

Effectively implementing multi-disciplinary teams focused on population segments



A rapid review of existing evidence

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Overview

This review was requested by the Lewisham CCG Clinical Directors to look into evidence around how to effectively implement multi-disciplinary teams (MDTs) focused on population segments. The review considered implications specifically for workforce, technology, and patient experience and outcomes.

Key findings of the review include:

- The most common method of segmenting the population identified was by types of long-term conditions.
- Multidisciplinary care was found to improve patient experience or outcomes
- The cost-effectiveness of the models varied. In some cases, MDTs were found to be more expensive than alternative models, whilst others were found to be more cost-effective.
- The biggest barrier in regards to technology is access to health records for patients between organisations using different systems.

The following slide lists the literature reviews and case studies and provides their key impact or finding. It is important to note that as this is a rapid review, it is not systematic nor does it cover all existing initiatives and data on the subject. Rather it pulls out some key examples to share learning and provide good practice guides.

Methodology

The rapid review primarily referred to academic sources, using search databases including Google Scholar, PubMed, and Cochrane. The studies and articles referred to were mostly case studies that employed mixed quantitative and qualitative methods to judge the effectiveness of implementation of multi-disciplinary teams focussing on population segments. Systematic reviews and theoretical models are also included in the sources. A variety of search terms were used, focusing heavily on the terms “multi-disciplinary teams”, “population segmentation”, and “primary care”.

Population segments included are:

- Chronic lower back pain sufferers
- Chronically ill/ long-term conditions patients
- Congested heart failure patients
- Diabetes patients
- Patients suffering with mental illness
- Rheumatoid arthritis

Most instances of population segmentation in the literature refer to specific long-term conditions

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Key studies and their impacts

Page	Study	Key Impact/Finding
5	Literature Review 1 - Multidisciplinary treatment for back pain	MDTs led to improved outcomes for patients, but were expensive
6	Literature Review 2 - Integrated care programmes for chronically ill patients	Multidisciplinary working seen as an important aspect of integrated care, although definitions and implementation vary
7	Literature Review 3 - Education needs for integrated care: a literature review	Nurses need more training in working in a multidisciplinary way. More research and cooperation between higher education and care sectors is required
8	Literature Review 4 - What fosters or prevents interprofessional teamworking in primary and community care? A literature review	Team premises, team size and composition, organisational support, team meetings, clear goals and objectives, and audit were the key factors
9	Literature Review 5 - Multidisciplinary team care and outcomes in rheumatoid arthritis	Clinical Nurse Specialist-led MDT care was as effective as other models, and at a lower cost
11	Theoretical Model - The Triple Aim: Care, Health, And Cost	Key to delivering improved outcomes and better population health at efficient spending is segmenting the population clearly, and an organisation/ organisations acting as 'the integrator', assuming responsibility for the delivery of outcomes
13	Case Review 1. Electronic Health Record Challenges, Workarounds, and Solutions Observed in Practices Integrating Behavioural Health and Primary Care	Finding solutions to barriers to sharing electronic health records between organisations takes time and a lot of resource. It is a barrier to multidisciplinary working
14	Case Review 2. Designing Clinical Space for the Delivery of Integrated Behavioural Health and Primary Care	Mental health and primary care teams that were co-located were more likely to adopt multidisciplinary and integrated approaches
15	Case Review 3. Preparing the Workforce for Behavioural Health and Primary Care Integration	Staff require more training in order to work in a multidisciplinary way
17	Case Study - A population-based approach to diabetes management in a primary care setting: early results and lessons learned	Patient satisfaction and testing increased. Staff required more training
18	Randomised Controlled Trial - 3-Year Follow-up of Clinical and Behavioral Improvements Following a Multifaceted Diabetes Care Intervention	Employment of a diabetes educator was essential. 12 month improved outcomes were sustained at 3 years
19	Conclusions	Not applicable

Systematic/Literature Reviews

Literature Review 1: Multidisciplinary treatment for back pain

Background and Case for Change:

Lower back pain is a common problem that has a heavy financial burden on society. There is no universal endorsement on treatment options, although it is increasingly accepted that there are physical, psychological and social influences on the condition.

The review assesses evidence on the effectiveness of a multidisciplinary biopsychosocial rehabilitation (MBR) approach, in comparison to usual, less co-ordinated care.

The Study:

A mixed quantitative and qualitative study. Primary outcomes were pain, disability and work status, divided into the short, medium and long term. Secondary outcomes were psychological functioning (for example depression, anxiety, catastrophising), healthcare service utilisation, quality of life and adverse events

Implications for patient experience and outcomes:

Multi-disciplinary care of numerous different professionals has enhanced outcomes for patients with chronic lower back pain. Compared to patients receiving normal, single-provider, one-dimensional care, patients receiving multi-disciplinary input had larger improvements in pain and quality of life, and a doubled likelihood of returning to work.

Implications for workforce:

Teams made up of therapists from different professions, including psychological input. Whilst they were effective and correlated with improved outcomes, this was found to be an expensive workforce model, so may be more appropriate for complex patients.

Implications for technology:

None mentioned

Conclusion:

The benefits detailed above were evident for patients with lower back pain, undergoing multidisciplinary biopsychosocial rehabilitation. However, "effects are of a modest magnitude and should be balanced against the time and resource requirements of MBR programs".

Literature Review 2: Integrated care programmes for chronically ill patients

Background and Case for Change:

As support for integrated care approaches grows, in order to address the needs of ageing, more clinically complex populations, the need to understand which elements of interventions and pathways are effective also grows. Systematic reviews have addressed these questions for groups of patients with the same chronic condition (eg. diabetes or heart failure). But an overview of similarities in reported effects, definitions, and components of these programmes is missing.

The Study:

The purpose of this study was to investigate effectiveness, definitions, and components of integrated care programmes for chronically ill patients on the basis of systematic reviews.

Literature review from January 1996 to May 2004 was carried out. The main measures are definitions and components of integrated care programmes and all effects reported on the quality of care.

Implications for patient experience and outcomes:

Mostly positive, however due to the variation involved, it was difficult to pinpoint what positive about this, and what caused the positive outcomes.

Implications for workforce:

None mentioned

Implications for technology:

None mentioned

Conclusion:

The most common components of integrated care programmes were self-management support and patient education, often combined with structured clinical follow-up and case management; a multidisciplinary patient care team; multidisciplinary clinical pathways and feedback, reminders, and education for professionals. Integrated care programmes seemed to have positive effects on the quality of care. However, they have widely varying definitions and components and failure to recognize these variations leads to inappropriate conclusions about the effectiveness of these programmes. To compare programmes and better understand the (cost) effectiveness of the programmes, consistent definitions must be used and component interventions must be well described.

Literature Review 3: Education needs for integrated care: a literature review

Background and Case for Change:

The need for different professionals to work more closely dominates global health policy. The drive to develop a workforce prepared for the future is crucial to the success of integrated services. However, some have argued that nurses are ill-equipped to meet the challenges of integrated service provision. The ability to work interprofessionally is an important skill which needs to be developed to support integrated working.

The Study:

Structured searches were undertaken on organizational websites and the Caredata, CINAHL, Cochrane Library, MEDLINE, Sociofile databases between December 2002 and April 2004 to identify policy documents and primary research studies. The robustness of identified research studies were appraised using recognized appraisal tools.

Implications for patient experience and outcomes:

None mentioned

Implications for workforce:

Multidisciplinary working needs to become embedded in the training and education of staff working in health and care services, especially nurses. Further research is required, and partnerships between higher education providers and health and care providers is needed.

Implications for technology:

None mentioned

Conclusion:

No specific population segments were focussed on in this study. Central to improving/ implementing integrated care are: 1) Effective communication between professional groups within teams; 2) an emphasis on role awareness; 3) education about the importance of partnership working; 4) the need for professionals to develop skills in relation to practice development; 5) leadership through professional and personal development

Literature Review 4: What fosters or prevents interprofessional teamworking in primary and community care? A literature review

Background and Case for Change:

An ageing population with an increasing prevalence of long-term conditions has led to an acceptance that no single health or care discipline can provide complete care for patients, and the role of multidisciplinary working is increasingly importance. However, it is not always achieved.

The Study:

This review aimed to explore the factors that inhibit or facilitate inter professional team working in primary and community care settings, in order to inform development of multidisciplinary working at the turn of the century.

A comprehensive search of the literature was undertaken using a variety of approaches to identify appropriate literature for inclusion in the study. The selected articles used both qualitative and quantitative research methods.

Implications for patient experience and outcomes:

None mentioned

Implications for workforce:

Following a thematic analysis of the literature, two main themes emerged that had an impact on inter-professional teamworking: team structure and team processes. Within these two themes, six categories were identified: team premises; team size and composition; organisational support; team meetings; clear goals and objectives; and audit.

Implications for technology:

None mentioned

Conclusion:

Despite teamwork being an efficient and productive way of achieving goals and results, several barriers exist that hinder its potential from becoming fully exploited. These findings can inform development of current best practice, although further research needs to be conducted into multidisciplinary teamworking at both the team and organisation level, to ensure that enhancement and maintenance of teamwork leads to an improved quality of healthcare provision.

Literature Review 5: Multidisciplinary team care and outcomes in rheumatoid arthritis

Background and Case for Change:

Multidisciplinary rehabilitation is widely used to supplement medical and surgical treatment of patients with rheumatoid arthritis, but there is wide variation in the delivery, time-scales and settings of this care. There has been no comparison of the effectiveness of these different care options.

The Study:

The purpose of this review is to list the recent literature on the effectiveness and costs of comprehensive multidisciplinary team care programs in patients with RA. New insights into the multidisciplinary team care process and its evaluation are discussed.

This is a mixed quantitative and qualitative study measuring clinical effectiveness measures e.g. disease activity, functional ability (quantitative), and multi-dimensional satisfaction questionnaire developed for evaluation of MD care (qualitative). The sample was a varied, systemic review of current evidence

Implications for patient experience and outcomes:

Clinical Nurse Specialist-coordinated MDT programmes in outpatient setting achieve same outcomes at lower costs, as well as allow for enhancement of the role of the patient

Implications for workforce:

Coordinator role of clinical nurse specialist is most effective

Implications for technology:

None mentioned

Conclusion:

Comprehensive inpatient and day patient programs prove to be equally effective in patients with RA, while the employment of alternative forms of comprehensive care, such as care coordinated by a clinical nurse specialist, is promising. With respect to future research, challenges are related to the development and selection of adequate outcome measures, the enhancement of mutual communication, and a further definition and extension of the role of the patient in the team care process.

Theoretical Model

Theoretical Model: The Triple Aim: Care, Health, And Cost

Background and Case for Change:

Congestive heart failure is the most common reason for admission of Medicare patients to a hospital (and readmission), and there is often a lack of coordination following discharge. The Triple Aim means, “improving the individual experience of care; improving the health of populations; and reducing the per capita costs of care for populations”

The Study:

The examples cited in the study are based on the US system, and are used to demonstrate and explain the triple aim model. Through looking at the pathway for congested heart failure of specific populations, it looks at how an integrated pathway can improve care and reduce cost in the US. The article looks at case studies from the US such as Kaiser Permanente. The research is qualitative and theoretical, and is based on a small sample of case studies.

Implications for patient experience and outcomes:

None mentioned

Implications for workforce:

Needs to be skilled and equipped to care for the conditions relevant to their populations . Need to work within/ alongside the integrator, so issues may revolve around access to information, systems, funding etc.

Implications for technology:

Telecommunications enabling care that is not location specific.

Conclusion:

“Triple Aim: improving the individual experience of care; improving the health of populations; and reducing the per capita costs of care for populations”

Preconditions for the pursuit of the triple aim (ie implementing the model):

1) Specifying a population of concern; 2) policy constraints; 3) integrator (entity that accepts responsibility for the three elements on the Triple aim for a specified population),

“Only when the population is specified does it become, in principle, possible to know about its experiences of care, its health status, and the per capita costs of caring for it. “

Case Series – Joint working in mental (behavioural) health and primary care

Case Series 1: Electronic Health Record Challenges, Workarounds, and Solutions Observed in Practices Integrating Behavioral Health and Primary Care

Background and Case for Change:

Behavioural health is used here to refer to mental health, and integrated care is used to define the care rendered by a practice team of primary care and behavioural health clinicians (BHCs) and staff, working together with patients and families and using a systematic and cost-effective approach to provide patient-centred care that addresses diverse physical health and behavioural health needs.

The Study:

This was an observational, cross-case comparative study of 11 diverse practices, including 8 primary care clinics and 3 community mental health centres focused on the implementation of integrated care. Practice characteristics (eg, practice ownership, federal designation, geographic area, provider composition, EHR system, and patient panel characteristics) were collected using a practice information survey and analysed to report descriptive information. A multidisciplinary team used a grounded theory approach to analyse program documents, field notes from practice observation visits, online diaries, and semi-structured interviews.

Implications for patient experience and outcomes:

None mentioned

Implications for workforce:

None mentioned

Implications for technology:

Integrating primary care and behavioural health present substantial EHR data documentation and use challenges that are yet to be fully resolved. Diverse practices imagined and implemented ways to deal with these challenges until definitive solutions mature, but these workarounds and early solutions further burden practices and patients and beg for relief. Relief will require financial support and cooperative efforts among clinicians, EHR vendors, practice assistance organizations, regulators, standards setters, and workforce educators.

Conclusion:

The services sampled, serving behavioural health (mental health) and primary care population segments do not currently have the IT infrastructure required to effectively implement multidisciplinary working.

Case Series 2: Designing Clinical Space for the Delivery of Integrated Behavioural Health and Primary Care

Background and Case for Change:

Behavioural health is used here to refer to mental health, and **integrated care** is used to define the care rendered by a practice team of primary care and behavioural health clinicians (BHCs) and staff, working together with patients and families and using a systematic and cost-effective approach to provide patient-centred care that addresses diverse physical health and behavioural health needs.

This study sought to describe features of the physical space in which practices integrating primary care and behavioural health care work and to identify the arrangements that enable integration of care.

The Study:

An observational study of 19 diverse practices located across the United States. Practice-level data included field notes from 2–4-day site visits, transcripts from semi structured interviews with clinicians and clinical staff, online implementation diary posts, and facility photographs. A multidisciplinary team used a 4-stage, systematic approach to analyse data and identify how physical layout enabled the work of integrated care teams.

Implications for patient experience and outcomes:

None mentioned

Implications for workforce:

Where mental health and primary care teams were co-located, the likelihood of multidisciplinary care and integrated approaches occurring was increased

Implications for technology:

None mentioned

Conclusion:

Clinicians, researchers, and health-care administrators are encouraged to consider the role of professional proximity and private working space when creating new facilities or redesigning existing space to foster delivery of integrated behavioral health and primary care.

Case Series 3: Preparing the Workforce for Behavioural Health and Primary Care Integration

Background and Case for Change:

Behavioural health is used here to refer to mental health, and integrated care is used to define the care rendered by a practice team of primary care and behavioural health clinicians (BHCs) and staff, working together with patients and families and using a systematic and cost-effective approach to provide patient-centred care that addresses diverse physical health and behavioural health needs.

Purpose: To identify how organizations prepare clinicians to work together to integrate behavioural health and primary care.

The Study:

Observational cross-case comparison study of 19 U.S. practices, 11 participating in Advancing Care Together, and 8 from the Integration Workforce Study. Practices varied in size, ownership, geographic location, and experience delivering integrated care. Multidisciplinary teams collected data (field notes from direct practice observations, semi structured interviews, and online diaries as reported by practice leaders) and then analysed the data using a grounded theory approach.

Implications for patient experience and outcomes:

None mentioned

Implications for workforce:

Joint working and integration between mental health and primary care teams is being prevented by a lack of training capacity and practical experience opportunities for staff . Practices and providers need to make this effort themselves, as they cannot currently rely on the wider system to provide this capacity of expertise.

Implications for technology:

None mentioned

Conclusion:

More funding and capacity needs to be implemented at a system-wide level in order to teach and promote joint working and integration between mental health and primary care teams. If this is not available, organisations need to take the initiative to do so themselves, however this may be sporadic, and tailored to specific organisations.

Other

Case Study: A population-based approach to diabetes management in a primary care setting: early results and lessons learned

Background and Case for Change:

More than 90% of diabetic patients receive their care from primary care providers who may not have a special interest in or up-to-date information on diabetes and who see diabetic patients in the course of busy days filled with patient-generated visits for specific problems, most of which are not related to diabetes.

The purpose of this case study is to determine the effect of a multifaceted program of support on the ability of primary care teams to deliver population-based diabetes care.

The Study:

The study is an on-going evaluation of a population-based intervention. The setting is Group Health Cooperative of Puget Sound, a staff model HMO in which more than 200 primary care providers treat approximately 15,000 diabetic patients. Their approach is comprehensive and multidisciplinary, within primary care teams to delivering diabetes care. This approach was pilot tested before full implementation and included joint consultations by a diabetes expert care team (a diabetologist and a nurse certified diabetes educator) seeing patients in primary care settings.

The main measures were patient and provider satisfaction through existing system-wide measurement processes; process measures, health outcomes, and costs.

Implications for patient experience and outcomes:

Increased patient and provider satisfaction. Rates of diabetes symptom-related testing (eg retinal) have increased, enabling those symptoms and their causes to be addressed sooner.

Implications for workforce:

Requires equipping primary care teams with the skills to better address diabetes. Both through training and allocation of roles

Implications for technology:

Interest in, and increasing use of electronic Diabetes Registry

Conclusion:

Providing support to primary care teams in several key areas has made a population-based approach to diabetes care a practical reality in the setting of a staff model HMO. It may be an important mechanism for improving standards of care for many diabetic patients.

Randomised Controlled Trial: 3-Year Follow-up of Clinical and Behavioral Improvements Following a Multifaceted Diabetes Care Intervention

Background and Case for Change:

The Chronic Care Model is a multifaceted framework using different interventions at patient, provider, community and health system levels – used patient and provider education on diabetes, specially designed process for diabetes patient visits, diabetes educator present for visits, self-management sessions, support groups

The Study:

Mixed quantitative and qualitative methods employed. Clinical measures were repeated (Quantitative), and a 1 hour session with diabetes educator where patients completed MDCP and QWB10, both of which repeated plus questionnaire at 3 years follow-up (qualitative). The sample size was small, and data was self-reported.

Implications for patient experience and outcomes:

Improvements in indicators of diabetes at 12 months follow-up were sustained at 3 years for CCM patients. These included follow-up in glycaemic and blood pressure control, and the proportion of participants who self-monitor their blood glucose. Quality of wellbeing also improved.

Implications for workforce:

Employment of diabetes educator, need for partnership working with acute, primary care and social support networks

Implications for technology:

None mentioned

Conclusion:

Improvements in outcomes can be sustained over time following a multifaceted diabetes care intervention. Future research in this area is necessary to understand if improvements in outcomes can be sustained following diabetes self-management education (DSME) and what type of patient fares the best from multifaceted diabetes care interventions.



Conclusions

The majority of the studies found by the rapid review team were literature and systematic reviews and findings were mostly not quantitative. The research team found that the most common method of segmenting the population identified was by types of long-term conditions. Numerous studies that referred to other population segmentations were found but these were excluded as they did not explicitly refer to multidisciplinary teams and instead focussed more broadly on integrated care.

With respect to technology, the biggest barrier is access to health records for patients between organisations using different systems. Workforce implications were around training and equipping staff in new styles of working, recruiting the right skill-mix, and the co-location of staff. In several studies, patients and families were referred to as equal partners in the delivery of care. The impact of education and self-management was a prominent theme.

On the whole, multidisciplinary care was found to improve patient experience or outcomes. In some cases, this model was found to be more expensive than alternative models, so may be more appropriate for complex patients. However in other cases it was found to be more cost-effective than other models; the cost of implementing multidisciplinary care must therefore be weighed against the potential outcomes in decision-making around care models.

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