

**A review of the prevalence of
physical activity in health
professional undergraduate,
postgraduate, pre qualification
courses and Continuous
Professional Development
activities**

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The opinions expressed in this publication are those of the author/s and do not necessarily reflect those of NHS Health Scotland.

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Summary

Background

'Let's Make Scotland More Active' was published in 2003 by the then Scottish Executive and sets out the recommendations for increasing levels of physical activity (PA) within the population. One of the key strategy recommendations was that all patients coming into contact with primary care professionals should be offered screening and appropriate counselling for PA tailored to individual needs (paragraph 142). NHS Health Scotland has a range of existing and planned learning products and services aimed at influencing knowledge, attitudes and behaviour in the area of physical activity among the practitioner and wider health improvement workforces. These resources and services seek to encourage health professionals to increasingly deliver PA brief advice as an intervention in the care of their patients. However, it is not clear whether they are being used, or indeed the extent to which physical activity and its benefits are being taught to health professionals during undergraduate, post graduate and CPD training

Aims

The overall aim of the research was to identify the practical and resource requirements necessary to increase the prevalence of physical activity teaching at all levels of health professional education. The research objectives were to:

- identify existing NHS Health Scotland learning products and services which could support Higher and Further Education institutions and CPD providers in increasing the prevalence of physical activity in appropriate courses
- identify gaps in existing NHS Health Scotland's provision of learning products and services in the area of physical activity for education providers
- identify gaps in physical activity education within Further and Higher Education (FE/HE)/ CPD health care education providers in Scotland, benchmarked against the learning outcomes¹
- provide recommendations to inform a strategy to establish or strengthen existing relationships with higher and further education institutions and CPD providers of health professional courses in order to enhance the level of physical activity education in Further and Higher Education and CPD courses for health professionals
- create an Access database for future liaison with Higher Education institutes.

¹ One of the projects being taken forward by NHS Health Scotland in 2009/10 is specifically aimed at raising awareness of physical activity within the primary care sector. The specific learning outcomes of the project aim to:

1. Improve understanding of the benefits of physical activity
2. Have an accurate understanding of current guidelines on physical activity for a range of populations
3. Be motivated to raise the issue and briefly discuss physical activity with patients, having reflected on both challenges and opportunities for doing this.
4. Be able to competently and confidently raise and briefly discuss the issue of physical activity with patients.
5. Be able to use and/or recommend as needed, a range of resources and sources of support for physical activity, for both themselves as practitioners and their patients.

Methods

The research was undertaken using both quantitative and qualitative methods in order to obtain data to meet the objectives and the key areas of investigation described above.

After a comprehensive list of potentially relevant courses had been identified, course providers were contacted and asked to take part in a web-based survey. The survey asked respondents about their course, the amount and type of teaching on physical activity, knowledge and use of the NHS Health Scotland resources, barriers and facilitators to use of the resources, and any further resources that they would like NHS Health Scotland to develop or deliver. The respondents were also asked to take part in a short telephone interview which explored in more depth the issues covered in the survey.

The data from the survey were analysed in SPSS and descriptive statistics were reported. The data from the interviews were analysed thematically by one researcher, and checked for validity with two other researchers.

Results

A total of 224 undergraduate, postgraduate and CPD courses were identified in the mapping process and emails were sent to 205 course providers or contacts where email addresses were found. A total of 50 completed survey responses were received (a response rate of 24%) and nine people, who taught a range of courses, were interviewed. The results of the survey and the interviews were reported together for each of the research aims; the survey providing description and the interviews providing an explanation or further clarification.

Existing physical activity course content

In the survey, respondents were asked if they taught any aspect of physical activity on their course (however minimal). Thirty eight people (76%) indicated that some aspect of PA was taught on their course. 50% of course providers indicated that they taught some aspect of physical activity on courses for doctors, compared with 93% who taught it to allied health professionals (who are likely to include physiotherapists and occupational therapists). The qualitative interviews revealed that the teaching of physical activity was patchy and, in general, not taught as a specific module in any of the courses or taught specifically in any course module. However, respondents generally thought that physical activity was relevant to the course and could possibly be included in the future. Where physical activity was taught, in most cases, it was referred to in the context of a specific application (e.g. improve mental well being, treatment for injury, diabetes, general health promotion). Barriers to the teaching of physical activity included competing priorities within very busy curricula.

Teaching of physical activity matched to the five learning outcomes

We grouped the learning outcomes (and the associated responses) into two main areas. Learning outcomes 1-2 generally relate to the teaching of the benefits of physical activity and associated guidelines. Learning outcomes 3-5 focus more on 'knowledge transfer' and communication of these benefits to patients. The aspect of physical activity related to learning outcomes 1-2 that was most commonly taught was the general health benefits of physical activity (60% of respondents). The aspect least taught was the importance of physical activity in

supporting students' own professional lives. Guidelines on physical activity were taught by less than 50% of course providers who responded to the survey. The comments from the interviewees supported this finding that the general health benefits of physical activity were the aspect that was most commonly taught. Guidelines were not commonly described or referred to and neither was the evidence base.

Learning outcomes 3-5 roughly equate to teaching health professionals how to communicate the benefits of physical activity to patients. Nearly 50% of respondents did teach how to create opportunities to engage in discussion about physical activity with patients/family member or carers. However, few (less than 30%) taught about national or local resources and exercise referral schemes. The qualitative interviews found that little teaching or learning consideration was given to skills required to allow effective knowledge transfer to patients or enhance uptake of physical activity.

Assessing lecturer/ trainer skills in relation to the 5 learning outcomes

This question was explored through the qualitative part of the study. The qualitative interviews revealed that some of the course providers lacked confidence in teaching PA benefits and guidance, although others did feel confident. Some felt that they did not have sufficient expertise to teach about physical activity, and reported asking a nutritionalist or physiotherapist to teach it for them. Others reported not really understanding what the physical activity messages were. Although recognised to be difficult to find the time to attend, there was some support for NHS Health Scotland running training days (or half days) for educators to update people on the evidence and guidelines, support good practice in teaching, identify existing learning resources and provide an opportunity to discuss teaching physical activity with others.

Knowledge and use of the current NHS Health Scotland physical activity resources

Survey respondents were asked about their knowledge and use of the NHS Health Scotland physical activity resources. Thirty eight (76%) respondents were aware of at least one of the resources and 16 (32%) respondents used at least one resource. The resource that was best known was the Fall Prevention resource (56%) followed by the Active Scotland resource (50%). If respondents knew about the resource we also asked if they actually used it. 'Energising Lives' was used by 92% of those who knew about it in contrast to the 'Let's make Scotland more Activ-e' resource which was only used by 42% of those who knew about it. The Fall Prevention module and Active Scotland website – the two most well known resources were used by nearly half of the people who were aware of them.

We also asked people in the survey what they used each of the NHS resources for. The resources were used for a range of purposes, but most commonly as a reference source for the students.

Finally we asked respondents about the perceived usefulness of each of the resources. The number of respondents who answered this question was small, but overall respondents had no opinion or broadly thought that the resources were useful. The Fall Prevention module, Energising Lives and Active Scotland

resources, most used by those answering the questions, were perceived to be very useful or useful. The qualitative data confirmed survey results – NHS Health Scotland resources for teaching physical activity were not very well known or used across the course providers, except for the Fall Prevention module.

Barriers and facilitators to the usage and implementation of the NHS Health Scotland learning resources

Most of the data in this section was obtained from the interviews, with some open ended responses volunteered in the survey.

1. Barriers

There were two main barriers to using NHS Health Scotland products: accessibility and usage; and relevance. One of the barriers to usage was that the resources were not known about and therefore not actively sought out. Respondents, familiar with other NHS Health Scotland resources, appreciated their quality, but had difficulty finding them when they needed them. The other barrier to use (even when they knew about the resources) was a perceived lack of relevance. They felt that the information was too generalised for teaching the students about disease specific evidence and guidance.

2. Facilitators

There were a number of factors that respondents thought could facilitate the use of the NHS Health Scotland resources. Firstly, they could be more actively promoted. The most popular way to be informed of both existing and new resources was by regular (perhaps 2 monthly) emails. Other ideas included following the example of publishing companies by targeting information emails around the time the courses for the next term were being updated or developed – this is often in late spring and summer for modules/courses starting in the autumn, but varies depending on course structure. Secondly, people wanted a dedicated website where all the resources could be easily located. This would mean that they would only have to remember the name of one site to be able to find it, rather than the existence and names of several different resources and sites. Thirdly, they wanted more information, guidance and case studies for people with specific conditions. In particular, they would like more guidance on how to tailor the general population recommendations to their patients with their disease specific and individual needs. Fourthly, some expressed an interest in having a named person to contact within NHS Health Scotland.

Format of resources which would be most useful.

We asked survey respondents which format they would prefer for physical activity materials. Websites, PowerPoint presentations and Online training resources were the most popular formats. Face to face training courses were the least popular (21%). We explored the issue of format in more depth in the qualitative interviews. E-learning materials were considered very useful as were video clips that could be incorporated into lectures. In addition, video clips/YouTube clips were popular as respondents felt that they would appeal to their students (although some worried about them being on non-NHS or 'recommended' sites).

Gaps in NHS Health Scotland's provision of learning products and services
During the interviews (and in response to open ended questions in the survey) the following were given as suggestions for NHS Health Scotland as learning products they would like:

- video clips showing how to promote physical activity with a range of people with different conditions
- training courses for health professionals
- more profession specific, and/or patient specific information

We identified a number of gaps in NHS Health Scotland services which may impact on the teaching of physical activity in the course aimed at health professionals. Firstly, many course providers indicated that they would welcome ongoing contact and communication from NHS Health Scotland. Secondly some requested help with placing it higher up the teaching agenda – perhaps part of quality assurance on courses. Thirdly, as mentioned previously there was some interest in a dedicated website for course providers which contained all the relevant resources. Fourthly, several people also expressed an interest in video clips showing how to talk to patients about physical activity in both the general population and specific sub-groups. One person also thought that it would be useful for the NHS to do a session for teaching staff on the importance of exercise and how it could be incorporated into the curriculum.

Conclusions

The reaction to the survey and interviews was very positive, and may have acted, to some extent as an intervention. For example, once physical activity was highlighted as a potential teaching area, and the respondents reflected on the current curriculum, some realised it should be more visible within the curriculum. In addition, the links to the NHS Health Scotland resources, plus the questions we asked them, may mean that they are accessed and used more in the ongoing months. There is certainly an interest in this area, and course providers would welcome ongoing contact and communication from NHS Health Scotland. New course content is often prepared over the summer months and so communication during this time would be key.

The study results suggest that physical activity, both from a theoretical, health related perspective and from a practical promotion perspective could be taught more intensively to health professional students. It was thought that the role of physical activity in healthy living was comparable to diet, smoking cessation and reducing alcohol misuse abuse and it should be given the same emphasis as these. To encourage a higher profile, the broader and additional benefits of having a sufficiently physically active lifestyle to both prevent and treat a range of diseases might need to be further promoted.

Recommendations

In order to inform a strategy to establish or strengthen existing relationships with higher and further education institutions and CPD providers of health professional courses we suggest that NHS Health Scotland:

- consider ways of moving PA higher up the teaching agenda
- provide dedicated resources for course providers (and students) including
 - website

- more condition specific resources (e.g. PA for diabetes, mental health issues, elderly, pregnant women) – video clips would be useful for both teachers and students
- online training resources and face to face training
- named contact person with whom the health educators can liaise with about materials and resources
- have direct communication/working with course providers including emails when new resources are available
- provide guidance on what are the guidelines for disease specific conditions and how they differ (if at all) from the general guidance.

1. Introduction

Although research evidence shows that healthy levels of physical activity (PA) are 30 minutes per day for adults and 1 hour per day for children and young people, there are concerns that these levels are not being met by large numbers of people in Scotland and that greater numbers of sedentary people are found in the lower socioeconomic groups.

Research has also found general inequalities in health related to income levels, with higher clusters of ill health within disadvantaged or deprived communities (Whitehead, 1990; Pickett and Pearl, 2001). 'Let's Make Scotland More Active' was published in 2003 by the then Scottish Executive and sets out the recommendations for increasing levels of physical activity (PA) within the population (Scottish Executive, 2003). One of the key strategy recommendations was that all patients coming into contact with primary care professionals should be offered screening and appropriate counselling for PA tailored to individual needs (paragraph 142).

Given this recommendation, the Scottish Government has identified the promotion of PA to patients in primary care as a priority in the current spending review cycle. The primary care setting is uniquely placed to raise public awareness of the key messages around PA. In Scotland, 97% of the population is registered with a GP/health practitioner and 82% of patients have visited their local GP team at least once in 2007/2008 (ISD Scotland, 2009). However, in 2004, although 90% of Scottish primary care staff agreed that promoting PA was important, only 13% of GPs surveyed were able to accurately report the current PA recommendations and 34% were not certain they had sufficient knowledge to advise patients about physical activity (Douglas, Torrance, van Teijlingen, *et al.* 2004). Nurses, midwives and Allied Health Professionals (particularly physiotherapists and occupational therapists) are also well placed to increase awareness and provide education and support.

NHS Health Scotland has a range of existing and planned learning products and services aimed at influencing knowledge, attitudes and behaviour in the area of physical activity among the practitioner and wider health improvement workforces. These resources and services seek to encourage health professionals to increasingly deliver PA brief advice as an intervention in the care of their patients. However, it is not clear whether they are being used, and indeed the extent to which physical activity and its benefits are taught to health professionals during undergraduate, post graduate and CPD training. The NHS resources that were evaluated for their use and value in physical activity training are described in Table 1.1 below.

Table 1.1 NHS Health Scotland resources

Name of resource	Type of resource	Format of resource
Let's make Scotland more Activ-e (link)	e-learning module	Website, electronic module
Fall Prevention NES module (link)	Online toolkit and resources	Website, electronic module
Energising Lives (link)	Guide to promoting physical activity in primary care	Booklet
Active Scotland (link)	Web site containing opportunities of where people can go locally to be active	Website
Physical Activity Consultation Course (link)	2 day course	Face to face course
Physical Activity & Health Alliance (PAHA) website (link)	Website for the Scottish Physical Activity and Health Alliance network	Website
A Little Physical Activity Means A Lot (link)	Training pack	Paper based pack of resources
PowerPoint presentation - Evidence into Action: Physical Activity (link)	PowerPoint slides on physical activity	PowerPoint slides

1.1. Aims and Objectives

The overall aim of the research was to identify the practical and resource requirements necessary to increase the prevalence of physical activity teaching at all levels of health professional education. The research objectives were to:

- identify existing NHS Health Scotland learning products and services which could support Higher and Further Education institutions and CPD providers in increasing the prevalence of physical activity in appropriate courses
- identify gaps in existing NHS Health Scotland's provision of learning products and services in the area of physical activity for education providers
- identify gaps in physical activity education within Further and Higher Education (FE/HE)/ CPD health care education providers in Scotland, benchmarked against the learning outcomes
- provide recommendations to inform a strategy to establish or strengthen existing relationships with higher and further education institutions and CPD providers of health professional courses in order to enhance the level of physical activity education in Further and Higher Education and CPD courses for health professionals.
- create an Access database for future liaison with HE institutes

Key areas of investigation included:

1. Mapping current and planned education provision by obtaining data on: course provider organisation name, contact(s), type of health professional(s) the course is designed, level of the course (e.g. undergraduate, post graduate) and qualification/course details
2. Undertaking further mapping by identifying potentially relevant existing physical activity course content and evaluating it matched to 5 learning outcomes. Also identifying the range of teaching materials used which are non NHS Health Scotland materials

3. Explore lecturer/ trainer knowledge and skills in relation to the 5 learning outcomes and any other relevant knowledge and skills they may have
4. Scoping the knowledge, understanding and anticipated value, for educational providers, of the current and potential provision of learning resources by NHS Health Scotland to support increased coverage of physical activity on the curriculum
5. Identifying the barriers and facilitators to the usage and implementation of the NHS Health Scotland learning resources
6. Identifying what format of resource would be most useful (e.g. web sites, online learning, PowerPoint presentations, hard copy publications, sections of workshops, etc) if learning resources are intimated to be useful to educational providers
7. Identifying which NHS Health Scotland physical activity learning resources, existing or planned, would be most useful to meet the needs of the education providers and the identified gaps in current provision
8. Identifying any gaps in existing and planned course content as well as gaps in NHS Health Scotland physical activity learning resources
9. Identifying other means through which needs identified by educational providers might be met.

2. Methods

The research was undertaken using both quantitative and qualitative methods in order to obtain data to meet the objectives and the key areas of investigation described above. These methods are described in more detail in following sections.

2.1 Stage A. Identification of relevant organisations in Scotland which potentially provide courses to health professionals.

We searched the Internet and used our collective knowledge to obtain a comprehensive list of all courses for health professionals at the Further and Higher Education institutions and other organisations providing undergraduate, post-graduate and CPD training in Scotland. We limited relevant courses to those at a level of at least HNC, SVQ 4 or Access to a health profession. We initially used available information on the Internet to identify the relevant course co-ordinators and, if necessary and possible, utilised personal contacts to obtain details not available online. We created an Access database to store the data. For the medical degrees it was not possible to identify people who had, for our purposes, sufficient in-depth knowledge of the whole of the curriculum and we therefore contacted all educators we could identify. It was also not easy to identify educators within Higher Education Institutes who had a knowledge and understanding of GP training, so a UK contact for GP training was sought from the Royal College of General Practitioners.

2.2 Stage B. Survey of course providers

A survey was developed to answer the research questions and was piloted with colleagues and agreed with NHS Health Scotland staff. Relevant staff identified in Stage A. were emailed asking them to take part in the study by completing the survey. If no individual was identified as course co-ordinator, the email was sent to

a 'general enquiry' email address within the organisation with a request to forward the email to the relevant person and copy the research team into this. By the end of the study we had names and email addresses for 90 course providers.

The email detailed the course we were interested in, gave information about the study, who to contact for more information and a link to the survey. One reminder was sent if necessary.

The survey was administered using Survey Monkey and data were imported from Survey Monkey into SPSS. Univariate analyses were undertaken to determine the extent of physical activity teaching and the value of NHS resources within this. We also analysed the amount of physical activity teaching within different health professions.

2.3 Stage C. In-depth telephone interviews

People completing the survey were asked if they would take part in telephone interviews. We sampled, from those who indicated they would consider being interviewed, people who represented a range of professions and geographic areas and who taught at undergraduate and postgraduate levels. Owing to the time constraints, we conducted one to one interviews by telephone. These interviews lasted for approximately 30 minutes. We sent out information prior to the interview and obtained verbal consent before the interview commenced. The in-depth telephone interviews were audio-recorded and transcribed and the analysis was facilitated by use of NVivo. The interview content and our analysis were guided by the research questions and objectives, but also allowed open coding, in order for new themes to emerge (see Appendix 1. for details of the interview topic guide). Constant comparison (checking experiences against those of others in the sample) ensured that the thematic analysis represented all perspectives and negative cases were sought (Strauss and Corbin, 1990). Analysis also specifically searched for unanticipated themes (Pope and Ziebland, 2000). Analysis of data focused on whether, and how, participants agreed or disagreed about each issue and possible explanations for disagreements.

2.4 Ethical issues and obtaining informed consent

The study was conducted with absolute adherence to the ethical principles essential in research. Prior to the start of the research we gained ethical approval from the Department of Nursing & Midwifery (University of Stirling) Ethics Committee. Informed consent was obtained for both the survey and the in-depth interviews.

3 Results

3.1 Mapping exercise

Following the mapping exercise we compiled a database in Access of all identified UG/PG/CPD courses (n=224) and (where possible) the contact details of course providers. The institutions who provided these course for health professionals were Colleges (n=8), Universities (n=17) and others including Learn Direct Scotland, the Royal College of Psychiatrists, the Royal College of

General Practitioners and NHS Education Scotland (NES). The courses included Access, Undergraduate, Postgraduate and CPD courses (see Table 3.1 for more details of the types of courses we surveyed).

Table 3.1 Types of courses identified by the mapping exercise

Type of course	Examples of courses	
Access/pre-registration	Access to Allied health professions Access to Nursing Enrolled Nurse Conversion Health & Social Care (Adults) (SVQ) Health & Social Care (Children And Young People) (SVQ) Higher Education Certificate In Care	HNC Health Care Nursing Occupational Therapy Pharmacy Physiotherapy Preparatory Course For Nursing & Midwifery Education (SVQ)
UG	Dietetics/Nutrition Health & Social care Health Psychology Health Sciences Health Studies Inter Professional Studies Medicine	Midwifery Nursing (various branches) Occupational Health Practice Occupational Therapy Physiotherapy Podiatry Professional Practice Sport and Active Lifestyles Promotion
PG	Advanced Clinical Practice Advanced practice (Diabetes Nursing, Nursing, Midwifery, Intellectual Disabilities, Neonatal Nursing, Palliative Care, Primary care) Cardiac Rehabilitation Clinical Nutrition Clinical Nutrition & Health Clinical Pharmacology Clinical Pharmacy Community Health Complementary Healthcare Counselling Psychology Dementia Studies Diabetes Care Management District nursing Exercise Science GP training Health and Well being Health Care Health Care (cardiac care) Health Inequality And Public Policy	Health Psychology Health Studies Human Nutrition Human Nutrition and Metabolism International Health and Management Midwifery Nursing Obesity Science and Management Occupational Medicine Occupational Therapy Pain Management Palliative Care Physiotherapy Primary Care Psychological Therapy in Primary Care Psychology And Mental Health Psychosocial Interventions Public Health Nursing Public Health Nutrition Public Health/Public Health practice Rehabilitation Science
CPD	Anxiety and Panic in the Context of Midwifery Practice Emotional Effects of Child Birth Enhancing Midwifery Knowledge for Normal Midwifery Practice Family Planning (Theory)	Graduate Diploma in Professional Development Management and the Application of Normal Midwifery Knowledge Medical Aspects of Exercise NIDMAR* Occupational Rehabilitation Training Programme Weight Management

*National Institute of Disability Management and Research

3.2 Survey respondents

In total, we sent out emails for 205 courses. In the first round we received 38 completed survey responses, so the survey was extended for a further 3 weeks and a further 12 completed surveys were received, bringing the total respondents to 50 (a response rate of 24%).

These respondents came from 13 Universities or colleges that were affiliated to a university and taught many types of health professionals (see Table 3.1). The survey replies covered 32 undergraduate (UG) courses and 18 postgraduate (PG) courses (including one CPD course). Some of the courses covered by survey respondents were aimed at teaching people to become health professionals (e.g. undergraduate course in nursing, medicine and physiotherapy) whereas other courses (mainly post graduate or CDP) were aimed at extending their skills (e.g. MSc in Advanced Practice for nurses). Courses ranged from profession specific (MSc Advanced Practice (Midwifery)) to those that could encompass a range of health professionals (e.g. MSc in Community Health). As can be seen in Table 3.2 the courses covered the teaching of the whole range of health professionals.

Table 3.2. Range of Health Professionals taught in courses covered by survey respondents and the number of postgraduate and undergraduate courses aimed at each profession.

	UG	PG		UG	PG
Doctor	3	12	Psychologist	5	5
GP	-	13	Psychiatrist	-	6
Dietician	5	14	Health promotion specialist/improvement officer	-	16
Adult nurse	3	0	Health visitor	-	15
Learning disability nurse	1	14	District nurse	-	22
Mental health nurse	2	18	General nurse	-	21
Paediatric nurse	1	14	Hospital nurse	-	22
Midwife	4	13	Practice nurse	-	18
OT	2	14	Public health nurse	-	19
Pharmacist	0	11	School nurse	-	11
Health & social care manager	1	0	Physiotherapist	4	13
Occupational health nurse	-	15			

3.3 Qualitative study respondents

Twenty respondents initially said that they would consider being interviewed and 9 were eventually interviewed who represented:

- a range of health professions (nursing, doctors, GPs, physiotherapists, dieticians, midwives, and general HP courses)
- undergraduate and postgraduate teaching
- urban and rural locations
- course providers who did and did not teach PA.

The results in the following sections are organised to reflect the research aims and objectives. Where appropriate the quantitative survey results are presented followed by the results of the qualitative study.

3.4 Existing physical activity course content

In the survey, respondents were asked if they taught any aspect of physical activity on their course (however minimal). Thirty eight people (76%) indicated that some aspect of PA was taught on their course. Table 3.3 shows how the teaching of physical activity varied by the type of health professional that the course was designed for. For example, 50% of course providers indicating that they taught some aspect of physical activity on courses for doctors, compared with 93% who taught it to allied health professionals (who are likely to include physiotherapists and occupational therapists).

Table 3.3. Survey respondents' courses categorised by health profession (n) and physical activity (PA) teaching (n (%))

	Number of courses	Number and percentage teaching PA	
Courses for nurses/midwives	9	7	78%
Courses for medical students/graduates	4	2	50%
Courses for allied HPs	5	14	93%
Courses for students from different professions	22	15	68%
Total	50	38	76%

The qualitative interviews revealed that the teaching of physical activity was patchy and, in general, not taught as a specific module in any of the courses or taught specifically in any course module. However, respondents generally thought that physical activity was relevant to the course and could possibly be included in the future. For example one interviewee said:

“I think it does get taught, but there’s not a sort of single module or a single place that it really fits in the course at the moment, and that’s certainly something that we are looking at, at this institution, because we’re revalidating our physical ed courses next year, and it’s something that we will be looking at as to where it fits and how it gets taught, and increasing the provision. But at the moment, currently I would say it gets taught – it does get taught, but possibly not as much or in as much depth as it could be” (UG physiotherapy lecturer).

Similarly other interviewees commented:

“We do not focus on physical activity but physical activity is an important aspect of health and well being” (survey respondent, UG nursing lecturer)

“Optimal exercise is integrally related to other things (body systems) so it gets incorporated into learning outcomes – there isn’t a course/module on it itself” (UG nursing lecturer)

Where physical activity was taught, in some cases it was referred to in the context of a specific application (e.g. improve mental well being, treatment for injury, diabetes, general health promotion):

“I mean, it’s introduced in the first year when they look at pathology, and they look at conditions like diabetes and heart disease and things like that, but probably in a fairly superficial way. It’s probably mentioned, and then it comes in more when they start looking at musculoskeletal conditions and exercise prescription.” (UG physiotherapy lecturer)

A course provider for undergraduate nursing students commented that:

“I think that’s [government guidelines] built in as a general maxim (especially in first year), but we wouldn’t be that prescriptive with individual patients. It’s very difficult to recommend 20 minutes a day as you’ve got a myriad of different lifestyles and some people would say ‘Well, I’ve got a very sedentary job, I try to walk up the stairs and exercise at the weekend, but I don’t do 30 minutes a day’. And it’s trying to temper it, we’re very reluctant to get our students to start reciting maxims – we try to get them to think about individual people’s lifestyles. They are aware of the recommendations.” (UG nursing lecturer)

One interviewee did not teach physical activity at all in the post graduate course she provided as she did not think it fitted in with the curriculum.

“Well, we review the curriculum on a regular basis, as you know you do with these things, and take student feedback and look at our clinical partners, ask their opinion. That has never been something that has been mentioned, I’ve got to say. You know, it’s never been something that comes up on the list of top ten things.” (PG nursing lecturer)

A course provider for midwifery training echoed this viewpoint:

“When I think about it, the only thing that we used to get was a wee talk from the physiotherapists, and that was more focusing on pelvic floor exercise and pelvic girdle pain and things like that, so more midwifery related things, but not actually physical exercise in normal life. It has never been historically in the curriculum and it’s still not in

the curriculum, so I think there's an element of well it's never been in so nobody's ever thought to think well it should be." (UG midwifery lecturer).

In addition, the survey respondents and those taking part in the qualitative interviews talked about competing priorities – too many other things to teach:

"[The barriers to teaching PA are] the number of demands that exist for the inclusion of new content in a programme that already incorporates a broad range of content designed to meet national and local policy agendas." (UG mental health nurse lecturer)

Some also worried about the risks involved. A midwifery tutor commented:

"I always get the feeling that there are people who want to keep fit and keep active and they will; and then there's people who think that you shouldn't. And actually I don't really know what the right...well obviously you want to keep fit and healthy, but you don't know...it's almost a scary area to deal with. What do you advise women? And I don't think there are clear guidelines, I don't think we know enough, I don't know what the safety issues are." (UG midwifery lecturer)

And another lecturer who focussed on teaching about older people said:

"Stroke's another one, stroke and high blood pressure, you know, they are all difficult ones to deal with, but you don't want the person to stop exercising, but there is a risk involved in keeping them, whilst keeping the success of pushing them." (PG lecturer)

3.5 Teaching of physical activity matched to the five learning outcomes

One of the projects being taken forward by NHS Health Scotland in 2009/10 is specifically aimed at raising awareness of physical activity within the primary care sector. The five specific learning outcomes (LO) of the project aim to:

1. improve understanding of the benefits of physical activity
2. have an accurate understanding of current guidelines on physical activity for a range of populations
3. be motivated to raise the issue and briefly discuss physical activity with patients, having reflected on both challenges and opportunities for doing this
4. be able to competently and confidently raise and briefly discuss the issue of physical activity with patients
5. be able to use and/or recommend as needed, a range of resources and sources of support for physical activity, for both themselves as practitioners and their patients.

In both the survey and the qualitative interviews respondents were asked about how their teaching matched with these learning outcomes. Several comments from the survey were that they taught "nothing as specific as that [the five learning outcomes]"

3.5.1 Learning outcomes 1-2 (understanding of the benefits and current guidelines on physical activity)

As can be seen from Table 3.4, the aspect of physical activity that was most commonly taught was the general health benefits of physical activity (60% of respondents). The aspect least taught was the importance of physical activity in supporting students' own professional lives. Guidelines on physical activity were taught by less than 50% of course providers who responded to the survey.

Table 3.4. Courses teaching aspects of PA relating to LOs 1 and 2 (n (%))

Aspects taught on course (n=49)	Total n (%)
General health benefits of physical activity (PA)	30 (60%)
Evidence base for benefits of physical activity (systematic reviews, RCTs, etc.)	24 (48%)
Importance of PA in supporting students' own professional lives	14 (28%)
Current SIGN guidelines on recommended levels of PA for different populations and different conditions	18 (36%)
Current NICE guidelines on recommended levels of PA for different populations and different conditions	18 (36%)
Other guidelines on recommended levels of PA for different populations	19 (38%)

As discussed in the previous section, the comments from the interviewees supported this finding that the general health benefits of physical activity were the aspect that was most commonly taught. Guidelines were not commonly described or referred to and neither was the evidence base. One lecturer in physiotherapy described how they taught physical activity in relation to these learning outcomes:

“...I mean, we teach it as in, we would teach the recommendations and what physiotherapy should be recommending to patients that have been, you know, as in 30 minutes 5 days a week or whatever, but we wouldn't go as in depth as to look at, well, this is the evidence for that, and this is where it has come from, and all the rest of it. It's kind of taught to them, rather than... you know, it's not given such a large amount of time. I suppose if there's time to devote to looking almost historically at where the evidence has come from and where the recommendations have come from and all the rest of it.” (UG physiotherapy lecturer)

3.5.2 Learning outcomes 3-5 (knowledge transfer and communication)

Learning outcomes 3-5 roughly equate to teaching health professionals how to communicate the benefits of physical activity to patients. As indicated in Table 3.5, nearly 50% of respondents did teach how to create opportunities to engage in discussion about physical activity with patients/family member or carers. However, few (less than 30%) taught about national or local resources and exercise referral schemes.

**Table 3.5 Courses teaching aspects of PA relating to LOs 3, 4 and 5
(knowledge transfer and communication) (n (%))**

Aspects of PA taught on course N=49	Total n (%)
How to create opportunities to engage in discussion about physical activity with patients/carers/family members	21 (42%)
Challenges of engaging in discussion about physical activity with patients/carers/family members	16 (32%)
Awareness of national resources (e.g. organisations that provide opportunities to support patients being physical active)	14 (28%)
Awareness of how to discover local resources to support patients/carers/family members being physical active	13 (26%)
Information about exercise referral schemes	14 (28%)

The qualitative interviews found that little teaching or learning consideration was given to skills required to allow effective knowledge transfer to patients or enhance compliance/uptake. Several respondents indicated that this could best be taught in postgraduate courses or on practical placements:

“Teaching of PA is topic related and the practicalities of promoting/ discussing patients to be PA is mainly taught on the wards. Students also go out with health visitors where they could observe promotion of PA.” (UG nursing lecturer)

Many health professional courses teach communication skills and it was thought (by some of the interviewees) that this teaching would be a potential place for practising physical activity promotion skills within the undergraduate curriculum. Therefore, it might be a question of identifying where PA promotion skills are most relevant and perhaps importantly where there aren't stronger competing priorities in terms of teaching communication strategies. Also it is worth considering to what extent the generic communication skills required to raise and discuss PA with patients differ from those needed to for example raise discussion of alcohol intake, sexual activity. For many health professionals, physical activity is just one of many lifestyle issues that they need to be able to raise and discuss and is perhaps unlikely to be specifically singled out for special consideration in the curriculum.

3.6 Assessing lecturer/ trainer skills in relation to the 5 learning outcomes

This question was explored through the qualitative part of the study. The qualitative interviews revealed that some of the course providers lack of confidence in teaching PA benefits and guidance:

“I would say myself, I would feel quite confident about teaching stuff regards the research into this but as regards, say, anatomy and physiology related stuff, I probably wouldn't but if I was going to look at, in fact, critically analysing some research, for instance, that I'd be fine to do that but I think the nitty gritty stuff, I would probably ask someone else to do it and then that would be the issue of finding someone with that experience, whether that was professionally or practically, you know, that sort of thing.” (PG lecturer teaching all HP)

However, others did feel confident in their own abilities:

“I suppose I personally have quite a lot of, I guess, knowledge of what's available [PA resources], and kind of updated my own knowledge, which I can then pass on to my students, perhaps.” (UG physiotherapy lecturer)

“I think I wouldn't need retraining, I don't think, I'm fairly confident with what I teach, but I certainly think other people would benefit, I think it's a good idea to offer training like that [study day].” (UG dietician lecturer)

Although recognised to be difficult to find the time to attend there was some support for NHS Health Scotland running training days (or half days) for educators to update people on the evidence and guidelines, support good practice in teaching, identify existing learning resources and provide an opportunity to discuss teaching physical activity with others.

3.7 Knowledge and use of the current NHS Health Scotland physical activity resources

Survey respondents were asked about their knowledge and use of the NHS Health Scotland physical activity resources detailed in Table 1.1. Thirty eight (76%) respondents were aware of at least one of the resources. The resource that was best known, (see Table 3.6) was the Fall Prevention resource (56%) followed by the Active Scotland resource (50%).

Sixteen (32%) respondents used at least one resource. If respondents knew about the resource we also asked if they actually used it. 'Energising Lives' was used by 92% of those who knew about it in contrast to the 'Let's make Scotland more Activ-e' resource which was only used by 42% of those who knew about it. The Fall Prevention module and Active Scotland website – the two most well known resources were used by nearly half of the people who were aware of them.

Table 3.6. Survey respondents aware of and using different resources (n (%))

Resource	Aware of resource		Use resource	
	Number	%	Number	% of those aware
Let's make Scotland more Activ-e	19	38%	8	42%
Fall Prevention	28	56%	13	46%
Energising Lives	13	26%	12	92%
Active Scotland	25	50%	12	48%
PA Consultation Course	4	8%	3	75%
PAHA	12	24%	9	75%
A Little PA Means A Lot	11	22%	10	91%
PowerPoint presentation	5	10%	7	140%

The apparent use of the NHS Health Scotland PowerPoint resource by people who were not aware of it (Table 3.6) probably reflects a misunderstanding on behalf of survey respondents in answering the question. They were probably indicating that they use PowerPoint presentations in general in their teaching rather than the NHS Health Scotland PowerPoint presentation resource they were asked about.

We also asked people in the survey what they used each of the NHS resources for (Table 3.7). The resources were used for a range of purposes, but most commonly as a reference source for the students.

Table 3.7 Use of resources where some PA is taught on course (n (%))

Resource	Use of resource		
	Use in teaching	Give to students as a reference	Use for personal development
'Let's Make Scotland More Activ-e'	2 (5%)	5 (14%)	2 (5%)
Fall Prevention NES module	4 (11%)	8 (22%)	2 (5%)
Energising Lives	4 (11%)	6 (16%)	3 (8%)
Active Scotland	4 (11%)	8 (22%)	3 (8%)
Physical Activity Consultation Course	0 (0%)	2 (5%)	1 (3%)
Physical Activity and Health Alliance website	3 (8%)	3 (8%)	3 (8%)
'A Little Physical Activity Means A Lot'	2 (5%)	3 (8%)	5 (14%)
PowerPoint presentation	6 (16%)	1 (3%)	0 (0%)

Finally we asked respondents about the perceived usefulness of each of the resources (Table 3.8). The number of respondents who answered this question was small, but overall respondents had no opinion or broadly thought that the resources were useful. The Fall Prevention module, Energising Lives and Active Scotland resources most used by those answering the questions, and were perceived to be very useful or useful.

Table 3.8 Survey respondents perceived usefulness of resources (n)

	Number using resource	Very useful N	Quite useful N	No opinion N	Not very useful N	No use at all N	n/a* N
'Let's Make Scotland More Active'	8	1	2	2	1		2
Fall Prevention NES module	13	2	4	1			6
Energising Lives	12	1	8	1			2
Active Scotland	12	1	7	2			2
Physical Activity Consultation Course	3			1		1	1
PAHA website	9		5				4
'A Little Physical Activity Means A Lot'	10	1	2	2		1	4
PowerPoint presentation	7	2	1	1		1	2

* n/a = not applicable or no answer

The qualitative data confirmed survey results – NHS Health Scotland resources for teaching physical activity were not very well known or used across the course providers, except for the Fall Prevention module.

3.8 Other resources used to teach physical activity

One interviewee found the World Health Organisation, Heidelberg guidelines (for promoting physical activity in older people)² useful, particularly in demonstrating that the same problems are faced throughout Europe and that some countries (such as Scandinavian countries) are more physically active than us and take it more seriously, while people in other countries are less physically active than in Scotland.

3.9 Barriers and facilitators to the usage and implementation of the NHS Health Scotland learning resources

Most of the data in this section was obtained from the interviews, with some open ended responses volunteered in the survey.

3.9.1 Barriers

There were two main barriers to using NHS Health Scotland products: accessibility and awareness; and relevance. Several of the interviewees and survey respondents commented that they did not know about the resources and were therefore not actively sought out. One educator with a particular interest in physical activity, who always included advice about physical activity in her consultations and encouraged students to do the same said:

² <http://www.humankinetics.com/aacc-policies-and-guidelines/aacc-policies-and-guidelines/who---heidelberg-guidelines-for-promoting-physical-activity-among-older-persons>

“But, I mean, the list that was in the questionnaire, I wasn’t really familiar with any of them, I mean, I’d never seen any or it had not been brought to my attention.” (UG dietician lecturer)

Respondents, familiar with other NHS Health Scotland resources, appreciated their quality, but had difficulty finding them when they needed them. As one respondent commented:

“What I often find with NHS Health Scotland resources is they locate them somewhere and then they seem to move them and then you can’t find them again.” (UG midwifery lecturer)

The other barrier to use (even when they knew about the resources) was perceived lack of relevance. They felt that the information was too generalised for teaching the students about disease specific evidence and guidance. This comment was typical of what was being said both by survey respondents and the telephone interviewees:

“... and this is not NHS Health Scotland, this is just physical activity stuff in general, does tend to be very... and by its nature, it does tend to be very kind of broad brush, and you know, even the guidelines are fairly general, if you like, where we get everyone doing 30 minutes of fitness five days a week, advice like that, but then I suppose what students need is they need to know a case, about its recommendation for healthy people. But what about people with specific conditions? And we’re often, you know, physiotherapists, we’re dealing with people not just with the general conditions like diabetes or heart disease or whatever, but very specific conditions, or injuries or things that might affect their ability to participate in physical activity.” (UG physiotherapy lecturer)

3.9.2. *Facilitators*

There were a number of factors that were thought could facilitate the use of the NHS Health Scotland resources.

Firstly, they could be more actively promoted:

“I think, communicating that they are out there, and not obviously – you might think, oh well, maybe it’s just within the higher education institutions – but none of the physiotherapists had seen it or heard of it [NHS Health Scotland resource] at all – and we’re talking about all the physiotherapists in one health board here, which is a huge amount of people.” (UG physiotherapy lecturer)

“Being alerted to resources is always welcome. We have a wide range of subjects to consider and can’t remember everything.” (UG nursing lecturer)

The most popular way to be informed of both existing and new resources was by regular (perhaps every two months) emails. It was not thought to be a problem to be reminded of resources, even ones that a lecturer is familiar with:

“It could be entirely our fault that we’ve been remiss for not finding a resource, but sometimes when you are, we get so many, it is appreciated to have a prompt.” (UG nursing lecturer)

Other ideas included, following the example of publishing companies and, targeting information emails around the time the courses for the next term were being updated or developed. This would require NHS Health Scotland to have a database of the email addresses of course providers, which we have demonstrated can be difficult to gather quickly, but it would probably be worth spending time making phone calls to the different institutions to build on the information supplied in the database developed during this project.

Secondly, people wanted a dedicated website where all the resources could be easily located. This would mean that they would only have to remember the name of one site to be able to find it, rather than the existence and names of several different resources.

Thirdly, they wanted more information, guidance and case studies for people with specific conditions. They would like more guidance on how to tailor the general population recommendations to their patients with their disease specific and individual needs:

“...one of the things is I find that really gets to me is the, I suppose a, lack of information that is relevant to people with chronic illness”. (PG lecturer)

The medical educator interviewed was not certain that, unlike with smoking cessation, sufficient evidence existed to show that brief physical activity discussions within the consultation would have any impact on patient behaviour. Without this he felt it would be difficult to increase the time spent teaching about physical activity promotion to medical students.

Fourthly, some expressed an interest in having a named person to contact within NHS Health Scotland.

3.10 Format of resources which would be most useful

We asked survey respondents which format they would prefer for physical activity materials (Table 3.9). Websites, PowerPoint presentations and Online training resources were the most popular formats. Face to face training courses were the least popular (21%).

Table 3.9. Usefulness of various resource formats (n (%))

Format	Very useful or quite useful n (%)
Websites	24 (73%)
PowerPoint presentations	18 (55%)
Online training resources	18 (55%)
Book or booklets	16 (48%)
Leaflets	15 (45%)
E-learning modules	14 (43%)
Face-to-face training courses	7 (21%)

We explored the issue of format in more depth in the qualitative interviews. E-learning materials were considered very useful for 3 main reasons;

- a. Ease of access for staff and students in rural locations or studying part time courses
- b. Recommended face to face teaching time in course such as Nursing and Midwifery is about 10 hours a week and trusted resources that students can access in their own time are very useful.
- c. Pressures to include greater content in the curriculum also mean that web based learning materials that students can use themselves help accommodate more content.

In addition, video clips/YouTube clips were popular as respondents felt that they would appeal to their students (although some worried about the credibility of non-NHS or 'recommended' sites). Video clips that could be incorporated into lectures were thought useful, as well as ones for students to access on their own, and for this reason clips on CDs or DVDs would be useful when teaching takes place in facilities without internet connections. This linked in with the desire to have specific case studies to refer to for demonstrating ways to promote physical activity.

"I do quite a lot of online teaching so I pass my students on to websites they can have a look at; case studies, it's actually quite useful. It's brilliant, sure if I can actually get resources I could show in class that are case studies I do use them." (PG lecturer)

PowerPoint presentations were also thought to be useful as they could be used to inform lecturers' own presentations or shown directly to students if facilitator notes were available and relevant.

Some people suggested a 'pack' containing multiple resources that they could keep on their shelf and refer to when needed, however, although this has its merits it could not be updated as easily as web based information or shared with

students. One respondent suggested something like this in the form of a workshop that could be used with students.

“I guess it would all be built into, like, case studies and things, just so that the student would maybe appreciate the recommendations for health and maybe some limitations to that, certainly in terms of things like angina and heart disease and stuff, because I think a lot of people are scared to advise about physical activity unless they’re experienced in it.” (UG dietician lecturer)

3.11 Which NHS Health Scotland physical activity learning resources, existing or planned, were identified as most useful to meet the needs of the education providers

The results in section 3.7 suggest that when the NHS Health Scotland resources are known about they are generally used and thought to be useful. The main problem seemed to be a lack of knowledge of the resources and/or difficulty in accessing the resources.

3.12 Gaps in NHS Health Scotland’s provision of learning products and services

3.12.1 Learning products

The following were given as suggestions for NHS Health Scotland as learning products they would like:

- video clips showing how to promote physical activity with a range of people with different conditions
- suggestions of how to overcome barriers that patients come up with:
- more profession specific, and/or patient specific information
- training courses for health professionals.

“how to boost the confidence of a person that, if once they get a barrier, not to give up at that first hurdle, to keep on suggesting things.” (UG dietician lecturer)

“Generally we welcome any sort of training sessions that NHS Health Scotland can offer, any sort of resources because ... there’s a level of resources that comes out of NHS Health Scotland - they’re generally very good” (UG dietician lecturer)

For example, midwives wanted information about what to advise women in pregnancy, physiotherapists may need specific information for their patient groups. There was generally a feeling that ‘one size did not fit all’

“I think, people aren’t confident when dealing with people and advising about activity, particularly ill patients or somebody who’s suffered from heart disease before. So I think giving people advice about what to say, who to refer onto a GP first of all and also help to get over the barriers that patient actually presents to you.” (UG dietician lecturer)

3.12.2 Services

We identified a number of gaps in NHS Health Scotland services which may impact on the teaching of physical activity in the course aimed at health professionals.

Firstly, many course providers indicated that they would welcome ongoing contact and communication from NHS Health Scotland. This contact could take the form of:

- frequent emails – to update on new resources
- named contact person within NHS Health Scotland
- some wanted a person within their department who would be the link in with NHS Health Scotland and then cascade the information down as required .

There is enthusiasm from course providers to work with NHS Health Scotland to help develop and deliver resources.

Secondly some requested help with placing it higher up the teaching agenda – perhaps part of quality assurance on courses. One person suggested lobbying for physical activity to be part of training curricula:

“It would probably be worth trying to look at the different curriculums for the health programmes and seeing where physical activity is involved or if it is or isn’t it? And then maybe contacting the governing bodies and just seeing if it should be part of the curriculum, I personally think it should be.” (UG dietician lecturer)

“..the first step would be to argue or promote the need to teach this.....I guess, if there was a policy decision coming from top level NHS that we all should be teaching more about physical activity, then we would look at that seriously and no doubt incorporate it into our course. So that might be the kind of leadership that's needed. That probably doesn't cost very much. That's probably just general publicity.” (UG medical lecturer)

Thirdly, as mentioned previously there was some interest in a dedicated website for course providers which contained all the relevant resources.

Fourthly, several people also expressed an interest in video clips showing how to talk to patients about physical activity in the following contexts:

- for general population
- for specific groups such as those with a pre-existing condition, the elderly, pregnant women.

“Yeah, I mean, anything like that where the students can see somebody else actually giving the advice, is possibly the way that they'd do it, yeah, that could be useful.” (UG dietician lecturer)

One person also mentioned wanting the NHS to talk to teaching staff about the benefits of PA

“And I have to say, you know, even if we had...because, obviously, most Universities have staff development sessions, but if there was someone from NHS Health Scotland who would come up and do staff development on the importance of exercise and how it can be incorporated into a curriculum, then I would find that very useful.” (PG lecturer of all HP)

4 Discussion

4.1 Limitations of the study

The aim of this research study was to find out how much (and what) physical activity content was included in courses taught to health professionals, and how much the NHS Health Scotland resources were used to teach physical activity. One of the limitations of the study was that the response rate to the survey was low (around 25%). This means that the responses from the survey participants (and the telephone interviewees) may not reflect the teaching activity going on in other relevant courses. If there is a bias, it is probably that those who responded to the survey may have been more likely to be those who a) taught physical activity; b) had an interest in physical activity and c) knew more about the NHS Health Scotland resources. If this is the case, then it is likely that the results are an over estimation of the level of physical activity taught and the knowledge about the NHS Health Scotland products. One of the reasons for the low response rate could have been the timing of the survey which was sent out in early November, when the new term has just begun for many course providers.

4.2 Summary of results

The reaction to the survey and interviews was very positive, and may have acted, to some extent as an intervention. For example, once physical activity was highlighted, and the respondents reflected on the current curriculum, some realised it should be more inherent within the curriculum. However, most still referred to this in terms of specific conditions/treatments rather than a general well being/health/life message. In addition, the links to the NHS Health Scotland resources, plus the questions we asked them, may mean that they are accessed and used more in the ongoing months. There is certainly an interest in this area, and course providers would welcome ongoing contact and communication from NHS Health Scotland. New course content is often prepared over the summer months and so communication during this time would be key.

4.3 Gaps in existing and planned course content

The study results suggest that physical activity, both from a theoretical, health related perspective and from a practical promotion perspective could be taught more intensively to health professional students. It was thought that the role of physical activity in healthy living was comparable to diet, smoking cessation and reducing alcohol and drug abuse and it should be given the same emphasis as these. To encourage a higher profile the broader and additional benefits of having a sufficiently physically active lifestyle to both prevent and treat a range of diseases might need to be further promoted.

4.4 How results relate specifically to primary care

General practice is viewed as an important context for providing information about PA. As one interviewee said,

“Another thing that I think might be worth saying is that I know the benefits of exercises are global, they affect the whole person. Which is why general practice is important.” (UG medical lecturer)

However, as mentioned in the introduction, GP knowledge, in 2004, for advising patients about PA was found to be low and this current work does not suggest that this situation is likely to have changed very much given the generally low levels of teaching about physical activity in all professions. Most other health professions have at least a minimal presence in primary or community health care and so the importance of teaching PA (both as part of overall advice for healthy living and as a therapy for various conditions) to all health professionals at undergraduate and postgraduate levels is high. For example, dieticians and pharmacists can give PA advice to people they come into contact with professionally as well as those with a more general training such as doctors and nurses and those with very specialist training around PA such as physiotherapists. Many health professionals will care for people with long term and complex conditions in primary care settings. The focus on self management should mean that health professionals are able to advise on PA; however there is a suggestion from our results that there is some uncertainty about the evidence and guidelines for recommended PA levels in the context of specific health conditions.

Preparation of useful training resources should, perhaps currently, be of secondary importance to lobbying for all health professional training curricula, both undergraduate and postgraduate, to include a minimal level of teaching to achieve appropriate learning outcomes relating to PA.

4.5 Findings in relation to other relevant NHS Scotland reports

In February 2006, NHS Health Scotland appointed Blake Stevenson Ltd to provide an overview of the physical activity content of existing and planned pre-employment further and higher education courses, as well as any Continuous Professional Development (CPD) activities, for:

- those who have physical activity and health as part of their job, but is not their main focus
- those who play a supporting role in promoting physical activity.

This report (Watt, Gibbs and Christie, 2006) evaluated the teaching on physical activity across a range of workforce sectors (of which health was one) whereas this research project focussed exclusively on the teaching of health professionals. Similar to the findings in this study, Blake Stevenson found that physical activity was not generally taught as a standalone subject to health professionals, but more often ‘integrated with other options.’

4.6 The need for clearer guidance and/or resources for condition specific information

It was clear in all the interviews that educators felt the need for more profession specific or patient specific information before they would feel confident teaching students or advising patients.

5 Conclusions

The results of this study suggest that physical activity is generally taught in the context of general healthy lifestyles or within specific conditions, but not in its own right. In addition, there are many competing priorities and physical activity is not seen as being high on list of topics that need to be taught. NHS Health Scotland physical activity resources are not used as much as they possibly could be for two main reasons. Firstly, lack of awareness and difficulty finding them. Secondly, some people found them too generalised and wanted more information on condition specific physical activity (e.g. for mental health problems, coronary heart disease, diabetes, pregnancy, elderly). In terms of what they would like from NHS Health Scotland, this included more direct and ongoing communication about new resources; a dedicated website or contact person; more teaching materials such as video clips showing how health professionals should teach physical activity (for both the general population and for specific group such as pregnant women and the elderly).

There was concern expressed by some of the education providers that education programmes that lead to professional qualifications can be over burdened by the need to increasingly include profession specific content into the curriculum. Therefore integration into the curriculum of specific PA education needs to be done in a way that is seen to enhance current understanding of conditions rather than being viewed as additional content.

6 Recommendations

In order to inform a strategy to establish or strengthen existing relationships with higher and further education institutions and CPD providers of health professional courses we suggest that NHS Health Scotland:

- consider ways of moving PA higher up the teaching agenda
- provide dedicated resources for course providers (and students) including:
 - a website
 - more condition specific resources (e.g. PA for diabetes, mental health issues, elderly, pregnant women) – video clips would be useful for both teachers and students
 - online training resources and face to face training
 - named contact person with whom the health educators can liaise with about resources
- have direct communication/working with course providers including emails when new resources are available
- provide guidance on what are the guidelines for disease specific conditions and how they differ (if at all) from the general guidance.

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Appendix

Appendix 1.

Semi-Structured Interview Schedule

Prior to interview commencing

Short introduction to researcher and study
Affirmation of anonymity of interview
Any questions about project
Length of interview
Consent to being recorded

Schedule

1. What is the current provision of physical activity education in your course?

If no current content probe as to why – e.g. relevance, expertise, relative importance as compared to other topics.

2. To what extent does the course content matches the 5 learning outcomes? Probe further as to why some are included (if they are) and others are not

5 learning outcomes are:

- Improve understanding of the benefits of physical activity
- Have an accurate understanding of current guidelines on physical activity for a range of populations
- Be motivated to raise the issue and briefly discuss physical activity with patients, having reflected on both challenges and opportunities for doing this.
- Be able to competently and confidently raise and briefly discuss the issue of physical activity with patients.
- Be able to use and/or recommend as needed, a range of resources and sources of support for physical activity, for both themselves as practitioners and their patients.

3. What skills do you think you and/or the other course providers have in teaching these 5 learning outcomes?

4. Knowledge of NHS Health Scotland's learning products

5. Use of NHS Health Scotland's learning products (Question not asked if not teaching PA)

6. Relative usefulness of NHS Health Scotland's learning products (Question not asked if not teaching PA)

7. The perceived value of NHS Health Scotland's learning products

- 8. Preferred format of NHS Health Scotland's learning products**
- 9. Other learning products they would like NHS Health Scotland to produce**
- 10. Other educational materials used and how useful they were**
- 11. Barriers and facilitators to providing physical activity education**