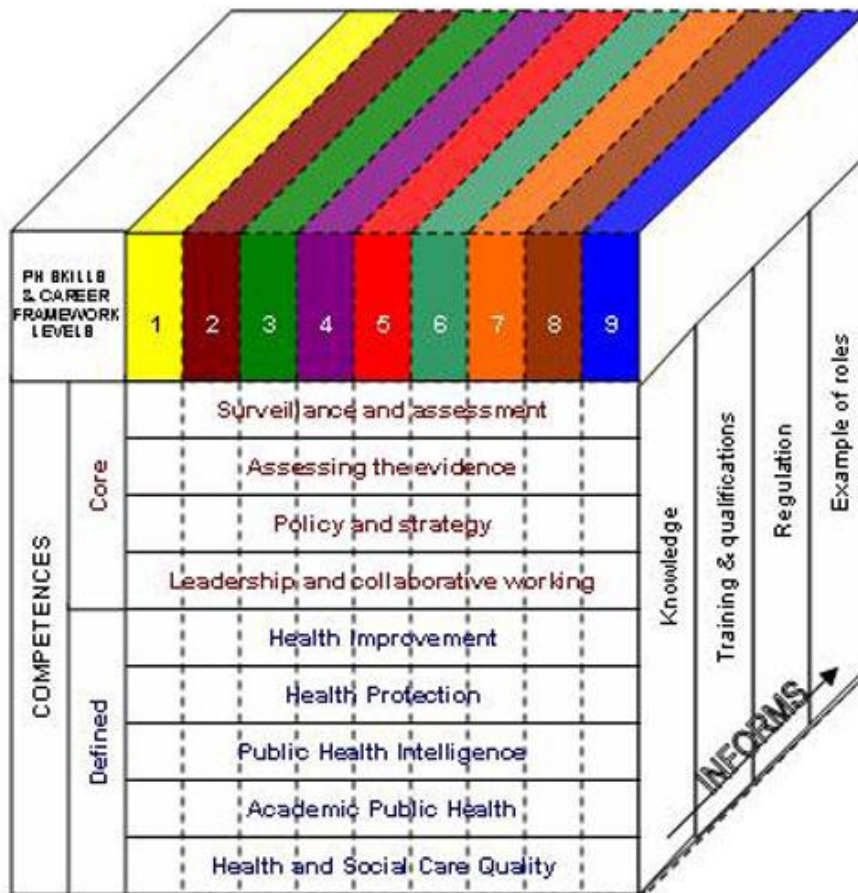
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Figure 1. Public Health Skills and Career Framework

Public Health Skills and Career Framework



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Table 1. Characteristics of teacher trainees participating in the study, by University (n=384):

| | Southampton | Brighton |
|----------------------|--------------------|-----------------|
| | n=268 | n=116 |
| | n (%) | n(%) |
| Age (years)** | | |
| 20 – 24 | 175 (65) | 53 (46) |
| 25 – 29 | 50 (19) | 36 (31) |
| ≥ 30 | 41 (15) | 26 (22) |
| <i>Missing</i> | 2 (1) | 1 (1) |
| Gender | | |
| Male | 78 (29) | 28 (24) |
| Female | 190 (71) | 88 (76) |
| Course Level | | |
| Primary | 115 (43) | 40 (34) |
| Secondary | 153 (57) | 76 (66) |

** p<0.01

Table 2. Proportion of teacher trainees rating different health and well-being topics as “very important” to be covered during teacher training.

| | Baseline | Follow-up |
|--|-----------------|------------------|
| | n (%)§ | n (%)§ |
| Child Protection | 330/383 (86) | 320/382 (83) |
| Anti-bullying | 321/383 (84) | 281/382 (73)*** |
| Social, emotional & mental health | 289/383 (75) | 267/379 (70)* |
| Safety/accident prevention | † | 186/381 (48) |
| Healthy school environment | 209/380 (54) | 143/381 (37)*** |
| Staff health/well-being | 173/376 (45) | 152/378 (40)* |
| School policy development | 181/378 (47) | 136/384 (35)*** |
| Sex & relationships | † | 133/378 (35) |
| Physical activity/playground activities | 165/380 (43) | 111/378 (29)*** |
| Drugs | 135/372 (35) | 119/376 (31)* |
| Smoking | 128/375 (33) | 103/377 (27)* |
| Alcohol | 112/375 (29) | 76/372 (20)*** |
| Nutrition | 94/377 (24) | 45/369 (12)*** |

§ Percentage of total respondents n=384; *p<0.05; ***p<0.001; † data missing because item was added only at follow-up.

Table 3. Agreement of teacher trainees with the role and ability of teachers and schools in influencing the health behavior of children, and factors which would assist them to do so.

| | Baseline n (% agree)§ | Follow-up n (% agree)§ |
|--|---------------------------------|----------------------------------|
| ROLE AND ABILITY <i>of teachers/schools to influence children's health</i> | | |
| It is important for schools to take a major role in promoting the health of children | 369/384 (96) | 363/381 (95) |
| Teachers can be role models for health | 350/382 (91) | 347/380 (90) |
| The school environment affects students' food choices | 336/381 (88) | 312/376 (81)** |
| As a teacher I will be able to positively influence young peoples' health behaviors | 331/377 (87) | 310/375 (81) |
| The nutritional health of students should be a school priority | 285/381 (74) | 291/380 (76) |
| FACTORS <i>that would help teachers positively influence children's health</i> | | |
| Good partnerships with parents | † | 342/359 (89) |
| Resources | 324/374 (84) | 320/376 (83) |
| Training | 292/372 (76) | 289/375 (75) |
| More support from the government | 288/371 (75) | 287/373 (75) |
| Time | 251/367 (65) | 265/370 (69)* |
| More involvement from school senior management | 216/362 (56) | 237/371 (62) |
| Nothing – teachers have no influence/ it is not their responsibility | 12/373 (3) | 25/375 (7)*** |

§ Percentage of total respondents n=384; *p<0.05;**p<0.01;***p<0.001; † data missing because item was added only at follow-up.

Table 4. Teacher trainees' recall of health and wellbeing topics included in courses at follow-up.

| | Brighton | | Southampton | |
|---|---------------------------|-------------------------|--------------------------------|----------------------------|
| | Primary N=40 | Secondary N=76 | Primary N=115 | Secondary N=153 |
| | n (% yes)§ | n (% yes)§ | n (% yes)§ | n (% yes)§ |
| Every Child Matters 5 outcomes (ECM) | 36/40 (90) | 73/76 (96) | 115/115 (100) | 150/150 (98) |
| National Healthy Schools Programme (NHSP) | 7/34 (18) ^a | 15/72 (20) ^b | 47/114 (41) ^{a,c} | 84/145 (55) ^{b,c} |
| National Weighing & Measurement Programme | 0/34 (0) ^a | 1/72 (1) | 5/114 (4) ^a | 4/147 (3) |
| Personal, Social, Health and Economic Education (PSHE) | 27/35 (68) ^a | 62/73 (82) | 109/115 (95) ^a | 135/149 (88) |
| Social and Emotional Aspects of Learning (SEAL) | 32/35 (80) ^{a,c} | 47/73 (62) ^a | 108/114 (94) ^{b,c} | 101/147 (66) ^b |

§ Percentage of total respondents (including those leaving some questions blank); Note: Proportions in the same line with the same superscript differ significantly ($p < 0.05$).

Table 5. Public health competencies and knowledge for trainee teachers selected from Public Health Skills and Career Framework:

| Core/Defined Area | Level 3 competencies | Level 3 knowledge |
|---|--|--|
| 3.1 Surveillance and assessment of the population's health and wellbeing | <ol style="list-style-type: none"> 1. Collect data on people and/or the services they use, to contribute to knowledge of the populations' health and wellbeing 2. Raise any issues with data collection or quality with a relevant person. | <ol style="list-style-type: none"> a) Awareness of health and wellbeing and its various aspects b) Awareness of the determinants of health and wellbeing c) Awareness of how morbidity and mortality are measured d) Awareness of the contribution that small scale data collection can bring to understanding the population's health and wellbeing e) Awareness of the existence of health inequalities and their nature f) knowledge of basic data collection methods and how to use them g) Awareness of the importance of accurate and consistent data |
| 3.2 Assessing the evidence of effectiveness of interventions, programmes and services to improve population health and wellbeing | <ol style="list-style-type: none"> 1. Collect evidence relating to a specific subject 2. Contribute to the collation of evidence relating to a specific subject 3. Recognise any invalid or inaccurate information and take appropriate action 4. Summarise and present simple evidence 5. Carry out specified tasks related to reviewing own area of work 6. Apply evidence to own work | <ol style="list-style-type: none"> a) Awareness of range of sources of evidence b) Awareness of levels of evidence in relation to population health and wellbeing c) Awareness of the need to use evidence in own area of work d) Awareness of how evidence should be used in decision-making e) Awareness of the purpose of reviewing own area of work and own role in this. |
| 3.3 Policy and strategy development and implementation to improve population health and wellbeing | <ol style="list-style-type: none"> 1. Apply policies and strategies in own role 2. Feedback to relevant person when policies have helped or hindered people's health and wellbeing in own work. | <ol style="list-style-type: none"> a) Knowledge of policies the directly relate to own areas of work b) Awareness of how policies are developed and translated into local action c) Awareness of major Government policies relevant to health and wellbeing and inequalities (Level 5) |
| 3.4 Leadership and collaborative working to improve population health and wellbeing | <ol style="list-style-type: none"> 1. Contribute to the work of various teams or agencies 2. Work as an effective team member 3. Work effectively with other teams to improve population 4. Communicate effectively with a range of people related to own work role 5. Actively feedback team opportunities and issues to the relevant person | <ol style="list-style-type: none"> a) Awareness of what is meant by effective collaborative working and how this should affect own work b) Awareness of the relationships between own employing organisation and partner organisations c) Knowledge of who does what in improving population health and wellbeing |

Table 5 (continued). Public health competencies and knowledge for trainee teachers selected from Public Health Skills and Career Framework:

| | | |
|--------------------------------------|--|--|
| <p>3.5 Health Improvement</p> | <p>1. Engage effectively with individuals and communities 2. Implement specific activities within health improvement projects 3. Communicate with people about their health and wellbeing and the actions they may take to achieve improvement 4. Support individuals to communicate their views of and concerns about health and wellbeing, and convey these to others</p> | <p>a) Awareness of health and wellbeing and its various aspects b) Knowledge of the main health improvement messages and the evidence supporting them c) Knowledge of what influences people’s behaviour in relation to health and wellbeing d) Knowledge of own health behaviours and how this might affect other people e) Knowledge of individual models of behaviour change and their strengths and weaknesses f) Awareness of models of, and approaches to, health improvement, eg health promotion, community development, prevention</p> |
| <p>3.6 Health Protection</p> | <p>1. Contribute to interventions to protect health, wellbeing and safety in relation to own area of work 2. Explain to individuals the reasons for monitoring risks and undertaking activities to protect health, wellbeing and safety</p> | <p>a) Knowledge of hazards to health, wellbeing and safety relevant to own area of work b) Knowledge of the implications of exposure to hazards and of the varying scale of risks c) Knowledge of how risks can be assessed and managed</p> |