Team working and effectiveness in health care

With the arrival of the National Plan, this timely paper presents preliminary findings from a major survey of multidisciplinary team working and effectiveness. The three-year study covered primary, secondary and community health care teams.

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'The activity of a group of people working co-operatively to achieve shared goals is basic to our species' (Baumeister & Leary, 1995). The current enthusiasm for team working in health care reflects a deeper, perhaps unconscious, recognition that this way of working offers the promise of greater progress than can be achieved through individual endeavour. Mohrman, Cohen, and Mohrman (1995) define a team as:

> **'a group of individuals who work together to produce products or deliver services for which they are mutually accountable. Team members share goals and are mutually held accountable for meeting them, they are interdependent in their accomplishment, and they affect the results through their interactions with one another. Because the team is held collectively accountable, the work of integrating with one another is included among the responsibilities of each member'. (para 4.3)**

The concept of teamwork as the most effective way of delivering products and services has gained increasing ascendancy within diverse organisational settings (Guzzo & Shea, 1992; West, 1996). There is substantial empirical evidence that the introduction of teamwork and group goals in diverse organisational settings, and involving diverse task types, can lead to increased effectiveness in the delivery of both quantity and quality of goods or services (Guzzo & Shea, 1992; Weldon & Weingart, 1993).

The importance of team working in health care has been emphasised in numerous reports and policy documents on the National Health Service. One (NHSME, 1993) particularly emphasised the importance of team working if health and social care for people were to be of the highest quality and efficiency:

> **'The best and most cost-effective outcomes for patients and clients are achieved when professionals work together, learn together, engage in clinical audit of outcomes together, and generate innovation to ensure progress in practice and service.'**

Some limited research has suggested the positive effects of multidisciplinary team working in health care. Primary care team working has been reported to improve health delivery and staff motivation (Wood, Farrow, & Elliott, 1994) and to have led to better detection, treatment, follow-up and outcome in hypertension (Adorian, Silverberg, Tomer & Wamosher, 1990). Jones (1992) reports on one US study in a primary health care setting showing that families receiving team care had fewer hospitalisations, fewer operations, more physician visits for health supervision and less physician visits for illness than control families.

Team working can also improve patients' access to primary care services. Marsh (1991) reported that team working can reduce the general practitioners' work load and thus increase the number of patients seen. Alternatively, a reduced

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workload can enable doctors to see patients for longer, so they can provide a more patient-centred consultation (Hasler, 1994). In addition, team working in primary care can improve the deployment of skills and expertise (Marsh, 1991, Bradley, 1996, Hasler, 1994), and provide a more cost-effective service (Marsh, 1991, Hacett et al, 1987).

There are suggestions from research evidence that team working can have positive impacts for the health care professionals themselves. In a study in Spain, Peiro et al. (1992) showed relationships between work team climate, role clarity, job satisfaction and leader behaviours. Effectiveness of team work was also related to job satisfaction and mental health of team members.

Team work is reputed to promote innovation in organisations including those in the health care sector. West and Wallace (1991), in a study of five innovative and three traditional UK primary health care teams, found that team collaboration, commitment and tolerance of diversity was positively related to team innovativeness. In a six-month study of 27 NHS hospital management boards, West and Anderson (1996) showed that clarity of team objectives, levels of participation, emphasis on quality, support for innovation and the proportion of innovative team members predicted the quantity and radicalness of innovations introduced by the boards into their hospitals.

However, there is considerable evidence that the context of primary health care is such that there are substantial barriers to effective team working in the delivery of primary health care. Bond et al (1985) found little inter-professional collaboration in primary health care teams in their study of 309 paired professionals. West and Poulton (1995) examined primary health care team functioning in 68 practice teams and found that on all 4 dimensions of team functioning primary health care teams scored significantly lower than the other team types. West and Slater (1996), in a Health Education Authority study of primary health care teams, reported that a great deal of the potential benefit was not being realised, with less than one in four health care teams building effective communication and team working practices. In a similar vein, the Audit Commission report in 1992 drew attention to a major gap between the rhetoric and reality:

'Separate lines of control, different payment systems leading to suspicion over motives, diverse objectives, professional barriers and perceived inequalities in status, all play a part in limiting the potential of multi-professional, multi-agency teamwork ... for those working under such circumstances efficient teamwork remains elusive' (Audit Commission, 1992).

Another barrier to team working is that health care comprises a wide range of stakeholders (health care professionals, trusts, health authorities, patients, carers, voluntary groups) each with their own aims, objectives and priorities. In addition, there is considerable variation in philosophies of care among the professionals groups [Toon, 1994], and different approaches and perspectives on what is judged quality of care [Maxwell, 1992]. One consequence of this is that health care will be judged as more or less effective depending upon the criteria adopted by the particular stakeholder, or the philosophy or care espoused by a professional group.

Recent research suggests the broader context within which teams work has an influence on their performance. The organisational context of the team is one such factor. The organisation within which a health care team functions can influence team effectiveness in a variety of powerful ways. Researchers, such as Hackman (1990) and Tannenbaum, Beard and Salas (1992) have suggested that the following are among the contextual factors that influence team effectiveness:

- How people are rewarded in the team and organisation
- Clear team objectives and feedback on performance
- Training for team work
- The necessary technical assistance to support the team in its work
- HRM systems geared towards teams including selecting for and appraising teams
- The extent of competition and polit-

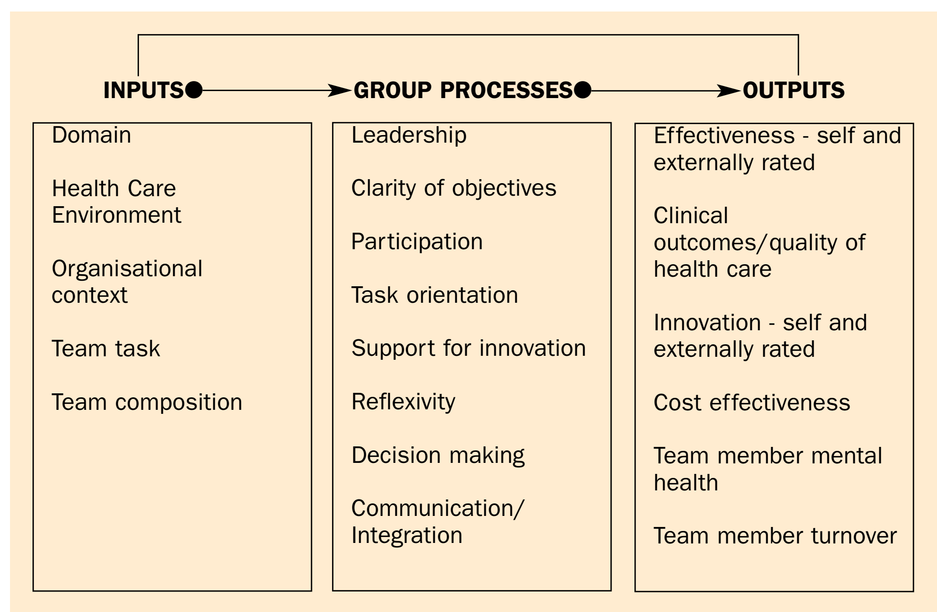

Figure 1. Input, process, output model of team effectiveness.

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ical intrigue within the organisation
- Relations between teams in the organisation: competitive versus mutually supportive

Many of these factors are directly relevant to health care teams and their surrounding environment.

Theoretical approaches to understanding teams at work have been dominated by the input-process-output structure, mainly because of its categorical simplicity and utility [see *Figure 1*] (West, Borrill, & Unsworth, 1998). This is the model used to guide the research described in this article.

Inputs

Teams work within a domain such as primary care, secondary care or community mental health. They also work in a health care environment that may be more or less deprived. The team works for and within an organisation; thus it will be affected by the interaction with the surrounding organisational context. A team has a task that potentially impacts upon team processes and effectiveness (the management of immunisation for children under five years; intensive care nursing; or care of the elderly with mental health problems). The team consists of a collection of individuals who represent the group's composition, varying in professional background, gender, age, personality etc. Finally, the team exists within a wider society that will affect the team's fundamental beliefs and value systems, i.e. their cultural context.

Processes

Processes within teams enable them to achieve their goals. A fundamental requirement for effectiveness is that teams have clear objectives to which their members are committed. Other processes include participation in decision-making, emphases on quality, and support for innovation. Another fundamental process is the extent of co-ordination and integration of team members' work (Worchel, Wood, & Simpson, 1992). And of course, leadership and communication are likely to be important to team effectiveness. Another potentially important process variable is reflexivity or the extent to which team members collectively reflect on the objectives, strategies, processes and environment of the team and make changes appropriately and accordingly.

Outputs

Six principal outputs can be distinguished: effectiveness, clinical outcomes, team member mental health, innovation, team member turnover, and cost-effectiveness.

The overall aim of the research reported in this article was to determine how multidisciplinary team working contributes to quality patient care and innovation in the NHS.

Objectives

The objectives of the research were to establish:
- which team member characteristics such as age, gender, occupational group, experience, qualifications, and team size, influence how well the team work together;
- how team working processes, such as participation, reflexivity, communication, decision-making and leadership contribute to the effectiveness of teams, particularly the delivery of quality health care and the develop-

	Sample size	Survey data	Additional questionnaires/ Telephone interviews	External ratings
PHCT	100 teams 1156 respondents	Team composition Team functioning Team effectiveness Team innovation Member well-being	Team meetings Team management Decision making	Team effectiveness Team innovation
CMHT	113 teams 1443 respondents	Team composition Team functioning Team effectiveness Team innovation Member well-being	Team meetings Team management Decision making	Team effectiveness Team innovation
SHCT	*Sample 1:* 193 teams 1233 respondents *Sample 2:* 2,263 respondents	Team composition Team functioning Well-being Team viability Team membership Member well-being Work role	Type of team Team membership	Team member turnover

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ment of innovative practice;

- which team characteristics make a critical contribution to the effective delivery of health care.

Method

The research programme was carried out over a three year period by a team of researchers based at the universities of Aston, Edinburgh, Glasgow, Leeds and Sheffield. During the course of the study information on team working was gathered from a national sample of over 400 health care teams.

This involved consulting over 7,000 NHS personnel and a large number of NHS clients. Five National Workshops were held with key representatives from primary health care and community health care. A wide range of research methods were used, including questionnaire surveys, telephone interviews, in-depth interviews, participant observation, focus groups and tape recordings of meetings.

The research was carried out in two stages; quantitative data collection from 100 primary health care teams (PHCTs), 113 community health care teams (CMHTs) and 193 secondary health care teams (SHCTs), and in-depth work with a sub-sample of teams. Initial results from the first stage of the research are reported in this article.

The methods used to collect data on team inputs, group processes and team outputs are summarised in *Figure 2*.

Questionnaire measures

Team working

Six measures of team working were used. Four of these were drawn from the Team Climate Inventory (Anderson & West, 1994). The four measures assess levels of: team participation, clarity of and commitment to team objectives, emphasis on quality, support for innovation. Two other measures were included: reflexivity (the extent to which team members reflect upon their team objectives, strategies and processes and make changes accordingly (West, 1996)) and team innovation (the extent to which the team has introduced innovations in objectives, work strategies, processes and relationships).

Respondents were also asked to write descriptions of the major changes or innovations introduced by the team into their work in the previous 12 months.

Effectiveness PHCT and CMHT

These measures were developed in national workshops with domain relevant experts and measure three underlying dimensions: team working, patient orientation, organisational efficiency.

Team member well-being

A measure of psychological well-being, the GHQ-12 (Goldberg, 1972) was included in the survey. The GHQ-12 is widely used as a screening tool for detecting minor psychiatric disorder in the general population, and in occupational mental health research.

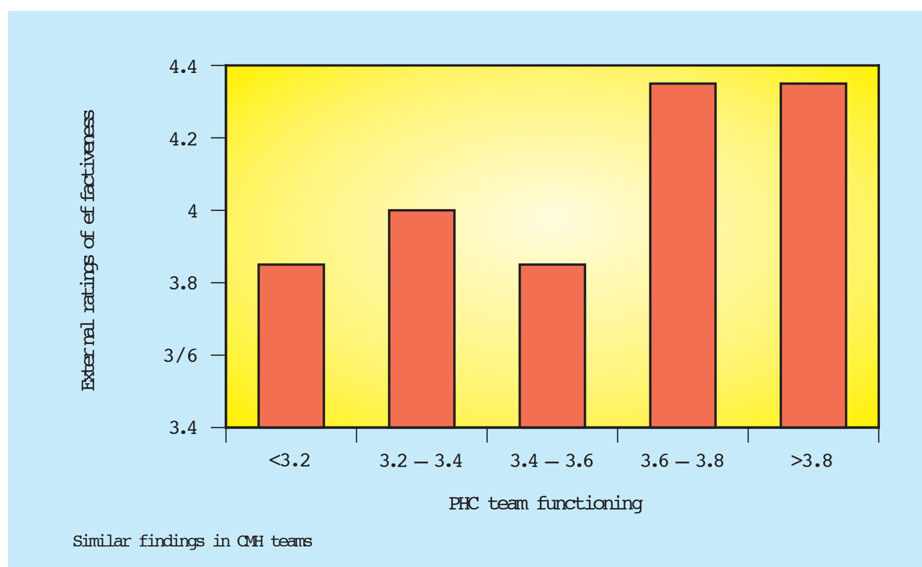

Figure 3. Health care team effectiveness.

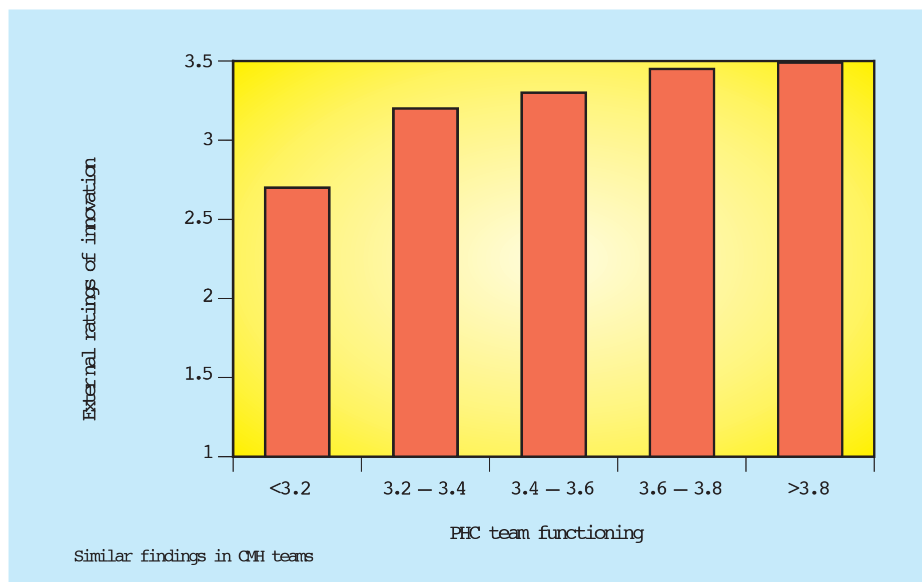

Figure 4. Health care team effectiveness.

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Biographical information
This section included questions on biographical and team characteristics (e.g. age, gender, ethnic origin, job title, employer, team composition, team leader).

SHCT - Study 2
This questionnaire included the measure of well-being and asked for biographical information. In addition scales were used to measure perceived job, work and hospital characteristics and organisational climate.

Team membership was established by asking respondents the following:

- Does your team have relatively clear objectives?
- Do you frequently work with other team members in order to achieve these team objectives?
- Are there different roles for team members within this team?
- Is your team recognised by others in the hospital as a clearly-defined work team to perform a specific function?

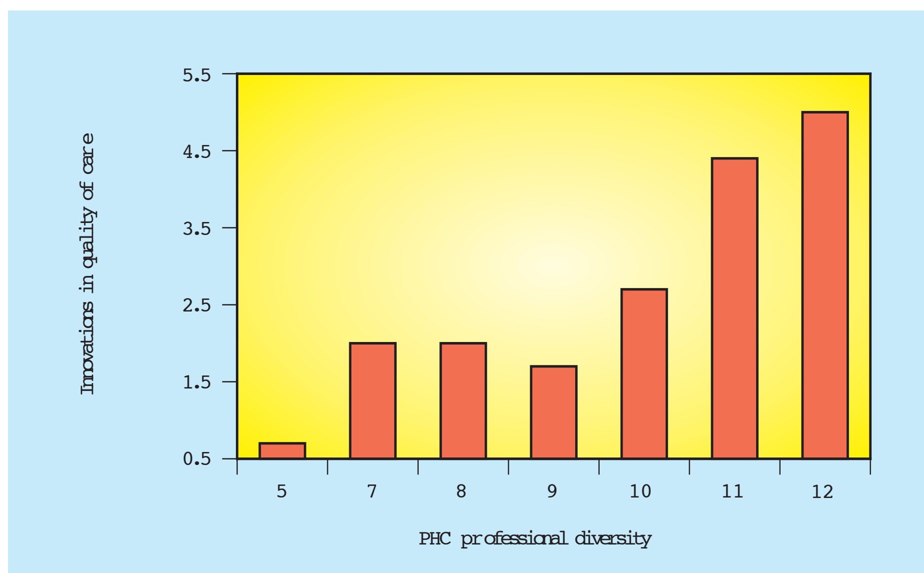

Figure 5. Primary health care team innovation.

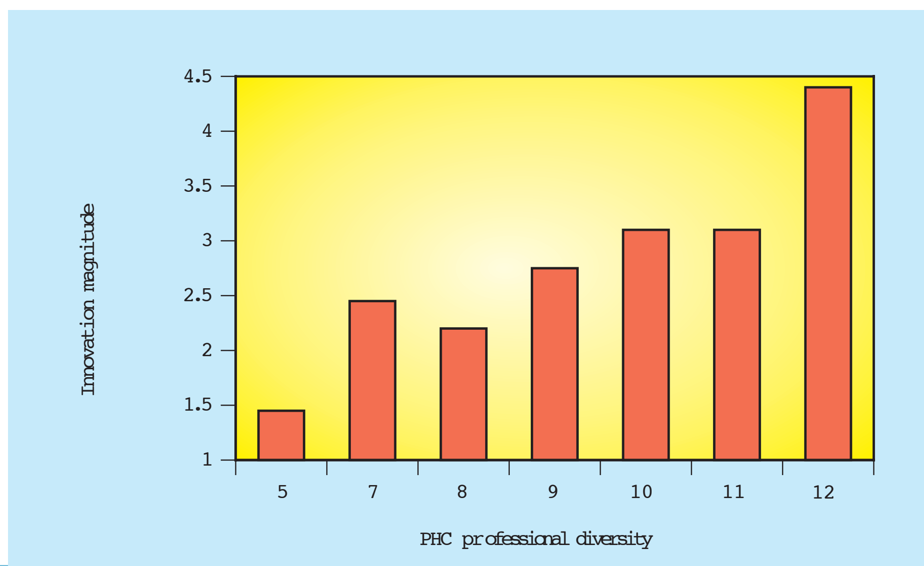

Figure 6. Primary health care team innovation.

Those who did not answer, 'yes' to all four questions were categorised as being in a 'quasi-team'.

Additional Information

This was collected from the contact person in the PHCT and CMHT using surveys and telephone interviews. The focus of the questions was on decision-making and communication in the team.

External ratings – team effectiveness and innovation

For PHCTs these data were gathered from Health Authorities staff who provide support to primary health care teams. CMHTs in the survey sample were rated by the local Social Services or Health Authority management, the NHS parent Trust, or GPs with whom the team was linked. External ratings of effectiveness were obtained for 84 PHCT and 33 CMHTs. The teams were rated on the same effectiveness dimensions included in the team questionnaires.

External ratings – changes introduced by PHC and CMH teams

The changes described by team members were rated by external assessors on four dimensions: magnitude (how great would be the consequences of changes introduced); radicalness (to what extent the status quo would change as a consequence); novelty (how new in general were the changes); and impact (to what extent changes would improve PHCT/CMHT effectiveness).

Findings

The results focus on five main areas: team effectiveness, team innovation, mental health, communication and leadership.

Predictors of team effectiveness
In primary care and community mental health teams processes within the team predicted team effectiveness. Results showed that quality of team working was powerfully related to team effectiveness; the clearer the team's objectives, the higher the level of participation in the team,

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the greater the emphasis on quality and the higher the support for innovation in the team, the more effective the team. These dimensions of team working predicted self-ratings of effectiveness in both CMH and PHC teams, and also predicted the external ratings of effectiveness for the PHCTs. Team working was rated on a 1-to-5 scale; a higher score indicating better team functioning. *Figure 3* shows the relationship between team working and external ratings of effectiveness.

In primary care and community mental health teams compositional factors were found to predict team effectiveness. We found that for CMHTs those with a relatively high proportion of full-time staff, and those that had been working together for longer as a team, were judged to be more effective by external raters.

In PHCTs team size was positively associated with a number of aspects of self-rated and externally rated effectiveness. Larger teams judged themselves to be: more effective at setting protocols; implementing recommendations of the PHC Charter; implementing procedures to deal with patients' comments, suggestions and complaints; auditing clinical practice; and having a commitment to professional and personal development.

Larger teams were also judged more positively by external raters on the effectiveness dimensions of clinical practice and team working. We also found that PHCTs high in professional diversity judged their overall effectiveness to be higher, and judged their effectiveness in relation to patient focused care higher.

An additional factor associated with effectiveness for CMHTs was the nature of the commissioning arrangements. Teams which were NHS commissioned only self-reported higher levels of effectiveness.

Predictors of team innovation

In primary care and community mental health teams processes within the team also predicted team innovation. Results showed that quality of team working was powerfully related to team innovativeness; the clearer the team's objectives, the higher the level of participation in the team, the greater the emphasis on quality and the higher the support for innovation in the team, the more innovative the team. In PHCTs effective team working predicted both self-rated and external rating of innovation. *Figure 4* shows the relationship between team working and the external ratings of innovation in primary health care teams.

In CMHTs high levels of reflexivity in the team predicted more positive external ratings of innovation.

Team composition factors predicted innovation in both community mental health and primary health care teams. The innovations introduced by the larger CMHTs were judged more favourably by external raters, and teams which had been together for longer self-rated their own effectiveness more highly. In PHCTs size also predicted innovation. Larger teams were judged by external raters to have introduced innovations that were more novel and radical.

After controlling for team size, analy-

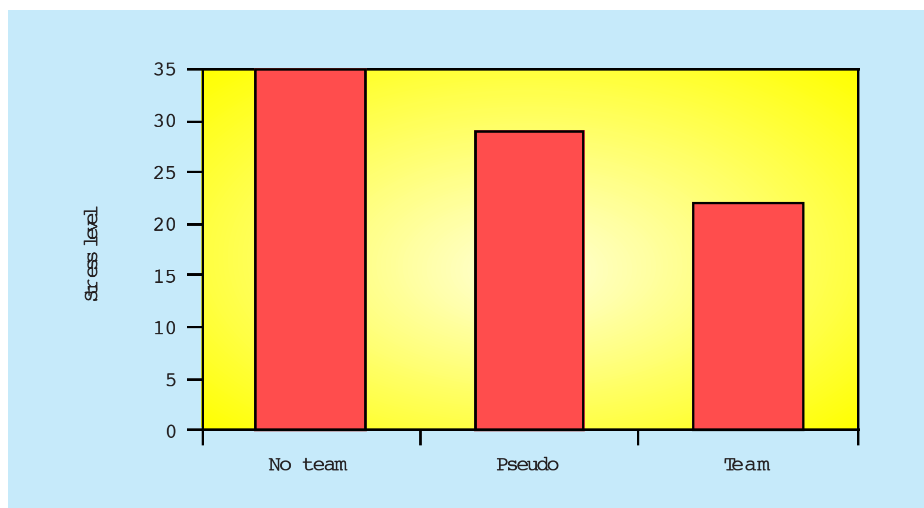

Figure 7. Team membership and stress

Figure 8. Team working and stress

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sis revealed that the number of occupational groups in primary health care teams predicted innovation. Teams with greater occupational diversity self-reported higher overall effectiveness and higher ratings of effectiveness of patient focused care. In addition, professionally diverse teams had introduced more innovations focused on improving quality of patient care. Diversity also predicted more favourable judgements by external raters; they assessed the innovations introduced by these teams to be more radical and to have significantly more impact. These findings are illustrated in *Figure 5* and *6*.

An additional factors associated with innovation for CMHTs was the nature of the commissioning arrangements. Teams that were NHS-commissioned only reported innovations which were more highly rated by independent observers than did teams commissioned by both the NHS and social services.

Mental health

Results from our work with secondary health care teams showed that those working in teams have much better mental health than those working in pseudo teams or working alone, as shown in *Figure 7*.

Analysis suggested that these differences in mental health could be accounted for by the higher levels of social support and role clarity experienced by those who work in clearly defined teams. Those working in teams also had a sense of greater co-operation amongst all staff, and clearer feedback from the trust on staff performance as a consequence of their team membership, which also accounted for the differences in team membership types in mental health. The findings suggest that team membership buffers individuals from the effects of organisational climate and conflict.

In all types of health care teams included in the research, we found that better team functioning was associated with better mental health: the clearer the team's objectives, the higher the level of participation in the team, the greater the emphasis on quality and the higher the support for innovation in the team, the better the mental health of team members. This is illustrated in *Figure 8*.

Other team processes predicted mental health in community mental health and primary care teams. In both types of teams, lack of clear leadership was associated with poorer mental health among team members. For CMHTs there was strong evidence that effectiveness of communication processes among staff was associated with mental health; relatively extensive communication outside meetings was associated with poor mental health, while the greater opportunity for effective communication in meetings was associated with better mental health.

Two team composition factors predicted mental health in PHCTs. The greater the proportion of managers in the team, the better the mental health of members. In teams which had a greater age diversity, mental health was poorer.

Communication

In CMHTs, as discussed above, effective communication between team members was associated with better mental health. In primary health care teams we found that having regular meetings was associated with greater levels of innovation; teams which had at least one meeting a week were judged by the external raters to have introduced a greater number of innovations, and innovations which were of a greater magnitude, as illustrated in *Figure 9*.

Leadership

Only a third of PHCTs and 13 CMHTs reported having a single clear leader, and in nearly a half of PHCTs members reported that a number of people lead the team.

However, we found that in community mental health and primary care teams, where there was lack of clear leadership team members self-reported lower levels of effectiveness. In addition, in PHCTs, lack of clarity about leadership predicted lower levels of effectiveness and innovation, as judged by external raters.

Our results also showed that lack of clear leadership was associated with poor quality team working. Teams without clear leadership reported lower levels of participation, lack of clarity about objectives, lower commitment to quality and lower support for innovation. In addition, as reported above, lack of clear leadership predicted poorer mental health among

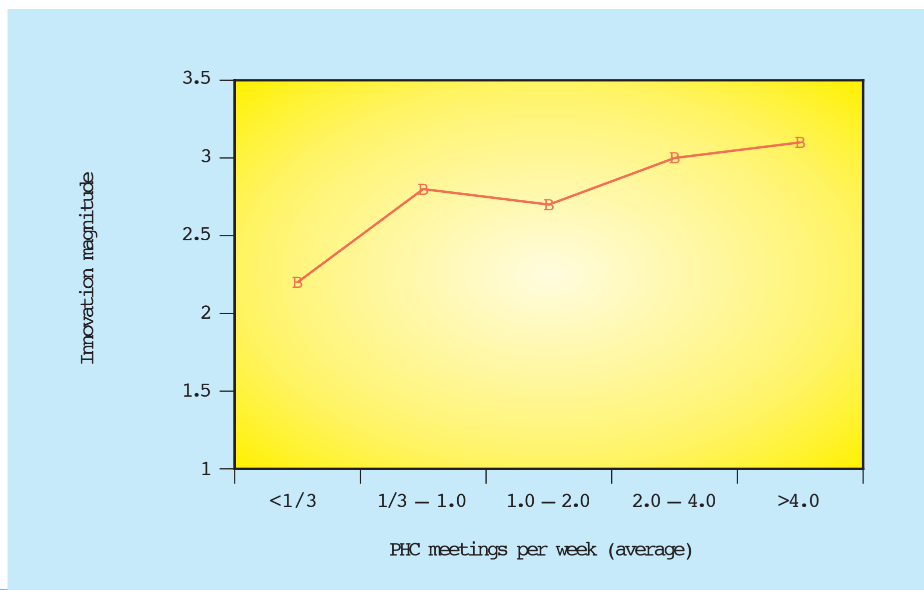

Figure 9. Primary health care team effectiveness.

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team members.

Discussion

The results of this research indicate that teams with clear objectives, higher levels of participation, emphasis on quality and support for innovation provide effective health care in terms of patient care, effective organisation and interdependent working. Such teams also innovate in novel and radical ways to provide better quality health care and patient-centred services. Moreover, members of such teams have relatively low levels of stress. In primary health care teams particularly, a diverse range of professional groups working together is associated with higher levels of innovation in almost every domain of performance.

The research also showed that quality of meetings, communication and integration processes in health care teams clearly contributes to innovation and the introduction of new and improved ways of delivering patient care. In addition, clear leadership contributes to effective team processes, to the effectiveness of performance, and to innovation in the teams.

These findings send an important message to those concerned with health care delivery. Good team work can make a critical contribution to effectiveness and innovation in health care delivery, and contributes to team members' well-being.

To fully realise the benefits of team working in health care by providing the conditions necessary to develop and support teams, however, will require considerable organisational change. NHS organisations will have to develop team-based rather than hierarchical structures, and culture, work design and management that are consistent with and supportive of team working.

This includes developing HRM systems which select for team working, appraise teams, reward team performance, and provide technical and process assistance to support teams in their work. NHS managers need to be trained to manage team-based organisations, and employees trained in the knowledge, skills and abilities for working in teams. These changes are challenging and substantial, but we believe that the potential benefits to patient care, and to the well-being of the committed staff in primary care, community health care and secondary care who deliver these services, more than compensate for the effort required to meet these challenges.

References

Adorian D, Silverberg DS, Tomer D, Wamasher Z (1990) Group discussions with the health care team: A method of improving care of hypertension in general practice. *Journal of Human Hypertension* **4**(3): 265–8

Anderson NR, West MA (1994) *The Team Climate Inventory: Manual and Users' Guide*. ASE Press, Windsor, Berks

Applebaum E, Blatt R (1994) *The New American Workplace*. ILR Press, Ithaca, NY

Baumeister RF, Leary MR (1995) The need to belong: desire for interpersonal attachments as a fundamental motivator. *Psychological Bulletin*, **117:** 497—529

Bradley M (1996) The role of the practice pharmacist - the new member of the team. *VFM Update Primary Focus Issue* **2:** 26–7

Bond J, Cartilidge AM, Gregson BA, Philips PR, Bolam F, Gill KM (1985) A study of interprofessional collaboration in primary health care organisations. Report No 27 (2), Newcastle-upon-Tyne, Health Care Research Unit, University of Newcastle-upon-Tyne

Goldberg DP (1972). *The Detection of Minor Psychiatric Illness by Questionnaire*. Oxford University Press, Oxford

Guzzo RA, Shea GP (1992) Group performance and inter-group relations in organisations. In: MD Dunnette and LM Hough (eds.), *Handbook of Industrial and Organizational Psychology* **3:** 269–313. Palo Alto, CA: Consulting Psychologists Press

Hacett GI, Hudson MMF, Wyylie JB (1987) Evaluation of the efficacy and acceptability to patients of a physiotherapist working in a health centre. *British Medical Journal* **294:** 24–6

Hackman JR (1990) (ed) Groups That Work (and Those That DonÕt): Creating Conditions for Effective Teamwork. Jossey Bass, California

Hasler J (1994) The Primary Care Team. *Royal Society of Medicine Press,* London

Jones R.H (1992) Team working in primary care: how do we know about it? *Journal of Interprofessional Care* **6:** 25–9

Kalleberg AL, Moody JW (1994) Human resource management and organisational performance. *American Behavioral Science* **37:** 948–62

Kekki P (1990) Team work in primary care. *World Health Organisation*

Marsh GN (1991) Caring for larger lists. *British Medical Journal* **303:** 1312–6

Maxwell RJ (1992) Dimensions of quality revisited: from thought to action. *Quality Health Care* **1:** 171–7

Mohrman SA, Cohen SG, Mohrman AMJr (1995) *Designing Team-Based Organisations*. Jossey-Bass, San Francisco

Peiro JM, Gonzalez-Roma V, Romos J (1992) The influence of work team climate on role stress, tension, satisfaction and leadership perceptions. *European Review of Applied Psychology* **42**(1): 49–6

Tannenbaum SI, Beard RL, Salas E (1992) Team building and its influence on team effectiveness. In MA West (ed) *Handbook of Work Group Psychology*. Wiley, Chichester

Toon PD (1994) What is Good General Practice? A Philosophical Study of the Concept of High Quality Medical Care

Weldon E, Weingart LR (1993) Group goals and group performance. *British Journal of Social Psychology* **32:** 307–34

In MA West (ed) *Handbook of Work Group Psychology*. Wiley, Chichester

West MA, Anderson NR (1996) Innovation in top management teams. *Journal of Applied Psychology* **81**(6): 680–93

West MA, Borrill CS, Unsworth KL (1998) Team effectiveness in organisations. In: Cooper CL, Robertson IT (eds) *International Review of Industrial and Organizational Psychology* **16:** Wiley, Chichester

West MA, Poulton BC (1995) *Primary health care teams: Rhetoric versus reality*. Paper submitted for publication. Institute of Work Psychology, University of Sheffield

West MA, Slater JA (1996) The Effectiveness of Team Working in Primary Health Care. Health Education Authority, London

West MA, Wallace M (1991) Innovation in health care teams. *European Journal of Social Psychology* **21:** 303–15

Wood N, Farrow S, Elliott B (1994). A review of primary health care organisation. *Journal of Clinical Nursing* **3**(4): 243–50

Worchel S, Wood W, Simpson JA (eds) (1992) Group processes and productivity. Sage, Newbury Park, CA

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