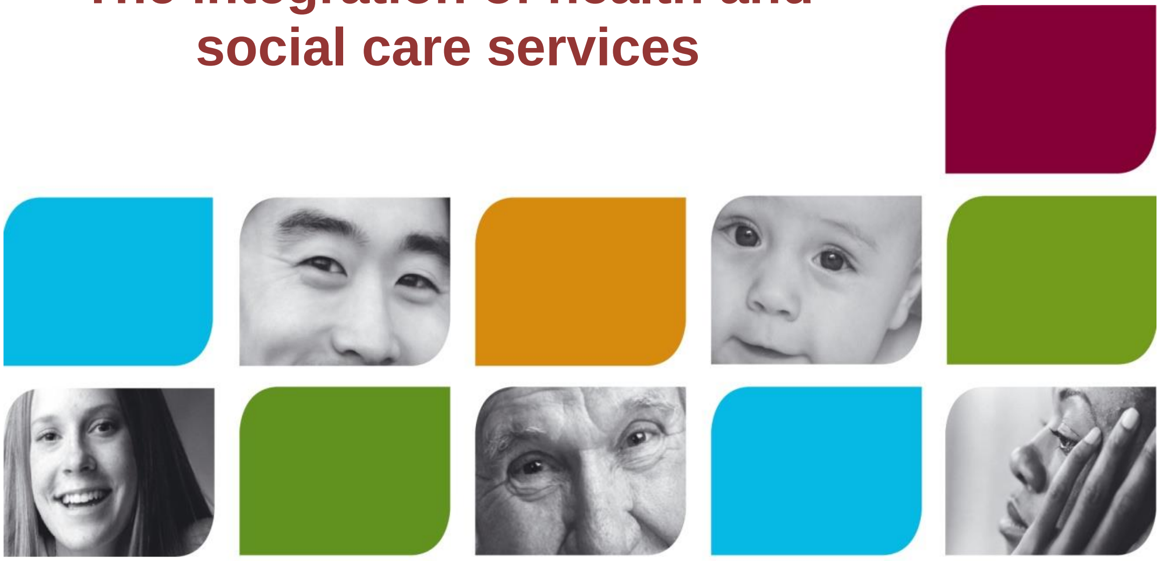
The integration of health and social care services



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Contents

List of figures

List of tables

List of case studies

Executive summary

The Government is committed to the introduction of a single-tier health service, supported by universal health insurance (UHI). Under UHI, everyone will be insured for a standard package of primary and hospital care services, including mental health services. It is understood that primary and hospital care will be funded mainly via the UHI system and social care services and public health services will be funded by general taxation. While funded separately, these services will need to be delivered in an integrated manner around the needs of the person. This review considers the international evidence in relation to mechanisms and structures used to integrate health services (provided under UHI) and social care services.

Methodology

The Department of Health commissioned the Health Research Board to undertake two reviews of the international evidence in relation to mechanisms and structures used to integrate general health services with the two sets of services funded by general taxation, i.e. one review of the integration of public health services, and one of the integration of social care services.

The Department of Health set a 3-month deadline for the delivery of the reports.

The review of the international literature on the integration of public health services with general health services commenced before the 'sister' study of the integration of social care services. As a result, the preliminary step of investigating the meaning of the term 'integration' and the theoretical frameworks that have been developed for understanding how it functions in the health sector was undertaken by the researchers working on public health services, and the findings were written up and presented in that report.

Given that this preliminary step had already been undertaken, and given the immense body of literature on the integration of health and social care services that an initial scan of the relevant databases revealed, the researchers of the study on social care services decided not to undertake this preliminary step but to use the definitional and theoretical platform already established by their colleagues and described in the public health study.

From this starting point, and given the tight timeframe, we took a pragmatic approach to the search. A general Google search found that Monitor had commissioned Frontier Economics, the King's Fund, Nuffield Trust and Ernst and Young to define integrated health and social care and to identify the ways in which it might benefit patients. The resultant report Enablers and barriers to integrated care and implications for Monitor, which was published in 2012, provided a comprehensive synthesis of the evidence relating to health and social care integration. We used that report as an index document and obtained copies of all papers and reports cited in its bibliography. This helped us identify other important recent reports published by reputable organisations including the Kings Fund and the European Observatory which we also used as reference documents. Therefore, we did not undertake a systematic approach to this research owing to the very tight deadline.

Reviewing the literature within the context of the definitions and theoretical discussion already undertaken by our colleagues working on public health, we decided to focus on the typology of integration developed by Fulop (2005), which is fully explicated in the sister report, and which has been used by the Nuffield Trust, The King's Fund and the European Observatory as the basis for their subsequent work. The fact that this typology of integration had been used by UK and European bodies in particular was a further reason supporting this decision. While Fulop's typology may not have yet been finally proved to be the best, it has received broad support and in environments which the Irish system resembles both professionally and culturally. This was deemed an important consideration as ireland is a comparative newcomer to integrating health and social care services.

We undertook iterative searching to answer any questions not covered in the publications we had identified by then. A manual search of the electronic journal International Journal of Integrated Care was also undertaken. We consider this search to be pragmatic rather than systematic. We hope we have included all the main reports on health and social care integration, but there is a possibility that some relevant studies have been excluded due to the methods employed to undertake our search.

Definition of social care and integrated health care

The Law Commission in the UK has defined social care as 'the care and support provided for those who need extra support; it includes traditional services such as care homes, day centres, equipment and home care and can extend to non-traditional services such as gym membership, art therapy, personal assistants, emotional support, and classes or courses'. There have been subsequent discussions in both the UK and Ireland regarding where the boundary between health care and social care is and how broad/ambitious the scope of social care should be? In this review we have concentrated on the traditional types of care services.

'Integrated care' is a concept that has been defined in many different ways. A review of the literature in 2009 reported that there were approximately 175 definitions and concepts. The Monitor report states that there is now a clear consensus that successful integrated care is primarily about **patient experience**, although all dimensions of **quality** and **cost-effectiveness** are relevant. They state that the three dimensions of integrated care are:

1. It seeks to improve the quality and cost-effectiveness of care for people and populations by ensuring that services are well co-ordinated around their needs.
2. Integrated care is necessary for anyone for whom a lack of care co-ordination leads to an adverse impact on their care experiences and outcomes.
3. The patient or users perspective is the organising principle of service delivery.

In their review of integration Curry and Ham identified three levels of integration which are particularly relevant for this review (other authors have identified different levels of integration and these are described in detail in the evidence review *Integration of health and wellbeing services with general health services,* which was also undertaken by the HRB). The three levels identified by Curry and Ham are:

1. Macro level – integrated care delivered across the full spectrum of services to the whole population.
2. Meso level – integrated care for a particular group of people with the same disease or condition, for example care for elderly people, mental health, disease management programmes and managed clinical networks.
3. Micro level – integrated care for individual service users through means such as care co-ordination, care planning or case management.

Integration can be real, whereby organisations merge their services, which requires different participants to change their ways of working or virtual, whereby providers work together through networks and alliances.

Integrative processes

The Nuffield Trust, The King's Fund, the European Observatory and the Canadian Policy Research Networks have all identified the same broad categories of integrative processes. These include:

1. ***Systemic*** – the co-ordinating and aligning policies, rules and regulatory frameworks.
2. ***Organisational*** – the coordinating structures, governance systems and relationships across different organisations .
3. ***Clinical/service*** – how care services are coordinated.
4. ***Informational*** – the clinical and managerial information systems to support practice across different care settings.

5. ***Financial*** – the budgetary and payment systems in place across the participating organisations.
6. ***Normative*** – the extent to which mission, work values etc. are shared within a system.

Choosing a framework of integrated health and social care

Shaw et al. have listed five questions that need to be considered when designing an integrated care framework:

1. *Goals* – what are you seeking to achieve, who is the target service user group and how will you ensure organisational support for the goals?
2. *Context* – how does the proposed project connect with other improvement programmes, which sectors are involved and how, and how will you ensure strong leadership across all sectors?
3. *Type* – what are the most important integrative processes for the project, how will commissioning arrangements support integration, and how will effective data sharing and information management be achieved?
4. *Breadth* – how will vertical or horizontal integration contribute to the success of the project, how will you address issues of choice, competition and contestability, and how will you identify and align the incentives needed to support integration across different professional groups, teams and organisations?
5. *Intensity* – how does the degree of integration relate to the goals and the local context in which the project is to be implemented, and how will you ensure integration will not result in fragmentation in some other part of the overall health system?

The processes used to integrate social care and general health services

In this review the six integrative processes (systemic, organisational, clinical, normative, financial and informational) are presented within a framework of the three levels of integration – the macro, meso, and micro levels – and whether integration was real or virtual.

Macro-level integration

Integration at the macro level refers to integrated health care for a whole population, as distinct from target groups with specific needs (meso level) and care for the individual (micro level). The macro level incorporates the other two levels and the evidence suggests that efforts to integrate health and social care should proceed on all three levels. In other words, a population-based approach should be used to plan provision. Examples of real-macro level integration included Mayo Clinic and Veterans Health Administration and examples of virtual macro-level integration included Kaiser Permanente, Geisinger, and integrated medical groups such as Greater Rochester Independent Practice Association and Community Care North Carolina and each of these are presented in detail as case studies in this review.

A well-known population-based model is the Kaiser Permanente 'triangle', in which the population's health care needs are divided into three categories according to need, and different responses identified for each category:

- the large majority of the population (65–80%) require only primary care with 'supported self-care'
- a small proportion (20–35%) are at risk and require 'care management' or 'disease management'
- a very small proportion (5%) have complex needs and need detailed attention through 'case management'.

Kaiser Permanente

Kaiser is a non-profit 'health maintenance organisation' serving over 8 million people in the US. Its mission is to provide affordable, high-quality health care services to improve the health of its members and the communities it serves. Combining the roles of insurer and provider, its members receive the entire scope of health care – preventive care, well-baby and prenatal care, immunisations, emergency care, hospital and medical services, and ancillary services including pharmacy, laboratory and radiology – and enables patients to move easily between hospitals and the community. The majority of care is provided through well-equipped ambulatory clinics and hospital care is used only when absolutely necessary.

Integrative processes of Kaiser

1. Organisational – care is provided by multi-specialty medical groups, with a focus on chronic care;
2. Clinical/service – Kaiser seeks to minimise the use of hospital beds by active management of patients, which includes the following clinical initiatives:
    - Care pathways for common conditions such as hip replacements
    - Discharge planning to help move patients through their care pathway
    - Skilled nursing facilities to provide rehabilitation for patients who no longer need to be in an acute hospital but are not ready to go home
    - Evidence-based guidelines to reduce unacceptable variations in practice.
3. Informational – Kaiser has a comprehensive electronically-based ICT system comprising:
    - Electronic health records
    - Electronic prescribing and test ordering
    - Electronic referrals for patients
    - Disease registries to track patients with chronic conditions
    - Performance monitoring and reporting capabilities
    - A members web portal provides information and education for patients, and connects them directly with their health care team
4. Financial – Each medical group receives a capitation payment from the Kaiser health plan, out of which:
    - Physicians are paid market-competitive salaries
    - An incentive pool is created to pay monetary rewards to those staff who meet quality and service goals.
5. Systemic – Kaiser comprises a health plan, a series of hospitals and a series of doctors, which remain distinct entities but co-operate closely to organise, finance, and deliver medical care using exclusive and interdependent contracts.
6. Normative – Physicians take responsibility for both quality and cost of care through medical group self-management. This, in turn, leads to a culture of group accountability for quality and efficiency, which in turn, promotes group responsibility for clinical collaboration and coordination across specialities.

Kaiser Permanente is recognised as one of the top-performing health systems in the US and is one of the lowest-cost health care providers in most of the regional markets in which it competes. When compared with the NHS, Kaiser performs better, with around one third of the bed use for about the same cost; Kaiser members also experience more comprehensive and convenient primary care services and much more rapid access to specialist services and hospital when required.

Meso-level integration

Over the last 15–20 years a number of initiatives have been devised to integrate health and social care services for sub-groups of the population with specific health and social care needs, including the frail elderly, people suffering from chronic illnesses such as diabetes or COPD, and people with disabilities. ‘Real’ integration of services at the meso-level means that a single entity is responsible for all services, either under one structure or by contracting some services with other organisations. These entities usually function in parallel with the national socio-health structures, i.e. hospitals, specialised medical care, long-term care institutions, home care. Examples include PACE in the USA and Torbay Care Trust in England.

Torbay Care Trust

The Torbay Care Trust was formed in 2005 from the Torbay Primary Care Trust and the Torbay Borough Council respectively, and its aim is to improve the integration and coordination of older people’s health and social care. Evaluations have shown that in comparison with other areas Torbay had the lowest use of hospital bed days in the region and the best performance in terms of length of stay. There was reduced use also of residential and of nursing homes, and an increase in the use of home care services. Patient experience also appears to be positive. Although use of acute hospitals is low, there are no data available on cost-effectiveness.

Integrative processes of Torbay Care Trust

1. Organisational – health and social care team areas align with GP catchment areas.
2. Clinical – care coordination with single point of contact who is a non-professional coordinator. Each team is co-located and has a single manager, a single point of contact and uses a single assessment process. Proactive discharge planning is also being developed.
3. Informational – patient records are accessible to the whole team.
4. Financial – pooled health and social care budget.
5. Normative – there are regular management-staff seminars.

Virtual meso-level integration

We identified two main 'virtual' approaches to integrating health and social care services for target populations – structured care, and joint working – and, despite continuing uncertainty over the effectiveness and impact of both, there appears to be growing preference for these less structured approaches.

Examples of structured care include disease management programmes (DMP), which can be defined as 'a means to coordinate care, focusing on the whole clinical course of a disease. DMPs have been used in Germany and the Netherlands. Care is organised and delivered according to scientific evidence and patients are actively involved in order to achieve better health outcomes'. A recent review of evaluations of DMPs across various jurisdictions found that the impact of DMPs is difficult to establish partly because there is no single definition of disease management and the consequent variety in content of programmes. The evaluations broadly concluded that the evidence of positive impacts was greatest in terms of health care processes, patient satisfaction and intermediate outcomes. Evidence relating clinical outcomes was inconclusive, and the cost-effectiveness of disease management had not yet been extensively studied or demonstrated. Any positive evidence is generally limited to a small number of long-term conditions (namely, diabetes, depression and coronary heart disease). Some positive evidence was found with regard to the number of unplanned hospital admissions and length of hospital stay but there is little or no clear evidence of improved clinical outcomes or of reduced costs. Partnership and networking are two concepts of joint working, i.e. working together while retaining separate organisational structures and governance arrangements. A partnership has been defined as 'the purposeful working together of independent elements in the belief that the resulting whole is greater than the sum of the individual parts'. A study of four PCTs in England reported that joint commissioning, pooled budgets and personal health budgets are three mechanisms for working as a partnership. One reviewer has observed that effectiveness and benefits have been asserted in theory for partnerships, but not demonstrated in practice. Networks take many forms. It has been suggested that a 'health network' is based on the notion of a 'pathway of care', which is used especially in a clinical context to denote task-oriented care plans. A more ambitious model is a 'managed clinical network'. Compared with care pathways, this model incorporates an appreciation of the need to work across a wider range of boundaries, including non-clinical partners, and may encompass the integration of services as well as professionals. A further step in ambition is a 'managed care network', in which the focal point is more complex than in a managed clinical network, e.g. including independence and wellbeing as well as health, and the range of partners is commensurately broader. Critically, the focus goes beyond health services to processes of social interaction, to be concerned not just with a 'patient', but with the 'whole person'. Examples include local health care cooperatives in Scotland, and chains of care in Sweden.

Micro-level integration

Micro-level integration is about coordinating care for individual patients. The coordination of care needs to be explicitly addressed to avoid fragmentation or break-down in communication. Responsibility for micro-level care co-ordination is generally assigned to a specific individual or team, who may be a primary care provider, although, as much care coordination activity is not medical, responsibility may be assigned to a specific care co-ordinator, such as a case manager. Alternatively, a shared care plan, to ensure everyone is working towards the same goals, may be used to facilitate coordination. Examples of integrative processes at the micro level include case management, supported self-management, personal budgets and telehealth. Case management is provided for people with highly complex needs and we present the integrative processes of case management below.

Integrative processes of case management

1. Organisational – responsibility for case management is assigned to a specific individual or team. It is vital that the case manager works proactively with a range of health and social care professionals. It is also vital that all members of the team, and other stakeholders, are actively engaged in the case management programme.
2. Clinical/service – for each individual patient, the case manager is responsible for case finding, case assessment, care planning and care coordination. To be effective, the case manager must positively influence the behaviours of all the people involved in different functions.
3. Informational – all information is streamed centrally through the case manager so s/he can ensure the patients and other partners are kept informed about developments, and can maintain oversight of the care pathway.
4. Financial – influence over budgets is one way for the case manager to have influence over stakeholders. Different funding options have been used to support case management, including pooled budgets, individual budgets and prepaid capitation.
5. Normative – the case manager therefore needs to build and maintain a strong well-functioning, all-inclusive team that includes all stakeholders. This can be achieved by using structured communication protocols and contracts, and *ad hoc* and informal exchanges.

The strongest evidence for the impact of case management relates to improved patient satisfaction and user experiences. Case management has also been shown to have a positive impact on health outcomes, i.e. quality of life, independence, functionality and general well-being. Although evidence is mixed, there is some evidence that case management interventions can result in reductions in hospital use.

Financial integrative processes

During the literature review it became apparent that there are a number of different financial integrative processes including:

- *Capitation*, which is a lump sum payment per patient by a provider for services or particular categories of service regardless of treatment. It has been used by Kaiser and PACE.
- *Cross charging*, which is a system of mandatory daily penalties made by local authorities to health bodies to compensate for delayed discharges in acute care for which the local authority is solely responsible. This has been mandatory in England since 2004 and has also been used in Sweden.
- *Aligned budgets*, which occur when partners align resources to meet agreed aims for a particular service. Spending and performance are jointly monitored but management of, and accountability for, health and social services funding streams are separate. Aligned budgets are used in the UK and are non-statutory; they are often used as an interim step to the statutory pooling of functions and resources.
- *Pooled budgets*, which allows health and social care budgets to be pooled. The money in the pool loses its distinctive health or social services identity and for accountability and legal reasons the pooled budget is hosted by one of the partner agencies. They are underpinned by legal agreements between the health and social care body. They have been used in England and in Sweden.
- *Bundled payments*, which is paying a single fee for all medical services involved in an episode of care. These are used in the Netherlands whereby health insurers pay a single fee to a care group, which contracts care, ensures its delivery, and assumes clinical and financial responsibility for all assigned

patients. The price for the bundle of care is negotiated by insurers and care groups**,** and the fees for the subcontracted care providers are negotiated by the care group and providers. The services to be included in the bundles are agreed on by national associations of providers and patients.

- *Personal budgets*, which are a way of integrating health and social care at the individual/micro level; instead of receiving services organised and provided by a service provider, individuals receive the cash value of those services and organise and purchase their own care from providers of their own choosing. Service users can play a bigger role in their own needs assessment and care planning. Personal budgets make the health and social care systems easier to move through, without incurring the cost and effort needed to formally merge budgets or organisations. They have been used in the UK, Netherlands, US and Germany.

Informational integrative processes

Information is a key enabler of integration. Full and accurate information about a patient's needs and care must be available throughout the care journey to everyone involved, including the patient themselves. This information should be accessible from anywhere in the health system. This is important for monitoring health outcomes, quality of care, cost-effectiveness and for service planning. Telehealth is the remote patient monitoring of a patient's physiological status and health condition and telecare is the use of personal and environmental sensors in the home that enable people to remain safe and independent in their own home for longer. Telehealth has been shown to improve an individual's health and quality of life. Disease registries are collections of data related to patients with a specific diagnosis, condition, or procedure. They enable patterns of illness to be revealed, detection of disease outbreaks and rare patterns of adverse events and measurement of public health indicators. Sweden has 90 registries that have been associated with major improvements in health outcomes. Sweden has the best health-care outcomes in Europe, even while its health-care costs, as a percentage of GDP, hover around the European average of roughly 9%. It has been estimated that investing $70 million annually in Sweden in disease registries (clinical quality registries) would reduce its annual growth in health care spending from 4.7% to 4.1%.

Features of a successful system integrating health and social care services

It is reported that a successfully integrated system:

- Encourages integration and integrated care through a regulatory framework.
- Encourages integration and integrated care through a financial framework.
- Provides support to innovative approaches to commissioning integrated services.
- Applies national outcome measures that encourage integrated service provision.
- Invests in continuous quality improvement including publishing the use of outcome data for peer review and public scrutiny.
- Has defined populations that enable health care teams to develop a relationship over time with a 'registered' population or local community, and so to target individuals who would most benefit from more co-ordinated approach to the management of their care.
- Aligns financial incentives that: support providers to work collaboratively by avoiding any perverse effects of activity-based payments; promote joint responsibility for the prudent management of financial resources; and encourage the management of ill-health in primary care settings that help prevent admissions and length of stay in hospitals and nursing homes.
- Shares accountability for performance through the use of data to improve quality and account to stakeholders through public reporting.

- Has information technology that supports the delivery of integrated care, especially via the electronic medical record and the use of clinical decision support systems, and through the ability to identify and target 'at risk' patients.
- Uses guidelines to promote best practice, support care co-ordination across care pathways, and reduce unwarranted variations or gaps in care.
- Has a physician–management partnership that links the clinical skills of health care professionals with the organisational skills of executives, sometimes bringing together the skills of purchasers and providers 'under one roof'.
- Ensures effective leadership at all levels with a focus on continuous quality improvement.
- Promotes a collaborative culture that emphasises team working and the delivery of highly co-ordinated and patient-centred care.
- Organises multispecialty groups of health and social care professionals in which, for example, generalists work alongside specialists to deliver integrated care.
- Enables patient and carer engagement in taking decisions about their own care and support.

Measuring success in a system integrating health and social care services

Measuring health system integration involves monitoring and evaluating: (1) whether the process of integration was implemented as intended and that integrated care has been achieved, and (2) the impact of integration on various stakeholders of the health system including: patients, providers, organisations, funders and policy-makers, that is, how well the integrated system has performed. Overall, the literature revealed limited empirical research on the outcomes and impact of integrated health systems on patients; evaluations have instead concentrated on its impact on process or inputs, for example, admissions to hospitals and outpatient visits. Evidence-based knowledge about integration is hampered by the lack of standardised, validated tools and indicators to measure integration. For instance, most available evidence is based on small pilots, which makes it difficult to generalise these findings. In addition, there is often a lack of information regarding the validity and reliability of measurement tools. Further research should focus on building the evidence base on integration in the following areas:

- Impact on patient experience, for example, the development of specific 'markers' for improved processes of care required such as the number of interactions between patients and professionals.
- Impact on use of services, especially inpatient beds.
- Impact on costs (and differentially on different parts of the system).
- Impact on outcomes; this needs careful thought if evaluations are going to be over a relatively short time period; again some markers need to be developed.

Conclusion

Integrated care is a complex topic; there are approximately 175 different definitions on what it actually is and there is little consensus on how it can best be delivered. It is generally accepted that the patient's perspective should be at the heart of any discussion about integrated care although dimensions of quality and cost-effectiveness are also relevant. Integration requires the interplay of organisational, clinical/service, informational, systemic, financial and normative processes. Achieving the benefits of integrated care requires strong system leadership, professional commitment, excellent management, and consistent clear communication. There must be a regulatory, policy and financial framework that supports integration. Information is also a key enabler; full and accurate information about a patient's needs and care must be available throughout the care journey to everyone involved, including the patient themselves. Clinical and service integration is probably the most important integrative process and requires multi-disciplinary working among people who trust each other.

Introduction

This evidence review was undertaken by Brigid Pike and Deirdre Mongan, Evidence Centre, HRB. The evidence review was requested by the Department of Health (DoH) as part of a knowledge brokering service offered through the research utilisation team, DoH in collaboration with the Evidence Centre. The questions were set by the DoH through an iterative process with the research utilisation team and Evidence Centre.

Purpose of review

The Government is committed to the introduction of a single-tier health service, supported by universal health insurance, where access is based on need, not ability to pay. Under universal health insurance (UHI), everyone will be insured for a standard package of primary and hospital care services, including mental health services. Insurance will be provided under a multi-payer insurer model with no distinction between “public” and “private” patients. The system will be founded on principles of social solidarity, encompassing the fundamental tenets of financial protection, open enrolment, lifetime cover and community rating.

While primary and hospital care will be funded mainly via the UHI system (with purchasing largely devolved to insurers), specialised care services, public health services and social care services, including long-term care, will be funded by general taxation. While funded separately, these services will still be delivered in an integrated manner around the needs of the person.

A key UHI design question is the precise scope and content of services which will be covered by the standard basket. Within the Department of Health, a major work module has commenced on this topic and is intended to culminate in the development of policy proposals for consideration by the Minister and Government. Central to this work is the question of integration or, more precisely, how services covered by the standard package and services falling outside the standard package will be integrated around the needs of the user, particularly when they are funded by different arms of the system.

The evidence review required by the DoH should consider the international evidence in relation to mechanisms and structures used to integrate ‘general health services’ (i.e. mainstream primary care and hospital care services providing for diagnosis and treatment of illness and disease) and social care services around the needs of the individual and the population.

The review will feed into the overall work module on the basket of services referred to above as well as into wider health reform work.

Research questions

The Department of Health asked questions in relation to the integration of social care and general health services. These are:

1. Define
    a. ***social care***
    b. ***integrated health care (linkage)*** in the social care context.
2. Describe the **mechanisms (synergies, structures, typologies and/or tools)** used to integrate social care and general health services(or separately funded general health services and social care services) in other health care systems. We are interested in all health systems but particularly insurance-based health systems.
    i. **Identify** the mechanisms used for integration
    ii. **Define and describe** the mechanisms, their **desired outcomes**
    iii. **How** and in what **context** (considering environment, historical and funding) are the mechanisms applied in the specified countries
    iv. Describe **adaptions** (if any) that were made to the mechanisms in any of the specified countries
    v. What is the **effectiveness** of each mechanism in producing the desired outcome and the **relative effectiveness** of each mechanism if available?
    vi. Describe the **critical contextual** factors that influence the effectiveness of integration mechanisms and what are the **barriers to and facilitators** for successful implementation of the mechanisms
3. What are the **features of a successful** system integrating social care services with general health services (or separately funded general health services and social care)?
4. How is **success measured** in a system integrating social care services with general health services (or separately funded general health services and social care)?
5. What future and potential **future policy** directions in relation to approaches for integration of social care services and general health services can be identified in the jurisdictions included in the review and what is the rationale for choosing these approaches?

Method

In the context of designing a single-tier health service supported by universal health insurance (UHI), the Department of Health commissioned two studies from the Health Research Board on how tax-funded services, i.e. public health services and social care services, might be integrated with general health services, i.e. primary and hospital care which will be funded by UHI. The HRB was specifically commissioned to review the international evidence in relation to mechanisms and structures used to integrate general health services with these two sets of services funded by general taxation.

The Department of Health set a 3-month deadline for the delivery of the reports.

The review of the international literature on the integration of public health services with general health services commenced before the ‘sister’ study of the integration of social care services. As a result, the preliminary step of investigating the meaning of the term ‘integration’ and the theoretical frameworks that have been developed for understanding how it functions in the health sector was undertaken by the researchers working on public health services, and the findings were written up and presented in that report.

Given that this preliminary step had already been undertaken, and given the immense body of literature on the integration of health and social care services that an initial scan of the relevant databases revealed, the researchers of the study on social care services decided not to undertake this preliminary step but to use the definitional and theoretical platform already established by their colleagues and described in the public health study.

From this starting point, and given the tight timeframe, we took a pragmatic approach to the search. A general Google search found that Monitor had commissioned Frontier Economics, the King's Fund, Nuffield Trust and Ernst and Young to define integrated health and social care and to identify the ways in which it might benefit patients. The resultant report Enablers and barriers to integrated care and implications for Monitor, which was published in 2012, provided a comprehensive synthesis of the evidence relating to health and social care integration. We used that report as an index document and obtained copies of all papers and reports cited in its bibliography. This helped us identify other important recent reports published by reputable organisations including the Kings Fund and the European Observatory which we also used as reference documents. Therefore, we did not undertake a systematic approach to this research owing to the very tight deadline.

Reviewing the literature within the context of the definitions and theoretical discussion already undertaken by our colleagues working on public health, we decided to focus on the typology of integration developed by Fulop (2005), which is fully explicated in the sister report, and which has been used by the Nuffield Trust, The King's Fund and the European Observatory as the basis for their subsequent work. The fact that this typology of integration had been used by UK and European bodies in particular was a further reason supporting this decision. While Fulop's typology may not have yet been finally proved to be the best, it has received broad support and in environments which the Irish system resembles both professionally and culturally. This was deemed an important consideration as Ireland is a comparative newcomer to integrating health and social care services.

We undertook iterative searching to answer any questions not covered in the publications we had identified by then. A manual search of the electronic journal International Journal of Integrated Care was also undertaken. We consider this search to be pragmatic rather than systematic. We hope we have included all the main reports on health and social care integration, but there is a possibility that some relevant studies have been excluded due to the methods employed to undertake our search.

Results

1. Question 1

Define (i) *social care* and (ii) *integrated health care (linkage)* in the social care context.

Social care

The following discussion of the meaning of the term 'social care' is based on a Google search, that brought up the recent policy and regulatory changes with regard to social care in England, and also on training for the social care profession in Ireland. A systematic literature search has not been undertaken. While not yielding a comprehensive and succinct definition of social care, the material does highlight issues that need to be considered when thinking about the integration of health and social care services – where is the boundary between social care and health care, and how broad and/or ambitious is the scope of social care?

United Kingdom

In 2011 the Law Commission[2] published a report on the state of adult social care in the UK and made recommendations that would 'create a clear, modern and effective legal framework for the provision of adult social care both now and for the future'. The Law Commission defined adult social care as follows:

> *Adult social care* means the care and support provided by local social services authorities pursuant to their responsibilities towards adults who need extra support. This includes older people, people with learning disabilities, physically disabled people, people with mental health problems, drug and alcohol misusers and carers. Adult social care services include the provision by local authorities and others of *traditional services* such as care homes, day centres, equipment and adaptations, meals and home care. It can also extend to a range of so-called *non-traditional services* – such as gym membership, art therapy, life coaching, personal assistants, emotional support, and classes or courses. Adult social care also includes services that are provided to carers – such as help with travel expenses, respite care, and career advice. Finally, adult social care also includes the mechanisms for delivering services, such as assessment, personal budgets and direct payments.[2]

Accepting the Law Commission's report, in 2012 the UK government published a White Paper *Caring for our future: reforming and support*[3] and a draft Care and Support Bill. The White Paper set out the government's vision for a reformed care and support system, which would:

- focus on people's wellbeing and support them to stay independent for as long as possible,
- introduce greater national consistency in access to care and support,
- provide better information to help people make choices about their care,
- give people more control over their care,
- improve support for carers,
- improve the quality of care and support, and
- improve integration of different services.

The draft legislation includes the principle that care and support must promote individual well-being, simplifies the care framework, imposes clear duties on local authorities, and provides for personal budgets. 'Health care' may be distinguished from 'social care' by differentiating 'between people who are sick (who have 'health' needs and receive care free at the point of delivery) and those who are merely frail or disabled (who receive 'social care' services that are often means-tested and subject to charges).[4] The same authors note that over the past 40 or so years, the NHS has also recognised the need to include a wider range of services at local level within the scope of 'social care':

> Thus, a disabled person who lives in local authority housing may need adaptations made to their house, have particular transport needs, have particular health and social care support needs, and be keen to access training opportunities in order to gain employment. Similarly, a child at risk of abuse may be living in poor housing in a rundown inner-city area with few social amenities, be in trouble at school, may be at risk of crime (either as a victim of crime or as a perpetrator), and may self-harm or have substance misuse problems (or both). In both these hypothetical scenarios, the person concerned will need a wide range of agencies to work together in a co-ordinated way to meet their needs.[4]

Written submissions on the draft Care and Support Bill[5] have highlighted two issues pertinent to defining 'social care' – where does the boundary lie between health care and social care services, and how broad should the scope of social care services be?

Caroline Abrahams of Age UK commented that in England it is important to keep the distinction between health and social care as the former is provided by the NHS free at the point of use while the latter, provided by local authorities, is means-tested.[5] She went on to explore the different needs of those with acute care needs and those with long-term care needs and the implications for service provision:

> People with acute conditions want to be treated and to get better, whilst people living with long term conditions want to live their lives in the most fulfilling way possible. Outcomes that define the latter are likely to be 'softer' and more difficult to measure, and are likely to vary more between individuals. Shared outcomes for social care and for longterm NHS care, focussed on the quality of life that the individual should be supported to achieve could be a driver of increased integration between the NHS and social care. [6]

In the summary of written evidence on the draft Bill, the English Community Care Association (ECCA) argued for a shift in social care's focus, 'from being a crisis-only system to one which focuses on prevention and which integrates the functions of health, housing, social care and welfare'. The Joseph Rowntree Foundation (JRF) also argued for a broader scope, by focusing on well-being and outcomes rather than more narrowly on need and service provision and adjusting the language to reflect this shift. For example, JRF suggested the policy debate should talk about people who 'need additional support to maintain or achieve wellbeing' rather than 'need care'.[6]

In a separate but parallel initiative from the NGO Shared Lives, in conjunction with the 2020 Public Services Hub at the Royal Society for the Arts,[7] a call has been made for a 'strengths-based approach' to social care. The authors comment, 'For far too long, social care has been dominated by a deficit model. Services have often focused exclusively on needs and vulnerabilities, ignoring people's strengths and their networks of relationships with friends, families and communities.' They argue that growing 'social productivity' should be the core business of social care services, i.e. supporting families and communities by developing their strengths and resources. The pamphlet contains examples, including a 'networked' model of care where formal services fit themselves around informal networks and develop people's strengths.

It is expected that a better understanding of 'high-quality' social care will come as changes introduced under the Health and Social Care Act 2012 are implemented. The Act does not define health care or social care but provides for the regulation of health and adult social care services and health and social care workers, the establishment of a Health and Social Care Information Centre, and the expansion of NICE's remit to include social care (the name NICE has been expanded to National Institute for Health and Care Excellence). To mark the expansion of its remit in April 2013, NICE published *The social care guidance manual*, in which 'social care' is broadly defined as 'all forms of personal care and other practical assistance for children, young people and adults who need extra support. This includes vulnerable children and young people (those who are at risk of, or who are already experiencing social and emotional problems); children, young people and adults with learning or physical disabilities or mental health problems; people who misuse drugs or alcohol; and older people'.[8]

In March 2013 the Joint Committee on the Draft Care and Support Bill published its report based on its pre-legislative scrutiny of the draft Bill.[6] The Bill is currently in its second stage.

IRELAND

The Google search led to two Irish educational web sites which define the profession of 'social care'. They distinguish between social care work and social work. In making this distinction the two web sites appear to support the call made by ECCA and the JRF in England for social care to focus on well-being and outcomes rather than simply on need and service provision.

Irish Social Care Gateway:[a]

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[a] This gateway contains a directory of information for Irish social care practitioners, students, academics and those interested in care issues. The gateway is maintained by the social care programme at the Institute of Technology, Sligo, on behalf of the Irish Association of Social Care Educators http://staffweb.itsligo.ie/staff/pshare/IASCE/iasce.htm

Social care is a profession where people work in partnership with those who experience marginalisation or disadvantage or who have special needs. Social care practitioners may work, for example, with children and adolescents in residential care; people with learning or physical disabilities; people who are homeless; people with alcohol/drug dependency; families in the community; older people; or recent immigrants to Ireland.

It has been more formally defined as: the professional provision of care, protection, support, welfare and advocacy for vulnerable or dependent clients, individually or in groups. This is achieved through the planning and evaluation of individualised and group programmes of care, which are based on needs, identified where possible in consultation with the clients and delivered through day-to-day shared life experiences. All interventions are based on established best practice and in-depth knowledge of lifespan development.

Social care practitioners will typically work in a direct person-to-person capacity with the users of services. They will seek to provide a caring, stable environment in which various social, educational and relationship interventions can take place in the day-to-day living space of the service user. The *social worker*'s role is typically to manage the 'case', for example by arranging the residential child care placement in which a child is placed, coordinating case review meetings and negotiating the termination of a placement.

DIT School of Social Sciences & Law >Social Services:[b]

Social care workers plan and provide professional individual or group care to clients with personal and social needs. Client groups are varied and include children and adolescents in residential care; young people in detention schools; people with intellectual or physical disabilities; people who are homeless; people with alcohol/drug dependency; families in the community; or older people. Social care workers strive to support, protect, guide and advocate on behalf of clients. Social care work is based on interpersonal relationships which require empathy, strong communication skills, self awareness and an ability to use critical reflection. Teamwork and interdisciplinary work are also important in social care practice.

The core principles underpinning social care work are similar to those of other helping professions, and they include respect for the dignity of clients; social justice; and empowerment of clients to achieve their full potential. Social care practice differs from social work practice in that it uses shared life-space opportunities to meet the physical, social and emotional needs of clients. Social care work uses strengths-based, needs-led approaches to mediate clients' presenting problems.

A social care practitioner will typically work in a direct person-to-person capacity with clients. He or she will seek to provide a caring, stable environment in which various social, educational and relationship interventions can take place in the day-to-day living space of the client. The social worker's role, on the other hand, is to manage the 'case', for example by arranging the residential child care placement in which a child is placed, co-ordinating case review meetings, negotiating the termination of a placement and responding to child protection concerns in a given area.

Integrated health care (linkage) in the social care context

'Integrated care' is a complex and still evolving concept: as recently as 2009, a literature search reportedly yielded 175 different definitions.[9] In the UK, a national policy framework on integrated care, including a

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[b] The web site noted that the definition was the result of a consultation in 2011 by the Professional Regulation Unit, Department of Health & Children, with social care workers, managers and educators, including members of three representative bodies (IASCW, Irish Association of Social Care Workers; IASCE, Irish Association of Social Care Educators; and RMA, Residential Managers' Association (now, Irish Association of Social Care Managers). http://www.dit.ie/socialscienceslaw/socialsciences/whatissocialcare/

definition of integrated care, is currently being finalised.[c] In this report, the search for a definition has been restricted to recently-published reports by selected health policy research bodies that focus on generating evidence-based solutions for policy makers. The wider range of academic debates on the meaning of the concept has not been explored.

The research bodies include:

- *United Kingdom:* The King's Fund and the Nuffield Trust are two independent charitable trusts dedicated to health policy research and analysis. As part of the current reform of the NHS, the British government has commissioned both bodies to undertake research to determine the key factors that need to be in place to create a receptive context in which integrated care can operate.
- *Canada*: The Canadian Policy Research Networks (CPRN), a not-for-profit organisation dedicated to making Canada a more just, caring and prosperous society through 'excellent and timely research'. The CPRN was funded by the Ontario Ministry of Health and Long-Term Care to undertake a systematic review of frameworks for integrated care for the elderly.
- *WHO Europe:* The European Observatory on Health Systems and Policies brings together a wide range of policy-makers, academics and practitioners to analyse trends in health reform. In a recent study of how to manage chronic disease, the authors provided a detailed review of integrated care.

DEFINITION

Integrated care has been defined as 'an organising principle for care delivery with the aim of achieving improved patient care through better co-ordination of services provided'.[10] These authors distinguish integrated care from the related term integration, which they define as 'the combined set of methods, processes and models that seek to bring about this improved coordination of care'. In short, integrated care is the objective while integration is the means.

In the course of public debate on the topic in the UK, this distinction has developed as follows: '… successful integrated care is primarily about patient experience, although dimensions of quality and cost-effectiveness are relevant. … [integrated care is] not about structures, organisations or pathways… [but] about better outcomes for service users'.[1] The Monitor report notes how in recent public debate and deliberation on the topic, a 'person-centred' focus has come to the fore, the Monitor report proposes a working definition that combines the 'experiential' dimension with the dimensions of quality and cost-effectiveness:

> … a working definition of integrated care may be around the smoothness with which a patient or their representatives or carers can navigate the NHS and social care systems in order to meet their needs. [1]

Leading on from this working definition, the authors warn that integrated care may not always be the best way of improving a patient's experience or of increasing system efficiency. Notwithstanding the complexity of the concept of 'integration', Nolte and McKee[11] suggested that, 'the notion of integration provides a useful way of thinking about a range of approaches that are deployed to increase coordination, cooperation, continuity, collaboration and networking across different components of health care service delivery'.

Parameters of integration

The recent reports by the European Observatory, the Canadian Research Policy Networks (CPRN), The King's Fund and the Nuffield Trust all identify three related parameters of integration that policy makers need to consider before developing a specific integrated care model:

1. the underlying assumptions,

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[c] Information accessed on 30 May 2013 at http://www.kingsfund.org.uk/blog/2012/11/developing-integrated-care-scale-and-pace-time-make-it-happen

2. the recipients of the integrated care, i.e. the target groups, and
3. the appropriate integrative processes.

Clarification with regard to these principles will help determine whether integrated care is the right answer and, if so, which particular model of integrated care, and which mix of mechanisms, are most likely to achieve the desired outcome.

Underlying assumptions

The perspective and discourse used in relation to the topic of integrated care will influence the resulting choices. The European Observatory[11] highlight two distinct perspectives and discourses on the subject of integrated health and social care: on the one hand, a 'healthcare' perspective, i.e. a managed care, public health discourse, and on the other hand, a broader 'whole-systems' approach that emphasises the social services perspective, i.e. a person-centred discourse. The healthcare system perspective will tend to emphasise the efficiency and effectiveness gains, the reduction of duplication and waste, increased flexibility and continuity; the 'whole-systems' perspective will focus more on the capacity to encourage more holistic and personalised approaches to multi-dimensional health needs.[12]

Recent public debate in the UK on integrated care reflects both perspectives. National Voices, the national coalition of health and social care charities, has been working with its members and public-sector organisations to develop a single compelling 'narrative' for the integration of health and social care.[d] The draft narrative incorporates both perspectives:

- *Service users' perspective:* 'My care is planned with people who work together to understand me and my carer(s), put me in control, co-ordinate and deliver services to achieve my best outcomes.' This definition was derived from consultations with patient organisations, and reflects the overall definition used in the draft narrative – 'integrated care means person-centred co-ordinated care'.
- *Service organisations' perspective:* 'Co-ordinated care means partnering with the person to plan, pick and pull together care, support and treatment.' This definition provides an organisational perspective, which commissioners and service providers can use to drive the way they organise health and social services to achieve the service users' definition.

The Nuffield Trust[10] has expanded the number of perspectives to eight (see Figure 1), emphasising that 'one size does not fit all'. As well as service users and service providers, policy makers, regulators, evaluators, managers and local communities all have legitimate interests and concerns with regard to integrated health and social care. Shaw et al.[10] note that the goals of a particular integrated care initiative will guide which perspectives are the most relevant.

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[d] See www.nationalvoices.org.uk for more information and the draft narrative.

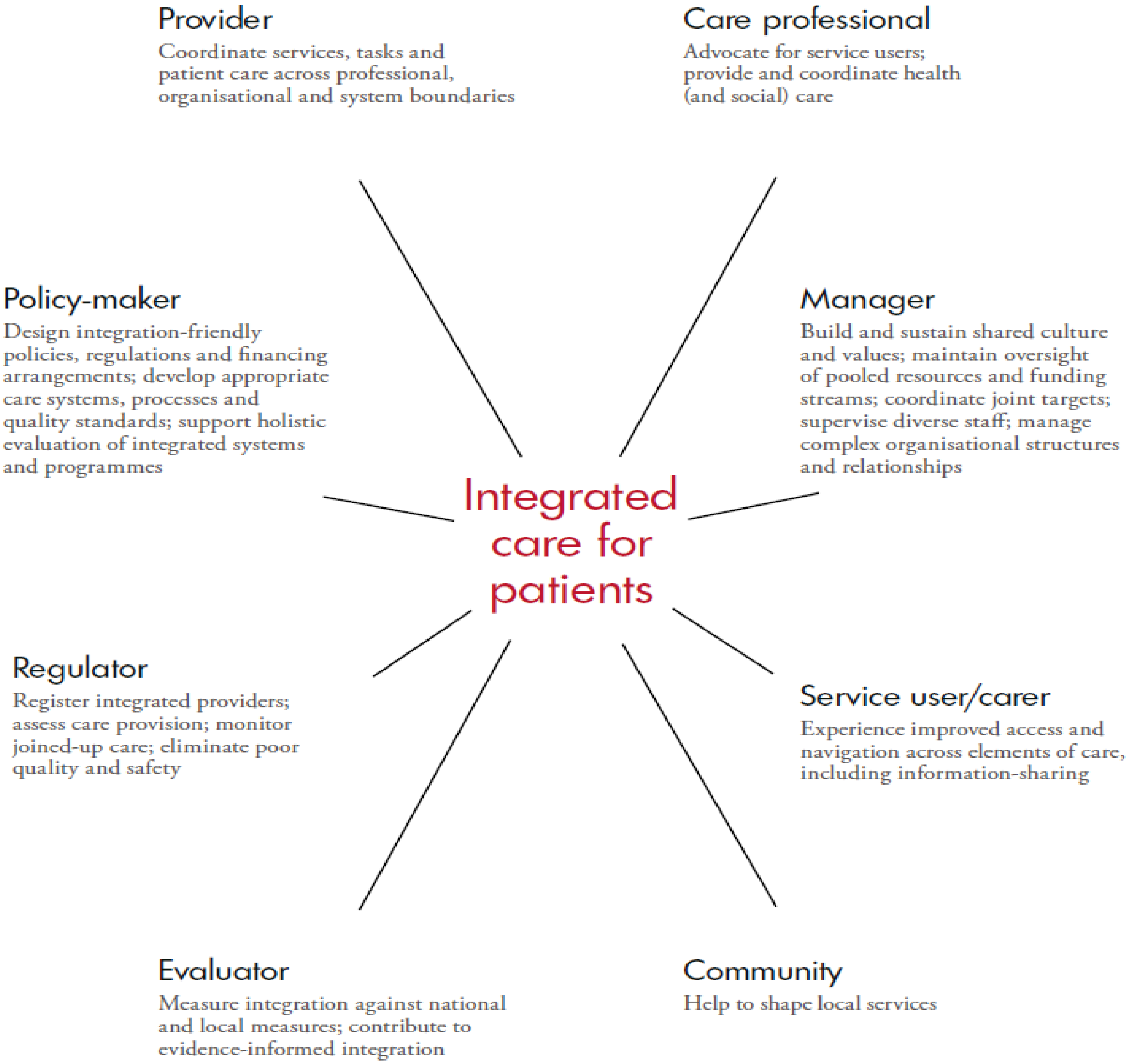


Figure 1: Perspectives shaping integrated care[10]

Target groups

Two ways of thinking about the target group and organising the service response accordingly have been described in the literature. They are the level of aggregation of service users, and the level of need among service users.

Levels of aggregation[13]

- *Macro level*: integrated care delivered across the full spectrum of services to the whole population;
- *Meso level*: integrated care for a particular care group of people with the same disease or condition, for example care for elderly people, mental health, disease management programmes and managed clinical networks; and

- *Micro level*: integrated care for individual service users through means such as care co-ordination, care planning or case management.

Curry and Ham report 'good evidence' that integrated care provides benefits for whole populations and for older people, but 'more mixed evidence' with regard to groups with long-term conditions such as diabetes and for people with complex needs. Regarding individual service users and carers, the authors report evidence that care co-ordination is beneficial, especially when several different approaches are used together.

Service users' needs[11]

Both the nature (comprising several dimensions) and the extent (or degree of intensity) of the service user's need are taken into account. The dimensions of need may include:

- Stability and severity of the patient's condition
- Duration of illness
- Urgency of the intervention
- Scope of services needed
- User's capacity for self-direction

The intensity of the need may be at one of three levels:

- Mild to moderate but stable conditions, with a need for a select few routine care services, and a strong capacity for self-direction or strong informal networks;
- Moderate level of need; and
- Long-term, severe, unstable conditions which frequently need urgent intervention from various sectors, and limited capacity for self-direction.

Having assessed the dimensions and intensity of needs, the service response may be configured along the following lines:

- Systems to identify persons with disabilities (screening)
- Clinical practices responsive to the needs of users
- Management of transitions across the settings
- Information gathering and exchange
- Case management
- Management of funds from multiple payment sources
- Coordination of benefits

Integrative 'form'

Two aspects of integrative 'form' are emphasised in the reports from all four research bodies – depth and breadth of integration, and the intensity of integration.

Depth and breadth – does integration occur on the 'horizontal' or the 'vertical' plane? Definitions of 'horizontal' and 'vertical' integration focus on the 'levels' of services that are integrated:[11, 13, 14]

- *Horizontal integration* refers to the coordination of care for an individual across different care settings which are at the same level, e.g. community-based services such as general practices, community nursing services and social services; mergers of acute hospitals; or the formation of organisations such as care trusts that bring together health and social care.
- *Vertical integration* refers to the coming together for the delivery of care by services at different levels, for instance hospitals, long-term care facilities, rehabilitation and community-based organisations to create a single geographically based entity for health services.

Alternatively, Glasby *et al*[4] uses breadth and depth to identify the combination of partners that health service providers may need to engage with (breadth of relationships) and the way in which they may need to work with different partners (depth of relationships) (see Figure 2).

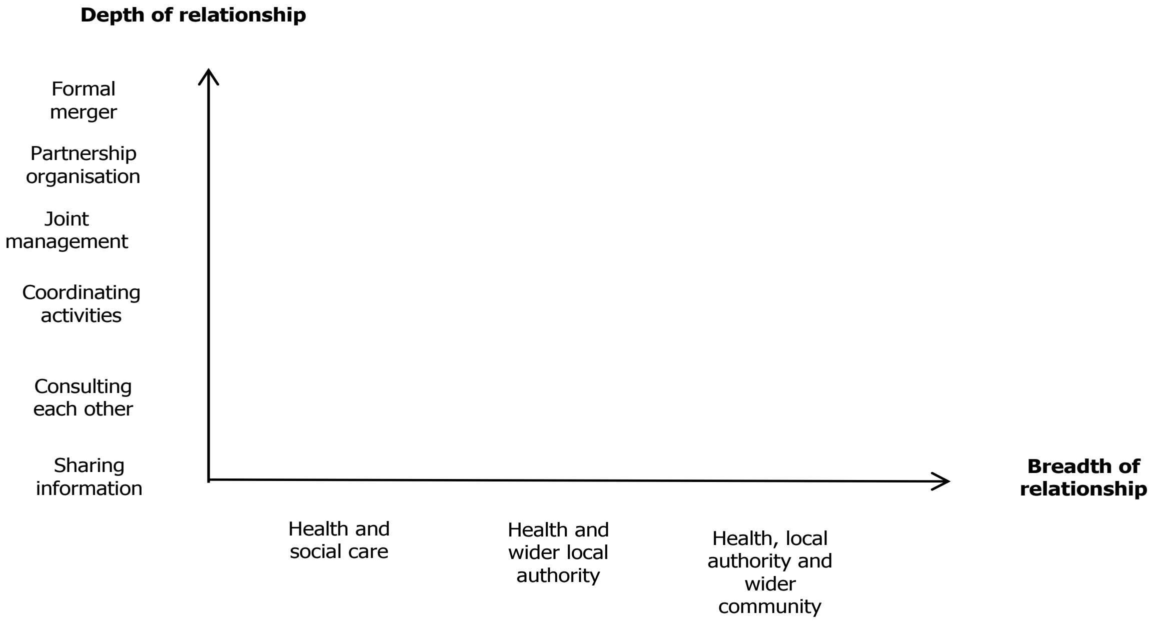
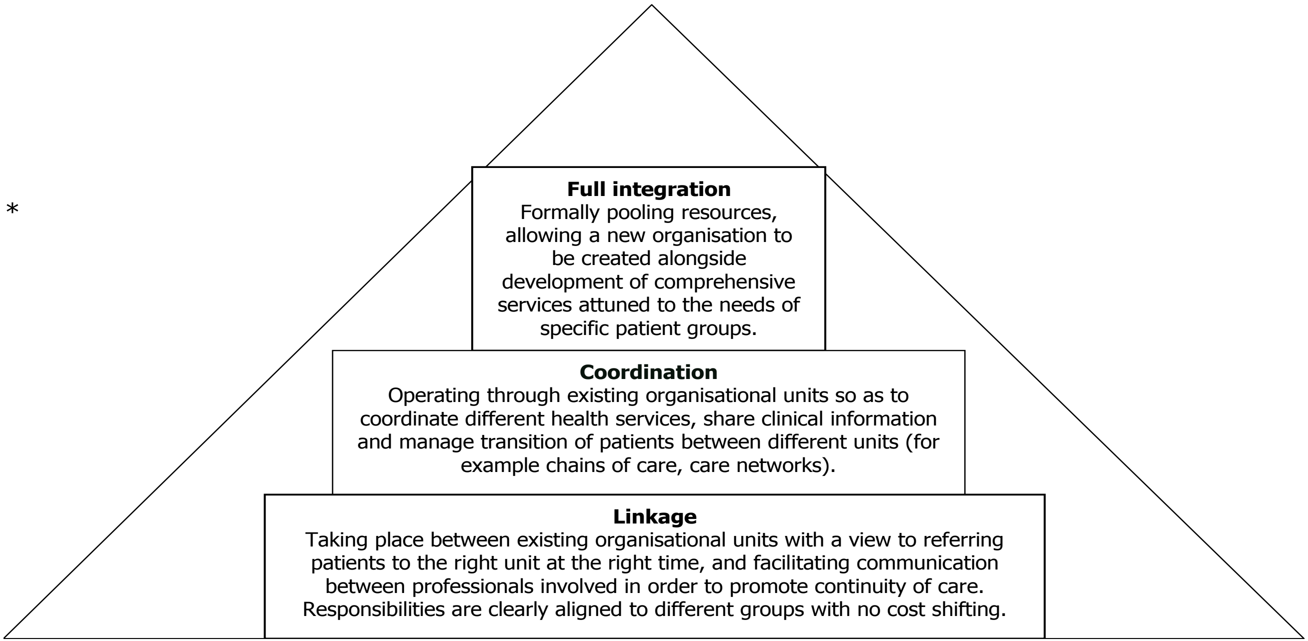


Figure 2: Depth and breadth of integration[4]

Intensity, or degree, of integration – how closely are organisations integrated, or combined? How strong and binding are the processes integrating services? Several different representations of intensity are presented in the research reports, e.g. *virtual integration* (providers work together through networks and alliances, which is more akin to coordination) versus *real integration* (organisations merge their services, which requires different participants to change their ways of working) (see Figure 3).



Full integration
Formally pooling resources, allowing a new organisation to be created alongside development of comprehensive services attuned to the needs of specific patient groups.

Coordination
Operating through existing organisational units so as to coordinate different health services, share clinical information and manage transition of patients between different units (for example chains of care, care networks).

Linkage
Taking place between existing organisational units with a view to referring patients to the right unit at the right time, and facilitating communication between professionals involved in order to promote continuity of care. Responsibilities are clearly aligned to different groups with no cost shifting.

Figure 3: Intensity of integration[15]

INTEGRATIVE PROCESSES

The 'what' and the 'how' of integrating health and social care services are described in this section. There appears to be consensus among the sources consulted with regard to both of these questions. All authors have kept their discussion at a generic level, focusing on six broad categories of 'integrative processes' rather than examining the range of possible 'integrative mechanisms'. They provide examples of mechanisms under each broad process. The Nuffield Trust, The King's Fund, and the European Observatory all identify the same broad approaches – by merging systems, by sharing clinical standards or values, or by bringing structures, services or some functions together (see Table 1).

Table 1: Processes for integrating health and social care services

Type of integrative process	Nuffield Trust[10]	King's Fund[13]	European Observatory on Health Systems and Policies[11]
Systemic	Coordinating and aligning policies, rules and regulatory frameworks, e.g. policy levers emphasising better co-ordinated care outside of hospitals, central impetus for diversity of providers, development of national incentive schemes or financial incentives to promote downward substitution.	Coherence of rules and policies at all organisational levels. This is sometimes termed an 'integrated delivery system'.	Integration of objectives, interests, power and resources of the (various) actors
Clinical / services	Coordinating information and services and integrating patient care within a single process for example, developing extended clinical roles, guidelines and inter-professional education, or facilitating the role of patients in shared decision-making. Aim to achieve consistent clinical standards across different care settings (for example community clinics, hospitals and day centres.	Care by professionals and providers to patients is integrated into a single or coherent process within and/or across professions, such as through use of shared guidelines and protocols. Different clinical services are integrated at an organisational level, such as through teams of multidisciplinary professionals.	'Clinical integration' – extent to which patient care services are coordinated across the various personnel, functions, activities and operating units of a system 'Professional integration' – joint working group practices, contracting or strategic alliances of healthcare professionals within and between institutions and organisations
Organisational / governance	Coordinating structures, governance systems and relationships across organisations, for example developing formal and informal contractual or cooperative arrangements such as pooled budgets or practice-based commissioning; or developing umbrella organisational structures such as primary care federations or local clinical partnerships. The governance arrangements between participating organisations.[16]	Organisations are brought together formally by mergers or through 'collectives' and/or virtually through co-ordinated provider networks or via contracts between separate organisations brokered by a purchaser.	'Organisational integration' – creation of networks, mergers, contracting or strategic alliances between healthcare institutions

Type of integrative process	Nuffield Trust[10]	King's Fund[13]	European Observatory on Health Systems and Policies[11]
Financial	Budgetary arrangements and payment systems in place across the organisations participating in integration		
Informational[14]	Developing clinical and managerial information systems to support aligned practice across different care settings. Communication between clinical teams, outcome measurement and performance management		
Normative	Developing shared values, culture and vision across organisations, professional groups and individuals, for example developing common integration goals, identifying and addressing communication gaps, building clinical relationships and trust through local events, or involving service users and the wider community. Shared values and aligned professional standards across participating individuals, groups and organisations	An ethos of shared values and commitment to co-ordinating work enables trust and collaboration in delivering health care.	'Cultural integration' – convergence of values, norms, working methods, approaches and symbols adopted by the (various) actors 'Social integration' – the intensification of social relationships between the (various) actors
Functional/ Administrative	Back-office functions, budgets and financial systems are aligned across integrating units for example, developing shared accountability mechanisms, funding processes or information systems.	Non-clinical support and back-office functions are integrated, such as electronic patient records.	'Functional integration' – extent to which key support functions and activities such as financial management, human resources, strategic planning, information management and quality improvement are co-ordinated across operating unit

CHOOSING A FRAMEWORK OF INTEGRATED HEALTH AND SOCIAL CARE

The preceding discussion of the definition and parameters of integrated care shows that one size will not fit all. MacAdam[14] observes that integration is both a very *elastic term* as regards how it may be defined, and also a *nested concept*, i.e. it can refer to types, levels or forms of integration. She concludes that the choice of framework and mechanisms should be determined by external considerations such as the 'desired outcome'. (This approach draws on 'theories of change', according to which a health service provider should consider not only the outcomes but also the current context and the steps need to achieve the desired outcome).[4]

Shaw *et al.*[10] list five prompts when designing an integrated care framework, which incorporates both a change management framework and the operational factors described earlier.

1. *Goals* – what are you seeking to achieve, who is the target service user group and how will you ensure organisational support for the goals?
2. *Context* – how does the proposed project connect with other improvement programmes, which sectors are involved and how, and how will you ensure strong leadership across all sectors?
3. *Type* – what are the most important integrative processes for the project, how will commissioning arrangements support integration, and how will effective data sharing and information management be achieved?
4. *Breadth* – how will vertical or horizontal integration contribute to the success of the project, how will you address issues of choice, competition and contestability, and how will you identify and align the incentives needed to support integration across different professional groups, teams and organisations?
5. *Intensity* – how does the degree of integration relate to the goals and the local context in which the project is to be implemented, and how will you ensure integration will not result in fragmentation in some other part of the overall health system?

In the following subsections, examples of specific responses to these five questions are described.

Goals *and context*

Two examples from the studies by the European Observatory and the Canadian Policy Research Networks of how policy goals and policy context and the choice of integrative framework are inextricably linked are provided here. They have been chosen because of their relevance to current Irish health policy development – (1) the funding sources and mechanisms for health service provision, and (2) the role and function of the hospital within the context of integrated health and social care.

Nolte and McKee[11] highlight how different notions of integrated care in European countries and in the USA are influenced by the different funding arrangements. In the United States, with an insurance-based health system, the notion of integrated care reflects 'a strong managed care perspective in which the emphasis is on defined (but selective) populations (i.e. enrolled members of a given health plan who pay a predetermined monthly premium) and on integrating the financing and provision of healthcare'. In Europe, where health systems are mainly publicly funded, integrated care has traditionally been taken to refer to the integration of different sectors (i.e. cure and care), rather than different functions (financing and delivery).

In Canada, MacAdam[14] describes how the background and rationale for exploring possible approaches to integrating health and social care for the elderly was driven by changing demographic and epidemiological trends. The existing health care system had developed in response to meeting acute care needs and was not equipped to respond either efficiently or effectively in meeting the new needs. The author of the Canadian study notes that in this changing environment not only do the goals of policy shift, to ensure that the elderly receive high-quality care that is both efficient and effective, but so also does the policy context, e.g. the whole health system, including hospitals: 'The delivery of appropriate care for those with chronic conditions requires a paradigm shift from episodic, short-term interventions, which characterize care for acute conditions, to long-term, comprehensive care for those with continuing care needs'.

Types of integrative processes

The authors of the Nuffield Trust case studies[16] commented that their case studies highlighted the 'significant interplay between the six integrative processes' They found in particular that, interactions between organisational, clinical, informational and financial integrative processes – particularly between governance arrangements, financial incentives and clinical information – were particularly notable (see Figure 4). They also noted that there was no obvious association between structural arrangements and the kinds of integrative process in use.

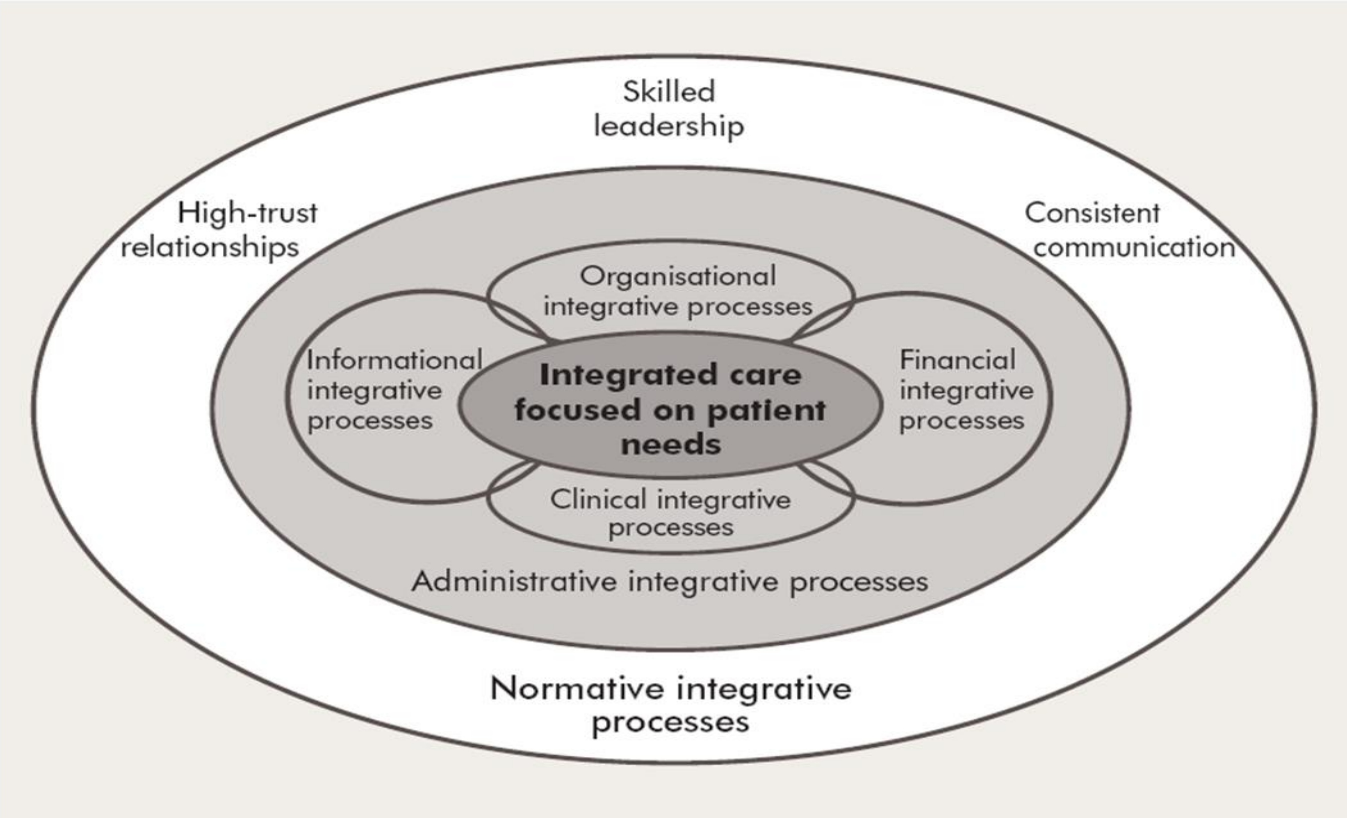


Figure 4: Interplay among the six integrative processes[16]

Breadth and intensity

Nolte and McKee[11] described how an analysis of the needs of the target population can help to guide decisions about the type and intensity of integration. They describe three levels of need and how these map on to different types and levels of integration (see Figure 5):

- *users with mild to moderate need*: likely to be served sufficiently by relatively simple, though systematic, ‘linkages’ of different systems. The linkages would operate through the separate structures of existing health and social service systems but with each entity being aware of and understanding the other providers in terms of health and social care needs, financing responsibilities and eligibility criteria;
- *users with moderate level of need*: would operate through existing systems in different sectors but would involve additional explicit structures and processes such as routinely shared information, discharge planners and case managers; and
- *users with long-term, severe, unstable conditions*: would benefit from a fully integrated system that would assume responsibility for all services, resources and funding, which may be subsumed in one managed structure or through contractual agreements between different organisations.

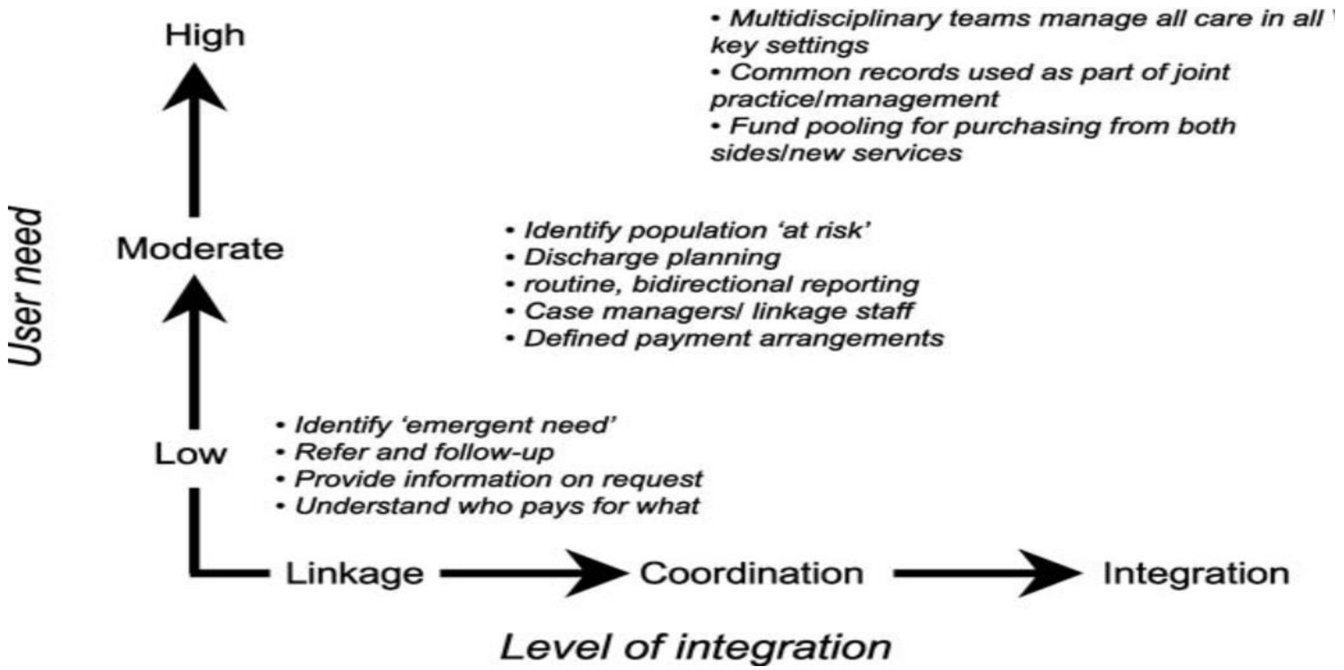


Figure 5: Levels of user need and integration[11]

2. Question 2

Describe the mechanisms (synergies, structures, typologies and/or tools) used to integrate social care and general health services (or separately funded general health services and social care services) in other health care systems.

Having identified the overall policy goals, understood the opportunities and constraints thrown up by the policy environment and considered the parameters of integration, the next task is to identify the appropriate mix of clinical/service and organisational/governance integrative processes. For this reason, mechanisms associated with these two integrative processes are considered first. In line with the principles outlined above, the mechanisms are presented within a framework of macro-/meso-/micro-integration and virtual/real integration. Where possible, the breadth, depth and intensity of integration is also described.

The aspects listed in the review questions are addressed where information is available, i.e. desired outcomes, context, effectiveness, and barriers and facilitators. The exception is Adaptions. The case studies have revealed that there is not a set of 'core mechanisms', which have been 'adapted' to suit local conditions; in every case studied, there was a unique set of integrative mechanisms.

Mechanisms associated with what might be termed the 'supporting integrative processes' – normative, financial, and Information and Communications Technologies – are described in greater detail in subsequent sections.

Clinical/service and organisational/governance integrative processes

MACRO LEVEL INTEGRATION

Integration at the macro level refers to integrated health care for a whole population, as distinct from target groups with specific needs (meso level) and care for the individual (micro level). The macro or systems level incorporates the other two levels and the evidence suggests that efforts to integrate health and social care should proceed on all three levels. In other words, a population-based approach should be used to plan provision. A well-known population-based model is the Kaiser Permanente 'triangle', in which the population's health care needs are divided into three categories according to need, and different responses identified for each category (see Figure 6). Thus:

- the large majority of the population (65–80%) require only primary care with 'supported self-care',
- a small proportion (20–35%) are at risk and require 'care management' or 'disease management', and
- a very small proportion (5%) have complex needs and need detailed attention through 'case management'.

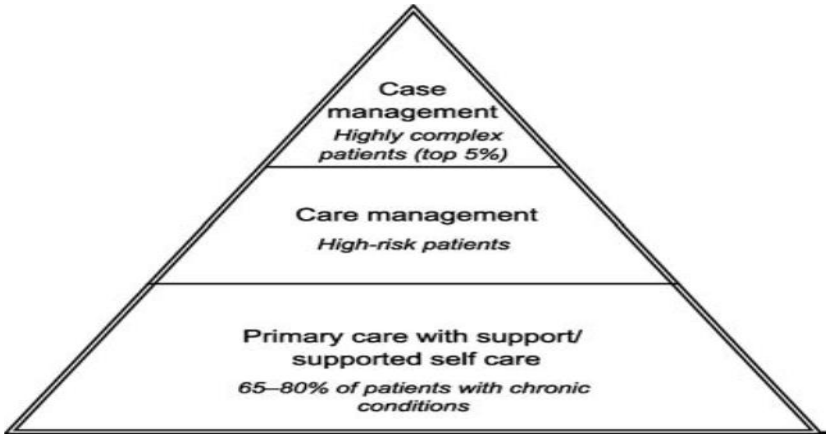


Figure 6: Kaiser Permanente triangle of population-based health needs

The responses named in this population-based model, albeit provided within the context of a systems-wide integrated health and social care system, are described in the following sections. Thus, care management or disease management is discussed under meso-level integration, and case management and supported self-care are discussed under micro-level integration.

Studies of integrated health care systems have been undertaken predominantly in the US and the examples described by The King's Fund and the Nuffield Trust all derive from the US. In the overview of systems-level integrating mechanisms described in this report (see Figure 7), it is apparent that three main considerations have influenced the choice of framework.

- *Elements to be integrated*: The three core elements that underpin health care in the United States are the health plan (or commissioner to use UK terminology), the hospitals that deliver inpatient care, and the doctor who provides outpatient care and has admitting rights.
- *Intensity of integration*: Both breadth and depth can vary, from frameworks that integrate just physicians, to frameworks that encourage integration between entities including primary care, hospitals, pharmacies and ancillary services, to frameworks that integrate a range of medical specialists with primary care physicians. The intensity of integration has implications for integrative processes such as information and communications technologies and governance arrangements.
- *Principles underpinning integration*: Health care integration is still at an early stage, with much debate and uncertainty about what exactly makes it work. Different theories about organisational structures, dynamics and economics compete with one another, and in particular theories about integration based on hierarchies (i.e. an organisation with a single command structure), markets (i.e. competition between different entities and contractual arrangements) or networks (i.e. mutuality and collaboration between different entities). The underpinning principles influence the choice of incentives used to foster working together, be they financial or normative.

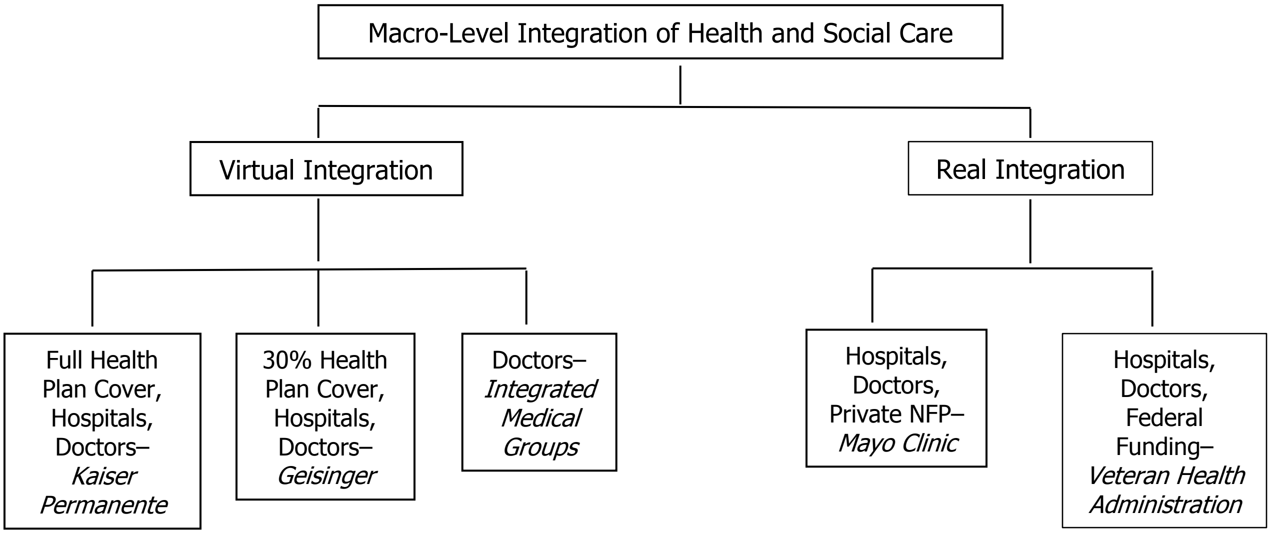


Figure 7: Map of macro-level integrating mechanisms described in this report

Having described the various exemplars and reviewed the literature, Curry and Ham (2010) listed nine characteristics of a macro-level integrated system of health care. They are similar to the broad integrative processes around clinical services, organisation, finance, information and communication technologies, and norms:

1. Multispecialty medical groups in which generalists work alongside specialists to deliver integrated care,
2. Aligned financial incentives that avoid the perverse effects of fee-for-service reimbursement, encouraging the prudent use of resources and promoting quality improvement,
3. Information technology that supports the delivery of integrated care, especially via the electronic medical record and the use of clinical decision support systems,
4. The use of guidelines to promote best practice and reduce unwarranted variations in care,
5. Accountability for performance through the use of data to improve quality and account to stakeholders through public reporting,
6. Defined populations that enable doctors and the wider health care team to develop a relationship over time with a 'registered' population,
7. A physician–management partnership that links the clinical skills of health care professionals and the organisational skills of executives,
8. Effective leadership at all levels with a focus on continuous quality improvement, and
9. A collaborative culture that emphasises team working and the delivery of patient-centred care.

The case studies outlined below illustrate how these different elements are designed and combined in different contexts.

Curry and Ham (2010) concluded by highlighting several issues for further debate.

- The theoretical and empirical evidence points in favour of virtual integration. The evidence suggests networks based on contractual integration may offer advantages over real or vertical integration. The exception seems to be in relation to relatively well-defined population groups such as older people for whom there is evidence that real integration can deliver positive results, e.g. the Veteran Health Administration.
- The evidence also indicates that there are benefits in integrated medical groups, with large multi-specialty medical groups performing better than small groups and independent practice associations. However, attempts to promote physician–hospital integration have often not been successful outside the large integrated systems such as Kaiser Permanente and Mayo Clinic. One of the characteristics of these systems is that they have been working to achieve effective integration over many years and have therefore been able to develop a level of trust and collaboration often lacking in the moves to integrate medical groups and hospitals during the managed care era.
- Finally, the emphasis on choice and competition in the United States means that integrated systems function in a market environment. While some analysts argue that competition is a key factor in stimulating these systems to achieve high levels of performance, it is also clear that integrated systems in the United States are the exception rather than the rule. This has led some to argue that integrated systems may be more likely to succeed in non-competitive environments such as those in countries with publicly funded and (historically) planned health care services. However, integrated systems in those countries that function as geographical monopolies may lack the incentives that stimulate Kaiser Permanente, Geisinger Health System and Mayo Clinic to achieve outstanding results. Curry and Ham suggest that competition and integration may be more effective when used together rather than separately.

Virtual macro-level integration

We have presented case studies that illustrate the integrative processes used in the following examples of virtual macro-level integration – Kaiser Permanente, Geisinger, Greater Rochester Independent Practice Association and Community Care North Carolina.

Case study 1: Full health plan cover, hospitals and doctors – Kaiser Permanente[13, 17, 18]

Origins/desired outcomes: Founded in 1945, Kaiser Permanente is a non-profit 'health maintenance organisation' serving well over 8 million people in eight regions of the US. Its mission is to 'provide affordable, high-quality health care services to improve the health of our members and the communities we serve'. It is comprised of three parts – the Kaiser Foundation Health Plan, Kaiser Foundation Hospitals, and Permanente Medical Groups. Combining the roles of insurer and provider, Kaiser Permanente directly provides care both inside and outside hospitals, enabling patients to move easily between hospitals and the community, facilitated by a model of multi-speciality medical practice in which specialists work alongside generalists.

Service users/patients: Kaiser Permanente is a 'closed' or 'captive' group model care system, in which health plan members generally obtain care from Permanente physicians. Members receive the entire scope of health care – preventive care, well-baby and prenatal care, immunisations, emergency care, hospital and medical services, and ancillary services including pharmacy, laboratory and radiology. There are multiple entry options including call centres for primary care appointments and 24-hour nurse advice; after-hours urgent care; scheduled telephone visits; and electronic messaging with the care team. Kaiser Permanente focuses on chronic care rather than primary and secondary care, as chronic diseases represent the major source of demand among the membership. The population is stratified according to the risk of chronic disease and adopting a population management approach that has already been described in the introductory discussion on macro-level integrated health and social care (see Figure 6).

Service provision/providers: The medical groups are multispecialty groups of physicians who provide medical care exclusively for Kaiser health plan members in Kaiser facilities. Working in cooperation with health plan and facility managers, Permanente physicians take responsibility for clinical care, quality improvement, resource management, and the design and management of the care delivery system in each region. Spending by Kaiser Permanente on community benefit programs includes community health promotion, charity care and safety-net institutions, professional education, and research.

The stratified population-based patient-care model is used to assign staff in a cost-efficient manner:

1. Primary care with self-care support – a proactive team approach is used, which conserves physicians' time for face-to-face encounters by enhancing the contributions of ancillary staff (medical assistants, nurses, pharmacists) to conducting outreach to patients between visits. Outreach is managed as follows: the physician has a weekly appointment slot with staff and reviews a computer-generated list of 10–20 patients who are not achieving their goals. The physician indicates follow-up instructions for each, and the ancillary staff carry them out.
2. Assistive care management – care managers (specially trained nurses, clinical social workers, or pharmacists) support the primary care team to help patients gain control of a chronic condition. Care managers may be part of the local primary care team or may be centrally located at a medical centre, depending on local resources.
3. Intensive case management and specialty care – nurse case managers may provide telephone education and support for up to six months.

Other initiatives to enhance patient care include:

- Integrated behavioural health and primary care – by including a behavioural medicine specialist, who is a licensed clinical psychologist or clinical social worker trained to work in primary care. This individual co-manages patients identified with mental health conditions. The patient's primary care physician is responsible for medication management.
- Improving transitional care for patients who have left hospital – by offering a telephonic care coordination program. Care coordinators (specially trained nurses or social workers) contact patients within 24 hours of discharge to assess needs and stratify patients.
- Improving medication safety – a computerised pharmacy alert system that notifies a pharmacist, who contacts the physician by phone or email to review the prescription.

Organisation/governance integrative processes: Kaiser Permanente Medical Care Program comprises three separate but interdependent entities – the Health Plan, the Hospitals, and the Medical Groups in each region. These entities cooperate to organise, finance, and deliver medical care under mutually exclusive contracts built on common vision, joint decision making and aligned incentives. In particular:

- The Health Plan and the Hospitals entity share a common board of directors.
- The Health Plan and its regional subsidiaries contract with individual, group, and public purchasers of coverage to finance a full range of health care services for members.
- The Hospitals entity arranges for inpatient care, extended care, and home health care for health plan members in owned or contracted facilities. It owns and operates medical centres – hospitals with multispecialty outpatient and ancillary services – and outpatient medical office buildings, which typically offer primary care, laboratory, radiology, and pharmacy services. Some also offer behavioural health and other specialty care.
- The Medical Groups are multispecialty groups of physicians who accept a fixed payment (capitation) to provide medical care exclusively for health plan members in Kaiser facilities. The medical groups are organised as locally governed professional corporations or partnerships in each of the eight regions, and are represented at national level by a 'federation'.

Financial integrative processes: Physicians are paid market-competitive salaries (based on speciality), so there is no financial incentive for either over- or under-treatment. From its capitation payment, the medical group funds an incentive pool with rewards based on meeting quality and service goals at each organisational level – group, medical centre, department, and individual physician.

ICT integrative processes: Kaiser Permanente has an ICT system that serves both providers and users. For service providers, there is a comprehensive health information management system that integrates electronic health records with physician order entry, decision support, population and patient-panel tools, appointments, registration, and billing systems. For service users, a member web portal gives online access to health information and educational resources, shared medical record, visit history, appointment scheduling, prescription refills, lab test results, and secure messaging with the care team.

Normative integrative processes: The integrated prepaid group-practice model inculcates a culture of group accountability for quality and efficiency supported by peer feedback and sharing of unblinded performance data within the group. Medical groups identify and develop internal client leaders. Labour-management partnership defines common vision and commitment to shared decision-making involving managers, physicians and employees.

A multispecialty group practice creates organic connections between physicians but also needs intentional management effort. The culture is motivated by a sense of commitment rather than compliance. Internal transparency has become the most powerful driver of performance improvement. The principle of 'group responsibility' defines the Permanente model and promotes clinical collaboration and coordination across specialties. Under prepaid care, physicians take responsibility for both quality and cost of care. They are stewards of both member resources and member health. Physicians exercise this accountability through medical group self-management and self-governance, as full and equal partners in the health plan. This partnership is formally defined through annual agreements at both national and regional levels and given expression through joint decision-making bodies and day-to-day collaboration between physicians leaders and health plan and facilities managers at all levels.

While emphasising partnership and integration, physicians pride themselves on their clinical autonomy – a combination of group accountability and clinical autonomy. The compensation system is not the primary motivator of performance but it must be aligned with a leadership strategy that engenders trust and commitment while recognising and rewarding performance. Organisational learning is promoted through an in-house journal, annual innovation awards, workshops, site visits, and local clinical champions.

Enablers:

- Mutual interdependency between the three components of Kaiser Permanente means that neither the medical group nor the health plan can afford to let the other fail. Each must maintain patient trust and quality of care, while at the same time maintaining fiscal responsibility and responding to market demands.
- Coordination of care is enhanced by the combination of a closely knit multispecialty group and a common information system.
- Aligned incentives and group accountability appear to reduce internal tension between clinical disciplines within the medical group, enabling them to cooperate in achieving group goals such as cost-efficient deployment and use of radiological imaging technology.
- Owning the hospitals which care for its members confers an advantage on Kaiser Permanente, allowing it to closely manage its resources and achieve consistent results across its service area.
- Paying a salary and hoping for the best outcomes is not sufficient. Managing the culture appears to be a key element in producing a high-functioning group. Kaiser Permanente has an organisational culture in which everyone is expected to continually improve performance, and this appears to engender a valuable commitment to the organisation's mission.

Barriers:

- Adopting information technology entails some time trade-offs to achieve promised results, e.g. needing more of physicians' time for information recording and management and for secure messaging with patients but eventually can reduce face-to-face visits as more of a primary care physician's patients use it and as the physician incorporates it into patient care management.
- During the organisation's early years, the medical community opposed prepaid group practice as a threat to traditional medicine.
- Where full integration does not exist because Kaiser does not own hospitals, the local organisation seeks to develop good working relationships with contracted hospitals to facilitate care management, but lack of electronic linkages can impose barriers to the flow of information.

Effectiveness and impact: Kaiser Permanente is recognised as one of the top-performing health systems in the US and is one of the lowest-cost health care providers in most of the regional markets in which it competes. In a survey conducted for the California HealthCare Foundation, Kaiser members reported higher levels of collaborative goal-setting in their health management and reminders for preventive or follow-up care, compared with patients seen in other care settings in California. In addition, members reported fewer difficulties in securing an appointment for the same or next day or accessing services after hours and were more likely to be satisfied with their care. When compared with the NHS, Kaiser performs better, with around a third of the bed use for about the same cost; Kaiser members also experience more comprehensive and convenient primary care services and much more rapid access to specialist services and hospital admissions. Although there has been much debate about the reliability of this study (eg, Talbot-Smith *et al* 2004), further analysis confirmed that, for 11 medical conditions studied, the NHS uses 3.5 times the number of bed days as Kaiser for those aged 65 and above (Ham *et al* 2003). Part of the explanation is that Kaiser can deliver more care outside the hospital in large medical offices, similar to polyclinics.

Case study 2: Geisinger – 30% health plan cover, hospitals and doctors[13, 19]

Origins/desired outcomes: Founded in 1915 by Abigail Geisinger and with a vision to 'heal, teach, discover and serve', Geisinger is a physician-led, not-for-profit integrated delivery system serving approximately 2.6 million people in Pennsylvania through three acute/tertiary/quaternary hospitals, an alcohol/chemical dependency centre, a multispecialty group practice, and 50 practice sites including community practice clinics. The Geisinger Health Plan, created in 1985, is a network model health maintenance organisation offering group, individual and Medicare cover. Approximately 30% of Geisinger's patients are insured under this health plan. About half the health plan's members have a Geisinger primary care physician based in one of the community clinics. The health plan also contracts with independent providers including community hospitals. Geisinger also has a centre for health research, and medical education programs for medical students.

Service users/patients: The population served is older, poorer, sicker, more rural and less transient than the national average. As a result of the rural context, specialist services are provided from three large hubs while 200 physicians provide primary care at 40 community practice clinics. Speed and ease of access are priorities, e.g. same-day appointments, walk-in clinics in area retail stores that are linked via Geisinger's EHR and the patient portal. There is also a focus on patient activation and self-management through a patient compact, which encourages patients to take responsibility for their own health care.

Service provision/providers: Central to Geisinger's care delivery system is the idea of multi-specialty care and coordinated provision in the form of bundles of evidence-based practice. Physicians are brought together in 22 cross-disciplinary service lines to jointly plan and budget for care and to assess each other's performance. Each patient's care needs are the responsibility of a single practice. The care delivery system comprises two parts:

1. A hospital-based portfolio of 'products' (ProvenCare) for which care processes have been developed. 'Products' are priced as 'bundles of evidence-based practice' and physicians are thus motivated to be efficient and deliver evidence-based practice.
2. An advanced medical home model (ProvenHealth Navigator) reduces primary care contacts and ensures timely follow-up after hospital discharge with improved outcomes. Geisinger tries to ensure that nurse practitioners, physician assistants, pharmacists and physician 'extenders' work to the limits of their licence to maximise quality and decrease cost. Nurse care managers are embedded in practices and are assigned a case load of 125–150 of the sickest patients. Nurses act as central points of triage and ensure that the patient sees the right professional at the right time.

Nurse managers are employed by the health plan and embedded in primary care practices as an integral member of the care team to implement disease management and case management at the meso- and micro-levels respectively.

Quality improvement, patient satisfaction, and efficiency are all achieved by redesigning and reengineering how care is delivered, rather than by trying to make people work harder. Building on the strengths of its integrated system, Geisinger typically begins its efforts by targeting patients insured by Geisinger Health Plan, in whose treatment clinical and financial responsibilities intersect. Once a model is proven, the innovation may be expanded to encompass additional patients or groups. Geisinger's 'innovation architecture' includes:

- convening teams of diverse stakeholders to identify the best care model for enhancing value in the prevention and treatment of disease;
- setting targets for care model redesign based on factors such as impact on populations and cost, variation in outcomes, interest among physicians, and gaps in performance;
- developing a clinical business case for the redesign including identifying efficiency and quality goals and developing a road map of needed changes and linkages in processes, analytic support, and financial and non-financial incentives;
- applying a variety of improvement approaches, including borrowing and adapting approaches that have worked in previous initiatives; and
- culling promising innovations for expansion.

Financial integrative processes: A flat fee is set for certain procedures, which includes preoperative care, the surgery or treatment itself, and time-limited postoperative care. For Geisinger Health Plan members having certain surgical procedures, Geisinger charges a flat fee that includes preoperative care, surgery, and 90 days of follow-up treatment (at a Geisinger facility) including that of related complications. Pricing the bundle at a discount creates an incentive for efficiency and, in effect, offers a warranty against complications.

The health plan provides financial incentives for physicians to participate in the advanced medical home model. These include a time-limited, $1,000-per-month stipend to promote skills development and office redesign, and expanded quality incentives to promote improved performance on jointly agreed-upon metrics. The plan also hires and trains the nurse case managers and provides support for analytic decision-making and improved information and communications infrastructure. To qualify for the stipend, physicians must demonstrate engagement in the process, as determined by local practice leaders.

ICT integrative processes: Technological and organisational systems for identifying high-risk patients, proper sequencing of care processes, grouping of tasks to assure comprehensive care and ease compliance, and measurement of results along with process analysis for efficiency and effectiveness include home-based tele-monitoring and automated voice-response surveillance of high-risk patients, notification of and communication with the primary care physician after an emergency department visit or hospitalisation, partnerships with skilled nursing facilities for onsite acute care patient management, and electronic healthcare record (EHR) templates and decision-support tools.

Promoting awareness and understanding of expected behaviours, processes, and goals among both service users and providers requires the integration of clinical knowledge, change management, and data reporting (using both the EHR and insurance data) to establish the link between clinical behaviours, process changes, and results. Electronic health records (EHRs) with decision support across all group-practice sites (and available to more than 2,000 users in non-Geisinger clinical practices) acts as the organisation's 'central nervous system'. Geisinger has also collaborated with other regional caregivers and institutions to develop a regional health information exchange that electronically links providers in the service areas. A patient web portal for health information, appointment scheduling, prescription ordering and emailing clinicians has reduced patient 'no-show' rates and telephone calls, and increased physician productivity. Because of the lag time involved in collecting and reporting quantitative data, change is also facilitated through patient-specific case reviews and clinical anecdotes.

Normative integrative processes: Bringing its physicians together in 22 cross-disciplinary service lines (each led by one physician and one administrator) to plan, budget, and evaluate one another's performance created a team-oriented transformation in the organisation's culture. This interdisciplinary model has helped to promote the achievement of higher levels of performance and given Geisinger a competitive advantage in the marketplace and in attracting and retaining physicians.

Internal incentives and recognition drive improvements in performance as follows:

- As well as the bundled payments, which encourage physicians to follow best-practice guidance to promote consistent quality and reduce complications, base compensation for physicians is tied to productivity. About 15% to 20% of total compensation is based on meeting performance targets including budget, quality of care, patient satisfaction, and citizenship activities such as teaching and committee work.
- A web-based Physician Quality Summary compares the performance of contracted primary care practice sites on nine clinical quality and patient service metrics using a three-star rating system. Practices that achieve three-star rankings are eligible for financial rewards.

Effectiveness and impact: The Provencare model of fixed pricing has produced good outcomes, both reducing costs and increasing efficiencies. Preliminary results from a pilot of the community-based ProvenHealth Navigator model has indicated improved outcomes, with better patient adherence to prescriptions, greater use of generic drugs and greater compliance with evidence-based care practices for diabetes and coronary artery disease. All-cause hospital admissions and readmissions have declined.

Integrated medical groups - doctors only[13]

These groups usually comprise physicians from a range of specialities (e.g. primary, community and specialist). These medical groups may be:

- employed by an integrated health system, such as Veterans Health Administration (VA) or the Mayo Clinic, which are described in Case Studies 5 and 6 on real macro-level integration,
- have an exclusive relationship with an integrated health system, such as Kaiser Permanente described above, or
- come together to take on a budget with which to provide and commission all or some of the services required by the populations served.

The claimed benefits of integrated medical groups are their ability to promote an environment that encourages communication, collaboration and peer review, so potentially leading to higher-quality care. Multispecialty group practices also allow physicians to specialise while working alongside colleagues who can assist in diagnosing and treating complex medical problems. The degree of integration within groups varies from loose alliances of practices coming together in independent practice associations, mainly to negotiate with health plans, to tightly organised groups based on a common culture and set of values which attract physicians who prefer to practise in a collaborative system of care. An example of each is given here. The comparative effectiveness of both types is discussed at the end.

Case study 3: Greater Rochester Independent Practice Association (GRIPA)[13, 16]

GRIPA is an independent practice association which provides administrative and clinical support to around 800 member primary care and specialist physicians, of whom more than 650 work in community practice.

Origins/desired outcomes: GRIPA was founded in 1996 to negotiate and manage capitated risk contracts with local insurers for its member physicians and hospitals. Between 1996 and 2005 GRIPA held capitated 'risk-contracts' for a total of up to 120,000 people (receiving a fixed monthly sum for each patient in return for providing a comprehensive range of care). Using a range of incentives for adherence to local protocols, referral criteria, and disease and care management initiatives, GRIPA paid doctors a share of savings if patient care could be delivered for less than the capitated amount paid by insurers.

The stimulus to introduce clinical integration came when local insurers stopped risk contracting and returned to individual price setting with doctors or practice groups. This reduced incomes, particularly for primary care physicians, who were keen to return to collective price negotiations with insurers. In order to comply with US anti-trust legislation, GRIPA drew on many of the improvement tools and processes that it had established during the previous decade to support 'risk contracting' and was approved as a clinically integrated organisation in 2007.

Service users/patients: GRIPA serves a mixed urban/rural population in up-state New York. For the patients of GRIPA's member physicians, clinical integration has resulted in more standardised care, with participating doctors working to shared, evidence-based clinical standards and actively seeking to address gaps in care for each patient. For those with complex health problems, GRIPA's case managers work to coordinate care from different providers and avoid the duplication and confusion associated with transfers between services.

Service provision/providers: GRIPA works collaboratively with physicians and hospitals, aiming to make better health care easier to deliver and less costly for patients. It provides medical, business and technology management services to doctors in order to simultaneously improve the quality and efficiency of health care. GRIPA's integration work combines disease management of common chronic conditions, case management of people with complex health problems and significant gaps in care, supported self-management and preventive care for selected conditions.

Organisation/governance integrative processes: Three complementary groups oversee the development and maintenance of quality service provision. Clinicians receive a stipend for involvement in these governance groups and an attendance allowance for meetings.

- The Clinical Integration Committee sets the clinical priorities and strategic direction for clinical integration.
- Specialty advisory groups bring together GPs, specialists and other clinicians to develop guidelines for cost-driving conditions that affect GRIPA patients.
- The Quality Assurance Council reviews the practice of poorly performing physicians and recommends a corrective action plan to help these doctors improve their care. Sanctions include withholding gain-share or removal from the group.

Financial integrative processes: Retrospective financial micro-incentives linked to the quality of care delivered and adherence to clinical guidelines are central to GRIPA's integration work. GRIPA uses clinical data for compiling physician performance reports, benchmarking the practice of individual doctors against their peers, and providing data on which allocation of financial rewards is based. Money is allocated to each physician according to relative performance against agreed performance measures. Typically there is a 70% difference between highest and lowest payment.

ICT integrative processes: GRIPA's bespoke clinical information system is central to its integration work. It allows secure information sharing between generalists and specialists, permitting new forms of virtual consultation in which the patient may not need to be physically present in the clinic.

Administrative/back-of-house integrative processes: GRIPA provides administrative support to practices, reducing organisational workload for physicians and freeing up time to improve clinical care.

Enablers:

- Development of a web-based clinical portal accessible to clinicians and, in part, to patients, and a central data repository to synthesise and analyse clinical data.
- Tools (for example, 'point-of-care' alerts) to support and prompt best clinical practice.
- Governance and incentive arrangements to support clinical practice, in line with agreed guidelines and pathways (still evolving).
- Respected medical leaders and high trust in GRIPA based on past track record and delivery.
- Multi-professional team supporting care coordination, case management and pharmacy management.

Case study 4: Community Care North Carolina (CCNC)[16, 20]

Community Care of North Carolina (CCNC) is a public–private partnership that provides key components of a medical home and care management for almost one million low-income individuals enrolled in Medicaid or the state Children's Health Insurance Program. CCNC is a community-based system of 14 regional networks, each of which is a nonprofit organisation consisting of a partnership of local providers including hospitals, primary care physicians, county health and social services departments, and other stakeholders. More than 1,300 primary care practices with approximately 3,500 to 4,000 physicians currently participate in CCNC networks statewide, representing about half of the primary care practices in the state. The state provides resources, information, and technical support. Physician fee-for-service reimbursement is supplemented by a per-member per-month (PMPM) fee for case management. The regional networks also receive a PMPM fee to cover the cost of care management and network administration.

Origins/desired outcomes: Launched in 2002, CCNC built on earlier work to improve access to primary care and reduce fragmentation for Medicaid enrolees. CCNC extended this remit to include care coordination and disease management. A key driver for CCNC's work has been pressure on the state Medicaid budget and the risk that cuts could reduce eligibility for Medicaid, cut the range of services available for Medicaid patients and reduce physician reimbursement rates (currently high, at 95% of Medicare rates). CCNC's underlying vision of 'economising through quality improvement'.

Service users/patients: The target population is all residents of North Carolina insured through Medicaid (poor and homeless). Medicaid fee for service payment system does not encourage continuity of care, and patients typically see a different doctor for each health problem that they have. CCNC requires patients to register with a single primary care physician in a 'medical home' to improve continuity of information and the relationship between doctor and patient.

Service providers/provision: CCNC's programmes link patients to a named primary care doctor, and support a consistent standard of care for common conditions across different physician practices through adherence to evidence-based guidelines and disease management programmes for high-prevalence conditions. Selected patients also receive case management and care coordination services, and CCNC builds links between doctors, hospitals, social services and other community providers.

Organisational/governance integrative processes: CCNC is administered through a central programme office and its clinical programmes are implemented through 14 semi-autonomous regional networks. The programme office provides medical leadership, setting strategy and providing organisational support for the regional networks (IT development, data analytics and so on). It monitors network progress and performance against an agreed contract in return for a US$3 per-patient per-month payment, and supports the development and piloting of new approaches to care. The networks are led by local physicians working with a senior network manager and a case management team comprising a mixture of pharmacists, social workers, nurses and others, and build links with local hospitals, health departments and social services. They have local discretion over the design and implementation of interventions and local control over how best to achieve greater integration in their own region. The key philosophy is 'voluntariness' with limited use of contracts between CCNC and doctors, a modest financial incentive to participate in CCNC programmes, and no real sanctions for non-compliance.

- The Central State-wide Clinical Directors Group involves medical directors from each network and executive officers from the central office. It sets priorities on the disease groups to be covered and reviews regional performance.
- The Regional Medical Management groups develop regional plans to improve care for priority conditions, oversee dissemination of priorities and support tools, and review physician performance with quarterly reporting to the central group.
- The multi-professional implementation teams provide care coordination services and support the implementation of agreed disease management programmes by front-line clinicians.

Financial integrative processes: At the time of the case study, the CCNC covered more than 3,000 physicians who provide care for more than 880,000 Medicaid enrollees across the state. CCNC used a prospective, per-person per-month payment to Medicaid doctors in return for adhering to evidence-based guidelines and submitting selected data for audit. There is a monthly payment for each Medicaid patient registered with a physician participating in the CCNC programme, in return for offering continuity of care and disease management, and supplying data to CCNC. Participating physicians are paid US$2.50 per patient per month for people under 65 years, and US$5 per month for those over 65. No further financial rewards or sanctions were applied to participating doctors.

ICT integrative processes: A case management information system is under development to provide clinical information across a multi-professional group of case managers, aiding the coordination of clinical care.

Normative integrative processes: In CCNC the purpose of integration has been to improve the quality of care provided and users' experiences of care. This mission helps both to select the right staff into the organisations concerned, and to develop trust in each other. Methods to achieve this include:

- the central role of professional leaders in establishing goals and values,
- communication of goals and values to front-line staff by trusted leaders,
- techniques such as job shadowing, in order to understand different professional roles, and
- social events to unite participating individuals.

Each CCNC site studied had one or two people who were described as 'leaders' by multiple interviewees. The 'leaders' were widely respected in their professional community, typically had worked locally for many years and had been associated with previous successful developments. Their commitment to, and enthusiasm for, integration was critical for progress, as was their ability to communicate their vision among their colleagues, including the potential benefits for patients and staff. They were visible, had regular contact with front-line staff and were supportive of colleagues when they encountered barriers to integration. They fulfilled a range of roles, as follows:

- identifying and demonstrating the values that underpinned efforts towards greater integration
- identifying the goals of integration as members of executive committees and governance groups
- communicating agreed goals through group and individual meetings
- engaging professionals and building involvement and understanding
- maintaining clarity of vision and emphasising the benefits of integration to patients and staff
- one-to-one meetings, either to 'sell the vision' or support individual clinicians identified through

benchmarking data as less adherent to agreed protocols.

In addition to clinical and social care leaders, senior general managers in two of the CCNC sites studied were described as being instrumental in progressing integration. Their roles were different from clinician leaders, working across different groups and institutions and acting as ‘diplomats’ if tensions arose and ‘speaking many languages’ of different professional groups. Trust was highlighted as a key ingredient for integration by several interviewees. Clinical leaders argued that their ability to ‘sell’ their message about integration depended on them trusting that the arrangements in place would improve care, or would allow the detection of deteriorating quality. Clinicians and care workers who were not leaders explained that their involvement in integration work was partly due to their trust in the people who were leading it.

However, building trust was reported to take a long time. In each site, work to strengthen integration was founded on a decade of prior work in which trusting relationships had grown slowly. Most of the physicians interviewed for this study were not employed by the case study organisations. They were linked together through their involvement with the case study organisation, and were willing to participate in this because of their trust in the colleagues who were leading the work and belief in the mission.

Enablers:

- Governance and incentives: monthly payment to networks and participating physicians who agree to follow care pathways and allow CCNC auditors to review clinical records; networks report clinical performance to central CCNC office.
- Integrated electronic information system (evolving) with data feedback to doctors.
- Active medical leadership in charge of developing care standards and resources and raising awareness about expected standards of practice.
- Multi-professional teams supporting care coordination and review of selected high-risk patients.

Barriers:

- Slow uptake by some physicians – limited consequences for non-compliance;
- Relatively limited resources of regional networks; and
- CCNC’s influence on clinical practice indirect as it has no performance management role or other line management authority over local providers.

Effectiveness – comparison of GRIPA and CCNC: The King’s Fund’s research on integrated health and social care discusses the origins, implementation and impact of the integrated medical group in some detail as it is seen as analogous to what is being attempted in the UK with GP-led commissioning. They report that there is growing evidence that larger and more organised forms of physician practice are associated with providing greater value in the delivery of health care services. Thus:

- Integrated medical groups began to develop in the US in the 1990s when physicians wanted to strengthen their negotiating position in relation to health insurers. The health insurers were interested in engaging in risk-based contracting with physicians, with medical groups taking on capitated budgets. The expectation was that medical groups taking on capitated budgets would become more cost conscious and help to slow the rate of increasing health care cost, for example, by reducing the use of hospital services.
- Physician-hospital integration encountered difficulties centred on ‘persistent, long-standing conflicts between the two parties that inhibit power-sharing and common incentives’.
- Evidence suggests that medical groups working under capitated budgets and risk contracts did reduce their use of hospital services by both avoiding inappropriate admissions and cutting lengths of stay. Medical groups achieved this by using management techniques such as prior authorisations of referrals, the establishment of case management programmes, and appointing physicians known as ‘hospitalists’ to take

care of patients in hospital. While such techniques are common in integrated systems such as Kaiser Permanente, many medical groups outside established systems ran into difficulties and some went bankrupt.

- Large group practices have been twice as likely as small groups, or solo practitioners, to engage in quality improvement and to use electronic medical records. Large groups have also been more likely to practise in teams, use performance and outcome measurement for quality improvement, and provide preventive services than solo practitioners or small groups. They may also have more medical home infrastructure and to follow care management processes.
- A comparison of large integrated medical groups with independent practice associations found that patients cared for in the former generally received a higher quality of primary care than those in the latter. The former are likely to have more clinical information technology, more organised processes to improve care, participate in quality improvement activities, score well on process measures, and perform more recommended preventive services.
- More organised forms of physician practice are associated with providing greater value in the delivery of health care services.
- Large multi-specialty medical groups are able to provide higher-quality care at lower costs than other types of practices.
- Although large groups can achieve economies of scale, they may find it difficult to coordinate activities and some have found they lack personal relationships which are so important when coordinating a patient's care. This is reflected in findings that show patient satisfaction is relatively low among patients cared for by large group practices. Medical disaffection and disengagement may also increase as the organisation grows. This may explain the emergence of single-speciality groups, which many physicians feel can achieve the benefits of multispecialty groups (e.g. in gaining leverage over health plans and economies of scale) while avoiding the coordination problems and conflicts often experienced between different professions in a multispecialty medical group.

Real macro-level integration

Two examples of real macro-level integration are presented here – Veteran Health Administration and Mayo Clinic.

Case study 5: Veteran Health Administration (VA) – hospitals, doctors and federal budget [13]

VA employs physicians, owns and runs hospitals and medical offices, and manages services within a budget allocated by the federal government. It comprises regionally based integrated service networks rather than a fragmented hospital-centred system.

Service users/patients: VA focuses on older people, often with complex needs. VA has introduced patient-centred care coordination, which has sought to rationalise and unify care, and to ensure that care is provided when the patient requires it. The VA's Care Coordination/Home Telehealth (CCHT) system, consisting of sophisticated remote monitoring technology, has allowed patients to manage their conditions at home with visits or appointments being triggered as a problem arises, offering scope for clinicians to intervene and prevent deterioration and admission to hospital.

Service provision/providers: VA consists of 21 networks, each of which has responsibility for resources across all care settings. The VA's coordinated approach to disease management, facilitated by data sharing and multispecialty networks, means that patients with two conditions are no longer managed through two separate, overlapping services but rather through a package of integrated care which addresses all their needs. Performance criteria emphasise clinical quality and patients' outcomes as well as other measures.

Organisation/governance integrative processes: Network managers are held to account via a rigorous accountability structure and performance regimen. Overarching performance measures agreed centrally are cascaded down through the system to clinicians and managers, to ensure all parts of the system are working towards the same goals. Many of these measures focus on clinical quality and are supported by a culture of measurement and reporting. The performance management system enables headquarters to hold regional directors accountable for performance.

Financial integrative processes: Instead of a fee-for-service payment system, VA allocates resources on a capitation basis to each network. Knowing they are responsible for a person's entire care needs and are likely to care for people over their entire lifetimes, managers have an incentive to provide health promotion and effective care management over time. Financial incentives are also aligned with organisational goals.

ICT integrative processes: Investment in IT has enabled effective data sharing and also promotes consistent high-quality care through the dissemination of evidence-based guidelines, decision support tools and physician alerts.

Normative integrative processes: A strong culture of measurement and reporting has been developed, providing for comparison between regional networks. A culture of evaluation and health service research has been promoted to support evidence-based decision-making. Leadership has been strengthened at all levels of the organisation with physicians and other clinicians taking on key roles.

Impact: Shifting from a hospital-based system to one based on integrated service networks, the VA has reduced its use of hospital bed days by 55% with no adverse health outcomes. At the same time, the number of VA members increased by 75% whereas as the total budget only increased by 32%. The CCHT system has yielded benefits, with a 25% reduction in the number of bed days, a 19% reduction in admissions and high satisfaction scores.

Case study 6: Mayo Clinic – hospitals and doctors[13, 21]

Origins/desired outcomes: Founded in the 1920s by William Mayo, a doctor, the Mayo Clinic is a private, not-for-profit integrated multispecialty group medical practice with salaried staff. Its mission is to 'provide the best care to every patient every day through integrated clinical practice, education, and research'. The Mayo Clinic comprises clinic physicians and scientists serving patients in four owned and managed hospitals and outpatient facilities and schools of biomedical education. The Mayo Health System is an affiliated network of 17 owned hospitals and clinics. The Mayo Clinic model does not include a health plan element.

Service users/patients: A core value of the Mayo Clinic is patient-centredness. This value lies behind the delivery of integrated personalised care by assigning every patient to a coordinating physician who ensures that there is an appropriate care plan, that ancillary services and consultations are scheduled in a timely fashion, and that the patient receives clear communication throughout and at the conclusion of the visit. Experiments under way to reorganise outpatient visits to increase time with patients through the use of midlevel practitioners, with electronic communication and monitoring to engage patients in self-care between visits. A patient scheduling system uses algorithms to assign new patients to physicians and orchestrate a patient's time at the clinic, taking into account the patient's availability, the specific time and sequencing requirements of office consultations, laboratory tests and procedures and the travel time between appointments. Several primary care clinics offer same- or next-day appointments.

Service provision/providers: The Mayo Clinic specialises in the diagnosis and treatment of complex patient illness in an environment in which physicians from every medical specialty work collaboratively to meet individual patient needs, often during the same patient visit. Teamwork is deemed central to the care management approach developed in Mayo for conditions such as diabetes. There are expanded roles for the practice nurse, who conducts outreach and previsit planning, and for the receptionist, who acts as the diabetes registry coordinator. A primary care council – consisting of the department chairs of internal medicine, family medicine, paediatrics, and urgent care – identifies and shares best practices and designs care models to create a consistent patient experience across primary care sites. An expert team led by an endocrinologist leverages the expertise of primary care physicians, nurses and diabetes coordinators, who together develop and share common patient education tools.

Organisation/governance integrative processes: The organisation is physician-led at all levels and operates through physician committees and a shared governance philosophy in which physician leaders work with administrative partners in a horizontal, consensus-driven structure. Physicians serve in rotating assignments on committees and in leadership roles to promote broad participation and development of the workforce. A board of governors comprising primarily physician leaders provides high-level enterprise governance under the oversight of the Mayo Board of Trustees.

- Clinical Practice Committee, based in each clinic, is composed of and led by physicians, and is responsible for the quality of care delivery across care settings, including the infrastructure supporting dissemination of expert-developed clinical protocols.
- Clinical Practice Advisory Group, system-wide, is made up of the leaders of all the Clinical Practice Committees and is responsible for the overall delivery of care across all Mayo Clinic sites under the oversight of the board of governors. Reconciling clinical protocols and standards across sites affords these peer leaders the chance to review approaches being taken across the enterprise and identify gaps or inconsistencies.

ICT integrative processes: Mayo Clinic has an electronic health record (EHR) which follows a patient across encounters with different physicians. The EHR prompts physicians on routine tests and alerts them to potential risks, generates reminders and educational material for patients, and serves as a resource for research.
EHR terminals are located in every office, work area, and exam room. Electronic charts are routinely shared with patients at the point of care, and are used in virtual consultations with other physicians and providers.
Mayo is working to merge six different EHR systems in use at different clinic sites. In the meantime, physicians use Web portals to view patient records from another site when patients are receiving treatment in multiple locations. An EHR portal for referring physicians enables a patient's home physician to upload pertinent medical history and test results, thus avoiding duplication of tests. At the conclusion of the visit, the portal communicates the results of the consultation back to the patient's home physician, ensuring continuity of care.

Normative integrative processes: Mayo has nurtured a culture of teamwork and collaboration among its professional staff, one in which it is ok to ask questions and to admit ignorance. Salary-based compensation and shared system resources remove barriers to teamwork that tend to exist in other reimbursement models. Centrally held discussions and decisions about resources help reduce competition or infighting among departments and disciplines. Peer review pressure rather than productivity incentives create group expectations for physicians to see the 'right number' of patients.

Effectiveness: Mayo Clinic is recognised as one of the top performing health systems in the US if not the world – in terms of efficiency, quality of inpatient care, and clinical outcomes.

Enablers:

- Multidisciplinary practice with salary-based compensation fosters team-oriented patient care and peer accountability.
- The supportive organisational and technological infrastructure permits physicians and other caregivers to excel.
- A physician-led governance structure inculcates a culture that filters decisions through the lens of patients' interests.
- Full integration of hospitals with the Mayo Clinic health system and the use of shared medical records across inpatient and outpatient settings have been critical to realising efficiencies and promoting clinical excellence.
- Consensus-driven decision-making and budgeting process means that resources and operations are deployed to serve the mission and cohesive functioning.
- Although the committee process may take more time to reach decisions than would a top-down management approach, it engenders acceptance of decisions and a spirit of teamwork across specialities.
- Resources are held centrally rather than by individual sites or departments thus avoiding infighting.

MESO LEVEL INTEGRATION

Over the last 15–20 years a plethora of initiatives have been devised to integrate health and social care services for sub-groups of the population with specific health and social care needs, including the frail elderly, people suffering from chronic illnesses such as diabetes or COPD, and people with disabilities. The various models of care examined by The King's Fund, the Nuffield Trust and the European Observatory are described here as examples of mechanisms for integrating health and social care (see Figure 8). As with macro-level examples, the examples used at meso-level are dividied into real and virtual examples. While the target population for each model or mechanism is noted, it has not been possible to systematically describe the models available for all target populations.

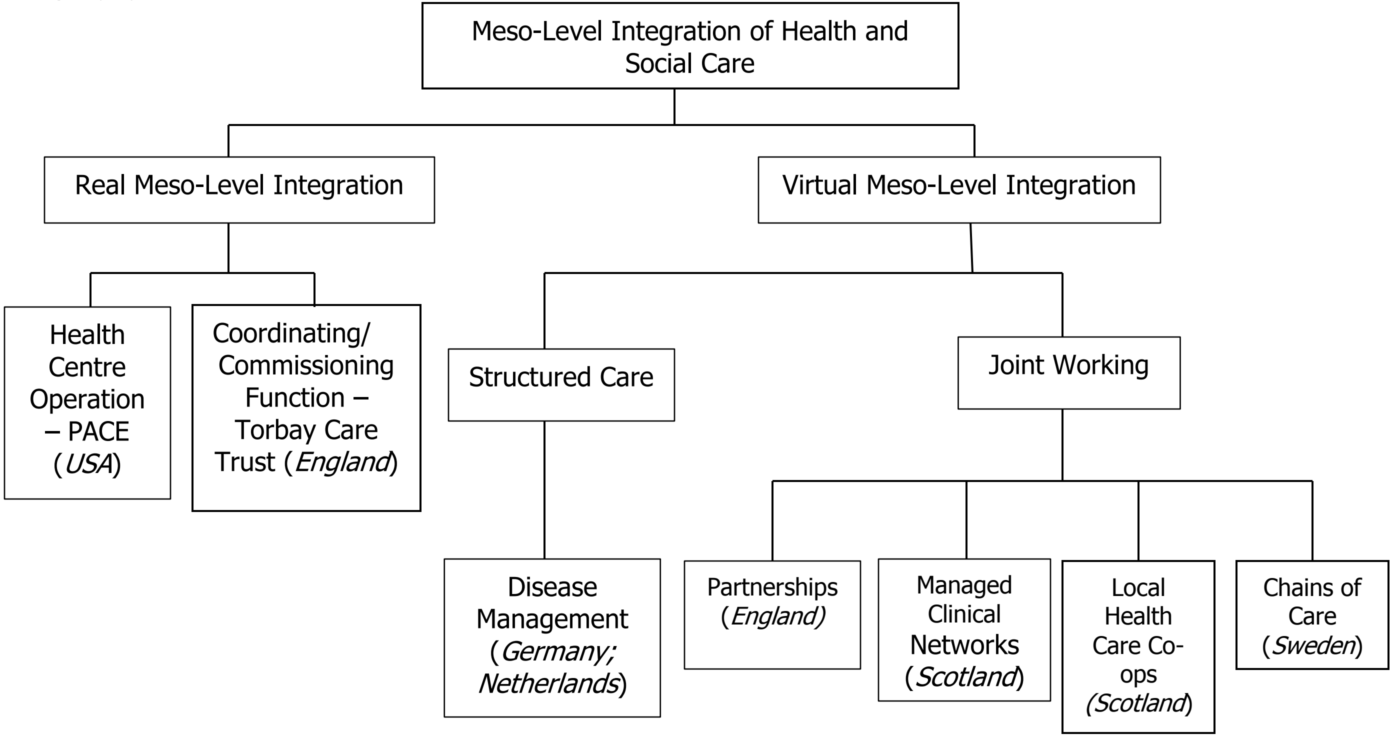


Figure 8: Map of meso-level integration and case studies described in this report

Real meso-level integration

'Real' integration of services at the meso-level means that a single entity is responsible for all services, either under one structure or by contracting some services with other organisations These entities usually function in parallel with the national socio-health structures, i.e. hospitals, specialised medical care, long-term care institutions, home care. Services may be delivered by structures operated by the integrated service or by external structures linked through contracts. Real integration does not involve significant changes to the structure or processes of existing services, except for the negotiation of protocols for referring clients to integrated service delivery (ISD) and the provision of some services not covered by ISD. Capitation budgeting is usually a key component of these programmes.

Two models are described – PACE in the USA and Torbay Care Trust in England (see Figure 9). PACE is characterised by being based in a day health centre where members of the multidisciplinary team who evaluate and treat the clients are based. Torbay Trust, on the other hand, is characterised by integrated care teams that are organised in zones or localities aligned with general practices.

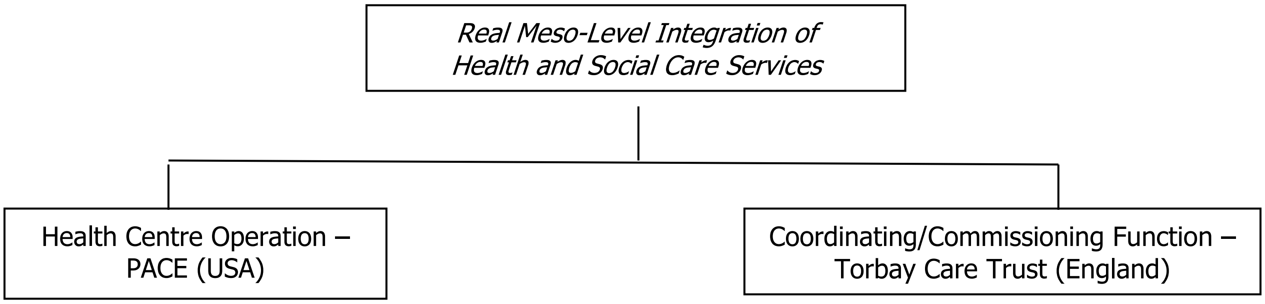


Figure 9: Map of real meso-level integration and case studies described in this report

Case study 7: PACE (USA)[13, 22, 23]

Origins/desired outcomes: PACE's objective is to maintain frail elderly persons in the community for as long as possible by avoiding or postponing institutionalisation by providing comprehensive acute and long-term care services, which are co-ordinated by, and for the most part organised around, an adult day health centre.

Service users/patients: The target population is community-dwelling elderly people residing in the service area, aged 55 and over and who have certification of eligibility for nursing home admission.

Service provision/providers: The day health centre is the primary setting for the delivery of most, if not all, covered services. The setting simultaneously defines the delivery system and serves as an enabling component critical to the model's efficiency and effectiveness. In addition to offering social and respite services, the centre functions such as a geriatric outpatient clinic, with primary medical care and ongoing clinical oversight and management playing central roles. At the heart of PACE is the multidisciplinary team, which comprises nurses, physicians, therapists, social workers, personal care assistants, transportation workers, nutritionists, and so on. PACE provides case management organised in day care centres through multidisciplinary teams, including nurses, physicians, therapists, social workers and nutritionists.

Organisation/governance integrative processes: The team is responsible for managing patients, dispensing services, promoting co-ordination and continuity of services, and collectively holds clinical responsibility for each individual in their care.

Financial integrative processes: The individual sites receive capitation payments from Medicare and Medicaid and have pooled resources. The programme has total control over all long-term care expenditure, assuming financial risk for its population. As a consequence, the programme has flexibility to render needed services.

ICT integrative processes: A bespoke data system (DataPACE) facilitates case management by collecting information on all aspects of a patient's health status; it also forms the basis of the patient's care plan.

Normative integrative processes: The multidisciplinary team approach facilitates group decision-making and consensus building. Considerable staff time is devoted to formal and informal idea and information exchange; formal meetings account for approximately 8-hours weekly per participant.

Effectiveness: A quasi-experimental, non-randomised design was used to compare the experience of program enrolees in 11 PACE sites with the experiences of individuals who expressed interest in the program, but did not subsequently enrol. Enrolment in the program was found to be associated with a large decrease in hospital use, and fewer admissions to and time spent in nursing homes. Patients in the program also used substantially more ambulatory care services, including outpatient medical and therapeutic care, as well as home- and community-based social care. The costs to Medicare under PACE were considerably lower than for the non-enrolee comparison group. The program also represented a cost savings to state Medicaid budgets allocated for long-term care in the order of 5%–15%. However, no empirical data to support this observation were found. Program enrolees had a significantly higher probability of reporting 'good' or 'excellent' health; evidence of a better quality of life was also found; and enrolees expressed greater confidence in their ability to take control of their lives and deal with day-to-day problems. Results in terms of physical functioning were inconsistent.

Enablers:

- Adult day health centre
- The pooling and control of funds
- Ownership of virtually all components of the extramural service system through contracting
- The very intensive geriatric care focus and interdisciplinary team approach provided by the care continuum.

Case study 8: Torbay Care Trust (England)[13, 24, 25]

Origins/desired outcomes: Torbay Care Trust was established in 2005 and contracted to provide all social care functions for the local council. Torbay has established five integrated health and social care teams organised in zones or localities aligned with general practices. The objective is to improve the integration and coordination of older people's health and social care.

Service users/patients: The target population is the very highest-risk individuals who require intensive support from community matrons and integrated teams.

Service provision/providers: Each of the five teams is co-located and has a single manager, a single point of contact and uses a single assessment process. Health and social care teams meet regularly to review the most complex cases and to decide on actions needed. Joint decisions are made about an individual's needs and care is co-ordinated. The key focus for all teams is knowing their population and proactively managing the care of the most vulnerable in partnership with GPs. Health and social care coordinators work within each team and their role is to accept referrals and act as the single point of contact. Coordinators liaise with users and families and with other members of the team in arranging the care and support that is needed. The appointment of these coordinators, who are not professionally qualified, is in many ways the most fundamental innovation in Torbay. A single assessment process and patient-held records accessible to any professional involved in their care also help to co-ordinate care across care settings. Work is allocated to staff teams in adult social services on the basis of GP registration rather than home address. This means that social work is aligned with community health and is linked to clusters of general practices. Proactive discharge planning is also being developed whereby a team reviews patients while they are still in hospital and works with hospital staff to discharge patients when there is pressure on beds, to reduce lengths of stay.

Organisational/governance integrative processes: Governance of the Care Trust is centred on the Care Trust Board which includes two councillors nominated by the local authority. Alongside these voting members, the Cabinet Member for adult social care also attends board meetings. As well, a number of the Council's executive directors attend board meetings and take part in discussions.

Financial integrative processes: A pooled health and social care budget is used to commission whatever care is required, to provide packages of care for service users. The Care Trust contracts to provide all social care functions for the council (with annual review of budget and performance). A single commissioning team has been formed from existing staff in the council and Torbay Primary Care Trust. This is led by a care trust executive director who is responsible for supporting practice-based commissioning and for leading world-class commissioning developments as they are introduced.

ICT integrative processes: Patient-held records are accessible to any professional involved in the patient's care which helps to co-ordinate care across care settings.

Normative integrative processes: From the outset, the joint management teams met regularly; they initiated a series of staff seminars that focused on the benefits of integrated care. The seminars were usually independently chaired and facilitated, and feedback was formally sought from delegates on the day. Management responded to the comments within one week. These sessions ensured the process was transparent and that staff had access to those leading the changes. This model is still used by Torbay Care Trust to engage staff on important new issues.

Effectiveness: Evaluation methodology was a before-and-after comparison of resource use and comparison with other areas. Torbay had the lowest use of hospital bed days in the region and the best performance in terms of length of stay. There was reduced use also of residential and of nursing homes, and an increase in the use of home care services. Patient experience also appears to be positive. The integrated management structure of Torbay saved approximately £250,000 in the first year and this money was used to develop services. Although use of acute hospitals is low, there are no data available on cost-effectiveness.

Enablers:
- Long-term commitment to joint working
- Large measure of continuity among senior leaders and organisational stability
- The need for change in adult social care services which had been underperforming
- The appointment of health and social care coordinators of multi-disciplinary teams.

Barriers:
- Differences in cultural and working practices between professionals across the workforce
- The initial absence of common information systems
- Central and local imbalance: social services centralised whereas health services more decentralised
- The initial absence of common lines of accountability.

Virtual meso-level integration

The case studies summarised in this report emphasise the heterogeneity of the initiatives seeking to achieve virtual integration at the meso-level. Moreover, the lack of systematic and comparable evaluations inhibits comprehensive assessments of the initiatives.

Recent commentaries highlight two main 'virtual' approaches to integrating health and social care services for target populations – structured care, and joint working – and, despite continuing uncertainty over the effectiveness and impact of both, indicate a growing preference for less structured approaches, i.e. a shift away from market models to partnership and network models. For instance, Goodwin[26] questioned whether structured care such as a disease management programme was desirable when other less structured solutions, such as 'primary care-based networks that provide multi-component, integrated and coordinated support over time', had the potential to incorporate more holistic care. In his review of 'joint commissioning' of health and social care services in England, Hudson[27] concluded: 'The answer may be to focus less upon legislation and organisational structures and restructures, and more upon the relationships between the front-line managers and professionals who (in effect) are taking many of the commissioning decisions anyway – an emphasis upon networks rather than hierarchies, and upon *patterns* or 'pathways' of care rather than *episodes* of care.' In their review of partnership working in England, Glasby *et al*.[4] concluded that the evidence and experience suggested that there were more important processes than structural solutions in promoting effective interagency working, for example 'a focus on outcomes, consideration of the depth and breadth of relationship required and the need to work on different levels'.

A broad outline of the two approaches is given, using case studies of specific mechanisms associated with each approach (see Figure 10).

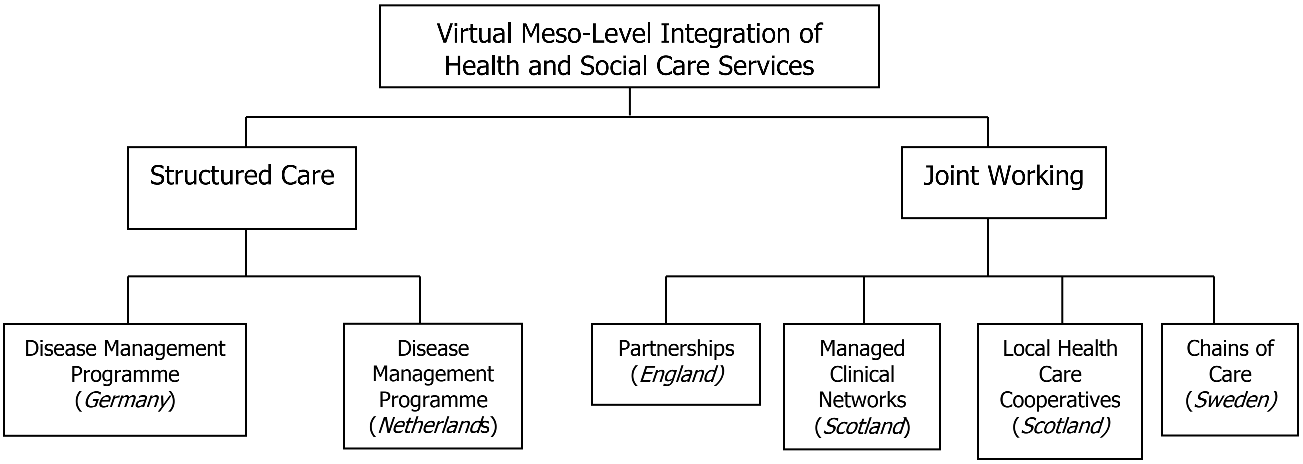


Figure 10: Map of virtual meso-level integration and case studies described in this report

Structured care

A response to the growing burden of chronic illnesses in developed countries, a disease management programme (DMP) was defined in a WHO report as 'a means to coordinate care, focusing on the whole clinical course of a disease. Care is organised and delivered according to scientific evidence and patients are actively involved in order to achieve better health outcomes'.[28] A recent review of evaluations of DMPs across various jurisdictions[13] found that the impact of DMPs is difficult to establish partly because there is no single definition of disease management and and the consequent variety in content of programmes. Initiatives targeting certain conditions (eg, depression, diabetes and heart failure) have achieved positive results, although the impact on clinical outcomes and mortality is uncertain. The evaluations described by the authors of the review broadly concluded that the evidence of positive impacts was greatest in terms of health care processes and patient satisfaction. Evidence relating clinical outcomes was inconclusive, and the cost-effectiveness of disease management had not yet been extensively studied or demonstrated.

Health care processes

A rapid review of the literature to establish how to reduce unplanned hospital admissions[29] found that all but one of the five reviews and three trials identified relating to 'broad managed care programmes' (i.e. DMPs and chronic care models) showed that these programmes had resulted in reduced unplanned admissions and a further review suggested that such programmes could reduce the average length of hospital stay. The same paper also found that, in 18 of 27 studies of people with long-term conditions, elements of the chronic care model were associated with reduced health care costs and reduced hospitalisation.

The results of 13 systematic reviews of integrated care programmes for people with long-term conditions by Ouwnens and colleagues in 2005[30] reported that, despite the heterogeneity of the programmes, positive results were found relating to hospital use, quality of life, functional health, patient satisfaction and process outcomes.

Patient satisfaction

A systematic review to discover whether disease management improves clinical and economic outcomes in patients with chronic diseases[31] found that patient satisfaction measures yielded favourable results although patient adherence to treatment recommendations and disease control were lower.

See also note on Ouwens and colleagues under Health Care Processes above.

Outcomes

Ofman's systematic review regarding clinical and economic outcomes[31] (2004) also found that, although there were some positive impacts of specific programmes, most reviews demonstrated modest benefits and few reported on cost and return on investment; for example, they found that depression management programmes had the best outcomes in terms of improvements in care but that programmes for COPD and chronic pain were least effective. Mattke and colleagues[32] supported Ofman's findings that disease management can improve the process of care but there is little evidence to suggest that it can lead to better long-term outcomes. Studies of COPD by Clark and colleagues[33] and Steuten and colleagues[34] showed that outcomes were similar to usual care.

See also note on Ouwens and colleagues under Health Care Processes above.

Cost-effectiveness

Curry and Ham[13] reported that there are some examples of programmes that have reduced cost or resource use. For example, Ham[29] identified a carefully targeted DMP in the United States for older people with heart failure which was associated with reduced emergency admissions and reduced cost of care. However, they go on to comment that 'evaluations either do not report cost-effectiveness results or find no significant impact on resource use'.

Two case studies of structured care are presented here – disease management programmes in Germany and the Matador programme in the Netherlands. While findings from the evaluations of these two disease-specific DMPs show some positive findings, it is important to remember that these findings cannot be generalised to the operation of DMPs as a whole.

Case study 9: Disease management programmes (DMP) in Germany[35]

Origins/desired outcomes: DMPs were introduced in Germany to enhance the care of those with chronic disease(s) and to control the costs of care, by improving the quality of care through a structured course of treatment, providing patients with information and ensuring their active participation. Criteria to justify setting up a DMP include:

- a high number of insured individuals with the particular condition
- potential for quality improvement
- availability of evidence-based guidelines
- need for an intersectoral approach to treatment
- self-management influencing the course of the condition
- high costs realting to the condition.

Service users/patients: Participation in DMPs is voluntary. Patients who have registered with a DMP are expected to participate actively in the programme, e.g. attend planned appointments, participate in the planning of treatment and if possible in formulating treatment goals. Each patient should, in principle, also have access to educational programmes specifically designed for their needs. If a patient fails to participate, his or her registration with the programme can be cancelled by the health insurance fund.

Service provision/providers: Key components for a DMP include:

- diagnosis
- defining treatment goals
- treatment planning
- medical and non-medical interventions
- patient education
- rehabilitation
- intersectoral cooperation.

Patients usually choose to register with their family physician, who checks whether the patient meets the conditions for participation. The task of the family physician is then to carry out the ongoing coordination of care for the patient. This is further specified in the DMP, which sets out how and when specialists in private practice and hospitals should be involved in the patient's care alongside the family physician, so as to avoid gaps in care provision between the ambulatory and the inpatient sectors. Participating family physicians are required to meet defined personal training standards and infrastructure requirements (such as availability of a training room). In addition, service providers are obliged to attend further training events and/or quality groups on a regular basis. Specialists have to acquire certain qualifications in order to qualify for participation in a DMP. Hospitals have to follow similar requirements.

Organisation/governance integrative processes: The health care system in Germany operates on the principle of self-governance. The State is responsible for setting the legal framework, embodied in the Social Code Book V (SGB V), by which health insurance funds and service providers must abide. The most important body within the self-governing health system is the Federal Joint Committee (GBA), the highest decision-making body at federal level. It brings together the federal associations of sickness funds and the federal associations of provider groups (physicians, dentists and hospitals). It is responsible for defining the publicly financed package of services and setting quality standards for ambulatory, inpatient and intersectoral health care.

In line with the SGB V, medical care within the DMPs should be drawn up on the basis of 'the latest developments in medical science, while taking evidence-based guidelines into account'. The legislation then defines the components to be addressed in the design of programmes: the conditions for the enrolment of insured individuals in a DMP; key points for treatment according to the latest developments in medical science; quality assurance and evaluation measures; training of service providers; training of insured participants; and uniform documentation.

The GBA used a systematic procedure for drawing up the contents. The medical recommendations in the DMPs are based on a systematic review of the literature on core issues integral to the care of those with chronic disease(s). In addition, the GBA uses consensus strategies and specialist evidence to formulate recommendations. Medical recommendations are supported by references to individual studies and/ or other publications in the formal description of each programme. Whether the requirements for organisational processes in the DMPs as set out in the legislation can actually be implemented in practice was not, however, systematically examined.

The key elements of medical treatment in the DMP, as developed by the GBA, are then examined by the legislature and published in the Regulation on Risk Structure Compensation (RSAV). In addition, the RSAV defines specific organisational requirements for the implementation of the DMPs, as well as mandating the Federal Insurance Office to ensure adherence to RSAV provisions and the accreditation of DMPs (including reaccreditation after three years). The requirements set out in the RSAV apply to the entire statutory social health insurance (SHI) system. The German RSAV, introduced in the 1990s, seeks to equalise differences among sickness funds related to contribution rates (arising from varying income levels within the insured population of a given fund) and to expenditure (arising from differences in the age and sex structure of the insured population).

DMPs are usually offered by all of the SHI funds in a given region. To set up a DMP, the health insurance fund will enter into a contract with the KV, which represents SHI doctors in private practice, alongside other actors such as the regional association of hospitals. Thus, all those with a chronic disease who are covered by the statutory system may join one or more programmes, if provided in the respective region. By law, DMPs are to be evaluated formally. The main goals of the statutory evaluation are to verify that the targets of the programme are reached, that the criteria for registration are adhered to and to assess the costs of care within DMPs.

Financial integrative processes: In order to make structured health care programmes an attractive option for the health insurance funds, the DMPs were attached to the Risk Structure Compensation Scheme (RSA). The RSA was introduced in the mid-1990s as a means to reallocate revenue among statutory SHI funds so as to balance differences in risk profiles, and hence also expenditure on the population insured in a given fund.

The legal framework for DMPs stipulates that health insurance funds should receive an equalisation payment for each insured person treated in a DMP, conditional upon the patient being registered with an accredited DMP. However, payments for each insured person to the RSA scheme have not been increased, which means that the equalisation payments for non-registered patients were simultaneously reduced. As a consequence, health insurance funds with a large number of patients with chronic disease that succeed in registering most of them with a DMP will benefit from the equalisation payments. Conversely, those funds that insure largely young and/or healthy patients or funds that fail to motivate a large number of their patients to register with a DMP will receive smaller transfer sums from the equalisation scheme. Thus, by linking DMPs to the RSA scheme, health insurance funds have been provided with a substantial financial incentive to offer DMPs and to motivate their insurees to take part in these programmes.

At the same time, DMPs provide considerable financial incentives to service providers, as providers receive reimbursement for disease-specific education programmes for registered patients. They also receive additional compensation for the registration of an insured person into a DMP and for the regular production of standardised DMP documentation. Additional payments for participating physicians are usually limited to these flat rates and to fees for providing patient education programmes. All other medical services provided within DMPs are reimbursed as per the usual care system, through standard agreements independent of the DMPs. Patients may also benefit from financial incentives when participating in DMPs; however, this is determined by the individual health insurance fund they are registered with. Incentives may include (partial) exemption from the quarterly practice fee of €10 or a reduced level of other co-payments, for example for pharmaceuticals.

Enablers:

- Cross-party political support
- Responsibilities in and requirements for DMPs clearly defined
- Link between DMP financing and risk equalisation schemes provides financial incentives for insurance funds to promote the introduction of DMPs

The McKinsey study in 2010[36], which reported on the findings of the evaluations of Germany's first DMP (see below under 'Evaluation'), listed five 'drivers of success':

- *Size*: 'think big' – large DMPs are more likely to succeed than small ones;
- *Simplicity*: 'keep it simple' – easy to run and therefore attracts participants, and reduces administrative costs;
- *Patient focus*: 'listen to patients' needs' – interventions should be applicable to the vast majority of enrolled patients;
- *Information transparency*: 'be transparent' – at the outset define the metrics to measure use rates, health outcomes (both short- and long-term), patient satisfaction and costs, and while providers should collect data, it should also be verified by an independent party;
- *Incentives*: 'win and let win' – both financial and non-financial incentives should be used to align the interests of all stakeholders with the DMP's protocols

Barriers:

- Considerable administrative burden on providers
- Lack of genuine interest on part of insurance funds in improving the quality of care
- Implementation of international models without sufficient evaluation of appropriateness/transferability to the German context, and DMPs were rolled out across Germany without prior testing in a controlled pilot.
- DMPs do not address some of the fundamental weaknesses of the German statutory system, e.g. training; separation of ambulatory and hospital system.
- DMPs mainly involve the medical profession. There is no systematic development of non-medical roles.
- DMPs focus on individual diseases and do not take sufficient account of the health care needs of patients with multiple conditions.
- The system in place does not allow flexibility to adapt DMPs to regional health needs.

Evaluation: As noted in the introductory comments on DMPs just prior to this case study, evaluations of DMPs have not yet yielded conclusive evidence with regard to their impact on health care processes, health outcomes and cost-effectivness. For example, Curry and Ham (2010)[13] commented that although there had been some indications of improved quality of care as reported by enrolled patients, compared with usual care, limitations with the evaluations make generalisation difficult. They also mentioned one German study that suggested improvements in patient-reported quality of care but, as with the findings of the systematic reviews, health outcomes have not been found to differ significantly from those for patients receiving usual care.
A McKinsey study published in the same year[36] reported in English on a series of studies evaluating Germany's type 2 diabetes DMP, the first such programme to be launched in Germany. The findings included the following:

- the patients were significantly more likely to have their feet checked regularly by a specialist, as a result of which the incidence of certain types of foot ulcer had plummeted;
- the programme may also have contributed to decreasing mortality;
- patient satisfaction with treatment had risen markedly; and
- the overall cost of care had decreased, with the small increases in outpatient and pharmaceutical costs being more than offset by a drop of more than 25% in inpatient costs (Table 2).

Table 2: Costs of care for patients with type 2 diabetes, € per insured year

	Non-DMP Patients	DMP Patients (% difference between non-DMP and DMP patients)
Inpatient care	2,004	1,471 (-27%)
Prescription drugs	1,521	1,525 (+0.3%)
Outpatient care	610	661 (+8%)
Other	665	520 (-22%)
Total	**4,800**	**4,177 (-13%)**

Source: McKinsey Reprt (2010), Exhibit 4[36]

The authors also reported that in conversation large payers (i.e. insurance providers) had stated that the type 2 diabetes DMP's administrative costs averaged about €150 per patient per year. Most of these costs resulted from the additional fees paid to doctors. Because the payers' average per-patient costs were slightly less than the extra funding they received from the central fund (about €180 per beneficiary), they were able to capture all of the savings from the decrease in medical costs.

Case study 10: Matador programme (later Maastricht Diabetes Care Group) – The Netherlands[37]

Origins/desired outcomes: The concept of 'transmural care' was introduced in The Netherlands in 1994 in an attempt to overcome persistent barriers between ambulatory and acute services. Transmural care aims to link primary and secondary care; it has been defined as care geared towards the needs of the patient, provided on the basis of cooperation and coordination between general and specialised caregivers, with shared responsibilities and specification of delegated responsibilities. Over time, transmural care approaches have become increasingly complex, as exemplified by the development of disease management programmes involving cooperation between a greater range of health care facilities and health professionals. Following the reform of the health insurance system, the Matador programme was transformed into a diabetes care group in which all regional GPs participate.

Service users/patients: Patients participating in the programme are registered with a GP. Each patient is supported by a core team comprising a GP, an endocrinologist and a specialist diabetes nurse. Patients are stratified according to the severity of their condition and, based on defined criteria, those with complex cases are allocated to the endocrinologist, patients with unstable disease to the specialist nurse and the remainder to the GP. Patient treatment is based on a protocol, which comprises specific guidelines on diabetes care. Patients have quarterly consultations with a nurse specialist and every other year patients also see an endocrinologist. (This is very different from the situation in the past, when patients with diabetes would see an endocrinologist on a quarterly basis).

Service provision/providers: The core team, comprising a GP, an endocrinologist and a specialist diabetes nurse, is organised around the GP. The roles of the core team members are clearly defined and each team member has explicit responsibility for the patients allocated to them. The endocrinologist supervises the specialist nurse and acts as a consultant to the GP and the specialist nurse; s/he also contributes to their specialised education. The nurse specialist supervises and acts as a consultant to the GP in relation to diabetes care. In turn, the GP informs the nurse on other aspects related to the patient and of relevance to the care process. The specialist diabetes nurse also plays an active role in patient education. This has led to the creation of the Diabetes Interactive Education Programme (DIEP), designed to promote patient education and to assist those with diabetes to manage their own condition. Members of the core team meet on a regular basis to discuss each patient's needs, although meetings involving all core teams are rare because of organisational difficulties. Core teams cooperate with other caregivers, such as dieticians, community nurses, podiatrists and ophthalmologists.

Financial integrative processes: New approaches in the field of chronic care are being financed for the most part by health insurers. The 2006 Health Insurance Act has facilitated new contracting methods between providers and health insurance funds. The diabetes care group in the Maastricht region acts as the contractor with a health insurance fund and sub-contracts GPs, medical specialists, diabetes nurses and others. Payment is carried out per item of service directly or indirectly provided by the programme. These new payment arrangements encourage GPs to keep patients out of hospital by treating them within the community. At the same time, however, these new arrangements potentially discourage cooperation between primary and secondary care levels. Insurers can potentially influence future developments of programmes for specific groups of people with chronic disease and, in some regions, they have played a pivotal role in programme design. In the future they will also look to develop cost-effective programmes. Insurers are currently considering encouraging patients to participate in the chronic care programmes by reducing the insurance premium to be paid by participants.

Enablers:
- GP has a strong gatekeeper function
- Presence of electronic patient records in every GP practice
- Growing awareness of need to change
- Support of the implementation of chronic DMPs
- Development of strong vision and strategies towards the implementation of integrated care programmes
- New roles of health professionals, especially nurses with potential to improve the quality of care
- Guidelines for health professionals, such as multidisciplinary teams
- Increased attention to health education and health support

Barriers:
- Lack of cooperation between primary and secondary care
- Fragmented system of integrated care
- Lack of vision and strategy in the implementation of integrated care
- Lack of available data due to lack of evaluation mechanisms
- Lack of acceptance of authority
- Lack of patient involvement
- Lack of adequately trained professionals

Evaluation: In 2004, the Matador programme was formally evaluated.[38] The evaluation reported a range of successes achieved by the Matador programme, including:
- improvement of diabetes care through the cooperation of 58 GPs, six endocrinologists and seven specialised diabetes nurses;
- identification of sources for structural financing;
- the introduction of new training opportunities for advanced clinical nurse specialists;
- low dropout rate; and

- provision of care at the same cost as usual care.

At the same time, the evaluation identified a number of failures, including failure to develop an integrated electronic patient record system; lack of communication between members of the core team, even though there was good cooperation; and suboptimal patient self-management support.

In a separate evaluation of the Matador programme, clinical outcomes following the transformation of the programme from a transmural care project into a formal disease management programme (DMP) for patients with diabetes were assessed. The evaluator identified improvements in several outcome measures, including:

- glycaemic control,
- health-related quality of life, and
- patient adherence to treatment and certain behaviours.

Further, she showed that the total costs of the programme allocated to medical specialists, specialised nurses and GPs did not change significantly, while there was a 54% decline in hospitalisation costs in the group assigned to nurses, with an estimated saving of an average of €117 per patient per year and an increase in the level of health-related quality of life of 5%.[34]

Joint working

Partnership and networking are two concepts of joint working, i.e. working together while retaining separate organisational structures and governance arrangements.

A *partnership* has been defined as 'the purposeful working together of independent elements in the belief that the resulting whole is greater than the sum of the individual parts'.[39] A spectrum of possible 'partnership' relationships has been identified[40]:

- *Taking into account*: Considers impact of and on other players
- *Dialogue*: Communication and exchange of information
- *Joint project*: Temporary joint work between players
- *Joint venture*: Long-term joint work between players
- *Satellite*: Separate entity created to integrate working on discrete topics or issues
- *Strategic alliance*: Long term joint working on core issues
- *Federation*: Formal administrative unification, retaining some aspects of players' discrete identity
- *Merger*: Fusion of separate entities to create new structure and single new shared identity

Networks similarly take many forms.[27] It has been suggested that the concept of a 'health network' is based on the notion of a 'pathway of care', which is used especially in a clinical context to denote task-oriented care plans detailing essential steps in the care of patients with a specific clinical problem, and describing the patient's expected clinical course. These care plans offer a structured means of developing and implementing 'local protocols of care' rooted in evidence-based clinical guidelines, and provide a means of identifying the reasons why care may fall short of adopted standards.

A more ambitious model is that of a '*managed clinical network'*. This model is envisaged as a means of linking health care personnel working across professional and organisational boundaries to deliver care for a specific condition or perhaps for a specific set of services. Such networks have been used to deliver coordinated care for a wide range of conditions, notably cancer, stroke and diabetes. Compared with care pathways, this model incorporates an appreciation of the need to work across a wider range of boundaries, including non-clinical partners, and may encompass the integration of services as well as professionals.

A further step in ambition is that of a '*managed care network'*, a similar arrangement to a managed clinical network but one in which the focal point is more complex, e.g. independence and wellbeing, and the range of partners commensurately broader. Critically, the focus goes beyond health services and clinical care, to be concerned not so much with a single condition or even the 'whole patient', but with the 'whole person'. This, in turn, requires an understanding of, and 'networking' across, the 'whole system'.

Case study 11: Partnerships in England[4, 27]

Origins/desired outcomes: Two key mechanisms for partnership working are pooled budgets and joint commissioning. Personal health budgets are another idea that is being trialled. The Health Act 1999 not only created a duty of partnership but also significantly extended the ability of local authorities and the NHS to pool budgets for specific groups of services, delegate commissioning to a local organisation and create single provider organisations. This legislation (now placed under the NHS Act 2006) remains in place, with pooled budgets constituting the most commonly used arrangement. Other possible arrangements for promoting joint commissioning include creating a 'care trust' (combining NHS and local authority health-related responsibilities within an NHS body under a single management) and making joint appointments across primary care trusts (PCTs) and local authorities at all levels, including chief executive level.

Commissioning across the health and social care boundary was also specifically addressed by the Department of Health in 2007 with the publication of a 'commissioning framework'. An important new proposal was the requirement for local agencies to undertake joint strategic needs assessment (JSNA) designed to ensure that health, social services, and other local government stakeholders work together to define the needs of a local area. It was said that the framework was designed to enable commissioners to achieve a shift towards services that are personal and maintain independence and dignity, a strategic orientation towards promoting health and wellbeing, and a stronger focus on commissioning.

Service users/providers: no information provided.

Organisation/governance integrative processes: Joint commissioning is the process of ensuring that health and care services work effectively together to meet the needs of a population. It is a complex process with responsibilities ranging from assessing population needs to prioritising outcomes, procuring products and services, and managing service providers. Three examples of joint commissioning are given here:

- Bath and North East Somerset: The PCT and the local council, working in equal partnership, have signed a Joint Working Agreement whereby child and adult health and social care and housing services are integrated using pooled funds combined with a two-way delegation of functions. Partners report to a partnership board that has overall responsibility for implementing and monitoring arrangements.
- Herefordshire: The PCT and the local council explored the option of jointly planning, purchasing, designing and integrating all their local public services, but were unable to do so under current legislation. They are currently pursuing the integration of all public services covering strategic health and well-being as Herefordshire Public Services Partnership. There are joint appointments at all management levels with teams that work towards shared objectives and their joint Steering Group reports formally to the Council Cabinet and PCT Board.
- Knowsley: The PCT and the local council have widened their health and social care focus by consciously avoiding the care trust model and using the 1999 Health Act 'flexibilities' (i.e. three legal powers that enable health and social care to create pooled budgets, to develop lead commissioning arrangements or to create integrated providers) to support a partnership throughout both organisations. This includes the key leadership role of Chief Executive NHS Knowsley—Executive Director of Council's Well-being Services

(including Social Care and Leisure Services)—to create a health and well-being partnership board in line with its LAA. This has enabled it to jointly plan, commission and deliver services across the locality and use resources more flexibly, for example, reducing duplication in commissioning and procurement.

Financial integrative processes: An example of a pooled budget is Herefordshire Council and Herefordshire PCT, which are coterminous public bodies serving a population of 178,000, of which older people account for one fifth. They are separate legal entities, but have a history of partnership working, a number of jointly-appointed senior management posts and are working towards a more formally integrated structure. In 2004, they set up an integrated community equipment store, using a pooled fund, lead commissioning arrangements and a joint manager with joint accountability. The arrangement covers adult, children, health and social care budgets. Budget contributions have been 50:50 since April 2009 and risk and responsibility for outturn is shared. The arrangement enables a central and immediate access point to aids and adaptations for health and social care. It helps to facilitate prompt hospital discharge and independent living in people's own homes, and support disabled children at school. Accessed by district nurses, occupational therapists and social workers, it has enabled more effective and efficient use of equipment across the county, supporting service development and delivery of improved health and social care outcomes. Savings include management costs and greater efficiencies derived from joint purchasing power.

Although it is very early days, an emerging option in English health and social care is the piloting of personal health budgets. Mirroring a system already underway in adult social care, these pilots may allow some patients to receive the cash equivalent of directly provided services, with greater scope for them to spend this money more creatively. If the pilots prove successful, there may be more scope in future for people to integrate their own health and social care bottom up, rather than relying on health and social care policy and organisations to integrate services top down.

Normative integrative processes: The entities have a shared vision, specifying what is to be achieved in terms of user-centred goals, clarifying the purpose of collaboration as a mechanism for achieving such goals, and mobilising commitment around goals, outcomes and mechanisms. Roles and responsibilities are also clearly stated, specifying and agreeing 'who does what', and designing organisational arrangements by which roles and responsibilities are to be fulfilled. Finally, accountability for joint working is sustained by monitoring achievements in relation to the stated vision, holding individuals and agencies to account for the fulfilment of pre-determined roles and responsibilities, and providing feedback and review of vision, responsibilities, incentives, and their inter-relationship.

Effectiveness: Glasby et al.[4] observe that effectiveness/benefits have been asserted in theory for partnerships, but not demonstrated in practice. There is a working hypothesis that effective partnerships should lead to better services and better outcomes for service users and their families. However, according to Glasby et al., many of these links currently remain unproved, and further research is required to understand this model in more detail. For example, which approaches to partnership work best for whom and in what circumstances?

Enablers:

Three key features for successful partnership working have been identified:

- A shift in emphasis from government to governance that makes interagency linkages a defining characteristic of service delivery and acknowledges the importance of interdependence between agencies.
- A focus on the 'wicked' issues, i.e. those that are deep-seated and systemic.
- The development of new ways of working, giving primacy to reflection and learning that is inclusive.

Several frameworks, listing underlying factors and local conditions that may assist efforts to work together across organisational boundaries, have been identified. They are listed here.

Glasby *et al.*:[4]

Partnership Readiness Framework

- Building shared values and principles
- Agreeing specific policy shifts
- Being prepared to explore new service options
- Determining agreed boundaries
- Agreeing respective roles with regard to commissioning, purchasing and providing
- Identifying agreed resource pools
- Ensuring effective leadership
- Providing sufficient development capacity
- Developing and sustaining good personal relationships
- Paying specific attention to mutual trust and attitude

Principles for strengthening strategic approaches to collaboration

- Shared vision
- Clarity of roles and responsibilities
- Appropriate incentives and rewards
- Accountability for joint working

Hudson:[27]

- *Coterminous boundaries of separate providers* is expected to facilitate joint working, although equivalent numbers of entities is also important in this context.
- *Acceptance of some flexibility* in how networks will work, learning from the limitations of top-down, command and control models. Although the concept should be explicit in mapping out potential routes from 'beginning to end', there will be various 'stopping routes' and choices along the way to reflect differences in needs and preferences. This flexibility is a corollary of moving away from rational, linear and reductionist thinking towards the management of complex adaptive systems focused upon 'emergent' solutions that seem to work best in the circumstances —what works is a product of what seems right in a particular place at a particular time.
- *Accountability* – Some management of emergent networks will be essential, but this will need to be on a much less hierarchical basis, with a form of management that is facilitative rather than based upon command and control.

Barriers:

Frameworks outlining the underlying factors and local conditions that may hamper efforts to work together across organisational boundaries have also been identified. They are listed here.

Glasby *et al*. 2011:

- *Structural*: the fragmentation of service responsibilities across and within agency boundaries
- *Procedural*: differences in planning and budget cycles
- *Financial*: differences in funding mechanisms and resource flows
- *Professional*: differences in ideologies, values and professional interests
- *Perceived threats to status, autonomy and legitimacy*

Hudson 2011:

- *Policy ambiguity and conflict:* A major complication is the absence of a coherent national policy 'narrative', especially on the relationship between the twin imperatives of collaboration and competition.

- *Organisational turbulence:* Can affect inter-personal relationships upon which so much joint working is based. All restructuring exercises damage networks.
- *Performance management frameworks*: One of the most common dilemmas of the past decade is that *local* attempts to work jointly have been undermined by separate performance management arrangements at the *centre.* The efficacy of many local partnership mechanisms has been seriously limited by central government 'departmentalism'. In the absence of more joined-up working at central level, joined-up initiatives at local level will always struggle to make an impact.
- *Power imbalances:* Split between purchasers and providers - the strength of the providing role, especially in the case of the key health providers—-general practitioners (GPs) and clinicians in acute hospitals.

Case study 12: Managed clinical networks (Scotland)[39, 41]

Definition: A managed clinical network consists of 'linked groups of health professionals and organisations from primary, secondary and tertiary care working in a co-ordinated manner unconstrained by existing professional and Health Board boundaries to ensure the equitable provision of high quality clinically effective services throughout Scotland'.

Service users/providers: The South-East of Scotland Cancer Network (SCAN) is an organisation of 9 NHS Trusts located in four health board areas serving a population of about 1.4 million people. It is focussed on networks for the four common cancers—lung, colorectal, breast, and gynaecological. A network for palliative care is being established. Each network is implementing relevant SIGN clinical guidelines and QA standards required by the Clinical Standards Board for Scotland.

Organisation/governance integrative processes: Each cancer network has a multidisciplinary management group chaired by a cancer clinician. Each network has a clinical audit facilitator co-ordinated through the Scottish Cancer Therapy Network. Referral protocols for each network are being implemented. Administrative services need to be addressed. As the whole idea of these networks is that they should operate across institutional and other boundaries they challenge existing budgetary flows and capital planning processes. They demand greater mobility by key clinical staff, requiring them and managers to have a loyalty to a network as well as an institution, and raises difficult questions about who is responsible for their 'clinical governance' since the network is a 'virtual' organisation. The answer in Scotland is to trace the accountability of professionals participating in networks to their employing Trust that, together with the local Health Board, should approve the creation of networks. The problems described are not insuperable but they do require a significant organisational development effort to overcome them.

Normative integrative processes: If economic incentives are relatively limited (e.g. remaining within strict financial targets), how is integration through partnership to flourish? The lesson from managed clinical networks is that professional collaboration can compensate. In the context of primary care in New Zealand, it has been reported that professional incentives have proved to be more effective than commercial incentives in modifying professional behaviour. New Zealand GPs who participate in associations of independent practitioners have had budgets for an expanding range of services devolved to them. The trick appears to be to develop an approach that builds on professional relationships by progressively extending the influence of primary care practitioners over other parts of the health care system as reward for demonstrable competence in their discharge of increased management and financial autonomy.

Effectiveness: Hamilton et al.[41] reported that, despite early difficulties, the managed clinical network they studied was successful in bringing together clinicians, patients and managers to redesign services, exhibiting most features of good network management. The role of the energetic lead clinician was crucial, but the network took time to develop and 'bed down'. Its primary 'modus operandi' was the development of a myocardial infarction pathway and associated protocols. Of sixteen clinical care indicators, two improved significantly following the launch of the network and nine showed improvements, which were not statistically significant. There was no difference in resource use.

Enablers:

- Avoid large networks and ensure the networks remains relevant and worthwhile.
- There should be clarity about Network management arrangements. Ensure that professionals allow network managers to manage and govern their activities.
- Networks should have a defined structure, setting out the points at which the service is to be delivered, and the connections between them, i.e. have a clear mission statement and unambiguous rules of engagement. Develop strategies for network cohesions.
- Clear statements should be made of the specific clinical and service improvements that patients can expect.
- Networks should use an evidence base (e.g. clinical guidelines developed by Scotland's medical royal colleges known as 'SIGN') and be committed to the expansion of the evidence base through appropriate research and development.
- Membership of networks should be multi-disciplinary and multi-professional and include patient representation. Also, be inclusive – ensure all agencies and individuals gain ownership of the network. Consider formalised contracts and agreements to facilitate ownership.
- A clear policy on the dissemination of information to patients and the nature of that information should be in place.
- All health professionals in the network should practice in accordance with the evidence base and the general principles covering the network.
- An integral quality assurance programme acceptable to the Clinical Standards Board for Scotland (an accrediting body) should be in operation.
- The network should exploit educational and training potential within it.
- Audit data should be produced to defined standards and network members should participate in the review of the result.
- Actively engage respected professional leaders but avoid network capture by a professional elite or dominant organisation. Clinical staff in the network should circulate to improve patient access and enable the maintenance of professional skills.

Case study 13: Local health care cooperatives (LHCCs) – Scotland[39, 40]

Origins/desired outcomes: An LHCC is a 'local integrating organisation bringing together primary and community health services with a range of specialist services (for mentally ill, elderly and learning disabled) whose focus is increasingly on care delivered in or near people's homes'. A feature of this model is that it attempts to promote horizontal integration of primary care and related services, and vertical integration with secondary services through 'intermediate care' and 'managed clinical networks'. Transferring management and financial responsibility to primary care practitioners encourages the devolution of decision-making and complements professional incentives with economic levers. As LHCCs demonstrate that they can discharge the responsibilities transferred to them they earn increasing freedom to redesign the local health care system in collaboration with their colleagues in secondary care.

Service users and providers: The LHCC represents a new 'hierarchy of care', consisting of seven tiers:

1. Community health and well being – A non-medical emphasis on the control of local health hazards, and the promotion of positive health through public health programmes linked to community plans.
2. Self care – Enabling people to look after themselves with the assistance of carefully designed information and educational materials, including advice offered through services delivered on line or through digital TV.
3. NHS 24 – A nurse-led triage system to direct patients unable to care for themselves to the most appropriate member of the extended primary care team or in emergency to the ambulance service or hospital.
4. Extended primary care – Stronger teams of primary care professionals including doctors, nurses, midwives, pharmacists, social workers etc able to meet the vast majority of patients care needs.
5. Intermediate care – Focuses on community hospitals, nursing, residential care and the patient's own home, using the skills of 'intermediate care physicians', nurses, therapists and social workers. IC offers locally provided 'step-up, step-down' services including investigation, rehabilitation, and respite, principally but not exclusively for the elderly.
6. Secondary care – Linked through managed clinical networks, and supporting the work of the levels below.
7. Tertiary care – Linked through managed clinical networks, as centres of highly specialised advice and care.

Normative integrative processes: While policy might be said to give primacy to organisational restructuring as a lever for reform, there is evidence that change in organisational and professional cultures does not necessarily occur spontaneously when organisational architecture is redesigned. A substantial literature exists on the factors that need to be addressed to achieve the shifts in professional and organisational cultures that enable a progression along this spectrum. Amongst the main messages for professional collaboration are the importance of sharing of knowledge, respecting the autonomy of different professional groups, surrendering professional territory where necessary, and having a shared set of values about how to respond to shared definitions of need.

Enablers:
– Shared objectives,
– Clarification of responsibilities,
– Structuring of appropriate incentives and rewards, and
– Strengthening processes of accountability for joint working.

Case study 14: Chains of care – Sweden[13, 42-44]

Origins/desired outcomes:
Since the 1960s, the political as well as the financial power in the Swedish health system has been resting at the regional level. Responsibility for primary health care and psychiatric care was decentralised from the national government to the county councils, which were already responsible for the general hospitals. The councils were independent of the national government as most of their activities were financed through county taxes. At the start of the 1990s, the health system was decentralised further when responsibility for care of the elderly was transferred from the county councils to the municipalities. The objective was to improve the integration between the health services of the county councils and the social services of the municipalities, and also to improve the collaboration between health professionals and social workers. A few years later responsibility for the care of the functionally disabled and long-term psychiatric care was also transferred from the county councils to the municipalities.

In the 1980s 'chains of care' were introduced at regional level. They are defined as 'a concept of integration and collaboration in health care, which includes all the services provided for a specific group of patients within a defined geographical area . Chains of care are inter-organisational networks based on clinical guidelines, i.e. agreements on the content and distribution of clinical work between different health care providers and professionals.'

During the 1990s, further innovations in the Swedish health system included growing private-sector involvement in the health system, with private providers being contracted through competitive procurement and financed by the county councils and the municipalities to provide mainly primary health care and care of the elderly. Initiatives were taken to apply 'producer models' from the manufacturing sector, for instance business process re-engineering and business process improvement, to the health care sector. According to this approach, the core processes within an organisation must be integrated in order to create predetermined outcomes in a cost-effective way.

A review of the Swedish chains of care model in 2002 reported ambivalence about their efficacy. A survey of county councils found that in developing chains of care they had come up against 'strong departmentalism' of responsibilities between different medical professions and departments, limited participation by the local authorities, which had meant that not all activities needed for a patient's care were included, and lack of patient involvement although making health care more patient-centred was the object of the exercise.[13,33]

As the 2000s progressed, many Swedish county councils restructured their health services and introduced a system of 'local health care', described as an 'upgraded family- and community-oriented primary health care within a defined local area, supported by flexible hospital services'. The objective has been to provide integrated health care that meets the needs of a local population and it has been found that 'local health care' systems have had a beneficial effect on the functioning of chains of care, with which they have a 'mutualistic relationship':

> … the introduction of local health care has not involved any large-scale organisational changes. It has rather been a question of combining existing organisations, resources and competencies to secure adequate responses to the most frequent needs of the local population. This means quite a loose integration, which has been achieved mainly by chains of care. Thus there seems to be a mutualistic relationship between local health care and chains of care. Local health care needs chains of care as integrating mechanisms and the chains of care are strengthened by the integrative context of local health care.[35]

The following sections describe the functioning of chains of care in the context of local health care, which is based to a great extent on primary health care centres (PHCCs).

Service users/patients: A chain of care seeks to meet the needs of patients with a certain condition by linking primary care, hospital care and community care through care pathways, based on local agreements between providers. A typical chain of care might include a screening element in a primary health care centre (PHCC), treatment plans being developed at a specialist centre at the local hospital and then rehabilitation provided in the community. All citizens for whom home health care is appropriate will receive such care, for a small charge.

Service provision/providers: Chains of care are based on evidence-based health care and clinical guidelines, i.e. agreements on distribution of medical work, within a county council area, between different providers of health care. About half of the chains of care that have been developed are for long-term conditions, with the other half being developed for a range of acute illnesses and general ill-health.

Primary health care centres (PHCCs) are the basis for all chronic care in Sweden. In addition to, or integrated with PHCCs, there are some 7,000 clinics for maternal and child health, district physiotherapy, rehabilitation and others. These are organised and run by nurses, midwives, physiotherapists and other health professionals, employed by the counties, with GPs acting as consultants.

Responsibility for home health care is negotiated between counties and communities. Communities also run nursing homes for people over 65 years of age and services for all patients with chronic mental illness. These are staffed by nurses, nurse assistants and social workers. Nursing homes may include physiotherapists and a rehabilitation unit. Palliative care teams from hospitals and/or PHCCs provide care for patients dying at home.

GPs employed by the county are generally responsible for a population defined by geographical boundaries; GPs operating in private practice contract with the county, with reimbursement based on capitation. District nurses, midwives, psychologists and physiotherapists are all licensed, work within health centres and are generally employed by the county. GPs have only limited gatekeeping functions and no financial incentives to reduce referral levels.

Organisation/governance integrative processes: A chain of care is, in essence, a 'co-ordinated network', where financial and clinical responsibilities of the different parties remain separate, and there are not usually binding contracts in place regulating the activities performed. The 'chain' involves several responsible authorities and medical providers for a specific patient group within a county council area. Individual care pathways are based on local agreements between providers and are a form of contractual integration. The county councils as the commissioners set up agreements with providers that specify volume, cost, quality and method of delivery. Agreements are overseen by a manager and payments are based on health care use across the system. The arrangements are designed to incentivise efficient use of resources and the creation of pathways across traditional boundaries, with the aim of delivering integrated care. There are over 1,000 PHCCs financed by the counties, of which 80% are run by the counties and employ all staff working in the PHCCs. The remainder are operated by private providers, mostly in large chains.

To facilitate cooperation in tertiary care, the county councils in Sweden are grouped into six medical care regions Each region hosts one or two regional hospitals. The hospitals are divided into district county hospitals, central county hospitals and regional hospitals, depending on their size and degree of specialization. There are a total of eight regional hospitals, of which seven are affiliated with a medical school and also function as research and teaching hospitals. Regional hospitals are owned and administered by the county in which they are located, supported by reimbursements from neighbouring county councils for care provided to their residents (regulated by agreements among the county councils within each region). The central Government provides compensation for the costs associated with teaching and research in these hospitals.

The State is generally not involved in directly financing health and social care; direct responsibility is limited to forensic medicine, prison health care and national defence, as well as services for refugees and immigrants who have not yet been admitted to a municipality. The Government has legal powers in matters of security, competence and accreditation of systems and equipment, and licensing of personnel. Although the financial viability of counties and municipalities is based on local taxation, state subsidies are common, with earmarked funding for areas that the central Government wishes to support.

Financial integrative processes: The counties are responsible for primary health care; they own, finance and run acute care hospitals, including psychiatric care. Municipalities are financially and organisationally responsible for the provision of all forms of nursing care for individuals above the age of 65, and also for chronic psychiatric care. Local taxes support all institutional and home care, although the individual receiving care is also required to make co-payments according to ability to pay. Any medical care provided in facilities operated by municipalities that requires physician consultation is the responsibility of the council, executed though the local primary health care centre (PHCC).

According to Ahgren and Axelsson's review published in 2011[44], the most extensive experiments in inter-organisational integration have been in the field of vocational rehabilitation, where health professionals have collaborated with social workers and officials from the social insurance administration and the national employment service. The positive outcomes of these projects have resulted in legislation enabling county councils and municipalities to form 'local associations' for financial co-ordination together with the local offices of the social insurance administration and the national employment service. At the time of the review there were more than 80 associations of this kind in Sweden. The financial co-ordination means that resources from the different organisations are pooled in a common budget for the local association. This budget may be used for different rehabilitation projects, which are managed by the association. These projects are usually aimed at individuals with multiple problems that require collaboration between professionals from the different organisations involved.

According to the same 2011 review, [34] a new system of free choice for patients in primary health care had recently been proposed by a parliamentary committee and was expected to be introduced in all the county councils. According to the proposal, the free patient choice would generate a capitation payment to the chosen primary health care centre. Policy makers believed that, as a result of competition between health centres, strong providers would survive while unprofitable ones will be eliminated. In order to implement the new system, two different models of patient choice had developed: (a) the patients could choose among comprehensive local health care arrangements, or (b) patients could register for a specific general practitioner.

The authors of the review commented:[34] 'There is a great challenge for the health authorities to simultaneously manage both competition and collaboration, although it is easier when patients choose among networks of integrated health care and not among individual health care providers. Models of the latter kind tend to fragment the provision of health services.

Effectiveness: According to the review published in 2011,[34] more favourable conditions for the development of integrated health care emerged in Sweden during the past decade, with the growing relationship between chains of care and local health care. Chains of care have become the building blocks of local health care, while benefiting from being embedded in such an integrative context. This context was also favourable for other forms of integration and collaboration between health and social services, particularly in the care of the elderly and long-term psychiatric care. Local health care has facilitated collaboration between health professionals and social workers, for example in 'dementia teams', 'multidisciplinary home care teams', different forms of 'case management' and 'rehabilitation teams'. In addition, integration in vocational rehabilitation has been facilitated by new legislation encouraging county councils, municipalities and state agencies to collaborate and to create local associations of financial co-ordination.

Health professionals have also collaborated with social workers in other contexts, for example in centres for treatment and prevention of addiction and dependency, and in support to vulnerable children and young people. Another area of multi-professional collaboration has been in health care for refugees. There have also been experiments with a common organisation for health and social service in one municipality and a consortium for mental health and social care in another municipality.

Barriers/enablers:

- Cultural resistance: It seems the chains of care were initially implemented mainly through a top-down approach, which was not appropriate in an environment dominated by strong professional groups. In such an environment, developments initiated from the top of the organisation are often resisted. The introduction of local health care appears to have helped address this barrier.

- Patch protection: GPs did not support the decentralisation of responsibility for the care of the elderly to the municipalities, since it threatened their position as managers of the nursing homes. The implementation of local health care has aroused similar reactions among GPs who see a risk that primary health care will disappear or become more anonymous.
- Separate budgets: In vocational rehabilitation, one of the main obstacles to integration was the fear of costs being transferred between the organisations involved. The financial coordination between the different organisations, described above, encountered many obstacles to integration and collaboration, and the local associations for financial co-ordination have improved the management and continuity of vocational rehabilitation.
- Understanding organisational principles: (1) According to organisation theory, the level of integration in health care should be related to the degree of differentiation of services. A high degree of differentiation requires a high degree of integration. Therefore, the degree of integration varies between different organisations and services, depending on their need for integration. (2) The degree of integration also depends on the possibility of attaining 'collaborative advantage'. Organisational researchers have pointed out that it is important for stakeholders to discover and recognise the possible advantages of collaboration. Unless there is potential for such advantages, collaboration should be avoided. (3) The development of integration may be destructive when collaborative advantages are concealed or lacking, since professionals as well as managers tend to defend their territories when these are believed to be threatened. Such a shift of focus, from joint activities to protection of boundaries, may have very negative effects. In Sweden, there have been many examples, like resource battles between health care providers, threats against the position of the physicians, and unwillingness to collaborate in general.
- Political inconsistency: Swedish policy makers have been supporting the development of integrated health care during the last decade, but at the same time they have also been promoting contrary strategies implying a fragmentation of health services and mistrust in collaborative advantages. Even if consistency is not necessarily a political virtue, the contradictory policies could possibly be linked to the lack of evidence about the benefits of integrated health care. In any case, more efforts should be placed on the evaluation of integrated health care, as well as the other developments described above, in order to replace political convictions with evidence on the benefits of different forms of health care provision.

MICRO-LEVEL INTEGRATION

Micro-level integration is about coordinating care for individual patients, i.e. care involving two or more participants. The coordination of care needs to be explicitly addressed to avoid fragmentation or break-down in communication. Responsibility for micro-level care co-ordination is generally assigned to a specific individual or team, who may be a primary care provider, although, as much care coordination activity is not medical, responsibility may be assigned to a specific care co-ordinator, such as a case manager. Alternatively, a shared care plan, to ensure everyone is working towards the same goals, may be used to facilitate coordination.

In chronic disease care it is well established that individual patients require different levels of care and intervention, ranging from minimal/self-help approaches through to intensive case management. The two micro-level mechanisms described here are (1) case management, which is provided to peoplewith chronic diseases who have highly complex needs (the 5% at the top of the Kaiser Permanente triangle) and (2) supported self-management (for the 65–80% of chronic disease patients at the bottom of the Kaiser Permanente triangle). Two other micro-level integrating mechanisms described in Curry and Ham[13] are discussed in subsequent sections – personal budgets in financial integrative processes, and tele-care in ICT integrative processes.

Case study 15: Case management[45]

Definition/desired outcomes: 'Case management' is a generic term with no single definition. In this study, the Department of Health (UK) interpretation is followed. The Department of Health recognises that people living with long-term conditions have a varying intensity of needs and that care should be targeted accordingly. The premise of the model is that targeted, proactive community-based care is more cost-effective than downstream acute care. Case management programmes can focus on specific conditions or groups of conditions, but are usually generic and aimed at individuals with complex needs. The key aims of case management are to:

- reduce hospital use,
- improve patient care outcomes, and
- enhance patient experience.

Service users/patients: Time-limited case management is targeted at those with the greatest risk of emergency admission. People at lower risk of admission can be targeted with disease management programmes (see case study 9) or support to self-manage (see case study 16). Both these elements may form part of a case management programme.

Service providers/provision: Core components of a case management programme include:

- case-finding
- assessment
- care planning
- care co-ordination (usually undertaken by a case manager in the context of a multidisciplinary team). This can include, but is not limited to:
  - medication management
  - self-care support
  - advocacy and negotiation
  - psychosocial support
  - monitoring and review
  - case closure (in time-limited interventions).

The case manager usually operates within a multi-disciplinary team, and it is vital that case managers work proactively with a range of health and social care professionals and that other members of the team, and beyond, are engaged in the programme. Primary care professionals and social care staff are generally positive about the role of case managers once they have a better understanding of what they do. They particularly appreciate the role of the case manager in regular monitoring of patients, making diagnoses and changes to medication regimens, addressing patients' social isolation by spending time with them, co-ordinating the overall care process, providing a link between primary, secondary and social care.

Organisation/governance integrative care: In order for case management to be effective, the various partners in health and social care need to share common objectives regarding the care of people with long-term conditions. In turn, case management programmes need to develop clear goals and objectives, which must be understood by the other partners.

Financial integrative processes: Financial incentives and payment mechanisms need to facilitate better co-ordination of care for people with long-term conditions, and be aligned with the goal of avoiding unplanned hospital admissions. Different funding streams, however, pose problems for case management, especially where patients require both health and social care. It is critical that the case manager has influence over providers, and influence over budgets is one way of ensuring this. Different funding options have been used to support case management for people with long-term conditions. For example, pooled health and social care budgets can assist case managers in reducing delays in setting up joint packages of care. Personal health budgets have recently been introduced in the NHS to allow people with long-term conditions to have more choice, flexibility and control over the services they receive. Research from direct payment schemes in social care suggests that access to personal budgets can achieve good outcomes for some individuals. However, take-up of budgets tends to be less common among older and frail people – those most likely to be enrolled in a case management programme. There is the potential, though, for a designated representative – which could be the case manager – to manage the budget on behalf of the individual in order to plan the package of care and manage how it is delivered. Prepaid capitation, a fixed sum of money per patient, is another option, which can be used to pay for a package of care services where a case manager, or team, takes responsibility for a person's care over time. Capitation can provide an incentive for the case manager to prevent deterioration.

ICT integrative processes: Good-quality data is an essential foundation for case management. It is vital for case-finding, care planning and assessment (as discussed above) and it is important to the ongoing process of care co-ordination. Access to this data enables different stakeholders to refer to patients' assessments and care plans; it also helps them to ensure that the various elements of case management are aligned and not being missed or duplicated.

Case management is dependent on the exchange of information between partners who might be working in very different teams. It is important that all information (the assessment, care plan and updates) is streamed centrally through the case manager (or case management team) so that they can ensure that the patient and other partners are kept informed about developments. This means the case manager/team maintains oversight of the care pathway. Constant communication and timely information exchange with the wider multidisciplinary team is also vital. It ensures that duplication of care and services is minimised and any gaps in provision are addressed, while the patient is kept informed of what will happen to them and the team is made aware of the patient's preferences. Critically, the patient has a single point of contact to whom they can address any queries or concerns. Changes in patients' circumstances and developments in case management should be communicated to the members of the multi-disciplinary team in a timely fashion. Although some evidence suggests that communication between case managers and hospital teams is particularly challenging, there are some examples of A&E or medical assessment units notifying case management teams of contact with patients known to be on their caseloads.

Normative integrative processes: Partners working in general practice, primary care teams, out-of-hours services, mental health teams, local ambulance services, social care services, secondary care teams and A&E units need to have a shared understanding about the delivery of population-based chronic disease care. This type of working can be supported and sustained through ad hoc/informal exchanges between the various partners or through more structured protocols and contracts. Having a sense of shared responsibility and a collaborative approach to solving problems can facilitate better co-ordination of care.

Where different partners or elements of the system do not share the same vision, co-ordination of care can prove difficult. For example, case management teams and secondary care providers operate very differently from each other; they often work towards different goals and are motivated by different values and incentives. It is important to engage stakeholders early on in the programme, for example by inviting secondary care staff to join steering groups or advisory panels; mapping common goals and targets; agreeing communication protocols; and ensuring that members of the multi-disciplinary team have some face-to-face contact. The benefits of cross-boundary working should also be recognised by the various stakeholders, in that multi-disciplinary case management can provide the opportunity to learn from colleagues based in other disciplines and, in turn, provide more holistic care to the patient.

Effectiveness:

- Service use – although evidence is mixed, there is some evidence that case management interventions can result in reductions in hospital use
- Health outcomes – case management programmes have been shown to have a positive impact on health outcomes, i.e. quality, of life, independence, functionality and general well-being.
- Patient experience – the strongest evidence for the impact of case management was related to improved patient satisfaction and user experiences

Enablers: Broad strategic-level factors are identified, together with a series of specific operational interventions.

- Collaboration between health and social care services – Good collaboration between health and social care services is essential for effective case management. People with complex needs nearly always require support from both health and social care services, yet these relationships appear to be poorly developed in many case management programmes. Social care is particularly important for patients in the rehabilitation and reablement phases. Delivering a co-ordinated response is vital, given that social care referrals (and the application process) can be complex and time-consuming. Further, recruiting case managers with experience of social work or housing provides the advantage of staff being familiar with how to access those types of resources. The co-location of the case manager/management team between health and social care teams can facilitate better communication and expedite referrals. But co-location alone does not guarantee good joint working. Regardless of where the case manager is based, links between health and social care need to be facilitated by a shared vision, good communication, data-sharing protocols and financial mechanisms that support joint working.
- Engaging with stakeholders – Case management programmes need the trust, support and enthusiasm of local stakeholders to refer into them. The most effective way to gain this support and enthusiasm is to engage key professionals and teams in the case management process from the outset. This will ensure that potential areas for professional rivalry or conflict are addressed proactively, early on. But securing this support involves a significant amount of time on the part of case managers. In the UK, case management programmes that lacked support from GPs have struggled to pick up referrals and maintain momentum. This lack of enthusiasm or support can be attributed to many things, but it is possible to build trust over time once some of the benefits of case management become obvious – for example, improved patient outcomes and reduced workloads.
- Provision of services in the community – Case managers need to draw on a range of resources and services in the community in order for patients to receive care at home (or as close to home as possible). If case management is to work well, these community-based services need to be both available and accessible. In order for this to happen, resources and services must be effectively commissioned and case managers must know what is available and how to access it. It can also help for case managers to have some financial influence or control over providers . Where there is access to diagnostics and specialist expertise in the community, the patient is likely to receive better quality of care and to avoid using hospital services. Conversely, delays in accessing services have been shown to lead to deterioration in patients' health and are a likely cause of future hospital admission. The lack of availability of community-based services has been cited as a major challenge to delivering effective case management.
- Assigned accountability of an individual (such as a nurse) or team for the individual being case-managed in order to provide continuity in how patients access services but also ensure a single line of responsibility for the care and services that a person receives regardless of where in the system they are receiving care;
- Clarity about the role of the case managers and support to ensure they have the right clinical skills and managerial competencies;
- Accurate case finding to ensure interventions are targeting patients with defined care needs;
- Appropriate caseloads to ensure that patients are receiving optimal care;

- A single point of access for assessment and a joint care plan;
- Continuity of care to reduce the risk of an unplanned admission to hospital;
- Self-care, to empower patients to manage their own conditions and to not become dependent on the care system;
- Integrated health and social care teams delivering services jointly;
- Information systems that support communication, and data that is used pro-actively to drive quality improvements

Case study 16: Self-management support[46]

Desired outcomes: Self-management support is 'a patient-centred collaborative approach to care to promote patient activation, education and empowerment'. The aim is to prepare patients to engage with medical management, to maintain life roles and to manage negative emotions such as fear and depression by offering patients the opportunity to acquire the necessary knowledge, skills and confidence (self-efficacy) to deal with disease-related problems. In this way they seek to improve the quality of chronic disease management.

Service users/patients: The majority of self-management support programmes focus on people with a single disease. Some support programmes are not disease specific but generic in design. The Chronic Disease Self Management Program (CDSMP) is probably the best example of such a generic programme. Most support programmes target the person with the chronic condition. The majority of self-management support programmes target adults; few focus on children.

Service providers/provision: Self-management support may be delivered through standardized, programmatic interventions. Programmes generally target the way the person with the chronic condition thinks or represents his or her illness. They include a range of cognitive–behavioural interventions, with the goals of such programmes directed at self-efficacy beliefs, health behaviour, health status and reducing the number of unplanned hospitalizations. Most interventions address medical or behavioural management tasks, whereas a minority also pay attention to role management and/or emotional management. Groups typically have between 6 and 12 participants and often use written materials. Programmes for an individual can range from provision of a manual that participants work through at home to sessions with a health professional on a one-to-one basis in a clinical setting.

Most interventions are administered by health professionals such as medical doctors, psychologists and nurses. Most self-management programmes are offered within a clinical setting, such as a hospital or a rehabilitation centre. The role of healthcare professionals is expanded from simply delivering information and traditional patient education to helping patients build confidence and make choices that lead to improved self-management and better outcomes; includes patient education, the collaborative use of a wide range of behavioural-change techniques to foster lifestyle change, the adoption of health-promoting behaviours and skill development across a range of chronic conditions; patients are trained in problem solving, goal setting, and the use of evidence-based standardized interventions in chronic conditions such as diabetes, heart failure, hypertension and angina.

Collaborative care planning is an important way in which individual providers can support self-management. A collaborative care plan not only focuses on the medical management of the condition but also facilitates role management, negotiation of behaviour change necessitated by the chronic disease, and management of the emotional impact of living with a chronic disease.

Financial integrative processes: In a system where providers are rewarded for more activity, they will be keen to see patients frequently, even if this brings little benefit to the patient, and even if it disadvantages them given the cost of travel and lost work. Patients can be trained to undertake much routine monitoring, such as blood pressure, blood glucose levels and peak respiratory flow. Capitation payments covering at least a year of care or outcome-related payments offer incentives to promote self-management. Financial incentives, in particular clinician rewards, are being used in a number of countries to drive changes in how patients with chronic diseases are supported (e.g. contracts for general practitioners in the United Kingdom and the Netherlands, and Pay for Performance within Medicare in the United States).

ICT integrative processes: Support for self-management requires extensive coordination. This includes scheduling group visits for patients with comparable chronic conditions, using disease management guidelines as prompts to structure consultations, providing systematic support by regular phone calls (especially by nurses), and generating feedback or reminders by email or text messaging. Other changes might include giving patients access to non-physician members of the care team, providing alternative contact methods (e.g. telephone, email or drop-in visits (either individual or group)), giving patients access to electronic medical records, preparing patients for the consultation using agenda-setting tools, engaging patients in their care using goal setting and action planning tools, offering opportunities for peer-to-peer mentorship, and designating a care coordinator or advocate. Where possible, self-management support also should be accessible via the Internet and call centres. More-advanced self-management tasks, for example when a patient monitors and reports clinical indicators associated with his or her condition, may require access to telecare and home monitoring devices. Results can be recorded automatically in the patient's electronic medical record and be available to view via a secure Internet connection, so enabling patients to track their progress over time. This requires investment in information technology and assistive technologies.

Normative integrative processes: Physicians require training in how to support patients most effectively. Healthcare professionals may feel uncomfortable with the idea of empowering their patients. Active participation of chronically ill patients in the management of their disease depends not only on the willingness and ability of the patients but also on positive attitudes and appropriate skills in their healthcare professionals. Support for self-management requires a fundamental shift in the patient–provider relationship. Encounters may require more time, they may be more educational in content and they will demand new skills from health professionals. In Australia, resources are going into education about self-management for health professionals, in particular general practitioners. In France, in contrast, the legal framework makes substitution and delegation of tasks by doctors difficult and does not encourage educational approaches to self-management support.

Effectiveness: Systematic reviews and meta-analyses suggest that most programmes show positive results, but rarely on all outcome indicators that were measured. The studies also have several limitations:

- Follow-up period of the evaluations is seldom longer than 12 months and mostly shorter than 6 months
- None of the evaluations link specific components of the programmes to outcomes so it is not clear which approaches, techniques or elements of self-management are most successful.
- Comparative effectiveness of generic and disease-specific programmes needs further evaluation.
- Only a few studies have analysed the cost-effectiveness of programmes

In short, there is some evidence that self-management support programmes improve outcomes, but more research is needed to understand which components impact on which outcomes and whether improvements are sustained over the long term.

Enabling factors:

- Bespoke programmes: Self-management support must be tailored to the needs of the individual. Proactive teams make use of standardised assessments of patients' levels of self-management in different areas, including skills to manage their illness and confidence in minimising barriers to self-management and gaining access to support.

- Addressing complex needs: Self-management requires people with chronic conditions to undertake a variety of demanding tasks. It is, therefore, not surprising that many people with chronic conditions find it difficult to self-manage successfully, and patients may benefit from participating in self-management support programmes that aim to develop the attitudes and skills necessary for successful self-management. A disability approach, in which the generic disabilities of people with different chronic diseases in the social, emotional or physical area are taken as a starting point for intervention, may also appeal to patients with complex needs. Finally, supporting people to manage mental as well as physical conditions is important.
- Providing appropriate resources: When patients consider their condition to be not very serious or do not experience any symptoms, they will feel less motivated to self-manage. Patients may also not believe that they can influence their health or control their disease, either by following medical advice or by self-care. False beliefs about the causes of their illness, its course and consequences, as well as the benefits of adequate self-management may be corrected by interventions that aim to develop autonomous behaviours. This may be by providing information relevant to the patient's personal goals, use of role models appealing to the patient, monitoring and feedback on progress, or creating peer support through "buddying". In addition, healthcare providers may wish to involve partners or other important members of the social network in the self-management process. This can be helpful for all patients but may be essential for patients who lack intrinsic motivation.

Normative integrative processes

In their graphic of the integrative processes (see Figure 5, pg 29), Rosen *et al*.[16] represented normative integrative processes as encircling all the other integrative processes, and highlighted what they considered three critical normative mechanisms for integrating health and social care services – effective leadership, clear communications and high trust.

No specific research or theoretical discussion of normative integrative processes in relation to the integration of health and social care has been located. However, the case studies described earlier nearly all describe a role for normative integrative processes. In Table 2 these descriptions are organised under five broad types of normative integrative mechanisms intended to incentivise and/or motivate individual and groups of stakeholders to work together – financial incentives, team building, performance measurement/quality assurance, professional development/research and innovation, and vocational aspirations.

The case studies identify two main sources of tension among stakeholders which may undermine the impact of other integrative structures and systems and which may be addressed using normative mechanisms. The two sources of tension are between:

- different health-related disciplines that are resistant to changes in existing structures and systems of authority and decision-making; and
- different professions which tend to be mistrustful of one another on account of perceived differences in knowledge, skills and values.

It is apparent from the case studies that the choice of appropriate normative integrative mechanisms is dependent on consideration of both the breadth, depth and intensity of integration and the choice of integrative model, be it a market, hierarchy or network model.

Table 3: Summary of normative integrative mechanisms described in case studies*

Case study	Team-building	Performance measurement/ quality assurance	Professional development / research and innovation	Vocational aspiration
Kaiser Permanente	√	√	√	√
Geisinger	√	√		
GRIPA				
CCNC	√			
Veteran Affairs	√	√	√	
Mayo Clinic	√	√	√	√
PACE	√		√	
Torbay Trust (UK)			√	
DMP – Germany				
Partnerships (England)		√		
Managed clinical networks - Scotland			√	
Local health care cooperatives - Scotland				√
Chains of care – Sweden		√		
Case management	√	√		
Supported self-management	√			

* This table is not complete as it comprises only normative integrative mechanisms mentioned in the case studies, i.e. mechanisms considered noteworthy by the authors.

Specific mechanisms described in the case studies are listed below.

Team building:

- Communication of shared goals and values
- Professional leaders to act as role models and to motivate professional staff
- General management work to reduce tensions and build trust
- Engagement of all stakeholders including service users
- Social events

Performance measurement/quality improvement:

- Shared decision making, including planning, budgeting and evaluation of performance
- Shared accountability for quality and efficiency
- Sharing of unblended performance data within the group
- Comparison of performance data on different group practices
- Strong culture of measurement and reporting
- Peer feedback
- Engage stakeholders by inviting secondary care staff to join steering groups or advisory panels; mapping common goals and targets; agreeing communication protocols; and ensuring that members of the multi-disciplinary team have some face-to-face contact.
- Internal transparency can be a powerful driver of performance improvement. The principle of 'group responsibility' promotes clinical collaboration and coordination across specialties, using mechanisms such as annual agreements at both national and regional levels, joint decision-making bodies and day-to-day collaboration between physicians leaders and health plan and facilities managers at all levels.

Professional development / research and innovation:

- A culture of evaluation and research-based evidence

- Formal and informal exchanges of ideas and information on a regular basis
- Extend the influence of primary care practitioners over other parts of the health care system as a reward for demonstrable competence in discharging increased management and financial autonomy.
- Organisational learning may be promoted through an in-house journal, annual innovation awards, workshops, site visits, and local clinical champions.
- Physicians tend to pride themselves on their clinical autonomy – a combination of group accountability and clinical autonomy.

Vocational aspirations:
- Sharing of knowledge, respecting the autonomy of different professional groups, surrendering professional territory where necessary, and having a shared set of values about how to respond to shared definitions of need.

In a multispecialty group practice, the culture is motivated by a sense of commitment rather than compliance.

Financial integrative processes

During our review of the literature it became apparent that there are a number of different financial integrative processes and a number of these have been briefly described in the case studies earlier. This section describes those financial processes in further detail, describes any evaluations that have been conducted and describes a number of processes that were not identified in the case studies but may be of relevance to the Irish context.

In 2010 a Scottish group undertook a rapid evidence review on financial integration; they identified various techniques that have been used to enable financial integration, the context in which they were used, their overall effectiveness, barriers to implementation and critical success factors.[47] Table 4 summarises the approaches the Scottish group took to financial integration, based on a taxonomy developed by the Audit Commission and using a simple ranking to summarise the level of integration.[48] It provides examples of each type of approach; these classifications are indicative rather than robust, because papers often reported insufficient detail of the type of integrative approach adopted. The approach taken in different countries is best understood within the relevant policy context of each country and this is summarised in Table 4.

Table 4: Types of integration: funding, management and/or provision

Type of financial integration	Level of integration 1=lowest; 8=highest*	Definition	Examples
Grants transferred between health and social care bodies	1	Health (social care) bodies make transfer payments (service revenue or capital contributions) to social care (health) bodies to support or enhance a particular social (health) service. No partnership and no delegation or pooling of functions.	No examples were identified in the Scottish review.
Cross charging (transaction payments)	2	System of mandatory daily penalties made by social care bodies to health bodies to compensate for delayed discharges in acute care for which the social care body is solely responsible.	Mandatory in England since 2004
Aligned budgets	3	Partners align resources (identifying their own contributions) to meet agreed aims for a particular service. Spending and performance are jointly monitored but management of, and accountability for, health and	Bath and North East Somerset Council and NHS Bath and North East Somerset PCT

Type of financial integration	Level of integration 1=lowest; 8=highest*	Definition	Examples
		social services funding streams are separate. Non-statutory in England but are commonly used but not reported according to the Audit Commission (2009). May be used alongside pooled budgets or with lead commissioning.	used aligned budgets where pooled budgets were not practicable
Lead commissioning	4	One partner takes the lead (and acts as the host) in commissioning services on behalf of another to achieve a jointly agreed set of aims. May be combined with pooled funding.	Isle of Wight PCT
Pooled budgets	5	Each partner makes contributions to a common fund to be spent on pooled functions or agreed health or health-related services under the management of a host partner organisation. May be combined with lead commissioning.	Sweden and England have used these.
Integrated management or provision without pooled budgets	6	One partner delegates their duties to another to jointly manage service provision.	Somerset mental health services Rovereto and Vittorio Veneto projects (Italy)
Integrated management or provision with pooled budgets	7	Partners combine (pool) resources, staff and management structures to help integrate provision of a service from managerial level to the frontline. One partner acts as the host to undertake the other's functions.	PRISMA, Co-ordinated Care Trials, Australia SIPA, PACE, Veterans Health Administration
Structural integration	8	Health bodies and social care health-related responsibilities are combined within a health body under a single management. Integrated functions for provision and (sometimes) commissioning.	Care trusts, for example, Torbay

* The level of integration (ranging from 1 to 8) has been derived from the Audit Commission's taxonomy and is a simple ranking rather than a categorical scale.

There was considerable information on cross charging, aligned budgets and pooled budgets in the literature and these financial processes are described in further below. In addition to these processes, we identified three other financial processes which can be used when integrating health and social services – capitation, bundled payments and individual budgets and these are also described in further detail.

CROSS CHARGING[49]

Cross charging is a system of mandatory daily penalties made by local authorities to health bodies to compensate for delayed discharges in acute care for which the local authority is solely responsible. NHS bodies have a duty to notify local authorities of inpatients' community care needs. In the UK, problems with delayed hospital discharges had been evident for many years. This was largely associated with the care of older patients who have ongoing needs for care and support following their discharge from hospital. Research has consistently identified a range of features associated with poor practice: poor service coordination; lack of clarity over respective responsibilities; lack of information-sharing; inappropriate range of service models; inadequate assessment and planning for discharge; inadequate consultation with patients and their carers; lack of notice of discharge; and over-reliance on the contribution of family carers.

In 2002, the *Wanless Report* recommended that the Government should ‘examine the merits’ of financial incentives (such as had been employed in Sweden) to help reduce the problems of delayed discharges. Following the publication of this report, the government announced its intention to legislate to introduce a similar system of cross-charging; a system of incentives and penalties would accompany the legislation with additional funding allocated to cover the associated costs.

The government’s proposals were widely criticised and were the focus of much antagonism. The way in which this development was announced did nothing to win support. It appeared to cast local authority social services departments as the villain of the piece, when there was considerable evidence to suggest that the causes of delayed discharges are actually complex and multilayered, and often out of the hands of social services. Moreover, the failure of the government to follow its own mantra of adopting an evidence-based approach to policy and practice when these proposals had not been the subject of any piloting or evaluation, added further to the hostility with which the announcement was received.

A Department of Health Change Agent Team with responsibility for providing practical support to tackle delayed discharges was established in 2002. In 2003 the Reimbursement Implemention Team (a small group to work specifically on the implementation requirements of reimbursement) was established. Thismarked a turning point in the presentation of the policy and in supporting local implementation efforts. In the preparations for implementation, the reimbursement team was able to identify factors which were likely to reinforce poor partnership practice and strain relationships. Typically, these included familiar patterns of mutual blame and recrimination, and focusing on the problem rather than seeking solutions. The reimbursement arrangements would only succeed in tackling delayed discharges if there was, at minimum, a whole systems approach to investment (which was facilitated by the Delayed Discharges grant).

The Community Care (Delayed Discharges) Act 2003 introduced an incentive system whereby councils are charged should they be found responsible for a patient’s delayed hospital discharge. The Act also brought new duties and responsibilities for the NHS:

- NHS bodies have a new statutory duty to notify social services of a patient’s likely need for community care services.
- There is a defined time scale (minimum of 3 days) for social services to complete the individual’s assessment and provide appropriate social care services.
- A second notification follows completion of the multidisciplinary assessment and gives notice of the proposed day on which discharge will take place (with a minimum of 24 hours notice).
- A reimbursement charge of £100–120 per day is paid by social services to the acute trust if the fact of social services not having met their obligations is the sole reason for the delay in discharge from hospital. If any element of the delay is related to NHS areas of responsibility, then reimbursement does not apply.
- NHS bodies have to make both of the notifications to social services if a claim for reimbursement is to be triggered. Liability for payment begins on the day after the three days of the assessment notification, or the day after the proposed discharge date, whichever is later.

There is evidence that charges accelerated the rate of decline of delayed discharges. However, the proportion of discharges to permanent nursing/residential homes increased as did the rates of emergency readmissions and readmissions within 30 days. The critical success factors was investment in a ‘Change Agent Team’, which was responsible for providing practical support to tackle delayed discharges and had a positive impact on local implementation efforts. To reduce delayed discharge, multiple and co-ordinated approaches are needed. Identified barriers include cross charging having perverse incentives, for example, to discharge inappropriately, and it may undermine partnership working.

ALIGNED BUDGETS/FUNDS[48]

Aligned budgets are used in the UK. Partners align resources (identifying their own contributions) to meet agreed aims for a particular service. Spending and performance are jointly monitored but management of, and accountability for, health and social services funding streams are separate. Aligned budgets are non-statutory in England although they are commonly used but not reported. This approach does not require new powers and is a positive and manageable starting point for some local partners. They may be used alongside pooled budgets or with lead commissioning.

The key features of aligning budgets are:

- A clear set of aims and outcomes agreed by partners following consultation
- Accounting for the individual inputs from partners and outputs against joint aims and outcomes
- Agreement on the levels of contributions from each partner which may be of different amounts and which is then grouped together to form an aligned budget
- Agreement on whether and how indirect costs and 'payments in kind' will be identified and included
- The requirement to maintain separate auditors (internal and external), financial regulations/standing financial instructions, and schemes of delegation for each of the partners.
- Agreement on length of time of arrangements, review and extension mechanisms, escalation, arbitration and termination.
- Ring fenced budgets continue to be 'ring fenced' within the aligned budgets to ensure that resources associated with these budgets can be individually accounted for and tracked by the local partners. The financial annexe to Local Partnership Agreements (LPAs) should include ring-fenced budgets and must outline the conditions attached to these budgets.

Partners often choose to align rather than pool budgets. This reflects the fact that local bodies have mixed views about the complexities and benefits of implementing the NHS Act 2006. A key factor has been the accounting requirements where all pooled budget partners must report their shares of assets, liabilities and cash at the year end in the financial statements. This has caused some problems where bodies have not realised this needed to be done or when information has not been available at the right time owing to timing differences between the NHS and council final accounts. This may result in shares of overspends leading to a PCT breaching its Revenue Resource Limit. Other examples of difficulties cited include risk-sharing and how to recover VAT.

Where partners choose to align rather than pool budgets, information is shared and priorities and strategies discussed and perhaps jointly agreed but management of budgets, monitoring and reporting are kept separate. Aligned budgets are often used as a useful interim step to the pooling of functions and resources – for example:

- where a service has historically been funded through aligned budgets;
- when it is difficult for a partner to disaggregate functions, such as adult and children's services, or back office functions;
- while partners need time to understand their budgets and any accounting requirements; or
- where partners are cautious about building relationships and getting the right processes in place before funding identity is entirely lost.

However, where partners have understood the options, pooled budgets are seen as critical to the seamless delivery of integrated services. Pooled budgets are preferable to aligned budgets where a service is completely integrated (that is, where strategy and outcomes are agreed and it is commissioned as a single service).

JOINT FINANCING ARRANGEMENTS IN THE UK[48, 50]

Joint financing arrangements – where partners combine their funding for specific health and social care services –are considered an important mechanism for achieving greater efficiency and better care. In the UK, despite exhortations to co-ordinate resources, less than 5% of the combined NHS and public social care budgets are spent through joint arrangements.

The NHS Act 2006 allows for the delegation and pooling of functions, and the pooling of money between NHS bodies and councils. Several statutory options (flexibilities) and non-statutory options (aligned budgets) are available to cover a range of circumstances, and can be combined. The flexibilities covered in the NHS Act 2006 include:

- Lead commissioning – One partner takes the lead (and acts as the host) in commissioning services on behalf of another to achieve a jointly agreed set of aims. It may be combined with pooled funding.
- Integrated provider – One partner delegates their duties to another to jointly manage service provision; or partners combine (pool) resources, staff and management structures to help integrate provision of a service from managerial level to the frontline. One partner acts as the host to undertake the other's functions. This helps to ensure cooperation and prevent duplication where the same person is responsible for services for both bodies.
- Pooled budgets – Allows NHS and local authority budgets for specific services to be pooled. The money in the pool loses its distinctive health or social services identity and health and social services staff can decide how the pooled resources are spent across the spectrum of health or social care services. Pooled budgets may be combined with lead commissioning.
- Care trusts – NHS and council health-related responsibilities are combined (via council delegation) within an NHS body under a single management. They can be formed from an existing NHS trust or PCT (in the latter case, the PCT is both a commissioner and provider). Care trusts combine health and social service functions in one statutory body and provide the most integrated approach.

Pooled budgets/funds in the UK[48, 50]

A pooled budget is a mechanism by which the partners contribute to a discrete fund. Within this fund or pool, contributions lose their original identity and are committed and accounted for against the joint aims of the partners. To meet their own statutory obligations and justify their contribution to the fund, local partners begin by clearly stating the purpose, scope and outcomes for services within the pooling agreement. For accountability and legal reasons a pooled budget is hosted by one of the partner agencies, in accordance with its standards of financial governance and the requirements of the partners for joint monitoring and review.

Pooled budgets are the most commonly used statutory arrangement; partnerships are underpinned by legal agreements between the NHS body (PCT) and the local authority. Pooled budgets aim to improve efficiency, reduce duplication of fragmentation, increase flexibility in use of resources to allocate them for maximum impact regardless of organisational boundaries, and improve coordination of front-line services. Pooled budgets are mainly used for a limited range of services including learning disability services and integrated equipment services. However, it is difficult to gain a complete picture of the range of joint financing arrangements in place regarding money spent and services delivered. In 2009, there were ten care trusts in the UK that provided services; five were modelled on PCTs and retained their commissioning function and five were based on mental health trusts.

Two evaluations have been completed on pooled budgets. In 2005, analysis was done on 10 partnerships selected to cover the widest range of services, budget size, organisational complexity and combinations of flexibilities. In 2009, the Audit Commission reviewed the joint financing and integrated care arrangements between NHS bodies and councils with adult social care responsibilities.

Results of 2005 evaluation[50]

Managers appreciated the importance of clear legal and financial frameworks when setting up pooled budgets which were described as *really scary* and *hugely complex*. Clear legal frameworks were also important where there were many local organisations involved, where the opportunities for informal learning across and between them were necessarily limited. As well as establishing formal arrangements for the 'horizontal' relationships between local NHS and local authority organisations, agreement also had to be reached about the new relationships and responsibilities of the commissioning and provider elements of partnerships. Matters such as budget monitoring, information sharing and the charges paid by users of the social care elements of services also had to be incorporated into contracts or service-level agreements. Pooled budgets effectively ring-fenced resources and therefore reduced the overall financial flexibility of the partner organisations' mainstream budgets, for example, any surplus in a pooled budget could not be used on services outside the pool.

Pooling budgets immediately highlighted areas of duplication in the activities of health and social care staff that meant that changes would be needed in their roles and deployment. Many partnerships aimed to improve both skillmix and collaboration between their health and social care staff, by seconding staff from one organisation to the other or bringing them together under a single management structure while retaining separate employers; or by transferring all staff to a single employer by using the 'integrated provider' flexibility as well as a pooled budget. Integration presented major challenges to existing ways of working for front-line staff including 'soft' issues such as culture, training and attitudes, and 'hard' issues such as employment terms and conditions. Some of the harder human resource issues were very difficult to resolve, for example, negotiations within central government were required before staff could transfer between local government and NHS employment without losing pension entitlements. Closer working among front-line staff was also hampered by different computerised information systems and the need to reach agreement over the sharing of confidential patient information.

Impact of flexibilities

Given the substantial organisational and cultural transformations involved in implementing these partnerships, changes in patterns of services or in users' experiences within the two-year evaluation were limited. However, one of the most dramatic and widespread consequences of pooling budgets was to change traditional ways of thinking about and delivering services. Senior managers spoke about ending a culture of blame ; of taking responsibility for the whole system of services for a particular group of patients; and of recognising the interdependencies between the whole range of local services. Pooled budgets had the effect of making the process of resource allocation transparent and prompted partners to examine whether existing patterns of spending were most effective or whether there were areas of duplication that could be removed in order to improve efficiency. Overall, staff involved in these partnerships were optimistic about the potential of pooling budgets for improving collaboration. However, some caution was expressed. Pooled budgets would only improve collaboration if there were strong ownership and commitment among staff at all levels in the organisations, not least because of the organisational upheaval involved and the absorption of very substantial amounts of managers' time in implementing the new arrangements. Time was needed for formal partnership agreements to be translated into changes in attitudes, cultures and ways of working among front-line staff, and there was concern about potential damage to the stability and viability of the partner organisations, if pooled budgets began to fragment their financial and service responsibilities.

Audit Commission 2009 evaluation[48]

A survey was sent to the Audit Commission's appointed auditors for all PCTs and local authorities to obtain a national picture of the health and social care pooled fund arrangements. In 2009 workshops were held with representatives from NHS bodies and councils in eight localities that had made varying progress with joint financing and integration. This included 12 PCTs, 13 councils, three mental health trusts and three care trusts.

The pooled fund survey and local data collection from fieldwork sites gave coverage of 72% of (110) PCTs and 67% of (99) councils. Following the workshops, many participants were contacted to provide case studies to highlight examples of notable practice. Expenditure and activity data were analysed, drawing primarily on the PCT programme budgets, social care expenditure returns and Hospital Episode Statistics. Other nationally and locally available data, such as social care indicator data relating to learning disability, mental health and older people's services were also analysed.

Analysis of national data found that use of pooled budgets had little impact on per capita spend, no impact on emergency bed days when used for intermediate care, and no significant effect on delayed transfers of care. Research participants stated that establishing integrated organisations and funding arrangements carried costs, particularly administrative and legal costs, but this was rarely quantified. There was little reference to savings in operating costs arising from joint financing agreements, and where there were value-for-money gains, they came from improved use of resources and better, more efficient services.

Participants identified many intangible, qualitative outcomes from joint working, including sharing skills such as contracting for services, gaining trust and sharing responsibility for achieving outcomes. Partners commented on the improved understanding and transparency of partners' finances, budgets and financial pressures that joint working arrangements offered, reportedly resulting in fewer funding disputes and negotiations.

Pooled budgets/funds in Sweden [50]

In Sweden the Socsam legislation allows sickness insurance, social services and health services to pool their budgets and jointly manage local rehabilitation services. Up to 5% of the local social insurance and social welfare budgets, together with the same amount of resources from local health services, can be pooled. A joint political board oversees the use of these resources and is responsible for the strategy and management of the project. The legislation prescribes the task of the political board and the financial framework, but the local services involved are free to decide what activities should be included.

The Socsam legislation was evaluated in eight trial areas. The construction of the financial framework was similar in all the trial areas, although the proportions of the budget contributed by the different authorities reflected the size of the trial area. In larger areas, full pooling of budgets between the different services did not occur, since only certain specific collaborative projects were involved because the Socsam experiment was targeted primarily at people aged 16–65 years. In smaller localities, the Socsam political board took over all the activities included in the three authorities' ordinary responsibilities, agreements and budgets, thus including services for people of all ages. One clear conclusion from the Socsam experiment is that local frameworks to manage expenditure and services need to be appropriate to the size and objectives of the services involved.

Joint financial management also enabled local organisations to better understand each other's roles and activities and this has facilitated the identification of areas of mutual interest. Financial coordination therefore promoted the initiation and establishment of joint activities and comprehensive 'whole system' perspectives on all the activities included in the trial.

Socsam also aimed to identify and remove barriers to collaboration between staff within and between authorities. In some of the Socsam trials, staff were redeployed within and between services, in order to improve skill mix, efficiency and effectiveness. Initially, the cultures of different professional groups were reflected in negative attitudes between them, but these gradually decreased during the trial period as staff from different authorities were reorganised into interdisciplinary teams. According to staff involved in these teams, collaboration was improved, although this was restricted to the services and professionals involved in the

Socsam experiment and did not extend to the wider local health and welfare services. One project evaluated the impact of the legislation on the attitudes of health centre staff, compared with staff working under conventional funding arrangements. The evaluations showed that interdisciplinary collaboration had improved in the intervention healthcare centres, compared to the controls.

The national evaluation concluded that Socsam allowed authorities to prioritise collaborative activities. However, there was only limited evidence that this collaboration led to reductions in social insurance expenditure on long-term sick clients. Moreover, any reduction in social insurance and social welfare spending may have been counterbalanced by the increased costs of operating the new initiatives taken using pooled budgets. The role of politicians on the joint management board differed from their normal responsibilities. They had wider responsibilities, for deciding on the services and interventions to be provided for people who needed help from different authorities, but without the usual employee and management responsibilities.

Barriers to pooled budgets

- Potentially high set up costs.
- A change to pooled budgets is potentially destabilising and takes time to reap any benefits. Ownership and commitment are required from staff to make them a success.
- Complexity of legal and financial frameworks to set up pooled budgets. Health and social care bodies have different charging, planning and budgetary timetables, financial reporting arrangements, and accountability and governance arrangements. Confusion over reporting and governance arrangements is more common in health bodies;
- *Different perspectives:* Differences in funding streams across agencies, political accountabilities, organisational structures, professional cultures.
- Short-term grants from central government are difficult to manage within a pooled budget. Central government also usually require specific accounts of how such resources are spent, which means disaggregating them from the budget pool.
- Pooled budgets effectively ring-fence resources and therefore reduce the overall financial flexibility of the partner organisations' mainstream budgets so that any surplus in a pooled budget can not be used on services outside the pool.

Critical success factors for pooled budgets

- Good relationships are essential.
- Signed agreements on specific services help ensure mutual understanding, and clear accountability and governance. Service level agreements and contracts aid budget monitoring, information sharing and user charges for social care. Legal frameworks should specify management of pooled budgets and staffing issues.
- Local frameworks to manage expenditure and services need to be appropriate to the size and objectives of the services involved
- Budget alignment may be useful interim stage to 'test the waters' for pooling.

CAPITATION

Capitation is defined by the King's Fund as a lump sum payment per patient/member of population served by a provider for comprehensive services or particular categories of service regardless of treatment.[51] A Cochrane systematic review analysed the effectiveness of financial incentives, including capitation, in changing healthcare professional behaviours and patient outcomes. Two reviews reported data from 13 non-randomised studies that evaluated a capitation-based payment system. In general, capitation was effective, improving 48/69 outcomes; capitation improved 17/30 processes of care outcomes (all drug prescribing related), 4/6 referrals and admissions outcomes, and 28/34 prescribing costs outcomes. Statistical significance was reported for 2/70 outcomes, one of which favoured the intervention.[52]

The use of capitation has been seen in a number of US systems integrated at the macro level. The Kaiser Permanente Medical Groups receive a capitation payment to provide care to members in Kaiser facilities and, as such, take responsibility for clinical care, quality improvement, resource management, and the design and operation of care delivery in each region. Instead of a fee-for service payment system, in which providers are rewarded for volume of activity, the Veterans Health Administration (VA) allocates resources on a capitation basis to each network which is then responsible for providing all care with those resources. As managers know that they are responsible for a person's entire care needs and likely to care for people throughout their lives, they have an incentive to provide health promotion and effective care management over time. Financial incentives are aligned with organisational goals.[13]

The use of capitation has also been observed at the meso level. In the PACE program, which provides comprehensive acute and long-term care services for older people, the individual sites receive capitation payments from Medicare and Medicaid and have pooled resources. The programme has total control over all long-term care expenditure, assuming financial risk for its population. As a consequence, the programme has flexibility to render needed services.[13]

The Coordinated Care Trials in Australia[53] were regional projects to test innovative approaches to the funding and delivery of health services for people with chronic conditions or complex care needs. Four trials were conducted, two with the indigenous population and two with the mainstream population, and were evaluated. A comprehensive description of the trials is provided in the Appendix. One of the hypotheses tested by the first round of mainstream trials was that the additional cost of care coordination could be met from the efficiency gains of the care coordination process, including flexible use of funds. In this context, methods of building a 'fund pool' were required whereby the fund pool would reflect the cost of 'usual care', and trials would seek to deliver services and care coordination within this fund pool. The trials adopted a wide variety of methods to provide this requirement, none of which was seen to be applicable in a generic context. Accordingly, a 'risk-based capitation model' was created at the end of the first round of trials to support a more rigorous and generic fund-pooling approach in the second round of trials. The model was designed to produce capitation rates or estimates of the amount which would be consumed by individuals in a 'usual care' environment.

The capitation model on which Commonwealth 'fund pooling' was based in the second round of trials proved reasonably robust, facilitating flexible purchasing, and had utilisation data been more forthcoming the intended monitoring could have proven a useful aid to the trials. The overall lessons from this exercise reveal a need for more research on the development of funding models using longitudinal utilisation and cost data at an individual level. Moreover, there is and will always be a high level of variability and uncertainty in healthcare utilisation, which means that a one-off 'cash-out' or receipt of a health funding budget involves considerable risk to both the purchaser and provider; the management of this risk also requires further research and discussion.

The King's Fund suggests that more radical options such as allocating a capitated budget to a lead provider or a provider network merit serious consideration in the UK. According to them, the experience of high-performing integrated systems such as Kaiser Permanente, illustrates the advantage of capitated budgets. They also state that the flexibility offered by these budgets enables providers to deliver the models of care that are needed in the future.[51]

BUNDLED PAYMENTS[54-56]

Bundled payments is paying a single fee for all medical services involved in an episode of care and in 2007 a bundled payment approach was introduced in the Netherlands to stimulate integrated care programs. This was on an experimental basis with a focus on diabetes. In 2010, the bundled-payment concept was approved for nationwide implementation for diabetes, chronic obstructive pulmonary disease (COPD), and vascular risk management. Two weaknesses in the Dutch health care system led to the introduction of bundled payments. The first weakness was that primary care has been provided mainly in small physician practices that lack the capability to deliver a spectrum of needed care to the chronically ill; the average number of GPs per practice is 2.2 and 57% of practices have no formal collaboration with practitioners of other primary care disciplines such as physiotherapists or pharmacists. This makes it difficult to coordinate the care of patients with chronic diseases. Dutch GPs are paid according to a system that combines capitation and fee-for-service payments, whereas other primary care providers are paid on a fee-for-service basis. The second weakness concerns the strict division between primary and specialty care. This division works well for acute problems but for the chronically ill, who need both generalist and specialist care on an ongoing basis, the division obstructs the delivery of integrated care. Financing primary and specialist care separately hinders collaboration because the efficiency gains from such a collaboration are rarely passed on to primary care providers and are likely to harm the financial interests of specialists. Despite efforts to increase efficiency and improve the quality of diabetes care, fragmentary funding has hampered the establishment of nationwide, sustainable success. Legal barriers and differences in culture among medical disciplines also hindered the provision of integrated care.

Health insurers pay a single fee to a principal contracting entity – a new legal entity called a care group – which serves as the general contractor and is responsible for organising care and ensuring its delivery. The term care group refers to the principal contracting organisation involved in a bundled payment contract with an insurer, not to the health care providers who actually deliver the care. The care groups can choose different types of legal entities as their organisational form including limited liability companies, foundations, cooperatives and a limited partnership. The care group either delivers the various components of care itself or subcontracts with other health care providers to deliver them. The price for each bundle of services is negotiated between the insurer and the care group, and the fees for the subcontractors are negotiated with the care group. Care groups consist of multiple health care providers and are often owned by GPs.

The care group assumes both clinical and financial responsibility for all assigned patients in the diabetes care program. For the various components of diabetes care, the care group either delivers services itself or subcontracts with other care providers. The bundled-payment approach supersedes traditional health care purchasing for the condition and divides the market into two segments — one in which health insurance companies contract care from care groups and one in which care groups contract services from individual providers, be they GPs, specialists, dieticians, or laboratories. The price for the bundle of services is freely negotiated by insurers and care groups, and the fees for the subcontracted care providers are similarly freely negotiated by the care group and providers.

The services to be included in generic care bundles have been described in disease-specific health care standards. These have been set at the national level in the Netherlands and agreed on by national associations of providers and patients. Decisions about patient services to be covered in the diabetes care bundle are codified in the Dutch Diabetes Federation Health Care Standard (DFHCS), which was approved by all national provider and patient associations. The DFHCS is limited to generic diabetes care and specifies only the treatment activities to be included, not who is to provide them or by what means. The standards specify only the treatment activities. In an attempt to encourage competition among providers, the standards do not specify the discipline of the provider who delivers the care. Regulated competition among care groups for contracts with health insurers and among subcontractors for contracts with care groups are designed to provide appropriate incentives for well-coordinated care at a reasonable price. The contracts specify the obligations of the care group to provide the insurer with performance indicators for both processes and outcomes. Services in the care bundles are fully covered by the basic insurance that is mandatory for all Dutch citizens, which means that these services require no additional payment from patients.

Evaluation of bundled payments

By 2010, there were about 100 care groups operating diabetes management programmes and some had also contracted programmes for other chronic conditions, or were preparing to do so. An initial evaluation was undertaken in 2009 and this was followed up by a second evaluation in 2012 which evaluated the experiences of nine care groups. The results were derived from the patient record systems of the care groups, from interviews with health care providers and care group managers, and from patient questionnaires. The evaluation sheds light on the effects of bundled payment on the quality of the care, but not on health care costs.

Fees for bundled payment contracts

Although differences between care groups still existed in 2011 in terms of the fees agreed for bundled payment contracts, the differentials had diminished during the 2007-2011 period. Fees in 2011 ranged from €381–€459, compared to a range of €258–€474 at the time of Evaluation 1. The closer similarities in the packages can probably be explained in large part by the increasing expertise of health care insurance companies and by the purchasing guidelines they had developed, as well as by the growing expertise on the part of the care groups. Both groups became more adept in negotiating competitive fees. None of the contracts with insurance companies allowed for performance-based renumeration. Most care groups were unwilling to provide information about fees they paid for the services of individual health care providers and agencies, citing the need for trade secrecy in the new market environment.

Quality of the services provided

Most of the results on process indicators suggested mild to moderate improvements in health care delivery. The improvements on process indicators were attributable in part to better record-keeping discipline. Improvements were also reported by care group managers, health care providers and insurance officials. Most but not all patient outcome indicators showed mild improvements. It is unclear what clinical relevance and impact any such patient outcome improvements might have in terms of ‘hard’ medical outcome measures such as cardiovascular illness and mortality. Patients expressed positive judgments about the cooperation and coordination between their various health care providers. More than 90% rated those qualities as good or excellent.

Reallocation and delegation of tasks

The introduction of payment bundling led to various forms of task reallocation and delegation. Practice nurses played a pivotal role in diabetes management within GP practices and were performing most of the regular check-ups. Some interviewees reported that the task delegation to practice nurses had already been underway before payment bundling was implemented. More insulin-dependent patients without complications were also now being treated in general practices. Eye examinations, previously conducted mostly by ophthalmologists, were increasingly being performed by optometrists, general practice laboratories, and retinal graders.

Both health care providers and care group managers voiced some criticisms of the extensive task reallocation and delegation, citing primarily the risk of quality deterioration in GP practices due to the transfer of services to practice nurses. They feared that the GPs’ knowledge of diabetes would suffer from their reduced contacts with their patients, and that the GPs could even lose their grasp on their patients. It was also feared that practice nurses might be assigned, or be taking on, too much responsibility for tasks they were insufficiently trained for, such as dosage or diet recommendations. Task reallocation from secondary to primary care was criticised because of the risk that patients with complications might not be referred promptly to secondary care. Positive aspects of task delegation from GPs to practice nurses were highlighted too. Practice nurses could devote more time and attention to patients, and the delivery of care was also more structured and protocol-driven. GPs had more time for their other patients.

Management of patients with comorbid disease

Varied answers were given to the question of whether health care for people with comorbid disorders had improved or worsened under the bundled payment arrangements. GPs, practice nurses and care group managers, in particular, tended to see improvements, attributable mainly to the more systematic delivery of the diabetes care.

Patient participation in care groups

Assistance in disease self-management was usually not provided in care groups in any systematic or integrated way. They had not developed any concrete strategies in this regard, and few instruments or interventions were made available to support patients in self-management. Almost no care groups arranged groupwise patient education. Two care groups had electronic patient portals where their patients could view and add to their medical information. Only a few care groups routinely informed their patients that they were being treated in a disease management programme under the auspices of a care group. Care groups differed in what they communicated to their patients and how. Many patients did not realise that their involvement in a disease management programme meant that they had a client relationship with a care group as well as with their GP, or what consequences that could have. Patient involvement in care group decision-making processes appeared minimal in most groups.

Experiences of stakeholders

Patients offered positive judgments about the cooperation and coordination between the various health care providers. Care group managers, health care providers and health insurance officials all perceived an improvement in the quality of the patient care processes, citing in particular the better-structured working arrangements, the more protocol-based health care delivery and the increased clarity about the quality of the services provided. They differed in the problems and constraints they mentioned. Managers complained particularly about the negotiation process between care groups and insurance companies, as well as about the limitations of the IT systems. Health care providers mainly criticised the heavy administrative burdens. That burden was as a result of the fact that ICT systems were not adapted to the new situation, which requires multidisciplinary registration and the provision of quality indicators. Insurance officials reported that no quality improvement could be discerned from the accountability information provided by the care groups, although the costs of diabetes care had risen.

The first evaluation indicated that subcontracted caregivers felt that their relationships with the care group were distorted by the groups' substantial market power. In particular, questions were raised about the potential conflict of interest of GPs, since in all care groups, GPs are simultaneously commissioning and providing care. Another unforeseen side effect of the introduction of care groups was that patients' freedom of choice with regard to care providers was minimized, since a care group works with its preferred providers. It was not apparent in the second evaluation if there was change observed.

Information technology

Care groups were making increasing use of integrated health care information systems (IISs). Several care group managers who had recently switched to an IIS saw potential for improving both the patient care process and the management of the care group. Care group IISs could still not be accessed by all associated health care providers, however. Nor was the integration between the IISs and the GP information systems anywhere near satisfactory; as a consequence, much data had to be entered twice: once into the IIS and once into the providers' own systems. Providers found this extremely burdensome. Health insurance companies were also not always satisfied about the quality of the accountability information they received from care groups.

Competition, care groups and regulation in the Netherlands[1]

When the Dutch health care system was reformed in 2006, the government created a health sector regulator (the NZa) to regulate competition between insurers; the NZa functions alongside the general competition regulator (the NMa). The NZa focuses on achieving efficiency both in the short and long term, market transparency, freedom of choice, access to healthcare, and quality. The interest of the consumer is central to all these goals. The aim is to achieve effective supervision in a light, proportional manner in which the benefits of regulation are weighted against costs.

Role of the health regulator

NMa issued guidance to health care providers on what forms of cooperation are desirable, for example, cooperating over the care of an individual patient, sharing best practice, clinical pathways and research and development, and what forms potentially contravene competition law, for example, such as agreements to carve up markets or agree prices. The guidance clarifies ambiguities: for example IT systems that are interoperable to exchange clinical information are encouraged, while systems that exchange price information between competing providers are not. NZa regulates competition amongst insurers and between providers, and in 2010 it extended its remit to also regulate care groups. NZa published guidance for care groups on competition and the integrated care groups. The guidance provides a definition of a care group, explains when competition laws apply and how the regulator defines competition and a market. It describes the behaviours the law is designed to inhibit, i.e. collusion to drive up prices, price fixing, market sharing and the reduction in choice is a symptom of this.

An array of legal instruments is available to NZa, including performance descriptions, cost allocation principles, smart price ceilings and supervisory rules concerning, for instance, deceptive advertising. In addition, the NZa can take action in individual cases, such as in the case of a provider that has a position of significant power on the market, if the competitive conditions are distorted. The Dutch healthcare regulator is currently more concerned with the potentially anti-competitive impact of horizontal rather than vertical mergers. The median number of GPs in care groups is 70, but some are much larger (e.g. 200 GPs) and the regulator is concerned that patients using these care groups are facing reduced choices while the groups negotiate higher prices with insurers.

INDIVIDUALISED-FUNDING MECHANISMS (DIRECT PAYMENTS, INDIVIDUAL BUDGETS AND PERSONAL BUDGETS)[1, 57-62]

One approach to co-ordination at an individual (or micro) level is to give patients greater autonomy over their care by letting them administer their own care budget. In the UK, the Netherlands, the US, and Germany, the delivery of social care services is being transformed through the introduction of individualised-funding mechanisms, such as direct payments and individual budgets. Direct payments and individual budgets operate slightly differently, but the basic approach is the same: instead of receiving services organised and provided by a local authority, individuals receive the cash value of those services and organise and purchase their own care. They usually receive support in deciding how to spend their money from a local authority employed coordinator or from a user-led organisation, such as an independent living centre, which provides support and services to help disabled people live independently.

A US project, ‘cash and counselling’, was introduced by Medicaid in the mid-1990s and sought to provide greater options for home- and community-based longterm care services. The programme has integrated income support and service benefits by educating Medicaid beneficiaries about the range of services available, and giving them choice and freedom over the services that they need by enabling them to manage their own budgets. Patients are able to choose the type and amount of paid services and support that they feel they require instead of the traditional medical services.

The UK introduced direct payments for social care in 1996 for disabled adults above the age of 16 years, elderly people, and carers of disabled children enabling local authorities to make cash payments instead of directly providing services. The payments can be used to purchase services from any provider (voluntary or private) or by individuals to employ assistants of their own choosing. In 2005, the Department of Health began to pilot 'individual budgets' in a number of local authorities. These budgets went a step further towards integrating support for people needing long term care by combining six different funding streams (council-provided social care services, independent living fund, supporting people, disabled facilities grant, integrated community equipment services and access to work) into one budget, with the exception of NHS funding. The budgets aimed to give people the ability to use their allocation in a way that best suits their needs, with the intention that service users can play a bigger role in their own needs assessment and care planning. Demographic pressures and heightened public expectations have begun to put pressure on health services to deliver personalised services organised around the patient and not the service.

In 2009, the UK government announced that the personal budget approach adopted in social care was to be rolled out to health. Individuals with long-term conditions are now eligible for a personal health budget. There is debate over how much support and advocacy an individual with a budget should have and from whom – different models were developed through the pilot sites. The pilot finished in October 2012 and it is the UK government's intention that clinical commissioning groups will be able to introduce personal health budgets on a voluntary basis to anyone who would benefit from them. After April 2014, the government's intention is that everyone who is eligible for NHS continuing healthcare will be able to request a personal budget; therefore, all commissioning groups will need to have the capability to deliver personal health budgets by that date. It is thought that if the personal budget systems of the NHS and local authorities can be developed together, it could offer a powerful new way of integrating health and social care at the individual's level, rather than across a whole population. By coordinating the service user experience, rather than using joint commissioning or pooled budgets as a starting point, integrated personal budgets could help to focus local efforts on what matters most.

Joint health and social care personal budgets may offer the chance to create a simplified process for service users to navigate. If the two systems' separate assessments, plans, accounts and reviews can be successfully brought together, service users are less likely to feel that the burdens of controlling their own care outweigh the benefits. It could also allow service users to make purchasing decisions based on what best suits all their needs, rather than having to spend one budget on something to help their 'health' needs and another on their 'social' needs. Aligning processes at the individual level, even if the staff, budgets and organisations above this remain separate, could also save frontline staff significant time. Having one assessment (instead of two) and a single care coordinator could improve flexibility and efficiency, although it is not yet known what level of additional bureaucracy is needed to support personal health budgets and whether this would outweigh any gains.

A number of the personal health budget pilot sites have used a 'dual carriageway' approach to combining personal budgets (Table 5). Their efforts show that, at least on a small scale, it is possible to bring together the referral, assessment, budget setting, planning and monitoring of personal budgets without many of the complexities of structural integration between the NHS and local authorities. This approach of aligning the personal budgeting process is intended to provide the service user with all the benefits of a system that is easier to navigate and which makes sense, without the cost and effort needed to formally merge budgets or organisations. To the service user, it appears that they are dealing with one system, one budget and one plan, yet this hasn't involved a great deal of change at the system level. The 'dual carriageway' approach makes it easier to trial integrated personal budgets without having to set up formal arrangements. Starting small will keep the risks low and give local organisations more flexibility. Naturally, where local partnerships have already developed joint commissioning or integrated service arrangements, a fully integrated personal budget process with pooled budgets, coordinated frontline teams and single sign off may be more appropriate.

The NHS 'dual carriageway' model of joint personal budgets[59]

'Stan' was diagnosed with multiple sclerosis in 2010. He uses his personal health budget to keep healthy at home with his wife 'Rebecca' and reduce the pain caused by multiple sclerosis. He also has a personal budget for his social care needs. Column 1 descibes Stan's experience when the provision of his health and social care are fragmented and Column 3 describes his experience when care is integrated. This diagram shows the effect on Stan's day-to-day life if these two budgets are joined up.

Table 5: The 'dual carriageway' model of joint personal budgets

Scenario 1: Stan's day-to-day life when health and social care is fragmented	Personal health and social care budget process	Scenario 2 Stan's day-to-day life when health and social care is integrated	Bridges across the health and social care divide
• Stan has multiple and uncoordinated assessments from health and social care. • This leads to delay of provision and risk of missing undiagnosed co-morbidities.	First contact/referral Assessment of health and social care need	• Stan is referred to one care coordinator who undertakes a single assessment of his health and social care needs. • This is convenient for Stan and he is not anxious that any of his needs have been missed.	• Once identified as having a high level of needs, Stan could be referred to a broker/ multidisciplinary team. • As long as care is coordinated well behind the scenes, full integration of the health and social care system is not required.
• Stan would need to go through two separate processes for health and social care, each involving budget setting, support planning and sign off. • This would require a lot of extra time and effort for Stan, often having to repeat his needs on multiple occasions to a number of different people.	Budget setting / resource allocation Support planning Sign off	• Stan receives one integrated budget that covers all his health and social care needs. • He talks through his support plan in one meeting with relevant individuals, which is signed off by one team/individual. • This is convenient for Stan as he does not need to repeat his story to a number of people and all his needs are recorded in one place, which can easily be adapted if his needs change.	• Joined-up budget setting team/panel. • Individual or multidisciplinary team conducts support planning. • Sign off only once for Stan, twice behind the scenes or done by a joint team.
• Stan would have to manage two separate budgets – from his local authority and the NHS.	Spend money on agreed care plan aims	• Stan receives one budget, which he can manage as he chooses (for example, notional, third party, direct payment).	• 'Dual carriageway' approach at a system level: two funding flows, two sign off processes, two separate budgets (not necessarily pooled). • Money all placed into one account for Stan to use.
• Stan would have to provide this information for two separate processes.	Monitor and review	• Stan only has to fill out one monitoring and evaluation form for his joint budget.	One survey for Stan, two systems behind the scenes.

Source: Department of Health personal health budgets team (unpublished)

Although the evidence from social care is overwhelmingly positive, scepticism remains that similar benefits are possible from expanding individualised funding into the NHS. There are doubts about the capacity of people without clinical training to make sound decisions when it comes to the more complex environment of healthcare. Many people are also concerned that this lack of capacity will unduly disadvantage less well educated and less well off patients, further exacerbating existing inequalities within the NHS. They worry that putting NHS resources into the hands of the average citizen will encourage, at worst, fraud and, at best, poor use of scarce public funds.

Individual budgets would not be appropriate for all healthcare areas. Emergency treatment is a prime example because needs are unpredictable and people do not want to make decisions about their care in an emergency situation. Inpatient care would also be inappropriate because, once in hospital, patients are dependent on the services provided within that institution. By contrast, at the boundary between health and social care, patients are strongly in favour of including NHS resources within individual budgets and ending the arbitrary divide between health and social care. A study of people using direct payments found that participants were already unofficially using their direct payments to purchase a range of services that would be defined as health care, including physiotherapy, injections, foot care, and pain management.[57] Their primary reasons for doing so were to overcome capacity constraints in the NHS and to integrate healthcare tasks better into their daily routine. Four criteria have been proposed to determine eligibility for individual budgets:

- Needs are reasonably stable and predictable
- Individuals have unique knowledge about their needs and how they can best be met
- Genuine alternatives exist for meeting their needs
- Alternative sources of supply exist or can be developed outside of local authority or NHS services.

Direct payments and individual budgets have been introduced widely across European countries. The schemes vary in the extent to which individuals can opt for direct payments or individual budgets, whether family members may be employed with the budgets and in the way the schemes are regulated. For example, a cash allowance has been introduced in Austria, Germany gives people the option of a cash allowance or care in kind (or a combination), and Norway offers a personal budget for care assistants when the local authority considers this option preferable to formal care. In the Netherlands, care users can opt for a personal budget to spend on the direct employment of carers who deliver care in their home. The Dutch system, beginning in 1995, allowed users to employ not only professional carers but also family members to care for them. Clients as well as carers were very happy with the budget and the number of users increases every year, shifting the Netherlands towards a demand-driven and market-oriented provision of care. More recently, personal budgets have been scaled back and apply across a more limited range of services because of government budget reductions.

Impact of individual budgets

The principal findings from evaluations of cash and counselling in the US suggest that those with budgets reported greater satisfaction with their care, were less likely to report problems with carers and had fewer unmet needs than control group members. In addition, none of those with budgets suffered any adverse events or worse outcomes than those in the control groups. The evaluation suggested that care may be provided more efficiently than traditional programmes (largely through stripping out duplication and multi-tasking by carers) but no cost–benefit evaluation has been undertaken.

Several US states, including Florida, Michigan, and Oregon, are piloting individual budgets for patients with serious mental illness. In some cases, these pilots allow participants to choose their own combination of clinical and non-clinical support services, with crisis and emergency services being provided as usual. The individual budgets are funded from state and federal resources and are calculated according to need. Personal income has no bearing on the size of the budget. In Florida, self-directed care began in 2002 and currently serves around 250 people who have a mental disorder. The largest spending categories continue to be traditional psychiatric services, such as psychiatrist visits and counselling. However, close to two thirds of overall spending requests are for services that would not traditionally be considered mental health treatment or even health care, for example, household items to improve an individual's living environment and promote housing stability. Initial findings indicate that giving patients greater control over their care improves satisfaction and reduces the use of crisis related services. Analysis of service use in 2005 shows that self-directed care participants used crisis support and crisis stabilisation services less often and made greater use of outpatient services than patients receiving services through the community mental health system. This pattern of service use indicates greater mental health stability among the self-directed care group. These improvements do not come at the expense of greater costs. There is little evidence of deliberate fraud in any existing programme and only a few cases of participants failing to adequately understand the budgeting rules.

Evidence from social care in the UK suggests that direct payments have led to greater user satisfaction, greater continuity of care, fewer unmet needs and more cost-effective use of public resources. Services purchased directly by individuals to meet personal care or transportation needs cost 20-40% less than the equivalent services provided by local authorities. Despite this evidence, uptake remains low which may be explained by the way in which the payments have been operationalised, rather than the concept itself being flawed. While there were positive results, there was variation between population groups. For example, young disabled people were more likely to report higher quality of life and were more satisfied by the control offered by individual budgets to build a better quality support network. In contrast, older people reported lower well-being scores and many saw the budgets as an additional burden. The evaluation indicated that those with budgets had slightly better outcomes but cost-effectiveness varied by group. They tended to be more cost-effective than normal care for those with mental health needs and marginally more for young disabled people. Individual budgets proved less cost-effective for those with learning disabilities.

A review of the European experience of personal budgets concluded that, although people value being in control, the burden of administration and risk falls on users and their families, and support is needed to facilitate care provision and enable appropriate choices. The review also found that the quality of personal care purchased is uncertain and there is an incentive for the user to underuse potentially necessary, more expensive, formal care. In Germany, such concerns resulted in informal carers being encouraged to attend formal training.

The European review suggests that personal budgets are not necessarily cost-effective and it found that almost all schemes in the EU have underestimated implementation costs, perhaps partly due to unpredicted demand and unmet needs. This means that sometimes evaluations use underestimates when calculating cost effectiveness, making it even more difficult to draw conclusions. For example, costs can be shifted into the state sector where carers have previously been providing informal unpaid care, although learning from Germany suggests that people might take lower-cost services in exchange for more control. In addition, in some cases, formal provider agencies may offer more expensive services to individuals than they do to public sector departments. Despite these caveats, there are some positive trends. In Germany, it has been suggested that people receiving long-term care spend 50% less with personal budgets than they would with traditional care, and in the Netherlands some suggest spending is 30% less.

Personal budgets were piloted in health in the UK and the results of the pilot's evaluation were published in late 2012. The evaluation took a longitudinal approach and included people with any of six conditions: chronic obstructive pulmonary disease, diabetes and long-term neurological conditions; mental health; stroke; and patients eligible for NHS Continuing Healthcare. After applying initial selection criteria, in some sites people were randomised into the personal health budget group or a control group. The evaluation followed a mixed design, using both quantitative and qualitative methodologies to explore patient outcomes, experiences, service use and costs. Just over 1,000 individuals were recruited into each arm of the study in order to give the analysis sufficient statistical power.

The use of personal health budgets was associated with a significant improvement in care-related quality of life and psychological well-being of patients. Personal health budgets did not appear to have an impact on health status over the 12 month follow-up period. The configuration of personal health budgets also appeared to be important. Generally, a more positive effect on outcome indicators was seen where sites choose to be explicit in informing the patients about the budget amount; provided a degree of flexibility as to what services could be purchased; and provided greater choice as to how the budget could be managed. Some negative impacts were found for sites using configurations with less flexibility and choice than other sites.

The main findings of the cost analysis were:

- The cost of inpatient care (an 'indirect' cost) was significantly lower for the personal health budget group compared to the control group after accounting for baseline differences.
- The ('direct') costs of well-being and other health services were both significantly higher for the personal health budget group compared to controls.
- Other categories of direct and indirect cost showed no difference between the groups.
- The difference in direct and indirect total costs between personal health budget and control groups after accounting for baseline differences were not statistically significant.

The majority of budget-holders and carers reported positive impacts of the personal health budget – on their health and well-being, health care and other support arrangements and for other family members. Effect on their use of health services or changes in relationships with health professionals were less likely to be reported. Most interviewees appreciated the increased choice, control and flexibility of the personal health budget, although some thought the benefits were curtailed by restrictions on what the budget could be used for, lack of services, and budgets being too small for their needs.

FINANCIAL INTEGRATION AND OTHER INTEGRATIVE PROCESSES[47]

The Scottish evidence review on financial integration found that few studies evaluated the effects of integrative financial mechanisms on health outcomes, and those that did provided a mixed picture. Improvements in carer burden, carer and patient satisfaction, and functional independence were reported, but most studies that assessed health impact found no effect.

Organisational

Full structural integration of health care or health and social care is rare and there is little evidence that structural integration is either necessary or sufficient for achieving integration of care and successful partnership working. Different forms of integration are appropriate in different settings and contexts. Some argue that a network approach, nested in the partnership imperative is better able to deal with complex policy challenges. Partnerships and other forms of integration have to work within distinct administrative, regulatory and governance structures and it is vital that organisations to select the model of integration that is most appropriate for their local needs.

Potential organisational barriers to integration include the initial set up of the service, access to and eligibility for the service, lack of patient retention, lack of links between services along the continuum of care, geographical boundaries and legal complexities of integration. The impact of implementing a new service may be "substantial" and comprise substantial senior management time and front-line staff time adapting to significant structural changes. Services require a critical mass of patients to provide care in order to make the service financially viable. Financial integrative mechanisms can involve complex legal and financial frameworks, for example partners contributing to pooled budgets must agree on financial contributions, partnership arrangements and human resource issues

Information technology

Establishing a common dataset, with key resource use, activity, process and outcomes data, to which all health and social care bodies contribute, is required to enable analyses for measuring effectiveness. Financial mechanisms need to be regularly monitored to detect unintended effects, whether financial or non-financial in nature.

Cultural/normative

Cultural differences among workers providing care are reported as a key cause of fragmentation in those services which are aiming at integration. There are very significant challenges involved in bringing organisational cultures together and it has been noted that there are long-term power imbalances between hospital services and community based services which mitigate against integration. Differences in funding streams across agencies, political accountabilities and organisational structures all influence, and are influenced by, the cultures of the different professional groups working in the integrated services.

Clinical/service

To retain patients and to match provision with need, it is appropriate to link services provided along the patient care pathway through continual assessment and reassessment and by promoting efficient referral processes between agencies. If health and social care professionals have no role in ensuring provision of medical services or integration of administrative services, it is unlikely that they will have responsibility or leverage to promote substitution of services to upstream (community-based) care. There are a number of practical difficulties which can arise when staff from different professional backgrounds work in multi-disciplinary teams. For example, the support services can differ as can payment and pension terms and conditions.

Information and communication technology (ICT) integrative processes[13, 63, 64]

An essential enabler of integrated care is the presence of state-of-the-art system-wide computerised information systems that allow data management and effective tracking of utilisation and outcomes. Quality information systems also enhance communication capacity and information flow across integrated pathways. Electronic health records link consumers, payers and providers across the continuum of care and provide relevant information to these stakeholder groups. It is essential that information can be accessed from anywhere in the health system, even in remote locations, to facilitate seamless communication between care providers. The information system should also enable systemwide patient registration and scheduling coordination as well as management of clinical data. The ability to integrate clinical and financial information is viewed as important for monitoring cost-effectiveness and facilitating service planning.

Use of ICT in fully integrated health systems

The examples of integrated systems in the United States described earlier in this review have in common high levels of investment in ICT, and the ICT sytems in both Kaiser Permanente and the Veteran’s Health Administration are described in further detail below.

Kaiser Permanente[18]

Kaiser Permanente has been using ICT for more than 40 years to improve clinical and administrative functions. Its use of electronic health records (EHRs) dates from the 1990s in some regions. Building on this experience, and with the active participation of its physicians, Kaiser launched a $4 billion health information system called KP HealthConnect in 2003 that links its facilities nationwide. The EHR at the heart of HealthConnect provides a longitudinal record of member encounters across clinical settings and includes laboratory, medication, and imaging data. HP HealthConnect also incorporates:

- electronic prescribing and test ordering (computerised physician-order entry) with standard order sets to promote evidence-based care
- population and patient-panel management tools such as disease registries to track patients with chronic conditions
- decision support tools such as medication-safety alerts, preventive-care reminders, and online clinical guidelines
- electronic referrals that directly schedule patient appointments with specialty care physicians
- performance monitoring and reporting capabilities
- patient registration and billing functions

KP HealthConnect is designed to electronically connect members to their health care team, to their personal health information, and to relevant medical knowledge to promote integrated health care. For example, members can complete an online health risk assessment, receive customized feedback on behavioral interventions, participate in health behavior change programs, and choose whether to send results to HealthConnect to facilitate communication with their physician. To more fully engage patients in their care, physicians and staff encourage them to sign-up for enhanced online services. As a result, more than one-third of health plan members nationwide are using a Web portal called My Health Manager to track selected medical information from the EHR, view a history of physician visits and preventive care reminders, schedule and cancel appointments, refill their prescriptions, and send secure electronic messages to their care team or pharmacist. Online laboratory test results include links to a knowledge base of information on test results and related self-care strategies.

Physician leaders report that access to the EHR in the exam room is helping to promote compliance with evidence-based guidelines and treatment protocols, eliminate duplicate tests, and enable physicians to handle multiple complaints more efficiently within one visit. A study in the Northwest region found that patient satisfaction with physician encounters increased after the introduction of the EHR in exam rooms there. Early findings from ongoing hospital implementations suggest that the combination of computerized physician-order entry, medication bar-coding, and electronic documentation tools is helping to reduce medication administration errors.

Use of the EHR and online portal to support care management and new modes of patient encounters appears to be having positive effects on utilization of services and patient engagement. For example, three-quarters or more of online users surveyed agreed that the portal enables them to manage their health care effectively and that it makes interacting with the health care team more convenient. Patients in the Northwest region who used online services made 10% fewer primary or urgent care visits than before they had online access (7% fewer visits compared with a control group of patients). The Hawaii region experienced a 26% decrease in the rate of physician visits following implementation of HealthConnect. Overall patient contacts increased by 8% due primarily to a large increase in scheduled telephone visits. Urgent care and emergency department visits increased, although the increase accounted for only about 5% of the decrease in office visits. The authors speculated that the EHR facilitated more-efficient care delivery and helped doctors resolve problems over the telephone.

Veterans Health Administration[13]

The Veterans Health Administration (VA) reinforces the role of IT in facilitating integration of care. It has invested heavily in IT; in 1999 it implemented an electronic medical record on a national basis. This provided the basis for large-scale databases, conferring, in turn, the foundation for evidence-based management and system accountability through the tracking of processes and outcomes. This was achieved through the collaboration of local clinical champions and central software engineers. It has been argued that this model of in-house development was critical to its successful implementation.

Between 2003 and 2007, the VA introduced a national home telehealth programme with the intention of better co-ordinating the care of patients with long-term conditions. As the largest programme of its type in the United States, it provides an example of how IT can be used to transform clinical, educational, technical and business processes. The VA's Care Coordination/Home Telehealth (CCHT) programme cares for patients with long-term conditions using a combination of telehealth and disease management techniques. Patients enrolled in the programme have devices fitted in their homes that send vital signs, disease management and e-health information via the internet to hospitals. The principal goal of the CCHT programme is to reduce avoidable and costly use of health care services such as hospitalisations. The VA's CCHT programme has reduced its number of bed days by 25%, cut admissions by 19% (compared with a reduction of just 4.6% across the VA), achieved a patient satisfaction score of 86% after enrolment and cost $1,600 per patient per annum, which is significantly lower than the VA's home-based primary care service ($13,121 per annum) and nursing home care ($77,000 per annum). The intention is to expand the scheme to 50,000 patients by 2011 to enhance patients' ability to self-manage and, if not to prevent, then to delay institutionalisation.

One study looked at the use of the programme for patients with diabetes in Florida, where the principal type of technology used was a messaging device that was used to answer questions about patients' symptoms and health status. Care co-ordinators monitored responses daily and made clinical judgements about whether a telephone call should be made to the patient or whether a physician's appointment was necessary. In a small number of cases, a telemonitor and videophone were used for two-way weekly contact. Results were positive; after two years of enrolment in the CCHT programme, patients were significantly less likely to be hospitalised and had a lower likelihood of being referred to primary care by the care coordinator than the non-enrolled group. The study concluded that the CCHT programme reduced use of avoidable health care services for diabetes.

ICT support for better integration of hospitals, primary care and social care services [65]

In practice, mechanisms for eHealth-supported service integration have been driven through patient-oriented events (for example, Denmark) or top-down initiatives from a service funder or commissioner, such as central or local government (for example, Andalucia in Spain).

In Denmark, MedCom is a cooperative venture between the national government, local authorities and private firms linked to the Danish health care sector. It set out to overcome communication problems between hospitals, primary care doctors, social care services and other health service providers through the use of a messaging system. The admission of any patient into a hospital automatically triggers a notification message to their respective local authority and relevant home care service. When the patient is discharged, a message is again automatically sent to the home care organisation so that all necessary services can resume following discharge. The individual's primary care doctor is informed by an electronic discharge letter, allowing him/her to coordinate health and social care services and develop an updated medication or rehabilitation plan. This has had a beneficial impact on productivity in the system, approximately equivalent to one person-day for each patient discharged from hospital.

In Andulucia, an electronic health record and ePrescribing system, Diraya is in operation. Diraya supports continuity of care in a region of over eight million inhabitants. It involves a single regional electronic health record system shared by all health care providers, including pharmacies and hospitals. This critical initiative, which began in 1999, has been centralising more than 1,000 databases, specifying homogeneous data and organising their structures. Each individual's health information from primary health care, pharmacies, specialised outpatient health care and hospital emergency care is integrated within this health record system. It can be accessed by authorised health professionals, as appropriate, at any time and in any location in Andalucia where the individual in question needs health care. It is used by 94% of all primary health care professionals, while 75% of accident and emergency episodes rely on it. The initiative has been associated with a 15% reduction in visits to primary care practitioners by those patients receiving an electronic prescription for an episode of care or chronic condition that can be filled out several times within a twelve-month period. Nonattendance at outpatient appointments also decreased by 10% with a similar reduction in costs resulting from the use of a single centralised database replacing a range of local databases.

In the US, five leading integrated care systems – Geisinger Health System, Kaiser Permanente, the Mayo Clinic, Intermountain Healthcare and Group Health Cooperative – have broken down barriers by collaborating in the sharing of health information. The five health systems created the Care Connectivity Consortium in 2011 to pioneer the effective connectivity of electronic patient information. The consortium use standards-based healthcare information technology to share data about patients electronically. The goal of the consortium is to demonstrate better and safer care for patients through better data availability. If a patient from one system gets sick far from home and must receive healthcare in another system – or if any system sends patients to another – doctors and nurses at each of the consortium systems will be able to easily and quickly access invaluable information about the patient's medications, allergies and health conditions, allowing them to provide the right kind of treatment at the right time and avoid unintended consequences like adverse medication interactions.

Telecare and telehealth[13, 65]

Telehealth – often referred to as remote patient monitoring – refers to services that use various point-of-care technologies to monitor a patient's physiological status and health conditions. When combined with personalised health education within a chronic disease management programme, it can significantly improve an individual's health and quality of life. Typically, it involves electronic sensors or equipment that monitors vital health signs remotely from home or while on the move. Readings are automatically transmitted to an appropriately trained person who can monitor the health vital signs and make decisions about potential interventions in real time, without the patient needing to attend a clinic.

Telecare is a service that enables people, especially older and more vulnerable individuals, to live independently and securely in their own home. It includes services that incorporate personal and environmental sensors in the home, and remotely, that enable people to remain safe and independent in their own home for longer. 24 hour monitoring ensures that should an event occur, the information is acted upon immediately and the most appropriate response put in train.

To date, telehealth services have tended to be used for discrete purposes rather than being seen as part of the solution for better integrated care. They have been used to support relationships and enhance dialogue between different health or social care providers and more recently between this group and members of the general public. The level of mainstreaming of telehealth, i.e. its inclusion within the standard repertoire of health and social care services, remains generally low across Europe. About 17% of home care agencies, responding to the 2007 survey of the National Association of Home Care and Hospices, reported using some form of telehealth. Other developments include the use of new media, particularly videotelephony, in countries including Germany, the Netherlands and Sweden, to facilitate higher quality person-to-person communication between individuals at home and professional care staff. In some instances, telecare solutions have also been used to support family carers as part of mainstream service provision, as in the case of a service operating in two cities and four municipalities in Sweden.

Use of telecare and telehealth in England[66, 67]

Much existing evidence on remote technologies such as telehealth and telecare is based in the United States, and its applicability to care systems in the United Kingdom is questionable. In 2008, the Department of Health in England launched its two-year Whole System Demonstrator (WSD) programme, with the aim of testing whether technology can help people manage their own health while maintaining their independence. It is aimed at vulnerable people who need the support of social care or health services to stay in their own homes.

The WSD programme tested both telecare (alarms and sensors) and telehealth (remote exchange of data between patients and healthcare professionals as part of patients' diagnosis and management) as ways of enabling people to stay in their own home. The programme was the largest randomised control trial of telehealth and telecare in the world, involving 179 GP practices and 3,230 people with one of three conditions (diabetes, heart failure and COPD) were included in the telehealth trial across three primary care trusts. Intervention participants received a package of telehealth equipment and monitoring services for 12 months, in addition to the standard health and social care services available in their area. Controls received usual health and social care.

The WSD evaluation studied the effect of telehealth on the use of secondary care and mortality. Patient characteristics were similar at baseline. Compared with controls, the intervention group had a lower admission proportion within 12 month follow-up (odds ratio 0.82, P=0.017). Mortality at 12 months was also lower for intervention patients than for controls (4.6% *v* 8.3%; odds ratio 0.54, P<0.001). These differences in admissions and mortality remained significant after adjustment. The mean number of emergency admissions per head also differed between groups; these changes were significant in unadjusted comparisons (incidence rate ratio 0.81, P=0.046), but not after adjusting for baseline characteristics. Length of hospital stay was shorter for intervention patients than for controls (mean bed days per head 4.87 *v* 5.68, which remained significant after adjustment). Differences in emergency admissions were greatest at the beginning of the trial, during which a particularly large increase for the control group was observed. The reasons for the short term increases in admissions for the control group were not clear, but the study authors suggest that trial recruitment processes could have had an effect.

Cost effectiveness analysis of the WSD was also undertaken; prior to this, few evaluations examined the association between outcomes and costs, and the evidence base included studies of poor quality design and small sample sizes. The main outcome measure was incremental cost per quality adjusted life year (QALY) gained. Total costs for health and social care, for the three months before the 12 month interview, were £1139 and £1380 for the telehealth and usual care groups, respectively, excluding the direct costs of the intervention; if direct costs were included, these costs were £1596 and £1390, respectively. The adjusted mean difference in QALY (quality adjusted life year) gain between groups at 12 months was 0.012. The incremental cost per QALY of telehealth when added to usual care was £92,000. With this amount, the probability of cost effectiveness was low (11% at willingness to pay threshold of £30,000, as recommended by NICE). The evaluation concluded that the QALY gain by patients using telehealth in addition to usual care was similar to that by patients receiving usual care only, and total costs associated with the telehealth intervention were higher; therefore a community-based, telehealth intervention is unlikely to be cost effective. A reduced cost of telehealth per QALY may be possible by combining the effects of equipment price reductions and increased working capacity of services. On the assumption of reduced equipment costs and increased working capacity, the probability that telehealth is cost effective would be about 61%, assuming a willingness to pay threshold of £30,000 per QALY.

Use of telehealth in Lombardia, Italy[65]

The Health Telematic Network in Lombardy, Italy, provides high-quality specialised telecardiology services to patients with complex conditions: chronic heart disease, those waiting for heart transplants or other types of cardiac surgery, and those who need multidisciplinary care management at home. Patients' electrocardiogram data are transferred to a call centre and monitored by nurses who may pass on the data to a team of cardiologists throughout Lombardy. The network has improved cardiology services and facilitated better use of resources, through the more rapid integration of second opinions for primary care doctors, the use of home telenursing and call-centre services for hospitals. Benefits for patients and carers included: a 35% reduction in hospital inpatient admissions, 12% fewer outpatient visits for hospital care that is no longer needed, a reduction of 15 days in waiting times for the beginning or modification of therapy for 14% of patients and reduced travel time and out-of-pocket costs for patients and their family carers.

Disease registries[68, 69]

A study of 13 disease registries in five countries (Australia, Denmark, Sweden, the UK, and the United States) revealed that improvement in health outcomes is greatest when clinicians themselves are responsible both for collecting and interpreting data and for leading efforts aimed at clinical improvement. The most effective way to collect relevant data is through disease registries that track selected health outcomes in a population of patients with the same diagnosis or who have undergone the same medical procedure. The systematic analysis of outcome data from a broad range of clinical centres allows providers and payers to identify, codify, and promote treatment protocols that have proved to yield better, more cost-effective care.

Disease registries make it possible to benchmark and assess comparative performance at the clinic, regional, national, and even international level. Ideally, a disease registry is simultaneously a repository of data that are useful in outcome research and an important institutional catalyst for efforts to improve health outcomes over time. By identifying variations in outcomes within the same population, registries make it possible to benchmark and assess comparative performance at the clinic, regional, national, and even international level. In-depth analysis of the causes behind variations in performance can lead to the identification of best practices. Active dissemination of those best practices and support for enabling their adoption reduce variations in clinical practice and improve outcomes.

The BCG report defined 35 specific criteria – 15 at the national level and 20 at the level of individual disease registries—that are essential for establishing an effective disease registry (see Table 6).

Table 6: Criteria for a successful disease register

National enablers		**Disease registry data and use**	
Clinician engagement	***National infrastructure***	***Data quality***	***Data use***
Do clinicians support collection and use of outcome data at a national level?	To what extent has IT been adopted by clinicians?	How comprehensively are clinical health-outcome data recorded?	Do outcome data affect guidelines for standards of care?
Are outcome results compared, reported, and made available to the public?	Does interoperability exist across systems?	How comprehensively are patient perspectives recorded?	Do outcomes influence licensing and accreditation at the doctor or hospital level?
Do clinicians support the use of collected data to measure and report outcomes?	Do national standards exist for terminology and measurement, and, if so, are they applied?	How comprehensively are activities, processes, and treatments recorded?	To what extent is there reporting to individual clinicians?
Does the registry have an independent governance body?	Are there national standards or frameworks for consent?	How comprehensive and appropriate are patient risk adjustments?	If reporting occurs, how long does it take for the results to be made available to clinicians?
	Does each patient have a unique personal identifier	How comprehensively are provider details captured?	Are provider reimbursements influenced by outcomes?

National enablers		**Disease registry data and use**	
Clinician engagement	***National infrastructure***	***Data quality***	***Data use***
	that exists across the health system?		
	Can the cost of treatments be linked to clinical events?	What proportion of the patient population is represented?	Are supplier reimbursements influenced by outcomes?
	Can the cost of each procedure be linked to the cost for the relevant event?	How old is the registry?	To what extent is the registry used as a source of academic reporting and research in international peer-reviewed journals?
	Is health care quality part of the public discourse?	Is it possible to track trends related to specific patients within a single registry?	To what extent is there reporting to the public?
	Are performance data used to determine reimbursements?	How are data captured and databases populated?	Do health quality and outcome insights influence policymaker or payer decisions?
	Does the government invest in collecting outcome data?	Are there standards for data representation and clinical-terminology coding?	
	Does the government provide strategic direction for outcomes on the basis of measurements?	What controls are in place to ensure data integrity?	

Disease registries in Sweden[69]

Sweden has been an international pacesetter in the establishment of disease registries, some of which date back to the 1970s. Today, the country boasts nearly 90 registries covering more than 25% of total national-health expenditures. About one-third collect patient data on more than 90% of all Swedish patients diagnosed with a given condition or undergoing a particular procedure, and many have been in place long enough to provide unique longitudinal data. A recent study found that Sweden has the best health-care outcomes in Europe, even while its health-care costs, as a percentage of GDP, hover around the European average of roughly 9%. In 2011, Sweden's government declared the expansion of Sweden's network of registries a national priority and has committed to increasing its direct financial support nearly fivefold—from $10 million to $45 million per year—by 2013.

The existence of registries has been associated with major improvements in health outcomes. This has been the case in the area of acute myocardial infarction. Sweden's Register of Information and Knowledge about Swedish Heart Intensive-Care Admissions was established in 1991 and has been part of Swedeheart, Sweden's national registry for acute coronary care, since 2009. The registry collects comprehensive data from all 74 of Sweden's major hospitals and covers approximately 80% of the patients in Sweden who suffer a heart attack. In addition to tracking well-accepted clinical-outcome standards such as 30-day and 1-year mortality rates, the registry also monitors adherence to proven process metrics such as the European guidelines. Between 1998 and 2009, Swedish hospitals greatly improved their nine interventions recommended by the European Society of Cardiology, decreasing the average 30-day mortality rate for patients who had an acute heart attack by 65% and the 1-year mortality rate by 49%.

The registry also makes the data transparent – initially to health care practitioners and later, after the data collection process and outcome metrics were fully vetted, to the public at large. This data transparency has had a demonstrated impact on the rate of clinical improvement. In 2005 the registry created a quality index that tracked how well the nation's hospitals were complying with clinical guidelines. At first the registry published only aggregate data at the regional level. In 2006 it decided to make public both the index scores and the actual patient survival rates for each hospital. A review of the results shows a dramatic change after public disclosure. From 2005 through 2007 the average hospital quality index score improved at a compound annual growth rate of 13%. However, the hospitals whose scores were below the average improved by only 7%, indicating a widening quality gap between above-average and below-average hospitals. From 2007 through 2009, the period after all of the data were made public, the average annual rate of improvement grew to 22% for the period. Below average performers improved by 40%, decisively narrowing the gap. Karlstad hospital illustrates how data transparency can inspire clinical engagement, tighten focus on a clear goal, and in the process transform care. In 2005 Karlstad hospital had one of the lowest scores on the quality index. In response, the hospital reorganised the total care cycle and improved its adherence to clinical guidelines, raising its rank to 43rd out of Sweden's 74 hospitals by 2007. Once the performance data became public, Karlstad boosted its ranking to 22nd, cut its 30-day mortality rate from 9 to 4% and improved its 1-year mortality rate from 13.5% to 5.2%, well below the national average.

Larsson and colleagues calculate that if the United States had a registry for hip joint replacement surgery comparable to one in Sweden, the United States would avoid $2 billion of an expected $24 billion in total costs for these surgeries in 2015. Learning from the hip joint replacement surgery database in Sweden enabled reductions in the rates at which these surgeries need to be performed a second time to replace or repair hip prostheses through introducing better quality replacements and better practices at the time of replacement. There is still room for considerable improvement in Sweden.[68] [67] In 2009, payers, providers, industry, academia, and government proposed a national, value-based strategy for using the registries to enhance health care delivery. The analysis showed that investing $70 million annually in disease registries, data analysis resources, and information technology infrastructure over ten years would generate a cumulative return of more than $7 billion. This would be achieved by reducing its annual growth in health care spending from an estimated 4.7% to 4.1%.

Benefits of ICT integration by stakeholder group[64]

Value to clinicians

Integrated and well-organised patient information can make providers more effective in a number of ways. Clinicians can use their time with a patient more efficiently, diagnose accurately, explore treatment options together, and help with patient education. Another significant area of benefit is the ability to query and analyse the complete population of patients for whom they and their colleagues are responsible. Patient registry functionalities support better care by identifying candidates for preventative tests and vaccinations, tracking the management of certain chronic conditions and identifying patients who may not be complying with treatment regimes. In this way, providers can manage the health of populations of patients more effectively and report performance on quality measures. Kaiser Permanente has developed a Panel Support Tool, which links evidence-based care guidelines to Kaiser's electronic health record, highlighting gaps in care for individual patients and analysing performance across panels of patients and care teams. The program has increased adherence to evidence-based care and improved outcomes for patients with a variety of chronic conditions. It has also enhanced continuity of care, and reduced reliance on resource-intensive office visits.

Value to healthcare organisations/systems

As patient-centric views of data allow more efficient and coordinated action across the health system with health information exchange, data aggregation allows organisations to measure system-wide performance and see how it is improving. Integrated health information systems can generate valuable performance information to improve workflow, safety and efficiency within health systems. The impact of patient-physician secure email at Kaiser Permanente has been gauged by measuring the impact on certain Healthcare Effectiveness Data and Information Set (HEDIS) measures, specifically for patients with diabetes, hypertension, or both. A study of 35,423 adult patients with those conditions in KP's Southern California region compared the rates at which nine HEDIS measures were met two months after patients began using secure email with providers. They observed a 2.0–6.5 percentage point improvement on all nine measures. The association between use of email and HEDIS scores, as well as the 7–10% reduction in primary care office visits from members using secure messaging, suggests that secure email can help improve individual care experiences and the health of populations while also reducing per capita costs of care.

Value to patients

Benefits to patients range from gains in coordination between providers that reduces patient frustration (being asked for the same information repeatedly or having to wait on the phone to schedule appointments) to the benefits that arise from advancing patient-centric information and processes. From a cost point of view, patients benefit from avoiding unneeded tests and treatments and unnecessary hospitalisations. Access to well-structured longitudinal patient information across organisations can improve diagnostic accuracy, decrease errors, reduce unnecessary procedures and facilitate the best possible treatment decisions.

Value to payers/insurers

Integrated health ICT allows the performance of hospitals, physicians, nursing homes and other providers to be evaluated. Performance metrics can support value-based purchasing efforts and help to identify performance outliers and fraudulent activities, whether funded by government or independent insurers. Comprehensive and accurate patient information also supports efficient care delivery through improvements in care management, which can keep patients out of high cost settings like hospitals and emergency rooms. Widespread investment in healthcare IT also fosters improvements in administrative efficiency. Given the economic burden of growing healthcare costs, these capabilities are of considerable value to healthcare payers and insurers.

Using information contained in electronic health records, Lombardia's data warehouse enables analysis for administrative purposes such as healthcare planning, resource planning, and epidemiological analysis. The total investment in healthcare IT capabilities in Lombardia over 10 years was between €800 million and €1 billion. A 2010 study for the European Commission found an overall positive socio-economic impact of the healthcare IT platform over 10 years. In 2007, five years after the regionwide expansion of the system began, annual net benefits were first realised. By 2010, cumulative net benefits were estimated to be about €143 million.

Value to society as a whole

The aggregation of health information across organisational boundaries offers many possibilities for improving population health. Patterns of illness can be revealed, disease outbreaks and rare patterns of adverse events can be detected and public health indicators can be measured. Population-level views also enhance the ability of the system to detect unwarranted variation in clinical practice, as well as evaluate the comparative effectiveness of treatments related to population characteristics not always adequately explored during clinical trials. These uses can uncover significant relationships between risk factors, treatments and outcomes and can also support the mass identification and contact of patients when needed (for example, in the event of a medication recall).

Barriers and enablers

Developing and implementing integrated electronic systems is time-consuming, complex and costly. Poorly designed electronic information systems, systems that are not used by providers, lack of a clear business plan, lack of common standards, fear of diminished personal privacy, inadequate training and incentives for providers to participate, poor technology solutions and ineffective leadership all contribute to failure of information integration. There are number of barriers that can impede the development of ICT and enablers that can overcome these challenges that can be categorised under the following headings:

1. Systems and policies
2. Organisation and management
3. Clinicians and end users
4. Patients and the public

1. Systems and policies

Barriers

- Lack of coherent strategies linking healthcare IT investments to desired health outcomes.
- Balancing central leadership and local flexibility.
- Lack of an investment climate, exacerbated by the financial crisis.
- Misaligned incentives and payment systems that reward quantity rather than quality and efficiency.
- Fragmentation and lack of coordination in healthcare delivery.
- Lack of commitment to standards that enable interoperability across the health system.
- Infrastructural constraints (variances in network bandwidth, for example).
- Lack of structured clinical data for secondary uses.

Enablers

- Develop and communicate a clear vision and strategy for achieving desired health outcomes. Ensure that this is aligned with the aims of wider health reforms.
- Allow sufficient flexibility for regions or local institutions to take their own approaches to the development of healthcare IT systems, thereby encouraging innovation and ensuring local needs are met.
- Link investments directly to the achievement of health outcomes.
- Where funding is limited, maximize the potential of limited funding by building on existing systems or using an incremental approach to system development.
- Align incentives and payment systems to ensure quality and efficiency are rewarded over quantity. This may be in the form of an innovation rewards scheme where clinicians are compensated for new methods of delivery.
- Encourage integration and coordination across organisations and care settings by creating coordinating bodies to manage required cultural and organisational changes and by effectively incentivising, penalising or encouraging providers to adopt desired behaviours.
- Develop technical standards to which IT systems need to conform and use standardised data formats and common medical terminology to enable the meaningful exchange and analysis of clinical data.
- Develop the infrastructure required by working with service providers to ensure technological capabilities are available, such as adequate broadband coverage.
- Encourage the use of structured data, which uses the same format and content standards across all care settings and providers to enable the leverage of data effectively.

2. Organisation and management

Barriers

- The high cost of IT systems and associated implementation costs. The costs of purchasing and implementing systems can be significant: there is the upfront investment, on-going maintenance, upgrades and licensing,

training staff and, often, loss of productivity during the transition period. These costs can be prohibitive, especially for small primary care practices.
- Difficulties in building credible business cases.
- A lack of technical expertise to manage healthcare IT implementations.
- A lack of impetus or trust between organisations to share data with each other.
- Technical limitations to existing IT systems rendering them unable to interoperate.
- Poor healthcare IT planning and implementation.

Enablers
- Develop incentives and co-funding mechanisms to help offset the initial high investments costs – this may involve tax breaks, subsidies, loans or co-payment systems.
- Establish clear business cases with evidence-based considerations of benefits to demonstrate the potential of improved health outcomes and/or cost-efficiency.
- Promote collaboration through shared visions and work principles, and new delivery models that incentivise cross-sector coordination.
- Develop ethical frameworks to govern the integrity of the data exchanged.
- Create systems that integrate rather than replace legacy systems, resulting in a high degree of connectivity achieved quickly and at a relatively low cost.
- Develop realistic, well-managed plans to implement systems effectively and take steps to mitigate potential risks (e.g. through use of certified healthcare IT systems).
- Improve health informatics expertise among clinical and administrative workforce.

3. Clinicians and end users

Barriers
- Physician reluctance to embrace new technology resulting from concerns about ease of use, changes to working practices, loss of productivity, income disruption, information overload and legal liability.
- Lack of awareness of clinical benefits.
- Physician concerns about data security, privacy and confidentiality.

Enablers
- Communication, collaboration and change management processes are the keys to overcoming physician resistance. Engage stakeholders early and communicate regularly through the process to gain acceptance of change.
- Consult end users on planning and design of systems and create multi-disciplinary teams (clinicians, IT specialists, strategic thinkers) to manage the implementation process.
- Prioritise and incentivise IT training for end users. Demonstrate benefits of healthcare IT in terms that are meaningful to clinicians and that support overall health, rather than technology goals.
- Develop an enterprise-wide information governance strategy and architecture (including privacy policies, mechanisms to protect and secure patient data, audits).

4. Patients and the public

Barriers
- Concerns about privacy and security of personal health information.
- Legislation that, while intending to protect people’s privacy, often restricts appropriate sharing and use of data.
- Encouraging patients to play a role in managing their own healthcare can be challenging.

Enablers

- Develop tailored strategies that cater to local opinions on privacy, and adapt the systems accordingly. In addition, all systems must have a mechanism built in to protect patient privacy.
- Strike a pragmatic balance between data protection and the benefits that can be derived from data sharing and use.
- Legislative change is sometimes required to enable physicians and public health authorities to access or exchange health information for the benefit of patients.

3. Question 3

What are the features of a successful system integrating social care services with general health services (or separately funded general health services and social care)?

A number of authors have described what a successful system looks like. Alltimes et al.[70] interviewed patients, carers, commissioners and providers in the UK to determine what a successful integrated system looked like from their perspectives.

Integrate around people, not pathways – A consistent message heard from patients, service users, carers, clinicians and managers is that integration is only valuable if it improves experience and outcomes for the individual. Poor integration results in delays, duplication and defects in care, and impacts on the quality, safety, productivity and the patient's and carer's experience of the journey of care. Patients and their carers stressed how important it is to be treated as a whole person – i.e. not 'the stroke in bed 5'. It is frustrating for patients when the different professionals and services they deal with are not able to coordinate with each other; assessments are often repeated and both patients and their families experience bureaucracy and delays in accessing treatment or care and support.

Patients and carers are key drivers of integration – Patients and carers are often the most passionate advocates of integration, and the most effective agents for delivering it. Unlike professionals, patients and their families live with and manage their conditions everyday and navigate their complex care journeys. Integrating around patients rather than providers involves partnership and trust between professionals, managers and the people they serve. The NHS Future Forum believes these patients have the right to expect:

- to receive care as close to home as possible;
- to be informed about the options available to them;
- the opportunity to discuss their options with a professional skilled in shared decision-making;
- easy access to a named care coordinator who knows them and is able to provide a tailored level of support to navigate their care journey and make choices at appropriate junctures;
- to know what to expect at each step of planned care journeys;
- to have an integrated care plan and where appropriate be offered an integrated budget;
- every provider involved in the individual's care to have access to their care record;
- transitions between professionals, teams and organisations to be safe, smooth and efficient;
- to understand clearly and simply what care and support they are eligible for and how they might pay for it if they are not eligible for state-funding; and,
- to be confident that appropriate information, training and support are available for carers.

Patients and communities are part of the solution – In the UK there are community-led schemes where local communities are supported to design and deliver their own solutions to local needs. Where this is done, communities feel empowered to make the most of their own resources, providing highly innovative solutions to plug gaps in existing services, reduce inequalities and help more people to receive care closer to home.

Make it easier to navigate and coordinate care – According to patients the biggest obstacle to receiving excellent care is the challenge of navigating the health and social care system and coordinating the input of multiple different services. Having access to someone to help them navigate the system and coordinate their care makes a considerable difference to patients' experience. However, just having a care coordinator or navigator isn't always enough – the system needs to be intuitive and develop a culture that encourages coordination to happen.

Information is a key enabler of integration – Without information, integration will only ever be a pipe dream. Full and accurate information about a patient's needs and care must be available throughout the care journey to everyone involved, including the patient themselves. Too often, patients turn up for their appointment, or have a visit from a nurse or care worker, only to find there is no information available about them. One of the major causes of the current poor state of information transfer across health and social care is the incompatibility of their IT systems. Often, these systems do not talk to each other, and commissioners and providers alike are unable to share information. There are also times when providers and clinicians are reluctant to share information.

A systematic review undertaken by Suter et al.[63] identified 10 universal principles of successfully integrated healthcare systems. These principles are:

1. **Comprehensive services across the continuum of care –** Integrated health systems assume the responsibility to plan for, provide/purchase and coordinate all core services along the continuum of health for the population served, including cooperation between health and social care organisations.
2. **Patient focus –** The 'justification for integrated healthcare systems is to meet patients' rather than providers' needs. Organisations that fail to place the patient at the centre of their integration efforts are unlikely to succeed. Services should ensure that the patient receives the 'right care at the right place at the right time', which requires a thorough understanding of the way in which patients move within and between different health and social care providers.
3. **Geographic coverage and rostering** – many health systems provide geographic coverage to maximise patient access to the services they provide and to minimise duplication. Rostering is often employed which means that the system takes responsibility for an identified population in a geographic area, with clients having the right to exit if they which to seek services from other providers.
4. **Standardised care delivery through interprofessional teams –** Standardised care delivered by interprofessional teams promotes continuity of the care process. Shared evidence-based protocols, such as best practice guidelines, clinical care pathways and decision-making tools, are essential to the functioning of interprofessional teams and help to standardise care across services, thus enhancing quality of care. Colocation of services, frequent team meetings and the use of electronic information systems facilitate effective communication.
5. **Performance management –** The success of integrated health systems depends on well-developed performance monitoring systems that include indicators to measure outcomes at different levels and involves a structured approach to analysis of performance issues and how they might be addressed. Ongoing measurement of care outcomes and reporting are important parts of the quality improvement process.
6. **Information systems –** Many of the other integrative processes are only possible with the support of state-of-the-art system-wide computerized information systems that allow data management and effective tracking of utilisation and outcomes. Quality information systems also enhance communication capacity and information flow across integrated pathways. Electronic health records link consumers, payers and providers across the continuum of care and provide relevant information to these stakeholder groups. It is essential that information can be accessed from anywhere in the health system to facilitate seamless communication between care providers. The information system should also enable systemwide patient registration and scheduling coordination as well as management of clinical data. The ability to integrate clinical and financial information is important for monitoring cost-effectiveness and for service planning.
7. **Organisational culture and leadership –** Implementation and operation of an integrated health system requires leadership with vision as well as an organisational culture that is in line with the vision. There needs to be committed and visible leadership with clear communication processes and leaders need to promote integration among their staff to help them take ownership of the process.

8. **Physician integration –** Physicians need to be effectively integrated at all levels of the system and play leadership roles in the design, implementation and operation of an integrated health system. Taking advantage of existing networks, informal linkages among practitioners and a strong patient focus can facilitate physician integration.
9. **Governance structure –** Bringing together organisations and services into an integrated health system through contractual relationships or networks requires development of governance structures that promote coordination. Governance must be diversified, ensuring representation from a variety of stakeholder groups, including physicians and the community, that understand the delivery of healthcare along its continuum.
10. **Financial management –**A major barrier to integration in some jurisdictions is differentiated service funding for home care, long-term care, social care, mental health, acute care and primary care. Financing mechanisms are needed that allow pooling of funds across services.

McCarthy et al.[18] identified six attributes of an ideal integrated health care delivery system. These are:

1. **Information continuity –** patients' clinically relevant information is available to all providers at the point of care and to patients through electronic health record systems.
2. **Care coordination and transitions –** patient care is coordinated among multiple providers, and transitions across care settings are actively managed.
3. **System accountability –** there is clear accountability for the total care of patients.
4. **Peer Review and teamwork for high-value care –** providers (including nurses and other members of care teams) both within and across settings have accountability to each other, review each other's work, and collaborate to reliably deliver high-quality, high-value care.
5. **Continuous innovation –** the system is continuously innovating and learning in order to improve the quality, value, and patient experiences of health care delivery.
6. **Easy access to appropriate care –** patients have easy access to appropriate care and information at all hours, there are multiple points of entry to the system, and providers are culturally competent and responsive to patients' needs.

The King's fund and Nuffield Trust[71] reported that a successfully integrated system:

- Encourages integration and integrated care through a **regulatory framework**.
- Encourages integration and integrated care through a **financial framework.**
- Provides **support to innovative approaches** to commissioning integrated services.
- Applies **national outcome measures** that encourage integrated service provision.
- Invests in **continuous quality improvement** including publishing the use of outcome data for peer review and public scrutiny.
- Has **defined populations** that enable health care teams to develop a relationship over time with a 'registered' population or local community, and so to target individuals who would most benefit from more co-ordinated approach to the management of their care.
- **Aligns financial incentives** that: support providers to work collaboratively by avoiding any perverse effects of activity-based payments; promote joint responsibility for the prudent management of financial resources; and encourage the management of ill-health in primary care settings that help prevent admissions and reduce length of stay in hospitals and nursing homes.
- **Shares accountability** for performance through the use of data to improve quality and account to stakeholders through public reporting.
- Has **information technology** that supports the delivery of integrated care, especially via the electronic medical record and the use of clinical decision support systems, and through the ability to identify and target 'at risk' patients.

- Uses **guidelines** to promote best practice, support care co-ordination across care pathways, and reduce unwarranted variations or gaps in care.
- Has a **physician–management partnership** that links the clinical skills of health care professionals with the organisational skills of executives, sometimes bringing together the skills of purchasers and providers ‘under one roof’.
- Ensures **effective leadership** at all levels with a focus on continuous quality improvement.
- Promotes a **collaborative culture** that emphasises team working and the delivery of highly co-ordinated and patient-centred care.
- Organises **multispecialty groups** of health and social care professionals in which, for example, generalists work alongside specialists to deliver integrated care.
- Enables **patient and carer engagement** in taking decisions about their own care and support.

According to National Voices, the national coalition of health and social care charities in England, people want co-ordination**,** not necessarily (organisational) integration.[72] People want care; where it comes from is secondary. According to National Voices, below are some of the kinds of statements patients and service users could make, if care services were better joined up:

- There were no big gaps between seeing the doctor, going for tests and getting the results
- I was always kept informed about what the next steps would be;
- I was told about what other services were available to someone in my circumstances, including local and national support organisations;
- The professionals involved with me talked to each other and I could see that they worked as a team;
- I always knew who was the main person in charge of my care;
- I had one first point of contact – a person who understood both me and my condition -- who I could go to with questions;
- That person helped me to get other services and help, and to put everything together;
- I could see my health and care records at any time to check what was going on. I could decide who to share them with. I could correct any mistakes in the information;
- Information was given to me at the right times. The information was comprehensive: it was not just medical, but also helped me understand the impact of my health status on other parts of my life;
- Information included how to manage financially;
- I was not left alone to make sense of information. I could meet a professional when I needed to ask more questions or discuss the options;
- I was as involved in discussions and decisions about my care and treatment as I wanted to be;
- My family or carer was also involved in these decisions as much as I wanted them to be;
- I worked with my main professionals to agree a care plan;
- I know what is in my care plan. I know what to do if things change or go wrong;
- Those plans were clearly entered on my record and respected by each service I used;
- When something was planned and agreed to, it happened without me having to chase around for it;
- I had regular reviews of my care and treatment, and of my care plan. I was as involved in these as I wanted to be. And my family or carer was involved as much as I wanted them to be;
- I was involved in decisions about my medicines – whether they were needed, and which one to use;
- If I needed a new medicine, its purpose, potential side effects and how to take it were explained to me;
- I was offered the opportunity to become more educated about how to manage my own symptoms. This helped me to set goals, and include them in my plans together with my main professionals;
- When I was discharged from a service, there was a plan in place for what happened next. This was delivered without unnecessary delays;
- If I moved from one care setting to another:

    - I knew in advance where I was going, what I would be provided with, and who would be my main point of professional contact
    - I was given information about any medicines I was taking with me – their purpose, how to take them, potential side effects
    - Information about me, including my views and preferences and any agreed care plan, was passed on in advance
    - I was still allowed to see and work with, as appropriate, preferred professionals who I already knew and knew me
- When I went to a new service, they knew who I was, what my circumstances were, and about my own views and preferences, and any care plans I had made;
- If I moved across geographical boundaries I did not lose entitlements to care;
- When I needed support to live at home, services worked together to provide it. I had a say in who would come and provide my care and when;
- When I needed special equipment to live at home, it arrived in good time;
- When my professionals knew there was a risk of emergencies happening, they:
    - put measures in place to prevent that
    - ensured I was regularly contacted to check on me
    - gave me ways to sound an immediate alert if I was at risk
- If I needed residential care, I had a choice of provision so that I could find one to meet my particular needs;
- My residential care provider maintained close links with the health and social care professionals I already knew outside, and enabled me to see them when necessary; and
- My full health needs were still provided for in residential care. My GP stayed actively involved in my care.

4. Question 4

How is success measured in a system integrating social care services with general health services (or separately funded general health services and social care)?

Measuring health system integration involves monitoring and evaluating: (1) whether the process of integration was implemented as intended and that integrated care has been achieved, and (2) the impact of integration on various stakeholders of the health system including: patients, providers, organisations, funders and policy-makers, that is, how well the integrated system has performed.[9]

Overall, the literature revealed limited empirical research on the outcomes and impact of integrated health systems on patients; evaluations have instead concentrated on its impact on process or inputs, for example, admissions to hospitals and outpatient visits. There are a number of reasons for this. First, evidence-based knowledge about integration is hampered by the lack of standardised, validated tools and indicators to measure integration. For instance, most available evidence is based on small pilots which makes it difficult to generalise these findings. Second, there is often a lack of information regarding the validity and reliability of measurement tools. The intersectorial nature of integrated care requires a comprehensive mixed method approach that can be applied across multiple settings. Most literature on the measurement of integrated care contains a wide variety of concepts, methods and measurements. Valentjin et al.[73] recommend that more research is needed to build up evidence with validated measurement tools to evaluate integrated care initiatives in a more synergetic and analytic way.

However, a literature review by Armitage et al[9] (2009) found evidence for three measurement tools which could be used to assess integration.

1. The **balanced scorecard** is appropriate for evaluating both the implementation and the impact of integration. It was developed in response to organisational performance measurements that were based on financial performance alone. The degree of integration implementation can be determined by a survey administered to organisation managers. To determine the impact of integration, the organisation must consider system-wide relationships, choose the components appropriate for measurement, and identify the key indicators within each of those components to ascertain integration outcomes.
2. The **clinical microsystem assessment tool** was developed through the systematic analysis of 20 high performing clinical microsystems in North America. Eight characteristics, shared across the 20 microsystems, were consistently related to high success rates of high quality and cost effective care delivery. These characteristics were used to create this self-assessment tool which allows an organisation to compare its characteristics to those considered key to successful integration. The small number of items (10) and free access to the survey questionnaire make this an easy and quick tool for evaluation.
3. The **scale of functional integration** can analyse intraorganisational, inter-organisational, horizontal, and vertical integration. The scale is comprised of a continuum from full segregation to full integration within several categories such as patient referrals and pooled resources. Different professional groups rank their perception of their unit's integration with other units. These rankings are then compared with the optimum rank as determined by each unit.

Armitage et al.[9] identified that a number of indicators were proposed to measure the extent to which an integrated health system has been achieved. Some authors focused on indicators for functional, clinical and physician integration, while others used network effectiveness in delivering services and the level of integration among different organisations within the network as indicators. Armitage et al. also reviewed the literature for evidence of effectiveness and outcomes of integrated health systems but very few studies reported on the impact of integration but tended to focus on perceived benefits.

Hebert and Veil[74] described the development of a method to measure the implementation of specific components of an integrated service delivery system for the frail elderly in Canada. This was part of a larger project assessing the implementation and impact of the PRISMA model (see Case Study 18). The system includes six components: coordination of all organisations involved in delivering health and social services; a single entry point; case management; a single assessment tool with a case-mix classification system; an individual service plan; and a computerised clinical chart. A set of objective and measurable indicators of implementation were then generated for each component. These indicators were fully discussed and approved by two teams of researchers coming from Laval and Sherbrooke universities interested in ISD systems, policy-makers from the Quebec Ministry of Health and Social Services, managers from five regional health and social services authorities, and clinicians. The group also weighted the relative importance of each component and the relative importance of each indicator (Table 7). The weighting of the components was arbitrary and based on the opinions of the researchers, clinicians, managers and policy-makers involved in the implementation. There is a hierarchy within these components: coordination is the base without which the other components cannot be implemented. Case management is also essential for implementation of the individualised service plan, the single assessment tool and computerised clinical chart. Therefore, coordination and case management are enabling factors that need to be weighted more than the others. The single entry point was also heavily weighted, because of its importance and the complexity of implementing it, especially in the urban area where multiple public, private and voluntary agencies are geographically scattered in town and must converge on a unique point.

Table 7: List of indicators used to rate the implementation of the ISD system

Indicators	Rating (pts)
Coordination	**20**
1. Presence of a structure designed to enhance cooperation between partners	3
2. All partners concerned represented	3
3. Representatives stability over time	3
4. Representatives participate regularly	3
5. Partners informed of how services are changing (or not changing)	4
6. Partners criticise the organisation of the services change process	4
Single entry point	**20**
1. Presence of a single entry point in each local area	5
2. Clearing functions done by dedicated professionals	5
3. Professionals use a validated screening instrument to identify eligible frail elderly	5
4. Follow-up with older people in the group at high risk of functional decline	5
Case management	**20**
1. Variation between actual number of case managers and number needed according to proportion of senior citizens in the area	10
2. Variation (above or below) between actual average caseload and recommended caseload (45)	10
Single assessment tool and case-mix classification	**15**
1. Percent of clients under case management evaluated with SMAF tool	5
2. Percent of partners systematically using SMAF tool with their elderly patients	5
3a. Use of the case-mix classification system (ISO-SMAF profiles) for efficient utilisation of resources 3b. Use of the ISO-SMAF profiles system as a new standard for financing services	5
Computerised clinical chart	**15**

1. Availability of a computer program for sharing clinical information in real time	5
2. Sufficient number of computers for all partners	5
3. Utilisation of the computerised computer chart by partners	5
Individualised service plan	**10**
1. Percent utilisation of the individualised service plan by case managers (as indicated in the clinical files of patients under case management)	10
TOTAL	100

According to Ramsay et al.[75] further research should focus on building the evidence base on integration in the following areas:

- Impact on patient experience, for example, the development of specific ‘markers’ for improved processes of care required such as the number of interactions between patients and professionals.
- Impact on use of services, especially inpatient beds.
- Impact on costs (and differentially on different parts of the system)
- Impact on outcomes; this needs careful thought if evaluations are going to be over a relatively short time period; again some markers need to be developed.

The NHS Future Forum[70] state that there is not enough focus on outcomes for patients’ experiences across a whole journey of care and that methods should be developed and promoted by which commissioners can model potential options for improving integration. They recommend that the Department of Health in the UK should urgently support the development of a new generation of patient reported experience measures that evaluate patients’ experiences across whole journeys of care, and within and between services. These should be incorporated into the national and local outcomes frameworks for the NHS, social care and public health as soon as possible and should form part of the mandate set for the NHS Commissioning Board.

According to National Voices[72] there are various well researched and tested measures that build on some of the types of statement listed in Question 3 in order to produce systematic indicators of success. Surveys and research with patients, service users and carers have focused on measures of activation, outcome and experience:

- Patient activation measure: this is a set of questions to measure the extent to which patients are active in (and confident about) managing their own condition and healthcare.
- Patient reported outcome measures: describe outcomes in terms that are relevant to patients’ lives and on which they can report, such as a reduction in pain or an increase in mobility. There are generic outcome measures including some for long term conditions, as well as specific measures suited to specific treatments.
- Patient experience measures: Patients can report on their experiences of using healthcare services though a wide variety of survey instruments. The best tested and developed measures are those used in the Department of Health’s national patient survey programme, run by the Care Quality Commission.

5. Question 5

What future and potential future policy directions in relation to approaches for integration social care services and general health services can be identified in the jurisdictions included in the review and what is the rationale for choosing these approaches?

As our search of sources started with case studies rather than jurisdictions, we have not had tended to discover future policy directions within specific jurisdictions. In our literature searches, however, we have noted discussions by academic health systems experts and researchers about future developments that may well influence the shape of future policies. We note them here.

1. Policy directions in other jurisdictions

Australia – appears to be moving towards an integrated health care system including primary care, chronic care and child health and well-being in conjunction with primary and secondary health prevention

England – in April 2013 England adopted a fully integrated health and social care model with 'people and communities' as its central focus.

2. Conceptual frameworks

Despite the uncertainty over almost every aspect of integrated health and social care, research bodies are proposing conceptual frameworks. While the details differ, they all prioritise the patient or service user and /or service quality and outcomes as the starting and end points for integration efforts.

European Observatory: The Chronic Care Model (CCM) aims to provide a comprehensive framework for the organisation of healthcare to improve outcomes for people with chronic condition. Developed by Edward Wagner and colleagues in the US in the late 1990s, it is based on the premise that high-quality chronic care is characterised by productive interactions between the practice team and patients, involving assessment, self-management support, optimisation of therapy and follow-up. It comprises four interacting system components:

- self-management support
- delivery system design
- decision support
- clinical information systems.

These are set in a health system context that links an appropriately organised delivery system with complementary community resources and policies (see Figure 11).

Figure 11*: The chronic care model (CCM)*[76]

Netherlands Expert Centre Primary Care/Netherlands Institute for Health Services Research: Dutch researchers have proposed a conceptual framework using person-focused population-based care as the guiding principle (see Figure 12). They outline how the organisational and clinical services integrative processes play interconnected roles at the macro-, meso- and micro- levels. Functional integration (e.g. ICT) and normative integration (e.g. shared cultural values) ensure connectivity between the three levels. This framework, which is similar to that presented in Section 2 of this report, is commended by Goodwin[77] as both an ‘elegant’ way of conceptualising the inter-relationships among the different dimensions of integrated care, and ‘useful’ in guiding research analysis seeking to understand integrated care’s complexity.

What distinguishes Valentijn and colleagues’ framework[73] is the emphasis they place on the similarity between the overarching objectives of integrated care and primary care, e.g. in promoting coordination and continuity of care, equity of access and public health. Goodwin[77] comments:

> This [similarity between objectives of integrated care and primary care] leads to the recognition that integrated care as a concept should be seen as so much more than the sum of a range of organisational processes acting at different levels. As with primary care, integrated care should rank alongside universal health coverage and equity of access as a core property of high-quality health systems since, without it, care experiences and outcomes are unlikely to be as good as they should be. So whilst it is important to better comprehend the complex and multi-dimensional nature of integrated care as a process, it is also important to recognise that integrated care is a fundamental design principle.

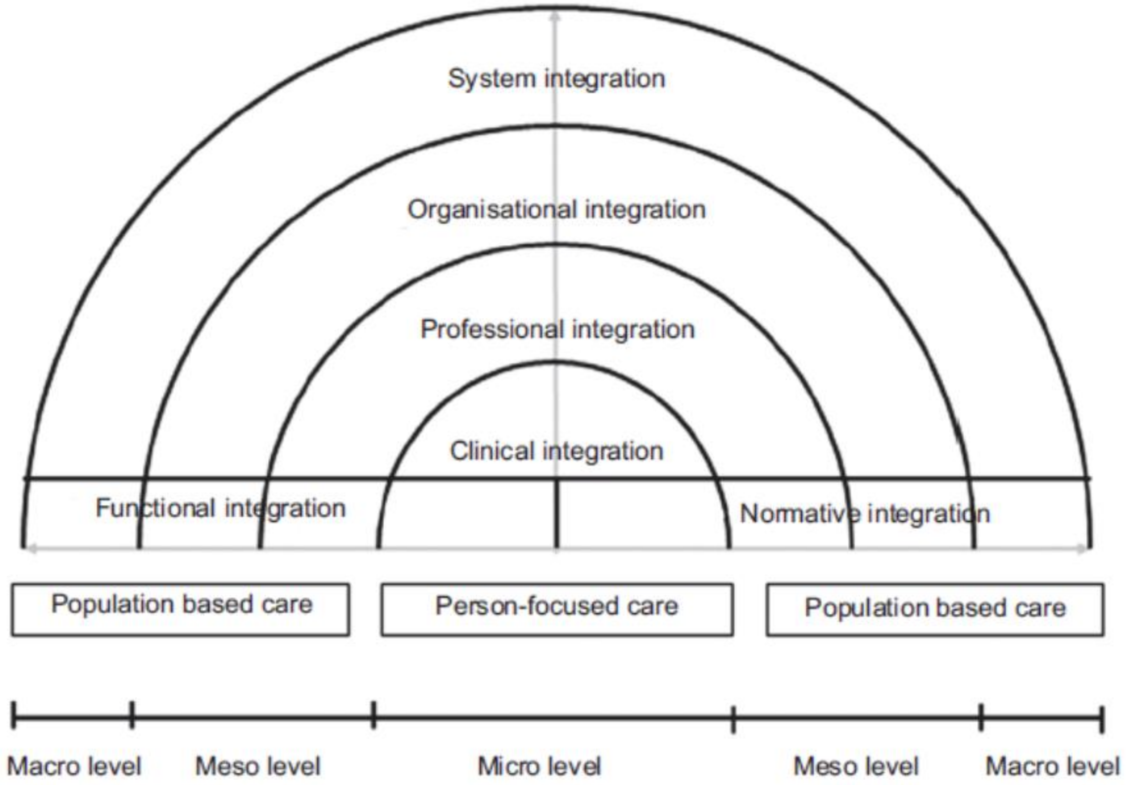


Figure 12*: Conceptual framework for integrated care based on the integrative functions of primary care*[73]

3. Implementing models

Having emphasised the complexity of integrated health and social care services delivery systems, researchers are now addressing means of approaching the challenge, and models for implementing the changes needed to realise the new integrated approaches.

The King's Fund: In thinking about integration, the starting point should be the patient or service user. Traditionally, integrative initiatives have begun with the organisation, the service, the budget, or the professional discipline. But these are the means to an end, not the end itself. Humphries and Curry[78] remarked:

Policy documents in both the health and care arenas are emphasising the principles of personalisation and securing the best outcomes for people, ... A person-centred perspective aspires to people experiencing one system of care and treatment, not several disconnected ones, and encompasses:

- how people access services through information, advice and referral;
- their journey through the health and social care system and the pathways they use in navigating across a variety of organisational and professional boundaries;
- their overall experience and outcomes; [and]
- the extent to which they can help shape their own experience of the system, e.g. through self-care, personal health budgets and social care budgets.'

To support this approach to thinking about person-centred integrated care, The King's Fund focused on four dimensions to which, it was suggested by participants in expert seminars hosted by The King's Fund, policy makers need to pay more attention (see Figure 13):

1. *Organisational:* Issues with governance, commitment and leadership;
2. *Financial:* Understanding local patterns of spending, costs and outcomes against appropriate comparators (local, regional and national) should be the basis for local partnership working and management of the whole system of care;
3. *Local:* Balance needed between local and national, letting on-the-ground, pragmatic approaches flourish but ensuring national standards are maintained by means such as policy frameworks, guidelines, peer review, performance data;
4. *Behavioural:* Opportunities for integration will be limited if working relationships are not effective. These take time to develop and need to be nurtured.

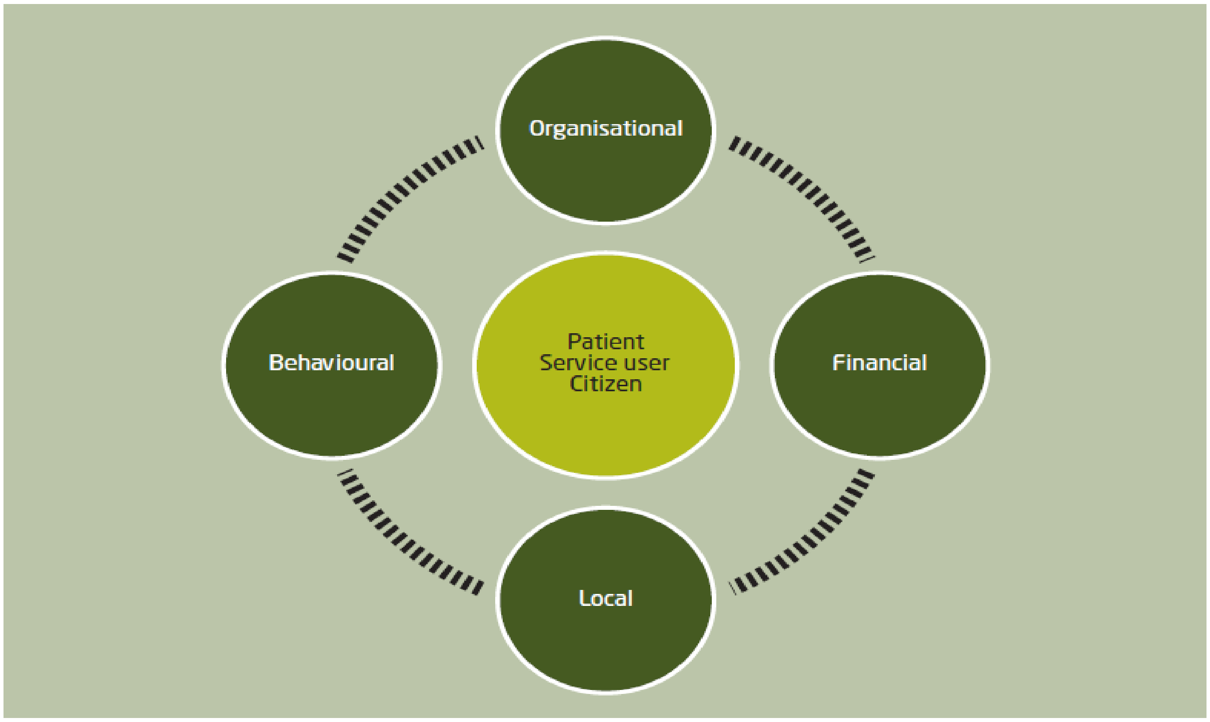


Figure 13: New thinking about integration – a person-centred approach

Erasmus University Rotterdam, The Netherlands: A study is described in which the essential elements, implementation and developmental process of integrated care are explored, with a view to providing a quality management model for integrated care. The outcomes come together as the Development Model for Integrated Care (DMIC; in Dutch OMK: Ontwikkelingsmodel voor Ketenzorg) (see Figure 14). The DMIC was empirically validated, using case studies of integrated stroke care and integrated dementia care.

For integrated care practices (coordinators, professionals and managers), the DMIC can be useful in assessing the current situation and guiding further improvement. The DMIC forms the basis for a recently developed web-based self-assessment tool. When multiple participants use the tool in their integrated care service, consensus scores and improvement areas can be revealed, resulting in clarity about possible interventions appropriate to the particular phase of development. New studies show that the DMIC is also relevant for diabetes care, palliative networks, youth care, vulnerable elderly and autism care but more research on applying the DMIC within other client groups and for patients with multi-morbidities is recommended.

For policy-makers and financers this study provides information on stimulating the further development of integrated care. A recent pilot study with a health insurance company in the Netherlands made clear that the DMIC can also be supportive in purchasing integrated care. Another important issue is attention for the relationship between the organisation of integrated care, costs and its results. It seems plausible that further developed integrated care practices deliver better results, but evidence is needed.

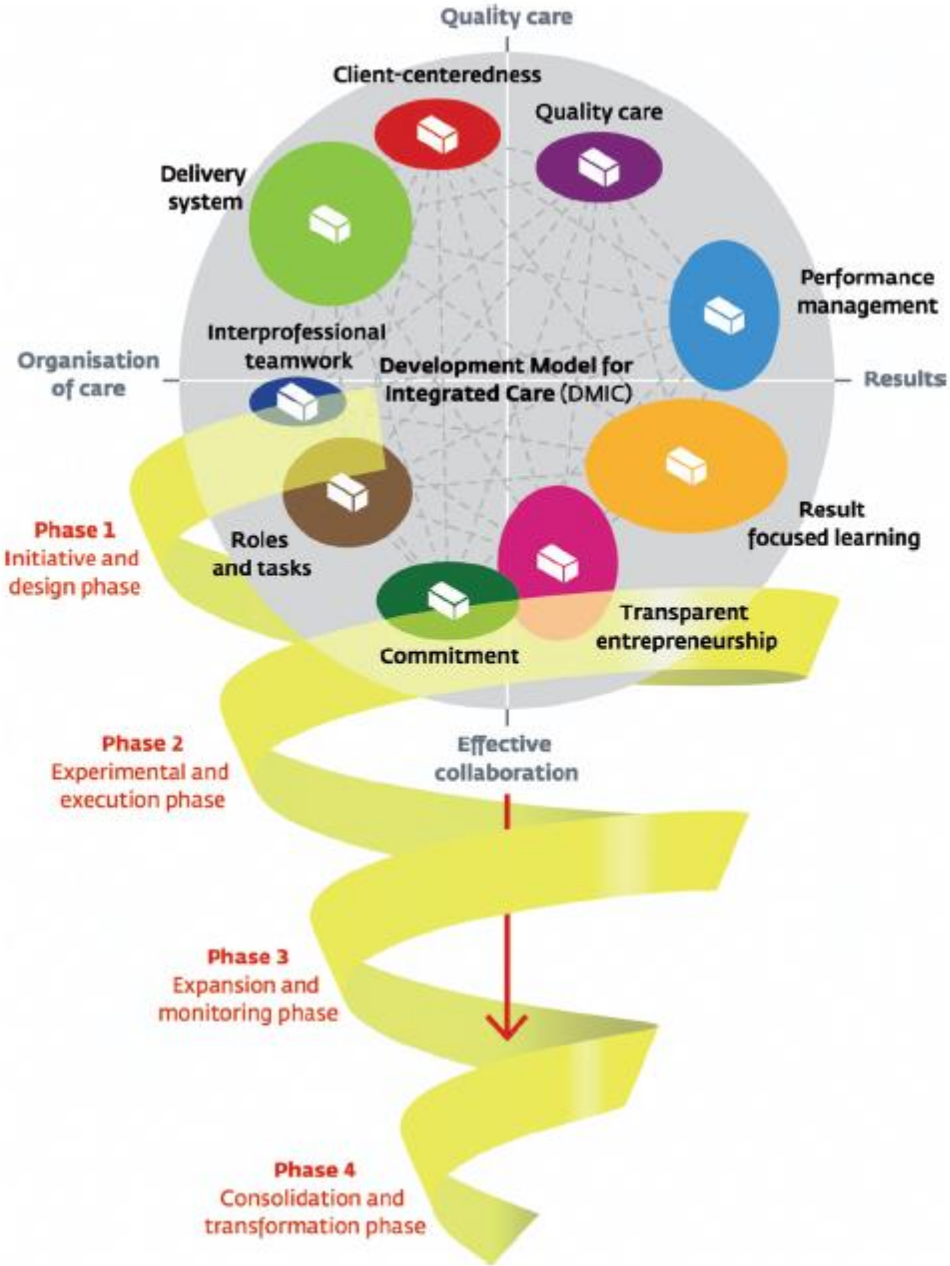


Figure 14*: A development model for integrated care*[79]

Danish Institute for Public Health – The Research Unit for General Practice Aarhus and The Section for General Medicine: The researchers combined a five-stage model for developing complex interventions (see Figure 15), together with the Chronic Care Model (CCM), to design a practice-based active implementation model to design an implementation model for a disease management programme for COPD (chronic obstructive pulmonary disease) (see Figure 16).[80] They concluded that the combination of the theoretical model for complex interventions with the CCM and the chosen specific implementation strategies proved ‘feasible for a practice-based active implementation model for chronic disease management-program for COPD.

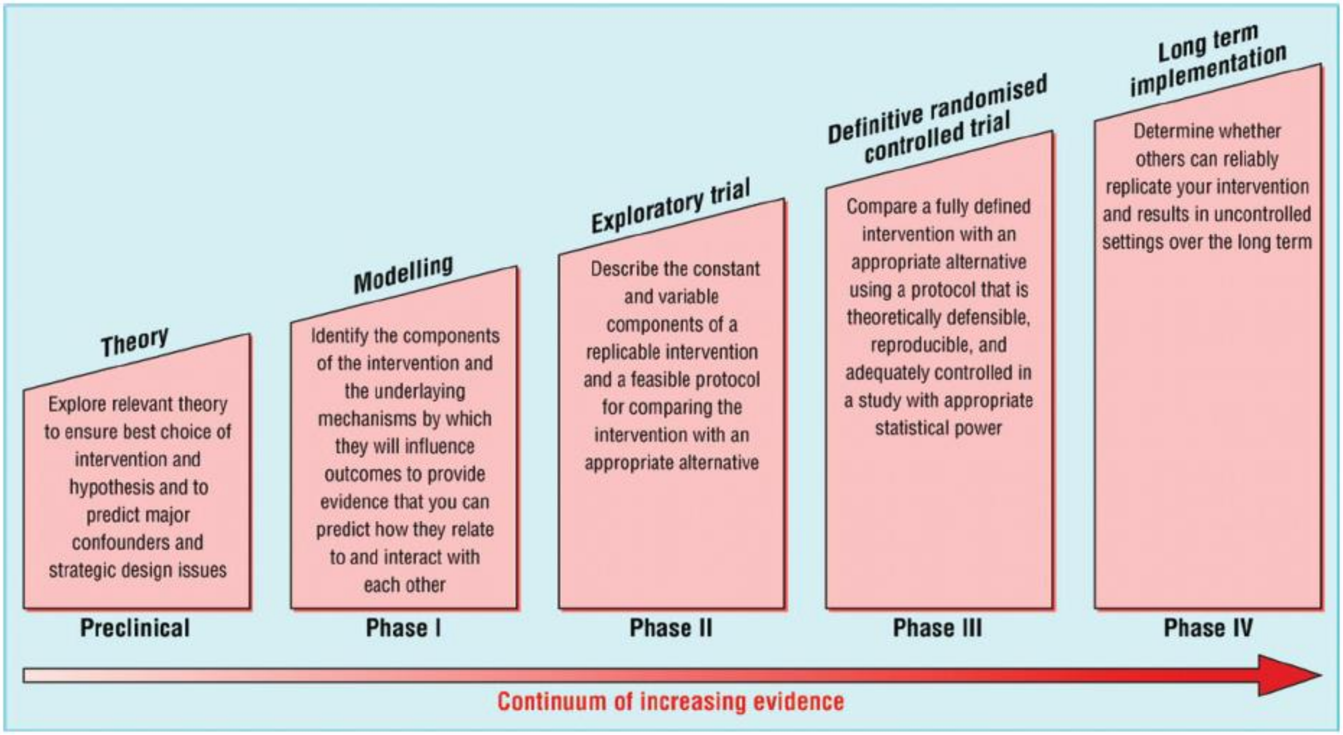


Figure 15*: Suggested phases for the design of a complex healthcare intervention developed by the UK Medical Research Council*[80]

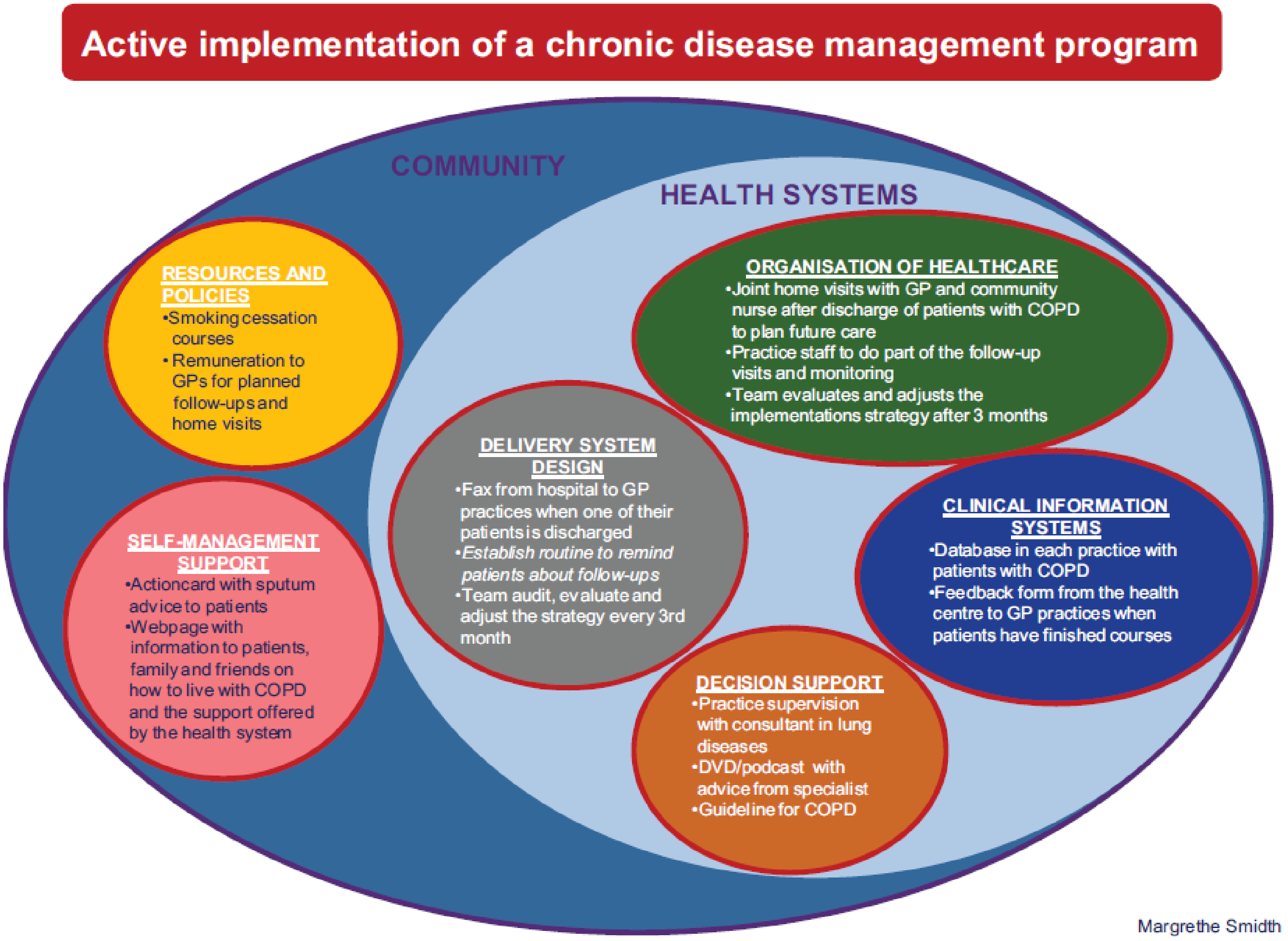


Figure 16*: A model for an active implementation of a disease management program. Implementation components organised within the CCM's core dimensions*[80]

5. Changing Conceptions/Expectations of the Workforce, Patients and Hospitals

Commentators have argued that our very conceptions and expectations of the workforce, patients and hospitals need to change, if integrated care is to be adopted as a 'fundamental design principle'.[77] For example:

Workforce: The World Health Organization (WHO) has outlined how the roles and responsibilities of members of the various health disciplines and professions will have to change in an integrated health and social care system:

Increasing demand and expectations generated by growing epidemiology challenges require a more flexible multi-skilled workforce, able to manage complex care and support patient empowerment. A culture of continuous learning and improvement, supported by measurement, feedback and appropriate incentives will support team-based approaches to service delivery.[81]

In a study of workforce challenges associated with implementing both individual models and whole systems of care for older people ,[82] the authors listed some common and overarching themes which might be generalised to the whole area of integrated health and social care, including:

- *Training and development* – the workforce will have to be developed or retrained in the skills and competencies needed for working in an integrated health and social care system;
- *Upskilling and side*-skilling – staff will need to acquire additional clinical skills inside and outside their professional boundaries; the community skills base will also need to be increased, in order to reduce reliance on acute services;
- *Improving clinical confidence* – integrated health and social care will require 'strong clinical decision-making capabilities' in the community, which will potentially decrease inappropriate referrals, hospital admissions and bed days;
- *Changing perceptions* – the workforce and all stakeholders will need to buy in to the vision, goals and new ways of working; and
- *Managing expectations* – integrated working means changes in traditional workforce roles and boundaries, and all members of the workforce must understand and accept their new roles and responsibilities.

Patients: The WHO also outlined the new role and responsibilities of 'patients/ populations':

The patient seen within the context of the wider population and community is empowered and can participate in decision making about own care, supports self-management and delivery of care as close to home as is safe and cost effective. It [population-centred health service delivery system] requires design around the needs of the patient incorporating the aspects of care that they value including continuity, coordination and longitudinal continuity. Particular attention needs to be given to the excluded and disadvantaged, vulnerable populations.[81]

Hospitals: Starting with the framework of a 'people-centred primary care system', the WHO sees primary care centres as the hub for coordination and hospitals in a supporting role (see Figure 17).

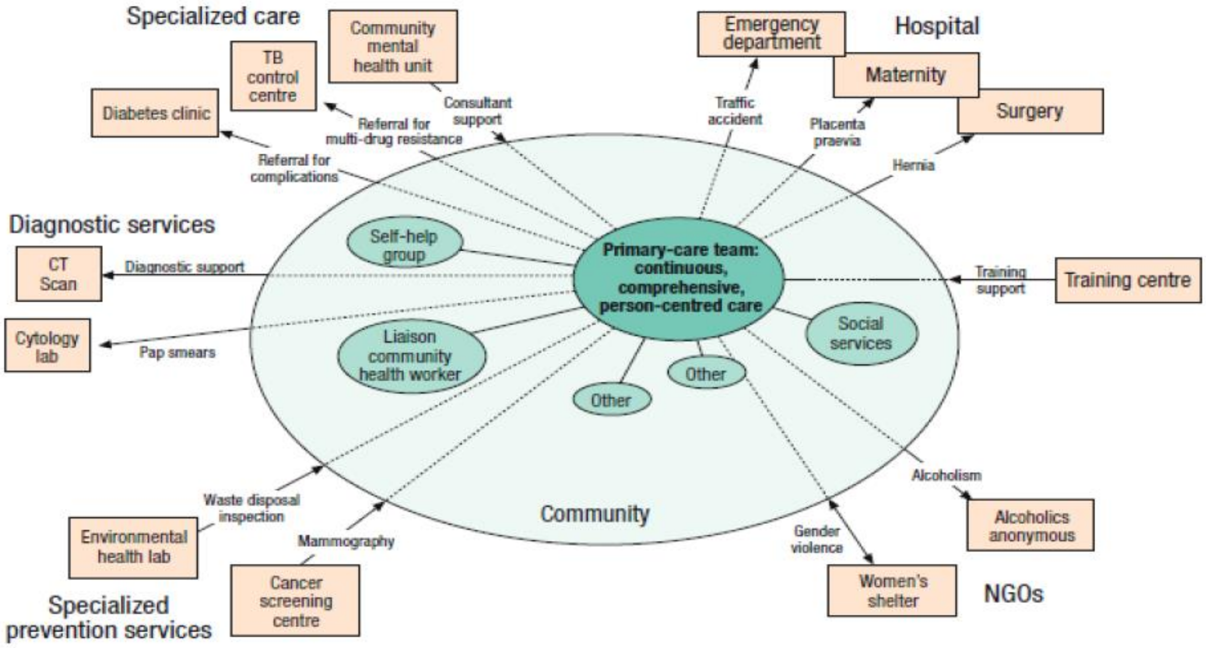


Figure 17*:* Primary care as a hub of coordination: networking within the community served and with outside partners[81]

‘This approach sees hospitals as an important part of the wider health system, providing a highly valued ‘rescue’ function for life-threatening conditions, and that can improve treatment outcomes by focusing technology/expertise where necessary’. In other words, the primary care provider will be responsible for the health of a defined population and will act as the primary entry point, while hospitals will provide complementary referral care. A panel discussion facilitated by the WHO suggested that rethinking the role and function of the ‘modern’ hospital might involve:

... reorienting services away from doctor’s specialism to a system which centres on procedures and/or particular types of patient problems. In this view hospitals might be viewed as ‘focused factories’ for high throughput elective surgery; drawing on multi-disciplinary teams for messy and complex problems; and building close links to social care to allow for rapid discharge and reduce admissions. Hospitals would not be used for rehabilitation services, end of life care or any treatment or service that is possible outside, for example in a patient’s home. [81]

Conclusion

Integrated care is a complex topic; there are approximately 175 different definitions on what it actually is and there is little consensus on how it can best be delivered. It is generally accepted that the patient's perspective should be at the heart of any discussion about integrated care although dimensions of quality and cost-effectiveness are also relevant. The aim of integrating health and social care services should be to eliminate the fragmentation of services that leads to gaps in care and poor care coordination for patients, and to replace this with a system whereby services are coordinated around the patient.

Integration can take a variety of forms and can occur at a number of levels including the macro, meso and micro levels. Regardless of the level at which integration occurs it requires the interplay of systemic, organisational, clinical/service, informational, financial and normative processes. For example, achieving the benefits of integrated care requires strong system leadership, professional commitment, excellent management, and consistent, clear communication. There must also be a regulatory, policy and financial framework that supports integration. Information is a key enabler of integration; full and accurate information about a patient's needs and care must be available throughout the care journey to everyone involved, including the patient themselves. This information should be accessible from anywhere in the health system. Clinical and service integration is probably the most important integrative process and requires multi-disciplinary working among people who trust each other.

Effective care co-ordination can be achieved without the need for the formal ('real') integration of organisations and there appears to be a shift towards virtual (or contractual) integration, particularly at the meso level where structured care and joint working are increasingly being used, even though there little evidence could be found on their effectiveness. Organisational integration alone that is largely structural or hierarchical, driven by corporate systems and processes designed to achieve efficiency is unlikely to result in better health outcomes. For integration to work it must incorporate all three levels – macro, meso and micro – and all of the integrative processes need to be considered. Successful integration often involves multiple integrative processes and at different levels of the system as seen in many of the case studies presented in this review.

A clear message from the literature is that one form of integrated care does not fit all. There is no one model of integrated care that is suited to all contexts, settings and circumstances. Careful analysis is needed about the different integrative processes that can support integration within a particular care setting. Decisions about which approaches are most relevant to a particular setting should be guided by the goals of the project, the needs of service users and other stakeholders involved, existing provision and available resources. Contextual elements also need to be considered. These include a culture of quality improvement, a history of trust between partner organisations, existing multidisciplinary teams, local skilled leaders who are supportive of integration, personnel who are open to collaboration and innovation, and effective and complementary communications and IT systems. These need to be supported by a regulatory and financial framework and there must be good governance structures in place. Whatever model is adopted is likely to have barriers of some sort. There can be significant challenges in bringing together organisational cultures that have, in many cases evolved separately over decades. This is an obstacle that must be considered when planning future integration.

The literature advises that it is essential to undertake baseline assessment, monitoring and evaluation and concludes that it is only possible to improve what you measure. Quality improvement should be built in and the outcome data published for peer review and public scrutiny. Measuring integration involves monitoring and evaluating whether the process of integration was implemented as intended, and the impact of integration on patients, providers, organisations, funders and policy-makers. Research on the effectiveness of integration initiatives has tended to focus on initiatives at the macro-, meso- or micro-level of integration and to concentrate on the impact of integrative initiatives on process or inputs, for example the number of admissions to hospitals or outpatient visits. In this review the case studies presented at all three levels have indicated that integration initiatives can reduce hospital admissions, reduce duplication and improve patient experience. There is limited evidence of the impact of integration on health outcomes. However, to ensure sound knowledge and understanding of how to integrate health care services effectively, quality and outcome indicators should focus on integrated health care as an integrated system rather than on the performance of individual sectors such as acute care or on different levels in the health system.

Finally it is important to acknowledge that integration takes time to become successful and sustainable and it may cost before it pays. It takes time to effect changes in organisational structures and processes and to have them filter down to outcomes. The development of shared goals, culture, plans, governance, procedures and practices is a complex and difficult task, often requiring years of effort from leaders and staff. Significant improvements in quality of care could follow better co-ordination of previously fragmented service providers. Potential economies of scope and scale are likely to take time to achieve., This is due to factors such as the significantly different practices in the organisations that are to be integrated and the steep learning curve inherent in joining with another organisation.

Appendix

Additional case studies – meso-level real integration

Case study 17: Coordinated care – Australia[53]

Four trials were conducted, two with the indigenous population and two with the mainstream population, and were evaluated. The two mainstream trials are briefly described here, together with relevant evaluation findings.

Origins/desired outcomes: The Coordinated Care program was a large-scale initiative of the joint Commonwealth, state and territory governments aimed at strengthening primary health care to better meet the challenges associated with chronic disease management in Australia. In September 1995 the then Commonwealth Department of Human Services and Health invited expressions of interest from parties to conduct 'trials' of systems of care coordination. The intention was to explore and test innovative approaches to the funding and delivery of health services more in line with and responsive to the needs of the client group – people with chronic and long-term health conditions. The overarching objective of the program was: 'To provide additional benefits to clients and communities through coordination and integration of care and effective use of resources for identified populations'.

Service users/providers and service provision:

1. *Team Care Health (TCHII)* was located in the inner north of Brisbane City and its western suburbs, covering an area of some 4,133 square kilometres. It was a control and intervention trial, that is, participants were allocated to either a control or intervention group. The trial aimed to reach people earlier in the natural history of illness to enable, as part of improved care, delivery of tailored and preventively-focused care and referral to population health programs and community-based chronic disease self-management education programs. TCHII adopted a GP-centric model of care that was supported by service coordinators and general practice staff (including practice nurses). The model involved health assessment, care planning, implementation and review. The Care Coordinator was the GP; the Service Coordinator was the Community Nurses linked to the General Practice.
2. *Coordinated Heath Care (CHC)* was based in the north-eastern metropolitan suburbs of Melbourne. It was also a control and intervention trial. The trial targeted those who were elderly and frail and had complex care needs in an urban setting. CHC adopted a model of care based on a partnership between GPs and Service Coordinators, ideally health professionals and preferably registered nurses. The Resident Assessment Instrument (RAI) supported health assessment, care planning, implementation and review for home care (RAI-HC). The core of the CHC model of care was an equal partnership between the client, their carer, their service coordinator and their GP, who would assume the role of their care coordinator.

Workforce sustainability is a key issue. The motivation and capacity of providers within the system are of key importance, and reflect the adequacy of levels and mix, workload, role changes and their complexity/acceptance. Ultimately, provider commitment to best practice in the face of poor support from system mechanisms is likely to be eroded. Building support from system mechanisms is of key importance. The challenges of effectively sustaining health service providers are clear. They include:

- Constraints on GPs' time means that, without central changes to the health system framework, it is unlikely that GPs will be in a position to fully drive care coordination within the primary care setting.
- Service providers other than GPs have an essential role, with neither the role nor care coordination activities

fully recognised yet by funding incentives.

Financial integrative processes: The importance of *flexible funding* is accentuated by the finding in both mainstream trials that their intended interventions were impeded by delays and uncertainties in the funding model and their inability to monitor service utilisation against the model. On the latter point, the ability to implement a service delivery framework supported by a flexible funding model is critically dependent on the ability to monitor service utilisation and cost in a longitudinal manner against the assumptions underpinning the relevant funding. In order to sustain care coordination, streams of ongoing funding and monitoring are needed. Continued sources of funding are also required for costs incurred for effective mechanisms; for example, training, infrastructure and other non-GP costs. A best practice model of care coordination must be integrated with funding and data mechanisms.

Capitation and risk profiling to underpin funding of care coordination – One of the hypotheses tested by the first round of mainstream trials was that the additional cost of care coordination could be met from the efficiency gains of the care coordination process, including flexible use of funds. In this context, methods of building a 'fund pool' were required whereby the fund pool would reflect the cost of 'usual care', and trials would seek to deliver services and care coordination within this fund pool. The trials adopted a wide variety of methods to provide this requirement, none of which was seen to be applicable in a generic context. Accordingly, a 'risk-based capitation model' was created at the end of the first round of trials to support a more rigorous and generic fund-pooling approach in the second round of trials. The model was designed to produce capitation rates or estimates of the amount which would be consumed by individuals in a 'usual care' environment.

The capitation model on which Commonwealth 'fund pooling' was based in the second round of trials proved reasonably robust, facilitating flexible purchasing, and had utilisation data been more forthcoming the intended monitoring could have proven a useful aid to the trials. The overall lessons from this exercise reveal a need for more research on the development of funding models using longitudinal utilisation and cost data at an individual level. Moreover, there is and will always be a high level of variability and uncertainty in healthcare utilisation, which means that a one-off 'cash-out' or receipt of a health funding budget involves considerable risk to both the purchaser and provider; the management of this risk also requires further research and discussion.

Effectiveness:
Outcomes for participants – Each of the mainstream trials successfully targeted different intervention groups with the capacity to benefit from coordinated care – on the one hand, people at risk of and in the early stages of chronic or complex conditions, and on the other hand, an older and more chronically ill cohort. The data showed that:

- People early in the trajectory of their chronic condition reported improved health and well being, and improved access to services.
- The frail elderly reported better access to services and improved sense of security about their health.
- Increases in access to primary care services and decreases in inpatient services for intervention participants during the trial compared to pre-trial were greater than for control group participants.
- There were early indications of participants benefiting from a substitution of primary care services for inpatient services.

Thus, as CCT2 progressed, evidence of improved access to services, improved self-reported health and wellbeing and improved health-related empowerment emerged across the board. In other words, the availability of coordinated care provided benefits to a very diverse range of target groups identified by the trials. First and foremost, the evaluation data identified unmet health need and, through the trials, increased access to services provided the earliest indications of unmet need being addressed.

Outcomes for communities – It is noteworthy that, while community health was not their primary focus, part of the contribution of the mainstream trials concerned connecting those with chronic and complex needs to community models rather than acute models of care. The findings from the evaluation indicate that, given knowledge and access to a range of community care options, personal and community responsibility for health increases.

Efficiency and effectiveness – For both mainstream trials, the intervention group evidenced increased access to primary care services compared to the control group. Moreover, clear indications of reduced inpatient utilisation relative to the control group were also emerging in both trials. Care coordination appears to promote overall health awareness, diagnosis and self-management of conditions, which may lead to a reduction in hospitalisation (inpatient) compared to usual care. Therefore, the key trends to emerge from the mainstream trials suggest that: had the trials operated for longer, total intervention costs would have probably fallen below control costs, and may have perhaps absorbed the costs of care coordination; and inpatient utilisation relative to control group participants was reduced for intervention participants.

Not surprisingly, participant cohorts earlier in the trajectory of their chronic condition provided evidence of services being funded and delivered more efficiently and effectively. There may be opportunities for even greater gains through extending such a trial model targeting such clients, both in a longer time scale and to other geographical sites and/or exploring more direct methods of flexible funding arrangements than those which were available to the trials. Where frail elderly clients were targeted, the chronicity of the target group led to considerable costs of care coordination, which meant that it would be difficult to absorb this cost into savings in service delivery. Therefore, this trial model was more expensive than usual care, but delivered tangible benefits which may well have expanded with more time, possibly with concurrent reductions in the cost of (especially inpatient) service delivery and, significantly, avoidable hospital admissions.

Information management and technology – the inability to achieve the goals of electronic communication, networking and data flows was a major impediment to the trials, as it was to their ability to effectively engage across the board. Moreover, successful IT implementation will undoubtedly emerge as a primary facilitator of care co-ordination and empowerment of providers and clients – its development must be a primary focus. Several lessons to help avoid similar frustrations in future efforts emerged. First and foremost, to some degree, all trials underestimated the resources and skills required to implement a fully operational information management and IT system. More within the control of the trials was the approach of integrating IM/IT through smaller- scale adoption and then building upon this through a logical systematic approach to bring more rewards than ambitious large-scale 'across the board' approaches.

Enablers:

- *Involvement of primary care providers* – is critical to the success of coordinated care. The evaluation confirmed the pivotal role of the GP, with evidence that, where GPs were not effectively involved in health assessment and care planning, delivery of care coordination was impeded. Evidence from the trials suggests that this is most likely obtained through a combination of financial incentives (or at least no net disincentives) and engagement at a broader level than individual providers.
- *Roles and skills of key participants* – 'care coordination' is an area of care-related activity in its own right, with the contribution of health service providers other than solely GPs essential to successful delivery. In the trials, care coordination was undermined by lack of appropriately trained personnel, lack of staff and heavy workloads, particularly in regards to participant follow-up. A convention is required to facilitate the estimation of care coordination and service coordination workload that takes into account the complexity and acuity of individual participants. Some method of 'case streaming' may further facilitate positive management and outcomes. The findings of the national evaluation suggest that consideration of additional

financial incentives to facilitate the coordination of complex care is warranted.

- *Governance and management* – perhaps the primary learning of both rounds of the Coordinated Care Trials has been the enormous complexity and difficulty in establishing a trial and, by implication, in rolling out a real-life sub-system of care coordination. The effort required in addressing process and systems, which subsequently facilitated the positive implementation of trial interventions, is considerable and takes time. Positive early investment can be compromised when unmet need for care emerges as a pressing issue, exposing management inadequacies under pressure. Poor management and poor systems at the outset do not self-correct and are unlikely to be resolved; rather, they deteriorate without external intervention. However, one lesson from this experience is that systems can be retrieved: the goodwill and needs of clients seem to support positive efforts and approaches.

Case study 18: PRISMA – Canada[83]

Origins/desired outcomes: Demographic, social, economic, health and financial factors are putting increasingly strong pressure on both the demand for and the supply of services for the frail elderly. However, continuity-related problems compromise both service accessibility and the efficiency of health care services. Therefore, there is an urgent need to provide managers and decision-makers with reliable data on the process and impact of mechanisms and tools designed to improve the continuity of care and services and to establish a monitoring system so that it is possible to adapt quickly and effectively to changes in the demand for services.

Service users/patients: The target population are the frail elderly. The *single entry point* is the mechanism for accessing the services of all the health care institutions and community organisations in the area for the frail senior with complex needs. It is a unique gate which older people, family caregivers and professionals can access by telephone or written referral. Clients are referred to the integrated service delivery (ISD) system after a brief needs assessment 'triage' to ensure they meet the eligibility criteria for the integrated system. They are then referred to the relevant service.

Service provision/providers: ISD eligible clients are referred to a *case manager*. The case manager evaluates the client's needs, plans the required services, arranges to admit the client to these services, organises and co-ordinates support, directs the multidisciplinary team of practitioners involved in the case, and monitors and re-evaluates the client. The case manager should be legitimised to intervene in all institutions or services. Family physicians should be one of the case manager's primary collaborators because, in addition to being the main medical practitioner, they are pivotal in regard to access to and coordination of specialised medical services. On the other hand, the case manager relieves family physicians of some of their burden by facilitating access to and co-ordinating the rest of the social and health interventions.

An *individualised service plan* results from the overall assessment of the client and summarises the prescribed services and target objectives. It must be led by the case manager and established at a meeting of the multidisciplinary team including all the main practitioners involved in caring for the person. In services or programmes where multidisciplinary meeting processes are already in place, the case manager joins this process without duplication. The individualised service plan includes the intervention plans of each of the practitioners and must be reviewed periodically.

The *single assessment instrument* is an essential element in this ISD model. It must allow for evaluating the needs of clients either at home or in institutions. The instrument must measure the clients' disabilities, resources and handicaps.

Organisation/governance integrative processes: Co-ordination is established at every organisational level:

1. Strategic level (governance), by creating a Joint Governing Board of all health care and social services organisations and community agencies where the decision-makers agree on the policies and orientations and what resources to allocate to the integrated system.
2. Tactical level (management), by establishing a Service Co-ordination Committee, mandated by the Board and comprising public and community service representatives together with older people, which monitors the service co-ordination mechanism and facilitates adaptation of the service continuum.
3. Operational level (clinical), by forming a multidisciplinary team of practitioners surrounding the case manager which evaluates clients' needs and delivers the required care.

Financial integrative processes*:* Unlike PACE in the USA, which depends on capitation payments plus contracts with external services, since PRISMA is publicly funded, it can depend on negotiations between partners for its funding. A capitation fee is not essential.

ICT integrative processes: Implementation of an ISD system like this requires the deployment of a continuous information system and the use of computerised tools to facilitate communications and ensure the continuity of services. Through a computerised clinical chart (CCC), all the practitioners have quick access to complete, continuously updated information and can inform the other clinicians of the client's progress and changes in the intervention plan.

Effectiveness: A quasi-experimental design was used to study the implementation and impact of this model for community-living clientele; the study included a control group. The evaluation found that fewer people in the experimental group experienced a functional decline, particularly among those with moderate to severe disability at entry but not among the ones with mild disability. Desire to be institutionalised decreased significantly in the experimental group. Caregivers' burden was significantly lower in the study group than in the control group. Although the utilisation pattern of acute care hospitals was similar, the risk of returning to the emergency room within 10 days after a first visit or after discharge from an acute care hospital was significantly greater in the control group. The risk of being institutionalised tended to be greater in the control group.

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