National Institute for Health Research

Service Delivery and Organisation Programme

The Impact of Enhancing the Effectiveness of Interdisciplinary Working.

SECTION 1

Prof Susan Nancarrow,[1] Prof Pam Enderby,[2] Dr Steven Ariss, [2] Mr Tony Smith,[3] Mr Andrew Booth,[2] Prof Michael Campbell[2], Mrs Anna Cantrell[2] and Prof Stuart Parker[2]

[1] Southern Cross University, Australia
[2] The University of Sheffield, UK
[3] Sheffield Hallam University, UK

Published August 2012

This project is funded by the Service Delivery and Organisation Programme

NHS National Institute for Health Research

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby *et al.* under the terms of a commissioning contract issued by the Secretary of State for Health
Project 08/1819/214

Address for correspondence:

Professor Pam Enderby
The University of Sheffield
School of Health and Related Research
Regent Court
30 Regent Street
Sheffield S1 4DA

Email: p.m.enderby@sheffield.ac.uk

This report should be referenced as follows:

Nancarrow, S.A., Enderby, P.M., Ariss, S.M., Smith, S.A., Booth, A., Campbell, M.J., *et al.* Enhancing the effectiveness of interprofessional working: cost and outcomes. Final report. NIHR Service Delivery and Organisation Programme; 2012.

Relationship statement:

This document is an output from a research project that was funded by the NIHR Service Delivery and Organisation (SDO) Programme based at the National Institute for Health Research Evaluations, Trials and Studies Coordinating Centre (NETSCC) at the University of Southampton. The management of the project and subsequent editorial review of the final report was undertaken by the NIHR Service Delivery and Organisation (SDO) Programme. From January 2012, the NIHR SDO Programme merged with the NIHR Health Services Research (NIHR HSR) Programme to establish the new NIHR Health Services and Delivery Research (NIHR HS&DR) Programme. Should you have any queries please contact sdoedit@southampton.ac.uk.

Copyright information:

This report may be freely reproduced for the purposes of private research and study and extracts (or indeed, the full report) may be included in professional journals provided that suitable acknowledgement is made and the reproduction is not associated with any form of advertising. Applications for commercial reproduction should be addressed to:

Health Services and Delivery Research Programme
National Institute for Health Research
Evaluation, Trials and Studies Coordinating Centre
University of Southampton
Alpha House, Enterprise Road
Southampton SO16 7NS

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Disclaimer:
This report presents independent research funded by the National Institute for Health Research (NIHR). The views expressed are those of the authors and not necessarily those of the NHS, the NIHR or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and not necessarily those of the NHS, the NIHR or the Department of Health.

Criteria for inclusion:
Reports are published if (1) they have resulted from work for the SDO programme including those submitted post the merge to the HS&DR programme, and (2) they are of a sufficiently high scientific quality as assessed by the reviewers and editors. The research in this report was commissioned by the SDO programme as project number 09/08/1819/214. The contractual start date was in April 2008. The final report began editorial review in July 2011 and was accepted for publication in August 2012. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The SDO editorial team have tried to ensure the accuracy of the authors' report and would like to thank the reviewers for their constructive comments on the final report documentation. However, they do not accept liability for damages or losses arising from material published in this report.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Contents

Contents 4
List of tables 9
List of Figures 10
Glossary of terms/abbreviations 12
Acknowledgements 17
Executive Summary 19
Background 19
Aims 19
Methods 19
Analyses 20
Results 21
1 Morale and motivation 23
2 Role mix and professional role 23
3 Management, leadership and decision making 23
4 Joint working 23
5 Service development activities 23
6 Communication and relationships 23
7 Clarity of vision 23
8 Shared vision of patient treatment 23
9 Facilities and resources 23
10 Professional development 23
Discussion 23
Conclusions 24
The Report 25
1 Introduction 25
1.1 Background 25
1.2 Research Questions 27
1.2.1 Aims 27

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

1.2.2 Objectives: 27
1.3 Research Activities 28
1.4 Report Outline 30
2 Methods 32
2.1 Introduction 32
2.2 Data Analysis and Diagnosis 33
2.2.1 Literature review 33
2.2.2 Secondary analysis of data derived from SDO 08/1519/95 34
2.3 Service user involvement 34
2.4 Planning and negotiating the intervention: Development of an Interdisciplinary Management Tool 35
2.5 Taking action: Implementing the IMT 35
2.5.1 Recruitment of teams 36
2.5.2 Eligibility criteria 36
2.5.3 Participants 36
2.5.4 Training facilitators to implement the IMT 36
2.5.5 Search evaluation conference and team learning sets 38
2.6 Evaluating the impact of the interdisciplinary management tool 38
2.6.1 Quantitative Data collection 39
2.6.2 Interviews with participants 47
2.6.3 Facilitator Focus Group 48
2.6.4 Individual feedback reports 48
2.7 Analysis and synthesis of findings 49
2.8 Conclusions 50
3 Literature Review 51
3.1 Introduction 51
3.2 Objectives 51
3.3 Methods for the Literature Reviews 51
3.3.1 Methods common to all three literature reviews 51
3.3.2 Methods specific to Concept Analysis (LR1) 52
3.3.3 Methods specific to Systematic Review of Workforce Tools (LR2) 53

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3.3.4 Methods specific to Systematic Review of Workforce Tools (LR3) 54
3.3.5 Methodological limitations of the literature reviews 55
3.4 Findings specific to the Concept Analysis (LR1) 55
3.4.1 Teamwork 55
3.4.2 Collaboration 57
3.4.3 Interprofessional Teamworking 57
3.4.4 Interprofessional versus Interdisciplinary 60
3.4.5 Multiprofessional, Interprofessional and Transprofessional 61
3.4.6 Tools for assessing team functioning 66
3.5 Outcomes from the Concept Analysis (LR1) 66
3.6 Review of NHS workforce change instruments (LR2) 70
3.6.1 Conclusion 71
3.6.2 Outcomes from the Systematic Review of Workforce Tools 74
3.7 A systematic review of Interprofessional Teamworking (LR3) 75
3.7.1 Findings from the Systematic Review of Processes and Outcomes of Interprofessional Teamworking LR3 77
3.7.2 Team Coordination (including Meetings) 79
3.7.3 Leadership 81
3.8 Thematic analysis of qualitative evidence 83
3.8.1 Method of analysis 83
3.8.2 Themes identified from the qualitative literature 83
3.8.3 Findings from the three literature reviews (LRs 1-3) 86
4 Development of the IMT and Interventions 89
4.1 Introduction 89
4.2 Defining the IMT 89
4.3 Overview of the IMT Development Process 90
4.4 Preparation for IMT Implementation 94
4.5 Implementation and adaptation of the IMT 95
4.6 The IMT Implementation process 95
5 Results 97
5.1 Introduction 97

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.2 Participants and response rates 97
5.2.1 Duration of participation 98
5.2.2 Data collected from the teams 102
5.2.3 Staff characteristics 103
5.2.4 Patient characteristics 106
5.3 The Implementation of the IMT 112
5.3.1 Issues and actions identified by teams 112
5.3.2 Actions carried out around each of the issues 119
5.4 Impact of the IMT Intervention 119
5.4.1 Introduction 119
5.4.2 Impact of the IMT – case studies combining SEC and TLS reports with WDQ outcomes 119
5.4.3 Impact of the IMT - Interview results 121
5.4.4 Impact of the IMT – Results of the facilitator focus group 128
5.4.5 Impact of the IMT - Team feedback reports 130
5.4.6 Impact of the IMT - Quantitative findings 138
5.4.7 Summary of outcomes for all teams 138
5.4.9 The patient characteristics and outcomes (TOMs, EQ-5D) 153
5.4.10 Staff outcomes 155
5.4.11 Synthesis of the Impact of the IMT 158
5.5 Processes of implementation of the IMT 161
5.6 Discussion 175
6 Discussion 180
6.1 Introduction 180
6.2 Review of research objectives 180
6.3 Overview of key findings 182
6.4 Reflections on the IMT 184
6.5 The key characteristics of an interdisciplinary team 186
6.6 Relevance to the NHS 192
6.7 Limitations of the study 192
6.8 Recommendations 194

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

6.8.1 Recommendations for future research 194
6.8.2 Recommendations for practice 195
6.9 Conclusions 196
References 198

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

List of tables

Table 1 Contextual data 42
Table 2 Sources of data for the prospective study..... 42
Table 3 Outcome measures 43
Table 4 Operational codes and descriptors for TOMs rating scale 45
Table 5 Summary of questionnaire-based outcome measures 45
Table 6 Description of the Workforce Dynamics Questionnaire and Domains ... 46
Table 7 Databases used for all three literature reviews..... 52
Table 8 Cross-mapping of models of crossprofessional teamwork 62
Table 9 Six themes of team functioning..... 65
Table 10 Evidence from Randomised Controlled Trials 77
Table 11 Evidence from Systematic Reviews 79
Table 12 Elements of Leadership 81
Table 13 Characteristics of participating teams 99
Table 14 Duration of involvement and recruitment rates of participation teams 101
Table 15 Feedback reports received from teams.....102
Table 16 Summary of staff characteristics of participating teams (from WDQ).105
Table 17 Diagnostic categories at admission (n=2449) 107
Table 18 Purpose of the intervention (n= 3394) 108
Table 19 Normal living arrangements prior to admission (n=5732).....108
Table 20 Place where patient received care from service (n=5680).....109
Table 21 Level of care need at admission (n=5465).....110
Table 22. Summary of admission status of all patients by team.....111
Table 23 Summary of issues and actions identified by teams 113
Table 24 Topics Recorded in SEC Reports: challenges and actions ranked by frequency.....117
Table 25 The Professional Role of Interview Participants.....122
Table 26 Outcome of episode of care 140
Table 27 Outcome of episode of care by team.....141

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 28 Patient Satisfaction Results – all teams 143
Table 29 Mean patient satisfaction scores by team 145
Table 30 Mean change scores in TOMs, EQ-5D and Length of Stay across all teams. 146
Table 31 Changes in EQ-5D, TOMS and length of stay by team. 147
Table 32 Factors associated with EQ-5D change 154
Table 33 Factors associated with change in TOMS impairment 154
Table 34 WDQ scores for all teams at T1 and T2. Highlighted scores demonstrate improvement 157
Table 35 Overview of the impact of IMT 159
Table 36 Triangulation of characteristics of a good interdisciplinary team 187
Table 37 Characteristics of a good interdisciplinary team 190

List of Figures

Figure 1 Diagram of (Action) Research Design 29
Figure 2 Project Structure Diagram..... 31
Figure 3 Outline of the Action Learning Approaches 33
Figure 4 The processes of development of the IMT 35
Figure 5 Data collection activities 41
Figure 6 Walker & Avant's approach to Concept Analysis 53
Figure 7 Relationship between -professional and -disciplinary terms 60
Figure 8 PRISMA Flow Diagram for Literature Review One (LR1)..... 68
Figure 9 Six general aims of the Workforce Tools 72
Figure 10 Elements included in one or more of the tools: 73
Figure 11 PRISMA Flow Diagram for Literature Review Three (LR3) 76
Figure 12 Themes identified from the qualitative literature 84
Figure 13 Staff involved in the IMT intervention (n=253) 104
Figure 14 Patient recruitment by team (n=6215) 106
Figure 15 Summary of action plans and challenges faced by the teams 118
Figure 16 Variations in changes in EQ-5D outcomes between teams 148
Figure 17 Change in TOMS impairment scores across all teams 148

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 18 Change in TOMS Participation scores across all teams.....149
Figure 19 Change in TOMS Wellbeing scores across all teams 149
Figure 20 Variations in Length of Stay by team 150
Figure 21 Loess Curves of Change in EQ-5D score against date of admission for each team 151
Figure 22 Change in WDQ scores, all teams for team outcomes (n=84) 155
Figure 23 Change in WDQ scores, all teams for staff outcomes (n=84) 156

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Glossary of terms/abbreviations

ADL	Activities of daily living
ALS	Action Learning Sets
Allied Health Professional (AHP)	Allied health professional refers to professions aligned to medicine, excluding nurses. These professions include: Arts Therapists, Chiropodists, Dietitians, Occupational Therapists, Orthoptists, Paramedics, Physiotherapists, Prosthetists and Orthotists, Psychologists, Psychotherapists, Radiographers and Speech and Language Therapists
CAICS	Community and Intermediate Care Services
Care provider	Any person employed in formal care delivery for a service user, either professionally trained staff or non professional staff
Community rehabilitation	Community-based services including a range of professions and support workers (physiotherapists, occupational therapists, nurses, speech and language therapists, dieticians, psychologists and pharmacists etc) aimed at increasing and promoting independence and autonomy of persons with disabilities
CRAG	Community Rehabilitation Advisory Group
CRAIC	Community rehabilitation and intermediate care services
CRT	Community Rehabilitation Team
Education	A formal process, normally undertaken by tertiary institutions, which leads to a qualification that is normally a prerequisite for entry to a health profession
EQ-5D	A generic, patient-reported, standardised health related quality of life measure, formerly called the EuroQOL
Extended scope practitioner	Practitioners with special interests are GPs, nurses, therapists and other health

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

	professionals who develop an additional expertise which enables them to expand their clinical practice in a defined area
GMC	General Medical Council
HPC	Health Professions Council
HSC	Health Service circular – Department of Health policy guidance document for health services
IC	Intermediate care
IdTL	Interdisciplinary team learning
IMT	Interdisciplinary management tool
Interdisciplinary	A team of individuals including professionals, support workers and administrative staff frequently from different agencies (health and social care) working with common policies and approaches focused on a clear goal
Interdisciplinary working	Outcomes can only be accomplished through the interactive effort and contribution of the disciplines involved; this implies a high level of communication, mutual planning, collective decisions and shared responsibilities. These independent contributions have to be co-ordinated
Intermediate care	Community-based services provided, mostly for older people, aiming at avoiding unnecessary admission to hospital and/or facilitating early discharge from hospital and preventing admission to long term residential and nursing care
Interprofessional team	A group of professionals working closely together with blurred boundaries of their roles
Interprofessional working	Team collaboration which involves coordination of expertise to optimise the care of the service user. An inter-professional team will have regular meetings, formalised systems for the exchange of information and work to a joint treatment plan with common goals for the service user
IPE	Inter-professional education
MDT	Multidisciplinary Team

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

MLQ	Multi-factor Leadership Questionnaire
Multidisciplinary team	A group of practitioners with different training who meet regularly to coordinate their work providing services to one or more service users in a defined area. Each team member brings expertise to address problems separately
Multidisciplinary working	In multidisciplinary teams members of different professions or disciplines assess or treat a client/patient independently and share only information with each other. The team is focused on the task, not the collective working process, and contributions are made either in parallel or sequentially to each other with minimum communication. Each contribution stands alone and can be performed without the input from others.
Multi-professional team	A group of professionals working closely alongside each other but maintaining professional boundaries
NHS	National Health Service
NLU	Nurse Led Unit
NMC	Nursing and Midwifery Council
NSF	National Service Framework
NVIVO	Software package for qualitative data analysis
NVQ	National Vocational Qualification
PCG	Primary Care Group
PCT	Primary Care Trust
PPI	Patient and Public Involvement
Professional	An individual belonging to a group which has a clear definition of the elements of work over which the individual has autonomy or control; legislative recognition of the profession by the state, protecting the profession from encroachment by another profession and ownership over an exclusive body of knowledge and skills and a code of ethics that protects their legitimacy
QALY	Quality Adjusted Life Years

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

RCT	Randomised Controlled Trial
Role	A function designed to achieve a defined output or outcome
Role substitution	The ability of a worker from one discipline to adopt the roles of a worker from another discipline
SAP	Single Assessment Process
SEC	Service Evaluation Conference
Service user	A recipient of health or social care services. Depending on the context, the service user may include the family and / or carers of the person directly receiving the service
Skill	A level of knowledge or competence that is required to successfully perform a work-related function or role
Skill mix	Can refer to the mix of disciplines involved in care, the mix of skills within a disciplinary group or the skills possessed by an individual worker
Support worker / support staff (SS)	An individual who works with professionally qualified staff who may have health &/or social care training such as National Vocational Qualifications (NVQ) but who do not have tertiary or equivalent qualifications and who does not have legislative recognition of professional status by the state. Titles included under this category include: Technical instructors, Rehabilitation assistants, Social work assistants, Physiotherapy assistants, Rehabilitation technicians, Psychology assistants, Occupational Therapy technicians, Carers, Intermediate care technicians, Care management assistants, Therapy assistant, Technician & Home Enablers
TLS	Team Learning Set
TOM	Therapy Outcomes Measure
Training	A learning process that is used to augment vocationally acquired skills or to upgrade and enhance skills obtained through prior educational experience

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Transdisciplinary working	The transdisciplinary team operates at the opposite end of the continuum compared to the multidisciplinary team. The team uses an integrative work process and disciplinary boundaries are partly dissolved
UK	United Kingdom
USA	United States of America
WDQ	Workforce Dynamics Questionnaire
Workforce configuration	The combination of skill mix, training, delegation, substitution and specialization and role overlap
Workforce development	Activities that increase the capacity of individuals to participate effectively in the workplace. It incorporates components of workforce planning, education and training and management
Workforce planning	A component of workforce development that aims to ensure that there are sufficient staff with the appropriate skills to deliver quality care to patients and secondly, to predict and plan for the future workforce needs
WTE	Whole Time Equivalent

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Acknowledgements

Contributions by authors:

Prof Susan Nancarrow: Co chief investigator
Prof Pam Enderby: Co chief investigator
Dr Steven Ariss: Project Manager/qualitative elements data analysis
Mr Tony Smith: Development of methodology and author of IMT
Mr Andrew Booth: Responsible for literature reviews and synthesis
Prof Michael Campbell: Statistical advice and analysis of quantitative data
Mrs Anna Cantrell: Conducted searches for literature reviews
Prof Stuart Parker: Contributed to the design of the study/clinical and research advice

Project Team: this report and the study as a whole were made possible through the hard work and dedication of team members who helped organise activities and input and manage the large quantities of data:

Adele Blinston
Sam Cooke

Steering Group: we appreciate the guidance and support of the steering group:

David Quinney (Chair)
Fiona Shield
Frances Gordon
Daniel Mason
Bhanu Ramaswamy
Ros Eve

Facilitators: we would like to thank all of the individuals who gave of their time so willingly to be trained and act as facilitators within this project:

Edmund Cross (Lead)
Fiona Shield
Iain Snelling
Bhanu Ramaswamy
Tony Ryan
John Kawalek

Team Members: the project would not have been possible without the commitment and involvement of hundreds of staff who cannot be named for reasons of confidentiality. But we would like our sincere appreciation to be noted.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

PPI and CRAG: the project team are indebted to the patients and public and particularly members of the CRAG for their involvement and guidance.

We also acknowledge the assistance in the setting up of this project of Anna Moran, Lorraine Ellis, Ron Akehurst and Julia Coyle.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Executive Summary

Background

The increasing number of people surviving to old age but requiring health and social care support, along with financial pressures and patient preference has led to policy drivers encouraging an expansion of community-based rehabilitation and intermediate care. These services require interdisciplinary teams to work closely and effectively together to prevent avoidable admission to hospital and facilitate early discharge. Our previous research 'The impact of workforce flexibility on the costs and outcomes of older peoples' services' (SDO 08/1519/95) indicated variation in the skill mix within teams, their ways of working and impact on patient outcomes.

Aims

This study aimed to examine the impact of an intervention to improve interdisciplinary working and explore the relationship between team working and impacts on staff and patients.

The study objectives included: exploration of the relationship between different models of interdisciplinary working and related outcomes; description of a range of service models identifying strengths and limitations; and the exposition of characteristics and attributes of effective interdisciplinary team working. These objectives were facilitated by the development, implementation and evaluation of an Interdisciplinary Management Tool (IMT) with 10 teams aiming to optimise outcomes for patients, staff, and services.

Methods

This is a complex mixed methods study requiring the collection of both quantitative and qualitative data, triangulated to address the research objectives.

Development of intervention

Three literature reviews supported the development of the interdisciplinary team working intervention (IMT), and its subsequent evaluation. These reviews provided a typology of interdisciplinary practice; a map of workforce

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

implementation tools; and a review of process and outcome information from RCTs of interdisciplinary team working.

Recruitment of teams and facilitators

12 teams from across England were recruited to take part in the study with the aim of 10 being likely to complete. Seven independent facilitators were recruited and trained to support the teams.

Data collection-quantitative

Team Data: all members of the teams provided individual information using the Workforce Dynamics Questionnaire (WDQ) at the beginning and end of the study.

Patient Data: patient data were collected on admission and discharge using the Client Record Pack three months prior to the intervention starting, throughout the intervention and for three months after. The client record pack included: demographic data, Levels of Care, Therapy Outcome Measure, EQ 5D and patient satisfaction survey.

Data collection- qualitative

Each team met for a facilitated Service Evaluation Conference prior to and following the intervention period (SEC1 & SEC2). SEC1 explored issues effecting team working and developed action plans. SEC2 presented preliminary results and reflected on the intervention.

During the intervention each team participated in three half day Teaching Learning Sets (TLS) at two monthly intervals. Notes and exercises from the SECs and TLSs were transcribed.

The facilitator took notes which supported their involvement in the final facilitators' focus group which was tape-recorded and transcribed.

We undertook 15 interviews with staff from 3 of the participating teams to explore their perceptions of the impact and implementation of the IMT

The final dissemination conference was attended by 100 individuals and included members from each team. Data from the study were discussed. The audience considered what analyses would be of assistance to them in taking intermediate care forward.

Analyses

Literature Review: Following Walker and Avant's approach to concept analysis literature review 1 (LR1)-identified issues of concern to this project. Literature review 2 (LR2)-searched seventeen databases and Google using phrase searching for each instrument. Literature review 3-(LR3), a review of process and outcome information from RCTs of interdisciplinary team

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

working, identified relevant randomised controlled trials and the impact of change-management approaches.

Quantitative data: All data were entered into SPSS 18.0 which was used for descriptive analyses and to explore change over time. Further multivariate analyses were undertaken using STATA.

Qualitative Data: Data from the facilitators' focus group and interviews were tape-recorded, transcribed and thematically analysed. Data from the SEC and TLS events were analysed thematically using NVIVO 8.0. Data from event feedback reports were transcribed into MS Excel using pre-coded categories and then thematically analysed in NVIVO.

Results

1. Literature Reviews

LR1- The principal outcome from LR1 was identification of the framework and empirical research conducted by Thylefors et al (1). This represents a significant contribution to the conceptualisation of the differences between multiprofessional, interprofessional and transprofessional teamworking. It also identifies six specific variables that help to define or characterise interprofessional teamworking. The review team critiqued the study and considered it fit for purpose as a framework for subsequent development of the (IMT)

LR2- Identified 20 workforce change tools, with 14 common elements, which have been used within the structure of the IMT.

LR3- Identified several papers with components of interdisciplinary team working. However, the links between process and outcomes were poorly established. Sixteen qualitative themes around interdisciplinary team working were identified, which have informed the principles of interdisciplinary team working.

2. Development of Interdisciplinary Management Tool

The Interdisciplinary Management Tool was developed based on the literature and informed by iterative development by the steering group.

The literature and discussion with the steering group, research team and other experts concluded that the intervention (IMT) should incorporate factors: affecting interdisciplinary team performance e.g. motivation, job satisfaction and career development; affecting performance e.g. team size, integration, team meetings; and leadership e.g. clarity and style of leadership.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3. Information on Teams

253 team members from 11 intermediate care teams participated with the average team size being 29 wte. There were large differences in size of team (8.3- 44 staff members). The average ratio of professionals to support workers was 1:0.7 and team leaders on average had responsibility for 40 staff. The length of care by the teams varied between 22 and 128 days with a mean of 41 days.

4. Impact of the IMT

Overall, the integrated qualitative and quantitative findings showed that IMT was seen to positively influence team communication, leadership, personal development, focus on goals and outcomes, team working, team clarity, team reputation and team understanding of the change processes. The qualitative data indicated a positive impact on team integration, but this was not reflected in the quantitative data, which may have been due to the lack of the specificity of the chosen tools. The negative aspects of involvement were the time taken away from patient care, the time required to complete the documentation, lack of goal completion by teams, and the uncertainty affecting team direction and morale.

Staff Outcomes

84 members of staff completed the WDQ before and after the intervention. Improvement was in the areas of: role flexibility, team working ($p<0.05$), quality and management. No change was detected in role perception and access to resources. Over the period of the study deterioration in outcomes was noted in career progression, autonomy, uncertainty, overall satisfaction, intention to leave employer and intention to leave profession. This was significant ($p=<0.05$) in career progression and uncertainty.

Patient Outcomes

Four teams showed an improvement in the amount of change in the EQ-5D experienced by patients over the duration of the intervention; four teams showed little or no change; and the amount of change in EQ-5D in three teams declined. We are unable to attribute these changes to the intervention.

Primary Outcomes of Research

This study has three primary outcomes. The first is an evidence-based and empirically tested Interdisciplinary Management Tool. The tool addresses the key factors which influence team working: 1) communication, 2) integration, 3) leadership, 4) personal development, 5) focus on goals and outcomes, 6) team working, 7) team clarity, 8) team reputation, 9) team understanding of the change processes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The second outcome of this project is an enhanced conceptualisation of the concept of interdisciplinary team working, which we have presented as 10 principles.

1 Morale and motivation
2 Role mix and professional role
3 Management, leadership and decision making
4 Joint working
5 Service development activities
6 Communication and relationships
7 Clarity of vision
8 Shared vision of patient treatment
9 Facilities and resources
10 Professional development

A further outcome is detailed information which can be used for benchmarking purposes.

Discussion

Our previous published research in the area of intermediate care indicated substantial differences in team make up and patient outcomes across England. We hypothesised that some of this variation could be attributed to the effectiveness of team working.

The IMT tool, based on the conceptual framework that we developed which incorporated ten themes, aimed to bring together different types of knowledge to implement an evidence-based approach with local applicability to the needs and requirements of the intermediate care team. The approach in general was appreciated and had positive outcomes. However, the staff found it difficult to make time available and frustrating when they could not influence factors beyond their control. Our study was particularly constrained by substantial changes to the provision of NHS care in the community causing anxiety and lack of certainty. In the three months after the end of the study, one team had been disbanded and substantial changes have taken place for two further teams.

The facilitators and team members became increasingly aware of the lack of opportunity for shared reflection of practical issues, which bring the team together operationally and strategically. Time put aside for facilitated

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

activities has had an impact in improving coherence in several areas of work.

Appropriate leadership can improve team cohesion, clarity and staff satisfaction. This was recognised by those attending the SECs and TLSs. It was also recognised that team members had a role to play in supporting their leaders.

Conclusions

The IMT had a positive and measurable effect on team working and was valued by team members. Whilst patient outcomes of some teams improved following the intervention this was not consistent for all teams. We suspect that the uncertainties faced by many of our teams due to the political and strategic changes may have had an impact on our results. Furthermore, it is possible that the length of follow-up was insufficient to demonstrate impact on patients.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The Report

1 Introduction

The research presented in this report draws together the relatively new concepts of interdisciplinary team working and intermediate care for older people within the NHS in England. However, the term ' intermediate care' has been subsumed into 'community rehabilitation' in some settings and these terms are now being used interchangeably. Intermediate care is characterised by interdisciplinary and sometimes, across sector working between health and social care. Approaches and structures used by different teams vary greatly with previous research identifying variation in the outcomes associated with care of older people in the community. The purpose of this research was to develop and implement an evidence-based, Interdisciplinary Management Tool and explore the impact of this tool on patient, staff and team outcomes.

1.1 Background

As a result of the National Service Framework (NSF) for Older People (2) intermediate care for older people has grown substantially and is set to expand further, as acute care services are progressively moved to primary and community care settings (3). The services that we are studying (community rehabilitation and intermediate care) provide rehabilitation and care for mostly people over 60 to prevent admission to hospital or to facilitate discharge. They also provide services to improve independence and self care. These services have an emphasis on patient centred care, interdisciplinary working and the push for workforce flexibility (3-4) coupled with patient choice(5) and new financial arrangements (3, 6). This has introduced new complexities in the planning and delivery of community rehabilitation and intermediate care services. At the same time, NHS employers are required to improve the working lives of staff, address recruitment and retention issues and to maximise staff and service performance (7).

Interdisciplinary team working is a complex concept which is concerned with the way that different types of staff work together to share expertise, knowledge and skills to impact on patient care. Despite the increasing emphasis on interdisciplinary working over the past decade, and in particular, the growth of interdisciplinary education, there is little evidence to demonstrate the most effective way of delivering interdisciplinary team working. This difficulty is compounded by the multifactorial nature of team working, which involves the skill mix, setting of care, service organisation and management structures. Most existing research explores the impact of

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

one or a few of these aspects, rather than examining the relationship between several components on a range of staff and patients outcomes.

The introduction of new models of service staffing and organisation, by definition, involve changes to current ways of working. Therefore, it is essential to consider the principles of change management. The Department of Health, through the NHS Modernisation Agenda has developed numerous approaches to facilitate workforce change, such as the Accelerated Development Programme, the NHS Workforce Balanced Scorecard. To date, there is no systematic analysis of the range of change management approaches used to facilitate workforce change, and these need to be examined to determine the best vehicle for the implementation of interdisciplinary practice and other related changes.

Previous research undertaken by our team ('the impact of workforce flexibility on the costs and outcomes of older peoples' services') explored the relationship between different staffing models and patient outcomes in intermediate care services. We found evidence of a relationship between staffing models and patient outcomes, although there was a great deal of variation in the structure and organisation of teams, and the patient, staff and team outcomes. Building on the previous study this research provides an evidence base for decision making for configuring the workforce in order to optimise outcomes in a range of health care settings, and so further the NIHR's research aim of promoting and advancing the *science* of workforce configuration and the educational and training needs of managers and professionals. Key to achieving this aim is the methodology selected.

A wide range of terms are used to describe collaborative working arrangements between professionals (Xyrichis and & Lowton (8)). Terms such as: interdisciplinary, interprofessional, multiprofessional, multidisciplinary, are often used interchangeably in the literature to refer to both different types of teams and different processes within them (9). They are also often used in conjunction with the term team working. However, there are some consistent distinctions that are useful to understand. The terms inter/multi-professional are generally narrower than the terms inter/multi-disciplinary (10-13) referring to teams consisting exclusively of professionals from different professions or disciplines, or at least to the relationships between these professionals. The terms multi/inter-professional exclude others who work in teams, which makes one speculate on the value attached to the work of non-health professional in delivering effective care. A study by (14) found that nonprofessional staff and students were largely passive in interprofessional interactions. This is significant because non-healthcare professionals are delivering increased amounts of care particularly in intermediate and community care

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

settings (15). The terms multi/inter-disciplinary are broader and include all members of healthcare teams. However, as Maister (16, p.208) points out, an interdisciplinary team is a largely professional group.

For the purposes of this report, the focus will be on inter/multi-disciplinary teams, as all team members were included in the interventions and data gathering activities. The term interdisciplinary team is used as a generic term of reference for healthcare teams included in the study, which include a range of health service workers, both professionals and non-professionals, but which are likely to be largely professional groups. However, where referenced authors have used the terms inter/multi/trans-professional or inter/multi disciplinary the authors' terms are used.

1.2 Research Questions

1.2.1 Aims

This study aimed to examine the relationship between interdisciplinary team working and outcomes for patients and carers, staff, and services; and to use this information to develop an Interdisciplinary Management Tool which can be used to optimise outcomes for patients, staff and the service.

1.2.2 Objectives:

a. To use existing data to explore the relationship between different models of interdisciplinary working and outcomes, specifically;
   - √ Identify models of interdisciplinary working that are associated with better staff outcomes (satisfaction, retention, autonomy, career development opportunities).
   - √ To explore the relationship between different models of interdisciplinary working and patient outcomes (measured by the EQ-5D, TOMs and patient satisfaction data).
   - √ Measure the relationship between different models of interdisciplinary working and the costs of service delivery.
   - √ Determine the relationship between different models of interdisciplinary working and the duration of care.

b. To describe a range of different models of interdisciplinary team working and their strengths and limitations.
c. Define the characteristics, attributes and dynamics of effective interdisciplinary team working.
d. To examine systematically the existing workforce change tools.
e. To develop an Interdisciplinary Management Tool which can be used by service managers, commissioners and staff to optimise outcomes in a range of settings for older peoples' services.
f. To implement the Interdisciplinary Management Tool with 10 teams.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

g. To evaluate the impact of the application of the Interdisciplinary Management Tool on key outcomes

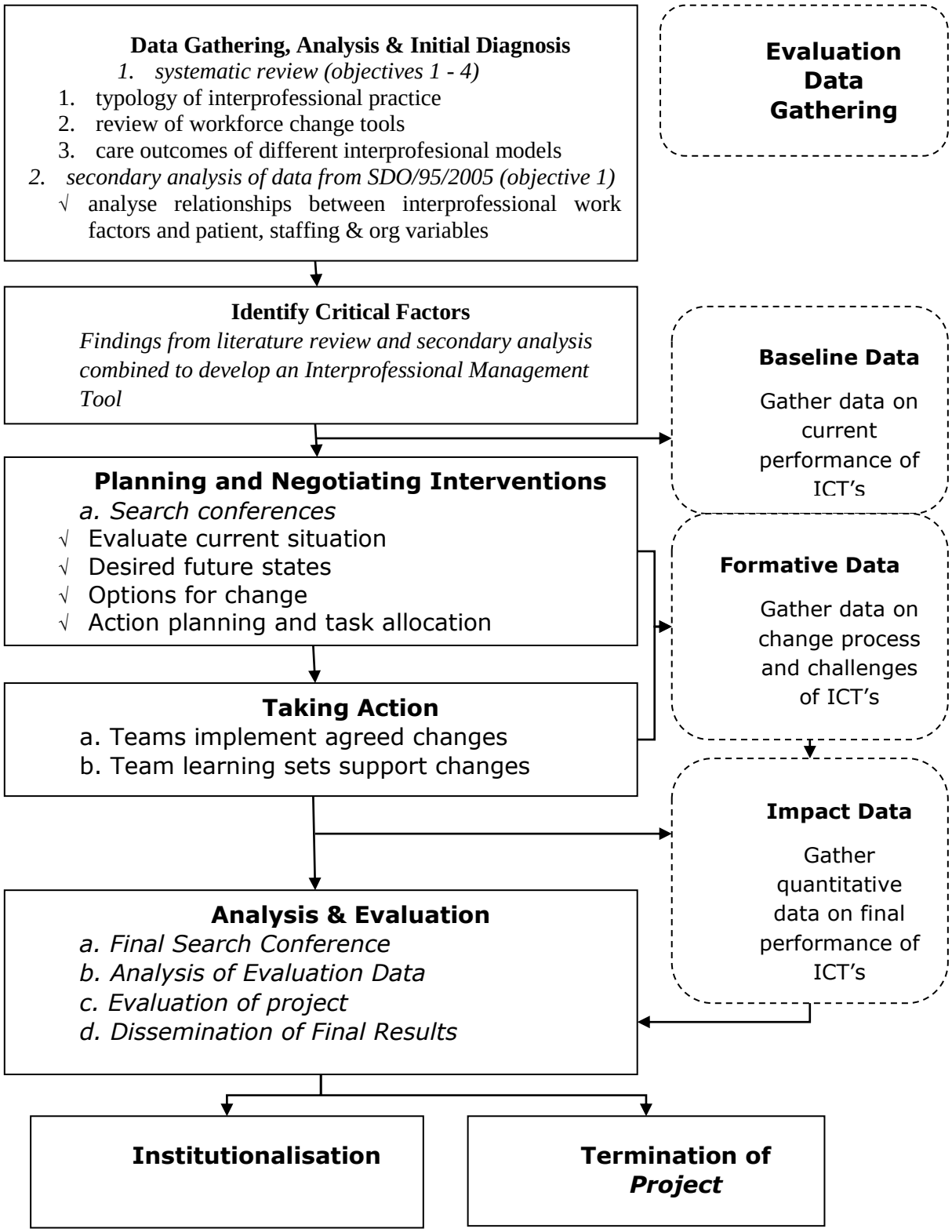
1.3 Research Activities

Action research requires the identification of an initial problem. We had identified substantial variation in team working and associated staff and patient outcomes in our previous study. Thus having interrogated existing data from previous studies to explore the relationships between different models of work and the outcomes, we undertook a focused and detailed review of the literature. This review informed the development of an Interdisciplinary Management Tool (IMT) which was implemented with 11 intermediate care teams using a supported learning, iterative, knowledge translation approach (action research). The impact of the IMT implementation on patients, staff and team outcomes was captured using a suite of data collection tools before and after the implementation. The IMT was revised in light of the findings from the research and feedback from the teams.

The research activities are described in Figure 1 (below)

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 1 Diagram of (Action) Research Design



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

1.4 Report Outline

The report is structured in 6 chapters:

Chapter 2 provides an overview of the methodologies used for the various research components, including the literature review, development of the IMT, implementation of the IMT and the action research approach used throughout the project

Chapter 3 presents the findings from the 3 literature reviews, and describes the methods used in more detail.

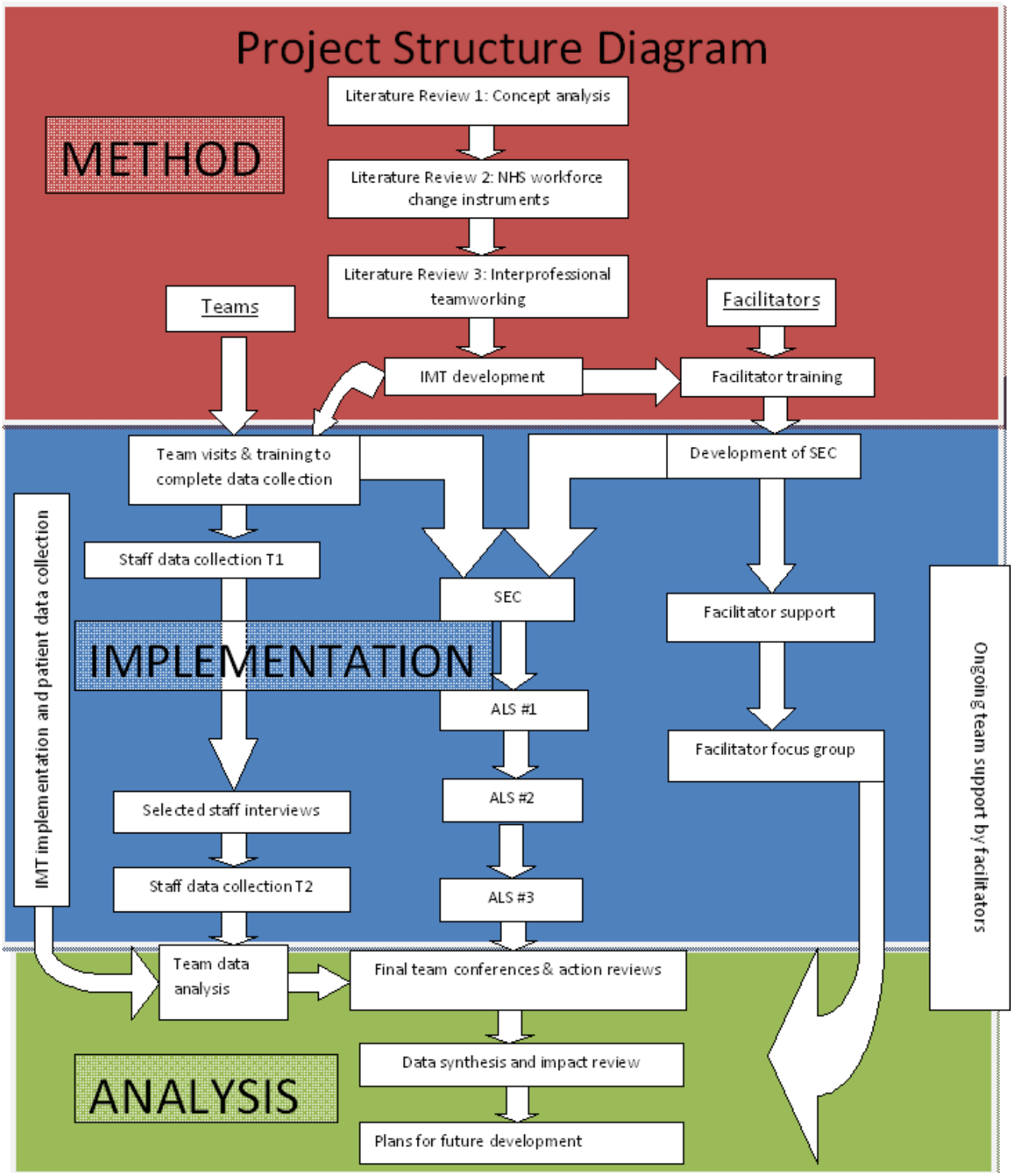
Chapter 4 describes the Interdisciplinary Management Tool (IMT), its development and evolution.

Chapter 5 presents the results of the implementation of the IMT, including the way teams implemented the approach; the impact on patient, staff and services; and the processes of implementation.

Chapter 6 draws together the findings from the previous chapters using a logic model to synthesise the findings of the IMT process, and concludes the report with the implications of the model.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 2 Project Structure Diagram



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

2 Methods

2.1 Introduction

This study aimed to develop, implement, and evaluate an evidence-based approach to change management fostering interdisciplinary team working. Therefore, it was important to utilise a research approach that could integrate published research evidence with the contextual knowledge, expertise and experience of teams to translate this evidence into practice.

Consequently, the research design is structured around an action research framework. Action research is defined as "a period of inquiry that describes, interprets and explains social situations while executing a change intervention aimed at improvement and involvement"(17). It combines the processes of data gathering and interpretation with action (18), to intervene in social systems to "solve problems" and "improve conditions" (19). There is an emphasis on rigorous scientific study to analyse a problem systematically and ensure that any intervention is informed by theoretical considerations. An important principle of action research is that it involves stakeholders intimately in the research process as this ensures maximum ownership understanding of the problems and commitment to solutions, which is vital in facilitating change.

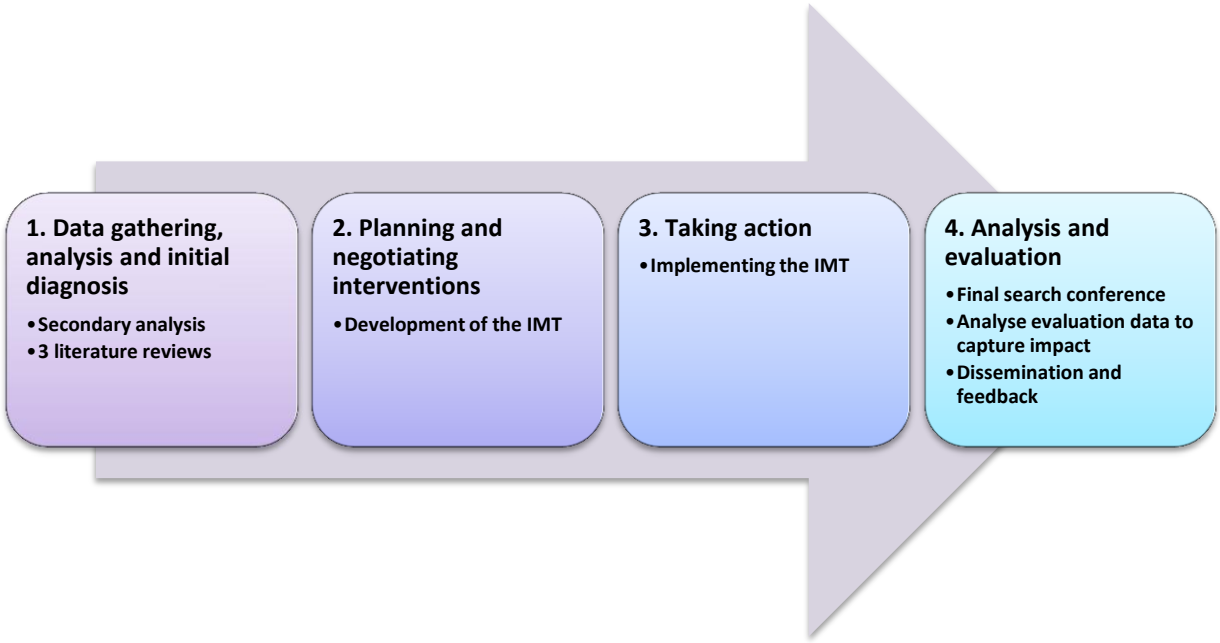
Originally used in education, action research is now becoming more popular in health care settings. Waterman et al (17) define action research as 'a period of enquiry that describes, interprets and explains social situations while executing a change intervention aimed at improvement and involvement' (p11). It is problem focused, context specific and future oriented. The strengths of action research are that it can help to develop practice and because it directly involves those for whom the change is very relevant, it is more likely to succeed in a health care context where role boundaries are increasingly blurred and the contribution of individual team members largely context dependent.

The action research approach used in this study drew on empirical data from a previous study ('The Impact of Workforce Flexibility on Costs and Outcomes of Older Peoples' Services') and published literature to develop an intervention in consultation with stakeholders. This was implemented and evaluated with 11 teams delivering community and intermediate care services for older people.

These steps are summarised below and expanded more fully under the subsequent sections.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 3 Outline of the Action Learning Approaches



2.2 Data Analysis and Diagnosis

Data analysis and diagnosis involves the gathering of data to inform the intervention. In this case, we drew on existing literature and our previous research findings.

2.2.1 Literature review

Systematic review of the literature on interdisciplinary staffing models, outcomes and workforce change tools (Objectives 1-4).

The systematic review was undertaken in three parts:

1. Literature review 1 -explored qualitatively the different approaches to interdisciplinary working to develop a typology of interdisciplinary practice.
2. Literature review 2 -examined the different approaches to implementing workforce change by exploring and comparing the different tools that have been introduced to aid workforce planning and change (eg the NHS workforce scorecard).
3. Literature review 3- involved a systematic review of the outcomes of different interdisciplinary staffing models for patients, staff and services. The review strategy is described in detail in Chapter 3. Specific emphasis was placed on literature relating to IC services, and the relevance of the different contextual factors to workforce change and user outcomes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

2.2.2 Secondary analysis of data derived from SDO 08/1519/95

This project was informed by, and drew on the findings from our previously funded SDO research ('The Impact of Workforce Flexibility on the Costs and Outcomes of Older Peoples' Services'), completed in July 2008. This research involved the collection of comprehensive, longitudinal and cross sectional data on service staffing, organisation and outcomes from IC services. In addition, we were part of a collaboration with two other projects that have used our WDQ and service proforma in health and social care settings in Scotland, Wales and England (SDO 08/1619/114 and DoH 035/0087). Neither of these projects were completed in time to inform the initial development of the IMT, however their findings have been incorporated into the discussion, and further analysis of the comparable data are proposed.

The quantitative findings from 'The Impact of Workforce Flexibility on the Costs and Outcomes of Older Peoples' Services' were summarised into a 'production function' which is a mathematical function used by economists to link inputs to outputs in any process of delivering goods and services (Appendix 1) and discussed further in the discussion

The findings from the secondary analysis and literature review were combined to develop a 'good practice guide' for interdisciplinary working in intermediate care services (Objectives 1-4).

2.3 Service user involvement

In November 2009, prior to the start of data collection for this project the methodology, information leaflets and consenting procedure were discussed with the Public and Patient Involvement (PPI) group based at Barnsley Hospital (Barnsley Consumer Research Advisory Group - CRAG). Their advice and comments were taken into account and led to minor amendments of documentation. It was agreed that we should return to discuss results at the end of the project.

A follow up meeting was held on 3rd of May 2011. Initial results were presented by Professor Pam Enderby to the Barnsley CRAG group. Three individuals had been at the initial meeting. The group found the results interesting and not surprising. They expressed concern at the lack of any national standards informing the skill mix, data collection and procedures of community rehabilitation and intermediate care. Much discussion focused on the lack of certainty and the destabilisation of teams given the changes to the provision of community-based services. (Appendix 2)

The CRAG group recommended that the results of this project should be disseminated to a range of relevant patient related groups including the Stroke Association, the Patients' Association and other disease specific

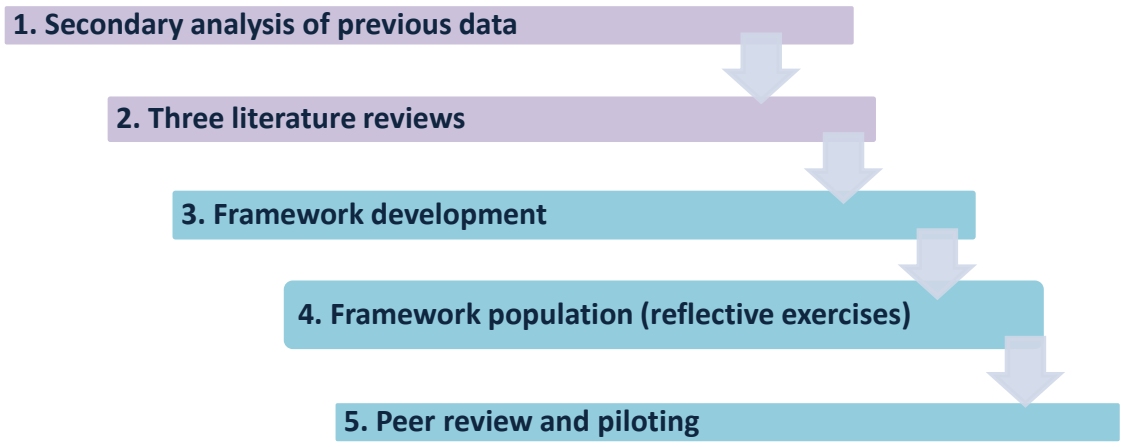
© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

groups. Their views have been incorporated in the discussion and recommendations in this report.

2.4 Planning and negotiating the intervention: Development of an Interdisciplinary Management Tool

The evidence from the literature reviews and previous studies was used to produce a theoretical framework from which to develop a tool that captures the domains of interdisciplinary team working alongside those factors contributing to best practice. The IMT was designed to be used by managers and team members to enhance interdisciplinary working with a view to improving outcomes. The tool integrated the evidence base with a suite of practical exercises, and was developed in partnership with the end users and recipients of the service, namely service users, providers, managers and commissioners. Structured stakeholder consultation was undertaken to develop the format of the IMT, the outputs and the type of interface. The development of the tool is described in full in Chapter 4 (Objective 5).

Figure 4 The processes of development of the IMT



2.5 Taking action: Implementing the IMT

Ethics approval was granted by the Salford and Trafford local research ethics committee on the 11th September 2008 (see Appendix 3). We had aimed to implement the IMT with 10 community and intermediate care services to explore the way that services apply the tool; test the appropriateness of the interface; obtain user perceptions of the tool (using focus groups and interviews); and measure the impact of the

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

implementation of the tool on patient, staff and service outcomes. In addition, we trained facilitators to support the implementation of the IMT and to increase the diffusion and sustainability of the IMT approach. These are described below.

2.5.1 Recruitment of teams

To address the objectives of this component of the research, we aimed to recruit 11 older peoples' community based teams to participate in a prospective study, which would include patient outcomes data. No formal sample size calculation was determined. However, based on the previous study we calculated that this would enable us to recruit approximately 2000 patients.

One result of our previous study 'The impact of workforce flexibility on the costs and outcomes of older peoples' services' was the establishment of, and engagement with, a network of intermediate care teams nationally. All of the teams that participated in the previous study were invited to take part in this project. In addition, we accessed the wider service network via the dissemination conference related to that project, and through the Community Therapists' Network.

2.5.2 Eligibility criteria

Community based rehabilitation or intermediate care services, where the delivery of care is deemed to be transitional (i.e. clients receive a package of care which aims to make them more independent), and whose primary client group is older people.

2.5.3 Participants

The study participants included all of the staff involved in delivering services with the selected teams (Appendix 4), and a consecutively recruited cohort of patients who were admitted into the service over a minimum of a three month recruitment period.

2.5.4 Training facilitators to implement the IMT

To ensure that the IMT could be implemented effectively, it was recognised that skilled facilitators would be required. According to Kaner (20) the core skills of facilitation are about presiding over good meeting practices. These include timekeeping, developing and following an agreed agenda, and keeping a good record of the events. There are however, higher order skills required as facilitation involves working with group dynamics and can involve issues dealing with intra-group conflict. It therefore requires excellent interpersonal communication skills. An effective facilitator needs to

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

engage with group proceedings in a way that promotes creativity and helps to bring about the constructive outcomes desired.

The research team recruited the necessary facilitators from two sources. The first source was from other academic colleagues with previous experience and an interest in facilitation. The second source was colleagues working in health services with whom the team had previously collaborated and with experience of, or an interest in group facilitation.

Eleven facilitators were initially recruited, seven from academic backgrounds, five of whom were in the project research team, and four employed as either clinicians or managers within healthcare organisations. All four had been previously involved either in research or health service improvement projects with members of the core research team.

To ensure that the IMT was implemented consistently the research team organised a facilitator training programme. A business consultant who specialises in group facilitation was employed to develop and deliver the training.

The facilitator training began with a one-day event in February 2009. Prior to the training session, participants were sent copies of the IMT booklet and asked to familiarise themselves with the overall structure and the evidence behind the IMT. During the training, the facilitators were guided through the IMT process step-by-step playing the role of participating team members. This allowed the facilitators to experience the IMT process first hand and develop a close understanding of how to facilitate the team exercises. After each exercise, discussions took place to clarify issues and deepen understanding.

As the final part of the training, the facilitators were given an electronic copy of the script for the Service Evaluation Conference, the one-day facilitated event that began the IMT intervention process. They were asked to familiarise themselves further with the script by re-writing it in their own words.

Due to delays receiving research governance approval in several sites, some of the facilitators had to wait a significant period before they were able to engage with their teams. The delays meant that some facilitators had changed roles or jobs before they had commenced working on the IMT implementation and could no longer take part. As a result, only seven from the original 12 facilitators were able to participate in the delivery of the IMT.

Four, half-day, facilitator support sessions were organised during the intervention phase of the project. This provided further opportunities to practice and develop skills for facilitators waiting to begin work and to support those who had already commenced work with teams. At earlier facilitator support sessions, more formal training was given, particularly around facilitating the Team Learning Sets (TLS) that were scheduled to

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

occur at bi-monthly intervals. At other sessions, the facilitators took part in general facilitation exercises, which were aimed at both increasing skills and facilitating discussion about their experiences implementing the IMT.

2.5.5 Search evaluation conference and team learning sets

The first stage of engagement with each team involved a structured Service Evaluation Conference (SEC). These semi-structured events facilitated the teams to evaluate their practice within the framework of the IMT. The aim was for operational transformation to occur by consensus (Objective 6).

The facilitator worked with the teams, capturing their feedback from the process and input, using flip charts and 'post-it' notes and personal note-taking.

At the end of each SEC, the teams produced an action plan, which formed the basis of the subsequent Team Learning Sets (TLS). These were scheduled to take place every two months for the subsequent six months. The facilitator responsible for working with each team presented the findings of the SEC and TLS using a structured report format. These structured reports were used in the subsequent evaluation of the IMT process.

Action learning support was provided to the teams throughout the implementation stage to maximise learning at all stages and increase the likelihood of changes occurring. The TLSs were half-day events with teams, which utilised a semi-structured facilitation framework similar to that developed for the SEC, but working with teams specifically around the actions identified by them in the initial action plan, and capturing the team feedback on issues, implementation, outcomes and impact. At the end of each event, staff were asked to complete a structured feedback form to provide their perceptions of the individual event and the wider IMT processes (Appendix 5).

2.6 Evaluating the impact of the interdisciplinary management tool

The IMT evaluation involved formative and summative components. Quantifiable outcomes were measured by each of the teams over a 12 month period using a suite of data collection tools to capture patient, staff and service outcomes (Objective 6).

Qualitative data were captured from the following sources;

- the SEC and TLS reports prepared for each of the teams,
- interviews with participating staff,
- feedback forms completed by each team member after the SEC and TLS events

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

- focus group with the facilitators.

(see Figure 5)

2.6.1 Quantitative Data collection

All new consecutive referrals for a twelve-month period were followed until discharge, or for a maximum period of 3 months. This enabled us to examine the outcomes for older people in relation to a range of different staffing configurations.

For each team we obtained data on workforce variables; the systems of service organisation and management; and the outcomes for staff, the service users and the service;

- Organisational context data were collected using the 'service pro-forma' (Appendix 6). This was completed by the team leader or a senior team member.
- Staff level data were collected from each staff member using the Workforce Dynamic Questionnaire (Appendix 7).
- For each patient recruited into the study, staff members completed a "Client / service user record pack" which captured information about service use and change in patient health status (using the EQ-5D and TOMS) for the duration of the study (Appendix 8).

A number of different tools and approaches were required to access these data, which are summarised from

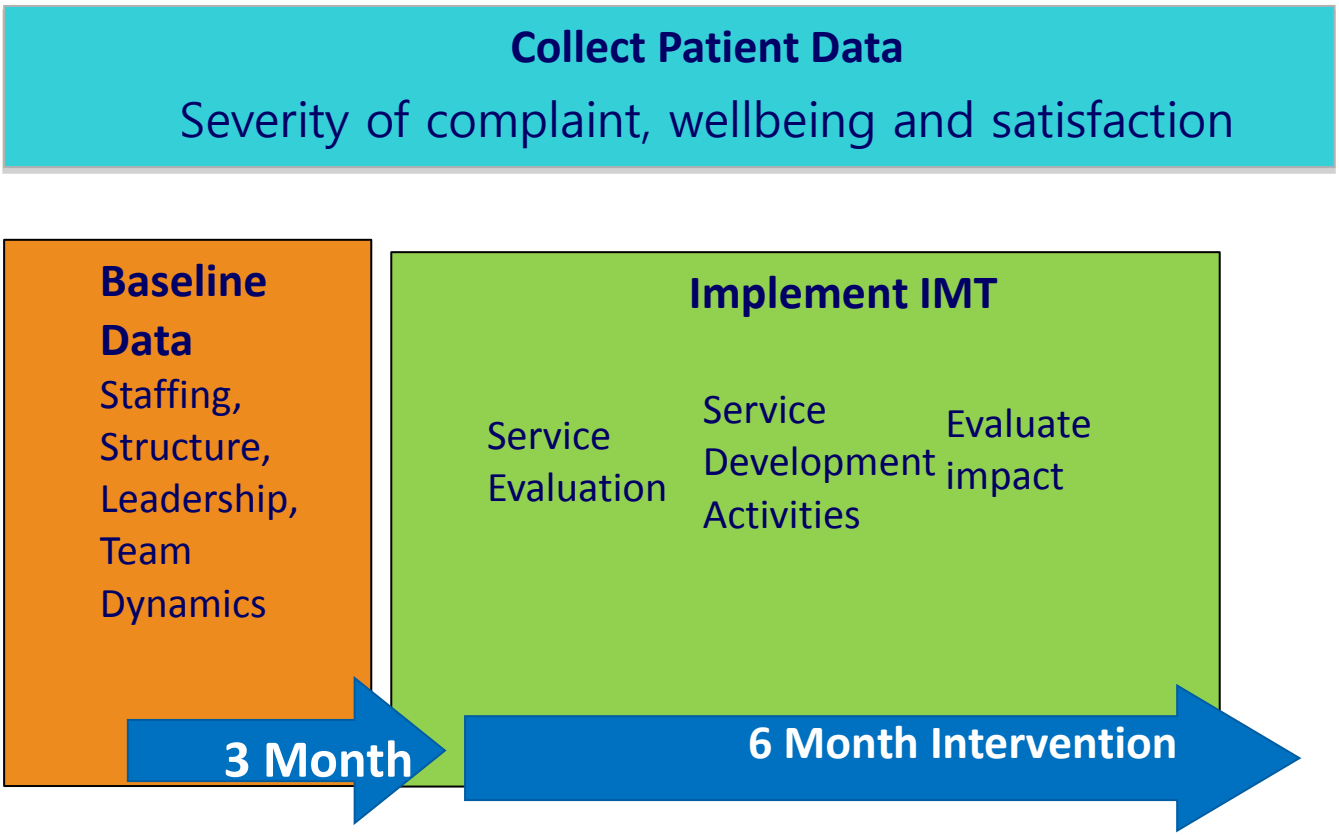
Table 11 to

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 6 under the headings of contextual data; sources of data for the prospective study; and outcome measures.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 5 Data collection activities



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 1 Contextual data

Data collection tools	Description
The Service Pro-forma	The Service Pro-forma was developed through a systematic literature review as part of the larger workforce study (SDO 08/1519/95). It describes the 'inputs' that can have an impact on service delivery and outcomes, such as, setting of care, host organisation, and case mix of patients. (See Section 2 and Appendix 6)
The Levels of Care	The Levels of Care tool is a matrix describing eight possible categories of patient need. It has been used in this study as one proxy for the severity of patient illness, and to help identify potential groups of patients based on their level of service requirement (Appendix 9).

Table 2 Sources of data for the prospective study

Domain	Findings	Source of data
Workforce configuration	Skill mix	Service proforma
	Substitution, specialisation, delegation	WDQ, case study analysis
	Training	WDQ
	Role overlap	WDQ
Organisation and management	Team structures	Service proforma and focus group with team
	Setting of care	Service proforma
	Supervision / accountability	Service proforma, WDQ and focus

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

		group with team
Staff outcomes	Satisfaction	WDQ
	Autonomy	WDQ
	Recruitment and retention	Intention to leave (WDQ)
User outcomes	Patient satisfaction	Patient satisfaction survey
	Change in health status	TOMs measured at start and end of episode of care, EQ-5D
Service outcomes	Costs	Budget analysis using service staffing

Table 3 Outcome measures

Outcome	Measures/ tools	Description
Service outcomes	Length of stay	Date of discharge - date of admission
	Discharge destination	Location where patient was discharged:eg. home, residential care, supported housing, acute hospital.
	Costs of service delivery	See description below
Patient outcomes	The Therapy Outcome Measure (TOMS)	The TOMs scale is a therapist-rated rehabilitation outcome measure. It contains four dimensions: Impairment (degree of severity of disorder); Activity (degree of limitation); Social participation; and Wellbeing (effect on emotion/level of distress), with each dimension scored on an 11-point ordinal scale (0 to 5, including half-points). Lower scores indicate higher levels of impairment. Operational

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

		definitions of these ratings are given in (21).
	The EQ-5D	The EQ-5D is a generic measure used primarily by economists to calculate quality adjusted life years (QALYs). It uses a single question to assess each of five health domains; mobility, self-care, usual activities, pain/discomfort and anxiety/depression. The EQ-5D has a complex scoring system, which ranges from 1 which indicates full health, through to -0.59 (22).
	Patient Satisfaction	The patient satisfaction instrument used for this study was developed and validated in the context of the National Evaluation of Intermediate Care (23) (Appendix 9)
Staff outcomes	The Workforce Dynamics Questionnaire	The WDQ is a validated, 58 item, Likert scale questionnaire, which is self-completed by staff members. It explores 11 domains: management; team working; training and skills development; access to support and equipment; autonomy; role perception; satisfaction, integration with team members; and role confidence. The WDQ and TLS explore closeness of working and role overlap of the staff member to provide an 'interdisciplinary' score. It was developed and validated in the context of older peoples' services(24).
	Staff turnover rates	Staff intention to leave in the next 12 months, which has been demonstrated to be a strong proxy for staff turnover.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 4 Operational codes and descriptors for TOMs rating scale

Rating code	0.0 – 0.5	1.0 – 1.5	2.0 – 2.5	3.0 – 3.5	4.0 – 4.5	5
Description	Profound	Severe	Severe/ Moderate	Moderate	Mild	Normal

Reference: Enderby P, John A, Petherham B. (2006) Therapy outcome measures for rehabilitation professionals, Chichester, John Wiley and Sons Ltd

Table 5 Summary of questionnaire-based outcome measures

		Range of scores	
Measure	**Sub-scales**	**Worst**	**Best**
$EQ\text{-}5D_{vas}$	n/a	0	100
$EQ\text{-}5D_{index}$	n/a	-0.594	1.000
TOM	Impairment	0	5
	Activity	0	5
	Participation	0	5
	Wellbeing	0	5
Patient satisfaction questionnaire	Affective	0	100
	Cognitive	0	100
	Coordination of discharge	0	100
	Timing of discharge	0	100
WDQ	Pain	0	100
	Overall satisfaction	0	100

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 6 Description of the Workforce Dynamics Questionnaire and Domains

Domains	No of items	Description
1. Overall satisfaction	1	Overall level of satisfaction with the job.
2. Autonomy	4	The extent to which a practitioner has control over his / her own work or that of others.
3. Role perception	9	The way a practitioner perceives his/her role is understood and valued by other people (practitioners and the public).
4. Role flexibility	6	The extent to which a practitioner perceives he/she can alter his /her role to meet the needs of the team or service users.
5. Integration with peers and colleagues	3	The level of support available to the practitioner from a member of his / her own professional group.
6. Team working	10	The level of coherence and harmony within the team.
7. Management structures and styles	5	The overall extent of satisfaction with the management of the team.
8. Access to technology and equipment	4	Ability of the staff member to access necessary administrative support and equipment to do their job.
9. Training and career progression opportunities	8	Support for and satisfaction with the career development opportunities offered by the current post.
10. Quality of care	2	Staff perception of the quality of patient care provided by their team.
11. Uncertainty	4	Measures staff uncertainty about the future of their team and their role within the team.
12. Intention to leave profession	1	Staff intention to leave their profession in the next 12 months
13. Intention to leave employer	1	Staff intention to leave their employer in the next 12 months

All WDQ aggregate scores range from 0 – 100, and are transposed so that a higher score represents a more positive outcome (eg a higher intention to leave score is actually more positive).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

2.6.2 Interviews with participants

A series of semi-structured interviews were also conducted as part of the evaluation of the EEICC intervention. These had the following objectives;

- To describe the transfer of learning from the IMT intervention on staff working in participating teams.
- To explore the various mechanisms by which learning from the IMT intervention had been transferred into practice within the service.
- To explore the relationship between the IMT intervention and Interdisciplinary Team working practices.

Interviews were held with 15 staff members from 3 of the 11 teams participating in the IMT intervention. A range of staff took part in the interviews including team leaders, team managers, allied health professionals and support workers. The interviews were held after completion of the IMT intervention process.

The interviews covered the following topics:

- The effect of participation in the EEICC project on productivity
- The impact of the EEICC project on commitment to the Interdisciplinary Team working
- The impact of the EEICC project on commitment to the teams' mission and goals.
- The impact of the EEICC project on leadership within the team.
- Whether participation in the EEICC project has changed understanding of interdisciplinary team working.
- Whether participation in the EEICC project has changed understanding of leadership within interdisciplinary teams.
- Whether changes made were sustainable after the project ceased.

The interviews were digitally recorded and transcribed verbatim. They were analysed using a thematic analysis approach (25). Data was entered into the software NVIVO (version 8.0). A preliminary data coding framework was inductively developed, from which a set of themes were identified. To minimise bias in the process, two other team members sample coded interviews. The three staff then discussed their finds and reached consensus on preliminary themes. A final coding glossary was then developed to define all of the codes and to help increase consistency of the coding.

These themes were then organised into a final hierarchical framework, utilising the 'tree-node' facility in NVIVO. This framework represents the organising structure for the presentation of these results. Fifteen interviews were conducted.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

2.6.3 Facilitator Focus Group

During the IMT implementation the facilitators experienced the implementation process firsthand. Many had also developed strong relationships with the teams they were working with. Therefore, the decision was taken to organise a focus group with facilitators to capture their perspectives on the IMT implementation process. The focus group took place on the afternoon of 9 September 2010

The focus group included some reflection on the role of the facilitation in the implementation process, as distinct from the application of the evidence that was included in the IMT; it explored facilitators' views of the outcomes of the process (in terms of the effectiveness of team development). The aim was that this data could be synthesised with the outcome data, to provide greater understanding of what contexts and mechanisms either facilitated effective change, or proved to be barriers to it.

The focus had three specific objectives:

- To provide some additional data for the project to help contextualise the outcomes data.
- To evaluation of the impact of the IMT from the facilitators' perspective
- To explore the processes of implementing the IMT.

The focus group was facilitated by the professional facilitator who had co-designed the IMT intervention exercises with members of the research team. It was digitally recorded and the audio was then transcribed verbatim. A detailed transcript was made from a tape-recording of the final discussion. Once complete, the transcript was uploaded into Nvivo 8 where it was analysed using a content analysis approach. This involved inductively establishing a set of coding categories that derive from the data (26). In order to ensure the robustness of coding, a coding check was undertaken. This involved another researcher independently coding a sample of the transcript. The coding check revealed a high level of consistency. Where differences were identified, these were discussed and coding labels agreed.

2.6.4 Individual feedback reports

In order to help inform the further development of the intervention, participants at the 'Service Evaluation conferences' (SECs) and the 'Team Learning Sets' (TLSs) were asked to complete a feedback form at the end of each session. As well as asking participants to rate the practical aspects of the events the feedback form asked the following six questions:

- What did you find useful about the different sections of the workshop?

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

- What was most challenging about the workshop?
- In what ways has the event given you insight into the process of change in your service?
- Do you have a clear understanding of future actions for team improvement as a result of the event?
- In what ways did it help having a facilitator?
- Any other comments?

In addition to these questions, the final 'Service Evaluation Conference' feedback forms asked some further questions specifically designed to elicit information which might help the improvement of the intervention:

- In what ways has your involvement in the project influenced the way the team works?
- In what ways could we improve the Inter disciplinary Management Tool booklet?
- How could the Interdisciplinary Management Tool be improved to make it more accessible (eg electronic format, interactive exercises)?
- Please comment on the ease of use of the outcome tools (TOM, EQ5D, Patient Satisfaction Questionnaire).
- What did you find useful about using the outcome tools?
- What was the most challenging aspect of using the outcome tools?
- Has use of the outcome tools in any way changed or informed the way your team works?

Documents were created which contained all of the responses under each heading for all of the teams. These were imported into NVIVO (9) and responses were coded into thematic categories. Where these categories held a number of sub-themes these were also coded (using the 'Tree Node' facility). In this way the most common themes expressed by the participants were revealed and important common concepts underlying each theme were aggregated.

2.7 Analysis and synthesis of findings

We had originally planned to use the Kirkpatrick evaluation framework for this stage of the evaluation, but it did not enable us to adequately address the questions posed by this component of the evaluation. Instead, we utilised a more descriptive framework which explored the following components;

1. Processes of undertaking the IMT
2. Implementation of the IMT
3. Impact of the IMT on patients, staff and services

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

a. Qualitative data (interviews with staff, focus group with facilitators, feedback reports)
b. Quantitative data (patient, staff outcomes and service outcomes)

This framework however, does comprehensively cover all elements of the Kirkpatrick framework.

2.8 Conclusions

This chapter has described the methods of developing, implementing and evaluating the Interdisciplinary Management Tool. The following chapter presents the finding of the three literature reviews.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3 Literature Review

3.1 Introduction

This chapter presents the purpose, detailed approach and methods of synthesis of the three literature reviews which informed the development of the IMT.

3.2 Objectives

Literature Review One - to provide a concept analysis to underpin the development of an Interprofessional Management Tool.

Literature Review Two - to map workforce implementation tools to assist in changing practice.

Literature Review Three - to identify any randomised controlled trials associated with interprofessional team working.

3.3 Methods for the Literature Reviews

Systematic approaches were used for each of the three literature reviews and methods were selected as appropriate (27). Literature Review One (LR1) was conceived as a concept analysis with the review objective being to develop a typology of interprofessional practice as a framework to underpin the structure of the Interprofessional Management Tool (IMT). Literature Review Two (LR2) was a more conventional systematic review to help map workforce implementation tools that might be used by the team to implement the IMT approach.

Finally, Literature Review Three (LR3) started as a review of process and outcome information from within randomized controlled trials of interprofessional teamworking. It was subsequently expanded to examine qualitative studies that yield greater "thickness" of contextual information (28). In identifying relationships between interprofessional practice and outcomes, LR3 would help to illustrate the IMT with examples of good practice from the literature.

3.3.1 Methods common to all three literature reviews

Search strategies for all three reviews sought to identify published and unpublished studies for the period 1994 – 2009. This cut-off date was deemed most suitable given developments in interprofessional teamworking over the last fifteen years. For each review an initial scoping search of MEDLINE and CINAHL was conducted in order to identify text words

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

contained in the title and abstract, and index terms used to describe the article. A second search using all identified keywords and index terms was then undertaken across the databases listed in Table 7.

Table 7 Databases used for all three literature reviews

AMED	British Nursing Index
CINAHL	Cochrane Database of Systematic Reviews
Centre of Reviews and Dissemination (CRD)	EMBASE
ERIC	King's Fund Library Database
MEDLINE	PsycINFO
Web of Knowledge	TRIP (Turning Research into Practice)

Finally, reference lists of all identified reports and articles were searched for additional studies. Results were limited to English language articles in recognition of the importance of cultural factors in teamworking and issues relating to differences in terminology (e.g. multi-, inter-, trans- and cross-disciplinary working).

3.3.2 Methods specific to Concept Analysis (LR1)

For LR1 on models of interprofessional working, methods of concept analysis, based on those outlined by Walker et al (27) were used to explore the concept of the "Interprofessional team". Related concepts included "interdisciplinary team" and "collaboration". A full list of search terms is included in Appendix 10.

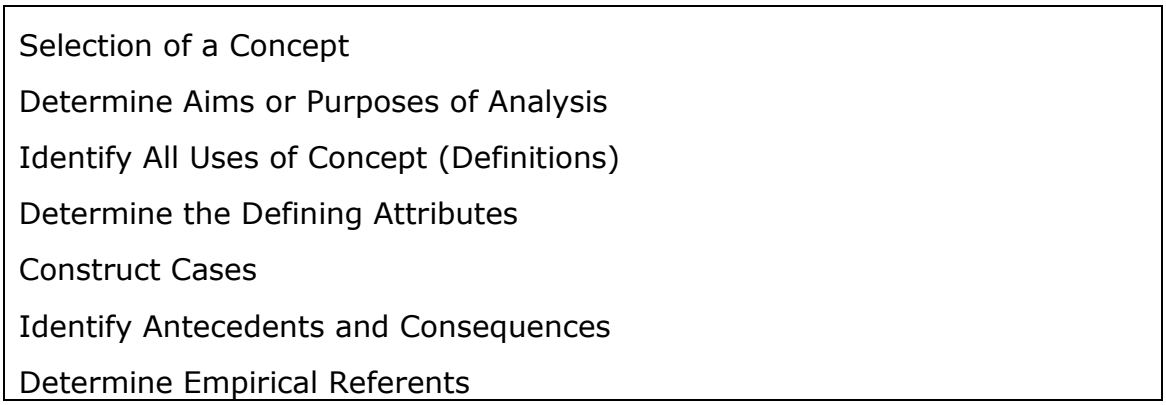
LR1 includes published accounts of interdisciplinary teamworking regardless of study type. Materials on team working in general were used as a backdrop to the concept. Articles on interprofessional research or learning were specifically excluded unless they yielded conceptual models. As the purpose of LR1 is to identify a conceptually-rich framework for examining interprofessional teamworking no attempt was made to apply quality assessment processes to the selection and analysis of retrieved literature.

The Approach of Walker et al(27) was used to guide the concept of this analysis. Concept analysis is a formal, rigorous process by which an abstract concept is explored, clarified, validated, defined and differentiated from similar concepts to inform theory development and enhance communication(29). Among various approaches to concept analysis, the method of Walker et al(27) is most commonly used, probably because it

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

provides a clear and systematic approach. This method involves sequential progression through seven key steps (Figure 6).

Figure 6 Walker & Avant's approach to Concept Analysis



3.3.3 Methods specific to Systematic Review of Workforce Tools (LR2)

A review of tools and instruments used to implement workforce change (LR2) was undertaken to inform subsequent development of an Interprofessional Management Tool. LR2 considers description of tools for implementing workforce change, both published and unpublished. At an early stage tools and instruments were assessed against a minimum dataset of characteristics and a minimum level of reporting. Both descriptive and evaluative accounts of tools were documented for the sake of completeness although the emphasis of the analysis is on those tools that have been formally evaluated. A full list of search terms is identified in Appendix 10.

Given that many tools and instruments do not proceed to formal publication and rigorous evaluation it was considered important to conduct systematic Internet searches. Google was used to identify unpublished literature, following up any references. Google Scholar was used to identify published articles on the use of each tool. Copernic, a meta-search engine which allows storage and purposive filtering of results was included as part of this systematic approach. Once named tools meeting the inclusion criteria were identified these were followed up using "known item" phrase searching. Targeted searches of grey literature sources were also undertaken.

An extensive literature search was conducted to retrieve literature about change instruments and their use in practice. The search was performed across 17 databases covering medical, social sciences and educational literature. Terms related to workforce were combined with terms for change, terms for tool or instrument and terms for older people. Older

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

people terms were included as those delivering services to this particular group would be targeted by the IMT. Searches were limited to English Language only and the last ten years (1998-2008) to ensure that the references could be reviewed in the timescale and were applicable to the development of the IMT.

In parallel an internet search for possible workforce change instruments was performed. The compiled list was circulate to experts in the field who advised on the instruments they thought should be included in the review and provided information about any additional instruments that they were aware of.

Following feedback from the experts a further search was conducted on the same 17 databases utilising phrase searching for each of the named instruments. Internet searches for the named instruments were also performed on Google Scholar and Copernic and reference lists were followed up.

3.3.4 Methods specific to Systematic Review of Workforce Tools (LR3)

LR3 considers randomised controlled trials (RCTs) evaluating the outcomes of different interprofessional staffing models. Studies may have been included in previous Cochrane reviews or identified from the comprehensive literature searches. Data on effectiveness was extracted together with detail on team processes, coordination and leadership, and the elements identified as important from LR1. In the absence of adequate process information from within the identified randomised controlled trials the Review Team decided on a supplementary strategy to examine findings from qualitative research on interprofessional team processes. For inclusion a study had to meet the following criteria:

- Reports of involvement of an interprofessional team in a rehabilitation setting;
- Presents qualitative data focusing on team processes;
- Written in English with a study period between 2000 and 2010.

Findings from identified studies were extracted to a data extraction table. Themes were identified using a constant comparative method (30) and, once identified, were coded in each study. Thematic synthesis was used to look for common patterns across studies (31). See Appendix 11.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3.3.5 Methodological limitations of the literature reviews

LR1 proved problematic because of the difficulty of establishing the existence of a model or conceptual framework from the process of screening abstracts. Furthermore, other articles had the potential to contribute to conceptual development without necessarily mentioning models at all. Citation (backward) chaining was therefore used to follow lines of thought backwards to chart their development (32).This approach provided a richness of conceptual exploration not otherwise available.

LR2 proved challenging because the terminology for tools and instruments of workforce change is not secure and lacks precision for retrieval purposes. An entirely different approach was required. This involved identifying the names and descriptions of change tools and instruments from expert opinion, web sites and scoping literature lists. Once a relatively comprehensive list had been compiled named item searches were conducted for each tool on bibliographic databases and the Internet.

LR3, which sought to identify quantitative studies documenting the outcomes of different staffing models, proved the most amenable to conventional systematic review methods and did not require significant amendment. However, the review team encountered the now-familiar deficit in contextual richness or "thickness" within quantitative studies and had to compensate with strategies specifically seeking qualitative research studies or process evaluations.

3.4 Findings specific to the Concept Analysis (LR1)

The objective of LR1 was to develop a typology of interprofessional practice to inform a framework for subsequent development of the Interprofessional Management Tool (IMT). Terms associated with teams in healthcare are teamwork LRI-63, collaboration LRI-41, LRI-52, LRI-97, interdisciplinary collaboration LRI-72 and working together LRI-4.

3.4.1 Teamwork

LR1 identified 70 articles on team working in general and 27 articles examining collaboration (Appendix 11). These articles were not the focus of the concept analysis but were used to orientate the project's specific focus within the overall literature. The starting point for an examination of the characteristics of teamwork in general was the concept analysis by Xyrichis et al (29). This drew upon literature from various disciplines, including human resource management, organizational behaviour, education, as well as specifically from health care. This paper was therefore used as an index paper. Papers identified by Xyrichis et al(29) were briefly examined and characterised. Papers citing the index paper were identified and followed up in order to bring the original review's findings up-to-date. A starting point

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

for this consideration is the definition that teamwork in health care would appear to be (29):

"A dynamic process involving two or more health professionals with complementary backgrounds and skills, sharing common health goals and exercising concerted physical and mental effort in assessing, planning, or evaluating patient care. This is accomplished through interdependent collaboration, open communication and shared decision-making. This in turn generates value-added patient, organizational and staff outcomes"

This optimistic description makes several assumptions about the prior development of a team i.e. it is more aspirational than descriptive. Specifically a team possesses the following characteristics (33):

"A team requires a definable membership, a group consciousness, a shared vision, a corporate sense of purpose, clear interdependence and interaction and the ability to act in a co-ordinated manner"

In the context of an interprofessional team one might add to the above that the two or more health professionals would necessarily come from different professions; that the common goal (singular) may only extend as far as delivery of patient care and that in practice "shared decision-making" would include individual team members making decisions within their own scope of practice (developed below in the multiprofessional model) as well as the ideal of all team members sharing in all decision-making processes (as evidenced in the subsequent interprofessional or transprofessional variants).

Xyrichis (29) conclude that the consequences of teamwork, as supported by the literature, include for:

healthcare professionals; job satisfaction; recognition of individual contribution and motivation; and improved mental health.

patients; improved quality of care; value-added patient outcomes; and satisfaction with services.

healthcare organizations; satisfied and committed workforce; cost control; and workforce retention and reduced turnover.

A contemporaneous literature review involving one of the same authors (34) identified the importance of two themes that impact on interprofessional teamworking, namely team structure and team processes. Within these themes specific categories emerged; team premises; team size and composition; organisational support; team meetings; clear goals and objectives; and audit. The importance of these themes is confirmed by the

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

team's concept analysis and they contribute significantly to the development of the Interprofessional Management Tool.

3.4.2 Collaboration

Twenty seven references contribute to our understanding of collaboration particularly as it relates to team processes. Henneman and colleagues recognised that collaboration(35):

"requires competence, confidence and commitment on the part of all parties. Respect and trust, both for oneself and others, is key. Patience, nurturance and time are required to build a relationship so that collaboration can occur".

Indeed ' trust ' is a quality that frequently recurs within discussions of collaboration. Furthermore they identified the following concepts from their analysis of concepts contributing to collaboration (35):

- joint venture,
- cooperative endeavor,
- willing participation,
- shared planning and decision-making,
- team approach,
- contribution of expertise,
- shared responsibility,
- non-hierarchical relationships,
- shared power, based on knowledge and expertise

Reviewing this list against the specific backdrop of interprofessional teamworking we find that the reality around "sharing" of planning, decision-making and shared power is very different from the ideal. Gibbon (36) remarks on the distinction of roles at stroke rehabilitation team conferences where a physiotherapist 'proposes' decisions which are 'seconded' by the occupational therapist. The Doctor acts to sanction decisions and nurses end up actioning them.

3.4.3 Interprofessional Teamworking

The specific concept for exploration within LR1 was "interprofessional teamworking". The aims of the analysis were to try to identify defining attributes, separate from those of teamworking in general. In this way a

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

framework could be devised that targets these attributes and attempts to measure them as variables. Sixty-two articles specifically featured the topic of interprofessional teams.

Factors contributing to the demand for professionals to work as members of an interprofessional team include(37):

- The ageing population, including frail older people, and larger numbers of patients with more complex needs associated with chronic diseases.
- The increasing complexity of skills and knowledge required to provide comprehensive care to patients.
- Increasing specialisation within the health professions and a corresponding fragmentation of disciplinary knowledge. This means that no-one health care professional can meet all the complex needs of their patients
- Emphasis in current UK policy documents on multi-professional teamwork and development of shared learning.
- The quest for continuity of care within the move towards continuous quality improvement.

Health care restructuring which requires that work groups must integrate changing organisational values with new modes of service delivery (38).

While such changes impact across healthcare as a whole there are certain arenas where debate has raged more pervasively. These include primary care, rehabilitation and geriatrics and all are well represented in the included literature. Of these three primary care appears most pessimistic with regard to the likely success of interprofessional teamworking with commentators even suggesting that an interprofessional culture will only be achieved as new generations of health professionals enter the service (39).

Within rehabilitation and geriatrics a major focus has been the perceived degree of medical dominance within the interdisciplinary team (40). Gair et al (40) actually found that medical dominance was not as apparent as has been predicted. They found that while there was evidence of medical dominance in chairing meetings and in initiating discharge proceedings, this dominance was not demonstrated in contributions made to the meetings, including the discharge proposals. However, such findings have not subsequently been replicated. Periodically commentators return to this as a major barrier to interdisciplinary team working, particularly in relation to shared leadership. Other areas have found it easier to provide a more integrated approach to care and among the best-recognised configurations are teams tackling crisis management, pain, trauma and home care (41).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Which factors are suggested as being important in influencing the likelihood of a successful and effective IDT? McCallin suggests factors that resonate with the wider literature on teams such as competency, values, information coordination and accountability (41). Boon and colleagues focus on a quality assurance based model highlighting the importance to integrative care of structure, process and outcomes, in addition to shared philosophy and values (42). LR3 attempts to incorporate observations on structure and process alongside a consideration of clinical outcomes.

These considerations regarding equipping members of interprofessional teams for joint, collaborative working are placed within an organisational development context by McCray et al (43) They point out that, whilst practitioners are expected to work interprofessionally, there often remains limited attention to the actual process of interprofessional practice itself within organizational strategy, local workforce development planning and individual continuing professional development.

A comparison between the literatures of team working and collaboration in general and the specific literature of interprofessional teams reveals that certain issues, although present more generally, receive greater prominence within the specific context of this study, namely interprofessional teams:

- leadership versus shared decision-making
- role clarity versus interchangeability of roles
- shared goals in patient care versus shared time in meetings.

To the already complex issue of hierarchical relationships is added the complication that medical practitioners may either not be willing or not be required to share decision-making and leadership. This characteristic is particularly seen in the models evident in many effectiveness studies where the interprofessional team is either implicitly or explicitly being led by the physician and where decisions made by that physician are the predominant instigator for subsequent care. For this reason, a large number of models meet the characteristics for multiprofessional care but fall short of genuine interprofessional care and certainly are a long way from the transprofessional approaches espoused in the literature. Indeed McCallin suggests that shared leadership occurs only in smaller teams privileged in being free to choose all team members (44)

Similarly the ideal espoused by interprofessional collaboration requires a certain interchangeability of roles, such that professional identities are suppressed (or at the very least muted) for the sake of team functioning. Contrary to this is the sense in which a team will only function effectively if roles of each team member are clearly defined and communicated; this is correspondingly more challenging where roles are more interchangeable.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Finally one of the cohesive factors in bonding a team is a shared focus on patient care. Perversely time spent in meetings, perhaps in a quest to strengthen team processes, is viewed by many as being at the expense of patient care. However, as will be seen later in this review, some attempt to reconcile these tensions is evidenced in meetings, such as case conferences, where the specific focus remains on patient care and where team processes are achieved almost incidentally.

3.4.4 Interprofessional versus Interdisciplinary

A further 8 articles examined distinctions between interprofessional and interdisciplinary approaches. Disciplines are seen as fluid and permeable while professional boundaries are seen as static and statute-bound. These differences were not instrumental to the overall findings of the review. However, it is worth highlighting that "interdisciplinary" is seen to feature the possession of knowledge and may therefore be valued in sharing. In contrast "interprofessional" focuses on professional boundaries and roles, particularly privileging individual, and by implication unique, contribution where sharing may be construed as a threat to professional identity[45]. See Figure 7.

Figure 7 Relationship between -professional and -disciplinary terms

ROLE

Professional teams

Uniprofessional teams

Crossprofessional teams

- Multiprofessional teams
- Interprofessional teams
- Transprofessional teams

KNOWLEDGE

Disciplinary working

Unidisciplinary working

Crossdisciplinary working

- Multidisciplinary working
- Interdisciplinary working
- Transdisciplinary working

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3.4.5 Multiprofessional, Interprofessional and Transprofessional

13 studies were identified as contributing to an understanding of the distinction between multiprofessional, interprofessional and transprofessional teams. Hibbert and colleagues were the first to make the distinction between the three types of team, placing them on a continuum determined by either the dimension of interdependence or according to collaborative intensity(46). Multiprofessional teams exhibit the least integration. Interprofessional incorporates some facets of integration while transprofessional was presented very much in aspirational terms.

Subsequently Lind and Skarvad identified three team types that correspond to MDT, IDT and TDT categories – role differentiated, role integrated and role complementing teams (47). See Table 8.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 8 Cross-mapping of models of crossprofessional teamwork

Hibbert et al (46)	Lind & Skärvad (47)	Hall & Weaver (37)	Reilly (48)	Boon et al (42)	Thylefors et al (49)
Multiprofessional	Role differentiated teams	Multidisciplinary - each discipline independently contributes particular expertise to individual patient care.	Multidisciplinary (simple knowledge juxtaposed from several health care providers)	Multidisciplinary,	Multiprofessional focused on task, not collective working process. Contributions made either in parallel or sequentially to each other with minimum of communication. Each contribution stands alone and can be performed without input from others. Independent contributions have to be co-ordinated. Physician has traditionally taken responsibility.
Interprofessional	Role-integrated teams	Interdisciplinary team members work together closely and communicate frequently to optimize care for patient.	Interdisciplinary (methods from one discipline are imported by another)	Interdisciplinary	Interprofessional - (product more than the simple sum of its parts''). Outcome accomplished only through interactive effort and contribution of professionals involved. Implies high level of communication, mutual planning, collective decisions and shared responsibilities. To allow for holistic

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

					management, everyone involved in process must take everyone else's contribution into consideration.
Transprofessional	Role complementing teams	Transdisciplinary - individual team member roles blurred as professional functions overlap. Each team member becomes familiar with approaches of colleagues to assume significant portions of their roles.	Transdisciplinary (multidisciplinarity across specialties and settings) team approaches. Requires role extension, role enrichment, role expansion and role support.	Integrative	Transprofessional - operates at opposite end of continuum from multiprofessional team. Team uses integrative work process and disciplinary boundaries partly dissolved.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Boon and colleagues expand this taxonomy by portraying team oriented health care practices along a continuum with seven different models: parallel, consultative, collaborative, coordinated, multidisciplinary, interdisciplinary and integrative (42). It should be noted that the last three of these models correspond to thinking about multiprofessional, interprofessional and transprofessional roles and so, in practical terms, the inflation from three to seven does little to change the main thesis of the argument from Lind & Skavad(47). Day and Rasmussen seek to implement such a taxonomy in conducting their Technology Assessment for Geriatric services (50). It is interesting to note that they only use the categories Interdisciplinary Team and Multidisciplinary Team with the Transdisciplinary Team still seen in the literature as largely aspirational.

Many studies identified by the review are discursive articles with little exemplification of concepts from current practice. The main exception is the empirical study by Thylefors and colleagues(49) which identified three models of organizing cross-professional teamwork from the literature as: multiprofessional (alternatively known as additive or multidisciplinary), interprofessional (alternatively integrative or interdisciplinary) and transprofessional teams.

1. **Multiprofessional** teams are focused on task, not collective working process. Contributions made either in parallel or sequentially to each other with minimum of communication. Each contribution stands alone and can be performed without input from others. Independent contributions have to be co-ordinated. Leadership is typically delivered by a Physician.
2. **Interprofessional** teamwork ('the product is more than the simple sum of its parts''). As opposed to multiprofessional work, outcomes are accomplished only through interactive effort and contribution of professionals involved. Implies high level of communication, mutual planning, collective decisions and shared responsibilities. To allow for optimal and holistic management of client's problems, everyone involved in process must take everyone else's contribution into consideration.
3. **Transprofessional** teams operate at opposite end of continuum from multiprofessional team. Team uses integrative work process and disciplinary boundaries are partly dissolved.

Six themes of team functioning

Thyelfors et al relate the three models of team working to six important discriminating variables(49). These informed the development of the Interdisciplinary Management Tool and the framework for the subsequent analysis in the review of processes and outcomes of interprofessional team working (LR3) (49). See table 9

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 9 Six themes of team functioning

	Multiprofessional	Interprofessional	Transprofessional
1. Role specialization:	Team roles are specialized and everyone concentrates on her or his own tasks	Roles are specialized but everyone is expected to interact	Although roles are specialized, everyone must also be prepared not only to complement, but to replace each other when necessary
2. Task interdependence:	Tasks are usually performed in a determined sequence	Tasks are partly interdependent and must be co-ordinated	Team members as well as their tasks are interdependent
3. Co-ordination:	Co-ordination is based on supervision or standardization	Everyone has to co-ordinate their activities	Co-ordination is achieved by direct close interaction, flexibility and improvization
4. Task specialization:	Tasks are specialized and only those with a special professional education are allowed to perform the task	Everyone must be prepared to adjust to the task	Everyone must be prepared to adjust to the strengths and weaknesses of the others
5. Leadership:	The team leader functions as a traditional manager	The team leader functions as a 'coach'	The team leadership varies with the situation; the team is self-regulated
6. Role interdependence:	'Do your job the best way you know'	'Do your job and co-operate'	'Do your job in a interactive way and be ready for continuous adjustments'

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3.4.6 Tools for assessing team functioning

Secondary outcomes from the concept analysis included identification of the following nine tools that may be used to examine team processes:

- the Index of Interdisciplinary Collaboration (51);
- the Modified Index for Interdisciplinary Collaboration (52),
- the Medical Team Training Questionnaire (MTT Questionnaire) (53)
- the Teamwork in Healthcare Inventory (54-55),
- the Perceived Efficiency Index (49),
- the Team Climate Index (49)
- the Team Climate Inventory (56), and
- the Team Decision Making Questionnaire (57).
- The Interprofessional Socialization and Valuing Scale (58)

In addition a study by Shortell and colleagues used several measurement approaches including measures of organizational culture, focus on patient satisfaction, presence of a team champion, team composition, perceived team effectiveness, and the actual number and depth of changes made to improve chronic illness care(59). This study, within the specific domain of chronic care, shares many similarities with the present study including measurement of multiple teams across a variety of sites and settings. However, it does not include a specific focus on interprofessional teamworking. A summary of the nine identified instruments is included as Appendix 12.

3.5 Outcomes from the Concept Analysis (LR1)

The principal outcome from LR1 was identification of the framework and empirical research conducted by Thylefors et al(49). This represents a significant contribution to the conceptualization of the differences between multiprofessional, interprofessional and transprofessional teamworking. It also identifies six specific variables that help to define or characterize interprofessional teamworking. The review team critiqued the study and considered it fit for purpose as a framework for subsequent development of the Interprofessional Management Tool.

The themes were subsequently operationalised as three broad categories (**team roles and processes** (items 1,2 4 & 6); **team co-ordination** (item 3); and **leadership** (item 5) to comprise sections or sub-sections within

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

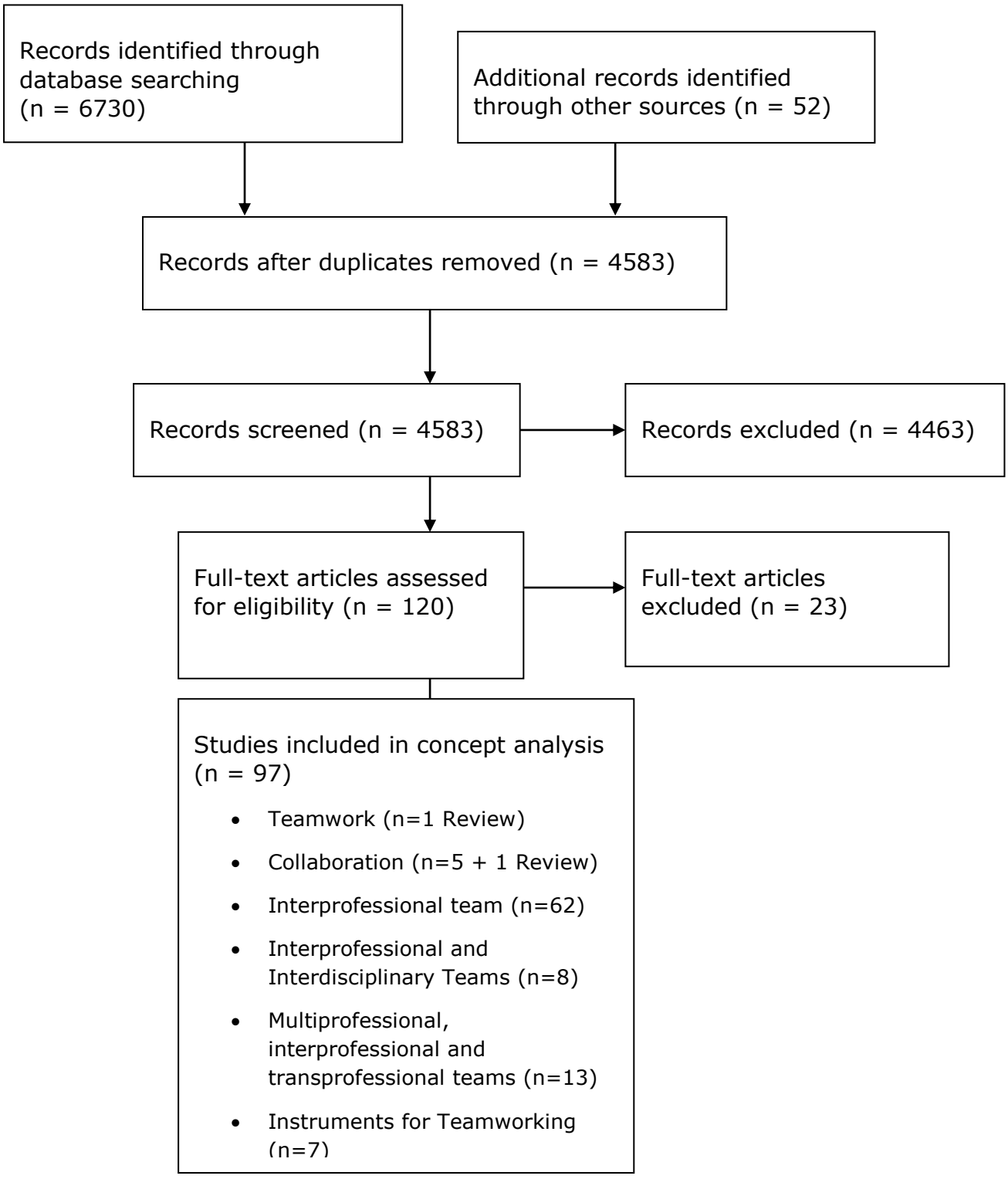
the IMT and, subsequently to form the basis of the analysis of the studies in LR3.

Secondary outcomes from the concept analysis included identification of nine tools that may be used to examine team processes. These instruments are described in more detail in Appendix 12. In particular the review team was interested in whether they had been used within any of the randomized controlled trial studies identified for the systematic review of processes and outcomes (LR3). Extensive searching failed to find any correspondence between use of these tools and measurement within randomised controlled trials.

A final outcome of the concept analysis was the identification of a variety of strategies that might be used to achieve interprofessional teamworking.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 8 PRISMA Flow Diagram for Literature Review One (LR1)



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

LR1 identified common issues of concern when trying to create effective teams. These included holding of shared values and valuing and understanding of others roles. Furthermore, it allowed identification of issues of particular importance to interprofessional teams when ranged against a more general consideration of team functioning from the literature on teams and collaboration. Medical leadership and hierarchical structures were frequently mentioned as a barrier. In addition the tension between professional commitment and organisational (in this case team) commitment was referenced both explicitly and implicitly(60). Another finding is that understanding of each others' roles was more challenging than comprehension of how individual tasks contribute to an overall pathway of care. This suggests that many teams focus on the joining up of tasks in preference to the more challenging need to create a team climate. Within such a context one would expect to see meetings, for example, focusing on specific tasks rather than as a mechanism for achieving greater team cohesion.

Three issues were particularly highlighted as important in the context of interprofessional team working:

- **Team Roles and Processes [40 studies]**
- **Coordination [16 studies]**
- **Leadership [27 studies]**

These issues were also associated with complexities or tensions:

- **Team Roles and Processes** – need for clarity (61-63) and interchangeability
- **Coordination** – need for communication but general resistance to time spent in meetings (64-66).
- **Leadership** – need for clarity, sense of direction and purpose.

Such issues are explored further in LR3 in descriptions of systematic reviews and randomised controlled trials involving interprofessional teamworking. However, a more immediate priority was a review of workforce change instruments (LR2) to establish the extent to which these three facets are captured within existing measurement tools.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3.6 Review of NHS workforce change instruments (LR2)

Literature Review 2 (LR2) was designed to help the team to identify workforce implementation tools (workforce change instruments) within the NHS through which it might be possible to support the development and implementation of the Interprofessional Management Tool (IMT). The review was limited to workforce change instruments for the NHS to make the review manageable within the timescale and additionally to make it applicable to the target audience.

The initial literature review retrieved only a small number of results. Further searching was conducted on the internet and database searches were performed on named instruments. LR2 identified a total of 22 instruments and tools for facilitating and evaluating workforce change.

NB: The need to use multiple, comprehensive non-bibliographic database approaches to identify individual instruments means that it is not possible to characterise search results for LR2 within the Prisma format as in**Figure 8**

The tools targeted six overarching aims and were to be used by individuals, professional staff groups, teams, departments, whole trusts and the NHS or several of these. Some tools involved all staff in the workforce change process, others were to be implemented by managers. The tools were designed to be implemented at different stages of change and generally had multiple components or elements. The tools were not always accompanied by specific measures to assess the impact of using the tool. Consequently there was often very little or no evidence about the use of the tool. Limited evidence was identified for the TOYOTA and CANDO models, both adapted from other sectors.

The review included 22 different instruments for workforce change in the NHS. These instruments were broadly categorised as

- modelling tools,
- resources,
- toolkits
- tools adapted from other sectors.

Appendix 13 discusses a selection of the workforce change instruments from each of the four categories in detail. A table providing details of all 22 tools is also included. For the review the tools were analysed by description including details of their development, if available, their use and any evidence or evaluation of their impact on workforce change. The table details:

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

1. Tool name and source
2. Description
3. Tool development
4. Type of tool
5. Impact measure
6. Tool aimed at
7. Stage of change
8. Tool is unidisciplinary, multidisciplinary etc.
9. Tool is to achieve
10. Evidence

3.6.1 Conclusion

The tools considered in this review aim to help the NHS and Healthcare organisations to introduce changes within their workforce, cope with current policy initiatives and to develop their workforce to meet future developments within the NHS. The tools were introduced due to a range of drivers; policy, fiscal, trends, expediency etc. The majority of tools were developed for the NHS or adapted to be used in the UK. The tools can help with introducing and planning workforce change, planning for future demand, job and role development.

The instruments discussed in this review have been developed to be used by individuals, professional staff groups, teams, departments, the whole Trust locally or nationally or by a number of these. The **Learning Needs Analysis** can be completed by individuals to determine their learning needs to guide their learning plan, which should feed into a training plan for their team, department or trust. The **Christmas Tree Tool** could be used by workforce planners to determine their current skills mix and to consider future demand. The tool could be used to create Christmas Trees for a particular staff group within a Trust or nationally. Different possible scenarios for future demand could be modelled in the tree to determine the necessary staff at different levels. On a regional or national level the **Public Health Skills Assessment Tool** could be used to assess the current knowledge and skills of Public Health staff to enable a plan for training to be developed. Some tools are aimed at workforce planners to enable them to plan in the short and long-term, for example **Witness**. The **CANDO** model aims to involve all staff in developing their workforce and workplace together. Support from managers is a key factor influencing whether the changes occur, but the whole team need to understand the necessity for change and support it to ensure success.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The objectives of the tools can be organised under six general aims. (Figure 9)

Figure 9 Six general aims of the Workforce Tools

1. Profiling the organisation's current workforce.
2. Making an assessment of current and future demand and supply of particular skills/occupations
3. Assisting in job redesign and development
4. Identifying current and potential imbalances
5. Developing and implementing strategies to address future workforce needs
6. Monitoring and review of the current workforce.

All the instruments attempt to achieve one or more of the above aims. The Christmas Tree tool can be beneficial for profiling the current workforce to ascertain the number of staff at different levels and making an assessment of future demand and determining the workforce that would be necessary to meet that demand. The Public Health Skills Assessment Tool was used to assess the knowledge and skills of health visitors in terms of their future role in public health. The results from the assessment feed into the development of a training plan which was their strategy to address future workforce needs. The tool was also used to reassess the health visitors after receiving training thus it can also be useful for monitoring and review. The Assistant Practitioner Project resource was developed during a project on introducing and further developing the assistant practitioner role. The Witness tool was used with an NHS Trust to make an assessment of the future demand for services and then develop strategies to address the future workforce needs.

A simplified version of the Stages of Change Model was used to characterise the stages of change at which each instrument was designed to be used (67):

1. Contemplation
2. Initiation
3. Implementation
4. Evaluation

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The instruments are designed to be used at different stages of change; some can be beneficially used at more than one stage. The resource packs, for example the Dental Workforce Resource Pack, are useful when contemplating change to provide information about how change could be undertaken and possible ways forward. Drive for Change is categorised as a toolkit and could be useful at the initiation and implementation stages of change. The CANDO and Toyota models would be useful at the implementation stage. Measuring Improvement from workforce would be a useful tool to evaluate workforce change. The Public Health Assessment Tool is applicable to all stages of change requiring reassessment after a period of time to evaluate the impact of a change.

The instruments are made up of multiple components or elements (Figure 10).

Figure 10 Elements included in one or more of the tools:

1. Background information on workforce issues including current or recent developments and new initiatives
2. Tool to assess team or workplaces readiness to change
3. Information on enablers and challenges to introduce workforce change
4. Tool to assess the enablers and challenges to introducing workforce change
5. Workforce planning
6. Action planning
7. Examples of good practice
8. Case studies
9. Opportunity to share good practice
10. Measures to assess impact
11. Frequently asked questions
12. Glossary
13. Useful resource
14. Useful contacts

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The 22 instruments are not always associated with a specific measure to evaluate their impact. Many tools were developed in response to multiple drivers. Understanding why the tools were introduced possibly helps to explain the lack of empirical basis and the short-termism of initiatives. As previously mentioned several tools contain an initial readiness questionnaire to be completed before introducing workforce change, which could be completed again at regular intervals or, at the end of the change period to assess progress.

Few instruments possess evidence for their use or their effectiveness. Some tools are currently undergoing evaluation. The *Dental and Long Term Conditions Workforce Resource Packs* (68) are currently being evaluated by questionnaires. Evidence for the instruments is from case studies that have generally used questionnaires for data collection. Case studies exist for several tools, for example *Witness* and *Drive for Change*. For some instruments the literature search retrieved one or more case studies in journal articles. For *CANDO* and Toyota case studies cover the implementation and impact of the implementation within Health Care organisations.

3.6.2 Outcomes from the Systematic Review of Workforce Tools

Notwithstanding the comprehensive search processes used for LR2 it was disappointing to find that the plethora of workforce tools identified had received little in the way of formal evaluation. Nevertheless, this finding was important in confirming that no existing tool is suitable for the purposes required within this project. It enabled the review team to concentrate on the development of a purpose-specific Interdisciplinary Management Tool (IMT) and the collection of data to inform its ongoing adaptation and use.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

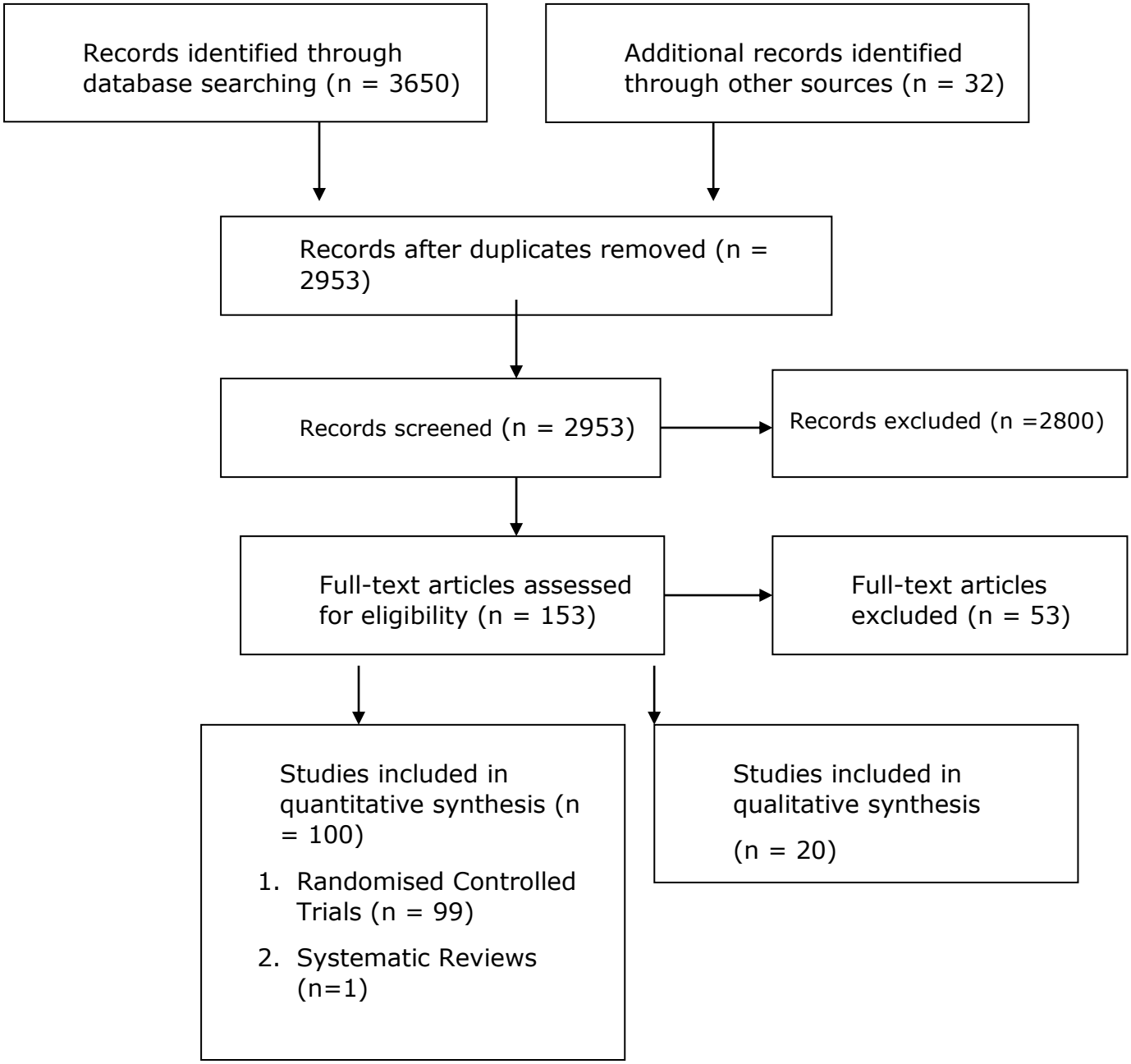
3.7 A systematic review of Interprofessional Teamworking (LR3)

The aim of LR3 was to examine the relationship between interprofessional teamworking and outcomes, to help the review team to populate the Interdisciplinary Management Tool (IMT) with examples of good practice from the literature.

Review Three examined a total of 153 studies (including 11 systematic reviews or meta-analyses) (see figure11) that evaluate the effectiveness of different approaches to interprofessional team working. These were re-analysed according to their ability to demonstrate team roles and processes, coordination and leadership. However, only 101 studies were usable based on the supporting level of contextual detail. It was noted that the lack of "thickness" of contextual detail in systematic reviews meant that these were primarily useful as a referral source for included RCTs. Nevertheless, one systematic review did report weekly team meetings as a common ingredient of effective team processes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 11 PRISMA Flow Diagram for Literature Review Three (LR3)



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

3.7.1 Findings from the Systematic Review of Processes and Outcomes of Interprofessional Teamworking LR3

Introduction

Many individual factors affect interprofessional team performance and several of these are included in Section 1 of the IMT. These include Motivation and Satisfaction, the provision of Career development opportunities and Autonomy. These elements were not the focus of the reviews which concentrated on team characteristics, including team roles and processes, mechanisms for communication within the team and how the team is being led.

Team Roles and Processes

Although the descriptive literature featured extensive concern with team roles and processes, including issues such as role clarity and communication of roles to others, these issues were almost completely absent from the effectiveness literature. Some studies mentioned attempts at coordination or interchangeability of roles but these were typically in passing and not as a planned feature of the intervention being studied.

Evidence from Systematic Reviews

No systematic review evidence was identified relating to team roles and processes

Table 10 Evidence from Randomised Controlled Trials

Team Feature	Evidence	Outcomes
Ongoing coordination	Bautz-Holter et al (69)	• Reduction in Length of Stay • No difference in primary outcome • Significant difference in General Health Questionnaire score at three months (19.5/24, p = 0.02), but not at six. • Higher death/institutionalisation in control group (OR 3.8, 95% CI 0.8-23).
Interchangeable Comprehensive Geriatric Assessment	Avlund et al (70)	• No significant difference in functional ability at 3 months • No significant differences in readmissions.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Interchangeability of roles	Sommers et al (71)	• No differences in first year • Second year: hospitalisation rate (p = 0.03), readmission rate (p = 0.03) and mean office visits (p = 0.003) lower in intervention group. • No differences in mortality over both years. • Differences in hospitalization rates greatest where PCP, nurse, and social worker were most satisfied with their working relationships.
Team training	Strasser et al (72)	• Significant difference in improvement of functional outcome. • No significant difference in LOS or rates of community discharge. • Stroke patients treated by staff who participated in team training program more likely to make functional gains than those treated by staff receiving information only.

Other Supporting Evidence

The majority of studies, primarily randomised controlled trials (RCTs), provided little detail of team roles and processes, focusing instead on the conduct of the Intervention. With regard to team membership there were typically four or more professions involved in an interprofessional team with other professions such as dentists, nutritionists being involved as and when required. This fluid composition of the team makes it correspondingly more difficult to develop a team identity. Occasionally the patient's primary care provider became a member of the interdisciplinary team for meetings or other processes related to care of that particular patient. In other instances patients themselves, carers and patient advocates became part of the team process meaning that the so-called interprofessional team included those who are not professionals.

There was little evidence of interchangeability and flexibility of roles. Occasionally different professional staff would undertake the same role, although typically this was presented as a limited number of alternatives and not as genuine interchangeability. The vast majority of randomised controlled trials specified each team member as a specific link in the care process with a clear remit. It should be noted however that such an

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

apparent lack of flexibility may be a methodological feature of the trial context in which the fidelity of the intervention is prescribed by a study protocol. Many Interventions can be seen as multiprofessional, in the sense of requiring involvement in care processes by multiple professions and disciplines, rather than having a genuine intent to implement an interprofessional way of working.

3.7.2 Team Coordination (including Meetings)

Studies of team coordination, some of which concentrated on the impact of meetings are detailed in table 11.

Table 11 Evidence from Systematic Reviews

Coordination Feature	Evidence	Outcomes
Daily ward rounds	Zwarenstein et al (73)[Cochrane Review]	Positive impact on length of stay and total cost.
	Zwarenstein et al (73) [Cochrane Review]	No impact on length of stay.
Monthly team meetings	Zwarenstein et al (73)[Cochrane Review]	Improved prescribing of psychotropic drugs in nursing homes.
External facilitator	Zwarenstein et al (73)[Cochrane Review]	Increase in audit activity and reported improvements to care.
Videoconferencing of multidisciplinary case conferences	Zwarenstein et al (73)[Cochrane Review]	Mixed results; decreased number of case conferences per patient and shorter length of treatment. No differences in occasions of service or length of conference. No difference in number of communications between health professionals recorded in the notes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Evidence from Randomised Controlled Trials

Meetings were the most common feature of coordination among teams in the trials identified. Typically, these occurred on a weekly basis although other models included twice-weekly meetings or 15 minute meetings immediately following interaction with a particular client. It is noticeable that meetings were held for a wide variety of purposes (e.g. developing a care plan, reviewing medication etcetera). Little detail is given on the content and processes of these meetings within the trials themselves. Supplementary searches of the qualitative research literature have revealed several accounts of interprofessional team meetings and case conferences, which provide additional details of meeting processes.

Another key mechanism for coordination is documentation, specifically the care plan. Not only did this act as a focus for care processes but it also helped in the integration of team roles and processes. Care plans could be developed in a genuinely interprofessional way or created by an individual and then brought along for discussion at a subsequent meeting. Increasingly electronic records and Web-based documents are used in this role facilitating sharing and access.

Other Supporting Evidence

Crossing the Quality Chasm, the Institute of Medicine's report clearly targeted poor coordination of healthcare as a weakness of healthcare systems (74). Audet et al further emphasise that those issues most frequently reported by clinicians as reducing the effectiveness of care arise from problems of co-ordination (75).

Specifically Bennett-Emslie & McIntosh isolated frequency of team meetings as the single most critical factor that fostered collaborative teamwork within general practice in the UK (76). Borrill et al highlight the importance of regular team meetings, finding them to be associated with effective teamwork and with greater levels of innovation(77). This contrasts with the findings of Wiles & Robinson (78) who found a low prevalence of regular team meetings with most professionals only meeting when problems needed to be discussed. Similarly Field & West found only one of six practices set aside time for regular team meetings (79). Time pressure was commonly perceived as the barrier for this. Molyneux also reported positive results of team meetings, where the team considered meetings to be of high value (66)

"Some people might think that's time wasted but in my view it's been time very well spent".

Rutherford & McArthur similarly reported that team meetings were particularly important for effective working, contributing to a breaking down of professional barriers and improved interprofessional communication (80). Enhanced communication achieved through team meetings was identified

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

as an important facilitator for effective teamworking. Lack of communication was reported as causing misconceptions about each profession's roles and responsibilities.

3.7.3 Leadership

Studies evaluating the impact of leadership are detailed in table 12.

Table 12 Elements of Leadership

Team Feature	Evidence	Outcomes
Care Manager	Harpole et al (81) Hunkeler et al (82) Unutzer et al (83)	• Intervention patients fared significantly better (P < 0.05) for continuation of antidepressant treatment, depressive symptoms, remission of depression, physical functioning, quality of life, self-efficacy, and satisfaction with care at 18 and 24 months. • Benefits include less depression, better physical functioning, and an enhanced quality of life.
Leadership of joint meetings	Saltvedt et al (84)	• median **length of hospital stay** significantly longer in GEMU than control settings • average of 3 **diagnoses** made in GEMU group compared to 2 diagnoses in control • **mortality** lower in GEMU group during first year compared to control group, significantly so for 3, 6, 9 month period.
Leadership of Case Conferences	Birks et al (85) Crotty et al (86)	• **Medication appropriateness** (MAI) improved • Significant reduction in MAI for benzodiazepines • Resident behaviours unchanged after intervention • Improved medication

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

		appropriateness did not extend to other residents in facility.
Primary care leader	Sommers et al (71)	• First year: no difference in study endpoints. • Second year: **hospitalization rate** (p = 0.03), readmission rate (p = 0.03) and mean office visits (p = 0.003) increased significantly in control. • **Mortality** did not differ over both years. • Differences in hospitalization rates greatest where PCP, nurse, and social worker were most satisfied with their working relationships.

Liberman and colleagues(87) emphasise effective leadership as a key determinant of the efficacy of communication among team members and overall team success. Interestingly several commentators establish a dependency between leadership and the subsequent success of mechanisms (e.g. clinical pathways (88)), that may enhance interprofessional working. While good leadership alone is not considered sufficient to ensure effective team working there are those who state explicitly that it is the role of the team leader to encourage and develop mechanisms for communication and other facilitative team processes (89). This suggests that leadership may be a primary issue, in terms of both time and criticality, to be targeted in team development. This would also explain the importance attached in the literature to such characteristics as "emotional intelligence".

Evidence from Systematic Reviews

No systematic review evidence was identified relating to leadership in the specific context of the interprofessional team.

Evidence from Randomised Controlled Trials

Very few RCT studies explicitly identified the leadership of the interprofessional team. Much of the data therefore had to be interpreted from the descriptions of the care process. A key observation is that there were few examples of genuine interdisciplinary team approaches, primarily because leadership and decision-making did not appear to be shared among team members. Most examples were physician-led. Occasionally another staff member (e.g. a nurse) would be the primary focus for the

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Intervention but this role was seen as the prime mover for the care process and bore little relation to team leadership.

Other Supporting Evidence

Freeman and colleagues examined ''individual philosophies'' of teamwork that impact on team communication and role understanding within healthcare(90). These have clear implications for leadership styles. The first they termed ''directive'', generally held by members of the medical profession who view their role as that of team leader. A second approach is ''integrative'', embodying the notions of collaborative care and team player. In such a context the leader may act as more of a coach trying to secure a sense of group cohesion, a view most likely to be found among therapists, social workers and some nurses. The third perspective, namely ''elective'', which values a system of liaison and is preferred by those who work autonomously, maintain role distinctions and favour brief communications. Here leadership was seen in the sense of being a "network manager" in stimulating effective communication. Such a style was most likely to be seen among mental health workers although it could equally applied to professionals who work in a "consultative" role to a health team.

3.8 Thematic analysis of qualitative evidence

In view of the limited detail on context and team roles and processes derived from the systematic review and trial evidence, the team decided to employ a complementary review strategy to try to identify further information on team roles and processes. A total of 20 qualitative studies had been identified using the search strategies for LR1 and from items sifted for LR3. Supplementary search strategies were also used to identify this material.

3.8.1 Method of analysis

The qualitative studies were analysed using established methods of thematic synthesis (91). Identified studies were examined in three iterative stages: free line-by-line coding of the findings of primary studies; the organisation of these 'free codes' into related areas to construct 'descriptive' themes; and the development of 'analytical' themes (91)

3.8.2 Themes identified from the qualitative literature

Sixteen analytical themes were identified by a reviewer from the qualitative literature using the constant comparative method. They are indicated in bold capitals in **Figure 12** below. Beneath each analytical theme up to a dozen descriptive themes may have been identified; these are clearly linked back to the originating studies to provide a clear audit trail.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 12 Themes identified from the qualitative literature

CLIMATE	**COMMUNICATION**
Need to create interprofessional atmosphere(92) Team culture(93) Trust(94) Need for contributions to be valued(95) Nurturing consensus (96) Participative safety (94) Personal qualities (97)	Communication structures (both formal and informal)(93) Communication within the team (97) Lack of reading of care plans(95) Poor completion of care plans(95) Recording work with patients in central case notes(97) Weekly case conferences(97)
INDIVIDUAL CHARACTERISTICS	**INTERDEPENDENCE**
Knowledge (98) Experience (98) Personality (98) Interpersonal skills (98) Holding different opinions and perceptions(99) Desire to work on the same goals (98) Listening skills (98) Good interpersonal relationships between team members (98) Being open and willing to explore role overlap (98) Secure in understanding of their own role and other disciplines (98)	Interdependence (100-101) Mutual staff support(102-103) Need for reciprocity within team(95) Open and willing to share with others (97) Relationships (93) Nurturing professional synergy(96)
LEADERSHIP	**LEARNING**
Leadership (93) Lack of a chairperson (98) Physician leadership of team(104)	Action learning (100) Interprofessional learning (60, 101-102) Nurturing a learning culture (96)

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

	Training within clinical team (105)
PATIENT FOCUS Need for patient centredness(97) (104) Focus on perceived outcomes (103) Holistic care (103) Timely intervention/discharge (102) Time for discussion about individual patients (97) Opportunity to plan work of whole team with patients (97) Impact of reduced patient contact time(102) Time spent in individual assessments and treatment plans (105)	**PERCEPTIONS** Differing perceptions of teamwork (98-99) Differing perceptions of their own roles (95) Differing perceptions of others' roles (95)
POWER Absence/Presence of traditional medical dominance (97, 99, 106) Equality of working relationships between team members (97) Nurse and AHP reluctance to voice opinions (106) Inappropriateness of hierarchical medical model (107) Need for assertiveness and confidence (106) Fear of being scapegoated (106) Power and status considerations (107)	**PROBLEM SOLVING/DECISION-MAKING** Proactive problem solving (100-101) Opportunity to develop creative working methods within the team (97) Physician role in decision-making (104)
PROFESSIONAL COMMITMENT Maintaining professional identity (12) Professional jargon (12) Professional knowledge and skills	**ROLES** Autonomy (100-101, 108) Blurring of role boundaries (95) Flexible role enactment(97, 100)

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

(107) Professional role expectations (100, 107) Professional tensions and rivalry (12, 60, 95) Lack of interprofessional jealousy (97)	Lack of clarity of who is responsible for coordinating care (95) Need for role delineation for team members (104) Role modelling (105) Reduced individual decision-making and responsibility (102)
SKILLS Different levels of skills acquisition to function as team member(99) Recognition of core skills and tasks specific to each profession (97) Information, knowledge and skills sharing (60, 92, 102) Practitioner competencies (103)	**STRUCTURES** Importance of team meetings(108) Having agendas for meetings (104) Organisational factors (12, 60) (98) Lack of goal planning (98) Team members working from same base (97) Plenty of Time/Lack of time (97, 102-103) Taking time for team building (104) Weekly case conferences (97)
TEAM CHARACTERISTICS 'Balance' within the team(97) Team capacity(103) Team dynamics (104) Team structure (104) Small number of staff in the team (97) Physician membership of team (104) Accessibility of team outside working hours (98, 100)	**VALUES** Care philosophy (93) Commitment of staff (97) Making positive and enthusiastic choice to join team (97) The context of practice (93) Shared objectives in conflict management (108) Shared goal setting (97, 102)

3.8.3 Findings from the three literature reviews (LRs 1-3)

LR1 examined the conceptual literature around interprofessional team working. It found some commonality with the literatures of collaboration

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

and teamworking in general. However, it also found some unique defining characteristics. These include the importance of leadership, the added complexity required for communication and co-ordination between different professional groups and the inherent paradox of both flexibility of, and clarity of, roles. A related point centres on the difference between interdisciplinary working that requires sharing of different bodies of knowledge and interprofessional interactions where the unique contribution of each profession is to be preserved and protected.

LR2 conducted a comprehensive literature-based survey of workforce tools and instruments. It revealed that numerous instruments have been developed as instruments for workforce change. However, there is a dearth of description of how they have been developed. In addition there is insufficient detail of their validation and an associated lack of evaluation.

Findings from LR3 in particular confirm the paucity of information on interdisciplinary team structures and processes as an important variable in effective interprofessional team care. Although this deficiency was partially addressed by examining qualitative research studies studying team roles and processes it would clearly be beneficial to triangulate quantitative and qualitative data from the same studies.

More attention needs to be focused on organisation and staff development processes such as the creation of a team culture, shared values and an understanding of roles within the interprofessional team. In particular, leadership seems a particularly important variable little studied within the context of randomized controlled trials.

Investigation of team processes using validated instruments would be a valuable adjunct to future randomised controlled trials of care delivered by interprofessional teams. Justification for using a comprehensive model of team effectiveness is provided by many authors (for example, Vinokur-Kaplan stresses the importance "*of measuring the various types of organizational and group factors contributing to team effectiveness, as well as the specific aspects of team effectiveness."* (109))

Over the last decade some research has addressed the nature of effective multidisciplinary teamwork (e.g. shared decision-making, effective communication, suitable leadership and adequate resources). However, after extensive literature review we can conclude that the problem identified by Burns & Lloyd remains, namely that:

"*there is a dearth of research evaluating the …….individual components (i.e. team meetings) of multidisciplinary teamwork*"(110).

The three literature reviews have been used together to inform development of the Interdisciplinary Management Tool (IMT). This embodies a good practice guide that highlights the evidence base around interprofessional working for teams to optimise outcomes. It also provides

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

a framework for a self-completion audit schedule (for the team) to assist them in identifying the strengths and weaknesses of their particular interprofessional team working and the potential consequences of focusing on targeting change in a particular area. The resultant audit is intended to underpin facilitated team reflection allowing the formulation of an evidence-based analysis and the development of an action plan for change, which is focused on specific outcomes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

4 Development of the IMT and Interventions

This section describes the methods by which the Interdisciplinary Management Tool and related interventions were developed and implemented with Intermediate care services working with older people in England.

4.1 Introduction

In this phase of the project, outputs from the literature review and previous research were synthesized to produce a theoretical framework to develop a tool that captured the domains of inter-professional working alongside those factors contributing to best practice. This formed the basis for the development of the Inter disciplinary Management Tool (IMT) aimed at supporting improved team working.

Whilst SDO 08/1519/95 'The impact of workforce flexibility on the costs and outcomes of older peoples' services' provided some important evidence about best practice in intermediate care and community rehabilitation teams (CRAICS), including a number of significant statistical relationships between the way the teams were structured and organized. The findings related to staff/team and/or patient outcomes and did not provide a comprehensive picture of either interdisciplinary team dynamics or what constitutes best practice. The study also demonstrated great variation in ways of working. In order to construct the IMT more secondary research was required to develop a comprehensive evidence base.

The tool was further modified in partnership with an expert panel comprising end users and recipients of the service, providers, managers and commissioners.

4.2 Defining the IMT

In developing the IMT the team aimed to provide an innovative and practical approach to improve team performance. As the IMT was new and, to our knowledge, no other tool like it existed, the first step in development was to define a set of objectives that it would address. It was agreed that the IMT should provide:

- A 'good practice guide', which was firmly based on the current evidence around interdisciplinary working for teams aiming to optimise staff and patient outcomes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

- A self-completion audit schedule (for the team and individual members), which assists in identifying the strengths and weaknesses of their teams working practice and the potential for change in particular areas.
- A rationale to underpin facilitated team reflection and process that allows for the consideration of the evidence base and carry out an analysis and development of an action plan for change which is focused on specific, measurable, and realistic targeted outcomes.

4.3 Overview of the IMT Development Process

The above objectives informed the development process for the IMT which ultimately required 4 stages.

- **Analysis of relevant data from** 'The impact of workforce flexibility on the costs and outcomes of older peoples' services' (SDO 08/1519/95) to examine the relationship between interdisciplinary team working and outcomes for patients, staff and the service.
- **Systematic literature review of interdisciplinary team working in CRAICS**. The details of the findings of the literature review which have been described in the previous section of this report (LR1,LR2)
- **Systematic literature review of existing workforce change tools.** This review was undertaken to establish if relevant tools existed which could be adapted as a framework to build upon for facilitating improved interdisciplinary team working. However, as detailed in the previous chapter it became clear that whilst there are many change approaches utilised in healthcare these were neither evidence-based, nor had their impact evaluated.
- **Development of a preliminary framework and processes for the IMT.** The outputs from the above three activities provided a rich source to inform the development of the Interdisciplinary Management Tool. Through a process of synthesis the evidence was used to produce a theoretical framework to develop a tool that captured the domains of interdisciplinary team working alongside those factors contributing to best practice.

  There were three specific ways in which the literature reviews had an impact on the development of the IMT. Literature Review 1 identified a detailed conceptual framework and definition of interprofessional teamworking developed by Thylefors et al(49), and provided the strongest empirical evidence of the nature and benefits of integrated interprofessional teamworking. This work both validated a conceptual framework to explain the difference between multi-professional, interprofessional and transprofessional team working and identified six dimensions that characterise interdisciplinary team working. We

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

operationalised these themes into three categories that were consistent with the wider literature on organisational behaviour:

- individual level: team roles and processes
- team level: integration and coordination
- and team leadership.

These three levels of activity provided the framework for the overall structure of the IMT.

Although limited, the findings of Literature Review 2 also informed the development process. We were surprised that there were so few tools with any empirical evidence base to support either development, conception or to validate implementation. However, it was also re-assuring as the team felt they were applying rigour to the IMT development process. The review additionally identified certain characteristics of a workforce change tool. Despite little evidence that these characteristics were proven change methods, they did provide further insight regarding experts views on the subject. Several were congruent with and validated the Action Research approach that provided the overall structure for the project. All 10 were used to inform the development of the IMT incorporating the following characteristics.

- Background information on workforce issues including current or recent developments and new initiatives
- A tool to assess team or workplaces' readiness to change
- Information on enablers and challenges to introduce workforce change
- A tool to assess the enablers and challenges to introducing workforce change
- A tool to assist workforce planning
- Action planning
- Examples of good practice
- Case studies
- Opportunity to share good practice
- Measures to assess impact

Literature Review 3 provided further empirical evidence of the factors that are related (either positively or negatively) to effective interdisciplinary teamworking. This evidence was incorporated into the theoretical framework for the tool. However, we found that the studies reported in the literature tended to focus on specific aspects of interdisciplinary team working (such as team meetings) rather than global 'interdisciplinary team working'. Similarly, the focus of the papers was on the processes of doing the study, not the processes of delivering the intervention, which made it difficult to link process and

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

outcome data in a way that is useful to informing interdisciplinary team working.

Burns et al (110, pp313) concluded that:

> "there is a dearth of research evaluating the …….individual components (i.e. team meetings) of multidisciplinary teamwork" (p.313)

Our intervention is structured in such a way that aims to link a broad suite of processes with outcomes for teams, staff and the service.

1. **Population of the IMT framework.** This framework was populated with the relevant evidence, and, based on these data and iterative discussions with the steering group, a series of reflective exercises were developed. Consideration was given not only to the evidence base but also to the practical aspects of implementation.

a) Two sets of exercises were developed: the first were a set of team exercises that explored different domains of the tool and could be facilitated either in a single day or within half-day meetings. The exercises formed the basis for a series of semi-structured events. The first event was devised based on the "Search Conferences" pioneered by the Tavistock Institute (111). These we termed ' Service Evaluation Conferences '(SECs). The second set of exercises provided a framework for the follow-up sessions, and were based on Action Learning Sets (ALS) (112). It should be noted that the model of action learning chosen for this project differed from the classic approach as it was focused around facilitating team learning as opposed to individual learning, which was suggested in the literature as being more effective. We therefore termed them "Team Learning Sets" (TLS).

b) Both the "Service Evaluation Conferences" (SECs) and "Team Learning Sets" (TLS) were semi−structured, facilitated events in which teams reflectively evaluated their own practice within the framework of the IMT and compared their perceptions to data gathered and analysed by the team prior to the event. They were designed to:

   i. reconstitute the structural relations between all participating team members;

   ii. assist in developing their understanding of the whole work system;

   iii. allow them to act as co−researchers by playing a role in deciding priorities for change and acting as co−designers of change interventions.

   iv. Operationalise transformation to occur by consensus and normative incrementalism.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The final act of the Service Evaluation Conference entailed participating teams deciding on objectives, and developing an action plan for implementation that allocated tasks and timeframes to team members.

Team learning support was provided by trained facilitators at bimonthly intervals during the 6 month implementation stage to: maximise learning at all stages; facilitate and support change; to review progress, and revise plans. Both facilitators and participants captured the change process systematically at each session and evaluated the effectiveness of the sessions through completion of a structured feedback pro forma. Between the bimonthly TLS individuals were encouraged to work through the exercises in the workbook which were related to evidence and promoted further reflection.

After every team had conducted their six-month IMT implementation period a final "Feedback Session" was held where the results of the data collected was presented. Participants also evaluated what they had achieved in the IMT implementation process and compared their perceptions to data gathered and analysed by the team prior to the event.

c) The Service Evaluation Conference and team learning support events were developed in collaboration with Edmund Cross, a professional facilitator and consultant who specialises in working with healthcare teams/groups. He also provided training and support to the facilitators active within this project.

2. **IMT Team Exercises:** The IMT incorporated team exercises, which were developed in a series of discussions between team members, a professional facilitator brought in to inform the project and the expert panel, over a period of 3 months. This level of consideration was required to ensure that the approach remained true to its evidence base, was practical to implement and acceptable to staff members. After the first meeting a draft was developed. This was then reviewed at a subsequent meeting and final changes agreed at a third. The agreed draft was then circulated to the research team, the project steering group - a panel of experts from both academia and health service practitioners and managers, service users, and the facilitators who would be delivering the IMT intervention. The exercises were re-drafted based on the comments of the reviewers. At this stage the exercises were piloted in a one day training event for IMT facilitators. All the team exercises were conducted with the facilitators acting as team members. After each exercise a discussion took place about both the nature and content of the exercise and the best way to approach facilitation of the exercise. Based on the feedback from this day the team exercises were further refined and amended. A further two, half-day events took place with the IMT facilitation team in which the exercises were reviewed and refined. Finally,

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

each facilitator was given an electronic version of the IMT team exercise "script" and asked to review it in detail and to amend the script to make it their own, without fundamentally altering the content focus and processes of the exercises.

3. **Interdisciplinary Management Tool Reflective Workbook**: The first draft of the workbook, was circulated to the research team, the project steering group (a panel of experts from both academia and health service practitioners and managers) service users, and the facilitators who would be delivering the IMT intervention. Reviewers were asked to proofread the document, and to attempt to complete at least some of the exercises. The feedback from these reviewers led to further changes. These included: locating the research evidence with the exercises, rather than at the end of the document; and amending some of the exercises to give more variety.

   The second draft was given to a smaller group of reviewers, including: members of the core research team, facilitators, selected service managers and a service user. The purpose of the latter was to ensure that the workbook had broad accessibility. Based on the feedback from these reviewers a further refined draft was produced. Steps were also taken with team managers to have the IMT workbook and implementation activities recognised as a legitimate professional development activity for staff members. See Section 2.

4.4 Preparation for IMT Implementation

As IMT implementation involved a process of group critical reflection about issues such as team dynamics, leadership in the team and wider organizational issues, there was potential to create, raise or exacerbate difficult issues, such as poor team dynamics, or wider issues of politics, power and organizational dysfunction. According to Alvesson et al (113) this type of reflection can lead to scepticism about existing norms and practices and even anxiety and loss of identity. They conclude that this type of learning therefore needs support.

For this reason great care was taken in ensuring facilitators had the skills required to work with the groups effectively. A facilitator training programme was established to train facilitators in how to effectively implement the IMT with participating teams. Regular follow-up "Facilitator learning sets", to provide support to the facilitators, were run throughout the duration of the implementation period. Telephone support and one-to-one meeting support was also available to the facilitators.

As discussed above, both the IMT team exercises and the IMT reflective workbooks were piloted carefully to identify if the exercises were likely to create problems or expose individual group members to potentially difficult or damaging situations. Upon review by the facilitators, the issue of discussing leadership style with the group in the presence of the team

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

leader was highlighted as potentially problematic. Therefore, steps were taken to ensure that the leadership exercises were sensitive to the needs of individual team members.

The potential sensitivities of discussing group processes was a contributory factor in ensuring that all individual team members were informed in detail about what would happen in the IMT implementation and were asked to consent individually into the study. Additionally, the research team did preliminary visits to all the teams to inform team members about the IMT implementation and ensure that any questions or concerns they might have about the process were addressed to their satisfaction before the implementation took place.

4.5 Implementation and adaptation of the IMT

The research team acknowledged that the process of implementing the IMT with the participating teams would further identify ways to improve its performance and applicability within community based interdisciplinary teams. Structured data collection (described in detail in Chapter 2) ensured that feedback was captured on the way the teams used and interacted with the IMT tools and process, as well as the impact of the IMT on staff, team and patient outcomes.

The team incorporated the feedback from the participating teams to produce a final IMT structure, which is presented as an output of this report.

4.6 The IMT Implementation process

The implementation of the IMT represented an iterative action learning approach. Participating Teams took part in a number of events in which, via a series of structured team exercises, they reviewed and reflected upon current team working and service delivery challenges within their teams. From these discussions a number of issues arose that were areas for possible actions by the team. Each session ended with:

- prioritising issues identified by team members;
- the development of an action plan to identify those selected as most important;
- the allocation of tasks and timeframes to team members;
- agreement of a date for the next meeting.

The action plan was addressed by team members before the next meeting. At the next meeting the process was then repeated.

Service Evaluation Conference

The first session of the IMT Intervention was the Service Evaluation Conference (SEC). This event lasted all day; about 6 hours excluding coffee

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

and lunch breaks. Having scheduled coffee and lunch breaks was deemed important for informal networking and teambuilding as well as refreshment.

The SEC consisted of a series of exercises that helped team members to explore different aspects of interdisciplinary team working that had been found in research to have an impact on team performance. At the end of the SEC each team reviewed the issues they had identified throughout the day and prioritised their importance. Issues were then selected that the team wanted to act upon. From these they developed an action plan containing concrete actions. Timeframes were established for each action and specific people or groups were given responsibility for undertaking each of the actions. At the end of the session, the team members committed to implementing the plan and meeting again to review progress in two months time.

Team Learning Sets

Team Learning Sets (TLS) took place every two months during the IMT Intervention period and usually lasted for around 3 hours.

The first Team Learning Set generally took place 2 months after the Service Evaluation Conference. At this meeting the team discussed what had happened since the last session and whether they had seen any changes in the team. In particular, they reviewed the action plan, to assess what progress had been made. Sometimes actions had been completed whilst at other time actions had been difficult to progress for various reasons. Where this was the case, the obstacles to making progress were discussed and often new solutions were found. Sometimes new issues arose that the team wanted to add to their action plan. At the end of each Team Learning Set, a revised action plan was agreed and a date was set for the next Team Learning Set.

At the final TLS all the actions agreed throughout the project were reviewed by the teams. There were numerous successes, which were recognised and celebrated by the teams. Where actions remained incomplete the teams discussed the issues that had blocked completion and how they could deal with these in the future. After reviewing what they had achieved, they reflected on what they had learned from the process and how they could sustain the changes they had made in the long term. For many teams the fact that they had been meeting every two months to discuss the way they worked together and identify and implement service development goals was a new experience. Some teams elected to continue holding Team Learning Sets every two months, as they had found the process beneficial.

The evaluation of the IMT and the processes of its implementation are described in the following chapter.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5 Results

5.1 Introduction

This chapter presents the results of the implementation of the IMT by exploring the following components;

- √ **Participants and response rates**: Including team recruitment information, patient baseline data, staffing data and response rates.
- √ **The way the IMT was implemented** by the teams, including the types of activities and issues they identified as a result of their participation in the IMT.
- √ The results from the qualitative and quantitative data about **the impact of the IMT** on patients, the staff and the teams.
- √ The **processes of implementing** the IMT: Feedback on the *way* the IMT was implemented with the teams from facilitator focus groups, feedback reports, and interviews.

The purpose of this chapter is to evaluate the effectiveness and impact of the IMT on the stakeholders involved, and to provide insights into the way it was used so that the IMT can be further improved.

5.2 Participants and response rates

The Teams

Twelve teams were initially recruited to participate in the IMT. Our target recruitment was 11 teams, to take account that one may not complete the process. One team did withdraw half way through, resulting in completion of the IMT process by 11 teams. The findings from this team have been included in the results based on intention to treat. Of particular note to this research and its results is the changing context of health service delivery corresponding with the IMT intervention. This had several implications, which are covered more fully later in this report. However the direct implications for our recruitment were that three of the teams (G,H and I) underwent a restructure during the time of their involvement with this project, and in the table below, their results are aggregated as one team, 'MY'. Staff involved with MY rotated between the three teams, however patients tended to be seen by one team only. For this reason, the patient data are disaggregated to the individual team level, but staff data are aggregated.

Table 13 summarises the characteristics of the participating teams. All teams were designed for adults, predominantly patients aged over 65, with a goal of preventing avoidable admission to hospital and facilitating discharge. The majority of teams provide their care in the patients' own

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

home, although one team provided care from a resource centre, and another from a community hospital. The number of referrals per team ranged from 38 to 8000 per year. The average duration of care for each of these teams range from 21 days to 101 days. Two teams were hosted by local authorities; seven were NHS community intermediate care; one was an NHS ward based team: and there was one stroke outreach team. One team was jointly hosted by the NHS and the local authority.

5.2.1 Duration of participation

Teams were recruited into the project for a target of twelve months, including 3 months of data collection prior and 3 months post-implementation of the IMT. Table 13 illustrates the dates and duration of involvement of each team in the research. Following the initial SEC, each team was scheduled to undertake 3 Team Learning Sets, 2 months apart, over a 6 month period. It can be seen that several of the teams experienced delays in their project timings. Initial delays arose between the initiation of data collection and completion of the SEC, and several teams experienced further slippage with their timings of the TLSs resulting in a mean duration of involvement in the intervention of 7.6 months (range 6 – 10). This, in turn, extended the amount of time those teams were involved in the project to a mean of 17.2 (range 15 – 19) months. The extended project timeframes resulted in a substantial increase in the number of patients recruited into the study, from an expected 2000 to over 6000 participants (Table 14).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 13 Characteristics of participating teams

ID	Service goal	Primary Location of Care	Referrals / year	Av duration of care	Popn type	Funding provider	Target population	No qual staff	No support staff	Total staff
b	Rehabilitation focus for preventing admission and facilitating discharge; Maintenance of patients at home to prevent long term residential or nursing home care	Home	1650	3 weeks	Mixed	75% PCT, 25% SS	Prevention of admission and facilitation of discharge	14.82	10.82	26.64
d	Prevent Hospital admissions, early discharge from hospital	Home	358	45 days	Rural	PCT	Adults	4.14	3.51	7.65
do	Community stroke specific rehabilitation	Home	225	101 days	Urban	PCT, some from social services	> 18s who have suffered a stroke	8.8	10	18.8
e	Community rehabilitation facilitating early discharge and/or hospital avoidance	Home	350	41 days	Rural	PCT	>18 (majority over 65)	8	4	12
f	Prevent admissions to hospital and community rehabilitation as well as facilitate hospital discharges	Resource Centre	135	Enablement – 30 days; Rehab unit - 32.5 days	Mixed	Adult Services and PCT	Over 65s	2	7	9.3
my	Prevent admissions to hospital and community rehabilitation as well as	Home	8000	Unknown	Mixed	PCT	Predominantly over 65s, falls and generic	54	35	90.6

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

	facilitate hospital discharges						rehabilitation patients; >18			
pb	Facilitate early discharge from acute hospital and to prevent admission to hospital	Community Hospital	160	35 days	Urban	PCT	>18 with a rehabilitation need	26.88	12.72	40.6
ID	Service goal	Primary Location of Care	Referrals / year	Av duration of care	Popn type	Funding provider	Target population	No qual staff	No support staff	Total staff
q	Prevent avoidable admission to hospital or institutional care settings; facilitate earlier discharges to home or appropriate community settings; to minimise as far as safely possible dependence	Home	38	49 days	Mixed	PCT & SC	Generic, mainly >65.	8.8	4.4	14.2
r	Rehabilitation focus for preventing admission and facilitating discharge; Maintenance of patients at home to prevent long term residential or nursing home care	Home	1650	3 weeks	Mixed	75% PCT, 25% Social Care		16.39	10.66	28.05
u	Prevent admission to hospital, facilitate discharge from hospital and prevent admission to long term care		280	5-6 Weeks	Urban	PCT & SS	>18s	5	0.8	7.8

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 14 Duration of involvement and recruitment rates of participation teams

ID	Study start date	SEC 1	1st ALS Date	2nd ALS Date	3rd ALS Date	End of Recruitment	End of Data collection	Length of IMT intervention (months)	Duration recruitment	Time in project (months)	Total CRPs	Total admissions	Total Patient satisfaction responses	Service proformas
G	21/12/09	16/03/10	25/05/10	20/07/10	24/09/10	24.12.10	24.03.11	6	12	15	1391	1958	210	2
H	21/12/09	19/03/10	25/05/10				24.03.11	6	12	15	975	1288	101	
I	21/12/09	26/03/10					24.03.11	6	12	15	795	1071	112	
PB	01/05/09	01/02/10	13/07/10	Left study 20.09.10				8	17	17	116		91	1
DO	08/06/09	16/09/09	26/11/09	28/01/09	26/05/10	26.08.10	26.11.10	8	15	18	251	355	37	2
Q	30/03/09	25/06/09	24/09/09	27/01/10	21/04/10	21.07.10	21.10.10	10	16	19	173	214	54	2
D	01/04/09	27/07/09	01/12/09	13/04/10	11/05/10	11.08.10	11.11.10	9	16	19	330	344	98	2
E	01/04/09	28/07/09	30/11/09	19/01/10	13/04/10	13.07.10	13.10.10	9	15	18	438	491	102	2
R	05/05/09	28/09/09	22/12/09	11/03/10	11/05/10	11.08.10	11.11.10	7	15	18	598	1712	116	2
B	05/05/09	29/09/09	22/12/09	11/03/10	11/05/10	11.08.10	1(i1.11.10	7	15	18	521		200	2
U	17/08/09	03/12/09	18/02/10	29/04/10	17/06/10	17.09.10	17.12.10	6	13	16	186	353	54	2
F	23/03/09	24/06/09	19/08/09	09/12/09	17/03/10	30.06.10	17.09.10	9	15	18	166	176	54	2
Mean								7.6	14.4	17.2	495			
Total											6435	7736	1229	19

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.2.2 Data collected from the teams

Twelve teams participated in the initial SEC, each of which was facilitated by a dedicated, trained facilitator. The SEC was a full-day event, involving a series of structured activities leading the team towards the development of an action plan, which they then used as the basis for the TLSs. One output at each event was a report completed by the facilitator, which was provided to the teams as the basis for reflection at the next event. At the close of each event, participants were asked to complete a feedback questionnaire.

At a second SEC the team members were given preliminary results for their team with some benchmarking data from the whole study. They were consulted about their experience of being involved in the project and asked to complete a final feedback questionnaire.

Structured data were collected at each of the events, including:

- SEC #1 report: n = 12
- Team learning set #1 reports: n = 11
- Team learning set #2 reports: n = 10
- Team learning set #3 reports: n = 9
- Individual feedback questionnaires (completed by individuals after each of the 4 events): n=442
- SEC #2 feedback questionnaires: n = 46

See Table 15

Table 15 Feedback reports received from teams

	SEC1	ALS1	ALS2	ALS3	SEC2	Totals for teams
B	20	10	11	12	5	58
D	12	9	9	8	9	47
DO	13	6	8	8	-	35
E	7	11	9	4	5	36
F	1	9	11	7	4	32
G, H, I	33	14	17	18	-	82
PB	4	6	-	-	-	10
Q	13	13	5	14	8	53
R	18	13	12	14	7	64
T	14	9	11	6	-	40
U	7	5	11	0	8	31
Totals for events	142	105	104	91	46	488

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Patient and team outcome data

The overall response rates were as follows;

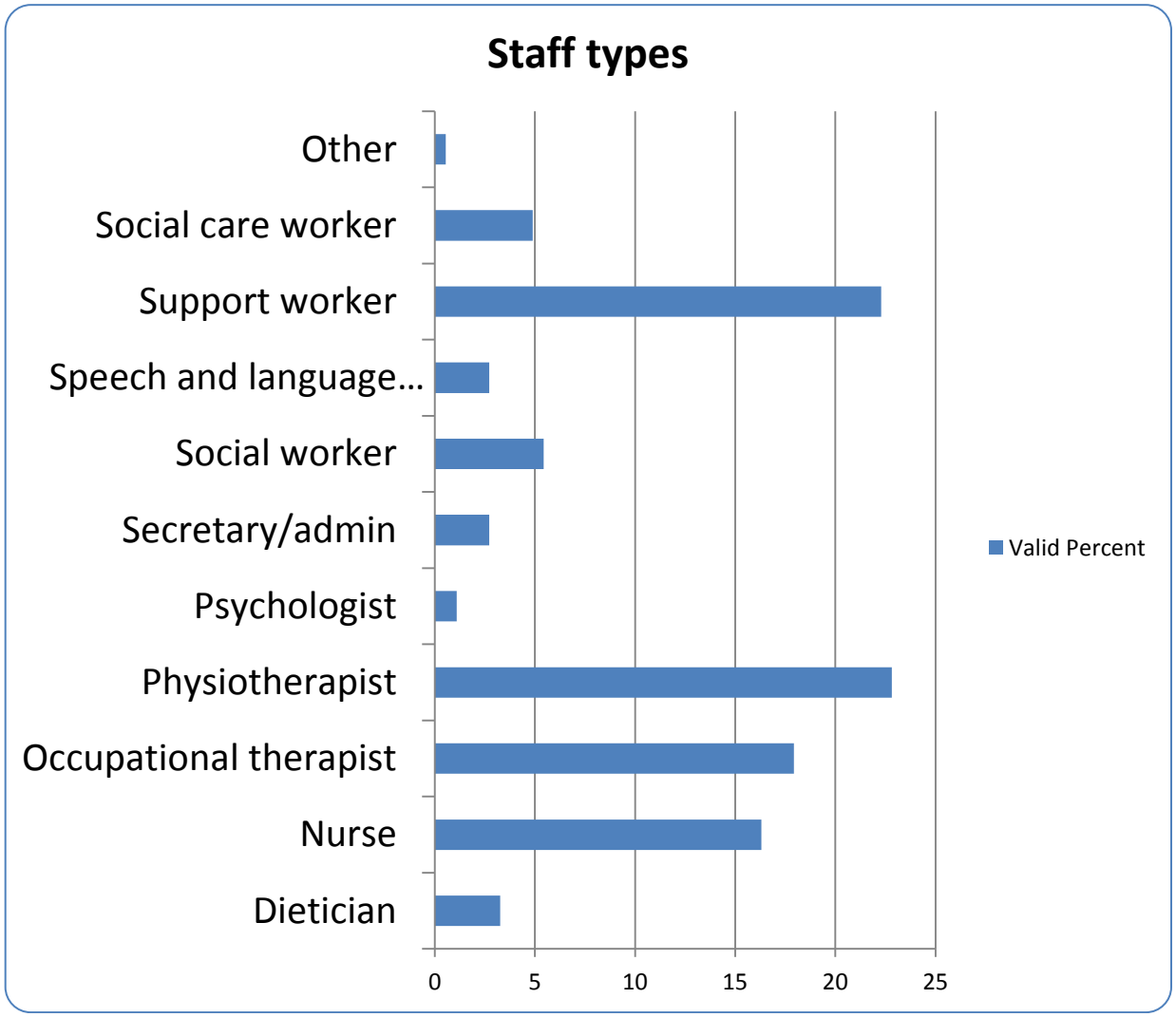
- Service pro forma data was received from 12 teams (n.b. 3 teams were covered in one service-level pro forma)
- Patient record packs were received for 6435 patients from 12 teams (6215-complete)
- Patient satisfaction questionnaires from 1,229 patients in 12 teams
- Workforce Dynamics Questionnaires from 253 staff in 12 teams

5.2.3 Staff characteristics

Two hundred and fifty-three staff from the original 12 teams were involved in the project, predominantly support workers, occupational therapists, nurses and physiotherapists. See Figure 13. Further details of staff characteristics by team are provided in Table 16.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 13 Staff involved in the IMT intervention (n=253)



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 16 Summary of staff characteristics of participating teams (from WDQ)

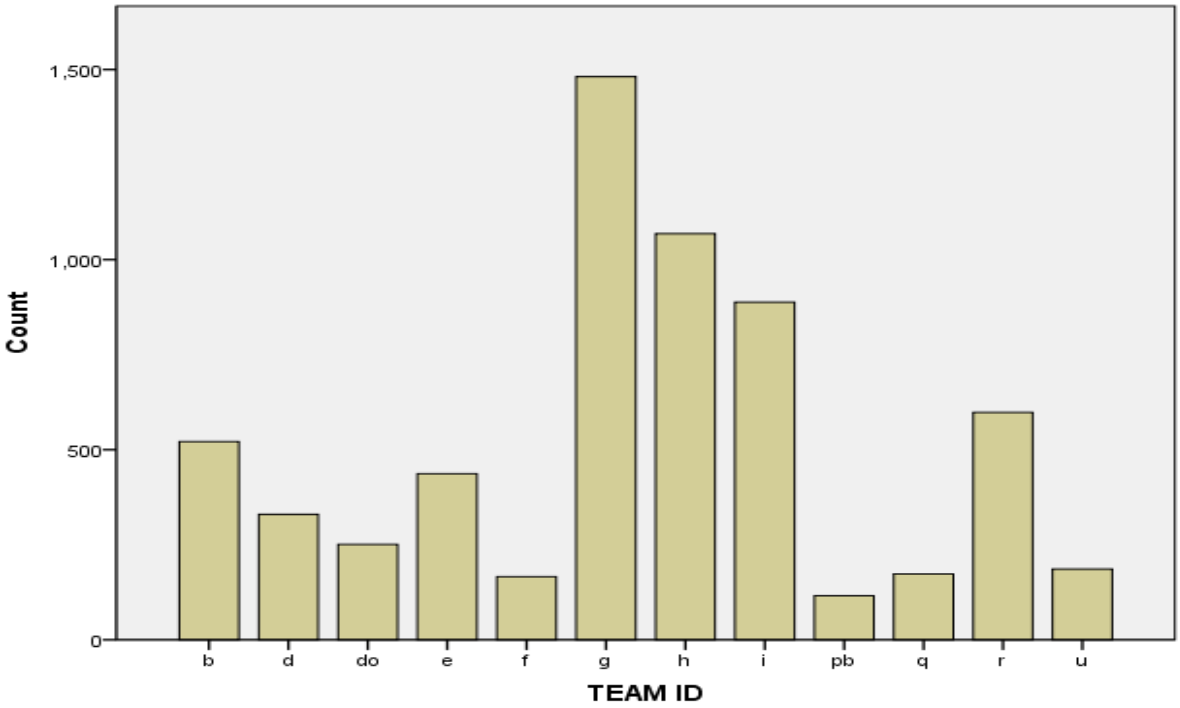
Team ID		Age (years)	Hours contracted to work per week	Time worked in current job: Years
B	Mean (SD)	46.7 (9.8)		2.5 (3)
	N	23	26	23
D	Mean	43.8 (9.4)		2.2 (5.8)
	N	13	17	13
DO	Mean	43.3 (11.2)		0.5 (1.6)
	N	12	27	12
E	Mean	49.6 (10.2)		0.9 (2.4)
	N	12	14	12
F	Mean	48.0 (9.2)		3.4 (8.0)
	N	13	15	13
MY	Mean	37.6 (10.5)		2.5 (3.3)
	N	45	56	43
PB	Mean	46.2 (11.4)		4.3 (5.5)
	N	19	20	19
Q	Mean	46.1 (9.6)		2.9 (4.8)
	N	15	17	15
R	Mean	41.9 (10.9)		1.1 (2.1)
	N	22	32	22
U	Mean	38.0 (10.5)		1.0 (2.0)
	N	9	11	9
Total	Mean	43.2 (10.9)		2.3 (4.2)
	N	183	235	181

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.2.4 Patient characteristics

6215 patients were recruited across the 12 teams. Of these, 62% were female, and the average age at admission was 78.2. The numbers of patients recruited by team are detailed in Figure 14

Figure 14 Patient recruitment by team (n=6215)



Diagnostic categories were not specifically requested in this study in recognition of the fact that people utilise IC not for the treatment of a

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

specific disease, but often for management of the consequences of an illness, or multiple illnesses. Instead, we asked staff the "Reason for admission". In the responses to this question, diagnostic data were provided for just over one third of the patients. The most common presenting diagnoses were strokes and fractures (Table 17). Staff described the 'purpose of the intervention' for approximately half of the patients, and mobility accounted for 44% of these (Table 18).

Table 17 Diagnostic categories at admission (n=2449)

Diagnostic categories	Valid %
Stroke	23.7
Fracture	19.7
Post-Operative	12.5
Infection	10.6
Other	10.0
Neurological	8.6
Cancer	4.5
Arthritis	3.3
COPD	3.3
Mental health	2.3
Heart disease	1.5

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 18 Purpose of the intervention (n= 3394)

	Valid %
Mobility	45.4
ADL/Coping	23.5
Nutrition	14.3
Assessment	12.9
Facilitate discharge	1.6
Equipment	1.2
Prevent admission	0.4
Palliative care/pain mgmt	0.4
Mental health	0.3

The majority of patients were referred to IC from their own home (86%), and nearly 50% of all patients normally live at home on their own (

Table 19 Normal living arrangements prior to admission (n=5732)

	Valid %
Alone in own home	51.1
With others in own home	35.3
Relative's home	2.1
Residential, nursing home	6.4
Sheltered housing	4.2
Other	.9
Total	100.0

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Three quarters of the patients received their care in their own home. Allied health practitioners provided one quarter of all referrals to IC (Table 20).

Table 20 Place where patient received care from service (n=5680)

	Valid %
Own home	76.5
Relative's home	2.1
Residential/nursing home	7.2
Sheltered housing	2.3
Acute hospital / A&E	.3
Intermediate care facility	4.0
Day hospital	.4
Resource centre	.2
Community hospital	6.0
Other	1.0
Total	100.0

The most common level of care need was level 4 (Client needs regular rehabilitation program), representing nearly one third of all admissions (Table 21). This pattern was seen in all teams, with the exception of G,H and I, which predominantly admitted patients with a level 1 care need (Client needs prevention / maintenance program).

Overall, the mean admission EQ-5D admission score was 43.3; the mean TOMs scores were impairment 3.1, activity 3.2, participation 3.3 and wellbeing 3.7. The team with the most dependent patients was team PB, which is the only hospital based intermediate care team (and the team that withdrew from the study). However the EQ-5D and TOMs tell a slightly different story across the other teams. On the EQ-5D scores, teams DO and Q have the least dependent patients. The team with the least dependent patients as measured by TOMs was team F, which is a social services based team. These findings suggest that there was variation in team function, related to the severity of the patients admitted. The most dominant category of client need at admission as categorised on the Level of Care Tool was level 4 'Client needs regular rehabilitation program'.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 21 Level of care need at admission (n=5465)

	Valid %
0 Client does not need any intervention	9.5
1 Client needs prevention/maintenance programme	25.9
2 Client need convalescence/respite	1.4
3 Client needs slow stream rehabilitation	20.2
4 Client needs regular rehabilitation programme	31.3
5 Client needs intensive rehabilitation	5.4
6 Client needs specific treatment for specific acute disabling condition.	3.3
7 Client needs medical care and rehabilitation	2.2
8 Client needs rehabilitation for complex disabling condition	.9
Total	100.0

There was also some variation in patient age between teams, ranging from a mean of 70.3 to 83.6. Team DO had the youngest cohort (this is the dedicated stroke outreach team), whereas teams PB, Q and F had the highest average age at admission (83 years) (Table 22).

TOMS impairment admission dependency scores differed significantly between groups, $F(11, 5192) = 14.9$, $p < 0.00$. TOMs activity and EQ-5D admission scores also differed between teams; $F(11, 5190) = 11.9$, $p < 0.00$ and $F(11, 4330) = 8.6$, $p<0.00$. There was also a difference between teams in terms of the age profile of the patients admitted $F(11, 6118) = 25.6$, $p<0.00$. Overall, team PB admitted the most dependent patients and team F admitted the least dependent patients, however both teams had similar age profiles (Table 22).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 22. Summary of admission status of all patients by team

TEAM ID		TOMs impair	TOMs activity	TOMS participati	TOMS wellbein	EQ_5D	Patient age
B	Mean	2.9 (0.9)	3.0 (0.9)	3.2 (1.0)	3.7 (0.9)	41.1 (31.0)	80.9 (10.5)
	N (SD)	434	435	436	435	435	456
D	Mean	3.1 (0.8)	3.1 (0.8)	3.4 (0.7)	3.7 (0.8	36.7 (30.2)	79.5 (12.2)
	N	238	238	238	238	249	328
Do	Mean	3.2 (1.1)	3.4 (1.3)	3.5 (1.3)	3.6 (1.2	54.0 (35.1)	70.3 (14.0)
	N	185	185	185	185	149	249
E	Mean	2.8 (0.8)	2.9 (0.9)	3.1 (1.0)	3.5 (1.0	38.5 (30.3)	79.6 (13.6)
	N	389	389	389	389	382	435
f	Mean	3.5 (0.5)	3.4 (0.6)	3.7 (0.5)	3.9 (0.6	43.6 (28.7)	83.5 (8.7)
	N	164	164	164	164	165	166
g	Mean	3.1 (1.0)	3.3 (1.1)	3.3 (1.1)	3.7 (1.0	46.1 (34.0)	77.1 (13.2)
	N	1252	1252	1252	1251	968	1480
h	Mean	3.1 (0.9)	3.2 (1.0)	3.2 (1.1)	3.8 (1.0	44.2 (32.5)	77.5 (13.4)
	N	894	893	894	888	634	1066
i	Mean	3.1 (1.0)	3.2 (1.0)	3.3 (1.0)	3.8 (1.0	45.4 (31.1)	75.8 (13.7)
	N	740	738	739	736	565	887
pb	Mean	2.4 (0.8)	2.6 (0.9)	2.7 (0.8)	3.0 (0.9	27.8 (32.0)	83.6 (9.1)
	N	116	116	116	116	106	113
q	Mean	3.1 (0.8)	3.2 (0.8)	3.1 (1.0)	3.3 (0.9	53.4 (31.2)	83.0 (8.1)
	N	166	166	167	166	162	173
r	Mean	3.0 (0.9)	3.1 (1.0)	3.2 (1.1)	3.8 (1.0	39.9 (30.9)	80.7 (12.0)
	N	480	480	479	478	386	597
u	Mean	3.0 (0.8)	2.9 (0.9)	3.1 (1.0)	3.5 (1.1	40.0 (32.8)	81.7 (10.4)
	N	146	146	146	146	141	180
Total	Mean	3.1 (0.9)	3.2 (1.0)	3.3 (1.1)	3.7 (1.0	43.3 (32.3)	78.2 (12.9)
	N	5204	5202	5205	5192	4342	6130

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.3 The Implementation of the IMT

This section of the report represents the analysis of data from the end of session reports of the SECs with the 12 teams by presenting the data drawn from the SECs, specifically the actions and issues identified by each team, and the approaches used by teams to address these.

During the SEC, team members reflect upon and discuss aspects of their experiences of working within their specific team, acknowledge areas of disagreement and consensus and formulate action plans.

The data were reduced at source as no audio recordings were made, and these reports were compiled by the conference facilitators from their notes and 'flipchart' records. A second stage of data management was carried out which involved removing any text which did not relate directly to identified problems/issues (i.e. possible actions) and actions carried forward by the teams.

5.3.1 Issues and actions identified by teams

Through the SEC, the teams identified an average of 48.7 challenges (range 16-72). Out of these they chose an average of 6.6 (range 3-10) to develop into action plans for service development. The percentage of 'action plans' compared to 'challenges identified' ranged from 6.5% for team 'I' which identified 62 challenges, to 43.8% for team 'E' which identified only 16 challenges.

Table 23 describes the coding categories used exclusively to assign possible actions and actions carried forwards to broad topics.

The topic chosen by most teams as requiring attention was 'internal communication and relationships', with 'service development activities' as the second most popular. Nine action plans were developed by the teams related to clarity of vision of the service, uncertainty and externally imposed changes. External communication and relationships were a concern which accounted for eight action plans. Five changes to 'facilities, resources, procedures & administration' were pursued, and 'joint-working' accounted for five action plans. 'Management, Leadership, Decision making and Autonomy' only accounted for two action plans. Meanwhile none of the teams chose to develop action plans around the topics of 'morale & motivation' or 'role mix, professional roles and responsibilities' (Table 24, Figure15).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 23 Summary of issues and actions identified by teams

Code Name	Code Description	Inclusion	Exclusion
Actions-Carried forward: n=79, mean=6.6, range=3-10	Issues discussed by the teams and developed into action plans to be carried forward		
Challenges and Actions-Possible: n=584, mean=48.7, range=16-72	Issues discussed by the teams as challenging for their work and possible topics to develop action plans on		
Clarity of Vision, Uncertainty & Changes to Service: n=71, mean=5.9, range=1-12	The extent to which values are shared by team members including goals and objectives of the team and definitions of the service.	Including uncertainty at strategic level, external pressure to change and ways of managing change.	Excluding issues around clear delineation of individual roles & better understanding of others' roles/professions (5). Excluding individual goals (6).
Communication & Relationships-External: n=56, mean=4.7,range=1-12	Communication and relationships with external organisations/services and senior management.	Knowledge of other services.Including external factors which affect the team and the influence of the team on external services and organisations.	Excluding issues related to change and uncertainty (3).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Communication & Relationships-Internal: n=92, mean=7.7, range 2-15	General team relationship and communication issues.	Including team integration, clear knowledge of others' roles and meetings.	Excluding Joint working, sharing skills & knowledge and reflective practices (8)
CPD, Rotation & Career Progression: n=149, mean=12.4, range=0-22	Activities aimed at professional development: training, knowledge, skills, rotation, secondment & opportunities for promotion and progression.	Including individual goals and personal issues e.g. anxiety and self-worth.	
Facilities, Resources, Procedures & Administration: n=85, mean=7.1, range=2-16	Issues relating to facilities, resources and working practices and procedures.		Excluding capacity/team size, workload & time-management (11).
Joint-working: n=21, mean1.8, range=0-7	Activities related to staff members working together and observing each others' work.	Including joint visits & assessments and shadowing opportunities.	
Management, Leadership, Decision-making and Autonomy: n=17, mean=1.4, range=0-4	Explicit mentions of managers and management or leaders and leadership and euphemisms (e.g. higher level), especially regarding decision making and coordination.	Includes processes of decision making within the team including decisions being made by superiors and having autonomy to make own decisions	Excluding issues covered by other codes e.g. working procedures (7), staffing levels (11), clarity of goals (3), communication (4 & 5), de-briefing procedures (13) etc.
Morale & Motivation:	Issues reported to positively or	Including motivation, job	

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

n=6, mean=0.5, range=0-2	negatively affect the morale of team members.	satisfaction, enjoyment, pride etc	
Patient Treatment, Communication, Capacity & Outcomes: n=93, mean=7.8, range=1-13	Referral procedures/criteria, capacity and demand issues.	Including patient interventions and outcomes, and measurements of effectiveness. Including throughput of patients, care-needs and issues of workload and time-management. Including communication and relationships with patients and family members.	Excluding communication and relationships with external services and organisations (4).
Role mix, Professional roles and Responsibilities: n=15, mean=1.3, range=0-6	Issues regarding the variety of roles and distribution of responsibilities currently within the team.	Including the balance between maintenance of professional roles and the need for generic working. Excluding team size (11), team working issues (5)	Excluding professional development (6) or service development activities (i.e. developing/distributing skills & knowledge) (13). Excluding lack of clarity of roles (5). Excluding functions ordinarily performed by external services (4).
Service Development Activities: n=58,	Service development and team building activities.	Including case reviews and other reflective practices (e.g.	

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

mean=4.8, range=1-12		de-briefing procedures). Including specific skill development across the team (e.g. supporting changing roles). Including group knowledge translation activities, e.g. journal clubs & visits to other services.	

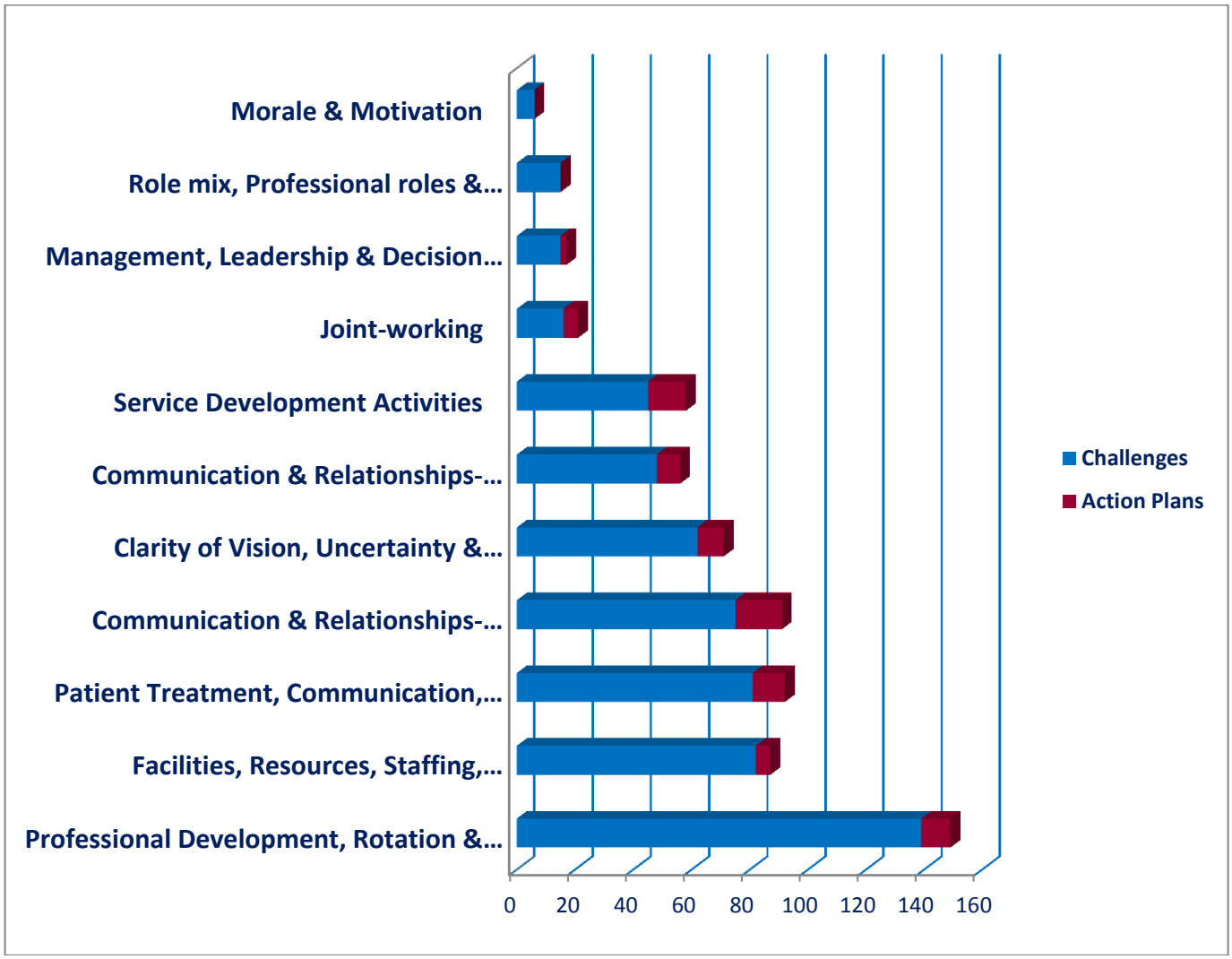
© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 24 Topics Recorded in SEC Reports: challenges and actions ranked by frequency

	B	D	DO	E	F	G	H	I	PB	Q	R	U	Mean	Total	Range
CPD, Rotation and Career Progression	18	7	17	5	22	20	9	16	5	8	22	0	12.4	149	0-22
Patient Treatment, Capacity & Outcomes	7	11	8	1	7	11	3	11	11	8	13	2	7.8	93	1-13
Communication & Relationships-Internal	6	10	15	4	6	5	15	8	12	5	2	4	7.7	92	2-15
Facilities, Resources, Staffing, Procedures & Admin	2	12	16	2	2	9	10	4	4	13	5	6	7.1	85	2-16
Clarity of Vision, Uncertainty & Changes to Service	6	3	5	1	7	1	4	12	10	7	7	8	5.9	71	1-12
Service Development Activities	1	4	12	5	6	1	4	9	2	10	1	3	4.8	58	1-12
Communication & Relationships-External	2	8	3	4	12	5	4	1	1	6	8	2	4.7	56	1-12
Joint Working	1	7	3	0	5	1	1	1	0	2	0	0	1.8	21	0-7
Management, Leadership, Decision making and Autonomy	2	0	1	0	0	3	1	3	4	0	0	3	1.4	17	0-4
Role mix, Professional roles and Responsibilities	0	0	1	1	1	1	2	0	0	3	6	0	1.3	15	0-6
Morale & Motivation	0	0	1	0	0	0	2	1	1	0	1	0	0.5	6	0-2

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 15 Summary of action plans and challenges faced by the teams



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.3.2 Actions carried out around each of the issues

Examples of the types of actions undertaken by teams are detailed in Appendix14.

Summary of actions carried out

While some areas were identified as providing the greatest challenges they were not necessarily selected to be a focus of attention in the action plan. For example facilities, resources, procedures and administration were ranked second highest in the list of challenges however they were seventh in the list of action plans. Continuing professional development, rotation and career progression were ranked as the highest in the number of challenges but only came fourth in the list of action plans.

It is clear that some items whilst recognised as being an obstacle or a challenge to the service were not identified as being possible to be changed by the team members themselves. Other issues were not regarded as high priority, and were therefore considered less worthwhile converting into actions. Other topics (e.g. morale and motivation) might undergo conceptual change during the transformation from being an identified issue to an actionable plan. For instance, whilst low morale might be an identified problem in the team, any actions devised to address this problem would be more specific and therefore fall into another category such as 'team development'.

5.4 Impact of the IMT Intervention

5.4.1 Introduction

This component of the evaluation draws together data from the following sources to examine the impact of the IMT on patient, staff and service outcomes;

- Qualitative data from the team SEC and TLS reports
- Qualitative data from team feedback reports
- Qualitative data from 15 interviews with staff
- Quantitative data from the Workforce Dynamics Questionnaire (staff), Client Record Packs (patients) and service data including length of stay and discharge destination.

5.4.2 Impact of the IMT – case studies combining SEC and TLS reports with WDQ outcomes

Reports and Action Plans were created after each TLS. At each follow-on session the action plans were reviewed, and progress/issues arising from implementation were discussed by each team. At the end of each session the action plan was revised, new tasks were allocated and timeframes agreed.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

This section includes an illustration of the case studies (team B and team R). The case studies include: a brief overview of each team; the key issues faced; the actions they undertook to address these issues; and the impact of their involvement in the project, including changes in workforce dynamics scores. Case studies from the remaining teams are found in Appendix 15.

Team B

This was a large intermediate care team in the South West of England. They perceived that at a patient level, they were able to work towards common goals, however lacked a clear understanding of where their team sat in the wider health economy, and the team overall lacked a vision, and therefore a lack of clarity related to certain issues e.g. of referral criteria. They also felt that within the team, not all roles were understood or valued. The main weaknesses identified by the team were the lack of career progression opportunities; lack of time to do the job; and a poor team culture (lack of praise and honesty within the team).

The team identified 7 goals to take forward under the themes of clear vision; communication; respecting and understanding roles; quality and outcomes of care; training and development opportunities. They partly achieved two of these (the pilot of an outcomes tool, and introduction of systems to improve team communication).

The main hindrances to achieving their goals were the high levels of uncertainty at the wider service level; lack of staffing to achieve the goals, and allow backfill for training.

Team B showed a large improvement in WDQ team working scores (+ 11%); and a slight improvement in role perception (2%) but a worsening in WDQ uncertainty score (-9%), and overall job satisfaction declined by 3%. Access to technology and equipment increased by 5%. By the end of the project, the team were being disbanded.

Team R

This was a large intermediate care team in the South West of England, and part of the same service as team B. They served different geographical areas, but unlike teams G, H & I; these two teams were based in different locations. There was little communication between the two teams and team members felt that the teams had unique identities.

One of the main issues, which seemed to be affecting team morale, was the unpredictability of the workload. In particular, the team said that they were going through a time of low patient throughput, and felt that several team members' skills were not being fully utilized. The team had a very positive attitude to being able to effect change. They identified 7 goals to take forward under the themes of continuing professional development; clear vision; team development; external communication and relationships; patient outcomes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Team actions as a result of this project included;

- Development work to establish a clear vision although this needed further input and was limited by inconsistent acceptance of referrals.
- Established a team-building group was formed and it was reported that positive comments were shared more although a planned away day had not taken place.
- Wider recognition of the availability of training opportunities although sometimes there were long waiting lists and there was no structured in-house training.
- Appraisal and pilot of an outcome measure (The East Kent Outcome Tool) and carried out training for goal setting.
- Developed and printed posters, visited voluntary organizations, acute services and other primary care services in order to promote the service.
- By the end of the intervention the team had a full caseload and was focusing on the appropriateness of referrals and considering taking more control of referral criteria (they felt that referrers could manipulate information about potential service-users and as a result a lot of referrals were inappropriate).
- Communication was improved through the implementation of a coordinator's phone and role and improving handover times.

Promoting the service, establishing a team vision and maintaining training were hindered by ongoing change at any PCT level, lack of clarity and certainty about the future of the service. The unsupported introduction of a new I.T. system limited opportunities for development activities.

Team R showed improvements in WDQ Management structures and styles (+7%); improved team working (+5%); a decline in training and career progression opportunities (-4%); far greater uncertainty (-17%); and lower overall satisfaction (-3%). Clarity of vision increased by 3%. By the end of the project, the team were being disbanded.

See Appendix 15 for further case studies

5.4.3 Impact of the IMT - Interview results

A series of 15 semi-structured interviews were held with 15 staff members from 3 of the 11 teams participating in the IMT intervention to provide insights into the impact of the IMT. A range of staff participated in the interviews including team leaders, team managers, allied health professionals and support workers. The interviews were held after completion of the IMT intervention process. Staff that participated in the interviews are summarised in Table 25

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 25 The Professional Role of Interview Participants

Profession/Role	**No.**
Occupational Therapist	3
Social Worker	2
Speech and Language Therapist	2
Nurse	1
Physiotherapist	3
Support Worker	1
Occupational Therapy Assistant	1
Dietician	1
Team Leader	3
Team Manager	1
	18 (15*)

***** *Interviewees with a management/leadership role have also been coded by their profession*.

The results of the analysis are presented below.

The key areas of impact resulting from the introduction of the IMT were;

- Improved interdisciplinary team working practices
- Enhanced team integration
- Greater focus on goals and outcomes
- Improvements in leadership
- Improved team communication

Negative aspects of involvement in the IMT included;

- Burden of data collection on teams involved in the project
- Diverting practitioner time away from direct patient care
- Lack of completion of actions or goals
- Teams were uncertain about how sustainable their engagement in the IMT approach would be following completion of the project, and valued the input of a facilitator to help guide this.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Interdisciplinary Team working

The most frequent area of improvement highlighted by participants was improvement in interdisciplinary team working practices. The IMT intervention helped team members to focus on developing their team further.

I think they've been a fabulous opportunity for us to just take a breath and enjoy the fact that we've got such a good team and strengthen that. And I think the small projects that we've done have been beneficial for the team, not only as team building projects in themselves because of the time you've spent working with people but also because what we've done has been valuable stuff (Occupational Therapist).

Participating teams did not, otherwise, often engage in team building activities and whilst teams appreciated the time, they considered the activity as additional to their duties, rather than an essential area of activity or focus.

It's a relief and a luxury to be able and allowed to do those things because normally it's maybe one person has an idea to do something but getting that off the ground is very, very difficult (Occupational Therapist).

The IMT intervention also changed perceptions of how effective the team perceived themselves to be. Team members became less likely to see the team as a structural arrangement and more as a dynamic way of working, which could be developed.

I think it's helped us to see ourselves less as a finished product and more as a work in action. I think it's made me recognise that we are evolving and will continue and always be evolving …

One result of working together has been to improve team members' confidence and commitment to both their team and interdisciplinary team working.

I think it has emphasised to everybody in it (the team) what we do well; where there were some flaws; and that we can improve; and that we are integrated and working together; and we are all focused, and are all wanting the same outcomes …and that's boosted everybody's confidence and everybody's self esteem and you know made everybody feel proud of what they're doing and giving them the boost to carry on and want to do more (Team Leader).

It was also clear that some team members operated in a more autonomous way than others and that working in a team was still a way of working that was novel to them.

Even though I am a lone worker and I've got my own sort of case load I don't interact so much with the community team as it were. I'm sort of part of the community team but a separate part of it. I think I just became more aware that I could delegate my work a bit more and probably wasn't earlier on. I was just trying to take everything on and do it all and …(Physiotherapist)

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Team Integration

Participants felt that taking part in the process had improved the level of integration in the team. Part of this integration is improved awareness and understanding of the other roles within the team.

It makes you aware of all the other disciplines and not being too focused on yourself and working as team working should be… good communication and discussion and being willing to change and be flexible (Support Worker).

A concrete manifestation of this in some teams was doing more for joint reviews.

We make the time more often now to go and do joint reviews and spend time in the office, it's something we've always done but it's something we do better. It's something we're actively aware of and we listen as well to each other's opinions and each other's opinions are valued (Occupational Therapy Assistant).

More integrated working was seen not just being a more satisfying way of working, but a way that yielded better results.

…. I think the outcome of that is better assessments for the individual that we're dealing with... more holistic (Occupational Therapy Assistant).

However, increasing integration can be challenging as it requires blurring of professional boundaries.

…. I feel like our boundaries, blur quite a bit without taking away from specialisms. And it's not easy, and it's not easy letting go but I feel we've got there (Social Worker).

One team leader had found that the IMT intervention had not only created more professional integration but that leadership had become also more integrated.

I think getting to know the team more has helped me release some of that responsibility… you know the team's owning itself a bit more, sort of making decisions for itself, about itself (Physiotherapist).

Focus on Goals and Outcomes

Participants felt that the IMT intervention helped the team to increase their focus on goals

the goal planning I always thought was quite helpful in the study, the way you've done it …. it's quite helpful when, we know what we're aiming for (Support Worker).

These goals not only focused on team development and work processes, but also outcomes.

Yes, the process with [ ] has been good. Being a bit more aware of outcomes and looking at outcomes has been good (Social Worker).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

It was clear though that the changes that were undertaken as part of the EEICC project were not happening in isolation.

… EEICC is not standing alone, it's part of a whole process of moving that way anyway and it's certainly helped us move along the journey (Social Worker).

There were some specific examples of how the team had improved their focus on goals and outcomes.

Some of the changes we've made have really helped. I mean our discharge now is a lot tighter and we've got a better record. We're doing an audit on that at the moment and that's throwing up a lot of things so once we've got some conclusions together I think that's going to be really useful (Team Leader).

Leadership

There were indications that the IMT intervention had improved leadership within participating teams.

It has helped me as a manager with team issues and managing the team and I think it's opened things up and allowed us to become … I want to say closer, I don't know whether that's the right word, but as a team(Team Leader).

This view was supported by team members as well as team leaders.

I think it's enabled [leader] to be less focused on the demands made by the system and enabled her to kind of have a bigger picture of the team and what makes a team and why our team works and what you would want from a team. I think it's helped [leader] to see what kind of manager she would want to be and she is and what kind of team and what it takes to have that kind of team she would want. Whereas you know I think [leader] would be in danger of being absorbed by figures and reports and demands…. (Social Worker).

This was both leadership style of the team leader and through promoting participation and empowerment, a strengthening of shared leadership throughout the team. This in turn was felt to have had a positive impact on morale.

They've grown in confidence to be able to take some decisions themselves which is fine but, there is a fine balance there obviously because some decisions have to be okayed… because of our department's protocols. But you know they've grown in that respect and I've allowed that to grow and I haven't felt like oh I can't allow them to do that (Team Leader).

I think people are just maybe slightly happier at work… feel that their ideas have been taken on board with their groans and everything and things have changed because of it (Team Leader).

Communication

Some participants reported an increased appreciation of the importance of open, two-way communication.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

One of the things it has taught us as well is how important it is to listen to each other you know because… it gets very difficult sometimes when you become such a close working team, your identity tends to become a little bit lost or it can, but I feel that we've all learnt from each other's roles, yeah most definitely (Occupational Therapy Assistant).

The IMT intervention was felt to have provided an opportunity for the team members to discuss things as a team. It was clear that the full team being together was not a regular occurrence in many teams.

Just everybody being there and being able to discuss it together because a lot of the times when you're in the office, we actually all aren't together and sometimes you know if we have a meeting it could be people's days off or something. So it's actually nice to have absolutely everybody together and to have everybody's point of view… rather than me making a suggestion or somebody else making a suggestion but not actually hearing what the other people that are involved have got to say (Team Leader).

A common vehicle for improvement in communication came through teams working to develop more effective team meetings and case reviews. These were not only helpful in ensuring the best treatment and outcomes for patients; they also provided useful team learning opportunities.

We've changed how we do reviews and we're trying to do those together more and that's come out of that to try and help the effectiveness and use of time there. …. It's really handy to hear about how other people have handled cases and have handled situations because you get used to doing things your way and it's nice to hear another perspective really and another option (Occupational Therapist).

Improved communication was not confined to communication within the team, some participants felt that the IMT intervention had contributed to strengthening external networks too.

Quite a lot of the work that we've done has been making sure that we're aware of where we sit within other services and making sure that we make full use of other services so it's not necessarily that our work has changed but we're aware of what's going on around us…. the wider network and using it more effectively and making personal links with people (Social worker).

Negative aspects of participating in the IMT

Whilst participation in the project was seen as being overwhelmingly positive, there were some aspects of participation that staff found counterproductive. One area was that the participation required completion of patient record packs for each patient upon admission and discharge. This issue was not wholly to do with the project however. It was cumulative; the client record packs were one of a number of assessment forms that staff needed to complete for each patient.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

You've got assessments for this or assessments for that on paper. I actually spend more time doing the paperwork than seeing the patient which can be quite annoying. That's not just with the project form, that's with other forms as well. But then I also see how a lot of it does help us as well (Support Worker).

Another issue was that participation in the IMT intervention diverted team members away from what they saw as their primary role – working with patients. Again however, this was seen as part of a wider cultural issue, particularly with health services.

I really do and I think it's a shame that it isn't recognised how beneficial it is to a team to have that time to invest in themselves (Occupational Therapist).

A final issue was that some participants felt that sometimes actions weren't completed, or were forgotten about.

I think initially it was very enthusiastic and everything and carrying on with it and then there was a tendency to forget about it because it had become very, you know, we were just doing it weren't you, especially towards the end. But I think it's certainly made us think about so many things and also our outcomes and the things that have changed with us as a team because of it have been really positive. So I can only say positive things about it (Occupational Therapy Assistant).

Sustainability

A final issue discussed was about the sustainability of improvements made in the project, without the support of the project team. Whilst participants were hoped that the team could build upon the work they had done, there were some reservations.

I think I'd like to see us carry on taking the time to recognise and focus on where the team's going and how we're going to get there. How we do that without a facilitator I don't know. They were fabulous. I don't think we would have got from where we started to where we are now without that. They really helped us to focus and to funnel the ideas and to develop steps to get from A to D (Occupational Therapist).

The question was asked whether it would be possible for someone in the team to take on the role of facilitator.

I think they would need training in that area because it seemed quite specialised really. We are used to having training where somebody tells you what to do and how to do it. They didn't do that. And I think that's a skill in itself. It's much easier to tell somebody what to do and how to do it than to get somebody to develop how to do something (Occupational Therapist).

When pressed however, participants were generally cautiously optimistic that they could continue to invest time in development activities.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

I'm hoping so. I'm going to push that we do that and we're certainly carrying on with some of the things we've started. We're just going to … the wide part, get them involved in it as well. And it's how we do that really, it will be done at some point. It's just when and which bit first (Team Leader).

I'm talking about the workshops that we've done and the working lunches and following some of the data collections and things like that. We're to follow that through into the wider team and it's just how we do it because obviously people might be a bit wary of what we're doing it for. But I certainly want to take that forward and carry on with all that because I've found that really, really useful. And the actions we've done, I'd like to take forward as well. And then maybe even at some point, grow and do a mini, little project/study and have more action groups and more action plans to build …(Team Leader).

There were also ideas of adapting the IMT intervention process to work with other teams and develop networks further.

One of the things that we discussed in the last meeting is that the way of working, of having working groups to take forward prioritised actions. Though actually that is quite a powerful way of working when we do become part of the locality teams and that maybe is a way we can help build cross links within the smaller team. And it's not so much what you actually do but that you're working together that's the important bit on something that's not purely a clinical issue (Social Worker).

5.4.4 Impact of the IMT – Results of the facilitator focus group

The following section provides the findings from the facilitator focus group which was conducted to capture their views on how the teams interacted with the IMT and its impact on performance.

In essence the facilitators agreed that the IMT helped teams to:

- Reshape the way that they worked
- Clarify their roles
- Become better integrated team members
- Integrate more effectively.

The negative aspects that the facilitators reported included:

  - Teams which were ' basking in their own glory '
  - Risks of increasing team insularity
  - Difficulty in finding time for team development
  - And considerable tensions associated with the changing context which was beyond the influence of the team

The IMT process was successful in helping to **reshape** the way the teams work together, and to create team identity:

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

There was this sort of gathering awareness that they wanted to focus on what it was that they were doing, partly because they were getting this sense of entrepreneurship about the future, wanting to kind of be sure about what they did in order to be able to communicate that to a wider audience, like this is what we do and this is what we do well. So it was a way of re-establishing, re-focusing on what we do because this is the most important thing.

The process was successful at supporting team members to **clarify their roles**:

One of the tasks that they set themselves was a written kind of document that says this is what we do and this is what each individual member of the team. So they say well actually I'm a social worker, this is what I do. I'm an OT, this is what I do. It was a document that people could then look at when they came into the team or you know for external purposes.

In addition, the IMT process empowered individual team members with skills or capabilities around interdisciplinary team working, enabling team members to become better participants in team processes and being **better 'integrated team members'**.

Individuals within the team could see that they themselves could be good integrated team members of a new team in the future in their new job. So there's something about taking the personal learning of how you work in an integrated team for those individuals into another world. And that came across more from the qualified staff than the support workers. This is about you as a person and when you apply for your next job in a team you are taking all these skills with you.

You can gain skills and knowledge of how to be a good integrated team player. Hopefully you can be more outward looking, when someone new joins the team you know what to do to bring them into the fold.

The IMT improved the teams' perceptions of **integration**. However, one facilitator perceived that this might **risk increasing the insularity of the team** and reduce their ability to integrate new staff, or with other teams.

They actually realised that they have got better as a result of being in the process, they've become more integrated as a team.

What for me was really key for them it made them feel more integrated. And my concern was that actually it was going to make them more resistant to the new team coming in because they'd bonded in such a strong way that their anxieties about integrating more in another team were probably greater than at the beginning of the process when they hadn't even thought about it.

However, the facilitators expressed concern that being involved in the IMT process could make teams **bask in the glory** of what they do well at the expense of trying to improve:

They looked down the action plan and I felt that they were pretty good at saying where we are now, we can do this or we've got on with this but these things we're

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

not going to touch because of the impending changes. But that worries me a bit because they are becoming more and more entrenched in what they'll do as that little unit.

Teams valued the process of **investing time in team development**, rather than simply focus on clinical work, and perceived that this time could actually benefit the service and provide 'payback' to the team.

They never set time aside to think about themselves as an organisation or as a team and the way that they interact together and to be proactive in planning and developing and thinking about their work and reflecting on it... for professional staff ... when I work is patient time and clinical time and anything that happens outside of that is bureaucratic nonsense and impinges on my clinical time and stops me doing my job. And I think there is a greater appreciation ...that time could be very well spent and there was real payback from that time. And actually ... they decided to carry on meeting for half a day every couple of months when we finished.

The IMT process was focussed at the team level, however teams identified **issues affecting their performance that arose from outside the team**, and was therefore outside the scope of influence of the IMT.

The issue that I think was fundamental to our team was where is the locus of change. Influencing individuals and influencing teams and influencing team leadership and influencing the manager and if individuals within the team want to change but there's external pressures that are opposing those changes then it's very difficult to do that despite the best will in the team and so it's very demoralising and it makes it very hard to do it. And I think that was one of the tensions with the teams. For instance, there was quite strong will for them to find their referral criteria. There was big opposition from outside the team to them doing that and also constantly changing policy directives to putting pressures on.

5.4.5 Impact of the IMT - Team feedback reports

We received 488 completed feedback forms from the events. In addition to their feedback on the usefulness and challenges associated with the project, respondents were also asked specific questions about understanding change processes, improved clarity of direction and the benefits of facilitation. This section presents the main themes that emerged from responses to these questions and explores the key underlying concepts, which were raised by respondents.

The list below outlines the key themes that emerged from the analysis of responses to these questions, and these themes are explored in greater detail in this section.

- Improved communication
- Enhanced teamwork
- Better integration of teams

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

- Changed team culture
- Understand team boundaries
- Better appreciation of others' roles and responsibilities in the team
- Team reflection and development
- Better integrated team member
- Focus on goals and outcomes
- Understanding wider service and organisational considerations
- Improved reputation of the team
- Understanding and valuing the change process
- Focus on positive changes
- Identifying issues and using action plans
- Wider understanding of leadership, and team members seeing themselves as leaders

Improved Communication

It helped communication within the team and helped everyday running of the team

Communication was a prominent component of the intervention, including using the events as an opportunity to address team communication problems. It is noteworthy that many teams cited team communication issues as difficulties that they might like to work towards improving, and this topic resulted in the greatest number of actions. Respondents found the SECs and TLSs to be forums where they felt comfortable discussing their thoughts and feelings, and listening to others.

Being able to discuss things as a team, also being able to have your opinion listened to

Participants reported that the structure of the events helped facilitate good communication, including allowing time to discuss separate issues in depth; the use of small groups; looking at issues from individual, team and world perspectives; promoting the mixing of different people and grades; confronting difficulties; treating everyone's contributions as valuable; and meeting in a neutral setting.

Splitting up into separate smaller groups enabled freedom to speak

It was useful to challenge processes already in place within the service, and to bring together a variety of grades to put forth their suggestions to improve different aspects of the service.

The team members valued knowing that they had similar views and feelings and having the opportunity to establish the extent of shared visions and goals.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Enhanced teamwork

I feel that the whole study and associated workshops have been very beneficial to the team in that it has encouraged us and made us make the time to bond more and make decisions as a team more.

Three key themes arose around team working. Firstly participants found that the events helped them to discover other colleagues' opinions about team working and reaffirm how well they work together as a team. They also found it useful to realise weaknesses of team working and issues that might be improved. Finally, the experience of attending the events, taking part in the exercises and discussing and working on the team action plans helped to developed team working knowledge and skills.

At the final SEC participants reported that involvement in the project had **changed the culture of the teams**. They had become **more integrated**, team dynamics had improved, they communicated better and had more mutual respect, and they were more reflective and found it easier to solve problems.

Allowed me to see how we work as a team and what needs to be worked on and how I could contribute.

It was enjoyable to work together and I feel it strengthened our team

Made aware of the team's dynamic approach to the actions

At the final SEC, teams reported that participation in the study had made their teams work in a **more interdisciplinary and better integrated fashion**. Participation in the study had helped them to 'bond', become more 'united', improve morale and work better as an interdisciplinary team. They also reported an improvement in communication and respect, becoming more reflective and finding it easier to solve problems.

More interdisciplinary in its working and ...a better understanding of each other's roles.

Communication and respect:

Have tried to sort out some fundamental issues around communication and respect which has had a positive effect on how the team works

Understanding roles and wider team issues

Teams obtained an **understanding of team boundaries, and individuals' perceptions of their role within the team**. They also understood the impact of decisions and communication from higher level management on team working.

Team members found the opportunity for reflection and team development useful. In particular, looking at the wider benefits and obtaining understanding of issues from all perspectives, and understanding each others' roles.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Being able to talk things through. Looking at the future and how we can work within the constraints

Encouraged me to again look at the team and how to reflect and consider each other's' role

Better integrated team member

Participants also gained personal benefit from the events including identifying personal development issues; exploring how individuals fit into the team and wider service (involvement, engagement, influence and integration); considering their role in change processes; reflecting on their feelings and attitudes; focusing on individual objectives; and identifying their strengths and weaknesses.

Make me think that the areas of my development that need attention, and how to obtain it; Identifying personal development opportunity which would also be valuable to the team; found the experience really useful as part of my CPD

Made me focus on my role - jobwise, team wise, as part of the wider NHS/community/service

While the majority of comments were very positive, two respondents indicated that they felt uncomfortable discussing personal development issues with their colleagues, and one respondent found the amount of problems others faced to be unwelcome news.

As a student it was disheartening in some ways to hear all the problems people working in my chosen profession face

Improved understanding of roles and responsibilities

Participants found it useful to reflect on various aspects of roles and responsibilities. They mentioned gaining **a better understanding of others' roles**, and clarifying their own role and responsibilities in the team. Some respondents also reported not only understanding but also gaining an appreciation or respect of other team members' roles and skills.

Improving knowledge of each other's roles; Appreciating work roles; All have differing skills which we can 'tap'' into to improve our own understanding

Understanding individual roles, feelings and views

Insight into processes of change was promoted through participants appreciating and incorporating other peoples' views, opinions, beliefs and feelings. There was a realisation that, although sometimes this might need further work, alternative perspectives can be combined into common goals and directions of change for the team. Respondents also appreciated that a better understanding of others' roles, the boundaries and potential for overlapping roles could improve their insight into

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

processes of change. There were also more individual characteristics that were brought to the fore during the events regarding peoples' personalities, expectations and ways of engaging with others.

Appreciating others' views:

Noted the importance of all individuals within the team; Differing views valued; Most of the team participate in decision process and all are respectful of one another's views; We all have a point of view, that can be brought together

Understanding roles:

How the team feel about their roles and how others feel about other roles; It has made me reflect more upon my role ... and the roles of others - thought about role overlap – blurring; Acceptance of overlapping boundaries

Individual characteristics:

Better insight into characters/personalities; Helped me to realise people have other interests that are helpful in our team to put into action; It made me aware of different peoples' expectations.

Understanding wider service and organisational considerations and implications for the team

Participants found it useful to consider the wider context in which the team was working. This was particularly important regarding the changes that were taking place in NHS and social care services during the project intervention. Other prominent themes were the usefulness of having the opportunity to consider how the service might be improved from the service-user's perspective and integration with other services and organisations.

At the end of the study it was reported that participation in the project enhanced the reputation of the team and gave them credence amongst other teams, external organisations, senior management and commissioners.

Wider context:

Understand how NHS/PCT will be in future; Highlighted the bigger picture and how positive we are about change; How the team is realising the 'threat' from the changes occurring outside of the PCT

Service-user's perspective:

Useful in how we can improve and take the service forward to improve the lives of the service users and their families

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Reputation:

Helps to give us credence being involved in research

Being involved in the project enhanced our reputation in PCT

Understanding and valuing change processes

Team members valued obtaining information about: the processes of change and developing a better understanding of change; realising that change is ongoing; appreciating the adaptability of their team; and understanding the importance of change and effective change management. In particular, they gained insights into the value of small and slow changes whilst understanding and incorporating others' views. They also recognised that change presents opportunities for service development, and the importance of being involved in those change processes.

Importance of, and opportunities for, ongoing change:

No matter what circumstances, some change is always possible and that can make you feel positive in itself; Confirmed the need for teams to be involved in the change process.

Awareness of change:

We are changing all the time naturally without realising it; It has made me realise that we are changing naturally and still feel positive and welcome change.

Adaptability of teams:

Allowing me to realise how adaptable to change our service/team is; That the team is strong enough and positive to adapt to future changes

Focus on goals and outcomes

Participants found it useful to receive the performance feedback from the research team (such as patient satisfaction survey findings), and also to engage with other team members in feeding back progress from the action plans and developing future plans.

Useful to see team performance from questionnaires

Putting things down on paper showed what we have achieved without realising

Opportunity to clarify what the team has achieved

Teams identified the lack of positive feedback regarding things the team does well and recognition of achievements. The events were opportunities for team members to directly address this issue.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Re-assures us that we are working well as a team

Allowed us to focus on positive as well as negative

Participants fed back that discussing and recapping their goals resulted in a clearer sense of direction, enabled the team to resolve issues and reach decisions, which helped the team to move forward. They also valued the approach in which all team members were able to contribute equally and feel valued.

Focus on positive changes

The time spent at the project events helped participants to focus on their actions and goals. The use of a 'workable' plan, which was broken down into tasks, was reported to be useful. Respondents also found the events useful to focus on achievements and future plans and to maintain the momentum of team development activities.

Good to focus again on a workable plan; Once tasks are broken down and discussed, initially may be time consuming ...but in the long term very beneficial

Feedback from the final SECs indicated that teams maintained this focus on positive change as it became a part of the culture of the teams.

Made us focus more on the outcomes of what we want to achieve and we need to celebrate what we do well and work together to improve other areas and grow

We have taken on board different ways of working… which have been beneficial as a team for expanding knowledge

Made us aware of future goals and how we need to 'sell our team' e.g. to acute hospital. More productive, encouraged reflection/self-worth

Identifying issues and using action plans

Participants noted that the process of identifying issues and developing detailed action plans gave them insight into processes of change, and this was enhanced by the ongoing process of reflection, reviewing actions and planning future changes.

It has allowed us to break down what needed to change and also highlights what is working and allows an action plan to be made

By looking at our original goal plan, we had achieved 90% of what we were aiming for, which showed that we are putting into plan changes for the future

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Respondents valued the action-planning component of the IMT, including: planning specific actions and meetings between the project events; setting goals together; and updating and amending action plans.

Useful to think about things as a team and decide priorities and goals together

As a result of the events, teams came away with a set of clear actions, although not all of these were achievable due to outside pressures. Teams valued establishing a clear action plan with timescales, and designating clear roles for people to help achieve these.

Clear plans:

Feels good to have clear objectives for next 6 months and the team feels like it's beginning to come together and improve efficiency

Designated people:

We have deadlines to work towards and know what each individual needs to achieve to meet them

Times for actions:

Goals achieved and deadlines set encouraging us as a team to move forward

Leadership

The events helped teams gain a better understanding of leadership and this in turn gave them insight into processes of change. The main themes that were mentioned were: understanding the specific and general difficulties of leadership (including various competing pressures); realising that leadership is a two way process which also requires effort on the part of 'followers'; understanding that everyone potentially takes on a leadership role during their day-to-day work; appreciating the importance of good leadership. Team leaders also found the process useful to see how the team members view their leadership.

Difficulties of leadership:

Understanding it must be difficult as the team consists of whole lot of different individuals from different backgrounds/professions and making decisions will not always agree with everyone's views
I can see the team leadership's hard; it is complex and challenging.

Wider involvement in leadership activities:

Realising that at times, we are leaders; I never thought of myself as leader before. I realised I do act as a leader in certain circumstances

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Importance of leadership:

Teams need a good leader to survive.

Team leader's perspective:

This has given me, good, useful insight into how my team perceives my leadership

5.4.6 Impact of the IMT - Quantitative findings

This section of the results explores the impact of the IMT implementation on the outcomes for staff, the patients and the teams using the following data sources;

Patient outcomes

1. Patient satisfaction data
2. Change in patient outcomes as measured by
    a. TOMs
    b. EQ-5D
    c. Length of stay

Staff outcomes

- Workforce dynamics questionnaire

5.4.7 Summary of outcomes for all teams

The majority of the patients returned or remained at home following their intermediate care episode (65%). A small proportion (8%) were transferred to an acute hospital before completing their episode of care. 4% of participants died on the scheme (

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 26).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 26 Outcome of episode of care

		Frequency	Valid %
Valid	Inappropriate referral	186	3.5
	Client refused, declined	145	2.8
	Referred to different service	98	1.9
	Required home care only	36	.7
	Own home	3374	64.0
	Relative's home	63	1.2
	Temporary residential or nursing home care	55	1.0
	Permanent residential or nursing home care	224	4.3
	Transferred to acute hospital	422	8.0
	Transferred to community hospital	24	.5
	Transferred to other intermediate care setting	25	.5
	Transferred to temporary residential/nursing home care	29	.6
	Patient/user died	214	4.1
	Other not accepted onto scheme	108	2.1
	Other discharge place	49	.9
	Transferred to another setting	63	1.2
	Other outcome not covered above	152	2.9
	Total	5268	100.0
Missing	System	947	
Total		6215	

Table 27 shows the outcomes by team. Team Q had the highest rate of patients returning home (89%), whereas team U had the lowest rate of return home at 53%. Team PB had the highest rate of hospital readmissions at 21%, reflecting their ward-based proximity. Team G had the highest proportion of patients die while on the scheme, at 6.4%.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 27 Outcome of episode of care by team

			inappropriate referral	Own home	Nursing home care	Acute hospital	Died	
TEAM ID	b	Count	15	219	1	15	2	281
		%	5.3%	77.9%	.4%	5.3%	.7%	100.0%
	d	Count	38	172	13	16	11	319
		%	11.9%	53.9%	4.1%	5.0%	3.4%	100.0%
	do	Count	18	122	5	7	3	192
		%	9.4%	63.5%	2.6%	3.6%	1.6%	100.0%
	e	Count	18	250	21	26	14	426
		%	4.2%	58.7%	4.9%	6.1%	3.3%	100.0%
	f	Count	0	116	3	17	3	162
		%	.0%	71.6%	1.9%	10.5%	1.9%	100.0%
	g	Count	35	818	78	123	85	1320
		%	2.7%	62.0%	5.9%	9.3%	6.4%	100.0%
	h	Count	18	583	55	73	51	934
		%	1.9%	62.4%	5.9%	7.8%	5.5%	100.0%
	i	Count	18	493	35	61	40	764
		%	2.4%	64.5%	4.6%	8.0%	5.2%	100.0%
	pb	Count	0	72	6	24	0	112
		%	.0%	64.3%	5.4%	21.4%	.0%	100.0%
	q	Count	0	143	0	8	0	160
		%	.0%	89.4%	.0%	5.0%	.0%	100.0%
	r	Count	15	290	1	40	2	415
		%	3.6%	69.9%	.2%	9.6%	.5%	100.0%
	u	Count	11	96	6	12	3	183
		%	6.0%	52.5%	3.3%	6.6%	1.6%	100.0%
Total		Count	186	3374	224	422	214	5268
		% ID	3.5%	64.0%	4.3%	8.0%	4.1%	100.0%

Patient satisfaction

The patient satisfaction findings are summarised below, and compared by team in the following table. Overall, teams scored consistently well on all but three questions, however there were some differences between team scores for all questions, with the exception of question 10 (I felt as a safe receiving treatment at home/the residential home as in the hospital), which showed no variation between teams ($F(12, 1220) = 0.980$ $p=0.466$). Greatest variation was seen in questions 4 (The team gave me information about my condition when I needed it), scores ranged from 3.69 – 4.47 ($F(12, 1190) = 3.861$, $p=0.000$); question 7 (I had problems getting pain relief when I needed it) ($F(12, 859) = 3.098$, $p=0.000$).

The overall poorest outcomes were seen for question 7 (pain relief), with a mean score of 2.30. The other questions to score consistently lower scores was question 8 (While on the scheme I received care from the doctor whenever I needed it),

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

with a mean score of 3.83; and the care I received after discharge was well-coordinated (mean 3.92).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 28 Patient Satisfaction Results – all teams

		Mean	N	Std. Deviation
1	My admission to the service was very efficient	4.35	1209	.704
2	The staff were very careful to check everything when I was admitted to their care/the service	4.38	1212	.657
3	The admission fitted in with my home arrangements	4.31	1197	.689
4	The team gave me all the information I wanted about my condition	4.14	1203	.796
5	The team gave me all the information I wanted about the care I was receiving	4.29	1197	.676
6	While on the scheme I received care whenever I needed it	4.23	1182	.780
7	I had problems getting pain relief when I needed it	2.30	872	1.217
8	While on the scheme I received care from the doctor whenever I needed it	3.83	1092	.938
9	I had all the facilities necessary to care for me	4.24	1193	.708
10	I felt as a safe receiving treatment at home/the residential home as in the hospital	4.36	1133	1.462
11	The team did their best to help me become more independent	4.42	1171	.640
12	I felt able to talk to the team about any problems or worries I had	4.35	1169	.686
13	Sometimes visits from the teams disrupted my home arrangements	2.01	1133	.934
14	The staff always had time for me	4.37	1177	.673
15	I have been treated with kindness, respect and dignity by the staff from the service	4.56	1190	.575
16	The staff worked together and knew what each other was doing	4.27	1179	.723
17	I was well prepared for my discharge from the service	4.11	1144	.801
18	My discharge from the service was too early	2.19	1128	.982
19	The care I received after discharge was well co-ordinated	3.92	1046	.837
20	The team did everything they could to make me well again	4.36	1179	.663

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

21	The care I received on the scheme was just about perfect	4.14	1181	.756
22	There are some things the team could have done better	2.28	1163	1.035
23	I'm happy with the amount of recovery I made while on the service	4.18	1182	.781

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 29 Mean patient satisfaction scores by team

Question	b (n=195)	d (n=92)	do (n=30)	e (n=100)	f (n=48)	g (n=193)	h (n=95)	i (n=106)	pb (n=90)	q (n=54)	r (n=115)	u (n=53)	Total (n=1212)
1	4.50	4.39	4.27	4.23	4.23	4.22	4.29	4.29	4.44	4.42	4.47	4.40	4.35
2	4.49	4.30	4.27	4.17	4.06	4.35	4.42	4.37	4.63	4.39	4.48	4.34	4.38
3	4.42	4.21	4.23	4.14	4.10	4.27	4.32	4.42	4.43	4.23	4.41	4.36	4.31
4	4.22	4.11	4.20	3.94	3.69	4.12	4.26	4.20	4.47	4.06	4.18	4.04	4.14
5	4.41	4.29	4.23	4.05	3.98	4.25	4.31	4.30	4.52	4.37	4.38	4.23	4.29
6	4.32	4.21	4.20	4.18	4.00	4.04	4.13	4.29	4.61	4.28	4.36	4.08	4.23
7	2.23	2.54	2.83	2.28	2.26	2.48	2.42	2.44	1.70	2.59	2.23	2.14	2.30
8	3.84	3.83	3.40	3.74	3.45	3.77	3.81	3.76	4.14	3.67	3.88	4.06	3.83
9	4.35	4.20	3.97	4.10	3.90	4.08	4.20	4.29	4.62	4.19	4.38	4.21	4.24
10	4.39	4.20	4.22	4.20	4.31	4.30	4.22	4.42	4.59	4.28	4.68	4.29	4.36
11	4.54	4.46	4.47	4.27	4.06	4.29	4.40	4.47	4.69	4.46	4.53	4.26	4.42
12	4.42	4.42	4.47	4.23	4.00	4.27	4.35	4.45	4.54	4.37	4.50	4.20	4.35
13	2.03	1.80	1.76	2.06	1.98	2.01	1.97	1.89	1.77	2.19	2.03	2.46	2.01
14	4.41	4.45	4.53	4.27	4.02	4.28	4.45	4.39	4.63	4.41	4.47	4.14	4.37
15	4.65	4.62	4.53	4.44	4.18	4.52	4.61	4.56	4.69	4.70	4.65	4.43	4.56
16	4.37	4.29	4.30	4.17	4.08	4.16	4.25	4.35	4.63	4.37	4.38	3.94	4.27
17	4.20	4.25	3.89	4.09	3.80	3.88	4.09	4.10	4.55	4.32	4.08	4.00	4.11
18	2.13	2.20	2.29	2.18	2.38	2.42	2.25	2.16	1.90	1.88	2.20	2.22	2.19
19	4.01	3.91	3.78	4.00	3.82	3.67	3.92	3.89	4.15	4.02	3.98	3.96	3.92
20	4.46	4.37	4.21	4.24	4.14	4.16	4.44	4.36	4.62	4.37	4.50	4.25	4.36
21	4.22	4.16	3.86	3.97	3.98	4.02	4.20	4.25	4.52	4.06	4.26	4.04	4.14
22	2.16	2.25	2.31	2.40	2.48	2.34	2.30	2.16	1.83	2.29	2.10	2.82	2.28
23	4.27	4.08	4.14	3.97	4.08	3.97	4.31	4.25	4.54	4.15	4.29	4.15	4.18

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Change in patient outcomes: EQ-5D

Across all teams, on average, there was an improvement in all domains of TOMs and the EQ-5D, while the overall average length of stay was 41.8 (Table 30), although as Table 31 illustrates, there were large variations between teams.

Table 30 Mean change scores in TOMs, EQ-5D and Length of Stay across all teams.

	N	Minimum	Maximum	Mean	Std. Deviation
Change in TOMS Impairment	3777	-5.0	4.0	0.5	0.7
Change in TOMS Activity	3775	-5.0	4.0	0.5	0.7
Change in TOMS Participation	3776	-5.0	4.0	0.4	0.7
Change in TOMS Wellbeing	3766	-5.0	4.5	0.3	0.6
EQ_5D_CHANGE	3323	-118.9	124.1	18.1	27.9
Length of Stay	6006	-362.0	706.0	41.8	48.7

The following Figures (16-20) show the variation in EQ-5D change scores across all teams. Most teams have a mean change in EQ-5D score of between 15 and 25 points, with the exception of team PB, which saw a mean overall improvement of nearly 40 points (it should be pointed out that Team PB admits more dependent patients, which gives them greater potential for improvement) (Table 31). Similar patterns of improvement are seen across the TOMs domains.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 31 Changes in EQ-5D, TOMS and length of stay by team.

TEAM ID		EQ_5D	Length of Stay	TOMS Impairment	TOMS Activity	TOMS Participation	TOMS Wellbeing
b	Mean (SD)	22.3 (28.9)	27.9 (22.7)	0.7 (0.9)	0.7 (0.8)	0.5 (0.9)	0.4 (0.8)
	N	285	321	227	228	227	227
d	Mean	19.5 (26.9)	40.8(48.2)	0.6(0.6)	0.6(0.6)	0.5(0.6)	0.4(0.6)
	N	200	330	207	207	207	207
do	Mean	13.9(24.8)	128.1(98.6)	0.3(0.7)	0.3(0.8)	0.2(0.7)	0.2(0.8)
	N	121	247	122	122	122	122
e	Mean	18.9(28.4)	44.5(48.0)	0.5(0.6)	0.5(0.6)	0.4(0.7)	0.4(0.7)
	N	317	436	353	353	353	353
f	Mean	28.9(29.9)	37.1(33.9)	0.4(0.5)	0.6(0.5)	0.5(0.6)	0.4(0.6)
	N	133	166	136	136	136	136
g	Mean	13.5(27.0)	38.3(44.2)	0.3(0.5)	0.3(0.5)	0.3(0.5)	0.2(0.5)
	N	729	1481	893	893	893	891
h	Mean	15.0(24.5)	40.2(39.9)	0.4(0.6)	0.3(0.6)	0.2(0.5)	0.2(0.5)
	N	470	1067	641	640	641	636
i	Mean	15.4(24.5)	47.7(48.1)	0.4(0.6)	0.5(0.7)	0.4(0.6)	0.3(0.6)
	N	425	888	485	483	485	482
pb	Mean	39.8(35.4)	39.6(28.6)	1.3(1.0)	1.2(0.9)	1.1(0.9)	0.9(1.0)
	N	79	116	103	103	103	103
q	Mean	12.4(24.6)	42.9(23.4)	0.3(0.5)	0.5(0.7)	0.4(0.7)	0.4(0.7)
	N	147	173	159	159	159	159
r	Mean	25.0(29.5)	22.0(29.3)	0.6(0.7)	0.7(0.8)	0.5(0.8)	0.3(0.7)
	N	298	597	327	327	326	326
u	Mean	22.2(34.0)	23.4(27.7)	0.6(0.7)	0.7(0.9)	0.7(0.9)	0.6(0.7)
	N	119	184	124	124	124	124
Total	Mean	18.1 (27.9	41.8 (48.7)	0.5 (0.7)	0.5 (0.7)	0.4 (0.7)	0.3 (0.6)
	N	3323	6006	3777	3775	3776	3766

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 16 Variations in changes in EQ-5D outcomes between teams

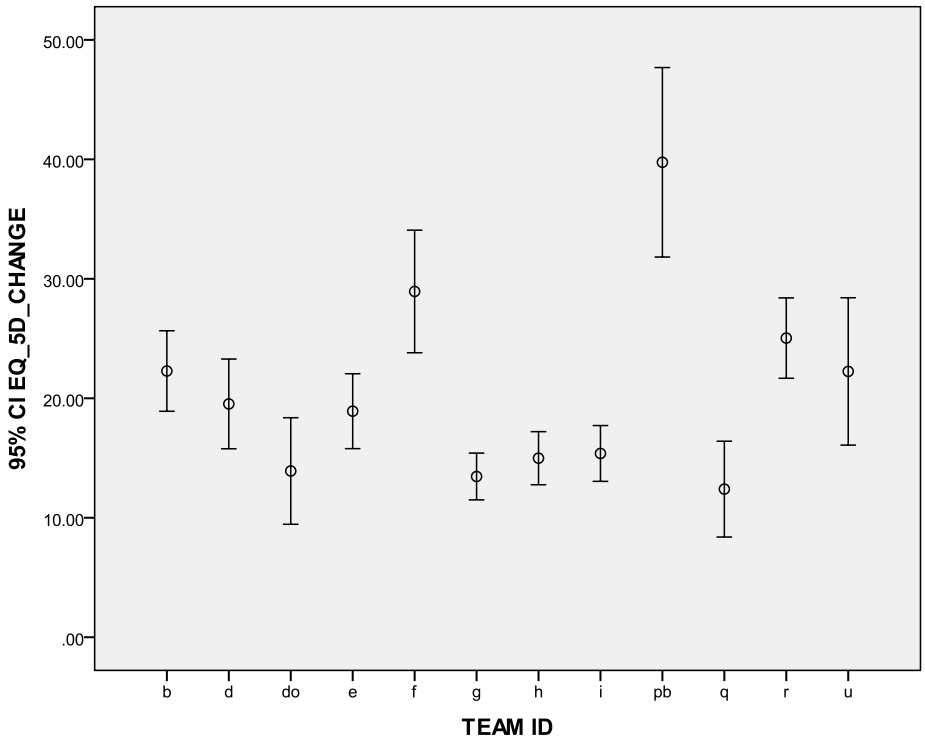
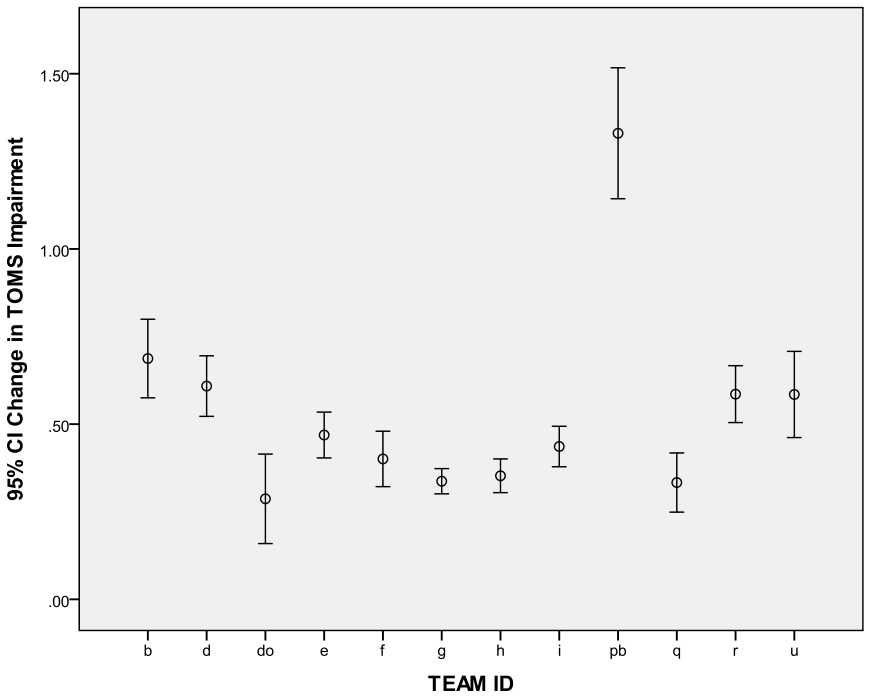


Figure 17 Change in TOMS impairment scores across all teams



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 18 Change in TOMS Participation scores across all teams

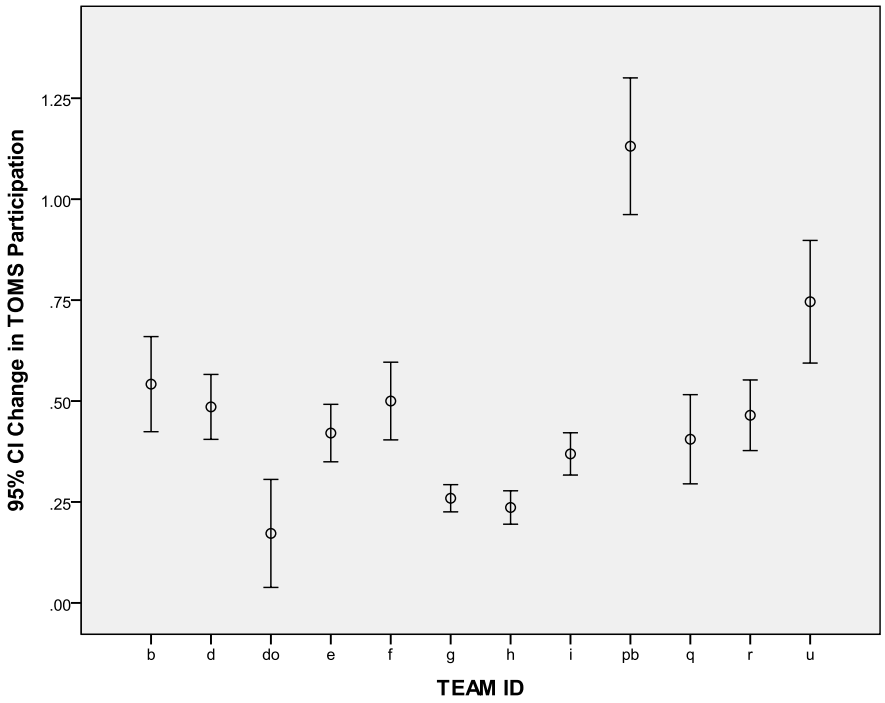
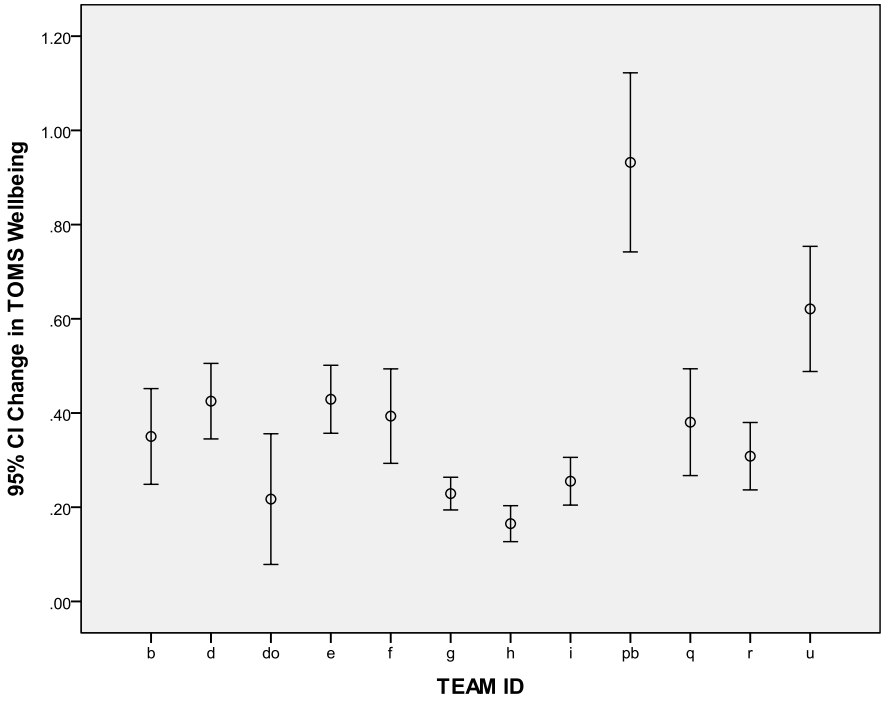
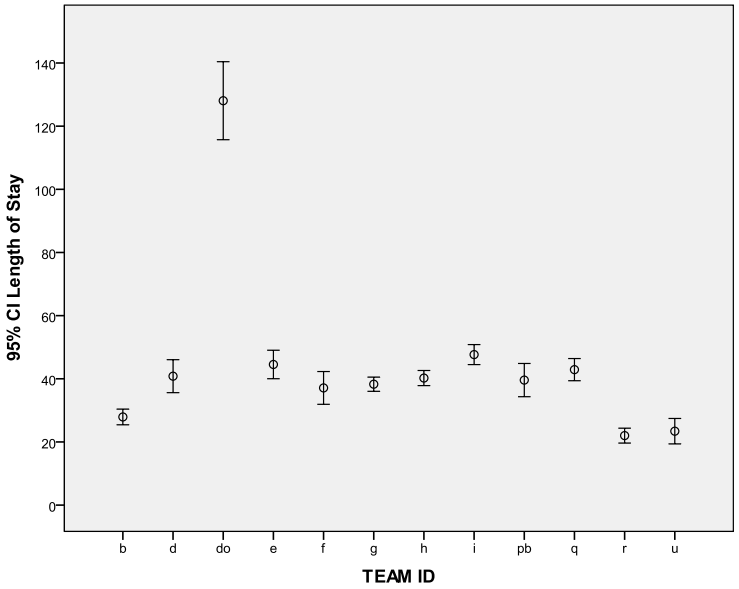


Figure 19 Change in TOMS Wellbeing scores across all teams



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 20 Variations in Length of Stay by team



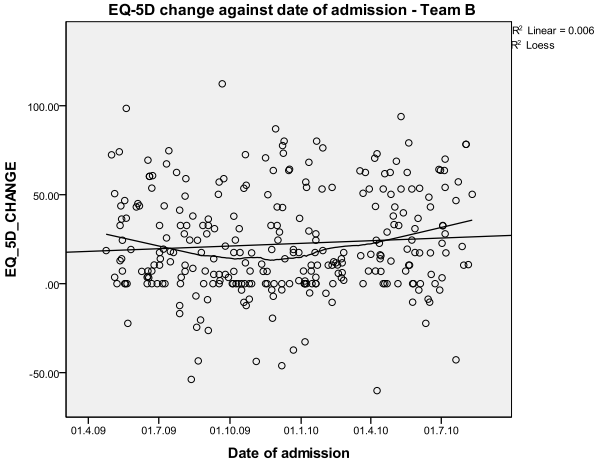
Change in patient outcomes over time

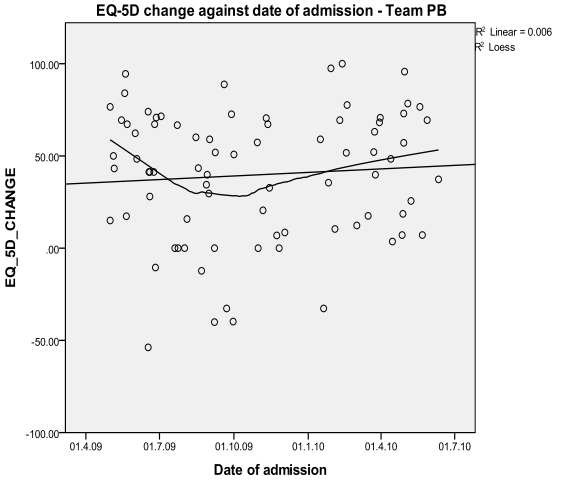
We collected outcomes data from each team for 3 months prior to the implementation of the IMT, during the IMT implementation, and then for 3 months following the intervention. As a result, we would expect to see any changes resulting from the IMT implementation arising after the first three months of data collection. As the diagrams below illustrate, there were large variations in the patterns of outcome changes across teams.

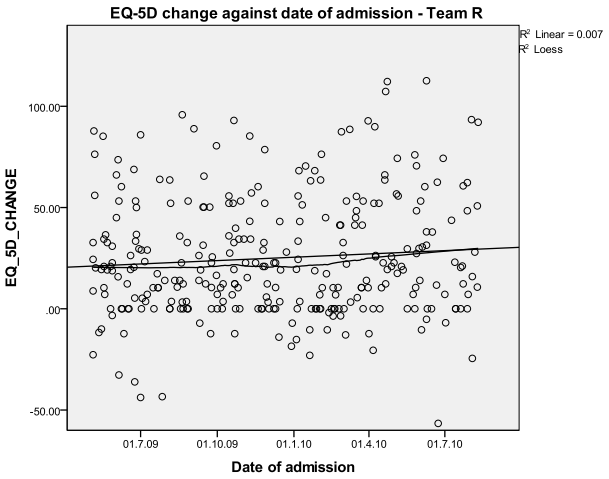
The Figures below (Figure 21) plot the change in EQ-5D scores for each patient against the date of admission, for each team. The Loess curve plots a smooth curve through a set of data points, in this case the curve uses 50% of the data to fit each point. Each team demonstrates quite different patterns of data. Teams B, PB, R and DO show an overall improvement in change in EQ-5D scores over the life of the project, however teams PB and B exhibit probably the 'ideal' shape for this type of intervention, showing an initial decline in the change in outcomes before the intervention date, followed by a sharp improvement in the change in outcomes. Team R shows a general, slight upward trend, while Team DO improves overall, but has a hump in the middle, followed by a plateau after the intervention has ceased. The remaining teams show either no overall change in patient outcomes over the life of the project, or an overall decline in scores.

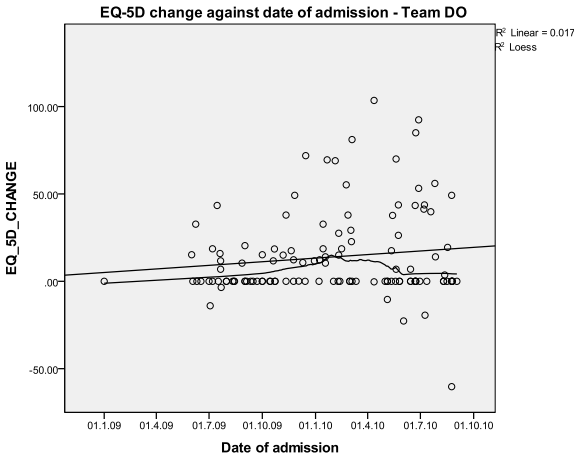
© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

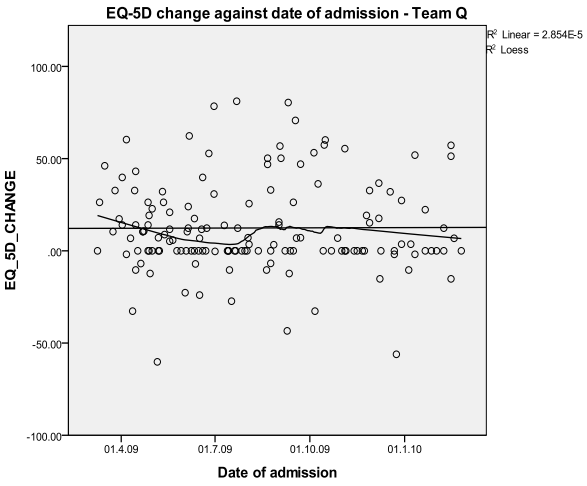
Figure 21 Loess Curves of Change in EQ-5D score against date of admission for each team

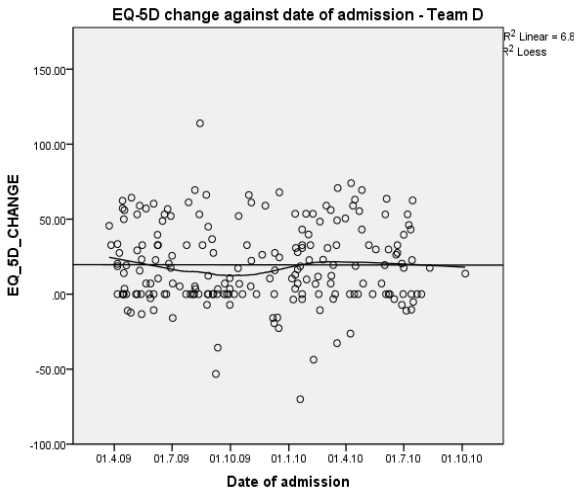




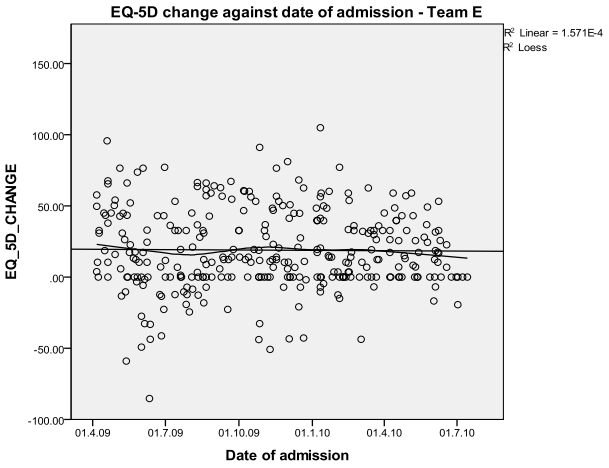


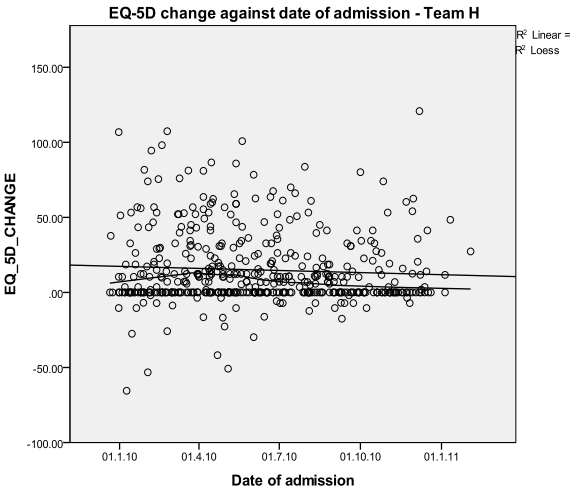


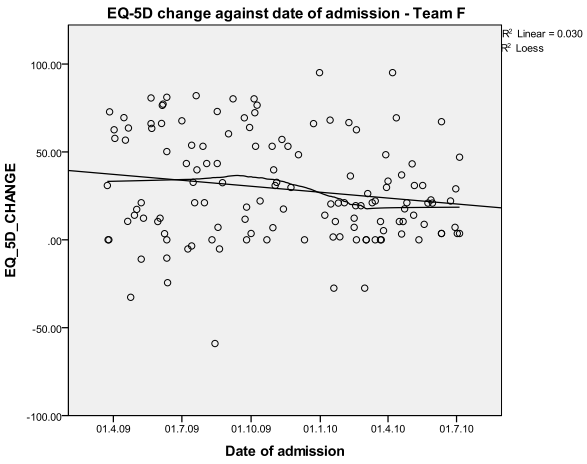


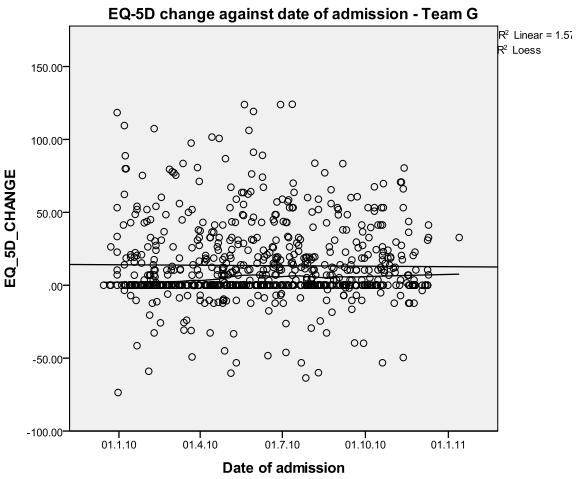


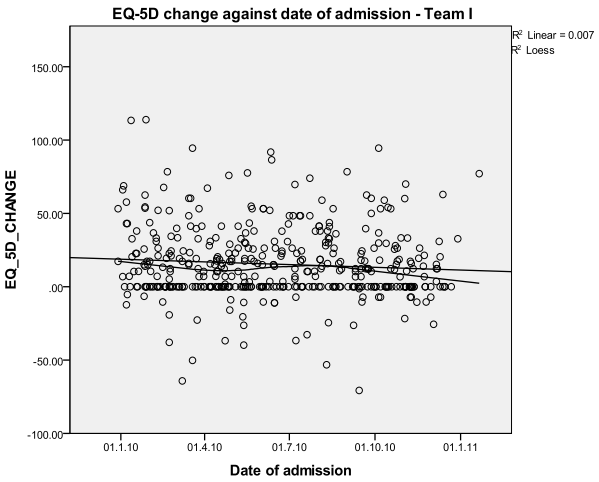
© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

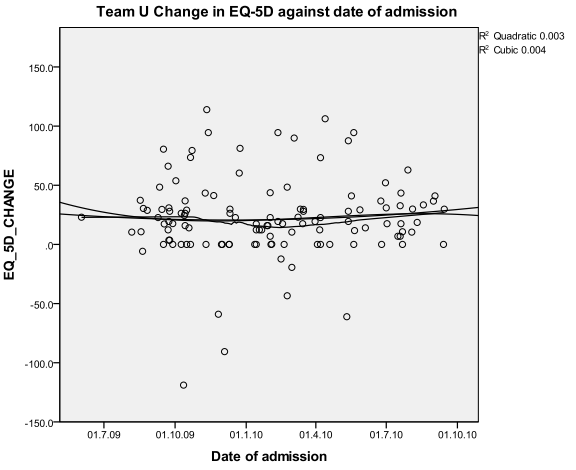












© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.4.9 The patient characteristics and outcomes (TOMs, EQ-5D)

We explored the impact of a range of patient characteristics on patient outcomes. The patient outcomes investigated were the changes in EQ-5D and TOMs (impairment, activity, participation and wellbeing) scores.

Additional covariates for patient outcomes

The following patient baseline characteristics were also evaluated:

- Age
- Gender
- Where the patient is receiving care (home, in-patient, other)

Patient outcomes – EQ-5D, TOMS

On univariate analyses, the following characteristics were associated with change in EQ-5D and TOMS:

Team characteristics:

Patient characteristics at admission: level of care need at admission (not a straightforward relationship: on average, larger improvements were seen in patients around the centre of the 9-point scale), location where the patient receives care (non-home based)

Patient characteristics post-baseline: number of different staff types seen

Two further characteristics were associated with all outcomes. Female patients showed greater change in TOMS score for wellbeing, activity, impairment and EQ-5D than their male counterparts.

For the multivariate modelling, we therefore included all patient characteristics (age, gender, level of care need at admission).

On multivariate analysis, several factors are associated with changes in outcomes (see tables below).

Location of care provision did not make a difference to outcomes. However, level of care at admission was associated with statistically significant differences in the amount of EQ-5D change. For instance, relative to receiving no care, patients admitted with a baseline level of care of 3 had a 15 point improvement.

A similar pattern was seen for the TOMs domains. Gender also played a role in determining outcomes for TOMs Activity, with females improving marginally more than males (by 0.09) over the duration of the admission.

However, when examining change in TOMs participation, 'other locations of care' is significantly different to inpatient and home based care.

Change in TOMs wellbeing is also influenced by gender (females improve more). Age is also significant, however this has only a small effect.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Only the factors associated with the change in EQ-5D and TOMs impairment are illustrated in detail below. (Table 32 and 33)

Table 32 Factors associated with EQ-5D change

	Coefficient	Lower 95% CI	Upper 95% CI	p-value
Patient characteristics				
Level of care at admission				0.000*
Level 1 v level 0	9.057	5.504	12.647	
Level 2 v level 0	11.831	-4.883	28.546	
Level 3 v level 0	15.202	8.402	22.003	
Level 4 v level 0	17.939	12.618	23.261	
Level 5 v level 0	24.396	17.386	31.407	
Level 6 v level 0	12.057	4.164	19.949	
Level 7 v level 0	25.915	7.206	44.623	
Level 8 v level 0	21.088	7.964	34.211	
Age (per additional 10 years)	-0.019	-0.096	0.058	0.601
Gender: females v males	2.382	-0.661	5.425	0.113
Where receiving care				0.145*
Other v home care	-3.540	-7.730	0.650	
In-care v home care	4.486	-3.554	12.527	
Constant	2.690	-4.550	9.930	0.431

Table 33 Factors associated with change in TOMS impairment

	Coefficient	Lower 95% CI	Upper 95% CI	p-value
Patient characteristics				
Level of care at admission				0.000*
Level 1 v level 0	0.226	0.144	0.308	
Level 2 v level 0	0.514	0.060	0.967	
Level 3 v level 0	0.412	0.340	0.484	
Level 4 v level 0	0.521	0.437	0.606	
Level 5 v level 0	0.460	0.224	0.696	
Level 6 v level 0	0.196	0.080	0.311	
Level 7 v level 0	0.412	0.112	0.712	
Level 8 v level 0	0.374	0.148	0.599	
Age (per additional 10 years)	-0.001	-0.003	0.001	
Gender: females v males	0.055	-0.017	0.128	0.122
Where receiving care				0.448*
In-care v home care	0.162	-0.125	0.449	
Other v home care	0.008	-0.080	0.065	
Constant	0.0900	-0.0944	0.275	0.306

*global test

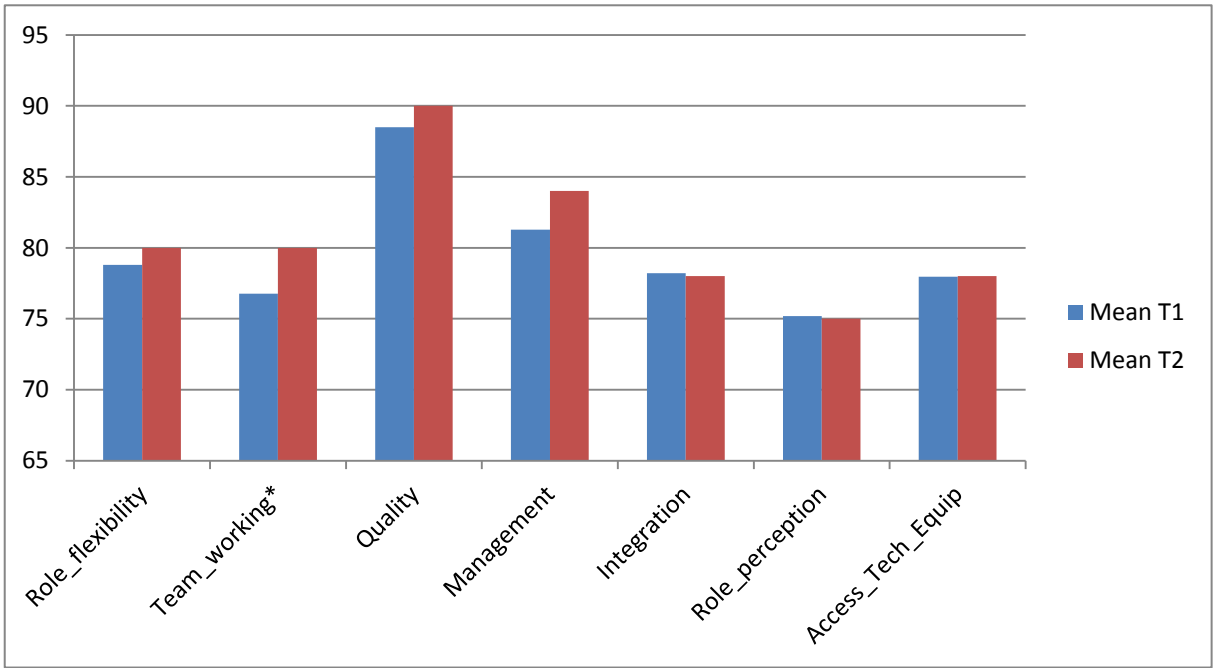
© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.4.10 Staff outcomes

Individual members of participating teams were asked to complete the workforce dynamics questionnaire at two time points: before the IMT intervention started and after it finished. The aim was to measure whether participating in the IMT intervention had any effect on workforce dynamics. One of the key aims of the IMT intervention is to improve workforce dynamics within participating teams. The workforce dynamics questionnaire was chosen to attempt to measure any changes that the IMT intervention facilitated.

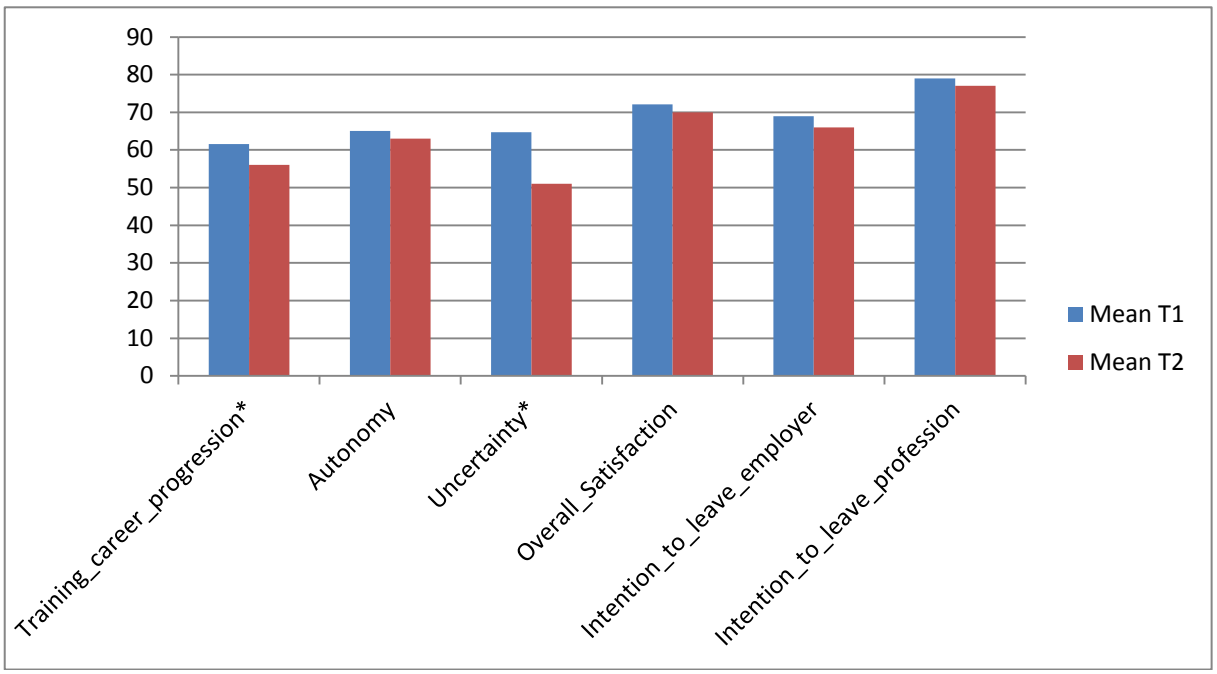
The overall results of the Workforce Dynamics Questionnaire for staff from the teams are presented in the figures below (22 and23). There is evidence of improvement against several of the domains of team working, including role flexibility, team working, quality and management. There was no change in scores of integration, role perception and access to technology and equipment (student t test for matched pairs, 2 –way). However, the only statistically significant finding was for the domain of team working, which improved on average across all teams (mean T1 = 76.8 (SD15.7), mean T2 = 80.5 (SD= 13.6), in addition, there was a difference between the increases experienced by the teams (F(20, 281)= 3.43, p=0.00), with teams B and E experiencing the greatest improvements in team working scores

Figure 22 Change in WDQ scores, all teams for team outcomes (n=84)



© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Figure 23 Change in WDQ scores, all teams for staff outcomes (n=84)



Several areas of staff outcomes showed change, but only statistically significant declines were seen in training and career progression opportunities and uncertainty. Uncertainty mean T1 = 64.7 (SD15-8), uncertainty mean T2 = 50.8 (SD = 16.6). Training and career progression opportunities T1 mean = 61.6 (SD17.2), mean T2= 55.7 (SD16.5).

Team U saw the greatest decline in uncertainty

The WDQ scores for all teams at baseline and follow up are summarised in the table below.

The domains that were more likely to improve across teams (but not necessarily reaching statistical significance) were Management (6 teams improved) and Team perception of quality (6 teams improved). Access to technology and equipment and team working improved in 5 teams. Uncertainty improved in only one team.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 34 WDQ scores for all teams at T1 and T2. Highlighted scores demonstrate improvement

Team	b	d	do	e	f	my	pb	q	r	u
Autonomy	71	68	58	67	58	65	60	68	60	78
Autonomy T2	66	63	60	66	64	70		64	58	70
Role perception	66	80	77	80	80	76	76	76	69	86
Role perception T2	68	79	78	80	80	75		75	71	78
Role flexibility	77	79	79	81	79	78	72	85	78	90
Role flexibility T2	80	79	82	83	75	74		83	81	82
Integration	68	78	69	74	90	80	87	82	76	72
Integration T2	69	80	83	70	87	76		84	74	76
Team working	63	82	73	80	89	78	78	83	70	85
Team working T2	74	80	84	86	87	78		86	75	85
Management	78	76	75	84	91	82	87	88	74	89
Management T2	74	73	90	87	91	87		92	81	93
Access To Tech Equip	79	76	78	72	75	76	84	78	77	90
Access To Tech EquipT2	84	73	82	68	76	80		80	78	82
Training & career progression	48	62	61	55	80	63	69	60	58	71
Training & career progression T2	50	57	56	60	61	62		55	54	54
Quality	90	91	86	84	95	85	93	87	85	97
Quality T2	93	92	92	89	94	73		92	88	94

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Uncertainty	59	61	69	70	66	62	74	61	64	73
Uncertainty T2	49	52	52	62	50	64		47	47	39
Overall Satisfaction	66	78	73	76	77	69	74	77	65	84
Overall Satisfaction T2	63	75	71	80	69	70		73	61	71
Intent to leave employer	50	20	30	20	30	30	20	20	50	10
Intent to leave employer T2	40	40	40	20	20	20		30	40	40
Intent to leave profession	30	10	30	20	20	20	20	20	30	10
Intent to leave professionT2	30	20	20	20	20	20		30	20	20

5.4.11 Synthesis of the Impact of the IMT

Table 35 summarises the findings from each of the difference data sources pertaining to the impact of the IMT. Overall, the IMT was seen to positively influence team communication, integration, leadership, personal development, focus on goals and outcomes, team working, team clarity, team reputation and team understanding of the change processes. The negative aspects of involvement were the time taken away from patient care and the time required to complete the documentation; lack of goal completion by teams, and the uncertainty affecting team direction and morale.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 35 Overview of the impact of IMT

Themes	Interviews	Facilitator Focus Groups	Team feedback reports	Quantitative findings
Positive				
Communication	Improved team communication		Improved communication	
Integration	Enhanced team integration	Integrate more effectively		Integration scores declined slightly overall only 3 teams improved
Leadership	Improvements in leadership		Wider understanding of leadership, and team members seeing themselves as leaders	Management scores improved for 6 teams (NS)
Personal development		Become better team participants	Better integrated team member	Role flexibility improved in 3 teams
Focus on goals and outcomes	Greater focus on goals and outcomes		Focus on positive changes/ focus on goals and outcomes / Identifying issues and using action plans	Team's perception of quality improved in 6 teams
Improved team working	Improved interdisciplinary team working practices	Reshape the way that they worked	Team reflection and development / Better Changed team culture integration of teams / Enhanced teamwork	Improved team working scores (5 teams)
Role clarity		Clarify their roles	Better appreciation of others' roles and responsibilities in the team / better understanding of team boundaries	Role perception improved in 3 teams
Team reputation			Improved reputation of the team	
Understand change processes			Understanding of managing change	

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Negative				
Time / resource implications	Burden of data collection on teams involved in the project			
Time away from patient care	Diverting practitioner time away from direct patient care	Difficulty finding time for team development	Time away from clinical contact	
Lack of completion of goals	Lack of completion of actions or goals			
Uncertainty		Tensions associated with the changing context which was beyond the influence of the team	Wider service and organisational considerations	Declined in all but one team.
Sustainability	Teams were uncertain about sustainability of IMT approach would be following completion of the project			
Basking in own glory		Teams basking in their own glory		

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

5.5 Processes of implementation of the IMT

This section reports on the teams' perspectives of the processes of implementing the IMT to provide practical guidance into its development. Feedback about the processes of implementing the IMT were derived from the following data sources:

1. Facilitator focus group
2. Interviews with participants
3. Participant feedback forms.

The key considerations arising around the implementation of the IMT were:

- Ensuring the team members are appropriately prepared for the events
- Ensuring the appropriate team size and composition
- Appropriate venue, close to work place
- The need to consider the stage of team maturity
- Contextual factors which will impact on the ability of the team to change
- Optimising the event structure and delivery
- Ensuring team participation and agreement
- Providing feedback to the teams on their progress
- Encouraging teams to value having time together to discuss issues
- Timing issues – i.e. issues only being identified towards the end of the project
- Awareness of the teams' motivations for being involved, and how this influences outcomes
- Prioritising actions
- Variability between teams, and the need to adapt accordingly
- Benefits of having a facilitator
- Benefits of using a structured facilitation process
- Mandate of the facilitator
- Considering challenges
- Outcome measures

Preparing the team members for the event

Some teams felt poorly prepared for involvement in the IMT. This was despite meetings with the teams before the start of the study to discuss what participation would involve, and an information sheet sent to all members of staff describing the various aspects of the study. Often these efforts to communicate details of the project to team members were superseded by inaccurate information given by senior members of staff who had not fully understood the process. Had they been better prepared beforehand (by our team), the more pertinent issues may have arisen earlier.

[Facilitator focus group 20:8] Looking back on it, I was faced with a group of people saying well we're here but we don't know what we're going to do and it's

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

completely unknown. Whereas you say in a normal work environment you go with a briefing, something to do on the train on the way there.

These perceptions were reiterated in the participant feedback. In particular, some participants did not feel that they were adequately briefed about the purpose of the events or the research.

[Participant Feedback Form] I was under the impression we were learning about outcomes of Sheffield research; we were not informed that it was a teambuilding day, which questions the importance of communication; we were not briefed as to the purpose of the day.

Team size and composition

It is important to construct the facilitation team so that everyone is represented. The IMT process relies on trying to obtain consensus around key issues, which can be difficult if the team is large, or if there is not complete representation from all team members.

Facilitators felt that the optimum size for performing the facilitated groups is about 10 participants. This is sufficient to enable division into smaller groups, but is comfortable for sharing thoughts in a larger group. Two teams had around 20 participants, and the facilitators felt that this was too large.

Not all team members need to be present, but it is important to include people who represent the key issues and key stakeholders within the groups. For instance, some teams did not include 'lower' hierarchy workers in the IMT process, despite several of the issues concerning these workers.

There were several practical barriers to team participation. For instance, teams who provide 24-hour care often have a highly casual workforce who, in many cases won't know each other, creating issues for team dynamics. This also presents practical issues around attendance.

Some teams expressed difficulties in clearly defining who the 'team' actually is due either to the team being relatively newly formed, having a lack of identity, or being a 'virtual' rather than a real team.

[Facilitator focus group] What's happened in certain trusts is that people have gone round with a piece of paper and found everybody that's been involved with working with stroke patients and made a list and wrote at the top of the list, 'stroke team'. So, you know and that solves a bureaucratic imperative, but in any sense of the word that is not a team.

FFG 29:3 I had a really interesting experience with one of the teams, the exercise could you line up the amount of time you've been in the team with the longest serving at that end and the new arrivals at the other end and they all stood around and said 'what team?. Did you mean the previous team we were in, did you mean the neuro team, I'm not actually in this team, I work across all the teams. And I've only just come into this team because I was irritated with the other team' They had absolutely no sense of identity.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The involvement of managers in the IMT process needs careful consideration because in some cases they were seen as an intrusion on the team processes.

[Facilitator focus group 23:4] I think it's very interesting having the team leaders there in the sessions. It can be quite a dominating force sometimes, trying to take control of the direction of the conversation and rule things out that they don't want to happen, you know there can be a lot of that going on which is quite at odds with the actual process that we're trying to engage with. So yeah, there's been quite a big range of involvement of team leaders in the actual events. You know, some of them have been quite supportive and standing back and being engaged in the process in the same way that we're trying to influence it. And others that have been more resistant and trying to take control of it and trying to use the process for their own agendas, that's been an issue in some of the teams.

Participants should have been recruited and consented into the IMT process individually (i.e. not nominated by their managers), but in several cases, they had a 'one-line-whip' to attend by the manager, which meant that there was not complete buy-in from the participants.

Venue

The venue was an important practical consideration for the teams. Facilitators specified that the room should be large enough to accommodate the team, but not be so big that the team does not have to interact with each other. The venue needed to be accessible to team members, particularly those who needed to return to clinical work. If the team were planning to undertake several meetings, the cost of the venue needed to be considered. Additionally, the timing of meetings needs to take account of the requirements of team members.

[Participant feedback form] Location not great - too far from workplace. Timing not good - too near Xmas! ...room was cold. Doesn't facilitate active participation.

However team members valued having time away from their normal base.

[Participant feedback form] Good having time out as a team: very useful to have "time out" away from working environment.

The stage of team maturity

The extent of team maturity and the length of involvement of staff was a consideration in the facilitation process. There was occasionally friction between teams with more established (older) members, and new members, however the facilitation process ensured that they all had a voice, and the 'new' ideas of the newer participants was able to be heard.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

[Facilitator focus group 15: 8] I think some of the teams I've worked with have worked really well. I think you'd expect them to be perhaps quite resistant to change, because they've been doing the same things together for a long time. I found those teams have been really open to change and have worked really well together. I think probably the biggest difficulty has been -- when there's a group of people who have been here for a very long time and then there's quite a large group of new staff and you kind of get a division, which you don't really get with wholly new teams or the more established teams which just have new people coming in occasionally and developing the culture in that team. But actually integrating older established people in the team, newer people are coming up and might seem to be, you know, a little bit too enthusiastic for change. One of the teams had that kind of division with the younger members of the team. Because they were quite a big team so they had quite a large number of people and some well established in the team. There was a bit of friction there, but we worked through--.

Contextual considerations and barriers to change

Context of uncertainty shaped the way the teams approached the activities, and shaped their actions. For instance, teams in a constant state of change identified the need to clarify their roles / activities. Additionally, they felt disempowered at times to be able to make changes that would influence the direction of the team.

[Participant feedback form] At the moment many of the issues around change are related to things being imposed on the team which the team members cannot easily affect so it did feel slightly irrelevant at times.

[Participant feedback form] Current organisational climate will impact on outcome of research.

Teams identified several other barriers to implementing their changes including resource and time constraints. Respondents were clearly torn between prioritising development work against other pressures, and there were difficulties in managing time to get staff members to attend the sessions. Other barriers included lack of influence and lack of information and support from decision makers higher in the organisation.

Optimising the event structure and delivery

Participants provided a great deal of feedback on the structure of the events, particularly the full day SEC and the way the activities were organised. Some participants felt that the first day event was too long and repetitive, and that the event was quite tiring, reducing the ability of participants to focus on establishing an action plan towards the end of the day.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

[Participant feedback form] May have been better as a half day with the tempo being a lot quicker; the most useful part of the day was at the end when the team was tired; felt very repetitive throughout the day and could be condensed into a morning or afternoon session; A lot of wasting paper, writing same thing 3 times over. Quite a long session; Not able to follow the structure of the day very easily.

Similarly, people responded more positively to the shorter TLS workshops, although still found that there was some repetition.

[Participant feedback form] More enjoyable than the first workshop - too big and too long - vary - attention spans short of it gets timing being in own room all day; Maybe we should do it regularly (but not needing to take whole morning).

However, on the whole the feedback on all of the events was positive. Teams found the events useful, informative, enjoyable, interesting, productive and beneficial.

[Participant feedback forms] I found this session useful and helpful as we have started a new year with all its challenges. I look forward to the next one!

Ensuring team participation and agreement

The facilitation process was based on the premise that team members would speak freely of their feelings, but they had to do this without offending their colleagues. In some teams, there was a perception that not everyone had the same voice. Participants who were unable to attend the groups were sometimes seen as difficult to convince; or when they did attend subsequent groups, were unable to follow the previous actions and activities.

[Facilitator focus group 15:10] I think it was just about discussing these issues and getting them out in the open and actually pulling people together who were determined to sit at either ends of the room from each other and just actually being quite forceful in fixing people up and getting them to talk to each other and realising that they all had the same issues.

At the final SECs participants were asked what they found most challenging about involvement in the project. Feedback confirmed that some members of the teams had difficulties in speaking openly. This was particularly a consideration for new members of staff.

Coming into the team halfway through the project sometimes made it difficult to contribute or appreciate the changes

Being open and critical about management/leadership of the group (especially as I was new to the team)

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Providing feedback to the teams
The teams valued receiving feedback and reflecting on their progress in terms of developing and changing.

[Participant Feedback Forms] It has also given us good feed back in form of the TOM's scores etc to inform our progress with service users; It was a positive way to look at the teams' performance and areas we excel at and others we can build on.

Was very useful to know how far we had come. Didn't realise we had achieved so many actions.

Valuing time out to discuss team issues
The process of participating in the IMT made teams value the time to focus on team development issues, and realise the benefits of having time to talk.

[Participant Feedback Forms] Realised we need as a team to occasionally devote time to the team "away-day" to focus on issues.

The workshops have provided a forum for team discussion in a non-threatening non-manager led environment.

Items only coming to the fore at the end of the ALS sessions
Facilitators raised the point that some sensitive issues only came to the fore right at the end of the very last session, giving little time to be able to deal with those problems / concerns.

[Facilitator focus group 19:3] It was at the last action learning set, but one of the issues had been that one of the support workers didn't feel that they could communicate with certain members of qualified staff and they had put a system into place which from everyone else's perspective or the qualified staff perspective worked. At the last meeting, the support workers sat there silently stewing away and at the last minute said well we're not being heard. But it had really taken the whole process for them to feel comfortable to say that. So it almost raises a question about the length of the process and frequency of visits and people just starting to open up at the end of the process.

[Facilitator focus group 19:9] Yeah, I got the sense that if there were more meetings, the agenda might begin to swell.

[Facilitator focus group 20:3] So there's an observation there to be made about this process which I was thinking the same thing...just as they run out of time they'll get to the real issue. And if you're going to engage people in this kind of process is there something you can do about that and is it responsible to engage people in this process knowing that that's going to happen and knowing that it's going to stop. It's kind of an interesting … or knowing that that's going to happen. You know if learning is that that's going to happen, make it happen earlier and … which you can do'ish.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Motivation for being involved

The teams that participated in the IMT saw this as an opportunity for some 'free service development'. An added incentive was the additional payment they received for recruiting patients into the study. Some teams did not directly receive their payments, which influenced their motivation to remain involved in the study, and continue recruiting patients. However, there was a sense that if the teams had identified a need for service development, and actively paid for it, they would have identified some of the key issues earlier in the process, preventing the 'by the way' issues arising at the end of the facilitation. Other teams were motivated to be involved because of the payments.

[Facilitator focus group 20:4] I sort of got the sense that you know somebody in the team says oh that sounds like a good idea, it's free, and it might be quite useful, it might be quite interesting, we'll get a few extra quid from the patient and that was an issue in the end because at some stage it was threatened and the trust had to take it off them and they were completely de-motivated and hardly wanted to do anything. So the motivation came into it, so I think they came in with a clear sense of need or issue that they needed help to address. Whereas if somebody's paying £1,000 per day consultancy they'd have done a lot of that stuff up front wouldn't they? The diagnostics if you like. So I just got that sense that actually it took all that much time to get a sense of what the issues are and if the recruitment process or the payment process or the motivation to join process had been a bit different we might have got to it earlier on. In a normal consulting environment, you wouldn't pay a consultant £4,000 would you in order to just get to the bottom of what the problem was. You'd bring them in because you'd have done some diagnostic work yourself.

Prioritising actions

Teams differed in terms of the types and importance of the actions they prioritised. However, some facilitators highlighted the fact that teams dealt with the easily achievable goals, possibly at the expense of some of the more challenging, and important goals.

[Facilitator focus group 21:5] I think one of the issues about this is that in terms of the action plans, a lot of the issues that were addressed were quite sort of low level technical issues whereas I think where the conversation's going it is about getting into some much deeper assumptions about professions and assumptions about the way that we work together and those sorts of things which are much more profound I think.

There was a suggestion that the timing of the action plans and the way they were developed could possibly have been improved to help get to the real basis of the important issues.

[Facilitator focus groups 21:6] There's perhaps on this room for thinking back, we've had 11 or 12 actions and we've weighted them all in the last 10 minutes (of the SEC) and made decisions but there might have been a point when we could have slowed the process slightly there and said well actually if we do a few

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

quick wins which I think we did and one slightly harder one when actually we could have just had time to think about what would be the impact of these in a slightly more considered way and perhaps have chosen those actions, not necessarily through another team learning set, but perhaps they could've been weighted with a bit more help from somewhere because we did, we were watching the clock and had to make a decision and I don't know if we picked the right actions but having picked them we stuck with them.

Controlling the controllable

Some teams were constrained in their achievement of actions by factors that were beyond their control. There was agreement that teams needed to focus on those factors over which they have some control.

[Facilitator Focus Group 26: 1] Yeah, we had a lot of that, I just came up with using Edmund's diagram with the two circles and the you know, controlling the controllables otherwise you just come up with a dead end. It was about what can we do here now and what can … can you start to set your own agenda and start to work through it.

FFG 27:2 the context is changing so rapidly around you that you can't you know … the context is far more powerful than you are as a facilitator. And I'm not sure how you can influence it from that team level.

Variability amongst teams

The facilitators found that their experiences with each team varied widely. This made it difficult to draw generalisations to apply the findings from one team to another. However, it expanded the repertoire of skills of the facilitators.

FFG 27:8 It would be nice if this study could say well you know, if it's this kind of model of service then you know there is a good approach for implementing the tool in this type of service but ...there have been about 13 different services involved in the project. I don't know how far you have to go to find two that are even slightly comparable.

The benefits of utilising a facilitator

The team feedback reports included the question "In what way did it help having a facilitator?" Participants wrote a number of positive responses on the benefits of facilitation under the question asking whether participants had a clear understanding of future actions. From these responses, it can be seen that the facilitator was key in distilling the outcomes of the events and clarifying future directions for the teams. In particular;

- Helping to provide a clear understanding of future actions
- Providing focus and direction
- Structure and support
- Independent, objective perspective

The facilitator effectively 'led' the team through the TLSs and supported their development by providing a clear structure for the meetings; being prepared and reflecting back the findings from previous meetings; ensuring the action plan

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

identified responsible people to deliver various components; and because they 'summed up' the findings at the end of each session. The facilitator was also seen as a mediator.

[Participant feedback form] Facilitator had well documented notes about previous events and these were reviewed; they brought the team together, and did make it possible for people to have a voice; by recapping it has highlighted and made clearer outstanding actions; very useful as mediation; brought all opinions, thoughts etc together in a safe environment

The most common cited benefit of facilitation was providing focus and direction including summarising, clarifying, asking questions, reviewing, maintaining momentum, and being focussed on actions and outcomes.

Respondents also perceived that the facilitator provided valuable structure to the events and supported participants to ensure that everyone had the opportunity to have their say.

[Participant feedback form] Everyone given time to voice ideas and opinions who otherwise do not always have the opportunity to speak

Respondents also valued the independence of the facilitators. Benefits included leadership, mediation, neutrality, challenging outside perspective, needing to explain in depth and therefore challenge assumption.

[Participant feedback form] in lots of ways, good to have facilitator, independent from the team. Someone who has clear, objective perspective

Benefits of using a structured facilitation process

The facilitators found that having a structured facilitation approach helped them to deal with a variety of situations, and made challenging situations more straightforward.

[Facilitator Focus Group 32: 2] One of the teams which was openly hostile towards us at the SEC and it was incredibly difficult. These were the ones that were spread out across the whole room and it was incredibly difficult to facilitate and they didn't know why we were here. And so we were basically poking at a hornets nest and then you know 10 to four comes and you've got to try and come up with these actions. In actual fact they said in hind sight that was the most useful meeting but I think had both of us been better prepared then … I guess what helped us was having a good structure for the facilitation process to get us through it but it could've ended in a complete mess couldn't it?

FFG 32:3 It's interesting that you feel that the process laid out helped you because I thought it was brilliant and I kept thinking if I wasn't doing this from a script what would I have done differently and would I have got to where I got to

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

and thank you script because you've got me here at 10 to four. So I do think that credit must go to the order of the script, the way it worked, the timing and things.

The mandate of the facilitator

The facilitators expressed some dilemmas with respect to their level of mandate in the team environment. One facilitator stopped the facilitation process when the team leader dominated the meetings.

FFG 34: I ended up falling out with the service manager … and the team were just sat around and scared to say anything, didn't want to say anything and the service manager was taking a lead in telling everyone what they should do, what they shouldn't do, and what direction it should go in. I just felt that there was no point trying to continue with all that on that basis because the tool as it is set up just doesn't work when that starts to happen and that's when we had to call a halt …

FFG 34:5... Well they went away and came back as a smaller group representing the whole service with both of the service managers in the group [laughter]. So they ended up taking more control over the process but being with a more select group of people so they felt more able to speak.

Another facilitator perceived a tension between supporting the group to come to their own conclusions versus 'being an expert' in the field of inter-professional working.

FFG 35: 3 I thought as a facilitator I needed to be neutral and objective but on the other hand we have this inter-professional management tool, we are Sheffield, we are supposed to be the experts.

Because the IMT was undertaken as a research project, and driven, initially, by the researchers, there was a perception that the facilitators did not have a mandate to overcome some of the challenges presented by, say, difficult team leadership situations.

FFG 35: 5 … if people haven't given you a mandate to do that it's very difficult as a facilitator to do that. So I think that's one of the things about this is what's your mandate, what's your mandate with people going in to do this work.

Another point raised by the facilitators was the definition of the 'client' in the facilitation process. We assumed, as part of the IMT process, that the client was actually the team with whom we were working, however the team was often poorly defined, and the scope of the project needed to extend beyond the boundaries of the team.

Considering challenges

Participants were asked in their feedback forms what they found challenging about the workshops. This question elicited: issues with the way that the intervention was organized and delivered; feeling uncomfortable about addressing difficult, but

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

valuable topics; challenges based in the team or service and difficulties in implementing actions.

Several of the issues are covered under other headings, but the major challenges that arose included;

- Facilitation/project organisation issues: lack of preparedness for the events, and poor briefing.
- Participation and agreement: Ensuring participation of all team members, and obtaining consensus
- External factors: The context of uncertainty, and lack of ability to change circumstances that are external to the team
- Lack of support from commissioners and senior management
- Conflict with clinical workload: Taking time-out from clinical work, feeling guilty, how to fit actions in with busy working day (reduced patient contact)
- Learning: different perspectives, ways of thinking and knowledge, challenging pre-existing thoughts about team working
- Forward planning and implementation: slow progress on actions and the conflict between the team vision and external factors

Outcome measures

At the final Service Evaluation conference, team members were asked what they found most useful about being involved in the project. One of the main themes was the use of outcome measures. However, the outcome measures also featured strongly in responses to the question about what they had found most challenging about involvement in the project. The following is a general description of the participants' views regarding the benefits and challenges of using the study outcome measures. More specific issues regarding the individual outcome tools will then be described.

Benefits:

The teams particularly valued the feedback of results, which confirmed their positive view of the team and allowed them to compare their outcomes with other similar teams. They benefitted from gaining a view of their service from the patients' perspectives. They also appreciated that a better understanding of outcomes could be useful for team development. The teams reported the benefits of having information to demonstrate their effectiveness to senior management and commissioners.

Challenges:

The completion of the data collection tools was cited as one of the main challenges of the project. The main issues were finding the time to prioritise completing the paperwork and remembering to collect data.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Having another paperwork activity to complete with patients; Maybe the extra time involved -but we have a means of evidencing our work therefore it is worth the investment of time

Remembering to complete questionnaire at the beginning and end of service input

General experiences:

When asked about the patient outcome measures, on the whole, the respondents stated that they were easy to use, valuable and relevant for their service. The face validity of the patient outcome tools was perceived to be high.

Tools were easy to use; Straightforward after initial instructions; Once used regularly they became second nature; Very user friendly

Participants also reported that using the outcome measures had increased interdisciplinary working in the teams.

Yes, good doing the same and discussing patients from different clinicians' points of view

We ensure they are completed by more than 1 person (in agreement) usually as a result of MDT meeting

We will continue to use the toms therefore continue working with different professionals

Individual outcome measures:

However, responses which identified specific tools, gave a finer understanding of the participants' opinions.

TOM:

The Therapy Outcome Measure (TOM) was well received. Many teams either used this tool already or continued to use the tool after the study, and in general feedback was supportive of using TOMs. The tool was reported to be quick and easy to use and to effectively demonstrate improvement in patients. Some respondents thought that the measure was too subjective. However, this is likely to be due to unaddressed training needs. The amount of training involved was a specific issue mentioned by two respondents. One respondent also mentioned difficulty in using TOM with people with complex & cognitive problems.

Useful, quick and easy:

Quick and easy and we record on database electronically; Found outcome tools easy to use for all staff and have continued to use TOMS

Shows change in patients:

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Gave us something tangible at the end to show team worked well to help service users overall quality of life and "ammunition" to take to higher management

Subjectivity:

TOMs scores varied within professional opinion/values; TOMs was easy to complete but too subjective; TOMS subjective to who was doing it

Training:

Took a while to get into as unable to attend training session; Takes considerable training and team discussion initially

One of the teams was keen to continue using the TOM tool. However, because this was not a requirement for the team they had to convince senior management in order to continue using it. Another respondent recognised a mismatch between tools that might help the service and those required by their organisation.

TOMS not required by C-QUIN or CQC as targets to be achieved by PCT so have had to convince senior managers we should continue with this.

Tools are in invaluable way of looking at how the service works and how it could be improved... however, management and commissioners within the health service are not always necessarily aware of these

EQ5D:

Face validity for the EQ5D (self-completed, health related quality of life measure) was reported as poor. Respondents complained of finding the tool frustrating, crude, not sensitive to change, difficult to complete. It was difficult for patients with poor eyesight and not useful for people with dementia. Four respondents gave light praise for the EQ5D as a means of collecting data and being simplistic/easy.

Negative:

EQ5D - frustrating and crude at times; Knowing that the information the client gave on EQ-5D wasn't accurate; Questions not user friendly, some s/u said they didn't fully understand the questions

Support for EQ5D:

EQ-5D these seem to be widely understood and a useful way of evaluating aspects of our interventions; No other data available so this was good; Interesting, maybe use in future; Very easy simplistic tool

Patient Satisfaction Questionnaire:

There was little feedback about the Patient Satisfaction tool. This is probably due to this being a self-completed postal tool and staff members therefore had much less contact with this than the other tools. Indeed, one respondent stated that it was *"a bit of an unknown"*. Feedback was generally not complimentary stating

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

that it was complex, not easy to follow and not all relevant. It did fulfil a function of providing information that teams were often asked for by commissioners and senior management. However, in responses to other questions team members reported finding patient feedback gained through the questionnaires to be useful and informative.

Patient Sat too narrow; too complex and not all relevant to how team set-up; Not always easy for user to follow; very long and not all relevant

Constantly asked for patient satisfaction from senior management so this ticks box

The patient feedback has reassured us we are doing something right

What would we do differently

Facilitators suggested that the delivery of the IMT could be improved if it were more intense, with more team learning sets over a shorter period. For the purpose of this project, however we were limited to a certain extent by the amount of funding we had allocated for the team learning sets, as it is a cost intensive process.

They also felt that the process would be more successful if a tight action plan was achieved quickly.

It needs to be a bit more targeted, a little bit more intense. It sounds like the facilitation is really good and I think we'd asked the teams about the process and they said having it condensed into a shorter period because two months between events is too long. I think we probably need more than three events too. I wonder if we need five events in a five-month period.

Facilitators could follow-up teams between team learning sets using other modes of communication, such as telephone contact with teams.

Facilitators perceived that the sustainability of the IMT process would be enhanced if teams built it into their organisational development plans and if commissioners built expectations of service development into their commissioning requirements.

Participants at the final SECs were asked to suggest ways in which the IMT booklet could be improved and made more accessible. Respondents thought that use of the booklet could be encouraged by the facilitator and that using the booklet in a team environment would support its use. They suggested a more interactive, workbook format, and some respondents thought that the booklet could be shorter as they had little time to read it. There was also strong support for having the booklet contents in an electronic format. However, one comment cautioned against this on the grounds that access to IT equipment is sometimes difficult. There was some support, which stated that the booklet was useful and easily accessible.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

- Encourage and support use
- More interactive/less passive (Work-book)
- Could be shorter (no time to read)
- Electronic format
- Useful and accessible

Encourage and support use:
Prompting by the trainer to complete sections would have encouraged me to complete the booklet
Content good, but didn't discuss in group sessions
Preferred filling in as a team, more chance of it being used

More interactive:
Make it more like a workbook more interactive; too passive in current format
Interactive exercises area a good idea if done well

Could be shorter:
You are giving someone another item to read/think about when in reality time is too limited with everything else we do on a daily basis

Electronic format:
Electronic format that could be used as training for new members of staff
Maybe interactive electronic would be better

Useful and accessible:
Personally enjoyed completing it as it was
I used the booklet whist completing a degree for a few ideas
I have found this easy to refer to on occasions
I have found it an excellent tool - easy to understand and complete
Booklet is more useful due to be able to carry it around with you

5.6 Discussion

The IMT process was effectively implemented with 11 teams. The interview data, with a range of team members from different locations and disciplines and with different roles in the project, strongly indicates that the IMT intervention had a positive impact.

The qualitative and quantitative findings highlight some broadly consistent themes, several of which are reflected in several sources of data.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The strongest theme regarding the impact of the IMT is its effect on team working. The IMT was consistently reported to enhance team development and promote the integration of teams. Another dominant theme, which is highly interrelated to good teamworking is improved communication, and several of the actions undertaken by teams promoted communication.

Leadership was perceived to have improved, both leadership shown by the team leader and shared leadership by team members. To an extent this was surprising as the IMT intervention did not directly focus on leadership in the main. However, implementing the team action plans did require that team leaders took responsibilities for ensuring that actions were completed and changes to work processes were enacted. These activities may well account for staff perceptions of their greater effectiveness. Overall, management scores as measured by the WDQ improved across all staff, however this was not statistically significant.

A further impact was the influence of the IMT on personal development, and in particular, the growth of practitioners into 'integrated practitioners'. Surprisingly, the WDQ integration scores did not capture this strongly. There was an increasing focus on goals and outcomes, and this was reflected by several teams in their improved 'perception of quality' scores. Teams also reported an increased understanding of the change management process.

An unintended, positive consequence of the IMT implementation for some teams was the increasing credibility in the eyes of their peers and managers for participating in a research project, and being able to demonstrate evidence of their effectiveness.

There were several tangible outcomes from these improvements. Staff morale was perceived to have improved in many teams (although overall, staff satisfaction declined as measured by the WDQ). There were improvements in support for professional development, and development of better external networks and links.

There does not appear to be any relationship between improved team working and patient outcomes. However, there is a strong positive correlation between better team working and staff satisfaction ($r = 0.6$, $p < 0.00$) and better team working is negatively correlated with intention to leave the employer in the next 12 months ($r = -0.3$, $p < 0.00$). Better team working is also positively (and significantly) associated with stronger role perception, team integration, role flexibility, management, training and career development opportunities, quality, and lower uncertainty.

Whilst the general tone was positive, participation in the programme did provide challenges. The collection of additional admission and discharge data for the study was felt by some to be burdensome. Some found that the time commitment of taking part in the IMT intervention sessions challenging as it was at the expense of caring for patients. In part, this represented a cultural issue, in that health service teams in particular often spend little time meeting together to discuss how they work together. There was also a practical issue, in that many staff in the participating teams are part time, and attending sessions that lasted for half a day

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

or more, represented a large proportion of their weekly work time. The final issue was about the teams' commitment sometimes to complete goals, which again may indicate that team and process development often culturally remain a relatively low priority.

Other negatives included the lack of achievement of goals and lack of sustainability of the approach. An overwhelming challenge faced by teams was the uncertainty and wider contextual issues limiting their ability to continue to perform as they would like to as a team.

All teams faced significant challenges during the life of the project, particularly due to the wider context of uncertainty, both globally, and particularly within government funded services such as the NHS and Social Services. The particular external challenges faced by teams include reorganisation and restructuring, in some cases around commissioning models, and in other cases due reduced resources. The teams largely felt disempowered to influence these factors.

The context of uncertainty was enormously destabilising to teams and team working. The levels of uncertainty were empirically measurable across teams, and declined, on average by more than 10% over the life of the project. There is no normative data against which this level of measurable uncertainty can be compared, or indeed the impact on the teams. However, uncertainty was correlated with reduced levels of job satisfaction by staff. It is a credit to the teams that for the majority of them, patient outcomes improved, or at least failed to worsen over the life of the project, given the context in which the teams were operating. Similarly, it is a testament to the IMT process that teamworking scores improved overall, despite the difficulties faced by teams.

The most important issue identified by teams through their SECs was professional development, rotation and career development opportunities. Yet despite its importance, the mean WDQ score for Training and Career Development Opportunities declined across all staff ($p<0.05$). This is likely to be a reflection of the changing environment, with declining resources, staff uncertainty about their ongoing employment, and lack of funds available to be able to attend further training.

Despite staff perceptions of the insensitivity of the EQ-5D, our findings show that it correlates highly with all domains of the TOM outcome measure, and is sensitive to change across individuals and population groups.

A large amount of data arose from the teams about the importance of the personal and individual attributes of a good team member. This is difficult to address specifically through a team working process, however should be used to inform the recruitment and selection processes of practitioners who are likely to be working 'interdisciplinarily' and potentially to inform some sort of competency framework around interdisciplinary practitioners (and possibly teams).

The new findings that have contributed to the evolution of the IMT are:

- Confirming the value of the IMT process

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

- Better understanding of the needs of teams engaging in this type of team working process (e.g. venue, timing etc)
- Improved understanding of the types of issues faced by interdisciplinary teams in their team processes.
- The need for stability and clarity of vision in team working.

Changes we have made to the IMT in response to the findings:

- Instead of being a workbook, the IMT has been developed as a facilitators guide
- Exercises have been integrated within the full facilitators guide
- Teams generally acknowledge the need to collect information about the outcomes of patients. Guidance is now included.

The IMT is available in Section 2 of this report.

Conclusions

We have undertaken a comprehensive body of research that has been informed by empirical evidence, developed into a tool, and which can be applied by trained facilitators who work with teams to implement changes around interdisciplinary team working, which are specific to the requirements of the team. We have tested the model, both in terms of its integrity and the ways of applying it, but also in terms of its impact.

One of the potential strengths of the IMT lies in providing a focus for change whilst giving the freedom for the teams to identify topics requiring their attention. When decisions are made on which issues to adopt as part of an action plan, team members take into account the potential value of change and ease of change. However, when it comes to teams designing the implementation of the action plan the divergence of approaches indicated that the team members were using their intricate knowledge of the setting and the everyday demands of their work to prioritise interventions and design effective approaches to manage change.

Members of interdisciplinary teams have tacit methods for working together to achieve a myriad of tasks on a daily basis. However, these tasks are mostly focused on having a direct health or social care impact for service-users. Therefore, other activities which might have consequences for the overall effectiveness of the team are rarely considered and not influenced by the evidence base.

Drawing on insights from ethno methodological approaches to understanding social action (114), it is clear that team members posses a wealth of largely taken-for-granted expertise. They are uniquely well placed to design and manage change within their teams, and the external context (e.g. have effects on external communication, influences the perception of their service and improve their relationships with other services and organisations).

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Overcoming resistance to change is a common difficulty faced by management (115). Resistance is often a response to having change imposed in ways which are difficult to incorporate into existing working practices, which do not have clear benefits (116). However, using the SEC approach, team members become involved in the identification of the need for change through self-reflection and discussion. In working through potential areas for improvement and possible approaches to addressing these issues team members 'take ownership' of the process of change: they understand the rationale for change and design methods of implementation which will be sympathetic to the setting.

Feedback from participants indicates that the application of the IMT in order to develop action plans and address identified problems has longer lasting effects on the culture of the teams. They become better integrated; have improved (and more 'open') communication; understand, trust and respect each other more; are better able to resolve problems; and continue to be focused on service improvements. They also maintain an understanding of the importance of collecting and analysing outcome data, reflecting on their performance and promoting their service.

There is potential to institutionalise the model as part of normal, ongoing team processes to enhance continual quality improvement and learning through the training of local facilitators in the process.

The IMT has a flexible approach to team development based on facilitating team members to implement changes, which are appropriate to their unique circumstances: it is designed to be applicable to a wide range of services. For this reason, the model has inherent potential for expanding its application across a broad variety of health and social care environments.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

6 Discussion

6.1 Introduction

This chapter synthesises the findings from the multiple components of the study to reflect on the original research objectives and present an overview of the core characteristics of an effective interdisciplinary team; and to reflect on the processes of implementation of a workforce change process, in this case, the IMT. The resulting revised IMT framework is presented as a separate document. (Section 2)

Based on the integration of the qualitative and quantitative findings from this study, we have demonstrated that the IMT was seen to positively influence team communication, integration, leadership, personal development, focus on goals and outcomes, team working, team clarity, team reputation and team understanding of the change processes. Of these, the improvement in team working was statistically through the Workforce Dynamics Questionnaire

6.2 Review of research objectives

Our study proposed to do the following:

- Develop a model which draws on existing data to describe the relationship between different approaches to interdisciplinary working and outcomes, specifically:
    - To examine the relationship between different models of inter disciplinary working and patient outcomes (measured by the EQ-5D, TOMs and patient satisfaction data);
    - Identify models of interdisciplinary working that are associated with better staff outcomes (satisfaction, retention, autonomy, career development opportunities);
    - Measure the relationship between different models of inter disciplinary working and the costs of service delivery;
    - Determine the relationship between different models of inter disciplinary working and the duration of care.
- To systematically examine and compare existing workforce change tools.
- To develop an Interdisciplinary Management Tool based on 1&2, which can be used by service managers, commissioners and staff to optimise outcomes in a range of settings for older peoples' CBS.
- To implement the Interdisciplinary Management Tool with 10 teams.
- To evaluate the impact of the application of the Interdisciplinary Management Tool on key clinical and cost outcomes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

NB. The wording of these objectives have been changed from those in the original protocol as the term interprofessional has been replaced by the word of interdisciplinary as discussed earlier in this report

Our previous research (SDO 08/1519/95), and the assumptions underpinning Objective 1, were based largely on a structural perspective of interdisciplinary team working. In that study, our exploration of models of interdisciplinary teams was confined to team structure and organisation, including the different types of staff, team size, and ratio of support workers to qualified staff. Clearly, these components are crucial to interdisciplinary team working, and this has been reinforced in the present study. However, staffing and skill mix are only one of several components that make up an effective and successful interdisciplinary team.

Specifically, our previous research 'The impact of workforce flexibility on the costs and outcomes of older peoples' services' found that the components of team working that were associated with patient benefit were larger team size, greater proportion of contacts from support staff and greater total contact time.

The factors associated with better staff outcomes were associated with being part of a smaller team and having a specific team manager, rather than split management. The factors associated with service costs were having a larger team, and a higher proportion of input from support workers.

Patient age was the only variable, which was associated with length of stay (longer stay for older patients).

Where our earlier research identified the relationship between the structural components of the team (skill mix, grade mix, team size, and professional variety) and outcomes, the unique contribution of this study is a comprehensive expansion of the concept of interdisciplinary team working which is expanded on in the subsequent objectives.

Objective 2 was addressed by literature review 2, which demonstrated the existence of a range of workforce change tools, few of which have been empirically tested. The instruments were broadly categorised into four types of instruments: modelling tools, resources, toolkits and tools adapted from other sectors. One of the key outcomes of literature review 2 for this study was the identification of 14 components of workforce change tools, which informed the structure of the IMT.

The findings from objectives 1 and 2 informed the development of the first iteration of the interdisciplinary management tool (Objective 3), described in detail in Chapter 4. The IMT was implemented with 11 teams (Objective 4). The implementation of the IMT and detailed feedback from the teams on the way they interacted with it, and the processes of implementation, informed the subsequent iteration of the tool. The implementation of the tool and the analysis of the data from the teams have provided us with a much richer perspective of the barriers

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

and facilitators to team working in the health and social care sector, and a clearer definition of the components of interdisciplinary team working.

Objective 5 sought to examine the impact of the implementation of the IMT on key clinical and cost outcomes. We were unable to come to any positive conclusion, as the results are equivocal. We are uncertain as to whether this was the compounded by the impact of considerable change in the delivery of services and/or whether the time of follow-up was too brief for any culture change to be firmly embedded, and be expected to have carryover effect on patient care. This lack of impact on patient care resulted in our inability to detect any cost benefits related to the intervention.

However, we did establish that job satisfaction related to quality of teamwork and the way the team members viewed how they were managed. We also found that job satisfaction correlated strongly with role perception, team working training and career progression. These findings were shared in the study by Huxley (117). Furthermore, studies found that team members' view of quality of care correlated strongly with their views of team working. In common with Huby and Huxley we found tremendous variation in the size, membership and approaches of community-based teams.

Previous studies suggest that integration, trust and openness in multi-disciplinary teams results in better patient outcomes and safety (118-119). The qualitative findings from our study suggest that the IMT was successful in improving these aspects of team working.

The present study has adopted a more comprehensive understanding of interdisciplinary team working, which is based on the literature and the feedback from teams, resulting in 10 principals of interdisciplinary team working (described later in this chapter).

The complexity of this model, combined with a relatively small sample size means that while we are able to identify the relationship between several, single components of interdisciplinary team working and outcomes, we do not have sufficient data at this stage to compare different models of interdisciplinary team working, or draw conclusions about the relationships between interdisciplinary team working and costs. Therefore, the key outcome of this project at this stage is a new model of interdisciplinary team working which is grounded in both the literature, and empirical data.

This study has exposed greater complexity of the interacting features and demonstrated the importance of the wider context in which the team functions, on the function of the team.

6.3 Overview of key findings

This study has augmented previous research and drawn on published literature to develop a framework for enhancing interdisciplinary team working in older peoples' intermediate care services, the Interdisciplinary Management Tool. The

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

implementation of the IMT using action research methodology has provided further insights into our understanding of interdisciplinary team working; and developed an approach to translating research findings into practice in the context of the tacit knowledge of the teams.

Interdisciplinary team working is a multifaceted concept. The simple notion that several disciplines from different backgrounds will work together in an integrated way belies the wider complexities of team working which need to be considered. These include the context in which the team operates, their shared purpose and vision, the leadership of the team which supports them in their achievement of the vision, the numbers and the skill mix of staff, the way the team is configured to meet the needs of service users, and having appropriate resources, systems and structures in place to meet the needs of service users. In addition, mechanisms are needed to ensure that staff remain motivated and have appropriate career development opportunities.

Rather than simply attempting to create a theoretical typology, this study has used a reflexive approach to implementing the IMT by drawing on team knowledge and expertise in its implementation.

Our previous research along with the findings from this investigation in common with others who have studied intermediate and community-based care for older people (117, 120) find tremendous **variation in the size, membership and approaches of community-based teams** and individual local interpretation of national policy affecting provision and the delivery of care.

The focus groups and interviews identified that in many cases the **teams are only that in name** as staff see themselves as service providers working in parallel with each other and do not share central principles of working which could lead to more cooperative working. The literature cited earlier in this report suggests that team working can lead to practices which are more than a sum of the parts and therefore more cost-effective. However, it is generally agreed that these **working partnerships need to be fostered and cultivated** in order for them to amalgamate with a common purpose and clarity of role.

Our challenge in this study was to convert the literature on team working into a practical guide to promote its development within intermediate care. We certainly found sufficient information and **recommendations of how the teams should work in order to maximise efficiency and effectiveness**. This has given a strong theoretical base for the IMT.

The context for this project is important, and clearly influences the issues and actions taken by teams in their involvement in the IMT and the confidence we have in the findings. Political and resource changes led to radical changes in the Primary Care Trusts with whom we were working, resulting in **wide-ranging uncertainty, reorganisation and in some cases dissolution of services**. Specifically, two of the teams that were involved in this project now no longer exist, and a third has stopped delivering care in the home. Whilst we recognise that there is never a perfect time to conduct health services research we were

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

particularly unfortunate in our timing of this particular project. Trying to implement action research aimed at promoting cohesion and effectiveness with teams who were uncertain of their future was a major impediment and is likely to have coloured the results, and reduced our confidence in some of the findings.

Nevertheless, we were able to identify **certain principles, which should be taken into account by managers wishing to extend their services** by bringing individuals together to work in a team. Additionally, common themes identified by participants broaden the knowledge base on interdisciplinary team working into the healthcare sector. For example, we are confident that **teams can be fostered and further developed** within the community sector if time and support is given. Our confidence is based on the changed WDQ team working score.

We found the IMT to benefit staff in many different ways but our study did not confirm our expectation that this would have a positive effect on patient outcome and reduce costs. We do not have confidence in this finding as we feel that the implementation of the IMT may not have had full effect because of the changing environment detailed above. Additionally, in retrospect, we feel we were over ambitious in expecting the changed culture of team working to be fully embedded within the time period allocated. Related research on team working suggests that a change in working culture takes 18 months to embed and to demonstrate an impact on productivity. Hand et al (121) when evaluating a human relations training programme found results that indicated no differences between the two groups at the 90 day post-training assessment, but there were several significant differences at the 18-month follow-up.

The Huxley (117) study aimed to scope the composition of integrated teams caring for people with mental health problems and older persons had some findings which were similar to those found in our study of community rehabilitation and intermediate care. They concluded that there was a lack of clarity within organisations about ' the implementation of policy ', namely, in their study, integration of health and social care, ' this might suggest poor organisational capacity to support teams '. Our findings would suggest that this is a common failing regarding community-based teams. **Converting policy into practice requires consideration of engagement of all levels of staffing groups** and these studies would suggest that little attention is given to ensuring that services are provided with sufficient information and support to enable them to have a common understanding of the direction of travel.

6.4 Reflections on the IMT

The IMT was developed as an evidence-based, three component intervention (booklet, outcome measures, implementation approach) that enabled teams to engage with a process of change around interdisciplinary team working; identify their own priorities for action; and address those needs in the context of their individual, team, patient and service requirements.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The literature warned us of the many perils of endeavouring to identify direct links between team working and staffing configurations with patient outcomes. Our study has confirmed these difficulties, detailed by other researchers. Whilst theory can guide many developments, the logistics of implementation in different services, particularly those undergoing radical change can necessitate change based on pragmatics rather than premise. Despite this, we were able to facilitate team working using team learning-sets which were appreciated and had an impact on team members. We regret not having sufficient time for longer-term follow up to examine the possible implications and affect of this on patient management.

That the teams identified so many issues initially highlights that taking time out for team reflection is an important process in the enhancement of team processes. Teams identified 584 possible challenges to their efficient working practice, however the total number of actions carried forward was 79. This, we suggest, is related to the fact that teams felt they had control over some of the issues but not over others, particularly at this time of uncertainty.

Interestingly, morale and motivation, which accounted for 6 of the issues, was not specifically addressed in any of the action plans. However, morale and motivation were clearly associated with many of the actions taken forward. This feature is probably due to the teams' further exploration of these issues during the events to uncover the underlying reasons for lack of morale and motivation, and these causes were then addressed as actions. In the context of increasing uncertainty, job losses and service changes, it is not surprising that job satisfaction, uncertainty and intention to leave scores all worsened over the course of the project.

The most commonly identified issues were around training and career progression opportunities (n=139), these accounted for only 10 of the actions across all teams. Of note is that, team scores for training and career progression opportunities, as measured by the WDQ, deteriorated overall during the period of the intervention. Again, these are areas that have suffered as a result of the current uncertainty and change in the NHS.

Communication and internal relationships accounted for 75 of the issues, and was the most commonly addressed component of all action plans (n=16). We suggest that this is related to being an issue that was within their power to control and influence. The findings also illustrate the limited locus of control of teams. For instance, 'management, leadership, decision making and autonomy' accounted for 16 of the issues, but were addressed in only two of the action plans. Whilst it was generally recognised by our participants, as well as in literature that leadership is a key issue in team working, we found that it was not easy to use the IMT intervention to alter leadership behaviour and propose that this may need to be investigated separately. We also found difficulty in influencing the decisions and actions of external organisations leading us to consider that the intervention may need to be broader in future trials.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The study highlighted several important considerations around the processes of implementing the IMT. In particular, participants valued the neutrality and objectivity of having a facilitator, and the process of the IMT which enabled them to stay focussed on a task. Teams highlighted the importance of clearly preparing them for the IMT process, and suggested that the extent of this preparation influenced the way the teams reached consensus on the issues they proposed to target. Teams also valued the iterative approach adopted by the TLSs, in which they prioritised actions and took time to undertake change, while receiving feedback on their impact on a regular basis.

6.5 The key characteristics of an interdisciplinary team

The key contribution of this research is a comprehensive understanding of the components that underpin interdisciplinary team working in intermediate care. Our research has drawn together several sources of evidence to inform the development of a framework to define the characteristics of interdisciplinary team working, which were incorporated into the initial IMT. The implementation phase has led to refinement eliciting a framework of core components of interdisciplinary team working.

The sources of data from which this is drawn are;

- The 13 issues and actions identified by teams in the ALS and SEC reports
- Themes identified from literature review 3 as factors contributing to interdisciplinary team outcomes
- The themes identified by teams as the 'characteristics of a good team'

Each of these analyses resulted in a list of team characteristics which were then juxtaposed, and overlapping themes identified, and merged into a single set of 'good team' characteristics. The definitions that sit under each of the characteristics are covered within the body of the document, so not reproduced here. The domains are triangulated in the table below to form a single theoretical framework to define the components of good interdisciplinary team working. It is clear that there is a high level of concordance across each source of data. See Table 36.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 36 Triangulation of characteristics of a good interdisciplinary team

Themes from literature review 3	Themes from SECs/ TLSs (Characteristics of a good team)	Themes identified from SEC challenges
1. Communication		
Communication	Good communication	Communication and relationships – internal and external
2. Individual characteristics		
Individual characteristics	Personal qualities	
Problem solving/decision-making	Individual rewards and opportunity	
Interdependence		
3. Leadership and management		
Leadership	Leadership and management	Management, leadership, decision-making and autonomy
4. Personal rewards, training and development opportunities		
Learning	Training and development opportunities	CPD, rotation & career progression
	Individual rewards and opportunity	Morale and motivation
5. Quality and outcomes of care		
Patient focus	Quality and outcomes of care	Patient treatment, communication, capacity & outcomes:
6. Appropriate skill mix		
Skills	Appropriate skill mix	Role mix, professional roles and responsibilities
Team characteristics		

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

7. Appropriate processes and resources		
Structures	Appropriate team processes and resources	Facilities, resources, procedures & administration
8. Team climate		
Climate	Team culture	Communication & relationships-internal
9. Respecting and understanding roles		
Power	Respecting and understanding roles	Joint working
Perceptions		Role mix, professional roles and responsibilities
Roles		
10. Clarity of vision		
Values	Clear vision	Clarity of vision, uncertainty & changes to service
Professional commitment	External image of the service	
	Flexibility	

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The only area not directly identified in literature review 3 that was identified by the teams was 'clarity of vision', which has been included as a theme, although this was partly covered by the concepts of values and commitment. Unsurprisingly, no 'issues or actions' arose around individual characteristics, which whilst fundamental to the way the team functions, is likely to be difficult to effect through direct team actions, with the exception of changing recruitment criteria. However, one of the outcomes of the study was that some teams perceived that they were able to develop individual competencies, which better prepared them to work as a member of an interdisciplinary team. Further research is needed to understand the characteristics of an 'interdisciplinary team member.'

Three other themes were absorbed within other themes;

Flexibility: This refers to both individual characteristics (i.e. the ability of individuals to respond to the needs of patients and the team); as well as team characteristics (i.e. the responsiveness of the service to outside needs). This theme belongs under two areas; individual characteristics as well as clarity of vision.

External image of the service: this is to do with clarity of vision (portraying a clear vision for the service) as well as ensuring that the appropriate processes are in place to support the external image of the service (for instance making sure the phone line works). This theme has been collapsed under Clarity of Vision and Appropriate Resources and Facilities. It was also reflected in the SEC them 'Communication and Relationships-External', which has been incorporated under Communication.

Individual rewards and opportunities: this theme was absorbed into the theme which is now called Personal rewards, training and development, which is about the development of the individual.

The resulting final thematic structure to describe 'effective interdisciplinary working' is described in table 37.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Table 37 Characteristics of a good interdisciplinary team

Themes	Description
1. Leadership and management	Having a clear leader or the team, clear direction, management; democratic; shared power; support / supervision; personal development aligned with line management; leader who acts and listens.
2. Communication	Individuals with communication skills; ensuring that there are appropriate systems to promote communication within the team;
3. Personal rewards, training and development	Learning; Training and development; training and career development opportunities; incorporates individual rewards and opportunity, morale and motivation.
4. Appropriate resources and procedures	Structures (e.g. team meetings, organisational factors, team members working from the same base etc. Ensuring that the appropriate procedures are in place to uphold the vision of the service (e.g. phone lines operational, appropriate referral criteria etc).
5. Appropriate skill mix	Right skills, competencies, practitioner mix, balance of personalities; ability to make the most of other team members' backgrounds; being fully staffed.
6. Climate	Team culture of trust, valuing contributions, nurturing consensus; need to create an interprofessional atmosphere
7. Individual characteristics	Knowledge, experience, initiative, knowing strengths and weaknesses, listening skills, reflexive practice; desire to work on the same goals
8. Clarity of vision	Having a clear set of values that drive the direction of the service and the care provided. Portraying a uniform and consistent external image.
9. Quality and outcomes of care	Focus on patient outcomes, patient focus, providing feedback, patient satisfaction, capturing and recording evidence of the effectiveness of care and using that as part of a feedback cycle to improve care.
10. Respecting and understanding roles	Power (the negative angle of respecting roles), joint working, autonomy

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

These are re-written below into 10 principles of effective interdisciplinary team working.

A highly functioning interdisciplinary team needs to have the following characteristics;

- *A **single, identified leader** who establishes a **clear direction and vision for the team.** A leader who has a democratic management style, who listens to the team, provides support and supervision, and where personal development aligned with line management.*
- *Having a **clear set of values** that drive the direction of the service and the care provided, and portraying this through a clear and consistent external image.*
- *A **team culture** of trust where contributions are valued, which nurtures consensus and the need to create an 'inter disciplinary atmosphere'.*
- *Ensuring that the **appropriate procedures are in place to uphold the vision of the service,** for instance ensuring that referral criteria reflect the vision of the service, ensuring phone lines are operational.*
- *A focus on the patient, including the systematic capturing and recording evidence of the **quality and outcomes of care** and using that as part of a feedback cycle to improve care.*
- *Appropriate systems to promote **communication** within the team, including well organised team meetings, and strategies for including team members in decision making processes.*
- *Ensuring the team has **sufficient staff**; the **right mix of skills** and competencies and balance of personalities to meet the needs of patients and ensure a smoothly functioning team.*
- *Recruiting **staff with 'interdisciplinary competencies'** including sufficient knowledge, experience in their area; willingness to take initiative; who knows their strengths and weaknesses; has listening skills; reflexive practice; willingness to work with others on the same goals.*
- *Promoting **role interdependence**, while respecting individual roles and promoting autonomy where appropriate.*
- ***Nurtures and rewards personal development** by providing access to appropriate training, appropriate rewards and recognition for the job performed, and opportunities for career development.*

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

6.6 Relevance to the NHS

1. Whilst the structure and provision of community rehabilitation and care in the NHS is different in different parts of the country, teams face broadly similar challenges. Attending to these improves work satisfaction, cohesion and clarity, which are likely to reduce staff turnover and may influence patient care.
2. There has been much change in the NHS effecting community rehabilitation and intermediate care. Uncertainty is destabilising for team working, however it does not appear to influence patient outcomes. Community staff are frequently disadvantaged by not being involved in communication relating to purpose and process of change in their services. Our findings suggest that benefits would accrue from ensuring that community staff are fully involved in the process of change management
3. The impact of NHS community-based services could be improved if clinical teams had scheduled dedicated time together to work on team objectives and processes.
4. We found that there was benefit from incorporating the evidence around good team working into team formation and ongoing practice.
5. The NHS needs to ensure that practitioners working in interdisciplinary team settings have the appropriate attributes and competencies to work in an interdisciplinary team, and these should be incorporated into selection criteria.
6. Consideration should be given to rotation of staff, which can be beneficial in terms of learning new skills. However, rotation of staff might have a destabilising effect on team structures.

6.7 Limitations of the study

Participation in the SECs and ALSs

We became aware of two issues to do with participation that may have affected the outcomes of the IMT. The first is coercion to participate – despite our best attempts to ensure that all participants consented to their participation in the workshops; we became aware that management coercion had played a role in the participation of at least some of the members of some teams. The second issue was the membership of the teams. We depended on the team leaders identifying the appropriate team members to participate (ideally, all team members). However, in some teams, it was apparent that the presence of the team leader / manager was inhibiting some of the discussion. One team precluded the participation of all of their support staff, which meant that true team participation was not possible. It is difficult to determine the impact of these changed team dynamics on the outcomes.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Roles of facilitators

Facilitation is a highly skilled activity, and we do not have any indicators of the quality or variability of the facilitation provided by our team, which may have influenced the results (other than team feedback). In future research like this, the quality and variability of the facilitation should be taken into account.

Generalisability

The context of this research, that is, in interdisciplinary, intermediate care services in the NHS, during a time of enormous change, presents a unique set of circumstances, which are unlikely to be replicable. Similarly, the local variations in the application of the intervention, and the individual team circumstances mean that the study presented as it is here is unlikely to be able to be generalised to other circumstances. However, the approach has been designed to be flexible and responsive to local requirements, which we believe, is a strength of this type of research. Additionally, this study has shown that despite different team contexts, there are several issues of common concern, which can be addressed using this approach.

Sustainability

The short-term nature of the intervention and follow-up has precluded an analysis of the sustainability of this approach. This is likely to be further compounded by the changing context. Teams approached the issue of sustainability in different ways. In addition, there is evidence that the approach built both individual and team level 'interdisciplinary team participant' capacity, which may influence the sustainability of the approach by institutionalising changes within both individuals and teams. However, in the context of our intervention, we are unable to draw conclusions about the sustainability of the approach.

Small sample size

A limitation of this study was the relatively small numbers of teams on which data were available (n=11), limiting our ability to link processes and outcomes. However, these findings are consistent with those found in other studies, and there is now likely to be sufficient data to enable some type of meta-comparison across different types of teams.

Short time frame for follow-up

The time limited nature of our study restricted the follow-up time for measuring outcomes. This means that we may have missed longer term, and more subtle influences of improved team working, which may be measurable at patient level. A similar study with a longer follow-up period would be beneficial. However, the rapidly changing context means that this is unlikely to be feasible in the short term, with the existing teams.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

Context of uncertainty

The context in which the teams were working was being influenced in different ways according to the local responses to the financial and reorganisation strategies. We are unable to determine how much impact was associated with the broader environment, and how much was related to our intervention.

Lack of alternative competing hypotheses

This study has demonstrated that having time away from clinical practice with other team members improves team working. This was a relatively resource intensive process, and we do not know whether an alternative, perhaps shorter, or cheaper process, may have had the same effect. However, we have now established a methodology, with outcome measurement tools, which can be used as a basis for comparison in different population groups and different types of team, and using variations on the same intervention approach.

6.8 Recommendations

6.8.1 Recommendations for future research

- The IMT and the subsequent 10 principals of interdisciplinary team working have been developed in the context of older peoples' community based services, and need to be tested and validated in other settings.
- Future research around the 10 principals of interdisciplinary team working to explore directly the inter-relationship and impact of these components on outcomes.
- This study has focussed on the interdisciplinary team, but one impact of the IMT, suggested by teams, was that it can help produce an 'interdisciplinary practitioner', who possesses competencies to be able to work in an interdisciplinary way. It may be useful to examine further the notion of interdisciplinary competencies and the potential effect of the IMT.
- The levels of uncertainty experienced by teams were empirically measurable across teams, and increased, on average by more than 10% over the life of the project. There is no normative data against which this level of measurable uncertainty can be compared, or indeed the impact on the teams. However uncertainty was correlated with reduced levels of job satisfaction by staff. This is an important area for future research, to which the data collected here will be able to make a valuable contribution. For example, what levels of uncertainty exist for teams operating within the NHS (and other health care settings), and what effect does this have on other team dynamics and patient outcomes. It is a credit to the teams that overall, patient outcomes improved, or at least failed to worsen over the life of the project, given the context in which the teams were operating. Similarly, it is a testament to the IMT process that team working scores improved overall, despite the difficulties faced by teams.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

- Given the expanded definition of interdisciplinary team working generated by this study, there is still a need for further research to explore the relationship between interdisciplinary team working and patient outcomes.

6.8.2 Recommendations for practice

- Commissioners and providers of intermediate care services should explicitly incorporate team development as a targeted activity to ensure that team members value the importance of working cohesively with shared goals, principles and protocols. These have been proven to have an impact on team working.
- The timeframe of this project limited our ability for follow up of outcomes, particularly in terms of team working. Future research needs to incorporate longer timeframes for data collection on outcomes.
- Leadership of interdisciplinary teams is complex, and methods of clarifying and supporting team leaders need to be developed.
- Whilst many of the Department of Health policies mandate the development of community-based care, converting these into action which are clearly communicated and embraced by the practitioners needs further consideration and action.
- Data on patient outcomes and team performance should be regularly available to all team members as team behaviour changes and is supported when data on their performances is fed back and forms the basis for discussion.
- Interdisciplinary competencies for staff working in IC teams should be incorporated into job descriptions and role development
- Research into interdisciplinary working should describe outcomes as well as processes and context for purposes of costing, impact and generalisability.

This study has produced a synthesis of the factors associated with good practice in IDT working to identify 10 principals of interdisciplinary team working. These findings are strengthened through triangulation of several sources of data, including published evidence and integrating those with the experiences of practitioners.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

6.9 Conclusions

The resulting Interdisciplinary Management Tool has been shown to have a positive and measurable effect on team working. In addition, teams reported that it had a positive impact on communication; team integration; improved the team focus on goals and outcomes; and supported leaders and enhanced leadership within the team.

Individuals also benefited from being involved in the IMT process, with a view that it explicitly supported their personal development, whilst giving them a greater understanding and appreciation of others' roles and responsibilities within the team.

The process of engaging with the study was time consuming, and practitioners' main criticism of the IMT approach was that it took them away from clinical practice. In addition, the burden of data collection was a challenge for some, despite teams acknowledging the value of the data collected (and several continuing to use the tools we provided).

While we were unable to identify or empirically test different 'models' of interdisciplinary team working, or investigate the effects on costs, we have expanded the theoretical understanding of the components of what constitutes an effective interdisciplinary team. The structural components of team working are the most straightforward to test, and we have examined these within this study.

This study has reinforced the findings from previous studies that have demonstrated the heterogeneity of intermediate care services. However, despite variations in the way that teams are organised, there was a high level of consistency in the issues faced by teams that affect their day to day functioning as an interdisciplinary team. The most dominant of these issues was the high levels of uncertainty facing all teams, reducing their ability to forward plan, and lowering staff morale.

The teams valued having time to work together, and the investment of time in team working improves the way that the team integrate their work. An individual staff level, better team working is associated with better staff outcomes (including reduced intention to leave and greater staff satisfaction). However, our study was unable to show whether the benefits of team working to staff can translate into benefits for patients. We did not find a consistent relationship between team improvements and patient outcome improvements. Whether these patient outcomes could have been improved further we cannot say.

The process of development and implementation of the IMT has reflected the principles of knowledge translation, in that we have blended the evidence base with tacit knowledge, through consultation with the end users, which resulted in changed practice and improved team working.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

The primary output of this study is an evidence-based, Interdisciplinary Management Tool with related facilitators guide and processes, which has been developed and extensively evaluated with a range of interdisciplinary, intermediate care teams. As such, we are confident of the face validity of the tool. The tool has been demonstrated to positively influence team working.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

References

1. Thylefors I, Price E, Persson TO, von Wendt L. Teamwork in Swedish neuropaediatric habilitation. Child Care Health Dev. 2000;26(6):515-32.

2. NSF for Older People - Intermediate Care: Moving Forward. London: Department of Health, Health Do;2002.

3. NHS and Social Care Long Term Conditions Model. London: NHS, Health Do;2007.

4. Department of H. a health service of all the talents: developing the nhs workforce. consultation document on the review of workforce planning. London: RCGP Royal College of General Practitioners2000.

5. Department of H. choice matters: increasing choice improves patients' experience. London: Department of Health2006.

6. What is Payment by Results? London: Department of Health, Health Do;2004.

7. Investment and Reform for NHS Staff - Taking Forward the NHS Plan. London: NHS, Health Do;2001.

8. Xyrichis A, Lowton K. What fosters or prevents interprofessional teamworking in primary or community care? A literature review. Journal of Nursing Studies. 2008;45:140-3.

9. Leathard A. Interprofessional Collaboration: From Policy to Practice in Health and Social Care. London: Brunner-Routledge; 2003.

10. McCallin A. Interdisciplinary team leadership: a revisionist approach for an old problem?. [Review] [45 refs]. Journal of Nursing Management. 2003;11(6):364-70.

11. Cook G, Gerrish K, C. C. Decision-making in teams: issues arising from two UK evaluations. Journal of interprofessional care. 2001; 15(2): 141-51.

12. Atwal A, Caldwell K. Do multidisciplinary integrated care pathways improve interprofessional collaboration? Scandinavian Journal of Caring Sciences; 16 (4) Dec 2002, pp360-367. 2002.

13. Borgsteede SD, Deliens L, van der WG, Francke AL, Stalman WA, van Eijk JT. Interdisciplinary cooperation of GPs in palliative care at home: a nationwide survey in The Netherlands. Scandinavian Journal of Primary Health Care. 2007;25(4):226-31.

14. Nurse leadership, interprofessionalism and the modernisation agenda [database on the Internet]2005 [cited 2 March 2009].

15. Moran AM. A study to examine the contribution of support workers to the deliverya and outcomes of community rehabilitation and intermediate care services in England. Sheffield: University of Sheffield; 2008.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

16. Maister DH. Managing the Professional Service Firm. New York: Free Press; 1993.

17. Waterman H, Tillen D, Dickson R, de Koning K. Action research: a systematic review

and guidance for assessment. Health Technology Assessment 2001;5(23).

18. Gummesson D. Qualitative Methods in Management Research: Sage; 2000.

19. French W, Bell C. Organisation Development: Behavioural Science

Interventions for Organisational Improvement: Prentice Hall; 1999.

20. Kaner S. Facilitator's Guide to Participatory Decision-Making. San Francisco: Jossey-Bass; 2007.

21. Enderby P, John A, Petherham B. Therapy Outcome Measures for Rehabilitation Professionals. Second ed. Enderby P, John A, Petherham B, editors. Chichester: John Wiley and Sons Ltd; 2006.

22. Dolan P. Modelling valuations for EuroQol health states. Medical Care. 1997;35:1095-108.

23. Wilson A, Hewitt G, Matthews R, Richards S, Shepperd S. Development and testing of a questionnaire to measure patient satisfaction with intermediate care. Quality and Safety in Health Care. 2006;15(5):314-9.

24. Nancarrow SA, Moran A, Borthwick AM, Buchan J. The impact of workforce flexibility on the costs and outcomes of older peoples' services: A policy and literature review. Sheffield: University of Sheffield2006 July

25. Silverman De. Qualitative Research. 100 Oaks, California: Sage Publications; 2001.

26. Silverman D. Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction. 3rd ed. London2006.

27. Walker L, Avant K. Strategies for theory construction in nursing. 4th ed. Upper Saddle River. 2005.

28. Langley A. Strategies for theorizing from process data. Academy of Management Review. 1999;24(4):691-710.

29. Xyrichis A, Ream E. Teamwork: a concept analysis. J Adv Nurs. 2008;61(2):232-41.

30. Dixon-Woods M, Agarwal S, Jones DR. Synthesising qualitative and quantitative evidence within a systematic review. Nursing Research Designs and Methods. 2008:89-100.

31. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. BMC Med Res Methodol. 2008;8:45.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

32. Papaioannou D, Sutton A, Carroll C, Booth A, Wong R. Literature searching for social science systematic reviews: consideration of a range of search techniques. Health Info Libr J. 2010;27(2):114-22.

33. Enderby P. Teamworking in community rehabilitation. J Clin Nursing. 2002;11:409-11.

34. Xyrichis A, Lowton K. What fosters or prevents interprofessional teamworking in primary and community care? A literature review. [Review] [60 refs]. International Journal of Nursing Studies. 2008;45(1):140-53.

35. Henneman EA, Lee JL, Cohen JI. Collaboration: a concept analysis. J Adv Nurs. 1995;21(1):103-9.

36. Gibbon B. An investigation of interprofessional collaboration in stroke rehabilitation team conferences. J Clin Nurs. 1999;8(3):246-52.

37. Hall P, Weaver L. Interdisciplinary education and teamwork: a long and winding road. Medical Education. 2001;35:867-75.

38. McCallin A. Interdisciplinary team leadership: a revisionist approach for an old problem? J Nurs Manag. 2003;11(6):364-70.

39. Elston S, Holloway I. The impact of recent primary care reforms in the UK on interprofessional working in primary care centres. J InterprofCare. 2001;15(1):19-27.

40. Gair G, Hartery T. Medical dominance in multidisciplinary teamwork: a case study of discharge decision-making in a geriatric assessment unit. J Nurs Manag. 2001;9(1):3-11.

41. McCallin A. Developing effective interdisciplinary teams. Nurs N Z. 2003;9(9):21-3.

42. Boon H, Verhoef M, O'Hara D, Findlay B, Majid N. Integrative healthcare: arriving at a working definition. AlternTher Health Med. 2004;10(5):48-56.

43. McCray J. Leading interprofessional practice: a conceptual framework to support practitioners in the field of learning disability. Journal of Nursing Management. 2003;11(6):387-95.

44. McCallin AM. Pluralistic dialogue: A grounded theory of interdisciplinary practice. The Australian Journal of Rehabilitation Counselling. 1999;5(2):78-85.

45. Molleman E, Broekhuis M, Stoffels R, Jaspers F. Consequences of participating in multidisciplinary medical team meetings for surgical, nonsurgical, and supporting specialties. Med Care Res Rev. 2010;67(2):173-93.

46. Hibbert E, St.Arnaud S, Dharampaul S. Nurses' satisfaction with the patient care team. Canadian Journal of Rehabilitation. 1994;8(2):87-95.

47. Lind JI, SkaÝˆrvad PH. Nya team i organisationernas vaÝˆrld. Liber Ekonomi. 1997.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

48. Reilly C. Transdisciplinary approach: an atypical strategy for improving outcomes in rehabilitative and long-term acute care settings. Rehabil Nurs. 2001;26(6):216-20, 44.

49. Thylefors I, Persson O, Hellstrom D. Team types, perceived efficiency and team climate in Swedish cross-professional teamwork. J InterprofCare. 2005;19(2):102-14.

50. huriri-Driscoll A, Rasmussen P, Day P. Mental health services for older people: a critical appraisal of the literature2004. Report No.: 1877235547 Contract No.: Systematic review.

51. Bronstein LR. Index of interdisciplinary collaboration. Social Work Research. 2002;26(2):113-26.

52. Oliver DP, Wittenberg-Lyles EM, Day M. Measuring interdisciplinary perceptions of collaboration on hospice teams. Am J Hosp Palliat Care. 2007;24(1):49-53.

53. Mills P, Neily J, Dunn E. Teamwork and communication in surgical teams: implications for patient safety. J Am CollSurg. 2008;206(1):107-12.

54. Mickan S. Understanding effective teams in healthcare environments. 2002.

55. Mickan SM, Rodger SA. Effective health care teams: a model of six characteristics developed from shared perceptions. J InterprofCare. 2005;19(4):358-70.

56. Anderson NR, West MA. Measuring climate for work group innovation: development and validation of the team climate inventory. Journal of Organizational Behavior. 1998;19(3):235-58.

57. Batorowicz B, Shepherd TA. Measuring the quality of transdisciplinary teams. J InterprofCare. 2008;22(6):612-20.

58. King G, Shaw L, Orchard CA, Miller S. The interprofessional socialization and valuing scale: a tool for evaluating the shift toward collaborative care approaches in health care settings. Work. 2010;35(1):77-85.

59. Shortell SM, Marsteller JA, Lin M, Pearson ML, Wu SY, Mendel P, et al. The role of perceived team effectiveness in improving chronic illness care. Med Care. 2004;42(11):1040-8.

60. Kvarnstrom S. Difficulties in collaboration: a critical incident study of interprofessional healthcare teamwork. J InterprofCare. 2008;22(2):191-203.

61. Choi BC, Pak AW. Multidisciplinarity, interdisciplinarity, and transdisciplinarity in health research, services, education and policy: 2. Promotors, barriers, and strategies of enhancement. Clin Invest Med. 2007;30(6):E224-E32.

62. Laing K. Teambuilding. GastroenterolNurs. 2003;26(4):156-8.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

63. Minore B, Boone M. Realizing potential: improving interdisciplinary professional/paraprofessional health care teams in Canada's northern aboriginal communities through education. J InterprofCare. 2002;16(2):139-47.

64. Baxter SK, Brumfitt SM. Benefits and losses: a qualitative study exploring healthcare staff perceptions of teamworking. Qual Saf Health Care. 2008;17(2):127-30.

65. Field R, West MA. Teamwork in primary health care. Two Perspectives from practices. Journal of Interprofessional Care. 1995; 2,:123-30.

66. Molyneux J. Interprofessional teamworking: what makes teams work well? J InterprofCare. 2001;15(1):29-35.

67. Prochaska JO, Velicer WF. The transtheoretical model of health behavior change. Am J Health Promot. 1997;12(1):38-48.

68. Dental and Long Term Conditions Workforce Resource Pack. NHS National Workforce Project; 2009 [14.7.2011]; www.healthcareworkforcenhs.uk/wrt].

69. Bautz-Holter E, Sveen U, Rygh J, Rodgers H, Wyller TB. Early supported discharge of patients with acute stroke: a randomized controlled trial. DisabilRehabil. 2002;24(7):348-55.

70. Avlund K, Jepsen E, Vass M, Lundemark H. Effects of comprehensive follow-up home visits after hospitalization on functional ability and readmissions among old patients. A randomized controlled study. Scandinavian Journal of Occupational Therapy. 2002;9(1):17-22.

71. Sommers LS, Marton KI, Barbaccia JC, Randolph J. Physician, nurse, and social worker collaboration in primary care for chronically ill seniors. ArchInternMed. 2000;160(12):1825-33.

72. Strasser DC, Falconer JA, Stevens AB, Uomoto JM, Herrin J, Bowen SE, et al. Team training and stroke rehabilitation outcomes: a cluster randomized trial. ArchPhys Med Rehabil. 2008;89(1):10-5.

73. Zwarenstein M, Goldman J, S. R. Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. Issue 3. Art. No.: CD000072. DOI: 10.1002/14651858.CD000072.pub2. London: Department of Health2009.

74. Schneider PJ. Crossing the Quality Chasm: Building a Safe Nutrition System. Journal of Parenteral and Enteral Nutrition. 2002;26(4):219-25.

75. Audet AJ, Doty MM, Shamasdin J, Schoenbaum SC. Physicians' views on quality of care: findings from the Commonwealth Fund national survey of physicians and quality of care. Commonw FundMay. 2005.

76. Bennett-Emslie G, McIntosh J. Promoting collaboration in the primary care team - the role of the practice meeting. Journal of Interprofessional Care. 1995;9(3):251-6.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

77. Borrill CA, West MA, Carletta J, Carter AJ, Dawson JF, Garrod S, et al. The effectiveness of health care teams in the national health service: DOH SDO Programme2000.

78. Wiles R, Robison J. Teamwork in primary care: the views and experiences of nurses, midwives and health visitors. J Adv Nurs. 1994;20(2):324-30.

79. Farris KB, Cote I, Feeny D, Johnson JA, Tsuyuki RT, Brilliant S, et al. Enhancing primary care for complex patients. Demonstration project using multidisciplinary teams.[see comment]. Canadian Family Physician. 2004;50:998-1003.

80. Rutherford J, McArthur MA. A qualitative account of the factors affecting team learning in primary care, Education for Primary Care ; . 15. 2004:352-60.

81. Harpole LH, Williams JW, Jr., Olsen MK, Stechuchak KM, Oddone E, Callahan CM, et al. Improving depression outcomes in older adults with comorbid medical illness.[see comment]. General Hospital Psychiatry. 2005;27(1):4-12.

82. Hunkeler EM, Katon W, Tang L, Williams JW, Jr., Kroenke K, Lin EH, et al. Long term outcomes from the IMPACT randomised trial for depressed elderly patients in primary care.[see comment]. BMJ. 2006;332(7536):259-63.

83. Unutzer J, Katon W, Callahan CM, Williams JW, Jr., Hunkeler E, Harpole L, et al. Impact Investigators.Improving Mood-Promoting Access to Collaborative Treatment. Collaborative care management of late-life depression in the primary care setting: a randomized controlled trial.[see comment]. JAMA. 2002;288(22):2836-45.

84. Saltvedt I, Mo ES, Fayers P, Kaasa S, Sletvold O. Reduced mortality in treating acutely sick, frail older patients in a geriatric evaluation and management unit. A prospective randomized trial. Journal of the American Geriatrics Society. 2002;50(5):792-8.

85. Birks R, Crotty M, Giles L, Halbert J, Rowett D, Whitehead C, et al. An outreach geriatric medication advisory service in residential aged care: a randomised controlled trial of case conferencing. Age and Ageing; 33 (6) Nov 2004, pp612-617. 2004.

86. Crotty M, Halbert J, Rowett D, Giles L, Birks R, Williams H, et al. An outreach geriatric medication advisory service in residential aged care: a randomised controlled trial of case conferencing. Age and Ageing. 2004;33(6):612-7.

87. Liberman RP, Hilty DM, Drake RE, Tsang HW. Requirements for multidisciplinary teamwork in psychiatric rehabilitation. Psychiatric Services. 2001;52:1331-42.

88. Currie VL, Harvey G. The use of care pathways as tools to support the implementation of evidence based practice. Journal of Interprofessional Care. 2000;14(4):311ƒ_"24.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

89. Tolson D, McIntosh J, Loftus L, Cormie P. Developing a managed clinical network in palliative care: a realistic evaluation. Int J Nurs Stud. 2007;44(2):183-95.

90. Freeman M, Miller C, Ross N. The Impact of individual Philosophies of Teamwork on Multiprofessional Practice and the Implications for Education. Journal of Interprofessional Care. 2000;14(3):237-47.

91. Thomas J, Harden A. Methods for the thematic synthesis of qualitative research in systematic reviews. BMC Med Res Methodol. 2008;8:45.

92. Seneviratne CC, Mather CM, Then KL. Understanding nursing on an acute stroke unit: perceptions of space, time and interprofessional practice. J Adv Nurs. 2009;65(9):1872-81.

93. Sinclair LB, Lingard LA, Mohabeer RN. What's so great about rehabilitation teams? An ethnographic study of interprofessional collaboration in a rehabilitation unit. ArchPhys Med Rehabil. 2009;90(7):1196-201.

94. Jones J, Wilson A, Parker H, Wynn A, Jagger C, Spiers N, et al. Economic evaluation of hospital at home versus hospital care: cost minimisation analysis of data from randomised controlled trial. BMJ. 1999;319(7224):1547-50.

95. Long AF, Kneafsey R, Ryan J. Rehabilitation practice: challenges to effective team working. Int J Nurs Stud. 2003;40(6):663-73.

96. Shaw L, Walker R, Hogue A. The art and science of teamwork: enacting a transdisciplinary approach in work rehabilitation. Work. 2008;30(3):297-306.

97. Molyneux J. Interprofessional Teamworking: what makes teams work well? Journal of Interprofessional Care. 2001;15(1):29-35.

98. Suddick KM, De Souza L. Therapists' experiences and perceptions of teamwork in neurological rehabilitation: reasoning behind the team approach, structure and composition of the team and teamworking processes. Physiother Res Int. 2006;11(2):72-83.

99. Atwal A, Tattersall K, Caldwell K, Craik C. Multidisciplinary perceptions of the role of nurses and healthcare assistants in rehabilitation of older adults in acute health care. Journal of Clinical Nursing, vol15, no11, pp1418-1425, Nov 2006. 2006.

100. Martin DR, O'Brien JL, Heyworth JA, Meyer NR. The collaborative healthcare team: tensive issues warranting ongoing consideration. J Am Acad Nurse Pract. 2005;17(8):325-30.

101. Martin DR, O'Brien JL, Heyworth JA, Meyer NR. Point counterpoint: the function of contradictions on an interdisciplinary health care team. Qual Health Res. 2008;18(3):369-79.

102. Baxter SK, Brumfitt SM. Benefits and losses: a qualitative study exploring healthcare staff perceptions of teamworking. Quality and Safety in Health Care. 2008;17(2):127-30.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

103. Baxter P, Markle-Reid M. An interprofessional team approach to fall prevention for older home care clients 'at risk' of falling: health care providers share their experiences. Int J Integr Care. 2009;9:e15.

104. Wright B, Lockyer J, Fidler H, Hofmeister M. Roles and responsibilities of family physicians on geriatric health care teams: Health care team members' perspectives. Can Fam Physician. 2007;53(11):1954-5.

105. Cole KD, Waite MS, Nichols LO. Organizational structure, team process, and future directions of interprofessional health care teams. GerontolGeriatrEduc. 2003;24(2):35-49.

106. Atwal A, Caldwell K. Do all health and social care professionals interact equally: a study of interactions in multidisciplinary teams in the United Kingdom. Scand J Caring Sci. 2005;19(3):268-73.

107. Baxter SK, Brumfitt SM. Professional differences in interprofessional working. J InterprofCare. 2008;22(3):239-51.

108. Jones A, Jones D. Improving teamwork, trust and safety: an ethnographic study of an interprofessional initiative. J InterprofCare. 2011;25(3):175-81.

109. Vinokur-Kaplan D. Treatment teams that work (and those that don't): an application of Hackman's group effectiveness model to into interdisciplinary teams in psychiatric hospitals. Journal of applied behavioural science. 1995;31(3):303-27.

110. Burns T, Lloyd H. Is a team approach based on staff meetings cost-effective in the delivery of mental health care? Current Opinion in Psychiatry. 2004;17(4):311-4.

111. Atkinson P. The Ethnography of a medical setting: reading, writing and rhetoric. Qualitative Health Research. 1992;2(4):451-74.

112. Revans R. Reg Revans: ABC of Action Learning. London: Chartwell-Bratt; 1983.

113. Alvesson M, Willmott H. On the idea of emancipation in management and organisational studies. Academy of Management Review. 1992;17(3):432-64.

114. Garfinkel H. Studies in Ethnomethodology. Englewood Cliffs, NJ: Prentice-Hall; 1967.

115. Pardo del Val M, Fuentes CM. Resistance to change: a literature review and empirical study. Management Decision. 2003;41(2):148-55.

116. Armenakis AA, Harris SG, Mossholder KW. Creating Readiness for Organizational-Change. Human Relations. 1993;46(6):681-703.

117. Huxley P, Evans S, Baker C, White J, Philpin S, Onyett S, et al. Integration of social care staff within community mental health teams2010.

118. Fewster-Thuente L, Velsor-Friedrich B. Interdisciplinary collaboration for healthcare professionals. Nurs Adm Q. 2008;32(1):40-8.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health

119. Neumann V, Varela EG. Interdisciplinary Team Working In Physical And Rehabilitation Medicine. Journal of Rehabilitation Medicine. 2010;42(1):4-8.

120. Huby G, Huxley P, S E. Supporting Reconfiguration of Social Care Roles in Integrated Settings in the UK: A comparative study across three health and social care economies2009.

121. Hand HH, Richards MD, Slocum JW. Organizational climate and the effectiveness of a human relations training programme. Academy of Management Journal. 1973;16(2):185-95.

© Queen's Printer and Controller of HMSO 2012. This work was produced by Nancarrow & Enderby et al. under the terms of a commissioning contract issued by the Secretary of State for Health