

**The United Kingdom Centre for the Advancement of Interprofessional  
Education**

**with**

**The British Educational Research Association**

**EVALUATIONS OF INTERPROFESSIONAL  
EDUCATION**

**A United Kingdom Review for Health and Social Care**

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## **1 The Definition**

Interprofessional education takes place on: -

“Occasions when two or more professions learn together with the object of cultivating collaborative practice.”

CAIPE (1997)

## 2 The Introduction

This Review was commissioned by the British Educational Research Association (BERA) and is being published by the United Kingdom Centre for the Advancement of Interprofessional Education (CAIPE) (see Appendices 1 & 2).

It is addressed primarily to CAIPE members interested in the evaluation of interprofessional education in health and social care, but also to BERA members interested in the evaluation of a interprofessional education in other fields in the context of research into professional education as whole. We look forward to working with colleagues in BERA and CAIPE to refine and improve ways to monitor and evaluate interprofessional education and to secure a firmer evidence base to inform future developments.

The Review focuses upon evaluations of interprofessional education in health and social care in the United Kingdom (UK). BERA is picking up implications for other professions travelling similar roads towards collaboration in learning and practice as educational programmes are integrated.

The purpose of this Review is to:

- identify methods by which such interprofessional education in health and social care has been evaluated in the UK;
- assist others to replicate and develop those methods.

It is a contribution towards communication and mutual exchange between activists amongst the CAIPE membership whilst opening up experienced gained in its field to critical review by the wider education research community and so to assist the future evaluation of interprofessional education.

The Review identifies variables that characterise different types of interprofessional education and locates the 19 selected evaluations within that framework. Appendix 5 reports on UK-wide surveys to put these examples in context.

An evaluation follows of the empirical work reported in the selected papers. Judgements about research design are made in the spirit of constructive criticality, aiming to highlight present deficits in, and challenges to, the difficult work of educational evaluation, especially when that is of a complex and nascent type of teaching and learning process and involves diverse learner groups. This may help to embed a culture of evaluation in the community of educators offering interprofessional education and to provide material to assist researchers with study design and reportage.

Finally, we try to relate the reported outcomes of interprofessional education to a theoretical model of evaluation and, through this, to comment on what the papers selected for this Review can offer by way of answers to questions about whether interprofessional education works and in what circumstances this takes place.

The assessment given is of interprofessional education evaluation in health and social care in the United Kingdom as it is presently reported. The nature of the Review relates to a particular group of reviewers, their professional, and research backgrounds, at this particular time. Another review, at another time, by other reviewers, would focus on other studies and highlight different issues.

The examples reported include much that others may wish to replicate, but there are methodological gaps that can only be filled by reference to evaluations in other countries, notably the United States. We have therefore erred on the side of caution in drawing implications from UK sources alone.

This Review forms part of a continuing programme of work to establish the evidence base for the effectiveness of interprofessional education world-wide as a means to cultivate better collaboration between health and social care professions and so to improve the quality of care for patients and clients. A review under the auspices of the Cochrane Collaboration has already been completed (and will be repeated periodically). This was based upon systematic searches of databases to identify evaluations satisfying strict quantitative criteria (Barr et al 1999a; Zwarenstein et al 1999) (see Appendix 3). At the time of writing, a Parallel Review is close to completion. This takes into account a wider range of research methodologies (Barr et al 1999b) (see Appendix 4).

UK evaluations of interprofessional education comprise four per cent of the total of those found so far in the Medline<sup>1</sup> search that meet methodological criteria for inclusion in the Parallel Review. We have taken these into account in selecting examples to include in this Review, whilst also drawing upon our collective knowledge of the wider UK literature.

We have also taken into account the diverse range of terms used to describe occasions when professions learn together (e.g. Leathard, 1994 and others), whilst opting for the use of “interprofessional education” so far as practicable and as defined by CAIPE (see page 3).

As members of JET we seek to maintain the best traditions of interprofessional teamwork. Accordingly, our names are cited in alphabetical order to represent the equality of effort in this Review.

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### **3 The Proposition**

Reports from government departments, parliamentary committees and official inquiries have called repeatedly for closer collaboration to: -

- Improve the NHS as a whole (DHSS 1972a&b, 1974, 1979; Ministry of Health, 1956; Secretary of State for Health, 1996b&c, 1997; Secretaries of State, 1989b).
- Co-ordinate health and social care (Department of Health, 1990a, 1997, 1998a,b&d, 1990a; DHSS, 1973; 1979; 1981a, 19981b, 1982, 1983, 1984 1986 and 1987; House of Commons Select Committee on Social Services, 1985, 1987; House of Commons Select Committee on Health, 1999; Local Authority

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<sup>1</sup> Other databases are now being checked.

Association and National Association of Health Authorities, 1986; NHS and Community Care Act 1990).

- Implementing policies for primary health (Audit Commission, 1992c; DHSS, 1981c, 1984; Department of Health, 1998b; Secretary of State for Health 1996a, Standing Medical Advisory Committee, 1963; Standing Medical and Nursing & Midwifery Advisory Committees, 1996).
- Implement policies for community care (Audit Commission, 1986, 1992a, 1992b; Cumberledge, 1986; Department of Health, 1990b; 1997; DHSS 1981a&b; DHSS Inspectorate, 1991; Personal Social Service Council/National Association of Health Authorities, 1978, Secretaries of State 1989a).
- Promote health education (Department of Health, 1998c; Secretaries of State 1987; Secretary of State for Health 1992, 1993).
- Protect children (Beckford Report, 1988; Butler Sloss, 1988; Colwell Report, 1974; Department of Health, 1974, 1988, 1991a&b, 1995).
- Integrate child health (DHSS 1976, Home Office et al 1991).
- Co-ordinate plans for children with special needs (Department of Education and Science, 1978).
- Promote better mental health care (Department of Health, 1991c, 1994; DHSS 1971).
- Care for people with learning disabilities (DHSS, 1979).
- Mend marriages (Home Office/DHSS, 1979).

Many of these reports invoke “shared learning” to cultivate collaboration, although they are invariably silent about the means by which this will be achieved. Whilst the burgeoning literature on interprofessional education in health and social care has not yet generated an overarching case, it does advance mutually reinforcing arguments.

### 3.1 Interprofessional education

We are told that interprofessional education:

- Enhances motivation to collaborate by enabling participants to have productive learning relationships that give rise to expectations that relations in practice with the same or other professions will be equally productive (McMichael & Gilloran, 1984; McMichael et al 1984a&b; Carpenter, 1995a&b; Carpenter & Hewstone, 1996). Exponents of this argument invoke contact theory. This theory holds that people like those who are rewarding to them (Berkowitz, 1975; Tajfel, 1981). Efforts are therefore made to optimise opportunities for productive interaction between the professions. Positive feedback from participants about the learning experience is often taken to imply that motivation for collaborative practice has been enhanced. Whether positive relations with fellow students are transferred subsequently to other members of that profession is harder to establish, and to members of other professions even harder.
- Changes attitudes and perceptions by enabling participants to learn from and about one another in ways that counter prejudice and negative stereotypes in the belief that this will help to overcome barriers to collaboration (McMichael & Gilloran, 1984; McMichael et al 1984a&b). This proposition, like the first, puts a premium on interactive learning. Tools developed for evaluation measure attitudes or perceptions towards one another and sometimes towards patients or clients and service delivery.

Having the `right` attitudes may not, however, be sufficient.

- Cultivates interpersonal, group and organisational relations by creating opportunities for the participant professions to become more aware of their relationships with other individuals, groups and organisations, through simulation. This proposition emphasises experiential learning and calls upon psychoanalytic theory (Halton, 1994; Obholzer 1994a&b; Stokes, 1994). Neither process nor outcome has yet been evaluated systematically. Transfer of learning into the real world of work is unproven.
- Establishes common value and knowledge bases by providing curricula that are equally applicable to each of the participant professions and introduce common concepts, values, knowledge, perspectives, and language. These typically include foundations in health and sciences, health and social policy, and the organisation and delivery of services (Tope, 1996). They are thought to provide a frame of reference for collaborative practice as well as facilitating better communication.

Arguments for common curricula are reinforced by workforce policies that call for skill mix and more flexible deployment of personnel (Schofield, 1995), but weakened by the case for specialist studies that distinguish each profession and its specialist branches. Whilst the intention is to counter over-specialisation, the effect may be to make it even more difficult to accommodate the explosion of specialist knowledge within the curriculum and to ensure that it is focused for the benefit of patients and clients. The generic/specialist debate refuses to go away.

The problem is eased when interprofessional curricula are reframed into common and comparative components. This distinguishes between that which all the participant professions need to learn and that which each profession needs to learn about the other(s) to inform intelligent collaboration (Barr, 1994a). Viewed thus, comparative studies introduce specialist studies into curricula shared with other professions insofar as that is helpful in cultivating collaboration with those others. They may be provided, for example, in relation to work with same patient or client group. They are derived from and linked with specialist studies, not a substitute for them.

The proposition that interprofessional education reinforces competence, by defining outcomes in terms of competencies required for collaboration, is the most recent and least developed. It asserts that collaborative behaviour is a skilled activity that calls for more than good intentions, harmonious relations, and common understanding. It builds upon the redefinition of learning outcomes for most of the health and social care professions in competency-based terms (Barr, 1998). Its arrival is too recent to be reflected so far in ways in which interprofessional education is evaluated. It is vulnerable to criticism from those who question competency-based professional education (Barr, 1994b; Hodgkinson, 1992; Kelly et al 1994; Messick, 1992; Moonie, 1992; Wolf & Mitchell, 1992) and must reconcile different perceptions of such education by different professions.

### 3.2 Learning Methods

Interprofessional education gains value, according to its exponents, when interactive methods are introduced that involve participants in shared tasks and enable them to learn not merely with but also from and about one another (Barr, 1994a). To that end, a wide range of interactive methods have been tried (Barr, 1996). These include:

- Received Learning, e.g. lectures and other didactic teaching.
- Exchange-based learning, e.g. case discussion (Woodhouse & Pengelly, 1992).
- Observation-based learning (Likierman, 1997), e.g. joint home visits (Jones, 1986).

- Action-based learning, e.g. problem-based learning (Barrows & Tamblin, 1980), collaborative enquiry (Glennie & Cosier, 1994; Reason, 1994).
- Simulation-based learning, e.g. games and role-plays (Jacques, 1986; McMichael & Gilloran, 1984), experiential groups (Stokes, 1992).
- Practice-based learning, e.g. placements and work-based assignments (Scrine, 1989; Walstrom & Sanden, 1998).

Arguably, the potency of interprofessional education lies not in the application of any one of these methods, but in their combined impact in the hands of teachers with the experience, sensitivity, and skill to ring the changes.

### 3.3 Types of interprofessional education

Interprofessional education takes many guises. It would be most surprising if different types were found to be equally effective (or ineffective) in cultivating collaboration. There is therefore a need to distinguish between types of interprofessional education in framing research questions and to identify variables to be isolated. Those such as form, duration, location, composition, and content could prove to be significant. The point reached along the continuum of professional education at which interprofessional education is introduced, pre-qualifying, post-qualifying or part of continuing professional development, may prove to be especially significant (Barr 1996; Hammick, 1998).

Interprofessional studies may comprise all or part of a programme, which may be full-time or part-time, face-to-face or at distance. It may be work-based, university-based or independent of either, last an hour or two or run for years.

Interprofessional content during pre-qualifying education typically takes the form of foundation studies in health and social sciences (Tope, 1996). Teachers must rely heavily upon simulation-based learning, although interprofessional practice-based assignments may be introduced during placements. Barr (1996) draws attention to the need for caution regarding expectations of interprofessional learning at the pre-qualifying stage, given the inexperience of the participants, the need to meet profession specific requirements and the limited time typically found for shared elements of learning. Realistic aims and objectives may be prophylactic, i.e. preventing the formation of negative attitudes towards other professions, and preparatory, i.e. laying foundations for subsequent learning with other professions in practice and continuing education.

Post-qualifying programmes may be less constrained. All rather than part of the programme may be shared. The pattern of study is typically part-time enabling participants to relate theory and practice. Content typically includes updating knowledge, strengthening academic foundations, introducing new practice methods and preparing students for new roles and career progression (Barr, 1996; Storrie, 1992). Part-time programmes, as many are, enable participants to draw upon work experience and to apply their interprofessional learning concurrently. As senior practitioners, participants have experience to exchange, including interprofessional experience, and may be in positions where they can influence changes in practice. The diverse backgrounds from whence participants are drawn may also enrich comparative learning about collaboration. Yet constraints remain. Tutors cannot pay equal attention to diverse work settings, while participants are left to apply their interprofessional learning in their respective workplaces where they may encounter resistance. Improvements in collaboration, if and when achieved, may be varied, diffuse and hard to measure.

Interprofessional education in the workplace can sometimes involve participants from the same team or unit. This can be difficult to arrange, when services must be maintained, but

does enable them to share objectives and to work together to effect immediate change or improvement that can readily be observed by all. Transferability of such learning to other work settings subsequently is, however, hard to establish and arguably beyond the scope of the exercise.

Each of these types of interprofessional education may cultivate collaboration in different ways. Whether they do so, and under what conditions, is for research to determine.

### 3.4 Re-framing the research question

The hypothesis that interprofessional education cultivates collaboration has been stated so often that it is in danger of being treated as a self-evident truth. We show that the question related to this hypothesis is more complex than it may at first appear.

It is no longer: -

Does interprofessional education cultivate collaborative practice?

But: -

In what ways can interprofessional education contribute to improvements in collaboration between health and social care professions and in what circumstances?

Framed thus, the question allows for a range of outcomes in relation to different types of interprofessional education with different content, learning methods, theoretical perspectives and practice contexts. This leaves on one side another question, namely the extent to which uni-professional education can cultivate interprofessional collaboration. That question lies beyond the scope of this Review. With one exception (Whittington et al 1993), it has to our knowledge been neglected in the literature. Yet its importance is self-evident given that most pre-qualifying and much post-qualifying education is uniprofessional.

## 4 The Framework

This section offers a three dimensional frame of reference for the evaluation of interprofessional education. The first is a classification of evaluative methodologies employed. The second is a classification of educational outcomes. The third is a classification of interprofessional education itself.

### 4.1 Classifying Methodology

As required, the Cochrane Review (Barr et al 1999a; Zwarenstein et al 1999) was restricted to evaluations that employed one of three quantitative methodologies (See Appendix 3). Based upon our collective knowledge of the field, we were concerned that this restrictive approach excluded a number of insightful and informative evaluations of interprofessional education. We decided therefore (in the Parallel Review) to expand our methodological inclusion criteria to incorporate all quantitative, qualitative and multi-method approaches to the evaluation of interprofessional education. These three approaches have equal potential merit, but offer very different perspectives on the evaluation of interprofessional education.

We went on to classify all research designs in relation to these three broad methodological approaches as follows: -

- Action research studies.
- Studies involving both researcher and practitioner in the research process, with the

researcher feeding findings back to practitioner ultimately to enhance their work.

- Before and after studies (with or without control groups).
- Measures applied before and after an intervention. Where studies use a control group, this second group (who do not receive the intervention) are compared with the 'intervention' group.
- Case studies.
- In-depth, usually qualitative, examination of one setting or 'case', occasionally making comparisons between a small number of cases.
- Interrupted time series studies.
- Measures applied at a number of stages before, during and after the intervention.
- Longitudinal studies.
- Measures taken over period of time after the intervention.
- Post-intervention studies.
- Measures applied after the intervention.
- Randomised control trials.
- Random allocation of 'subjects' to intervention and control groups, with before and after measures for both groups.

Most of the UK evaluations reported employ a multi-method approach and use a before and after study design.

#### 4.2 Classifying Outcomes

Of the available classifications of education outcomes, Kirkpatrick (1967) best met our needs. This typology distinguishes four levels of outcome: -

- Level 1: learners' reactions.
- Level 2: acquisition of knowledge, skills, and attitudes.
- Level 3: changes in behaviour.
- Level 4: changes in organisational practice.

For the purposes of our work, we have modified categories two and four and our working definitions are: -

##### **Level 1: learners' reaction**

These outcomes relate to participants' views of their learning experience and satisfaction with the programme.

##### **Level 2a: modification of attitudes/perceptions**

Outcomes here relate to changes in reciprocal attitudes or perceptions between participant groups, towards patients/clients and their condition, circumstances, care and treatment.

##### **Level 2b: acquisition of knowledge/skills**

For knowledge, this relates to the acquisition of concepts, procedures and principles of interprofessional collaboration. For skills, this relates to the acquisition of thinking/problem-solving, psychomotor and social skills linked to collaboration.

### **Level 3: Change in behaviour**

This level covers behavioural change transferred from the learning environment to the workplace prompted by modifications in attitudes or perceptions, or the application of newly acquired knowledge/skills in practice.

### **Level 4a: Change in organisational practice**

This relates to wider changes in the organisation/delivery of care, attributable to an education programme.

### **Level 4b: Benefits to patients/clients**

This final level covers any improvements in the health and well being of patients/clients as a direct result of an education programme.

## 4.3 Classifying interprofessional education

For the third dimension of our framework, we have used modified variables identified by Barr (1996) in his preliminary attempt to formulate a typology of interprofessional education (see Section 3.3). Those variables are used as follows in this Review:

- Course Content
  - *Common* where programme participants learn the same content.
  - *Comparative* where participants learn about one another.
  - *Mixed* a combination of both common and comparative content.
- Learning methods
- Location, or where the programme is based, e.g. in the workplace or university.
- Duration, with this category sub-divided into three:
  - *Short-term:* programmes that last for up to one day.
  - *Medium-term:* programmes that last for more than one and up to seven days.
  - *Long-term:* programmes that last more than seven days.
- Stage
  - Undergraduate
  - Postgraduate
  - In-service or continuing professional development.

So far as practical, descriptions of the selected papers take these variables into account.

## **5 The Evidence**

### 5.1 Previous Reviews: the Findings

Persuasive though arguments in favour of interprofessional education may be, evidence to substantiate them is elusive. Importantly, in the context of this Review, in 1995 Barr and Shaw found only 19 published evaluations of interprofessional education in health and social care in the UK to report. It was against this backdrop that four of us initiated, with

colleagues<sup>2</sup>, a Cochrane Review of interprofessional education in health and social care. This Group completed a systematic search of databases for evaluations of interprofessional education that employed one of three quantitative methods related to changes in the organisation of services or the quality of patient care. None were found. Disappointing though that was, it at least established a baseline upon which to build the evaluation interprofessional education in terms acceptable to the Cochrane Collaboration.

It was in anticipation of this outcome, and mindful of the importance of process-oriented and participative evaluations that the Cochrane methodology undervalues, that JET embarked upon the Parallel Review. This encompasses qualitative and a wider range of quantitative evaluations and a continuum of outcomes. Some examples used in this Review have been extracted from that body of work, augmented by others already known to us or brought to our attention by CAIPE members.

## 5.2 This Review: the Literature

Papers included in this Review came from published sources and the grey literature. They were selected to cover the widest available range of evaluative methodologies applied to interprofessional education in the UK. The papers also had to fulfil two criteria, namely that the education initiative was *interprofessional*, and the initiative, primarily, was of a formally organised nature.

We looked, where possible, for studies that evaluated educational process as well as learning outcome. Our selection was guided by the need not to repeat work already in the public domain and yet not to exclude from this Review seminal works of importance, historically, because of their contribution to the body of knowledge of interprofessional education. More than one paper employing the same methodology is included where they refer to different types of interprofessional education or report different outcomes. Other selection criteria, based on the quality of the reports are discussed below.

We excluded reports where numbers attending the interprofessional education intervention was small (less than 15), especially if quantitative methodology was used, on the basis that any conclusions were not likely to be sound. This did not invalidate use of reports with small numbers *per se*. Where the study design was congruent with the intent of providing an illuminate evaluation, for example, in a case study, the paper was included. A major group of excluded reports were those where the evaluative methodology, or at least its reporting, was inadequate, making it difficult to link the methodology to the outcomes. Where response rates were less than 50% we judged that any quantitative conclusions reached were unsound. We also excluded papers with unclear methodology and methods, given the difficulty of evaluating results and conclusions in the absence of full information about study design. It is important to stress that the papers reviewed (see Appendix 5) are neither exemplars of best research, nor of best educational practice, but are a reflection of the state of the art.

Applying our selection criteria left us with 19 papers, from 40 originally considered. Some of these report on more than one initiative (e.g. Hutt, McMichael), in others the same initiative is reported in more than one publication (e.g. Carpenter & Hewstone). Evaluations reported by Barr & Shaw (1995) have been excluded on the grounds that summaries of them are readily accessible, except four whose methodology is especially

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<sup>2</sup> Membership then being Hugh Barr, Marilyn Hammick, Ivan Koppel and Scott Reeves with Jo Atkins and Merrick Zwarenstein.

pertinent to the following critique. Coincidentally, both reviews present 19 evaluations, but on this occasion our work has been informed by a systematic search of Medline and also by taking into account more recent research reports. The two reviews also differ in emphasis. Barr & Shaw paid equal attention to the programmes and their evaluation. This Review focuses more upon the research methodologies employed on the assumption that the form and content of interprofessional education is better understood than five years ago. The focus here is on the reported outcomes of interprofessional education within a three-dimensional theoretical framework.

## 6 The Examples

The 19 examples are summarised as follows.

**Hasler J & Klinger M (1976)** describe the quantitative evaluation of a four-day residential course for general practitioner (GP) trainees and student health visitors (HV). The course aimed to improve interprofessional attitudes and increase understanding of each other's professional roles, using seminar-based discussions around the issues of role clarification, enhancing communication, and improving future collaborative practice. The course was initially piloted with 17 health visiting students and four general practice trainees. Pilot evaluation methods were not described although it was claimed that participants enjoyed the course and that all interprofessional learning objectives had been met. The main course, a year later, had a more equal mix of participant groups: 11 health visiting students and 10 GP trainees. Its evaluation centred around: pre-course information from participants' teaching practices on levels of informal and formal interprofessional contact; pre and post course questionnaires to assess participant reaction to the course and areas of learning; pre and post course essays to assess evidence of joint planning of patient care.

Results indicated relatively low levels of contact between these two groups before the educational intervention, but there are no follow-up data of levels of interaction after the course. The essay data reveal a modest increase in their essay scores for both groups achieved after the course. Questionnaire responses indicated over half of the students felt they had learned more about each other's role. However, although participants considered they had a better awareness of communication problems between the two groups, they did not feel that communication levels had improved significantly after the course.

**Brooks, Hendy & Parsonage (1981)** provided a one day course for 27 student district nurses (DN), 24 student health visitors (HV) and 24 trainee general practitioners (GP) which aimed to facilitate learning about:

- the need for teamwork;
- the concept of the primary care team;
- leadership and changing roles in such a team;
- interaction between professionals;
- obstacles in such a team;
- professional identities;
- stereotypes or self-interests.

The learning format was mainly discussions on the roles and factors influencing team function, with minimal didactic input. The evaluation methods were a questionnaire, observation, and informal feedback. Responses were obtained from 21 DNs, 23 HVs and

15 GPs.

Overall, most of the students found the sessions enjoyable. The professions varied in terms of the amount of improvement in their knowledge of other professions and the challenges teams face. Measured on the scale of one to five, overall the GPs scored 3.3, HVs scored 3.2 and DNs showed a more modest gain of 2.5. The HVs were more positive about the concept of a team than the other professionals. All participants scored higher on the appreciation of how they would use this knowledge in the future compared with knowledge improvement. In other words, their underlying attitudes positively changed more than their perceived knowledge.

**McMichael & Gilloran (1984)** report the first evaluation of college-based interprofessional education in the UK at Moray House in Edinburgh (see also McMichael, Irvine and Gilloran, 1984; McMichael, Molleson and Gilloran, 1984). Teachers there were exercised about the incomprehension and even hostility that characterised relations between community work, primary school teaching, and social work students during their qualifying courses. They were concerned that differences observed between the three groups when they entered College seemingly increased as their courses progressed. What could the College do to modify such negative attitudes? Three projects were tried with different student groups. The first offered alternative practice placements in the work setting of one of the other professions. The second was a common course in social psychology (for 146 students) that stimulated interaction by exposing attitudes expressed in replies to questionnaires, debates about ethical issues, games and role play. The third comprised a series of workshops (for 177 students) that included discussions based upon a video of communication problems and conflict management, plus a case study, a work prioritising exercise and a do-it-yourself collaborative project. All three projects were grounded in contact theory, which holds that people like others who are rewarding to them (Berkowitz, 1975; Tajfel, 1981). If, thought the teachers, students of one profession came to enjoy positive relations with those from the other two liking might follow, mutual approval might reinforce self-esteem and the benefits carry over into relations with other members of those professions after qualification.

The second and third projects were evaluated using before and after questionnaires. Findings following the first project revealed that student teachers were now better disposed towards student community workers and social workers, but this was not reciprocated. The attitudes of student community workers and social workers towards student teachers tended to become more negative. Reflecting on the project, the teachers concluded that the Group had been too large and unevenly balanced, the time had been too short (an hour and a half per week over two terms) whilst too little had been done to ensure that all students joined in the interaction. Evaluation of the third project produced similar results, despite modifications in the light of experience. Student community workers and social workers remained critical of the primary teachers, but reportedly more aware of some of the teachers' frustrations. The primary teachers became more aware of ways in which the social workers might help them in their work, but this did not extend to the community workers.

**Bolden & Lewis, (1990)** ran a one week residential interprofessional education (interprofessional education) course, facilitated by a GP and Practice Nurse (PN) educationists, for PNs and GP trainers (12 and 26 respectively). One overall course objective (from 10) related to teamwork and team problem solving, but groups of participants also identified their own aims and objectives. These were mainly educational, but also focused on interpersonal skills and self-awareness. There was a mixture of structured and group activities and topics covered included doctor-nurse relationships,

awareness of one's relationships with others and concepts of teamwork.

Evaluation consisted of measurement of levels of knowledge and attitudes before and after the course. Changes in educational knowledge were considerable; for PNs, 11.9 to 26.6 (maximum of 34), and for GPs 17.6 to 29.5. Changes in attitude were measured through 40 statements on interprofessional issues, personal skills, and attitudes. The results showed changes with respect to professional status and roles, and teamwork issues. Observed behavioural changes included a reduction in the dominance of the GPs as the course progressed towards more equal contributions from both professional groups to discussions.

**Spratley (1990)** reports a multi-method research project, which examined a series of three-day residential and one-day non-residential education workshops for primary health care, teams (PHCTs). Key objectives for the workshops were to develop interprofessional teamwork and communication in the planning of disease prevention and health promotion. A total of 18 workshops, with 521 professionals, including 146 GPs, 98 PNs, 75 HVs and 46 district/community nurses (DCNs), were organised around various problem-solving seminars and the occasional presentation. They were evaluated over 12 months by:

- participant observation of the planning and organisation;
- documentary analysis;
- pre and post workshop questionnaires;
- follow-up interviews with participants;
- post-workshop participation observation in de-briefing sessions.

Follow-up site visits to assess the impact of the workshop training on PHCTs practice were also made.

The workshops were highly valued by the participants who felt that their communication and team working skills had been enhanced and that the workshops provided a useful opportunity for teams to develop and plan strategies for disease prevention and health promotion. All participants achieved the short-term learning objectives related to improved communication and joint planning skills and longer-term objectives were also met. Site visit data revealed that the PCHTs had begun to critically review their current practice and were in the process of developing methods of enhancing communication within the team. Improved communication strategies were also being developed between PCHTs and local health/social care agencies, community groups and clients/users.

**Ashton (1992)** used a quasi-experimental design to compare retrospectively occupational therapists, physiotherapists, and speech therapists (the study group) attending a continuing professional development course. This lasted one day a fortnight for one year with a similar non-attending control group (N=98). The study included all those attending between 1980 and 1986 (N=97).

In addition to aims relating to the continuing professional development and introduction of evaluation of the participants' work, the course aimed to promote 'awareness and sensitivity of each profession to the other professions involved in the patient care. More specifically, two of the objectives expected students to develop interprofessional education and demonstrate awareness of issues in interprofessional relationships.

Evaluation of the course was by questionnaire which sought basic demographic information, data on professional activities [based on a Likert scale of 1-5], self-assessment of skills, assessment of the course and future continuing education needs. Responses from 62 (81%) of the therapists attending and 67 (68%) of the controls were

analysed using arithmetic means, tests of variance, and chi-square and t-tests .

At the end of the course the study group was significantly more involved in research (sign. 0.00) and administrative and management tasks (sign 0.03). These students also identified the following skills to be less of a problem than did the control group: identifying needs of staff members; patients and carers problem identification; research skills and developing interprofessional education. There was no significant change of perceived impact of the course on interprofessional relationships. The research was not designed to gather any direct evidence of impact of the course on patient care. When evaluating the course in relationship to usefulness to gaining new skills – the following three skills came top: research, interprofessional relationship and interprofessional education. A separate study was made of 21 therapists attending post-registration interprofessional education course at certificate level. Most of the modules were positively evaluated for their usefulness.

**Spencer, Pearson, James & Southern (1993)** report a multi-method study to assess the impact of a series of two one-day training courses for primary health care teams (PHCTs). Adopting a continuous quality improvement approach, the courses were designed to provide PHCTs with an understanding of the use of multidisciplinary audit and provide encouragement in implementing this form of audit in their practice. Five PHCTs participated in the both training days, with participants from medicine, nursing and social work. The course was seminar-based with each PHCT undertaking a variety of problem-solving and brainstorming exercises. The training was evaluated over a 12-month period by the following methods:

- pre and post course questionnaires to assess attitudes to audit and team function;
- lists of problems generated by each team and their responses about the project and ideas on audit;
- site visits undertaken after the training to assess the progress of each PHCT with multidisciplinary audit.

The findings revealed both behavioural and practice changes within the PHCTs. All teams had identified a range of topics for review/audit and had undertaken initial work in this area. Three of the five PHCTs had gone on to produce an audit plan and drawn up a 'team manifesto' (to improve the process of teamwork in their audit cycles). The project also found that teams had experienced a range of problems while undertaking their audit work. In particular, lack of time, lack of understanding of audit and poor interprofessional communication within teams had acted as barriers in their work with multidisciplinary audit.

**Brown (1993, 1996)** reports an evaluation into the effectiveness of developing teamwork in PHCTs using either workshops alone or workshops with a follow-up visit. The participants, multiprofessional teams of practitioners (GPs, Practice Nurses, District Nurses, Community Psychiatric Nurses and practice administrative staff), were purposively drawn from nine Practices, with controls from another nine Practices. In summary, the workshop aimed to establish working relationships between team members and to initiate common objective setting and action planning. The follow-up visit aimed to maintain any enthusiasm generated by the workshop.

The evaluation employed pre and post intervention questionnaires with initial questionnaire responses from 65 participants and 58 controls, and follow-up responses from 40 participants and 49 controls. The findings report positive changes in perceptions of who belonged to the PHCT, participants understanding of their colleagues' roles and the value of meetings. Assessments of teamwork within PHCTs and job satisfaction were

rated more highly by the participants than controls. In general, the follow-up visit was found to be useful with slightly more respondents from practices with no workshop participation identifying a need for support in the development of teamwork activities.

Overall, the author concludes that time set aside for team building work, either in workshops or through facilitated visits, both of which provide protected time for consideration and reflection is useful.

**Nash & Hoy (1993)** evaluated three-day residential workshops on terminal care in the community, organised by a nurse and a palliative care physician, for GP and District Nurse (DN) practice-pairs. The workshop content addressed issues related to difficult symptoms, breaking bad news, counselling and communication, grief and loss and coping but also varied according to individual group needs. Adult and experiential educational methods used included small and large group discussion, video, and case history analysis. Formative end-of-workshop evaluations were done routinely.

The evaluation is reported here of five such workshops retrospectively attended by 47 participant pairs. Anonymised questionnaires collected demographic data and information on the effects of the workshops on practice and of attending with a professional partner. General practitioner respondents (77%) had almost all completed a vocational training scheme and of the DNs 94% were trained. There was a varied pattern of responses on the effectiveness of the workshops on practice but attending together was considered either helpful or very helpful by all but two respondents. Benefits were considered to be positive shifts in understanding of the *other* as a person, by the DNs, and a broadening of outlook and easier access, by the GPs.

**Hutt (1994)** analysed the outcomes of three-day asthma and diabetes courses for primary health care professionals (Practice Nurses, GPs, managers and receptionists). Evaluation methods were:

questionnaires to matched groups of attendees and non-attendees (controls) before and 6 months after the course to collect demographic data, practice profiles and learning needs;

semi-structured interviews on asthma care and learning needs with a sample from both professionals groups.

Response rates varied between 100% and 47%. Pre-course results for the asthma course showed no significant differences between groups on various indicators, such as having asthma clinics, specialist nurse, asthma registers, protocol, performing audit, teaching and checking inhaler techniques, self-management plan and having record of smoking. Those who attended scored significantly higher on their perceived learning needs but this is likely to be related to choosing to attend to improve their knowledge/ skills/ practice organisation. Post-course results show that the attendees improved on all indicators but comparisons are limited by the low response rate from the control group.

Pre-course results for the diabetes course show no overall difference between the groups but attendees were more likely to have registers and protocols and non-attendees were more likely to audit the care, have specialist nurses and have clinics. There were no obvious differences in the learning needs of the two groups, i.e. no clear indicator of the motivation for attendance. Post-course results show that the attendees showed a significant increase on one indicator, more practices reported having nurses and more of them shared involvement in care. Overall, changes resulting from attending the courses were small. It is likely that this is related to the good standard of care already in place before the educational intervention.

**Thomas (1994)** reports on the 'Liverpool Intervention', a two stage (1989-91 and 1991-

94), a project that aimed to facilitate the development of Primary Health Care. In Stage 1 one nurse and one GP facilitated the development of general practice across the City, aiming for sustainable change. Their priorities were to:

- end the isolation of GPs;
- promote the employment of Practice Nurses;
- provide training and support;
- promote the concepts of health;
- reduce the preoccupation of health workers with disease and isolated action.

The multifaceted intervention adopted an opportunistic, problem-solving approach, listening to stakeholders, collating and disseminating their perspectives in order to work towards consensus for action. Activities included providing bulletins, facilitating multidisciplinary forums and workshops, presenting models of good practice, road-shows, residential team-building activities, promoting consensus statements and coalitions, and encouraging networking and interagency collaboration.

Stage 2 with a multi-disciplinary facilitation team (GP, Health Visitor, Practice Nurse, Practice Manager and administrative support) concentrated on one geographical area of the City where General Practice was thought to be particularly underdeveloped. Their priorities were to develop:

- basic teamwork and teamwork skills;
- skills to learn from each other in daily work;
- models of collaboration and of how to produce consensus.

The activities aimed to make the process of facilitation more visible with the aim of achieving outcomes related to teamwork development, effective service delivery, and multidisciplinary education.

In keeping with the action research perspective of the project its evaluation was contemporaneous with its development. A diversity of evaluation methods and indicators were used to provide a breadth of evidence given that different interventions were employed and the many stakeholders had different perspectives and needs. Qualitative evidence of success is given through comments from the project participant practitioners. Quantitative comparative judgements are made between the targeted geographical area, the rest of the City and a London Family Health Services Authority (FHSA) that shared several characteristics with the target area, mainly through changes in immunisation and cervical cytology rates.

At the end of the project the facilitation team was disbanded and four Local Multi-disciplinary Facilitation Teams (LMFTs) of 20 local practitioners for five hours per week. The existence of the LMFTs is 'the most significant piece of evidence of the success of the PHC Facilitation Project' Thomas (1994, p19). An action researcher was appointed to facilitate the evaluation of the LMFTs, using an evaluation framework developed in collaboration with local stakeholders.

**Hewstone, Carpenter, Franklyn-Stokes & Routh D (1994), Carpenter & Hewstone (1996) and Carpenter J (1995a&b)** report the evaluation of an extended series of shared learning opportunities at the University of Bristol between 1983 and 1991. All the papers describe study days involving either final year medical students with final year undergraduate nurses or final year medical students with social work students in their third or fifth term. Although there was some element of choice in which parts of the shared

learning programme students 'signed up' for, on most occasions all were expected to participate in some aspect of the programme which comprised a mixture of full day and half day sessions. Not all students felt positive about the shared learning before it began.

The shared learning programme and its evaluation were set in the conceptual frameworks of 'the contact hypothesis' and theories of inter-group relations.

The learning aims were to:

- examine similarities and differences in the attitudes and skills of members of different professions;
- acquire knowledge of professionals' respective roles and duties;
- explore methods of working together co-operatively and effectively.

The learning experiences were structured to promote successful joint learning in a co-operative atmosphere with students working in interprofessional pairs and small groups. Session leaders were asked to draw attention to both professional similarities and differences. The evaluation focused on stereotyping behaviours and attitudes towards:

- the shared learning experience;
- ratings of ingroup and outgroup status;
- abilities, knowledge, attitudes and behaviour.

Data collection by anonymised questionnaires, mainly using Likert-type scales, with some opportunity for comment, was undertaken at uniprofessional briefing sessions prior to the shared learning opportunity and again at the end of the shared learning. A self-generated code permitted the linkage of pre-tests with post-tests. Collectively, the four papers report responses from 74 medical students with 67 social work students and 23 medical students with 16 undergraduate nursing students. Analysis of variance (ANOVA) tests were employed to explore and interpret the quantitative data. Some evidence was found to support positive changes in attitude at the end of the programme, although the authors acknowledged that these might not persist. In addition there was evidence of mutual inter-group differentiation, that is, when each profession's particular and valued contribution to specific circumstances is acknowledged by all groups.

**Poulton (1995)** studied measures of team functioning in 39 PHCTs before and 3 months after attending HEA workshops. Using a self-generated questionnaire, based on a Team Climate Inventory, a number of aspects of team functioning, taking into account factors such as size and heterogeneity of team membership and process of teamwork (e.g. team participation), were surveyed. On five of these there was evidence of significant improvement: namely, understanding of the knowledge and experience required for individual team roles ( $p = <0.001$ ); task orientation to promote quality of care ( $p = <0.001$ ); and better team participation ( $p = <0.001$ ). In addition, teams showed an increase in their clarity, ability to share, valuing of team objectives, and in the appropriate use of team members' skills. No change was documented on support for innovation and valuing individual roles.

Participants also evaluated the workshops through pre- and post questionnaires. They saw the workshops as having contributed positively to improving team function, in aspects such as communication, spirit and efficiency; developing new ways of working and improving quality of care. The limitation of this part of the study is the lack of a control group. No impact on patient care was documented.

**Greene, Cavell & Jackson (1996)** report their evaluation of three years of joint therapeutic teaching sessions (2.5 hrs) for selected final year pharmacy and second MB medical students. Student pairs (4-5 for each session) are asked to present their findings on clerking and compilation of a medication profile for an assigned patient to a plenary session for all students.

The paper reports the formative evaluation, by questionnaire, of nine such sessions, from 73 students (34 BPharm and 39 MBBS). Data were collected about the organisation of the sessions and the experience of interprofessional learning. Overall reaction is reported as positive from all students and there was agreement (55%) or strong agreement (40%) on the usefulness of learning with students from other disciplines. Problems identified by the students were of a practical nature and most favoured more sessions of a similar type. From the formal evaluation the researchers observed that the students appeared happy to learn from each other and that there was little nascent professional rivalry.

**Hughes & Lucas (1997)** presented an evaluation of problem-based learning (PBL) in three multiprofessional education (MPE) modules for undergraduate students from physiotherapy, prosthetics/orthotics and diagnostic radiography. The modules, People in Society; Developing Professional Co-operation and Interprofessional Clinical Practice, formed part of the students' undergraduate curriculum from year one to year three and share the overall aim of developing team working and reflection skills. Each module had a four-week duration and was taught in small interprofessional student groups.

Evaluation data for two cohorts are presented: 1994/95 with responses from 68 students and 1995/96 with responses from 106 students. The evaluation design is unclear, however from the data presented it appears that post-intervention student questionnaires were used to assess the impact of the module, through the following specific aspects of the module:

- the extent to which students met their MPE objectives;
- the extent to which students met their PBL objectives;
- amount of self-directed PBL students undertook;
- number of PBL learning objectives students generated;
- tutor performance;
- quality of working problems generated.

The findings reveal that the vast majority of students, in both cohorts, felt their MPE and PBL objectives had been fully met. Overall there were generally positive outcomes in terms of the student learning experience during the module. However, the issue of group size was a factor in the quality of the student interaction with the 1995/96 cohort (with larger PBL student groups) scoring slightly lower in terms of meeting their MPE and PBL objectives compared with the 1994/95 cohort, with smaller PBL student groups.

**Pryce & Reeves (1997)** present findings from a multi-method research project that focused on a two week community-based module for first year undergraduate medical, dental and nursing students. The module's overall aim was to provide students with experience of the community and to enhance their team working skills. The project evaluated the micro and macro educational processes through a case study approach. Qualitative data (e.g., pre/post module focus groups, individual interviews, and observations) were collected from the participants: 36 'interprofessional' students; 14 tutors, ten health care users. In addition, 30 students who did not undertake interprofessional education were interviewed to obtain comparative student data. To assess the wider, macro issues connected with interprofessional education, six strategic

gatekeepers were interviewed, including the Deans of a medical school and a nursing school and representatives from health professional bodies. Economic data and quantitative student satisfaction scores were collected for a formal cost-benefit analysis.

Findings from this study revealed that all informants attached a high value to interprofessional education, regarding it as essential to improve interprofessional communication, enhance co-operation and reduce professional rivalry/hostility. All the interprofessional students met the module's learning objectives and, generally, they enjoyed their interprofessional learning experience. However, the quality of their teamwork was affected by a number of difficulties, such as: time-tabling clashes and the perception that a community-based module represented 'low status' knowledge. In relation to teaching on the module, the data indicated that tutors did not pay attention to the processes of group work and this resulted in generally poor quality teamwork. Data gathered from the student control group indicated no significant discrepancies between their perceptions and attitudes of interprofessional education when compared directly with the student intervention group. The cost-benefit data indicated that the direct cost savings and the benefit changes for introducing interprofessional education in this particular case were both marginal.

**Lacy (1998)** reports the evaluation of the first four years experience (1992-96) of an interdisciplinary, one year, part-time course for practitioners concerned with meeting the needs of people with profound and multiple learning disabilities (PMLD). The course was a collaborative initiative between Birmingham University, Department of Education, and the British Institute of Learning Disabilities (BILD). All students followed the same curriculum but, to accommodate different levels of prior educational attainment, the assessment was at two levels, leading to the award of either a University of Birmingham Advanced Certificate of Education, or a BILD Certificate in Disability Studies. Practical assignments, at each level, involved participants' day-to-day work, and aimed to improve participants' collaboration with other people in their workplace. The course developers hoped that multidisciplinary groups, already working in the same place, would undertake the course together. The course steering committee, course material development teams and the group of session leaders and speakers were all multidisciplinary to address a perceived perception that the course was unidisciplinary (education).

The evaluation adopted an action research perspective, designed to improve the course iteratively, with the desired outcome of ultimately improving the lives of people with PMLD. The evaluation utilised a range of questionnaires with a variety of open and closed questions, routine institutional course evaluation, open-ended and semi-structured interviews, observations in some participants' workplaces, and a reflective journal.

A total of 109 participants, from 11 occupational groups, in four cohorts contributed to the evaluation. A high proportion (38%) was qualified teachers and this is attributed to the course emphasis on learning and development, and its location in a School of Education. Thirteen nurses and five therapists participated and 48 participants were categorised as paraprofessionals (classroom assistants, support workers, home managers and instructors). Just one qualified social worker joined the course, which was disappointing to the evaluator. Subsequent accreditation by the Central Council for Education and training in Social Work and targeted advertising gave cause for optimism that numbers would increase. There were 18 cases of groups undertaking the course together, but only six groups contained representatives of more than one job category.

The non-teachers sometimes felt disadvantaged by their lack of prior knowledge and overawed by the number of teachers attending. Ten aspects of collaboration were built into the PMLD course: definitions of terms;

- the roles of different professionals;
- strategies for professional collaboration;
- joint planning;
- joint observation, assessment and recording;
- effective teamwork;
- communication between professionals;
- working together in meetings and case conferences;
- affecting change in organisations; and training for collaboration.

Participants in the 18 groups rated these for usefulness and relevance and all topics were positively viewed by over half the respondents. All 18 groups felt their teamwork had subsequently improved.

Thirty-two participants completed an open-ended questionnaire between them identifying 74 effects of the course on their practice. These were categorised into; increased communication, increased working together, and improved attitude to teamwork. Informal discussions identified increased confidence as a widespread gain from the course. However, the author comments:

‘Many participants feel that although they do learn new skills and increase their understanding, much of what they discuss and do merely confirms what they have been doing naturally.’

Observations in workplaces, elicited by third party report, indicated increased collaboration initiated by colleagues who had attended the course. Participants who attended together valued the time for joint reflection and planning, but reported that it remained difficult to make opportunities for this in the workplace. Some participants reported an ability to make changes to their own practice but an inability to change the practice of colleagues.

A report from the **University of Derby (1998)** looks at the implementation and evaluation of a funded pilot project in which social work and occupational therapy undergraduate students shared some learning experiences throughout their three-year degree programme. Topics selected for the shared sessions were professional roles and models for understanding people in society.

An action research framework was used for the evaluation, involving students, and staff. Data collection was by self-selected student focus group interviews and staff, and an attitudinal student survey tool. Content analysis and descriptive statistics were used as analytical methods. The authors conclude that the aim of *shared* learning, as proposed by Barr (1998), was beginning to be achieved for the students and that the impact on staff was positive. Organisational difficulties are highlighted. Outwith the results of the reported empirical work the report comments that the students show a continuing interest in sharing sessions and an awareness of the overlap in the work of the two professions.

**Parsell, Spalding & Bligh (1998)** report the evaluation of a two day pilot course entitled ‘Foundation Course in Health Care: Learning to Work Together in the NHS’. Twenty-eight final year undergraduate degree students attended, four each from: occupational therapy, orthoptics, therapy radiography, nursing, physiotherapy, medicine and dentistry. The learning objectives were to:

- provide opportunities to debate issues relating to working in the NHS;

- explore attitudes and concerns towards each other as professional practitioners;
- relate more effectively to colleagues through an increased understanding and awareness of their roles and responsibilities;
- recognise the involvement and priorities of other members of a multiprofessional team.

The course was facilitated by experienced practitioners engaged in a variety of professional roles within the NHS. The key components of the course were: two keynote talks followed by whole group discussion; an exploration of professional roles, aided by a ‘talking wall’, conducted in small interprofessional groups; case-based tasks addressed first in unidisciplinary, then in multidisciplinary groups.

The evaluation was formative, collecting both qualitative and quantitative data, and concentrating on stakeholder questions and issues. The emphasis was on describing, exploring and testing stakeholders’ and the programme’s theory of action. The participants were self-selected and all contributed to the evaluation. Three questionnaires, each containing a mixture of open and closed questions, were completed before the course, at the end of the course, and six weeks after it had finished. Response rates at each stage were 100%. The post-course questionnaires revealed small changes in knowledge and attitude, concentrated upon items that had been addressed during the workshop and related to the less well-known professions. Respondents were very positive about the learning opportunity. The authors acknowledged that there is little evidence to suggest that the changes reported by students would impact on their subsequent professional practice.

The successful pilot generated plans to make similar learning opportunities available to a greater number and wider range of students, by including interprofessional learning opportunities in their curricula. The logistical difficulties of attaining this goal are briefly discussed.

## **7 The Overview**

Ten of the 19 evaluations reported above involve primary health care practitioners. Participants in these studies vary from whole teams to smaller groups of staff with responsibility for specific aspects of care, e.g., care of clients with asthma and the terminally ill. One of the earliest studies (Hasler & Klinger 1976), and the later work of Bolden & Lewis (1990), focus on residential courses for primary care practitioners in training, whereas in the remainder the educational interventions can be described as types of continuing professional education (CPD). Ashton’s (1992) work was also related to CPD for three different groups of therapists (occupational therapists, physiotherapists, and speech therapists). The majority of these interventions are short (one day to one week) but Lacy (1998) and Ashton (1992) describe longer courses. By implication, all of these are for part-time learners.

There are also reports (seven in this Review) of the evaluation of interprofessional education within full-time undergraduate programmes, where pre-registration health and social practitioners from a number of different professions (two, three and seven professions, in this Review) learn together. The length of this experience varies from sessional, e.g., a study day, where students can choose to take the opportunity to learn with peers from other professions, to more extended learning experiences on compulsory modules. The only evaluation of an award based course for qualified practitioners reviewed here is Lacy’s (1998) study of practitioners concerned with meeting the needs of

people with profound and multiple learning disabilities.

All of Barr's (1996) five educational variables are represented in this Review. These are, of course, not mutually exclusive. The major differentiation seems to be related to either pre-qualifying full-time award courses, with interprofessional education experienced as a short (one day or less) session or as one or more module, or post-qualifying part-time experiences of interprofessional education, most usually of one week or less.

Almost all the learning methods previously described by Barr (1996) are utilised in the papers reviewed, often more than one. The intention is inevitably to encourage discussion, using participatory learning experiences. Some of these are creative, e.g., a 'talking wall', many are case-based and others provide participants with the opportunity to focus on work-related issues, e.g., action planning for PHCP teams that attend a course together. The interventions described by McMichael et al (1984 a, b& c) and Pryce & Reeves (1997) are unique in their inclusion of practice-based learning for pre-registration students. The evaluations, through their focus on the achievement of the course learning outcomes or aims, are not sufficiently detailed to permit any judgements about the relative value of these different methods.

In all the papers reviewed here the goals of the educational intervention include and indeed, in some cases, have as their *raison d'être*, an improvement in team working between the different professionals who deliver health and social care. In some cases, this is detailed in the publication and incorporates aims that seek to change attitudes, reduce stereotyping, enhance communication, common objective setting, and action planning, and improve knowledge of professionals' respective roles. Less often the aim is implicit in the nature of the participant group, for example, the report by Lacy (1998) where practitioners concerned with meeting the needs of people with profound and multiple learning disabilities are brought together. In some cases the intervention aims to give the participants opportunity for developing personal skills and knowledge in specific areas, such as self-awareness, reflection and knowledge of the community, in the latter case for pre-registration undergraduates. Hammick (1998) highlights the role that a shared agenda and mission, which is often 'patient-care focused' and developed from national and, or local agendas for improvements in morbidity, mortality and quality of life play, has in courses for qualified staff. This is reflected in the papers reviewed here when participants and course aims are looked at together. Client groups such as those with asthma and diabetes, and national priorities such as the planning of disease prevention and health promotion, understanding of the use of multidisciplinary audit are amongst the topics. The courses for pre-registration students have more general aims as described above, with a clear focus on the development of interprofessional attitudes and knowledge of advantage to practitioners entering the world of collaborative work.

### 7.1 Evaluations of interprofessional education in health and social care

Educational evaluation can be seen as a political act. In health and social care a number of bodies, e.g., purchasers, professional and awarding bodies, each with their own (competing) agendas, participate in monitoring the work of educational providers. However, it could be argued that most of this monitoring is concerned with learner achievement for an award, as opposed to changes in their practice behaviour and its subsequent impact on client care.

Unsurprisingly then, most of the evaluations reviewed here are criterion focused, developmental and process orientated (Thackwray, 1997). They are more concerned with stakeholder (usually student but also, indirectly, employer) satisfaction than meeting external requirements, self-evaluations, rather than independent, external evaluations are

the norm and many seek to answer questions about improving the delivery of the intervention as well as those on the attainment of the aims. Overall, the evaluations reviewed here have a formative purpose, using action research (see, for example, the University of Derby, 1998), the case study approach and, most often, pre and post course surveys. Commonly, more than one data collection method is used and a number incorporate controls. Where the controls could be the non-participants, who elected not to attend the course, issues of bias are not always well explored by the researchers. An interesting use of control is in the study by Thomas (1994) who used a convenience sample for controls and in which quantifiable practice outcomes were utilised. The only example of a formal cost-benefit analysis is that by Pryce & Reeves (1997) who also assessed macro issues connected with interprofessional education, by involving strategic gatekeepers and collecting economic data.

Data collection tools are mainly questionnaires, with and without student essays, individual semi-structured and focus group interviews, and observation. Informal feedback is often incorporated into the study design and follow-up site visits and interviews also used. The investigators almost always sought basic demographic information and evidence related directly to the participants' experience of the course and often afterwards (up to 12 months in some cases). This included data on professional activities; self-assessment of skills; levels of knowledge; attitudes to team function; effects on practice and of attending with a professional partner; assessment of the course and future continuing education needs.

As indicated earlier, one criterion that determined inclusion in this Review was an appropriate match between the study design and participant numbers. However, in the interests of also reviewing across the width of interprofessional education evaluations, studies with relatively small samples were included. For example, Hasler & Klinger (1976) present work on 11 health visitor students and ten general practitioner (GP) trainees and Bolden & Lewis (1990) 12 practice nurses and 26 GP trainers, whilst Spratley (1990) report on 18 workshops involving 521 professionals. There is a similar range in sample size for studies using primary health care teams (PHCTs) with Spencer et al (1993) surveying five, while Poulton (1995) studied 39 teams. This range of sample sizes is as much a feature of interprofessional education per se as it is of research design with continuing professional development courses tending to have smaller samples than award bearing undergraduate programmes. For these, the sample sizes vary from 24 medical students and 67 social work students and 23 medical students with 16 undergraduate nursing students (Hewstone et al 1994; Carpenter & Hewstone, 1996; Carpenter, 1995a&b) and 28 participants from occupational therapy, orthoptics, therapy radiography, nursing, physiotherapy, medicine and dentistry (Parsell et al 1998) to McMichael's (1984 a, b & c) studies with 146 and 177 students. Only one study (Pryce & Reeves 1997) using qualitative data collection methods gives sufficient detail to allow comment on the participant numbers and in this work data was collected from 36 students, 14 tutors, ten health care users and 30 student-controls. All the major professions involved in health and social care are represented in the studies reviewed, the nature and setting determining the professional mix for each study.

Response rates, when given, are good, e.g. from 62 of 79 (81%) of therapists and 67 of 98 (68%) of controls for Ashtons (1992) and from 65 participants and 58 controls, with follow-up responses from 40 participants and 49 controls for Brown (1993, 1996).

Attention to the analytical techniques applied to the data collected on the evaluations of interprofessional education reviewed here indicates the popularity of representational statistics. This is to be expected with the number of questionnaires used, and the tendency

within these to collect quantitative data using Likert-type scales in measuring changes by pre/post tests of knowledge and attitude. A few studies give details of more sophisticated analytical tests, e.g., Ashton's (1992) quasi-experimental study reports the use of arithmetic means, tests of variance, and chi-square and t-tests and Hewstone et al (1994), Carpenter & Hewstone (1996) and Carpenter J (1995a&b) used analysis of variance (ANOVA) tests. We found little evidence about the techniques used to analyse qualitative data and this makes it difficult to comment on the rigour of the empirical work. Impressionistically, it appears that the researchers themselves are frequently the data collection tools, i.e., they conduct the interviews and observations. Issues of importance in the interpretative paradigm such as researcher bias and saturation of data, remain unexplored, except by Pryce and Reeves (1997).

We now go on to relate the findings from this Review to our modified version of Kirkpatrick's (1967) typology on learning outcomes.

### **Learners' reactions**

Results relating to learners' reactions could be clearly identified in ten of the 19 studies reviewed. Overall, it seems that learners find interprofessional education an enjoyable and valuable experience. The positive experience of interprofessional education is also implicit in a number of papers that concentrate on reporting other outcomes, such as changes in attitudes and knowledge. Given that reaction is the easiest outcome to measure, it is unsurprising that this is apparent in the results of most studies. Comments are also found that indicate the practical difficulties, such as large group size and time tabling clashes, faced by educators, and felt by students during interprofessional education sessions. These will reduce student satisfaction and are very real issues for the smooth delivery of undergraduate pre-registration interprofessional education.

### **Modifications of attitudes or perceptions**

In 12 of the studies the effect of the interprofessional education intervention on the attitudes of the learners towards colleagues from other professions was, in some way, assessed. Reports on this vary in their detail from simplistic and clear statements that 'over half of the students felt they had learned more about each other's role' (Hasler & Klinger 1976) to expanded comments about interprofessional education being able to bring about 'positive shifts in understanding of the other as a person ... and a broadening of outlook' (Nash & Hoy 1993). With the exception of the work by McMichael et al (1984 a,b,c), who report positive and negative changes in attitude, all the studies with pre-registration students indicate that the experience of interprofessional education had positively changed their perceptions of peer professionals. In particular, Parsell et al (1998) report 'small changes in knowledge and attitude related to the less well known professions'.

### **Acquisition of knowledge and skills**

As outcome assessment moves through Kirkpatrick's classification it is increasingly difficult to identify the impact of the intervention and to be clear about the changes that resulted from participation in interprofessional education. In a few studies, e.g., Bolden & Lewis (1990), changes in knowledge are reported but most commonly it is the ability to work as part of a team that is enhanced, especially so for interventions involving post-qualifying practitioners, and very apparent where PHCTs participate in workshops.

### **Changes in behaviour**

A number of the studies give participants' reports on changes in professional practice, or detail the observation of changes in practice, following interprofessional education. In

both Spratley (1990) and Spencer et al (1993) changes in the behaviour of PHCTs are reported that included reviewing current practice, development of methods of enhancing teamwork and production of an audit plan. Similarly, Nash & Hoy (1993) report the effectiveness of some of their workshops on practice in relation to care of the terminally ill in the community. More direct improvements in practice are reported by Hutt, (1994) using practice related indicators such as specialist clinics and nurses, and disease registers and protocols, although not all the indicators used showed positive changes from pre to post test results. Lacy (1998), through information collected by informal discussions identifies 'increased confidence as a widespread gain from the course' and, by third party observations in workplaces, 'increased collaboration initiated by colleagues who had attended the course'. Of importance is the Lacy's (1998), report of some participants' ability to make changes to their own practice but an inability to change the practice of colleagues. The issues associated with learning lessons from personal experience of interprofessional education that are politically difficult to implement in the real world of practice should not be underestimated and need to be addressed during the intervention. The aim must surely be to empower interprofessional education participants to manage personal change and sensitively handle reactions from their colleagues to their newly found enthusiasm for collaboration.

Unsurprisingly, the changes reported in this section are all related to interprofessional education for post-registration learners. For undergraduates, whether they have participated in short or extended interprofessional education, behaviour changes will be in the future and no long-term follow-up evaluations are presently reported.

### **Impact on the community or organisation**

Two of the studies reported on the effect of interprofessional education in relation to the wider community of health and social care. In keeping with the strong emphasis on strategies to improve communication within primary health care teams (PHCTs), Spratley (1990) also reports improvements of inter-agency communication, i.e. between PHCTs and local health and social care agencies, community groups, and clients and users. PHCTs also feature in the second example with Thomas (1994) reporting facilitating the work within general practices as evidence of the success in implementing Local Multi-disciplinary Facilitation Teams. Again, that this relates to post-registration interprofessional education is unsurprising and given the increasing literature about interprofessional education in primary care settings it was most likely that the only reported examples of outcome at this level of Kirkpatrick's model would be located in this particular care setting. These examples are in a minority due to the challenges in measuring the impact of education at this level of sophistication, removed as it is from point of delivery to the learner. Note also that, methodologically, the evaluations of Spratley (1990) and Thomas (1994) do not necessarily withstand the scrutiny needed to give formal significance to their results and to permit suggestions of generalisability. However, their results are of importance in a developing field of educational evaluation and are to be applauded for the insight into the wider impact of interprofessional education that they possibly suggest.

### **Benefits to patients or clients**

Thomas (1994) and Hutt (1994) provide the only examples of the potential for interprofessional education to benefit direct care to the client or patient. Thomas gives results of quantitative comparative judgements of the targeted geographical area, i.e., the area from which the PHCTs involved in interprofessional education were drawn, the rest of the City and a Liverpool Family Health Services Authority that shared several characteristics with the target area, mainly on changes in immunisation and cervical

cytology rates. Hutt showed that the intervention group was able to improve the care of diabetic patients, as indicated by a significant improvement in fructosamine levels (a measure of a degree of diabetic control) for their cohort of patients. Fructosamine levels, as intermediate clinical outcomes, are a good predictor of the likelihood of development of future diabetic complications.

## **8 The Implications**

The threefold classification of methods of evaluation, outcomes and interprofessional education formulated in Section 4 proved to be a useable and useful framework within which to locate the examples reported in Section 6. It revealed which methods of evaluation have been tried so far and which remain to be tried. It also confirmed our suspicion that few outcomes had been measured beyond the stage of the acquisition of knowledge and skill. It was reassuring that the variables included in the provisional typology of interprofessional education were applicable and this has encouraged us to use the same classification in our continuing work. Given the dearth of evaluations of professional education, the attention presently being given to interprofessional education is gratifying, but we also have reservations.

### **Improving and extending methodology**

Evaluations were, for the most part, conducted by the teachers and trainers themselves. This deserves to be applauded, but carries constraints. Familiarity with the programme clearly has advantages, but the downside can be loss of objectivity, lack of time and limitations on methodological range. Few researchers have evaluated more than one programme. Most evaluations have been conducted in isolation. Few make reference to other evaluations or demonstrate awareness of the wider literature and there have been few opportunities for researchers to compare experience.

A research culture is, however, beginning to emerge within interprofessional education in health and social care. This promises to provide mutual support and to enable researchers to build upon the experience of one another. The field may now also be of sufficient interest to attract more full-time researchers and research units. This should begin to establish critical mass. Welcome though more full-timers researchers will be, most evaluations of interprofessional education will, in all probability, still be conducted by the teachers and trainers themselves. This stresses the need for guidelines to alert part-time researchers, especially, to the systematic application of a range of research methodologies to the evaluation of interprofessional education. This is a task to which we shall be turning our attention shortly.

Pending further progress with the Parallel Review (see Appendix 4) it would be premature to make suggestions regarding the future evaluation of interprofessional education. Nor when the time comes to do so, does JET envisage commending one methodology in preference to another. Rather, we see the need to widen the range of methodologies employed and to strike a balance between evaluation of process and outcome. The former is essentially qualitative, the latter often quantitative. Where findings refer to outcomes, it is vital to explain the learning process in sufficient detail to permit the reader to make sense of them.

We doubt whether randomised controlled trials will become widespread in interprofessional education in health and social care given the cost, expertise required and the logistical obstacles. We nevertheless attach importance to testing and developing that methodology in combination with the qualitative evaluations of process.

We question the value of measures following completion of interprofessional education without the inclusion of measures beforehand to provide bases for comparison. We regret that more has not been done to follow up students on completion of interprofessional education to test how far changes in attitude or knowledge are sustained and learning is applied to practice.

This points towards interrupted time series studies before, during, after and some time after the interprofessional education (again accompanied by evaluations of process) in which case attention may need to be paid especially to ways to sustain response. We also see scope for comparative studies that apply the same methodology to interprofessional education programmes which, albeit similar, differ in key respects such as the interactive learning methods employed. There is, however, much that can be done more modestly to enhance understanding of interprofessional education, especially by means of case studies, which also provide bases for comparison.

### **Improving presentation**

The burgeoning literature on interprofessional education contains numerous examples of evaluation from which researchers, not least those new to the field, can learn. This Review offers a way into UK sources. The Parallel Review will do so for world wide sources. But the clarity with which research methods, findings and interprofessional learning processes are reported is often less than adequate. In the course of this Review, we have struggled repeatedly to deduce essential information. Some examples of interprofessional education evaluation were rejected for lack of explicit data, even though we suspected that the evaluation conducted was better than the report. Without clearer presentation evaluations cannot be replicated and compared, nor can the implications for the design and delivery of interprofessional education be determined with confidence. There are lessons here not only for researchers, but also for journal editors accepting papers for publication.

### **Putting this Review in the wider context**

It would be foolish to attempt to draw conclusions about the efficacy of interprofessional education on the strength of UK experience alone. We are increasingly confident that our ongoing work based upon evaluations of interprofessional education world wide will shed light upon the relationship between form, content, learning methods and outcomes for at least some types of interprofessional education. Armed with these data, types can be targeted where future evaluations may be most productive to inform policy and practice in interprofessional education in the context, first, of policy and practice for professional education and, second, strategies to improve services to patients and clients through closer collaboration.

Meanwhile, this Review presents our attempt to capture the current state of the art of evaluation in interprofessional education in the UK, to provide researchers at home with the means to take stock of collective progress in the field and those abroad to acquaint themselves with developments in the UK. If this helps to establish the place of UK researchers in the international community of researchers working to establish the evidence base for interprofessional education, we shall be well satisfied.

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## **10 Appendix 1**

### **The British Educational Research Association (BERA)**

BERA was founded in 1974 and has about 890 members. It is governed by an Executive Council that reports once a year to a general meeting of members. It has the status in the UK of a learned society. It publishes the British Educational Research Journal five times per year, Research Intelligence for its members four times per year and occasional papers in BERA Dialogues.

The aim of the Association is to sustain and promote a vital research culture in education:

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By encouraging an active community of educational research,

By promoting co-operation and discussion with policy makers, institutional managers and funding agencies with other national educational research associations and the European Educational Research Association with other researchers in the social sciences and related areas of work with teachers and lecturers and their associations,

By encouraging and supporting: debate about the quality, purpose, content and methodologies of educational research,

By developing and defending an independent research culture committed to open inquiry and the improvement of education,

By enhancing: the professional service it provides for its members, effective communication and discussion within BERA and the training and education of educational researchers, their effectiveness, conditions of work and rights.

## **11 Appendix 2**

### **The UK Centre for the Advancement of Interprofessional Education (CAIPE)**

CAIPE was founded in 1987 to promote interprofessional education as a means to improve collaboration between practitioners in health and social care. It treats interprofessional education and practice as two sides of the same coin. Whilst focusing upon interprofessional relations, it takes into account collaboration between organisations and with service users, their carers and communities.

CAIPE is a company limited by guarantee and a registered charity. Individual members are drawn from education, management, medicine, nursing, professions allied to medicine, social work and related professions. Corporate members include colleges and universities, education consortia, health authorities and trusts, local authority social services departments, primary care groups and voluntary organisations.

Working with and through its members, CAIPE provides a network for information exchange and discussion by means of conferences and seminars, a bulletin and occasional papers. It supports and sometimes commissions research, represents members' views in national and international forums, and works in partnership with other bodies to promote and develop interprofessional education and practice.

CAIPE welcomes the renewed emphasis upon collaboration in Government policies for health, social care, and the public service generally. Its current priorities include the cultivation of collaboration in and surrounding Primary Care Groups, in Health Action Zones and between Health and Social Services. It is working to reinforce work-based learning, drawing upon the resources of both service agencies and universities.

CAIPE welcomes opportunities to collaborate with other organisations in pursuit of shared goals. CAIPE's Chief Executive, Barbara Clague, will be pleased to tell you more. Do write or call her at CAIPE, 344-354 Gray's Inn Road, London WC1X 8BP, telephone 0171 278 1083, fax 0171 278 6604.

## 12 Appendix 3

### The Cochrane Review

This Review was undertaken under the auspices of Cochrane Collaboration, subject to criteria and procedures agreed with EPOC (the Cochrane Effective Practice and Organisation of Care group).

Commemorating the late Sir Archie Cochrane, the distinguished British epidemiologist, Cochrane Collaboration operates through fifteen Centres world wide and numerous Review Groups. Each Group conducts a systematic and unbiased Review of evaluations of an intervention, therapy or treatment followed by a summation of the results and, where sufficient comparable studies are found, produces an overall assessment of harms and benefits. EPOC Reviews include evaluations of interventions designed to improve professional performance, patient care, and thus health outcome.

For the purposes of our Review, interprofessional education (interprofessional education) was defined as “an educational activity in which interaction takes place between learners from various professions, with the purpose of improving their working collaboration and, through this, their impact on the health and well-being of their clients. This definition was broad enough to include interprofessional education that was brief or extended, at any stage from pre-qualifying to advanced studies, either award bearing or not, formal or informal, in college or at work.

Two electronic databases were searched (Medline since 1966 and CINAHL since 1982). We also called upon help from CAIPE members to find unpublished studies. As agreed with EPOC, evaluations to be included had to be Randomised Controlled Trials (RCTs), Controlled before and After Studies (CBA) or Interrupted Time Series (ITS).

Rigorous preparation ensured consistency of judgement between the Group members in interpreting the definition of interprofessional education and the three methodologies. Each abstract was scrutinised independently by at least two members of the Group to determine whether it met the criteria. Over a thousand were retrieved – 510 from Medline and 552 from CINAHL. None of the additional studies drawn to our attention by CAIPE members met the criteria. Of these 1062 abstracts full texts were called for on 44 from Medline and 45 from CINAHL. Two or more members of the Group reviewed each of the 89 papers. There was consensus that none of these papers was eligible for inclusion in the Review.

We concluded that there was no research evidence that met the strict inclusion criteria of the Cochrane process regarding the effectiveness of interprofessional education. It is important to stress that this does not imply that interprofessional education is ineffectiveness, simply that there is no evidence from studies of this type for the efficacy of interprofessional education.

### Further reading

Barr, H., Hammick, M., Koppel, I. and Reeves, S. (1999a) The systematic Review of the effectiveness of interprofessional education: Towards Transatlantic collaboration. *Journal of Allied Health*. 28(2):104-108.

Barr, H., Hammick, M., Koppel, I., and Reeves, S. (1999b) Evaluating interprofessional education: Two systematic Reviews for health and social care. *British Educational Research Journal*. 25(4):533-543.

Zwarenstein, M. Atkins, J. Barr, H. Hammick, M. Koppel, I. and Reeves, S. (1999) A systematic Review of interprofessional education. *Journal of Interprofessional Care*. 3(4):417-424.

## 13 Appendix 4

### The Parallel Review

Anticipating that the Cochrane Review might produce few evaluations that met the criteria agreed with EPOC, it was decided at an early stage to embark upon a Parallel Review. This would be no less rigorous with the same safeguards against bias and the same definition of interprofessional education (interprofessional education), but with two important changes. First, it would allow for a wider range of research methodologies, both qualitative and quantitative that, albeit thorough, fell outside the criteria for inclusion in the Cochrane Review. Second, it would allow for a range of outcomes of which benefit to patients would be one.

These decisions were guided by several considerations: to establish `the state of the art` in evaluating interprofessional education; to value qualitative studies that might shed light upon the form and process of interprofessional education; and to be realistic about the objectives that teachers and trainers, themselves, set for interprofessional education. Not least, we wanted to find enough usable evaluations to be able to compare and contrast different types of interprofessional education in terms of both process and outcome.

Our decision, we acknowledged, might expose us to criticism from those for whom it was a departure from the `gold standard` prescribed by Cochrane. Our response is this. First, the Parallel Review, like the Cochrane Review, would search no less diligently for Randomised Controlled Trial (RCT), Controlled Before and After Studies (CBA) and Interrupted Time Series (ITS) and include them, if and when found. Second, they would be taken into account when the Cochrane Review was repeated. Third, advice about conducting RCTs, CBAs and ITSs would be included in a future publication about the evaluation of interprofessional education, alongside other methodologies, and their adoption encouraged where feasible and applicable.

The aims of the Parallel Review are to:

- evaluate the strength of evidence of interprofessional education outcomes;
- explore relationships between outcomes in interprofessional education and aspects of curriculum design.

Instead of asking whether interprofessional education (in general) changes practice and benefits patients, this Review asks what kind of interprofessional education, under what circumstances produces what kind of outcomes. This will take into account stage, location, duration, professions involved, validation (if any), curriculum content and methods, and other factors. Outcomes will take into account participants` reactions, learning, behaviour and impact on organisation and practice.

So far, Medline has been searched from 1966 to 1998 from which 2,868 paper potential papers have been found. Scanning these the team produced 224 `hits`. Of these papers received to date we have agreed that 73 qualify for inclusion in the Review. Other databases (e.g. CINAHL, ERIC, Psychlit and Embase) will be checked before embarking upon the analysis.

### Further reading

Barr, H., Hammick, M., Koppel, I. & Reeves, S. (1999) Evaluating interprofessional education: Two systematic Reviews for health and social care. *British Educational Research Journal* 25(4): 533-543.

## **Appendix 5**

### **The Incidence of Interprofessional Education in the United Kingdom.**

#### **The 1988 national survey**

In 1988, CAIPE commissioned a postal survey of interprofessional education in primary health care throughout Great Britain to be undertaken by the Institute of Community Studies (Shakespeare et al, 1989). Interprofessional education was taken to include any activity whose primary objective was educational, and involved practitioners or students from two or more of the selected professions<sup>3</sup> where participants were learning together in a multidisciplinary context.

Data were collected about title, subject matter, objectives, organising agency, responsible professions, location, frequency, duration, educational methods, number and professional background of participants, educational context and level, compulsory or optional attendance, evaluation and continuation.

Questionnaires were targeted at directors of nurse education, heads of midwifery services, course organisers for district nursing, health visiting and social work, social services training officers, deans of medical schools, regional advisers in general practice, general practice tutors and others.

A total of 1,518 questionnaires were sent and 1,479 returned (75%) producing 695 valid examples of interprofessional education. Health visitors participated in 88% of these, district nurses in 73%, social workers in 46%, general practitioners in 37% and community midwives in 32% in various combinations. Most of the “initiatives” reported comprised continuing education or professional development (83%). Agencies most commonly engaged in organising interprofessional education were schools of nursing and midwifery, colleges and universities and health authorities. Respondents ranked “promoting teamwork” and “increasing understanding of the roles and views of other professions” most highly as objectives. Subjects ranked most often covered were child/family abuse and teamwork/professional roles. Ninety five percent of initiatives had ten or more participants and 56% had 20 or more. Educational methods most used were group work/discussion, lectures, and experiential learning. Over half the initiatives lasted for day or less and only 18% for more than four days. Respondents reported that 72% of initiatives had been evaluated, but no further information was provided. In 86% of cases respondents said that the initiative would probably be or definitely be repeated.

#### **A local survey of provision and uptake in two English counties**

Shaw (1995) surveyed provision and up-take of interprofessional education between September and December 1993 in two English counties by telephone and interview. Providers were university departments including medical and nursing schools, in-service training sections of social services departments, health authorities and trusts and voluntary organisations, police training colleges and the Open University. Service units surveyed regarding up-take comprised a sample of 240 residential and day centres (but not fieldwork units) in private, voluntary and statutory sectors of health and social services.

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<sup>3</sup> These were: general practitioners, social workers, district nurses, health visitors and community midwives.

Shaw found that provision in the two counties was markedly higher than that reported in the 1988 national survey. However, when service units were asked whether their staff had attended interprofessional courses, 98% said not. Further inquiry about these other courses that staff had attended revealed that a small but significant number were designated as interprofessional by the providing educational institution.

### **The 1995 National Survey**

In 1995 CAIPE decided to repeat the earlier survey and to extend it to include the whole of the United Kingdom i.e. including Northern Ireland (Barr and Waterton, 1996). This second survey covered all education and training initiatives where two or more health/social care professions learned together in any work setting (not only primary care). Two postal questionnaires were sent out. The first went (so far as possible) to the same groups that had been canvassed in 1988 with some additions. It sought answers to basic questions about the incidence of interprofessional education. The second was sent to all those who replied to the first, seeking additional information about the form and content of initiatives.

Of 2,498 copies of the first questionnaire sent out a quarter were returned from which 251 valid replies were received reporting on 455 initiatives. Limited resources precluded sending reminders. An 80% response rate was, however, achieved for the second questionnaire, suggesting that a core of committed participants had been identified. The low initial response rate rendered invalid any comparisons between the 1988 and 1995 surveys.

Most initiatives were instigated and run by universities/colleges or health authorities/trusts, many of them jointly between the two. Two to five days was the typical duration with two to five teachers and 16 to 20 participants. Nursing was the single largest group, followed by medicine, social work, and management. Topics were wide-ranging and defied easy classification. Some dealt with life stages (from childbirth to palliative care), health conditions (from asthma to mental illness), disabilities (learning, physical and sensory), practice methods (notably counselling), research, service management, and so on. Respondents reported a strong preference for interactive learning methods. Nine tenths of the respondents reported that their initiatives had been evaluated, of which nearly half involved an independent person or organisation. Few, however, had been written up and even fewer published. Four fifths of the respondents said that there were plans to repeat their initiatives.

### **A local survey of involvement in multiprofessional continuing education**

Owens et al (1999) conducted a postal survey to establish the up-take of multiprofessional continuing education by 4,954 practitioners from 24 professions<sup>4</sup> working in North and East Devon. Multiprofessional education was defined as any educational or training event at which members of two or more health professions are present together. It was not considered feasible to ask respondents to distinguish between multiprofessional and interprofessional education, i.e. learning together in general and learning together to cultivate collaboration.

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<sup>4</sup> These were: school nurses, managers (other than practice managers), physiotherapists, midwives, speech therapists, health visitors, chiropodists/podiatrists, pharmacists, clinical psychologists, dentists, community psychiatric nurses, practice nurses, occupational therapists, district nurses, hospital nurses, general practitioners, radiographers, practice managers, medical laboratory scientific officers and hospital doctors.

Of the 2,116 replies (43%), nearly three-quarters said that they had been involved in some kind of multiprofessional education during the preceding twelve months. Of these, 35% had attended two multiprofessional courses and 18% three or more. Levels of involvement varied, however, between professions. Those reporting the highest level of involvement were health visitors, clinical psychologists, occupational therapists, and district, school and practice nurses. Those reporting the lowest level of involvement were radiographers, chiropodists, medical laboratory scientific officers, dentist, and pharmacists. However, three quarters of all respondents (especially younger ones) wanted more opportunities for multiprofessional learning.

Half the courses were concerned with clinical issues. The remainder ranged over teaching and supervision, management issues, professional development, social issues, routine safety training, counselling and research. Asked what subjects they would be most interested in learning about, 70% said counselling and communication skills. Courses were most often run by participants' own employers (38%), with universities and college accounting for only 17%. Less than a fifth carried credit towards an award.

### **Comment**

Differences in definition of relevant education, catchment areas, professions and services included, methodology and response rates render comparison between the findings of these surveys suspect, but taken together they highlight a number of issues:

difficulty in using survey methods to distinguish between interprofessional and multiprofessional education;

differences of perception between providers and purchasers about the aims of initiatives;

the higher incidence of learning together reported by local than national surveys;

the higher incidence of employment-based education reported by participants than by providers being less likely to perceive a course as interprofessional than providers.

### **References**

Barr, H. & Waterton, S. (1996) *Interprofessional education in health and social care: Report of a CAIPE education survey*. London; CAIPE.

Owens, C., Goble, R. & Pereira Gray, D. (1999) Involvement in multiprofessional continuing education: a local survey of 24 health-care professions. *Journal of Interprofessional Care*. Vol. 13 (3) 277-88.

Shakespeare, H., Tucker, W. & Northover, J. (1989) *Report of a national survey on inter-professional education in primary health care*. London; CAIPE.

Shaw, I. (1995) *Locally based shared learning: Surveys in two English counties*. London; CAIPE.