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Benefits Realisation:

Assessing the evidence for the cost benefit and cost effectiveness of integrated health and social care

Turning Point, February 2010

Executive Summary

Integration

"Integrated care describes the coordinated delivery of support to individuals in a way that enables them to maximise their independence, health and well being" (DH Care Networks, 2009)

People with a range of health and social care problems require services that are easy to understand and access. Integrated health and social care support allows patient journeys to be simplified and prevents the need for individuals to repeat their story to several professionals. Integrating services can improve efficiency and help organisations to meet the growing demand for health and social care services.

This report is a systematic review and critical appraisal of the studies that have evaluated integrated health, housing and social care from an economic perspective. The purpose of the report is not only to collate and assess the evidence base in order to identify gaps in the literature and to inform future studies, but to add strength to the claim that integrated health and social care can provide financial benefits.

The report is based on a literature review of studies from the UK and abroad that have conducted economic evaluations of the impact of integrated health, housing and social care. Over 80 studies have been included in this review and these were selected on the strength of their evidence and/or methodological technique. These include articles that have been published in journals, and 'grey literature' i.e. material that has not been reviewed for publication. Alongside a review of the findings of these studies, this report comments on the techniques and methods used to identify the cost-effectiveness and cost-benefit.

It was found that the use of economic studies to evaluate integrated health and social care interventions has grown in recent years – but the evidence base is still fairly limited. There is a fair amount of evidence on the process of integration, but much less on outcomes and there are few large scale evaluations from which it is possible to make strong conclusions.

Having explored the literature, there were three areas of integration that were of particular interest. These were integration through early intervention, structural integration and joint processes. The report is structured around these three areas.

Early Intervention

The central theme to emerge from the review is the importance of early intervention and prevention in health and social care. It is clear that services that are designed to ensure that people can retain their independence and quality of life can deliver cost savings through the prevention of hospital admissions and residential placements.

There is a growing body of evidence to suggest that integrated health and well-being services can realise significant financial benefits. In particular, studies have illustrated that integrated early intervention programmes can generate resource savings of between £1.20 and £2.65 for every £1 spent (POPPs, LinkAge Plus, Supporting People, self care schemes).

Early intervention through housing related support is also an important way in which to secure financial benefits and holds great potential for future programmes. Those

programmes that have provided housing related support were also able to have a positive impact upon health and social care needs and related costs. The Supporting People programme provided net financial benefits of £3.41 billion per annum.

Furthermore, as demonstrated by the LinkAge Plus pilots, it is important to ensure that integrated services do not merely duplicate existing provision. In the LinkAge Plus areas effort was made to build upon and integrate existing projects, thus removing some of the start up costs.

Structural Integration

Whilst the business case is strongest for preventative, low level support, integrated health and social care services, it is also clear that structural integration can realise financial benefits. Structural integration can take a range of forms; including case management programmes, integrated care teams and care trusts.

There is mixed evidence for the benefits of case management. For example, a case management programme in Hong Kong for elderly people being discharged from hospital saved over £17,000 through reducing acute hospital bed days. Similarly, in the US, the Guided Care case management programme for people with chronic conditions resulted in fewer hospital admissions to A&E and an increase in specialist visits, leading to an annual net saving of nearly £50,000 per Guided Care nurse. However, the results from other initiatives such as the Evercare model the UK, were inconclusive as a result of the evaluation design or illustrated that when the input costs were considered they delivered no financial benefit.

There is evidence that integrated care teams can release savings. In particular, integrated care teams to support people with complex needs can help to delay events that require health, social care and criminal justice intervention. For example, the Denver Housing First Collaborative for the chronically homeless, which is an integrated health, mental health, substance misuse and housing service run by a team of multi-agency and multi-disciplinary workers for the chronically homeless, produced savings of nearly £3,000 per person.

It is also noted that good quality case management and integrated team work may reveal unmet needs, rather than resolving them, thus resulting in higher costs.

Integrated Processes

There is currently a large gap in the evidence base relating to studies that illustrate the cost effectiveness of integrated process such as joint commissioning and integrated assessment processes. The challenge for the future is to develop effective and appropriate tools for measuring and monetising the impacts of integrated processes such as commissioning, assessing and sharing information.

Conclusion

This report finds that meeting people's needs with a preventative and integrated approach to health and social care can create efficiencies and savings. However, future studies do need to consider the long term financial benefits. Many of the studies that concluded that integrated care was not cost effective were conducted over short time periods, and many of the benefits will accrue as individuals remain independent well into the future. In particular, those integrated services that have a focus on early intervention are designed to prevent needs escalating in years to come, and therefore, the real benefits will be realised over time.

Contents

1. An Introduction to Integration

1.1 Introduction

This report provides an overview of the current evidence in the UK and abroad to support the case for integrated health and social care. It is concerned with reviewing the economic evidence base and establishing a clear understanding of the financial benefits that can be realised through developing an integrated approach to health and social care. The purpose of the report is to contribute to the development of a strong evidence base to support the development of integrated care.

This review is uniquely situated to contribute to the literature on integrated care since it assesses the benefits from a financial perspective. This is important because previous reviews have tended to concentrate on compiling the overall evidence base; for example, Armitage et al. (2009) conducted a systematic literature review of work on health systems integration and Ouwens et al. (2005) have reviewed the components of a range of integrated care programmes. Likewise, Reed et al. (2005) have reported on the findings of a literature review of studies which have explored integrated care for older people. Vondeling (2004) has conducted a brief review of the field, identifying that there are a lack of studies, but it is not a full exploration or a critical appraisal of the literature. In short, there has been little to no work which has thoroughly reviewed the evidence base for the cost effectiveness or cost benefit of integrated care.

The report is based on a literature review which incorporated articles published in journals, reports written for the bodies that have delivered integrated health and social care, as well as 'grey literature' i.e. material that has not been reviewed for publication. The literature was derived from a wide range of sources, including electronic catalogues and searches on the internet (Appendix 1 for a Search History).

The report contains numerous case studies and examples of integrated care, in addition to, information on and assessment of the different approaches taken to the financial evaluation of integrated care. The studies have been assessed using a 'Critical Appraisal Checklist for Economic Evaluations'[1] which assesses the extent to which we can actually rely on research findings.

The projects that have been economically evaluated, and that are included in this report, come from countries all over the world. Indeed, an effort has been made to include a number of international examples in order to share learning and experiences of delivering integrated services and support in different social, political and financial contexts.

The first section of the report introduces the concept of integrated care before giving a brief overview of some of the different approaches to economic evaluation. Following from this, the report is divided into three main chapters which present reviews of the financial benefits of different models of integrated care; early intervention, structural integration and joint processes. The report concludes by drawing out the main themes from the review and discussing areas for future work.

[1] The Critical Appraisal Checklist for Economic Evaluations has been adapted from the Critical Appraisal Skills Programme (CASP),and Drummond et al. (2001)
See Appendix 2 for a copy of the Checklist

1.2 Rationale for the report

Turning Point is the UK's leading third sector social care provider. Specialising in mental health, substance misuse and learning disability services, Turning Point has considerable expertise in working with people with complex needs.

However, research carried out by Turning Point, in conjunction with IPPR (Meeting Complex Needs, 2004) points to a failure in the way health, social care and housing services are able to support people with a range of needs. The Meeting Complex Needs (2004) report called for a much more connected approach to service delivery and for the voice of the community to be central to the design and delivery of services. This led to Connected Care.

Connected Care is Turning Point's model of community-led commissioning; one that integrates health, housing and social care. Connected Care is currently delivering this model in 10 areas across the country. Through this work, it has been identified that there is a real need for commissioners to have a good understanding of the evidence base for integration.

For more information on Turning Point and Connected Care please visit our website:

www.turning-point.co.uk/connectedcare

1.3 Drivers of Integrated Care

Integration in health and social care is seen to improve the efficiency, quality and continuity of service delivery, thus leading to improved service user experiences and outcomes. This is because integration recognises that health and social care outcomes are interdependent. In addition to this it is also recognised that the provision of integrated care can provide financial benefits.

The diagram below, taken from Grone and Garcia-Barbero's (2001) position paper of the World Health Organisation European Office for Integrated Health Care Services, captures the key driving forces behind the development of integrated health and social care across Europe.

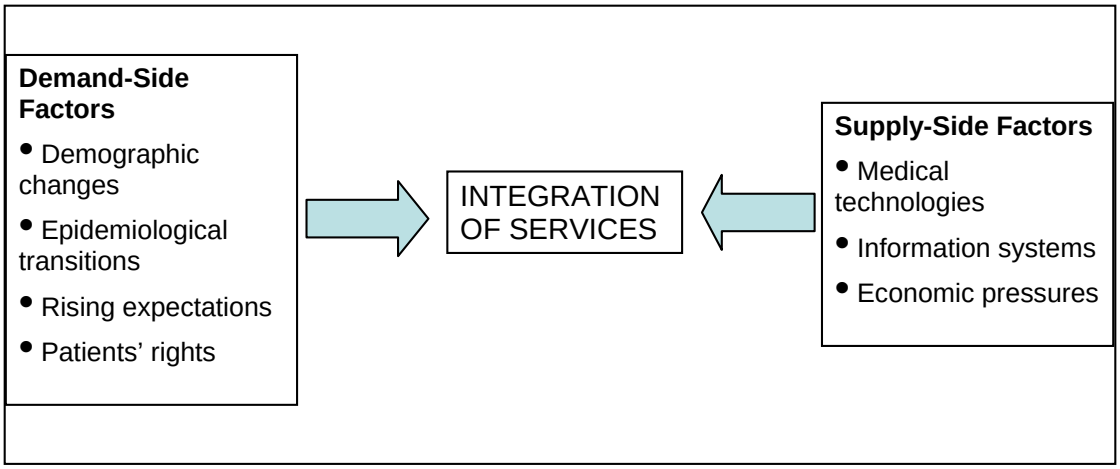

Figure 1: Driving forces behind integrated care (Grone and Garcia-Barbero, 2001)

Demand-side Factors

Firstly, integrated care address the changing demand for care. Demographic changes, such as the growing population of over 65's, will force the integration of health and social care services. In the UK, the number of dependent older people is expected to increase from 3 million in 2000 to approximately 6.4 million in 2051 – this is an increase of 113% (Wittenberg et al. 2004). With relative increases in the number of elderly people the demand on services is expected to grow, since the need for health and social services typically increases at retirement age, and accelerates over 75 (Saltman et al. 1998). In particular, as more people are choosing to grow old in their own homes, the demand for social care is expected to increase significantly as people need adaptations and help to retain their independence (Lloyd and Wait, 2006). It is also clear that, as people get older, their needs are more likely to span the health and social care divide.

The choice made by elderly people to remain in their own homes, rather than move to a residential care home is linked to the increased ability for individuals to make their own decisions about the care that they receive. Alongside this, given that patients are often now more informed and empowered through the internet and other sources it is likely that rising patient expectations and rights will force the NHS and local authorities to respond by providing more efficient and integrated services for people with the most complex of needs.

Supply-side Factors

On the supply side, medical technologies, information systems and economic pressures drive the development of integrated care by offering opportunities for integration and reform. In particular, economic pressures have a huge role in shaping the formation of integrated care, and it is important, therefore, that there is a strong evidence base which clearly identifies the cost effectiveness and cost benefit of integration to support this.

Policy Context

Government policy emphasises the importance of developing integrated services and ways of working. In 1997, the new Labour government made a commitment to 'break down the Berlin Wall between health and social services' through partnership working. In 1999, Section 31 of the Health Act was introduced to encourage collaboration and joint working across boundaries, with the aim of delivering more integrated and cost effective services. Similarly, the Green Paper on Adult Social Care (Independence, Well-being and Choice, Department of Health, 2005) recognised the need to develop services and approaches that bridge the gap between health and social care.

The new five year plan for the NHS (Department of Health, 2009) aims to develop more cost-effective, person centred services which focus upon prevention. The plan recognises that the NHS is going to be under increased pressure to reduce costs whilst improving patient experiences and outcomes and the integration of services is an obvious solution to some of these issues. Furthermore, in 2010 the Department of Health is expected to release a White Paper report which emphasises the need for integration in health and social care, and will further push the drive towards developing integrated care.

1.4 Defining Integrated Care

The following section discusses a range of definitions for integration and sets out some of the different types or models of integrated health and social care.

According to Kodner and Spreeuwenberg (2002), "integration has become an international healthcare buzzword", and has attracted considerable attention worldwide as a means to develop more efficient, responsive and cost-effective services. In general, it is recognised as a process of becoming more complete or comprehensive, or making a whole out of parts. However, having reviewed the literature on integration in health, housing and social care, it is apparent that there are multiple definitions of integrated care, including, among others:

"Integrated care is an approach that aims to combine and co-ordinate all the services required to meet the assessed needs of the individual"
(Scottish Executive, 2008)

"Integrated care refers to tailor made care which is delivered to multiple problem patients through arrangements of inter-related but autonomous care organisations"
(Paulus et al. 2000)

"A search to connect the health care system with other human service systems in order to improve outcomes (clinical, satisfaction and efficiency)"
(Leutz, 1999)

"[Integrated care is] the bringing together of inputs, delivery, management, and organisation of services as a means [of] improving access, quality, user satisfaction and efficiency"
(Grone and Garcia-Barbero, 2001)

"[Integrated care is] a discrete set of techniques and organisational models designed to create connectivity, alignment, and collaboration between the cure and care sectors at the funding, administrative and/or provider levels"
(Kodner and Spreeuwenberg, 2002)

This variety has led to a lack of consensus as to how to translate this in practical terms. Indeed, Leutz (1999) has suggested that due to the wide range of meanings, integration can signify anything from the closer coordination of clinical care to organisational and structural changes to the development of services for people with complex needs.

Furthermore, the literature on integrated care does not always explicitly state whether it is concerned with vertical or horizontal integration.

Vertical integration describes a context where different components of one supply chain are brought together. For example, in health care this might involve agencies that are involved in different stages of the care pathway working together e.g. acute and primary care services, or where payer and provider agencies are combined.

In contrast, horizontal integration operates across sectors, such as health services commissioned by health authorities and adult social care commissioned by the local authorities. It is this type of integration which is the focus for this report.

The Integrated Care Network's definition of integrated care is particularly useful;

"Integrated care describes the coordinated delivery of support to individuals in a way that enables them to maximise their independence, health and well being" (DH Care Networks, 2009)

This is a useful working definition because it captures the joined up approach to meeting needs *and* suggests that integrated care should be designed around the issues facing that individual. It is useful to focus upon the service users' perspective since service users do not necessarily differentiate between the artificial divisions between different public services and integration has the potential to improve their experience as well as offering better outcomes such as well being and independence.

1.5 The Evidence Base

Many projects are still in the process of integrating, and have not yet fully integrated. As a consequence, there is a relative lack of comprehensive evaluations detailing either the social, clinical or economic benefits of developing integrated ways of working or integrated services.

Armitage et al. (2009) in a review of the literature found limited evidence to assist the planning and development of integrated health and social care systems. They found that not only was there a lack of evidence on how integrated care can improve service delivery, but also a lack of standardised, validated tools available to systematically evaluate integrated outcomes. In short, they conclude that there are few "high quality, empirical studies providing evidence on how health systems can improve service delivery and population health" (Armitage et al. 2009).

Moreover, there are few studies able to demonstrate the cost effectiveness or cost-benefit of delivering integrated health and social care services:

"The evidence base is limited in the sense that, while there is a fair amount of evidence on the processes of integration that are important to understand, there is much less on outcomes…There is also little large scale evaluation, and a tendency to evaluate what have been called 'boutique' pilots from which it is difficult to generalise the findings" (Ramsay et al. 2009)

Likewise, Vondeling (2004) has suggested that whilst it is generally assumed that integrated care results in increased effectiveness and quality of care, as well as being cost effective, "systematic evaluation…of the relative costs and benefits of these arrangements has largely been lacking". This is largely attributed to the fact that "evaluating complex interventions is complicated" (Craig et al. 2008). The precise difficulties of evaluating integrated health and social care services are discussed in the following section.

The purpose of this report is not only to compile the existing literature and establish a sound evidence base, but also to critically assess the approaches taken towards economic evaluation and thus make recommendations on the need for and direction of future research into the cost-benefit of integrated health, housing and social care.

1.6 Techniques of Economic Evaluation

This section presents a brief summary of some of the main approaches to economic evaluation, before discussing some of the challenges associated with conducting economic evaluations of integrated interventions.

Cost-effectiveness analysis

Cost effectiveness is the most commonly applied form of economic analysis in health economics (Haycox, 2009). Cost-effectiveness studies assess the cost per unit output, i.e. the analysis compares the costs and health effects of an intervention to assess the extent to which it provides value for money (Phillips, 2009a). In cost-effectiveness analysis, the outputs are measured in 'natural' units such as number of cases or number of sessions delivered. For example, a cost effectiveness study would consider the immediate results or outputs of a particular intervention.

Cost-benefit analysis

Cost-benefit analysis assesses the cost per unit outcome, and enables decision makers to know whether the programmes concerned are 'worth while' when compared to alternative ways of doing things. According to Drummond et al. (2001);

"A cost benefit analysis is a form of economic evaluation which attempts to value the consequence of a programme in money terms so as to ascertain whether the beneficial consequences of the programme justify the costs"
(Drummond et al. 2001)

In a cost-benefit analysis, both the costs and benefits are measured in monetary terms, thus allowing the financial value of the costs to be compared with the financial value of the benefits. This makes it the most valuable of approaches to economic evaluation, but it is not yet widely used in health economics (Haycox, 2009).

For example, a cost benefit study would consider the impacts of an intervention further along the line such as hospital admissions avoided or number of deaths of avoided.

Cost-utility analysis

A particular type of cost benefit study is cost utility analysis. In a cost utility analysis the outcome is measured in a common currency such as Quality-Adjusted Life Years (QALY), which allows the cost-benefit of interventions to be compared. QALY is defined by the National Institute for Health and Clinical Excellence as a measure of a person's length of life weighted by a valuation of their health related quality of life and is used to measure the health gain of an intervention and when combined with the costs of implementation, it can be used to assess its worth (Phillips, 2009b).

The incremental cost-effectiveness ratio, or iCER, represents the additional cost of one unit of outcome gained (e.g. a QALY) by a healthcare intervention or strategy, when compared to the next best alternative, mutually exclusive intervention or strategy. The iCER is calculated by dividing the net cost of the intervention, by the total number of incremental health outcomes prevented by the intervention.

Challenges to conducting economic evaluations

The evaluation of integrated programmes raises particular methodological challenges, because the interventions can generate very broad costs and benefits that are difficult to measure (PHRC, 2007). Indeed, monetising the benefits that integrated services provide is problematic as market values are not generally available and it is difficult to put a monetary value upon access, quality and user satisfaction of services:

"Obtaining values for such impact categories can be a life's work…In practice, most cost benefit analysts do not reinvent these wheels but instead draw upon previous research; they use plug-in values wherever possible" (Boardman et al. 2006)

Furthermore, it can be difficult in economic evaluations to separate out the effects of different variables, and some methods are better at this than others. A hierarchy of evidence can be useful to enable different research methods to be ranked according to the validity of their findings. Evans (2003) provides a framework for ranking evidence evaluating healthcare interventions:

Excellent – Systematic review, Multi-centre studies
Good – Randomised control trial, observational studies
Fair – Uncontrolled trials, before and after studies, non randomised control trials
Poor – Descriptive studies, case studies, expert opinion,

Randomised control trials are the 'gold standard' in terms of conducting research since they are the most effective way of controlling for variables other than integration. In individual randomised control trials, individuals are randomly allocated to receive either an intervention e.g. an integrated form of support, or a standard intervention. In cluster randomised control trials, groups of people such as patients at one GP practice are selected and compared with all the patients at another GP practice. This is a more feasible way of conducting economic evaluations in relation to integrated care.

However, one problem with this is that there can be ethical objections when certain individuals or groups do not receive the intervention, if it is believed to be a better form of treatment. To avoid this, a stepped wedge design can be used, whereby the intervention is phased in across random groups of individuals.

When it is not possible to conduct a control trial, researchers tend to use before and after designs, where the costs are compared before and after the introduction of an intervention, so that the effects of the intervention can be gauged. However, this approach does not allow the researcher to control for different variables.

Analysing the cost-benefit of integrated health, housing and social care is particularly difficult, not least because the impacts of developing an integrated approach can be diffuse and develop over time, with substantive positive outcomes not realised until well into the future. The second of Leutz's (1999) 'Five Laws for Integrating Medical and Social Services' states that "Integration costs before it pays", i.e. there may be short term or 'transition' costs arising from the change towards developing integrated health and social care services. However, after the formation of an integrated system it is anticipated that these costs will no longer arise and that the new integrated care service will be cost saving or financially beneficial. These transition or coping costs will be influenced by the degree of divergence or integration that occurs.

1.7 Types of Integration

There are a number of different approaches to integration and the evidence base for each is assessed in this report.

Early Intervention

A number of services that are identified as integrating health and social care also have a clear emphasis on early intervention or prevention. Intervening early means that low level needs can be prevented from turning into acute needs, or at least slowed down, thus helping individuals to be independent. Prevention involves:

i) Preventing or delaying the need for high cost care as a result of ill health or disability due to ageing, AND
ii) Promoting and improving the quality of life of people and their inclusion within society and community life (Wistow, 2003)

The services and programmes discussed in this section on early intervention are all forms of tangible support that enable service users to come into face to face contact with staff to support their joint health and social care needs. In addition to savings, it is probable that this approach to integration will realise the most important personal benefits for service users, through improved health and quality of life.

Integration can increase individuals and families quality of life through facilitating independence and reducing the burden on carers (Hebert et al. 2003; Brown et al. 2003). Integrated care services can also help people to navigate complex health and social care systems, thus easing stress and anxiety. In particular, people suffering from chronic conditions, with complex needs and the elderly can benefit from the integration of health, housing and social care. Tucker et al. (2009) has commented that this is since their “complicated and changing needs often require a response that spans health and social care” (341).

Structural Integration

Structural or organisational integration can occur at the level of the team, the service or the organisation as a whole. The aim of organisational restructuring is to support the development of integrated health and social care from a staff perspective, and to thus facilitate the delivery of more joined-up and connected services on the ground.

Integrated Processes

The joint administrative processes discussed in this section include the structures in place to facilitate joint working, funding and commissioning. This often occurs between the local authorities that provide adult social care services and the Primary Care Trusts that provide health support.

According to the Audit Commission (2009), the aims of joint arrangements are:

i) To facilitate a co-ordinated network of health and social care services, eliminating gaps in service provision
ii) To ensure the best use of resources by reducing duplication and achieving greater economies of scale
iii) To enable service providers to be more responsive to the needs of users, without distortion by separate funding streams for different service inputs.

2. Early Intervention

Evidence from the UK suggests that the greatest financial benefit lies in developing integrated early intervention initiatives as they deliver financial returns across the health and social care sectors. This section illustrates that services that are designed to ensure that people retain their independence can deliver costs savings through the prevention of hospital admissions and residential placements. In this section, the Supporting People, Partnerships for Older People Projects (POPP) and LinkAge Plus programmes illustrate most effectively the cost savings that can be realised through developing an integrated approach to health and social care. In fact, they have shown that they can generate resource savings of between £1.20 and £2.65 for every £1 spent.

Other key themes to emerge from this section on early intervention are the importance of housing related support and its role in preventing health and social care costs, and the impact of involving service users in the design and delivery of integrated services.

The financial benefits of developing projects that are designed to prevent the need for high cost care and improve quality of life are illustrated in the evaluation of the Department of Health's Partnerships for Older People Projects (POPPs).

2.1 Partnerships for Older People Projects

The Partnerships for Older People Projects are designed to deliver local, innovative schemes for older people in a number of pilot areas across the country. At the centre of the POPP programme is a recognition that prevention and early intervention must be at the heart of the vision for future care and support. The POPP aims to:

- provide a person centred and integrated response for older people
- encourage investment in approaches that promote health, well-being and independence for older people
- prevent or delay the need for higher intensity or institutional care

In total, the 29 sites have set up 146 local projects aimed at improving health and well-being. Two thirds of the projects are 'community facing' projects i.e. they focus upon reducing social isolation and promoting healthy living and wellbeing among older people. Many of these services are designed to help older people maintain independent lifestyles and included handyman schemes, gardening, shopping, leisure, social activities and signposting services. The remaining one third are 'hospital facing' services, i.e. they focus primarily on avoiding hospital admissions or facilitating the discharge of elderly people from hospital or residential care. These services included programmes such as Medicine Management, Telecare and more intensive Community Rapid Response Teams.

The national POPPs evaluation team[2] have illustrated that providing prevention focussed services that span health and social care can be highly cost-effective:

"The POPP programme has significantly increased the evidence base about the effectiveness of preventative approaches, particularly where these are undertaken as part of joint working between health and social care" (Department of Health, 2010).

[2] The national evaluation of the POPP programme was conducted by the Personal Social Services Research Unit (PSSRU, 2008).

The costs and savings associated with the POPP programme were investigated in four different ways:

Firstly, the costs of the projects per user were assessed. The costs in the first year of the project were very high due to the initial set up costs and the lower number of service users for each project. However, excluding the first year the mean cost of the POPP projects per person per week was £7. For those projects aimed at primary prevention the costs were as low as £4 per person per week. These costs are considered to be low compared with other health and social care interventions.

Secondly, the evaluators conducted a difference-in-difference analysis between POPP pilot sites and non POPP sites to compare the number of emergency bed days and their costs before and after POPP.

A difference in difference analysis involves comparing outcomes for two groups over two time periods. One of the groups (i.e. POPP pilot site) is exposed to the intervention in the second period but not the first period, and the second group is not exposed to the intervention at all. The costs and outcomes for each group are observed before and after the intervention, and the average difference in the control group is subtracted from the average difference in the intervention. This helps to remove biases that could be a result of permanent differences between the two sites and thus to control for other factors. This makes the difference in difference analysis a superior method to the standard before and after study design.

When compared with non-POPP sites, POPP sites had significantly fewer emergency bed days in hospital. This reduction in emergency bed days resulted in considerable savings; for every extra £1 spent on POPP services per month, there is a £1.20 reduction on required spending on emergency bed occupants.

The analysis also took into account the size and type of the projects. It revealed that ‘hospital facing’ projects produced lower potential savings on emergency bed days. However, ‘community facing’ projects showed increasing returns against economies of scale, which means that the larger projects produced greater savings.

Thirdly, a cost-utility analysis was carried out that combined the variable costs of the project and changes seen in Quality Adjusted Life Years (QALY). The cost effectiveness of POPP projects were compared to usual care in other areas using the cost effectiveness acceptability curve (CEAC) and the ‘willingness to pay’ cut off figure of £30,000 for a point increase in QALY employed by the National Institute for Health and Clinical Excellence (Department of Health, 2010).

The analysis found that there is an 86% chance that the POPP projects are cost effective overall, compared to usual care. This means that there is a 14% risk to commissioners that the projects would not be cost-effective. However, this probability varied with the type of project that was considered. For example, for practical handyman and gardening schemes that cost £5,000 per person there is a 98% probability that they will be cost effective.

Lastly, the savings that arise from changes in the use of health and social care services as a result of the POPP was also calculated. Using a difference in difference analysis, as above, the evaluators found that there were dramatic reductions in Accident and Emergency admissions (29% reduction) and hospital overnight stays (47% reduction). There were also reductions in physiotherapy, occupational therapy and outpatient appointments, resulting in a cost reduction of £2,166 per person. Not

surprisingly, the highest reductions were for hospital facing projects that focussed on discharging patients from hospital.

Other local evaluations took different methodological approaches to the evaluation of their POPP Programmes. These examples are discussed below:

Knowsley POPP Programme

The Knowsley POPP programme is centred on providing low level support to prevent elderly people falling into the formal health and social care system. The IKAN Workstream (I know someone in Knowsley who can!') provides low level support and interventions for older people through signposting, Handyman schemes and general support. The project has a multiagency team from health and social care, pharmacy, fire service and leisure services, and also involved a pro-active outreach which was very effective at accessing hard to reach older groups in the community. Alongside this Age Concern provided advice, information and befriending projects, designed to empower individuals and enable people to stay at home.

The second element of the project is a Mental Health Workstream, comprised of a Personal Services Society Adult Placement Service wherein older people with mental health issues are placed with a carer in the carers own home to help prevent admittance to long term care, and a Flexicare Service which provides in reach services to hospitals and residential care settings to promote discharge.

The evaluation team devised a new method for the cost benefit analysis of the IKAN Knowsley POPP, which involved a basket of Health Resource Groups (HRGs) which represent procedures undertaken in hospital. A decrease in the cost of any of the HRGs suggests a positive impact of POPP[3]. The IKAN project has generated savings of £395,484 in 2007/08 alone and a total of £476,193 over the two years of POPP. It is predicted that the IKAN project would save £26.6 million in the next 10 years.

To evaluate the Adult Placement Service, the cost benefit evaluation team requested that the professionals involved in the care of each individual provide a rating indicating the probability that in the absence of the service, the individuals would be admitted to residential care. From this information, savings can be attributed by looking at the actual prevented incidents of admission, and it was calculated that the Adult Placement Service has generated savings of £281,216 over 2 years[4].

Likewise, the cost-benefit analysis for Flexicare used a grading from the professionals involved in the cases which indicated the likelihood of the individual being readmitted, in the absence of the Flexicare service, to hospital or long term residential care. It was found that Flexicare generated £436,784 savings, which includes three individuals from the very high risk group who were assisted in a move from residential care to home care through Flexicare, saving £64,896, and 27 individuals avoiding emergency admissions, leading to a saving of £177,201.

Overall cost of Knowsley POPPs Years 1 and 2	**£1,087,313**
IKAN Saving	**£476,193**
PSS Saving	**£281,216**
Flexicare Saving	**£436,784**
Total Saving	**£106,880**

[3] However, due to the study design it is possible that any decrease in HRG costs is due to another variable and not the introduction of POPP

[4] Issues with this methodology include the fact that the professionals' rating of the patient is subjective

In addition, the evaluation of the Brent POPP programme illustrated that net savings will continue to be made well into the future:

Brent POPP Programme

The Integrated Care Co-ordination Service (ICCS) is part of the POPP in Brent. The ICCS consists of a joint health and social care team of 10 care co-ordinators jointly managed by Brent PCT and Brent Council, and is funded by a pooled budget. As such, the ICCS seeks to co-ordinate services on behalf of clients in a holistic way.

The ICCS provides a service to people aged 65 and over who may be at risk of possible avoidable hospital admissions or premature admission to residential care. Their needs are assessed by a care-coordinator, who then refers people to health and social care providers, opticians, dentists, voluntary sector organisations, handyman services, and organisations such as the Citizens Advice Bureau.

The service has been found to be very cost effective in reducing hospital A&E attendances, and hospital bed days. After 12 months, the savings equated to between £48,000 to £102,000 per client per year with an outlay of around £1,500 over a case cycle.

When recalculated after 2 years, net savings were estimated to be between £229,000 and £2.8million, meaning that the scheme saves between 3 and 7 times its cost of £1,500 per person.

Assuming an annual budget of £750,000, 500 referrals a year and 10 care-coordinators, the annual net saving is expected to be between £1 and £3.5million per year based on avoided bed days and avoided A&E attendance.
It is expected that the service will save on average £400,000 a month.
If replicated nationally, it could save as much as 3% of the NHS budget.

Furthermore, in Dorset and Poole the introduction of low level support services for older people through POPP has reduced the incidence of hospitalisation. Though they did not conduct an economic evaluation, it was reported that emergency admissions increased by less between 2005/06 and 2006/07 (1%) than they did the previous year (6%), and the average length of stay in hospital decreased by 6% between 2005/06 and 2006/07, compared to 2% the previous year. Likewise, in Brent, the POPP saved between 14 and 29 hospital days a year and between 3 and 8 A&E attendances for each person supported.

The programme in Gloucestershire POPP was also found to be cost effective. The programme included a Care Home Support Team which provided extra assistance to care home staff through medicines management, dementia care and falls reduction. The analysis, based on a pre-POPP historical trend line calculated to predict emergency bed day use in over 65's in the absence of POPP, revealed that the programme realised £920,000 savings per annum. This equates to potential resource savings to the NHS of the order of £1.20 saved for every £1 spent. However, the costs of providing the POPP programme are not mentioned, so one is to assume that this is not a net benefit. Moreover, it is important to note that this approach to economic evaluation does not *fully* deal with the attributional effects of POPP, i.e. that another cause can explain the reduction in emergency bed days rather than POPP.

Moreover, the economic outcome in terms of social care services, such as placements in nursing and residential homes, is less positive as the number of people supported in this type of care has increased. This illustrates that it may be important to consider separately the costs that are passed onto health and social care providers.

Indeed, Challis' et al. (1991) evaluation of a coordinated case management package for frail elderly people indicated that whilst the costs for the health service and society as a whole decreased, the costs of providing more community based case management were greater to social services. This study was quasi-experimental in that the 101 elderly patients receiving the service were compared to a similar group of elderly people in an adjacent health district, and cost data was collected for a 6 month period only. However, the control group appeared to have a higher level of impairment than the intervention group which may suggest a selection effect.

Furthermore, the national POPP evaluation team reported that whilst there is evidence that the POPP projects led to cost-reductions in health and social care, it was difficult to translate the cost reduction into a cost saving or to identify where the savings were made.

However, despite these difficulties, the POPP initiative provides good evidence for the savings that can be made through providing integrated early intervention support.

2.2 Supporting People

Research has emphasised the importance of developing an integrated approach to housing related support, and recognised the financial benefit of supporting individuals with housing problems to prevent future health and social care dependencies. This approach to housing support is conveyed in a report by the Integrated Care Network (2008) on 'Commissioning Housing Support for Health and Wellbeing', where it was suggested that "housing support is the key to achieving better health outcomes".

The report argued that investing in housing support services can produce significant savings through improved efficiency and effectiveness, and that such benefits arise because a moderate investment in housing support allows other interventions to be effective. For example, support to stop substance misuse or help with mental health problems is most likely to be effective when an individual is not having to worry about rent or housing problems, and an older person who is admitted to hospital who has to recover in a poorly heated house is likely to be re-admitted unless the heating and insulation of their home is improved. Indeed, Rosenheck et al. (2003) found that case management for providing housing support to homeless persons with mental illness was highly cost effective**.**

In the UK, the Research into the Financial Benefits of the Supporting People (Department for Communities and Local Government, 2009) programme, not only illustrated that housing related support can realise savings for health and social care, but it has introduced a different approach to economic evaluation.

The Supporting People programme provides strategically planned housing-related services to support vulnerable people with the goal of improving their quality of life, independence, health and well-being. The programme enables individuals to have a stable environment by providing high-quality cost effective, reliable housing-related services to complement existing health and care services. It is a highly preventative

programme with an emphasis on ensuring that service users needs do not escalate so that they require intensive health and social care services. The Supporting People programme might help people with budgeting, provide them with advice on benefits, advise on home improvements, and offer people the independent living skills needed to maintain a tenancy.

The economic evaluation involved a cost-benefit analysis to capture the financial benefits provided through the investment made in housing related support services through the Supporting People programme. The financial model used allows a comparison of the total costs of supporting a range of client groups under existing arrangements (i.e. under Supporting People) with the costs of supporting them under best alternative scenarios.

The financial modelling is, thus, driven by three types of data;

1. The total costs of Supporting People
2. The most appropriate alternatives if Supporting People were not available
3. The impact that the Supporting People services and alternatives would have had in reducing adverse outcomes for clients

The evaluation showed that the Supporting People programme provided net financial benefits of £3.41 billion per annum for the client groups considered (against an overall investment of £1.61 billion). The model illustrated that with the exception of homeless families with support needs, teenage parents and young people leaving care, services for all client groups brought about a net financial benefit. The likelihood is that the financial benefits for these client groups will accrue over a longer time period.

The methodology used to explore the cost benefit of Supporting People is particularly strong since it includes the costs of a range of events or incidents associated with the different scenarios. In fact, for each client group, the research considered a range of events that could happen to members of that group. These events were all adverse incidents that could happen to clients such as becoming a victim of crime, or positive interventions such as being admitted to hospital, or put on a treatment programme.

However, as a result, the calculated benefits rely very heavily on a number of assumptions about the services that people would use and the events that would occur in the absence of Supporting People. To manage this difficulty, two sensitivity analyses were conducted. Firstly, rather than assuming that services are 100% utilised, the same procedures were carried out assuming 93% utilisation, as this is more realistic. With 93% utilisation, the net financial benefit falls to $3.06 billion.

Furthermore, the savings were also calculated based on the assumption that the number of clients allocated to residential care under the alternative provision scenario was cut by 50%. In this scenario, there is still a net financial benefit of £1.69 billion. This not only further proves the cost effectiveness of the Supporting People programme but shows the strength of the methodology, thus making the findings valid and reliable.

The financial benefits of providing housing support can also be illustrated by considering specific client groups:

Supporting People with Mental Health problems

The average cost of providing support to people with mental health problems with the Supporting People package is £26,461 per household unit per annum, which includes;
£23,458 – the direct cost of providing the Supporting People package
£3,003 – the event and incident costs arising from the intervention

If we imagine that Supporting People services are not available, the most appropriate alternative provision scenario would be;
- 59% would receive a basic package but without the Supporting People component
- 8% would be in residential care
- 33% would be in inpatient hospital care

This would increase the cost of providing support to people with mental health problems to £41,474, which includes;
£38,106 – the direct costs of supporting the group
£3,368 – the event and incident costs arising from the intervention

If this is converted into the total costs, rather than the costs per unit household, the overall net financial benefit of providing Supporting People to people with mental health problems is £559.7million.

In summary, the Supporting People programme provides strong evidence that early intervention through housing related support is highly cost-effective. Programmes that focus upon supporting people to live independently in the community and in their own homes can reduce health and social care costs by delaying or preventing future care needs.

2.3 LinkAge Plus

In recent years, integrated health and social care services have also been developed using a co-production model whereby service users are engaged in the process of designing and delivering services.

Co-production is a model of practice in which service providers work with service users in the provision of health, housing and social care services - in effect, a working partnership (Hunter and Ritchie, 2007). Central to co-production is the acknowledgement that service users have the knowledge and expertise that can help improve services, and that they are not just passive recipients (Needham and Carr, 2009). It thus refers to the active input of people who use the services in the development and delivery.

The following case study of the LinkAge Plus project illustrates how involving people in the design and delivery of an integrated health and social care service can generate cost savings. The figure below sets out the LinkAge Plus approach diagrammatically;

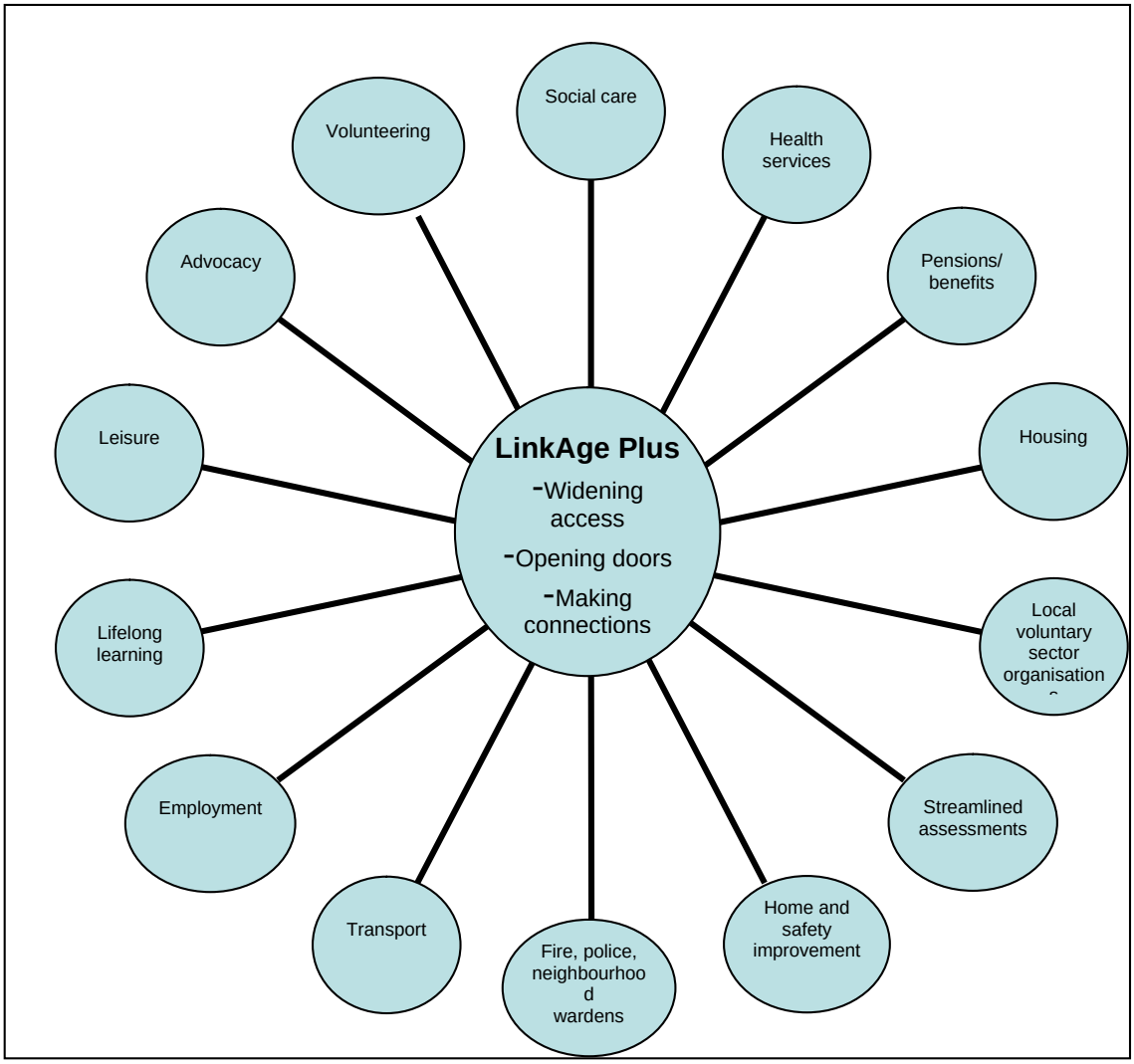

Figure 2: The LinkAge Plus approach (Watt and Blair, 2009:11)

The LinkAge Plus project is a holistic approach to encouraging the health, well being and independence of older people. The aim of the project is to bring together the various forms of mutual help, services and support for older people (shown in figure 2) at a local level in a way that adds value. The principles on which the LinkAge Plus programme were developed are:

- involvement of older people in the design, development, delivery and evaluation
- partnership working
- joining up services
- developing a whole person approach
- preventative approach
- developing services that meet the individual needs and aspirations of older people
- avoiding duplication
- respect for individual needs and preferences of older people
- a shift in the perception of ageing towards one of independence

The programme involved older people throughout – they were involved in the shaping, designing and delivering of services through forums and groups. The result of this process of engagement is a range of services and activities that are

convenient and accessible to older people. Older people have been involved in the delivery of the services themselves through voluntary work and in some cases they have gone onto paid employment.

There were 8 pilot areas for the project; Devon, Gateshead, Gloucestershire, Lancaster, Leeds, Nottinghamshire, Salford, Tower Hamlets. Services developed in these areas were designed to promote independence and well-being. They included keep fit sessions, help services, adaptations, activities, social groups and forums that gave older people a say in service provision

The evaluation reported that the holistic approach to service delivery required some up front investment in the first 2 years, but that it quickly began to deliver net savings, breaking even in the first year of the investment period. The net value of savings up to the end of the five-year period following the investment is £1.80 per £1 spent when the services that were set up are considered. When this benefit is combined with the overall holistic approach to service delivery and partnership working, the total benefit increases to £2.65 per £1 invested.

Furthermore, for every £1 spent on balance/Tai Chi classes by the taxpayer in LinkAge Plus areas there is a health and social care saving of £1.35. This suggests that balance classes are a highly effective way to reduce the incidence and associated costs of falls, leading to fractures, hospitalisation and operations.

Similarly, home adaptation services yielded benefits to the taxpayer of £74 per adaptation visit from reduced future healthcare costs, against an average cost per adaptation of £67.

The evaluation did not only consider the savings to the taxpayer - the benefits to the taxpayer and to society are presented separately. For example, it was calculated that the benefits to older people could be monetised at £1.40 per £1 spent.

The data from this study can be considered valid as a discount factor was applied to the costs and benefits, meaning that all costs and benefits are projected in real terms. The authors are also very upfront about the difficulties associated with monetising the benefits of the LinkAge Plus pilots, explaining that their “approach has been to quantify a subset of the components of the LinkAge Plus projects where it is possible to make some estimation of the costs and benefits to the taxpayer and participants, and hence to society as a whole” (Watt and Blair, 2009: 14).

The LinkAge Plus example demonstrates effectively how involving the client group in the design and delivery of services can generate financial benefits. It is likely that the project generated a sense of ownership among the client group, thus encouraging utilisation of local services and leading to cost savings. Moreover, a number of the projects were run by volunteers involved in the design of the service, thus reducing staffing costs. This indicates that integration through involving the service user at the local level, rather than structural integration at a higher level is particularly cost-effective.

The LinkAge Plus pilots were also highly cost effective because not only did they reduce duplication, but they built upon and integrated existing projects and initiatives, thus removing some of the start-up costs.

2.4 Self Care

As well as encouraging people to become involved in the design and delivery of services, co-production can operate through the promotion of self-care and self-management. Self care allows individuals to be treated as partners and to do more for themselves. There is relatively robust evidence that enabling citizens to work in partnership with professionals and to do more for themselves improves outcomes across the public sector (Cabinet Office, 2009 Co-production in public services: A new partnership with citizens). It has been reported that self care for long term health conditions can;

- reduce visits to GP's by up to 69%
- reduce hospital admissions by up to 50%
- more than pay for themselves through savings

Grossel and Cronan (2000) evaluated a self management and social support programme for older people with chronic arthritis and found that feelings of helplessness decreased in the intervention group, but not in the control group, and that health care costs increased less in the intervention group, than in the control group. Cost benefit analysis was used to demonstrate that the monetary savings of the intervention greatly outweighed the cost of conducting the intervention.

Similarly, Vickery (1988) evaluated a communication based health education programme on individual's self care and decision making. The evaluation revealed that, after 12 months of the intervention, visits to the GP had decreased by 31%. This resulted in a cost-saving of $36.65 per household and a benefit-cost ratio of 2:1.

Lastly, Montgomery (1994) evaluated a tailored educational and health promotion programme for people with Parkinson's Disease and found that it led to a 24% reduction in visits to GP's, 50% reduction in hospitalisation, 28% reduction in days confined to home for patients. This equates to a savings – cost ratio of 12:1.

Overall, the evidence suggests that self-care support can result in beneficial health outcomes for people and more appropriate use of health services. Through the generation of self care behaviours and by influencing the actions taken by individuals, it is hoped that there will be a reduction in demand for GP consultations. Patients will become more familiar with all of the services that are available to them and, therefore, utilise alternatives to traditional general practice where appropriate. It has also been reported that "for every £100 spent on self care, around £150 of benefits can be delivered in return" (HM Treasury, 2004).

It is also clear that encouraging self care in older patients with conditions such as chronic arthritis and Parkinsons disease, will also lead to savings in the social care sector and there is clear potential for self care to further span the divides between health, social care and housing. Self care can produce savings across health and social care because encouraging people to take care of themselves not only reduces visits to GP's and hospitals, but can decrease the need for social care services such as meals on wheels, home help and the use of day care centres, for example. However, the majority of the work that has economically evaluated self care programmes has focused upon the savings accrued to health services, and there is certainly a need to broaden the focus to social care because self care is inherently an integrated service response to long term health conditions.

2.5 Handyperson Schemes

Handyperson schemes are another way in which housing support and home improvement can be integrated with health and social care concerns, since they allow vulnerable people to remain independent and in their own homes, thus avoiding residential care placements. According to Foundations (2006):

"Handyperson schemes are undertaking work which is vital to the well-being and security of older people. Without them small repairs would generally not be dealt with, carrying a direct impact upon the health, safety and well-being of older people and others who are vulnerable"
(Foundations, 2006).

Handyperson schemes are a part of some of the POPP and LinkAge Plus projects and evaluations, but there has also been a separate evaluation of handyperson services across the country by the Home Improvement Agency. However, there is not much information on the savings associated with the handyperson scheme and no details about the methods used to calculate these savings. Therefore, this evidence is not as strong as some of the other studies discussed.

The evaluation of the Northampton Care and Repair service revealed that the handyperson service costs just £1,900 per month and during a typical month will help to discharge 20 people from hospital, when one hospital day for 20 patients costs approximately £5,500.

Likewise, the handyperson scheme in Devon has been very successful and much needed since it is difficult for builders to carry out small repair jobs in rural areas as the distance travelled between jobs is large and this can also make the costs too high for people to afford. The handyperson scheme in Devon was funded by social services, health, housing and a community fund and therefore the services were provided at a reduced cost, thus making them affordable to older people. The annual running cost of the scheme is £41,000, and the average annual cost for one person in residential care is £22,568. There is, however, no specific data on the residential placements avoided by the service.

2.6 Navigators and Outreach Workers

Navigators both integrate a range of support services and help to prevent need by tackling issues before they can become a problem. The job of a navigator is usually to assist individuals in accessing the services that they need. Navigators help to coordinate the provision of support and services and help people to navigate their way around the health, social care and housing systems. Their role might also include facilitating and making connections between individuals, agencies and the community, thus enabling people to access the support they need. As such, it is an integrated form of support, and the navigator is required to have knowledge of a range of services across health, social care, housing, employment, community activities etc, and act as a gateway into these.

Navigator-type roles have been implementing in areas across the UK including East Sussex, Hartlepool, Milton Keynes, Gloucestershire and parts of Scotland. However, whilst there is evidence to support the effectiveness of the navigator in enabling people to access support and improve quality of life, there is a limited amount of evidence to support the business case for the navigator role.

One study that has looked at the savings involved is an evaluation of the Local Area Coordination (LAC) scheme in Western Australia.

Local Area Coordination

Local Area Coordination is a model of navigation that was developed to assist people with disabilities to plan, organise and access support in their community. The aim of LAC is to encourage people with disabilities to access services and get involved in their local community by providing a fixed point of accountability through the form of a Local Area Coordinator.
It has also been calculated that the LAC model provides a cost effective way of supporting people with disabilities. Comparisons with national benchmark data indicate that Western Australia is providing services for a greater proportion of potential service users at a lesser cost per person than Australia on average (Bartnik and Psaila-Savona, 2003).

Bartnik and Psaila-Savona (2003) calculated that the overall cost of supporting people with disabilities in Western Australia is $35,526, which is 35% below the national average (DSC Annual report, 2001). Furthermore, they found that the uptake of services is greater in Western Australia than in other states, e.g. non-residential services had an 81% higher uptake rate than the national rate.

In the absence of the LAC programme (at a per capita cost of $3,316), the current alternatives to providing support to disabled people would be non residential services (at a per capita cost of $3,899) or residential services (at a per capita cost of $61,944).

Another way in which organisations make contact with residents in need, thus helping them able to access support and services is through outreach work. The Tendring Reach Out pilot project in Essex is a project delivered by the Citizens Advice Bureau with the aim of increasing the number of people engaging with services. The project is focused upon the deprived Golf Green and Pier wards in Jaywick and Clacton.

The Reach Out scheme is a community based initiative which makes contact with local people and gives them information and advice through door knocking, meeting people in the street and at community venues. The Reach Out advisers engage members of the community and help them with:

- community issues
- employment advice
- job searches
- training and education
- debt
- housing issues
- welfare benefits
- public health and health improvement
- signposting to other agencies and services

The pilot scheme has helped large numbers of people to access services and the success is in large part down to the fact that the Citizens Advice Bureau is a recognised and trusted brand in the area. In the evaluation of the pilot scheme, it was calculated that the project cost £70.50 per case, given that the project cost £12,000 overall and dealt with 170 clients. This is recognised as good value for money; it is

reported in the evaluation that “the project has demonstrated that it is able to generate savings by reducing the burden on local authorities and the NHS, while at the same time making a contribution to the local economy by reducing debt” (Citizens Advice Bureau, 2009: 21). However, the evaluation is limited by the absence of a full cost effectiveness study, and there is no evidence as to the savings that have been made by comparing costs before and after the initiation of the scheme.

At present, there is growing evidence to show that navigators, outreach workers and handypersons can be cost effective. However, there is a need for more research to be conducted into the financial benefits of these low level support schemes. These types of initiatives have been included as elements of larger evaluations such as POPP and LinkAge Plus, however, there is a need for them to evaluated separately using a robust methodology.

In the following section, the evidence base for the financial benefits of structural integration will be explored.

3. Structural Integration

Structural integration can occur at the level of the team, the service or the organisation as a whole. Most research on organisational integration has focused on evaluating staff experiences of joint working, and it has been noted that integration can improve efficiency and working relationships, particularly for frontline staff. For example, staff from the Sedgefield Integrated Team in County Durham in the UK reported greater job satisfaction, a blending of professional cultures, and increased cooperation, teamwork and communication (Hudson, 2006);

"It's great when you have got someone with health needs and you are working with the nurse – you can do the social bit and they can do the health bit. It's really helpful" (Social worker, in; Hudson, 2006)

"Things are shared in a way that couldn't have happened before. It's quite difficult to describe. It's a culture, an atmosphere, a feeling that's around here" (Social worker, in; Hudson, 2006)

However, in other cases, front line staff have felt challenged working alongside other health and social care professionals because of different medical and social patient care philosophies. Furthermore, Hutschemaekers et al. (2007: 1) have reported a number of issues associated with organisational integration in the Dutch mental health care system, including long waiting lists and "insufficient fine tuning of care". They also suggest that structural integration has resulted in the withdrawal of other care providers, leading to monopolisation.

This chapter illustrates that there is a small amount of evidence to suggest that structural integration can produce savings. There is more evidence that lower scale integration such as at the level of the team or through case management, can be cost effective, but, there are currently no comprehensive or large scale studies examining the effects of larger scale organisational integration. An issue raised by some the examples in this chapter was that integrated care support may serve to reveal unmet need, rather than resolving it. The effect of this being that costs to local authorities and health providers is increased. This is one the most important challenges in evaluating integrated care.

The following examples focus on the savings associated with integrating health and social care at a structural or organisational level. They range from examples of case management, where individual workers span health and social care service delivery, through integrated care teams, up to more intensive structural integration in the form of Care Trusts.

3.1 Case Management

Case management aims to improve outcomes in patients and, in particular, to reduce unplanned hospital admissions. Access to case management can provide an added frequency of contact, regular monitoring and advice on a range of options available to the patient to help them move through the system. Case management is often reserved for patients with chronic conditions and those that are at a high risk of being admitted to hospital.

Case management schemes are a useful example of integrated care since they cross the divide between health and social care by enabling people to remain as independent as possible, thus serving their health and care needs.

Case Management for Older People

There are several articles and reports that have evaluated case management programmes for specific client groups, and it is often the case that case management programmes for older people can realise significant financial benefits.

For example, Bernabei et al. (1998) conducted a randomised control trial to investigate the effects of integrated care and case management for older people living in the community in a town in Italy. Bernabei et al. (1998) used random stratified sampling to subject 100 participants to conventional care and another 100 to case management by the community geriatric evaluation unit. The intervention group were receiving an integrated community care programme implemented by an interdisciplinary team including a GP and a case manager. This group was compared to a control group receiving normal services, and it was calculated that nursing home costs were nearly 50% for the intervention less, and hospital expenses were 34% less.

The total per capita health costs were 23% less for the intervention group than the control group. The overall saving is estimated to be £1125 per person per year. Bernabei et al. (1998: 1348) conclude from this that;

"Integrated social and medical care may provide a cost effective approach to reduce admission to institutions and functional decline in older people living in the community"

Taking a similar approach, Leung et al. (2004) conducted a randomised control trial to evaluate the cost benefit of a case management project for frail and elderly people living in Hong Kong. In this project, the case managers provided integrated care and support including biweekly home visits, assessments, help with developing a care plan, linked patients with health and social care services and health education programmes. This intervention was compared with patients who were receiving normal, fragmented care.

In Leung's et al. (2004) study, 260 hospital discharged patients over 60 were randomly assigned to an intervention group (case management) or a control group receiving conventional support. The results showed that hospital admissions were reduced by 36.8% in the intervention group and the number of hospital bed days decreased by 53.1%. Compared with the control group, $170,448 (US) was saved in acute hospital care and community health services in the intervention group with case managers.

Both articles describe their method as a randomised control trial. Randomised controlled trials are the most rigorous way of determining whether a cause-effect relation exists between treatment and outcome and for assessing the cost effectiveness of a treatment or intervention (Sibbald and Roland, 1998).

However, although randomised, these studies cannot be performed with the "rigid criteria of a clinical trial" (Bernabei et al. 1998: 1350) since all the professionals involved were aware of the assignment of patients to either group, and the patients were aware of the purpose of the project. In spite of this, this technique is one of the strongest available for evaluating the cost-benefit of health interventions.

Other studies have also shown that case management for patients with problems that tend to effect older people are cost effective. For example, Sander et al. (2008) have

demonstrated that the cost per patient for treating patients with osteoporosis and fragility fractures is less with an osteoporosis coordinator than with no coordinator. The annual risk of a hip fracture was also less with a coordinator. This means that the coordinator programme is less expensive and more effective than no intervention.

In addition, Majumdar et al. (2009) conducted a study comparing case management for patients with hip fractures with conventional support. A cost-utility analysis revealed that the Quality-Adjusted Life Years (QALY) for the intervention was 5.958 and 5.918 with usual care, and suggested that the case management approach was less expensive and more effective than usual care.

Moreover, implementing integrated care pathways for patients with hip fractures has proven to be cost effective. Integrated care pathways are designed to assist patients through the operation process and to provide support after the procedure. They are often developed by multidisciplinary teams spanning health and social care. Integrated care pathways are similar to case management schemes in that they are designed to deliver care based around the specific needs of the individual. Olsson et al. (2008) conducted an economic evaluation using a before and after study design to assess the cost effectiveness of an integrated care pathway for patients with hip fractures compared to standard treatment. The study was designed from a hospital perspective and therefore accounted for medical costs, rather than non-medical costs, and discounting was not considered useful since the study period was just 1 year. The analysis revealed that the integrated care pathway intervention was both less expensive and more effective than usual care; the integrated care pathway cost €14,840 compared to €31,908 for usual care.

Wetta-Hall (2007) has illustrated, however, that it is not just case management for elderly people that realises cost benefits. This study evaluates the impact of a collaborative nursing/social worker case management intervention which was designed to decrease use of the emergency department and improve health for the low income uninsured population in the US. The intervention was compared to a pre-intervention design. There was a 48% reduction in total emergency department visits. This amounts to a charge avoidance of $1,446.280 (US). Physical health was also found to have improved significantly with the community case management.

Conflicting Evidence

There have also been some less positive outcomes from studies exploring the cost-effectiveness of case management. For example, Latour et al. (2007) found that case management for patients discharged from hospital in the Netherlands was not cost effective, when compared to usual care. However, it may be that the additional benefits of case management accrue over a longer time period than was measured in the study.

In addition, some studies have produced conflicting evidence as to the cost effectiveness of case management. For example, whereas Jarman et al. (2002) found that case management for patients with Parkinsons Disease was not cost effective (although, it was found to improve patients well-being), a study by Hobson et al. (2003) reported that the estimated cost saving of employing a Parkinson's Disease Nurse Specialist (PDNS) is £54,992, which included £8,296 potentially saved by community visits and £1,203 by inpatient visits. The Royal College of Nursing have reiterated that on discharge from hospital a PDNS follow up appointment in the community rather than an appointment in the hospital with a specialist would generate savings of up to £100. Likewise, intervention by a PDNS to reduce the length of stay in hospital would release cash to the PCT.

The findings from Hobson et al.'s (2003) study) may be more positive because the involvement of the PDNS is greater than the workers in Jarman et al.'s (2002) study which looked at case management for Parkinsons Disease.

Guided Care

Case management for people with chronic conditions in the US is delivered through a programme called Guided Care. A Guided Care Nurse works with patients and their families to improve their quality of life and make more efficient use of health services. The nurse also co-ordinates the efforts of all the patients providers of healthcare and eases the patients transition between different sites of care.

Leff et al. (2009) conducted a cluster-randomised control trial to evaluate the effects of Guided Care on the use and costs of health services in the first 8 months. After adjustment for baseline characteristics, Guided Care patients experienced on average;

- 24% fewer hospital days
- 37% fewer skilled nursing facility days
- 15% fewer emergency department visits
- 29% fewer home health-care episodes
- 9% more specialist visits
- They also rated their quality of care significantly higher than those people receiving normal care

These differences in utilisation represent an annual net saving of $75,000 per Guided Care nurse or $1364 per patient.

Evercare

Case management was first introduced in England using the Evercare model from the US. The 9 Evercare pilots sought to improve care for people aged 65 and over through case management administered by Advanced Practice Nurses who were based in the PCT and mentored by a nominated GP. Like many of the other examples, this case management was specifically targeted at people who were at a high risk of emergency admission to hospital.

Gravelle et al's. (2006) evaluation of the impact of the Evercare case management on frail elderly patients found that the case management had no significant impact on rates of emergency admission, bed days or mortality in high risk cohorts. There are however, some issues with the evaluation design. As the practices involved were not randomly allocated into Evercare and control groups, the evaluation had to compare the changes in the outcomes of the Evercare practices before and during the intervention with the changes in outcomes in the control practices before and during to remove the effect of baseline differences between the groups. Moreover, the findings could also be partly due to the selection of the population at high risk for intervention.

Moreover, there was also a contradiction between the quantitative research which suggested that admissions had not been reduced and the comments of staff from the qualitative research which suggested that their services were keeping patients out of hospital. This discrepancy between quantitative and qualitative methods highlights the role that research methods play in shaping findings. It may also be that rather than reducing hospital admissions, that case management, when conducted to a high

standard, “reveals unmet needs rather than resolving them” (Esterman and Ben-Tovim, 2002).

Unique Care

The Improvement Foundation’s Unique Care model has attracted attention as a “proven, practical approach to delivering integrated care for people with multiple health needs” (Improvement Foundation). The Unique Care approach, which draws on Evercare, integrates health and social care by creating a small team containing staff from both domains (Keating et al. 2008). It is a clear example of integration as social care is integral to the team in the GP surgery.

Castlefields Integrated Care Model

The Unique Care approach is based on the success of Castlefields Integrated Care Model, based in Castlefields Health Centre in Runcorn, Halton PCT (Lyon et al. 2006). At Castlefields, a social worker was introduced to work alongside a district nurse to introduce an integrated case management approach for patients who have been identified as potentially high users of hospital services. This model is distinct in that it is a practice based model in which a nurse and a social worker work together in one GP practice to co-ordinate care and support patients. This is unlike the Evercare model where Advanced Practitioner Nurses work for a number of GP practices across a PCT.

Over 4 years, hospitals saw a 15% fall in unplanned hospital admissions from a baseline in 1999 (this was already 30% lower than the national average). A&E attendees and GP visits fell by 30% and there was a 41% drop in bed days, which has led to approximately £1million of savings.

Castlefields also introduced a Case Manager for cancer patients, which led to a reduction in 336 bed days in the first year, with savings of £100,000, alone.

Unique Care principals have been developed by the Improvement Foundation, and the approach is now up and running in 181 GP practices across England. In Bracknell Forest, for example, there has been a 20% reduction in unplanned hospital admissions, and in Enfield there has been a 70% reduction in bed days.

3.2 Integrated Care Teams

Integration at the level of the team is one way in which health and social care can be encouraged to work together from an organisational perspective. Brown et al. (2003) have reported that integrated care teams can lead to reduced deaths and reduced residential placements. The following case study illustrates the outcomes of an Integrated Care Team in one practice:

Integrated Care Teams in Salford

Integrated Care Teams were developed to deliver services for older people and vulnerable adults in Salford;

"The vision for services supporting older people and vulnerable adults in Salford is to develop the way services are commissioned, managed and delivered by integrating services wherever possible, ensuring they are designed around the needs of individuals and localities rather than fitting people into existing service provision" (3).

The first Integrated Care Team comprised of Nurses, Social Workers, an Occupational Therapist, Admin Support and one Operational Manager, and was based at the Walkden Clinic in Salford.

In the evaluation, it was reported that the Integrated Care Team at Walkden led to;

- Simpler access to services
- Faster access to services – there is no social work waiting list
- Increased efficiency – nurses are covering smaller geographical areas which has resulted in reduced mileage claims
  April – May 2005 – 6967 miles claimed (17 staff) = £1943.55
  April – May 2006 – 4722 miles claimed (16 staff) = £1451.67
  = 32% reduction in expenses and an average cost saving of £246/month
- Better use of resources
- Improved patient experience/person centred care
- Enhanced learning and skill sharing
- Reduction in hospital admissions and length of stay

Unfortunately, there is no more data on the savings associated with implementing the Integrated Care Team. The reduction in mileage claims was a relatively simple change to measure, but it does not reveal much information about the overall savings generated and it does not involve the costs of constructing the Integrated Care Team, and so is relatively weak evidence.

Cost-benefit analysis has also been undertaken to review the potential benefits of the introduction of a Community Matron working as a Case Manager for people with Long Term Conditions within the Integrated Care Team in Salford.

The PARR (Patients at Risk of Re-admission) tool which scores people on a scale of 0-100, was used to predict cost savings, assuming that the Community Matron led to a 30% reduction in Emergency Bed Days and 25% reduction in hospital length stay.

The analysis was based on figures for the Walkden Clinic, and concluded that, for the 92 patients with risk score +50, that total savings could amount to £93,000, £53,000 of which are from a reduction in emergency bed days and length of hospital stay. For those with a risk score from 10-50, total savings amounted to £75,000. The PARR tool also allowed the analysts to calculate that for one patient with 10 unplanned admissions a year a 30% reduction would mean £6,300 savings/year.

Indeed, various techniques have been used to identify high-risk patients, including requesting likelihood of admission from professionals, using the number of previous admissions, and questionnaires. Realising the need for a validated tool, the Patient At Risk of Re-hospitalisation or the PARR tool was developed for the NHS to use.

The tool uses a reference index admission and prior health utilisation data and for every patient provides a PARR score from 0 to 100.

Moreover, Hurst et al. (2002) found, when evaluating self-managed integrated community teams, that the average cost per contact for health visitors was £6.50, compared to an average cost elsewhere of £8.48. This saving may be attributed to the fact that the teams had managerial autonomy, rather than being line managed. However, these findings also have much to do with the geography of the area in question.

However, a similar evaluation of an integrated care team in Wiltshire found that the intervention was not cost-effective. Brown (no date) found that there were no significant differences in health and cost outcomes between 2 GP practices with an integrated team onsite and 4 GP standard GP practices. The practices both had the same patient population, but were compared using a non randomised study design. Brown et al. (2003: 85) have also suggested that “although it is perceived wisdom that joint working must be beneficial, there is, even at this stage, little evidence to support that notion”.

There is a need to consider the effects that an Integrated Care Team will have upon more conventional and separate health and social care teams in adjacent areas, since the study mentioned above only considered one isolated care team. Furthermore, the above studies raise questions as to whether Integrated Care Teams can operate in isolation or whether they need to be supported by structural integration at a higher level.

The Denver Housing First Collaborative is a particularly good example of an integrated housing support service for people with complex needs that has produced significant financial benefits.

Denver Housing First Collaborative

The Denver Housing First Collaborative is designed to deliver housing and support services to chronically homeless people with disabilities and integrates health, mental health, substance treatment and support and guidance services. The goal of the scheme, therefore, is to improve the overall health and residential stability of homeless persons in Denver.

The Collaborative combines a team of multi-disciplinary and multi-agency workers who work together to support homeless people and connect them with mainstreams services. The service users are often people with highly complex needs requiring a range of support services. Thus, they benefit from an integrated and coordinated approach to service provision.

The Collaborative takes a Housing First approach, and thus aims to respond to the mot acute need of homeless people, i.e. housing. Yet, service users are also helped to connect with the other services that they will need to maintain housing, their health and their independence. This is the Assertive Community Treatment part of the programme. The Assertive Community Treatment model uses a case management team that has the ability to provide integrated support, which includes: health care, mental health support, substance treatment, medication management, benefits support, and training to take up employment and education opportunities.

The costs of supporting the Denver Housing First Collaborative participants (n=19) were compared before and after their enrolment on the programme, by calculating the costs of the treatments that were on their medical, treatment and prison records.

The cost-benefit analysis explored the actual health and emergency service records of a sample of participants 24 months before entering the programme and 24 months after entering the programme. The costs of emergency room visits, inpatient, psychiatric, outpatient, detox, jail and shelters etc were calculated using the medical records and compared before and after (Perlman and Parvensky, 2006).

The utilisation of health services and shelters were significantly reduced for the participants during the time period assessed, for example, the total emergency costs savings averaged at $31,545 per participant. Only the costs of outpatient care increased, which is a positive outcome, as it suggests that people are using health services that are more appropriate and more cost-effective**.**

Furthermore, the costs of going to prison were calculated. It was found that there was a 60% reduction in jail visits after the clients' enrolment on the programme. The associated costs of incarceration for the group declined from $34,160 to $8,120 – a reduction of 76%.

Overall, when the costs of providing the support services are included, there is a net cost saving of $4,745 per person.

There is a business case to support integrated teams. However, it is unclear what the composition of the teams must be in order to realise the biggest financial benefit. There is strong evidence that integrated care teams to support people with complex needs can help to delay events that require health, social care and criminal justice intervention. For example, the Denver Housing First Collaborative, in addition to illustrating the benefits of housing related support, resulted in savings to the criminal justice system of $4,475 per person.

3.3 Intermediate Care

Intermediate care is care that is provided between hospital and home and it can be jointly provided by health and social care. Intermediate care services are designed to promote faster recovery from illness, ease the transition from hospital to the community, prevent unnecessary acute hospital admissions, support timely discharge and maximise independent living.

Gateshead Community Care Scheme

The Gateshead Community Care Scheme is a system of flexible, coordinated and integrated community services for elderly people living independently in the community, but at risk of admission to hospital. Challis' et al. (2002) review of the Gateshead Community Care Scheme illustrated that there were some savings to be made through the structural integration of this intermediated care. The health and social care pilot of the Gateshead Community Care Scheme was designed to prevent unnecessary hospital admissions and better coordinate health and social care provision discusses staff experiences.

In the care scheme, medical and social care staff worked together in a single team office to make possible the informal sharing of knowledge to improve assessment and case knowledge. The evaluation of this multidisciplinary model involved comparing the locations of those receiving the health and social care scheme and those receiving ordinary care after 6 and 12 months, known as comparative monitoring. The work revealed that "whereas 71% of those receiving this scheme were at home after 6 months, and 64% were at home after 12 months, the figures for the matched comparison group were 39% and 21% respectively" (Challis et al. 2002: 217).

Challis et al. (2002) calculated that the annual costs of providing care through the health and social care team were on average lower than the costs of providing conventional care. This is due to the much lower rate of admission into residential care for people receiving support from the joint team.

Moreover, the joint cost to the social services department and the PCT of the scheme per week was about half the cost of a geriatric bed and less than the gross cost of a place in a residential care home. The results from this evaluation are fairly reliable since all costs used are at a base price for consistency.

A cost-benefit analysis of a non-bed based Intermediate Care Service in Milton Keynes has illustrated that Intermediate Care can reduce the costs of acute inpatient care and provide a workable and appropriate alternative to emergency hospital admission. The Intermediate Care Service, which includes a community-based Rapid Response Team, and the provision of a single point of contact and access for intermediate services under a joint health and social care team, caused a shift in service delivery and utilisation (Begley, 2006). Using data on avoided admissions and discharges facilitated, it was calculated that the Intermediate Care Service provides a monthly cost benefit of £33,516, taking into account the monthly investment of £15,800.

However, the economic evaluation of a joint NHS/Social Services residential rehabilitation unit for older people on discharge from hospital found that the joint provision was not cost effective (Ellis et al. 2006). The unit is a form of intermediate care, designed to help individuals regain their independence before moving on to live

at home and back in the community. Ellis et al. (2006) conducted a cost effectiveness analysis using a matched control trial and found that the costs were very similar if people just went home on discharge from hospital or were given a place at the residential rehabilitation unit, e.g. £8510.68 compared to £8542.28.

Furthermore, "there was a clear see-saw effect between the NHS and Social Services" (Ellis et al, 2006). The integrated care intervention meant that the NHS spent less, whilst Social Services picked up more of the cost. Whereas, for those who went back into the community, the NHS spent more and Social Services spent less.

The authors concluded that "residential rehabilitation for older people is no more cost effective over a year after a discharge from community hospital than usual community services" (95). However, this evaluation was only conducted with a 12 month follow up period, and it may be that over several years the clients who had used the integrated care unit will cost both the NHS and Social Services less, through having increased independence.

3.4 Care Trusts

Care Trusts are structural innovations that encourage closer working between the NHS and local councils to support better coordinated health and social care. They are based on the principles of pooled budgets, lead commissioning, and integrated provision through joint working. In 2002, the Department of Health stated that;

"The introduction of care trusts is a real opportunity to deliver improved, integrated health and social care" (Department of Health, 2002)

The Care Trusts operate with a single management structure, and are comprised of multidisciplinary teams managed from one point with the co-location of staff. However, they have been criticised for over-emphasising structural change as the key to improving service user experiences and health outcomes (Glasby and Peck, 2005). Moreover, Glendinning et al. (2003) have reported that some of the components of the integrated organisation were forced to remain quite inward, and Glasby and Peck (2005) comment that one Care Trust experienced significant financial difficulties.

There is no real evidence to suggest that Care Trusts offer financial benefits. This is not to say, however, that they do not realise savings, rather that there is a lack of research evidence in this area.

4. Integrated Processes

It has been suggested that there is great potential to realise cost efficiencies through establishing more streamlined and integrated activities such as joint administration, assessment and commissioning. These integrated processes are considered to enable and support the integration of health and social care with the effect of improving outcomes for service users.

However, there is currently a lack of evidence to suggest that integrated processes such as implementing a Single Assessment Process or introducing joint commissioning can realise financial benefits. Although, this is not because there is evidence to the contrary suggesting that it is more expensive, rather there has been very little work to date overall. The challenge for the future is to develop effective and appropriate tools for measuring and monetising the impacts of this type of integration.

For example, the national evaluation of 'Notifications for Use of the Section 31 Partnership Flexibilities in the Health Act 1999', published in 2002, included surveys, semi-structured interviews and use of a Partnership Assessment Tool, but there was no economic evaluation. The evaluation reported that trust and commitment were major elements in ensuring the success of collaboration, and that the challenges in implementing partnerships should not be underestimated. There were also reports of resource and efficiency gains, for example, in Barnsley, waiting times for the assessment and provision of equipment dropped from 18-24 months to 12 weeks by eliminating disputes about whose responsibility the procedure was (Hudson et al. 2002).

The sections in this chapter set out some examples of integrated processes between health and social care.

4.1 Single Assessment Process

The Single Assessment Process (SAP) was introduced in the National Service Framework for Older People (2001), under Standard 2, 'Person centred care'. Person centred care is about listening to what individuals want, and providing and commissioning services in line with peoples needs and aspirations, so that they are built around the individual.

The Single Assessment Process for older people is based on this approach to person centred care, alongside a recognition that to better meet older peoples needs different agencies need to work together. As such, the SAP is a process or infrastructure designed to support integrated care. The SAP is a 'whole-systems' approach which facilitates the "inter-organisational and cross-sectoral sharing of information intended to improve communication and coordination" (Wilson et al. 2007: 1) among professionals.

The SAP aims to make sure that older people's needs are assessed thoroughly without procedures being duplicated by different agencies, and older people having to repeat their stories unnecessarily.

Clarkson et al. (2006) have conducted a randomised control study comparing an integrated assessment process for older people in the UK which included additional input from an old age psychiatrist or geriatrician with conventional assessments. The study revealed that whilst the process did not decrease the number of elderly people going into care overall, it did succeed in delaying their placement and reducing the

clients contact with nurses and emergency services. Clarkson's et al. (2006) work did not include an economic evaluation, however, it is highly probable that a reduction in use of emergency services and a delayed residential placement generated savings.

Furthermore, the Integrated Service Delivery System which is part of the pilot PRISMA (Program of Research to Integrate Services for the Maintenance of Autonomy) project in Canada includes a single assessment process. The evaluation of PRISMA reported that the project led to a decreased incidence in functional decline, a decreased burden for carers and a smaller proportion of people wishing to go into residential care. As above, whilst there is no economic evaluation, this does not mean that the integrated assessment process delivers no financial benefit. There is evidence that the project had a positive impact through delayed entry into residential care and this undoubtedly reduces costs. However, an economic evaluation would also need to consider the costs of implementing the single assessment process in order to confirm whether savings can be made.

In summary, future work needs to concentrate on developing a methodology for measuring the savings that might be associated with conducting single assessments.

4.2 Joint Commissioning

Joint commissioning is the process in which two or more commissioning agents act together to co-ordinate their commissioning, taking joint responsibility for the translation of strategy into action. National policy has emphasised the need for joint commissioning between local government, health authorities and other bodies. It is argued that joint commissioning will ensure improved outcomes and greater access to higher quality services for communities and individuals as well as delivering savings for the public sector.

However, there is believed to be a lack of joint financing and commissioning in the UK. Formal joint financing expenditure for health and social care was £3.4 billion in 2007/08, which represents just 3.4% of the total health and social care expenditure in that year. However, it is noted that not all joint financing arrangements are reported or recorded. Moreover, pooled funds are usually used for a limited range of services which include; learning disability services, mental health services and integrated community equipment services (Audit Commission, 2009).

Accordingly, there is an overall lack of information regarding the financial benefits of integrated governance arrangements. However, one area that is frequently cited as a success story for joint working and commissioning is Knowsley. It was quoted in an Improvement and Development Agency case study that joint strategic planning and commissioning saves Knowsley Metropolitan Borough Council and PCT over £230,000 a year. The Health and Social Care Commissioning Board there exists to coordinate financing and commissioning across health and social care with the result being that the two areas share a common set of priorities, benefiting both staff and service users.

A key issue regarding the lack of evidence as to the benefits of joint commissioning is that organisations often focus on the administrative processes of establishing joint processes, rather than the benefits of this for service users. Few local authorities and PCTs quantify and measure the outcomes of joint financing or evaluate the process to demonstrate that it is beneficial for service users or that it can generate savings in costs.

Rather, organisations have focused upon the intangible benefits of joint financing such as sharing skills and information, and gaining trust and cooperation to achieve shared goals.

This is significant given that one of the main drivers for PCTs and local authorities behind establishing joint financing arrangements is the belief that it can improve outcomes and service users' experiences. The evidence in the report, however, suggests that it is difficult to identify the extent to which joint financing arrangements have achieved better value for money or have made a direct, tangible difference to service users, due to the lack of work done in this area. The lack of evidence can be partly attributed to the fact that there are an absence of national indicators for partnership working covering both health and social care, and that measuring the benefits of a *process* is not straightforward. Further work is certainly required to fill the gaps in the literature in this area.

4.3 Information Sharing and IT

The sharing of information through technology and databases is another way in which health and social care can be integrated.

A study by McRae et al. (2008) has shown that information sharing through a database can provide more cost effective care for people with diabetes. The intervention, which involved the creation and utilisation of a centralised database of clinical data on patients with diabetes to aid GP's understanding and treatment of the condition, was designed to integrate medical treatment for diabetes with general guidelines for people with the disease related to social care.

A model was used which predicts the costs and outcomes for patients from their time of diagnosis until their death for those receiving conventional care and the intervention. The analysis found that the programme led to improved Quality-Adjusted Life Years (QALY), with incremental cost ratios of $9,730 per year of QALY gained. This study is particularly useful because it models the effects of the programme over a longer time period than most evaluations.

5. Conclusion

Early Intervention

The studies discussed in this review and critical appraisal have highlighted the significance of early intervention. Indeed, it is apparent through the case studies in this report that preventive programmes can realise financial benefits through reducing costs into the future. For example, studies have illustrated that integrated early intervention programmes such as POPP and LinkAge Plus can generate resource savings of between £1.20 and £2.65 for every £1 spent.

In particular, schemes for older people which are designed to help individuals retain their independence and quality of life can delay and/or prevent hospital admissions and residential care placements thus realising significant benefits. For example, it is the case management programmes for elderly people when discharged from hospital that are the most cost effective e.g. $208,278 was saved through reducing acute hospital bed days for frail elderly people in Hong Kong.

Complex Needs

Many of the cost effective initiatives reviewed in this report are focussed on older people, and this is positive as it is the needs of this group that present the biggest cost to the health and social care system. However, lessons from these projects can be applied to services for people with complex needs, and some of the strongest examples of financial benefits of integration did come from services that are not necessarily designed for older people.

The Supporting People and Denver First Housing programmes have illustrated that the provision of housing related support and guidance to vulnerable people can help prevent or delay a range of events or incidents often requiring health and social care intervention. The Supporting People evaluation provides strong evidence of the impact of work in one sector upon another, thereby making the case for taking a broader view of public services, recognising the impact that one has on another, and having this broader view in mind when commissioning health and social care services. Indeed, the people who most benefit from programmes such as Supporting People are those with complex needs, whose issues span the divides between health, housing, social care, employment, criminal justice etc.

Measuring outcomes

There are many difficulties associated with the economic evaluation of integrated care. Randomised control trials are considered to be the best of way of measuring the effects of an intervention, however, it is not always possible to conduct such a trial in the context of integrated care. As a result, many of the interventions are measured using methods that offer poor validity and reliability, and from which one cannot be certain that the effects are *caused* by the integration of health and social care.

What is significant about the research into the financial benefits of the Supporting People programme is that it captures and monetises a number of costs, in addition to those related to acute hospital care such as emergency admissions. Whereas, the majority of the economic evaluations have considered hospital costs – the Supporting People evaluation actually monetises the costs of a range of other events or incidents associated with different client groups that have costs for the public sector,

meaning that costs to social services, the third sector and the prison service, for example, are measured and accounted for.

Lack of evidence with regard to structural integration and integrated processes

Currently, the majority of economic evaluations have focused on specific programmes and services that have been developed to integrated health, housing and social care, however there is also scope for structural and administrative alterations or restructuring to produce cost efficiencies.

Capturing the long term financial benefits

Another challenge is capturing the long term financial benefits. The majority of studies in this report have examined the financial benefits either through comparing groups in a randomised control trial at a set date, or comparing costs before and after the implementation of integration. Most evaluations have focused on changes up to 2 years after the introduction of the scheme.

The studies that have concluded that integrated care is not cost effective were often conducted over relatively short time periods; however many of the benefits of integration will accrue as individuals remain independent well into the future. Given the importance of early intervention, it is of the utmost importance that future work focuses on the long term cost benefit of integration, as it is likely that the most significant financial benefits will be recognised in the longer, rather than short term.

This is an important point made in the evaluation of the Supporting People programme, where it is suggested that for the three client groups where a positive net financial benefit was not found, that financial benefits will accrue over a longer time period that can be measured or accounted for in the current research. This suggests that future research may have to consider the possibility of developing longitudinal studies to capture the financial benefits that are accrued over time.

Summary

In short, a systematic review of the literature demonstrates that there is evidence that integration in health and well-being services can be cost effective. However, the evidence base is still relatively small and there is a need for more comprehensive and large scale evaluations. What is more, it is imperative that future research utilises and reflects upon those studies that have been conducted in order to practice more suitable and reliable ways of measuring and monetising the wide range of benefits that can be realised from developing more integrated health and social care services.

Appendix 1

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Literature Search History

The literature searches were conducted based on the information that was presented in the title of the web page or article. For each search, a minimum number of pages or results were read. The following is a rough guide:

- Over 1000 results = pages 1-5
- Over 10,000 results = pages 1-10
- Over 1,000,000 = pages 1-20

Audit Commission website/Integrated services (1792: pp. 1-10 of search)
Centre for Reviews and Dissemination/Care trusts AND cost benefit (45)
Centre for Reviews and Dissemination/Joint commissioning AND cost benefit (71)
Centre for Reviews and Dissemination/Care programme approach mental health AND cost benefit (71)
Centre for Reviews and Dissemination/Single assessment process AND cost benefit (239)
Centre for Reviews and Dissemination/Cost benefit AND integrated care (101)
Centre for Reviews and Dissemination/Integrated Care (222)
Google/Cost effectiveness AND integrated care
Google/Integrated health and social care AND cost benefit analysis (208,000: pp: 1-10 of search)
Google/integrated health and community services AND cost benefit analysis (422,000: pp 1-10 of search)
Google/ case management and cost benefit analysis (2,330,000: pp 1 -20 of search)
Google/ health navigators cost benefit analysis (14,700: pp 1-10 of search)
Google/single assessment process AND cost benefit analysis (137,000: pp 1-10 of search)
Google/effective joint commissioning health and social care (35,300: pp 1-10 of search)
Google/common assessment frameworks evaluation (1,450,000: pp 1-20 of search)
Google/common assessment frameworks for adults AND cost benefit (48,900: pp 1-10 of search)
Google/common assessment framework barnet evaluation (126,000: pp 1-5 of search)
Google/Knowsley AND integration (42,700: pp 1-10 of search)
Google/ joint working knowsley benefits (17,700: pp. 1-10 of search)
Google/ cost benefit integrated commissioning health (739,000: pp 1-10 of search)
Google/Poole Borough Council AND POPP (526: pp. 1-5 of search)
Google/evaluation joint health commissioning (863,000: pp. 1-10 of search)
Google/cost effectiveness of joint commissioning (145,000: pp.1-10 of search)
Google/ care programme approach cost benefit (1,650,000: pp. 1-20 of search)
Google/evaluation of Evercare (1,650: pp. 1-10 of search)
Google/Castlefields integrated care model (1,660: pp. 1-10 of search)
Google/Community health navigators (33,000: pp. 1-10 of search)
Google/Complex care teams AND cost benefit (6,200,000: pp.1-20 of search)
Google/Complex care services (885,000: pp. 1-10 of search)
Google/Complex care teams AND cost benefit (126,000: pp.1-10 of search)
Google/Local health care co-operatives scotland evaluation (26,200: pp 1-10 of search)
Google/cost effectiveness of co-production in health services (86,700: pp. 1-10 of search)
Google/integrated community mental health teams cost effective (315,000: pp. 1-15 of search)
Google/joining up AND self care (768,000: pp.1-15 of search)

Google/village agents AND economic evaluation (1,640,000: pp.1-20 of search)
Google/Lead professionals AND cost effective (2,880,000: pp.1-20 of search)
Google/Budget holding lead professionals evaluation cost (181,000: pp. 1-10 of search)
Google/ Cost-effectiveness of lead professional budget holding for children with special needs (15,900: pp.1-10 of search)
Google/Joint commissioning in children's services (286,000: pp.1-15 of search)
Google/COMPASS mental health Birmingham (27,500: pp.1-10 of search)
Google/ cost effectiveness of pooled budgets (347,000: pp. 1-15 of search)
Google/treasury economic evaluations cost effective (101,000: pp.1-10 of search)
Google/tools for appraising economic evaluations (1,540,000: pp.1-20 of search)
Improvement and Development Agency/integrated care (227)
International Journal of Integrated Care/Cost effective (72)
International Journal of Integrated Care/Cost effectiveness AND integrated care (405: pp.1-30 of search)
ISI Web of Knowledge/Cost effectiveness AND integrated care (601)
ISI Web of Knowledge/Integrated health and social care (2383: pp.1-20 of search)
Joseph Rowntree Foundation/integrated health and social care services (1049)
Kings Fund/ integrated health and social care services (4)
Kings Fund Knowledge Database/ integrated health and social care services (227)
The Cochrane Library/Integrated Care (11)
NCVO/Integrated Care (28)
Social Care Online/Integrated services (377)
Social Care Online/Integrated services + cost benefit (0)
The Cochrane Library/Integrated Care (11)

Appendix 2

The Critical Appraisal Checklist is an extremely useful tool for assessing the quality of the evidence discussed in an economic evaluation. It was of great utility when assessing the quality of the larger economic evaluations such as Supporting People, LinkAge Plus and POPP. However, it was quite difficult to use when there was a limited amount of information on the methods used to conduct the evaluation, as the questions are quite specific.

Critical Appraisal Checklist

The Critical Appraisal Checklist for Economic Evaluations adapted from;

1. Critical Appraisal Skills Programme (CASP), Public Health Resource Unit, Institute of Health Science, Oxford Drummond et al. (1997) Methods for the economic evaluation of health care programmes (Second Edition). Oxford: Oxford Medical Publications
2. Drummond et al. (2001) Methods for the economic evaluation of health care programmes Oxford: Oxford Medical Publications

Is this economic evaluation likely to be useable?

	Yes	Can't tell	No
1. Was a well defined question posed in an answerable form? - Is it clear what the authors were trying to do?			
2. Was a comprehensive description of the competing alternatives given, i.e. can you tell who did what to whom, where and how often?			
3. Was there evidence that the programme's effectiveness had been established? - Was the study attached to the economic evaluation a randomised control trial? - How valid was the study design used?			

How were outcomes and costs assessed and compared?

	Yes	Can't tell	No
4. Were all the important and relevant outcomes and costs for each alternative identified? - What perspective was taken?			
5. Were outcomes and costs measured accurately in appropriate units?			
6. Were the outcomes and costs valued credibly? - Were opportunity costs considered?			
7. Were outcomes and costs adjusted for different times at which they occurred (discounting)?			
8. Was an incremental analysis of the outcomes and costs of alternatives performed?			
9. Was a sensitivity analysis performed? - Were the main areas of uncertainty considered?			

Will the results help in purchasing for local people? (Less relevant)

	Yes	Can't tell	No
10. Did the presentation and discussion of the results, include all or enough, of the issues that are of concern to purchasers?			
11. Were the conclusions of the evaluation justified by the evidence presented?			
12. Can the results be applied to the local population?			

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