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of Nursing

The impact and effectiveness of inter-professional education in primary care:

an RCN literature review



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Introduction

The RCN Primary Care Educators Forum commissioned the literature review to determine the impact and effectiveness of inter-professional education initiatives for primary care professionals piloted and implemented in higher education and health care trusts. Therefore, the reviewers set out to:

“Conduct an in depth literature review of IPE (inter-professional education) in primary care on behalf of the steering group of the RCN Primary Care Educators Forum.”

The review considered international literature and made recommendations on the effectiveness of the educational models used, their sustainability, financial implications and future implications for educational providers. The primary objectives of the literature review were to:

- ◆ describe the range and extent of IPE in primary care
- ◆ identify literature that reports on the impact and effectiveness of IPE in primary care
- ◆ evaluate the literature in terms of its methodologies
- ◆ analyse the literature to identify common themes
- ◆ identify best practice in primary care IPE
- ◆ identify gaps in the evidence
- ◆ identify gaps in practice
- ◆ make recommendations about future developments in primary care IPE.

The search covered literature published between 2000 and 2006, and produced an extensive amount of material. This means that unpublished data has not been included. There may be IPE initiatives that are being, or have been evaluated, but unless the information has been published in an established journal it is not included in this report.

A brief analysis of policy literature published by the Department of Health, Scottish Executive, the Northern Ireland Office and the Welsh Assembly is included to provide the broader policy context for IPE in primary care.

1

Definition

The definition of IPE and training used in this review is that put forward by Hugh Barr from the UK Centre for the Advancement of Interprofessional Education:

“The application of principles of adult learning to interactive, group-based learning, which relates collaborative learning to collaborative practice within a coherent rationale which is informed by understanding of interpersonal, group, organisational and inter-organisational relations and processes of professionalisation.”

Using this framework, IPE is distinguished from multi-professional education (also known as shared learning or common learning) because the latter relates to circumstances when different professional groups learn together for whatever reason with common content of learning. The former, however, focuses on learning from and about each other to improve collaboration and consequently the quality of care.

The use of varied descriptions for inter-professional practice where ‘prefixes such as inter, multi, and trans are used randomly’ (McAllin, 2001) have been described as ‘murky’ by some. McAllin (2001) provides a useful discussion of the complexities of definition in this field.

However, Barr’s (2001) definition is now well established. It focuses on inter-professional (as opposed to multidisciplinary) education, where the ultimate intention is to improve collaborative practice, rather than simply as an end in itself.

In addition to finding out which includes more than one profession IPE is also beginning to involve patients/service users and carers as experts.

2

Search methods and results

Search and sources

1 Context and background to the main literature review

The Department of Health (DH) and Department for Education and Skills publications lists were examined for policy documents relating to inter and multi-professional education and for inter and multidisciplinary education. The authors also looked at the DH, Welsh Assembly Government, Scottish Executive Health Department and Northern Ireland Office libraries and publications lists for primary care and general practice documents. National service frameworks and consultation documents were also included in the searches.

A search of the UK Centre for the Advancement of Interprofessional Education website produced a number of reports that, along with references from the database searches, helped to provide the broader context provided in Chapter 4. In addition, websites for the relevant professional associations were reviewed, although most did not provide much access to non-members, as were a number of university websites. The Royal College of General Practitioners' website has a section on IPE and its presumed benefits. A search of the National Research Register and Research Findings Electronic Register was unsuccessful.

2 Focus on electronic databases

The review focused on electronic databases such as Medline, CIHNAL and Social Care Online, which cover the health and social care perspectives of IPE. Social Care Online is provided by the Social Care Institute for Excellence, and its extensive database of social care information includes journal articles and books, reports and government publications.

The search strategy used the following search terms.

TABLE 2.1: SEARCH STRATEGY

Collaborative	Educational	Settings
inter-professional	training	primary care
inter-disciplinary	education	palliative care
multi-professional	teaching	
multidisciplinary	learning	

Results

Of the 583 research papers identified at the first stage, 67 were considered to be worth further investigation. The full text of the studies was then evaluated for the review. This number was reduced to 20 using the following inclusion and exclusion criteria.

TABLE 2.2: INCLUSION AND EXCLUSION CRITERIA

Inclusion criteria	Exclusion criteria
Primary Care	Generic not specific, or setting unclear
Inter-professional/inter-disciplinary/multidisciplinary/multi-professional education or training	Simple description with no evaluation
Evaluation	Commentaries/letters/editorial
Research	Not meeting the IPE definition
Impact	Issues to do with the development/provision of inter-professional education rather its impact/effectiveness.
Effectiveness	

The following table identifies the reasons for excluding items.

TABLE 2.3: EXCLUDED STUDIES

Reasons for exclusion	Number
Generic not specific, or setting unclear	13
Simple description with no evaluation	9
Commentaries/letters/editorial	8
Not meeting the IPE definition	10
Issues to do with the development/provision of inter-professional education rather its impact/effectiveness.	7
Total	47

The majority were excluded because of the limited nature of the article. For example, simple descriptions of the programme provided with opinion on its value rather than formal evaluation, and general commentaries or editorials were excluded. Examples of studies that did not meet the agreed IPE definition included: a programme for medical students only, but with an inter-professional advisory committee and inter-professional teaching input; and programmes not designed to support collaborative practice.

Other excluded studies surveyed included: perceived barriers to implementing IPE; programme directors' attitudes to IPE; or simple descriptions of setting up the programme rather than its implementation or evaluation. In some studies it became apparent that the setting for the educational initiative was not specifically primary care. Examples included: pre-registration training in communication skills or health ethics not related to primary care; community services that were outreach or domiciliary services provided by secondary care; and where there was insufficient information to be clear as to whether primary care was the setting or not.

3

Policy context

A range of documents was identified from the websites of the relevant health departments for England, Wales, Scotland and Northern Ireland. The Department for Education and Skills website was also consulted.

National service frameworks (NSFs)

In 2002 the Department of Health issued a series of documents intended to spell out the implications of various national service frameworks (NSFs) for primary care (DH, 2002a, 2002b, 2002c, 2002d, 2002e, and 2002f.). Joint DH and Department for Education and Skills guidance identified key issues for primary care from the *NSF for children, young people and maternity services* (DH/DfES, 2004).

The implementation of NSFs and their extension to cover more diseases, conditions and demographic groups 'has heightened the need for joint working between health and social services to ensure a joined up and holistic approach to patient care' (DH, 2002a). The document goes on to identify primary care as one of the key drivers in implementing NSFs. It states that primary care requires fundamental change in, among other things, workforce development and practice development. Even the definition of the primary health care team is multi-professional and multi-agency. This encompasses the whole workforce involved in providing first level care, not just those working in general medical practice. The DH guidance is intended for use as an '*inter-professional framework or tool*' (DH, 2002a) aimed at all members of the primary health care team and primary care trust (PCT) managers.

The importance of collaborative working between agencies and professions is again emphasised in signposting the location of information about best or good practice (DH, 2002b).

Key factors in organisational development for primary care services are team working and appropriate skill mix (DH 2002c). The publication also gives specific reference to research findings that indicate how inter-professional working is associated with high levels of innovation in patient care. The document suggests that

pooling the wealth of experience and skills in primary health care teams, and developing teams based on competencies rather than traditional professional boundaries, is highly effective in improving the delivery of health care at primary care level. Other examples include IPE schemes to support implementation of NSFs in primary care. Inter-agency and consequently inter-professional working is key to many aspects of health improvement and prevention of major diseases (DH, 2002d). This includes mental health, coronary heart disease, cancer and diabetes. Primary care is identified as having a leading role in taking forward inter-professional health promotion and disease prevention.

The Department of Health notes the role of collaborative working in medicines management for chronic disease management and self-care. The potential role and functions of pharmacists working with other members of the primary care health team, and the value of IPE in sharing good practice across PCTs are also highlighted (DH, 2002f).

All the NSFs require 'more extensive joint working' between 'primary care and other agencies' (DH, 2002g). Furthermore, 'the delivery of a raft of national priorities is wrapped up in networks and collaborative working both across the NHS and including the social care, local government, voluntary and independent sectors' (ibid). Although not spelt out in the document, partnership working will involve working not only across agency boundaries, but also across professional boundaries. The document provides case studies where partnership working has improved stroke care, coronary heart disease (CHD) prevention, liaison between primary care and community care in mental health, services for people with dementia, and the Exercise on Prescription scheme.

A separate publication on the key issues for primary care in delivering the children's NSF notes that the 'vast majority of contacts with the health service for children are with primary health care teams' (DfES/DH 2004). Furthermore, primary care has 'a key role in improving the health and wellbeing of children in their local area and addressing health inequalities'.

Primary care has a key role in supporting parenting by

providing age appropriate services and safeguarding and promoting the welfare of children and young people. Primary care providers are recommended to get involved in a very wide range of activities from immunisation and sexual health advice and services, to parenting skills development and needs assessment for particularly vulnerable children. This indicates that there is a fundamental need for inter-professional and inter-agency work. Training and development are central to underpinning the NSF, including training to work across agency and professional boundaries.

In summary, there is extensive reference to the need for the primary care team members (broadly defined) to work across agency and professional boundaries, together with frequent mentions of the potential value of inter-professional education.

National service frameworks in Wales

The Welsh Assembly is producing its own national service frameworks. They include an overarching set of standards for health care in Wales (Welsh Assembly Government, 2005a) and for specific disease groups. They refer to the importance of multidisciplinary services, multidisciplinary team working and multi-agency working. The overarching set of standards (Welsh Assembly Government, 2005a) refers to the need for treatment and care to be integrated, providing a 'seamless service across all organisations that need to be involved'. The NSF goes on to mention the 'appropriate skill mix' of the workforce, and points to health care organisations that promote public health by 'collaborating and working in partnership with local authorities and other agencies'.

The standards for diabetes services in Wales (National Assembly for Wales, 2002) say that 'all people with diabetes requiring multi-agency support will receive integrated health and social care'. The document goes on to note that 'multi-agency action' is required to reduce the numbers of people who are inactive and overweight or obese.

The framework for CHD (National Assembly for Wales, 2003) refers to a multi-agency plan for preventing the disease that is focussed on communities most at risk. The NSF also mentions the need for a co-ordinated service between primary, secondary and tertiary

services, and multidisciplinary teams based in district general hospitals (DGHs).

The revised NSF for adults with mental health needs (Welsh Assembly, 2005b) includes the standard for having multidisciplinary community mental handicap teams (CMHTs) working from a common base. It goes on to talk about the need for workforce planning to include a multi-agency approach, and improved multi-agency working for patients in medium secure units.

The *NSF for children, young people and maternity services in Wales* refers specifically to the 'multi-agency and multidisciplinary systems and services' for child protection (Welsh Assembly Government, 2006a). It calls for multi-agency training for staff delivering services for children and young people with mental health problems and disorders. The *NSF for older people* (Welsh Assembly Government, 2006b) makes many references to inter-professional working. They include, for example, references to 'multi-agency, multidisciplinary teams', the 'wide range of disciplines' required for emergency service assessments of older people and provision of hospital care by a specialist multidisciplinary team. This NSF has a section dedicated to workforce planning, training and development that refers to an 'integrated approach that involves working with other professionals and agencies across the spectrum of social, primary, secondary and tertiary care. However, it only once refers to 'joint training across health and social care and statutory, independent and voluntary sectors'.

Finally, the consultation draft on standards for renal services (Welsh Assembly Government, 2006c) refers to the 'multidisciplinary renal team' in relation to treating people with acute renal failure, effective delivery of dialysis, and end-of-life care.

The NHS plan and related guidance

The *NHS plan* 'makes a number of references for different health care professional groups to work together to modernise services. This includes primary care services, removing demarcations between staff at primary and secondary levels and breaking down barriers between different clinical professionals. Two chapters in the NHS plan propose changes in clinical professional education, but the only specific reference to

‘joint training across professions’ is limited to communication skills.

Liberating the talents (DH, 2002h) re-iterates some of the points made in the *NHS plan*. It specifically points to the need for flexible working, and cutting across outdated professional and organisational boundaries. The document describes 10 ‘key roles’, and outlines a new framework for nursing in primary care. This emphasises working in multidisciplinary teams and across health and social care boundaries in primary, community and secondary health care. *Liberating the talents* gives examples of innovative developments in inter-disciplinary and cross-organisation working. It also gives specific references to multidisciplinary training and learning.

In developing ‘nurses with a special interest’ the document states clearly that ‘multidisciplinary training may be the best way of developing skills and knowledge and *building the team* at the same time’ (DH, 2003).

The DH human resources guidance for *Working together – learning together* (DH, 1999b) includes a detailed section on education and training. The document details the importance of creating opportunities for shared learning for organisations providing primary care professional education (DH, 1999a).

The theme of improved flexibility and removing rigidity is reiterated in *Creating a patient-led NHS* (DH, 2005a). It highlights the potential for enabling creativity in primary care by blurring professional boundaries, along with a greater focus on clinical teams and multidisciplinary working.

Working together – learning together (DH, 1999b) recommends that core skills training should be undertaken at pre-registration level on a shared basis with other professionals in theoretical and practical settings. It promotes inter-professional education for post-registration education and continuing professional education (CPD) that is led by better partnership working between stakeholders and professions. *Working together* says that education at this level should not simply rely on formal courses. The needs of clinical teams, across professional and organisational boundaries, should be the focus and should make use of the full range of development methods.

Making a difference

Making a difference (DH, 2001a) refers to the benefits of inter-professional and multi-agency working in its focus on nursing, midwifery and health visiting. The document includes the following examples:

- ◆ a description of service innovation for people with learning disabilities, led from a secondary service and including primary care
- ◆ a nurse-led multi-agency and multi-professional service to tackle inequalities and empower clients in an inner city area
- ◆ joint working between primary care and community mental health teams to develop an assessment clinic for mental health referrals from primary care
- ◆ development of higher education-based training for newly appointed practice nurses with nurse tutors working collaboratively with GP tutors
- ◆ a multi-agency and multi-professional project developed and delivered parenting training (accredited by the Open College) for parents of children with learning disabilities and parents with a drug problem. Over 200 staff from a very wide range of health and social care disciplines and agencies received training as facilitators for the training programme.

Specific disease groups

Competencies for providing more specialised sexually transmitted infection services within primary care (DH, 2005) notes the value of ‘multidisciplinary groups with doctors, nurses and health advisors’. The publication uses the differences in the way various professional groups act as a teaching and learning method for providing specialist services in primary care. It goes on to point out the importance of collaborative teamwork and liaison with/referral to other professionals to achieve the defined objectives of the specialist services.

Other DH guidance highlights, for example, how confidence with partnership working is identified as one of the likely characteristics of nurses, who come from the acute sector to work as community matrons in primary care (DH, 2005b). While *Improving outcomes* states that multi-professional palliative care teams should manage symptoms and provide social and psychological support to women with advanced gynaecological cancers (DH, 1999c).

Other professional groups

Working in multidisciplinary teams is increasingly a part of the role of primary care pharmacists (NHSE/National Prescribing Centre, 2000). The document sets out a core competency framework which can be used to identify training and development needs. The core competency for 'working with people' includes leadership (of individuals and teams) and team working. This involves working across professional boundaries and understanding and respecting colleagues and their abilities.

Teachers are not traditionally considered to be primary health care professionals. However, the 1998 primary schools primary care health link initiative recognises that teachers are key partners in improving health awareness and understanding because they have the skills to access appropriate health care. *Healthy schools* notes the ability of project staff to communicate across different disciplines as the potential benefit of involving a wide range of partners (DH/NCB/The Drug Education Forums, 2001).

The summary of the Social Services Inspectorate report (SSI, 1999) makes clear the importance of working across organisational and professional boundaries in delivering services for older people. The checklist for primary care groups (PCGs) highlights joint training for social care and primary health professionals about each other's roles, local arrangements for care management and how to work in an integrated way with older people. Findings from this report were also shared at regional workshops on partnership working between primary health and social care providers (NHS E/SSI/Nuffield, 1999). The workshops focussed on the opportunities offered by the Health Act 1999 for more flexible joint working at a senior strategic level between the NHS and local government.

Skill mix and workforce planning

The Medical Practices Committee noted that organisational factors had contributed to changes in the traditional models of primary care when it looked at skill mix in primary care and implications for the future (MPC, 2001). These factors included a move away from hierarchical to collaborative models of team working, and an increasing trend towards partnership working.

In 2002 the Department of Health's *Primary care workforce planning framework* (DH, 2002i) reinforced the move towards more flexible working. It called for changes in roles and functions, more responsive services, and planning across clinical professional, local authority and voluntary sector primary care. The framework highlighted how the creation of the multi-professional education and training budget (MPET) emphasised more flexible and integrated education and training. It also referred to multi-professional training and learning at both pre and post-registration levels. The commitment in the NHS plan for 'common learning programmes' at pre-registration level is expected to impact on primary care workforce education and 'inter-professional working helps to support the ethos of team working'.

The Department of Health review of workforce planning (DH, 2001b) again emphasises flexible working and team working across professional and organisational boundaries. At the time of writing, the report was clear that current arrangements for workforce planning did not support multidisciplinary training, education and working. It did give a few examples of integrated training for NHS professionals and joint qualifications for nursing and social workers. However, it did suggest a number of mechanisms for improving the provision of 'genuinely multi-professional' training and education.

In Barr's review (Barr, 2001), he notes five different objectives for IPE:

1. teamwork
2. partnership and collaborative working
3. skill mix and flexible working
4. opportunities for flexible career pathways
5. new types of worker.

He argues that the Department of Health needs to be clearer about its objectives because the approach to providing IPE depends on its purpose. For example, while the first and second objectives could readily be incorporated into the higher education curricula, the third challenges existing NHS working practices because it requires organisational change as well as education. The fourth needs support from accreditation bodies.

Skills strategy

There is no specific reference to inter-professional or multi-professional education and training in the Government's skills strategy, *Skills: getting on in business, getting on at work* (DfES, 2005). However, there is a major emphasis on the employer's role in determining the type of training and education offered by the public sector. As we have seen, NHS policy is fully committed to inter-professional and agency working, alongside training and education that crosses agency and professional boundaries in the delivery of primary care.

Creating an inter-professional workforce programme (CIPW)

CIPW is a three-year programme funded by the Department of Health in England. Its aim is to produce a 'strategic framework for the education and training required to underpin collaborative practice and partnership working between health and social care in England' (Hughes and Marsh, 2006). The programme team is working closely with the UK Centre for the Advancement of Interprofessional Education (CAIPE), and it has recently published its first report *Planning for an inter-professional workforce*.

The CIPW team's consultation exercises have produced the following work streams: regulation and quality assurance; practice learning; commissioning education; and independent sector engagement. Four additional key work areas cover:

- ◆ research into the sustainability of inter-professional learning and development (ILD) in higher and further education
- ◆ the relationship between UK and EU policy and ILD
- ◆ in-depth analysis of all the consultation data produced by the first 18 months of the programme
- ◆ compilation of the first ever national ILD database.

CIPW aims to provide national guidance on how to deliver ILD successfully.

The existence of this programme and its work activities demonstrates the Department of Health's commitment to IPE and improved collaborative practice in the delivery of health and social care in England.

Scottish Executive

In 1999 the Scottish Executive promoted 'effective teamworking – encouraging methods of working and learning which promote an integrated approach to patient care'. This was designed so that patients and their families would receive care and treatment 'designed around their needs and not constrained by outmoded professional boundaries' (Scottish Executive, 1999). In particular, the strategy required services to integrate learning with service planning, which would apply equally to primary care. Scotland's Health White Paper (Scottish Executive, 2003) commits the executive to 'bring together strategies for learning and development for all staff groups', delivering multidisciplinary and team-based development programmes.

Several publications in 2005 confirmed this approach. Specific examples include:

- ◆ the General Medical Services' contract, which has encouraged the 'development of multidisciplinary practice teams and looking forwards to an expanding contribution from non GP members of the team' (Scottish Executive, 2005a)
- ◆ the need to enhance primary care with 'multidisciplinary and multi-agency responses to tackle the determinants of ill health', with a focus on 'inter-disciplinary training and education' to improve services for people with long-term conditions (Scottish Executive, 2005b, p.21)
- ◆ the national framework for service change in Scotland that refers to multidisciplinary working for community casualty services (Scottish Executive, 2005c), multidisciplinary community-based teams, and to the provision of care to people with long-term conditions by multidisciplinary teams.

Northern Ireland Office

Again there are several references to multidisciplinary working in policy documents for health care in Northern Ireland. The *Twenty year vision for health* notes that the main challenge will be breaking down barriers (DHSSPS, 2005a). One of the key policies to achieve this is the development of 'multi-skilled teams'. The teams would have to have 'the right number and mix of professional and non-professional carers' to meet

the needs of their patients/clients, in particular the care of people with chronic conditions. Disappointingly, in the evaluation of their training and development activities, the Department of Health, Social Services and Public Safety (DHSSPS, 2005b) makes no specific reference to multidisciplinary or inter-professional working.

Inquiry findings

Furthermore, a number of inquiries into crises in health and social care (Clifton & Duffy, 2000; DH, 2001c; Duffy & Clifton, 1997; Lord Laming, 2003) have highlighted poor inter-professional working. They have recommended investment in inter-professional education to improve collaborative working across professions and organisations.

Summary

The analysis of policy and guidance across the UK since 1999 illustrates the increasing emphasis on flexible working across professional (and organisational) boundaries. This is in the context of a focus on team working that involves various clinical professions, and a move away from the hierarchical model of professions working in primary care. In some of the documents there is an explicit assumption that inter-professional training and education will enhance the capacity and capability of the various health and social care professions to work effectively across boundaries.

The next stage of this project considered research literature to assess the extent to which there is any evidence that these assumptions are evidenced. Before considering literature relating specifically to inter-professional education in primary care, there are a number of literature reviews that have addressed inter-professional education more generally. In order to put the more specialist literature into context, these general reviews are considered first.

4

Inter-professional education – the broader context

To place the findings of the literature review of research and evaluation of inter-professional education in primary care into a broader context, six publications were considered. They included:

- ◆ work by Barr, a pre-eminent advocate for inter-professional education and for high level research into its impact on professional practice and organisational change
- ◆ a systematic review of literature about the effectiveness of inter-professional education in improving collaborative practice and/or health outcomes for patients/clients
- ◆ a review of evaluations of inter-professional education (by the Cochrane team but using less rigid inclusion criteria)
- ◆ a review of inter-professional education delivered in higher education institutions at undergraduate level.

A number of reports on the effectiveness of inter-professional education were found: Barr, 2001; Freeth et al., 2002; Freeth et al., 2005; Zwarenstein et al., 2000; and Zwarenstein et al., 2005. They provide a context for understanding the findings of the literature specifically relevant to IPE in primary care.

A useful review of IPE was commissioned and published by the Learning and Teaching Support Network (Barr, 2001). Barr looks at the historical development of inter-professional and multi-professional training and education, relevant policy, theoretical educational perspectives and literature reviews. He notes that the Royal College of General Practitioners had taken a lead in developing and promoting inter-professional education in the field of primary care. He also says that the Calman report, *A review of continuing professional development in general practice* (DH 1998) had recommended practice professional development plans, which could provide a way to integrate organisational and personal development.

Barr comments on the various approaches to developing an academic theoretical perspective on inter-

professional education, starting with established models of adult learning. He concludes with a proposal for the components of a general theory of inter-professional education:

“The application of principles of adult learning to interactive, group-based learning that relates collaborative learning to collaborative practice within a coherent rationale informed by understanding of interpersonal, group, inter-group, organisational and inter-organisational relations and processes of professionalisation.” (Barr, 2001)

He cautiously concludes from his findings summary of literature reviews (evaluative rather than rigorous research studies) that the evidence suggests that ‘in favourable circumstances and in different ways’ inter-professional education can ‘**contribute** to improving collaboration in practice’ (Barr, 2001).

The Cochrane Library reviewed (Zwarenstein et al., 2000) the effectiveness of IPE in improving the collaborative practice of health care professionals and/or the health outcomes for patients/clients. It compared IPE to education in which the same professions were learning independently of each other. The reviewers searched for randomised trials, controlled before and after studies and interrupted time series studies. Eighty-nine of the 1,042 studies were retained for further consideration, but none met the strict quality standards and inclusion criteria for Cochrane reviews.

At that time there were numerous research and evaluation reports. However, when they were compared with the standard required for evaluation of medical interventions (randomised controlled trials), none were considered adequate to answer questions about effectiveness. The reasons why the research did not meet the inclusion criteria included the absence of a control group and the use of invalidated outcome measures. The reviewers describe the result as ‘disappointing’ (Zwarenstein et al., 2000). The authors go on to comment that the dearth of rigorous evidence of effectiveness does not necessarily mean that IPE is ineffective, or indeed that there is evidence of ineffectiveness. They believe it simply means that no

one knows whether IPE is effective or not in achieving improved collaborative practice or health/social care outcomes.

In the same year a systematic review was published that summarised the evidence for inter-professional education to health professional students at the undergraduate level (Cooper et al., 2001). This study identified only 30 out of 141 articles that met all the study inclusion criteria. The evidence was analysed using qualitative methods, and used categories from previous research (results, behaviour, learning and reaction) and themes from the studies. The analysis suggested that IPE seemed to be more effective in relation to 'reaction' and 'learning', with much less evidence of impact on 'behaviour' and 'results'. This was felt to be a consequence of the outcomes measured by the evaluations rather than necessarily inherent to IPE. Interestingly, Freeth (2002) concluded that an emphasis on reaction and learning was a function of undergraduate education. The main findings from Cooper (2001) included the following:

- ◆ the main impact of IPE was on students' knowledge, attitudes, skills and beliefs, in particular on understanding of professional roles and team working
- ◆ the least impact was on changing behaviour
- ◆ neither educational nor psychological theories were used to develop educational models for measures of outcomes
- ◆ educational approaches generally centred around the principles of adult education using problem-based learning, small group teaching, case studies and experiential work
- ◆ the majority of initiatives took place in academic environments and/or in community settings with the subject areas of teamwork and primary health care being most frequently found
- ◆ outcomes primarily represented short-term impact only, with few studies providing evidence of longer term outcomes.

As a result of their review, the authors produced the following guidelines for inter-professional educational research:

- ◆ use clear aims and objectives to guide the research question to include: rationale, context and description of the intervention

- ◆ use the research question to guide selection of the research methodology
- ◆ include a theoretical base for sampling procedures in recruitment procedures from a target population
- ◆ include clear description of context, content, frequency and duration of the intervention being tested in the educational intervention, chosen with reference to an educational model
- ◆ use validated outcome measures chosen with reference to theoretical model(s)
- ◆ provide data on participation rates, with reasons for non-participation and attrition rates and for withdrawal
- ◆ include a clear description of methods used to analyse data to lend validity to the findings
- ◆ assess effects on professional practice in longer term follow-up of outcomes (Cooper et al., 2001).

The team that produced the Cochrane review later published *A critical review of evaluations of inter-professional education* (Freeth et al., 2002). They included 53 out of the 217 eligible studies for detailed analysis because they were higher quality, but they primarily described the North American experience. The papers were also mostly focussed on CPD in work-based settings rather than undergraduate education or in higher education settings. Inter-professional education was also delivered and evaluated as part of quality improvement programmes in its own right. The majority of the higher quality studies were before and after designs and longitudinal studies. The authors concluded that the designs were appropriate, but that it was difficult to demonstrate cause and effect convincingly. In addition, most studies relied on limited quantitative methods such as questionnaires with little in-depth interpretation. The reported outcomes were grouped into the following categories:

- ◆ learners' reactions
- ◆ changes in attitude or perception
- ◆ changes in knowledge or skill
- ◆ behavioural changes
- ◆ changes in the organisation or delivery of care
- ◆ benefit to patients or clients.

Studies based in undergraduate, higher education

settings focussed on evaluating IPE in terms of the first three types of outcome. This reflects the function of undergraduate professional training as preparation for professional practice, as socialisation and as an investment for the future. Evaluation of work-based learning usually concentrates on particular quality improvement and tends to focus on the latter three. This is not surprising because they are found in work-based problem solving.

In the light of the review findings, Freeth (2002) arrived at the following conclusions:

- ◆ invest more in evaluating IPE across the spectrum of contexts
- ◆ investigate cause and effect more closely, carry out more prospective evaluations, and follow up for a longer period to assess the extent to which any changes are sustained
- ◆ conduct better qualitative studies and a more mixed method studies because most IPE initiatives are multi-faceted
- ◆ carry out a smaller number of high quality comprehensive evaluations
- ◆ assess innovation in teaching and evaluation.

While every provider of inter-professional education should evaluate and reflect on all programmes, not all evaluations need to be published because this would lead to information overload.

A review of four studies of effectiveness (Zwarenstein et al., 2005) compared evidence of effectiveness for pre-registration and post-registration education. It concluded that the effects of pre-registration IPE on patient/client care are 'unknown', although it found some evidence that a post-registration inter-professional approach had positive effects on care. However, they add the proviso that the coverage of this latter evidence is 'patchy, being *especially weak in primary care*' (Zwarenstein et al., 2005).

While none of the above looked specifically at IPE in primary care, it was shown that primary care was a legitimate setting for it to take place. Overall, there was little research that met the highest standards for evaluating care outcomes. The 'gold standard' is defined as randomised controlled trials, controlled pre-test and post-test studies and interrupted time series studies. However, there was a great deal that indicated that inter-professional education had potential benefits for both

changes in attitudes, skills and knowledge, and for behavioural and organisational change.

Finally, another perspective is provided in a review of effectiveness research into the value of inter-professional education for staff working with adults with mental health problems (Reeves, 2001). The study again found a lack of rigorous evidence. Only 19 evaluation studies were appropriate, which 'generally contained a number of shortfalls'. They found:

- ◆ lack of information on the methodology and its limitations
- ◆ little account of how IPE impacted on service user care
- ◆ uncertainty over the longer term effectiveness (or otherwise) of IPE
- ◆ poor descriptions of IPE being delivered
- ◆ limited applicability due to cultural differences.

Reeves (2001) notes that, despite the limited evidence of effectiveness, there is still a policy drive to develop this form of education in mental health. Consequently, there is a 'pressing need' to develop a sound evidence base that should include both:

- ◆ research designs with multi-method and longitudinal dimensions
- ◆ collection of rigorous data relating to the care of adults with mental health problems.

On the basis of their Freeth's (2005) review of the evidence of effectiveness, the authors have produced a very practical guide to evaluating IPE regardless of setting.

The following tables bring together and summarise the recommendations of the Freeth (2005) and Cooper (2001) reports. Together the two reports identify the principles of good practice in planning, conducting and disseminating an IPE evaluation, discuss methods and measures for evaluating inter-professional education. The reports also signpost sources of advice on evaluation research

Table 4.1 indicates the information required about the educational intervention if an evaluation is to be submitted for publication.

TABLE 4.1: ELEMENTS OF EDUCATIONAL INTERVENTION

Elements of educational intervention
Describe the educational model
Describe the theoretical framework underpinning the intervention
Describe the: <ul style="list-style-type: none"> ◆ context ◆ content ◆ frequency ◆ duration of the intervention

Table 4.2 describes some key components of a sound and rigorous evaluation.

However, there is limited evidence of the effectiveness of IPE that meets reasonably rigorous scientific standards, either in general or in a mental health setting. Therefore, it was hypothesised that there would be equally limited evidence of the effectiveness of IPE in primary care. The nature of the evidence identified is considered in the following chapter.

TABLE 4.2: GOOD PRACTICE IN EVALUATION

Good practice in evaluation – key components
Plan the evaluation as part of planning the educational intervention
Clarify the aims and objectives of the intervention
Clarify the type of outcome(s) to be evaluated
Identify resources required (time, money, access, equipment)
Clarify the audience for the evaluation
Define answerable evaluation questions
Ensure that matters of governance and ethics are taken into account
Carry out a literature search to ensure that the evaluation is necessary and to identify any pitfalls and ideas for the evaluation
Decide on the design, methodology and methods appropriate to answering the evaluation questions
Consider the following designs before coming to a decision: <ul style="list-style-type: none"> ◆ post test ◆ pre-post test ◆ controlled before and after ◆ randomised controlled trial ◆ longitudinal design ◆ mixed methods ◆ action research.
Use validated measures – for example the: <ul style="list-style-type: none"> ◆ interdisciplinary education perception scale ◆ readiness for inter-professional learning scale ◆ inter-professional attitude questionnaire ◆ system for multiple level observation of groups scale ◆ team climate inventory ◆ interaction process analysis.
Consider longer-term follow up of outcomes where appropriate
Review and re-plan the evaluation as the programme progresses, to ensure that the initial plan is still relevant or is amended if necessary.
Disseminate findings, whether internal feedback, external publication or both
For external publication, include: <ul style="list-style-type: none"> ◆ participation rates ◆ reasons for non-participation ◆ reasons for attrition rate ◆ reasons for withdrawal
For both internal and external dissemination, describe: <ul style="list-style-type: none"> ◆ evaluation design ◆ methods and measures ◆ description and analysis of data ◆ findings ◆ conclusions and recommendations.

5

Effectiveness of inter-professional education in primary care

Analysis of review material

A total of 20 studies were included in the review. They all contained some form of evaluation of the effectiveness or impact of inter-professional education in primary care. The review material represents an international picture:

- ◆ 9 from the UK: Farooqi and Bhavsar, 2001; Fowler P et al., 2002; Hearnshaw et al., 2001; McMillan and Kelly, 2005; Partis, 2001; Reeves, 2000; Salmon and Jones, 2001; Wakefield et al., 2003; Wilcock et al., 2002
- ◆ 4 from Canada: Farris et al., 2004; Kelley et al., 2004; Oliffe et al., 2005; Racher, 2002
- ◆ 3 from the USA: Cashman et al. 2004; Hayward et al 2005; Yamada et al. 2005
- ◆ 1 each from: Finland (Larivaara and Taanila, 2004); Tasmania (Dalton et al., 2003); and New Zealand (Pullon and Fry, 2005)
- ◆ 1 web-based learning package operated from the UK, which is used by international students (Walsh, 2005).

Professions involved in the review

The following table lists the range and number of professions/disciplines that were part of the research studies, with the number of students where this was specified.

As illustrated right, a wide variety of professions are included in IPE programmes. This includes conventional health and social care workers, as well as some less traditional professions such as rural development students, education staff, interpreters, spiritual advisers and practice managers. It is also apparent from the table that the quality of information available is variable.

TABLE 5.1: PROFESSIONS INVOLVED IN INTER-PROFESSIONAL EDUCATION

Reference	Profession/discipline (N)
Oliffe et al	Nursing (6); medicine (6); dietetics (1); pharmacy (5); social work (4)
Racher	Nursing; psychiatric nursing; rural development (no information on numbers)
Farris et al	6 teams, each including: 1 GP; 1 practice nurse; and 1 home care case manager
Partis	Nurses and allied health professions (20 in total)
Farooqi and Bhavsar	23 practice teams: medicine (57); others (94)
Cashman et al	1 practice team, consisting of : 1 physician, 1 nurse practitioner, 1 physician assistant; 1 registered nurse; 1 health assistant
Yamada et al	Medicine (111); Others – including nursing, social work, medical technology, food scientists, social work and public health – (170)
Larivaara & Taanila	Primary health care (21); Social Welfare (20); Hospital and mental health (18); School and day care (9); Public health (6); Parish workers (2)
Dalton et al	Nursing, medical, pharmacy (no information on numbers)
Pullon & Fry	Health care professionals (161)
Walsh	GPs, nurses, practice managers (20,023 UK based; 3,463 international; registered students)
Wilcock et al	GPs, nurses, administrators and others (n. unspecified)
Fowler et al	RMNs (18) RMHNS (10) Social workers (15) Child/family workers (9)
Wakefield et al	Medical students (13), nursing students (10) midwifery students (17)
Salmon & Jones	Nurses (32), midwives (6), social workers (4) youth and community workers (10)
Reeves	Medical, dentistry and nursing students (36 in total)
Kelley et al	Nurses, physicians, counsellors/social workers, care coordinators, interpreters, discharge planners, AHPs, spiritual advisers (46 in total)
Hayward et al	Physical and occupational therapists (23), nurses (50), dieticians (19), pharmacy, health education, social workers, physician assistants (10 in total)
Hearnshaw et al	GPs and practice nurses – total unspecified; 16 GPs and 12 nurses completed follow-up questionnaire
McMillan & Kelly	GPs & practice nurses (no information on numbers); practice managers (10)

Some studies provide detailed information about the numbers involved in IPE, while others provide either general or no information about the number of students involved. The following analysis indicates the types of educational initiatives included in the studies.

Educational programmes

There is a wide range of educational programmes available, and they are very diverse. Programmes are taught in different locations across student grades, use different methods and take place over varied time scales. What they do have in common is that they did not provide any information on some aspects of the educational initiatives under evaluation.

Type of programme

Thirteen programmes were based in higher education institutions. Four of the programmes involved pre-registration students, eight had students with professional qualifications and one included both. Six of the latter studies reported work-based CPD, one was internet-based and the final study did not specify the type of programme under evaluation.

Teaching methods

Seven programmes used small group workshops as the main teaching method, supplemented by: individual follow up (1); distance learning (1); and supervised practice (1). Five of the studies described programmes with a broad mixture of education and learning methods such as: lectures; role play; mentoring; guided reading; seminars and tutorials. Two studies described supervised clinical placements as the main inter-professional learning component. There was no information about teaching methods in six studies.

Assessment methods

In two studies assessment was carried out by reference to reflective journals. One programme combined assessment with supervised practice, and the other with assessed presentations. One course required students to complete project work, another essays and presentations, and a third asked for written and practical work. A fourth programme involved a range of assessment methods, including an examination. There was no information about assessment in 14 of the studies – although not all required assessment to complete the course.

Theoretical framework

Only 10 of the studies explicitly mentioned any educational theory as a basis for the programme. The other half provided no information. The courses that did highlighted:

- ◆ experiential learning in combination with adult learning
- ◆ integrated learning
- ◆ problem-based learning in combination with task-based learning
- ◆ person-centred adult learning
- ◆ improvement focused learning
- ◆ shared and self-directed learning.

Duration of programme

Of the 15 programmes that provided information, no two courses lasted the same amount of time. The courses ranged from two years to two weeks. Some CPD programmes were made up of a limited number of hours, or days, spread over several weeks or months. There was no information about the length of courses in five of the examples.

The above analysis indicates the wide variety of types of IPE reported in this review. None of the programmes had a great deal in common, beyond having a focus on primary care. The study of the evaluation methods and outcomes identified should be read with this in mind.

Research and evaluation methodologies

As with the reviews identified in the previous chapter, not one of the studies identified here met the standards for a Cochrane review. The research/evaluation methods were generally poor, and none of the identified studies had a control group. The evaluation methods used are classified into the following categories: weak; fair; and moderate. Table 6.2 gives the number of studies in each category together with some examples of the methodologies.

TABLE 5.2: EVALUATION METHODOLOGIES

Classification	N	Examples
Weak	15	<ul style="list-style-type: none"> insufficient information to classify post-test only unvalidated measures very small numbers (even for a qualitative study) limited/no follow-up after end of ip course
Fair	4	<ul style="list-style-type: none"> pre-test and post-test validated instrument no control/comparison group short duration of follow-up
Moderate	1	<ul style="list-style-type: none"> 2 yr follow up statistical analysis – pre-post test validated instrument no control group.
Total	20	

Research and evaluation results

The studies considered a variety of outcomes for the effectiveness and impact of IPE programmes: an assessment of the students’ enjoyment of the programmes; the impact that the courses had on students’ knowledge and understanding of other professional roles; the impact on students’ attitudes to other professions; the impact on changes in behaviour (mainly self-reported); changes in service delivery; and changes in clinical outcomes.

The relatively poor quality of studies and variability in what was being evaluated meant that it was not possible to analyse statistical data or carry out a comprehensive synthesis of qualitative data. The findings have been analysed using themes developed by Freeth (2002):

- ◆ student reaction to the learning experience – did they enjoy the programme or not
- ◆ attitudes and perceptions towards other professionals
- ◆ knowledge and understanding of other professional roles

- ◆ behaviour – how students related to other professionals, communicated with them or referred patients/clients to them
- ◆ changes to service delivery systems or organisational practice
- ◆ clinical outcomes and patient benefit.

The following table illustrates how the studies reported the impact of IPE.

TABLE 5.3: EVALUATION OUTCOME

Theme	Number
Reaction	5
Attitudes towards and perceptions of other professions	12
Knowledge and understanding, skills	13
Behaviour and clinical practice	10
Service delivery systems	7
Patient benefit/clinical outcomes	6

All the studies reported more than one type of evaluation outcome, and this reflects the measures chosen by the evaluators. A number of outcomes clustered around the themes that are perhaps easier to measure, and where data can be obtained relatively close to the end of the programme. These include knowledge and understanding, attitudes and perception. In the published studies there was less focus on student reaction to IPE, although this is important in motivating students. The themes that needed a longitudinal analysis were more complex to evaluate (patient benefit/clinical outcomes and impact on service delivery systems), and were not assessed as frequently.

The results reflect the measures that course designers/evaluators chose to evaluate and publish, and do not indicate a consistent approach. With only one exception (Hayward et al., 2005), the studies reported a positive outcome from the evaluation themes. One study identified found that the students were not as convinced that inter-professional co-operation was necessary. However, the same study also reported that students were more convinced that actual inter-professional co-operation and resource sharing was taking place.

Some examples of the evaluation themes are given below.

Reaction

This primarily concerned whether or not the students enjoyed the learning experience through formal taught course or work-based quality improvement programme. It also showed that the students appreciated that there are benefits from an inter-professional programme.

Attitudes and perceptions

The evaluation looked at how IPE had enabled students to have a more positive attitude or perception of the contribution that colleagues from different professions make to the care and treatment of service users and carers.

Knowledge and understanding

This theme included all the studies that reported how student evaluations had increased their knowledge and understanding of other professions and their roles in contributing to patient care. The evaluations found generally positive results such as: sharing information about approaches to care and treatment helped students to gain greater understanding of each others' roles (undergraduate programme); and inter-professional learning was seen as important to enable students to understand each others' professional value bases and enhance respect between professionals (post-qualifying programme).

Behaviour and professional practice

All studies reported positive changes in behaviour and professional practice. Examples included:

- ◆ improvements in multidisciplinary team functioning, such as the ability to share feedback without taking criticism personally
- ◆ more assertive communication; an understanding of the impact of personality on behaviour (Cashman et al., 2004)
- ◆ improved delivery of palliative care by involving more disciplines, better networking in remote communities, and co-operation between teams (Kelley et al., 2004)
- ◆ improved co-operation between shared leadership in practice-based teams (Wilcock, 2002).

Changes to service delivery

All reported changes to service delivery systems or organisational development were positive, for example:

- ◆ the development of CHD registers, clinical audit of practice and action planning to improve standards of care (Farooqi and Bhavsar., 2001)
- ◆ new forms of effective multidisciplinary teams were developed during the project (Farris et al., 2004)
- ◆ delivery of palliative care was improved in organisations and communities as a result of the relationships formed during the IPE programme (Kelley et al., 2004).

Patient benefit/clinical outcomes

All reported changes were positive, and included:

- ◆ improvements in the standard and quality of care of ethnic minority coronary heart disease patients (Farooqi and Bhavsar., 2001)
- ◆ improved adherence to medication, improvement in physical health and stable mental health in communities with complex health care (Farris et al., 2004)
- ◆ older service users and carers responded positively to the idea that students providing their care represented different professions (Reeves, 2000)
- ◆ improvements in catheter care (Partis, 2001).

Other findings

Other findings emerged from the studies, which could not be classified using the Freeth approach. They were:

Sustainability

One study found that changes were sustained over time, for example 18 months (Wilcock., 2002). This study also noted the importance of protected time and external facilitation, although other studies did not find this (Cashman., 2004). However, most studies did not follow up beyond a very short time after the course finished, so this is not a general finding. Farooqi and Bhavsar (2001) and other authors commented on the need for longitudinal studies. They also said that inter-professional CPD should be negotiated with managers (Partis, 2001), and that time and resources were needed to implement new practices and team working as

routine (Farris, 2004). Cashman's study (2004) pointed out some institutional constraints on team working, such as increased workloads and responsibilities without associated rewards. This included how teams that identified potential rewards themselves became frustrated when the parent organisation was unable to implement the changes. The study found that the need for organisational standardisation dampened the enthusiasm of project members.

Resistance

Two studies found that, to some degree, IPE was accompanied by increased resistance to inter-professional working (Dalton, 2003; Reeves, 2000). Both the studies evaluated pre-registration IPE. One highlighted how older students contributed to this resistance, probably because IPE was introduced before the students had been socialised into individual professions. Reeves (2000) also commented that tutors spent little time discussing team tensions and issues around inter-professional working.

Status of programme

One programme suffered because the inter-professional placements (primary care and community) under evaluation were seen as low status. As a result they were not considered relevant by the pre-registration students who aspired to work in acute settings on qualification.

Key findings

The key findings from these studies are:

- ◆ there is a strong policy commitment throughout the UK to IPE at both pre-registration and CPD levels. Policy is based on the presumption that IPE, at whatever level, will lead to more effective inter-professional collaboration in clinical practice
- ◆ IPE reviews across all settings, service user groups and at all levels conclude that there is no research into the effectiveness of IPE that meets the standards needed for a systematic Cochrane review. They show that research or evaluation of IPE in primary care is very patchy
- ◆ there are a small number (20) of reviews that reveal the effectiveness of IPE in primary care, although none are rigorous. They had no control groups, and little or no information about the specific education intervention. Some studies did not use validated instruments, and others involved very small

numbers (even for a qualitative study)

- ◆ the 20 reviews did involve a wide range of professional and educational courses – from undergraduate, university-based modules, to work-based team development programmes focused on particular service or practice improvement initiatives. They also included inter-professional teams working in palliative care, chronic heart disease, complex conditions and with older people as well as in rural and urban deprived areas and with ethnic minorities
- ◆ within the limitations of the methodology and design, the results of the studies were overwhelmingly positive. However, most considered relatively easy outcomes such as the student experience, changes in attitude and perspective and changes in knowledge and understanding of other professions. A reasonable proportion reported (mainly self-reported) changes in behaviour, team-working and practice, and a small number considered improved patient benefit and clinical outcomes and changes in service delivery (these were projects planned to lead to service improvements)
- ◆ there were some negative findings, but they related more to the nature of the programme and quality of teaching, rather than the inter-professional nature of the course.

6

Summary

Effective collaboration in professional practice is necessary to underpin a patient-centred, flexible health and social care service with staff working across professional and organisational boundaries, in flatter, non-hierarchical structures. There are major changes emerging to the roles of existing, and new, health care professionals, but the intuitive assumption that IPE will lead to improved collaborative practice is not enough.

The picture emerging from this review is consistent with others, which have identified that there is no high quality of evidence about the effectiveness of IPE in primary care. However, the evidence that does exist suggests, for all its limitations, that IPE:

- ◆ is generally enjoyed by students
- ◆ may contribute to positive changes in attitudes to and perceptions of other professions
- ◆ may contribute to improved knowledge and understanding of the role and functions of other professions in providing care to patients, clients, service users and carers.

The potential benefits of IPE may become increasingly important as the roles of health care practitioners, and in particular nurses, undergo fundamental change. For example, old roles are becoming increasingly redundant as nurses admit and discharge their own patients, prescribe medication, monitor long-term conditions and arrange diagnostic tests.

However, because there are few longitudinal studies, there is less information about the potential benefits for: service delivery; improved clinical practice; and benefits to patients. Nevertheless, it must be stressed that no evidence of effectiveness is not the same as evidence of ineffectiveness – simply that no one can say with any degree of certainty whether IPE is effective or not.

As in other reviews, higher education institution- based pre-registration IPE was likely to impact on knowledge and understanding, attitudes and perceptions (Freeth, 2002). This is not surprising because pre-qualifying students have little established clinical experience or practice, and that undergraduate education is designed to develop future practice. On the other hand, the studies that evaluated work-based, improvement-

focused CPD were more likely to identify positive changes in service delivery, patient benefit or clinical outcomes. Even in these studies there was limited longitudinal follow up. Evidence was needed to show that inter-professional collaboration in practice had to be supported by the wider organisation, through appropriate reward systems, structures and managerial support.

There is a clear tension between the methodologically ideal approach, the randomised control trial, controlled pre-test post-test, time series study and the practical realities of evaluating teaching programmes. The difficulties of incorporating a control group in IPE research have been ably set out by Freeth (2002), but this model is difficult to use in evaluating educational initiatives. This is because there are so many variables to control for, and the problematic logistics of identifying suitable candidates for experimental and control groups. There are also difficulties of providing similar educational content in each group, and even deciding whether the unit of measurement is the individual student, the programme, the module, the education department or institution responsible for teaching.

In addition, it is difficult to disentangle which components of the initiative are likely to make a difference. For example, is it the particular mix of students, the education model, the quality of teaching or the inter-professional content of the programme itself? Also, this approach is likely to be much more resource intensive than most education institutions would have access to. However, this is the only model that can truly account for these variables. Freeth (2002) concludes with a plea for researchers to use a study design that includes a control or comparison groups.

By the same token it has been argued that evaluations without control groups can produce revealing findings. They are more practical to carry out and, if rigorously implemented, can produce useful data that can strongly suggest whether the educational initiative is effective or not. There is a saying in economics that one 'should not allow the perfect to be the enemy of the good'. Perhaps this is the principle that would provide imperfect, but sufficient information to support or refute the

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Recommendations

commitment of many educators and professionals, and the intuitive assumption, that effective IPE will lead to successful inter-professional collaboration.

Changes in the nurses' roles not only affect nursing but the entire health care workforce. Therefore, it is unlikely that the true benefits of the role change can be achieved by focusing on nursing alone. Fellow professionals and patients will need to be actively engaged in understanding the impact of these changes and expectations for the future.

Recommendation One

Sound and rigorous research and evaluation is required to demonstrate whether IPE is, or is not, effective in delivering improved collaborative working in primary care, which in turn leads to improvements in service delivery, clinical outcomes and patient care. This research should also aim to identify which specific approaches to IPE are likely to have these positive outcomes. Two publications together provide guidance on how to implement good practice for evaluating IPE (Cooper et al., 2001; Feeth et al., 2005).

Recommendation Two

Sound and rigorous research is required to identify the organisational conditions that will enable collaborative practice to be sustained over the long term – and not simply end after the education, development project or evaluation is completed.

Recommendation Three

The RCN should consider, either unilaterally or in collaboration with other professional bodies, establishing a rigorous study taking on board the known guidance into IPE that can help determine the key benefits from this approach.

Recommendation Four

Researchers, educators and policy makers should work together to support IPE initiatives in primary care and ensure that they are appropriately researched.

It may be useful to examine the educational resources available for individual professional groups in primary care to determine whether more could be achieved by pooling this resource.

Recommendation Five

The RCN should consider how the findings from this report may be shared and disseminated within nursing and with fellow health care practitioners.

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Appendix: Article analysis pro forma

Type & N of Students	Course Description	Educational Intervention			
		Delivery methods	Assessment methods	Theoretical Basis	Duration

Research/evaluation			Grading	Findings	Conclusions
Methods	Duration of follow-up	Outcome measure or equivalent			

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