

Health Services Management Centre

# **Making the Shift: Key Success Factors**

**A rapid review of best practice in shifting hospital care  
into the community**

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# Foreword

The White Paper 'Our Health, Our Care, Our Say: a new direction for community services' lays out the Government's vision of community-based care. It builds upon broad public sector reforms, encouraging people to live more independently and to exercise greater personal choice. In order to achieve this, people will look for greater flexibility in service provision, improved accessibility, more timely interventions, a broader range of service providers from whom they can choose their care, and care closer to home with minimal disruption to their daily lives.

These changes require a significant 'shift' in the way care is delivered, away from what is often a 'one size fits all' approach, frequently delivered in a specialist setting, to a community based, responsive, adaptable, flexible service. This is far more than simply changing the location from where care is delivered. It is also about changing mindsets and behaviour across the whole system.

The NHS Institute for Innovation and Improvement's Primary Care/Long Term Conditions Priority Programme is working with five local health and social care communities to establish how far this vision has already been adopted and to further understand how to deliver shift and how to accelerate this change across the NHS. The programme aims to show how we can make the shift happen in practice, quickly and broadly. This builds on, informs and supports other local and national strategies to execute the White Paper goals.

This rapid review of the evidence was commissioned to help underpin the development of the Institute's Priority Programme. It suggests that there are many promising approaches and frameworks for supporting the shift, and others that we may need to investigate further.

The evidence review was undertaken at the same time as a rapid review of NHS experience in making the shift. Copies of the experience review are available from the NHS Institute.

We are publishing the material to help NHS and social care organisations already planning or implementing shifts in care. We hope that this summary of evidence about what works and key success factors will be of real assistance. Early in 2007, we will make available additional learning derived from the local communities we are working with. At that stage, we will launch a programme of tools and guidance on how to make a sustained shift that creates a real difference for people using health and social services.

Gary Lucking  
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# Executive Summary

'Our Health, Our Care, Our Say: a new direction for community services' describes the Government's vision for shifting health and social care further into the community.

[The] White Paper is an important new stage in building a world-class health and social care system. It meets the health challenges of the new century ... These proposals, part of the Government's wider reform programme, will allow us to accelerate the move into a new era where the service is designed around the patient rather than the needs of the patient being forced to fit around the service already provided.<sup>1</sup>

The NHS Institute for Innovation and Improvement's Primary Care / Long Term Conditions Priority Programme is examining the most effective strategies to support shifting specialist care into the community. The Institute is working with local NHS test sites to examine how such shifts work in practice; which approaches help encourage shifts; and how to accelerate effective, evidence-based change across the NHS.

This rapid review of strategies to facilitate shifts in care provides evidence to help underpin development and learning within the test sites.

## Identifying evidence

We searched 16 electronic databases to identify systematic reviews, randomised trials, and other high quality studies about components of shifting care from hospitals into the community. All studies were published between 1980 and 17 May 2006. There were no language or geographical restrictions.

We screened 252,401 citations, and summarise the findings of 613 here.

## What works?

'Our Health, Our Care, Our Say' suggests that five components of the secondary care pathway may be most amenable to shift to the primary care sector:

- simple diagnostic tests
- outpatient appointments
- day case surgery
- step down care
- and outpatient follow up

Our review found evidence to support some of these priorities, specifically: diagnostic testing, day hospitals, and outpatient appointments and follow up.

The review also identified a number of additional strategies that may help refocus care into the community, including:

### 1. Integrating primary and secondary care services

- broad managed care programmes
- changes in the attitudes and behaviours of staff
- partnership working with voluntary groups

### 2. Substituting the skills of one provider for another

- utilising the skills of service users
- substituting nurses for doctors
- multidisciplinary community mental health teams

### 3. Changing where services are located

- shifting care to non health venues
- home visits added to usual care
- hospital-at-home services
- ongoing long-term care in primary care
- primary care follow up after hospital discharge
- telecare information and support

#### 4. Changing the way care is provided in hospital

- developing multidisciplinary hospital teams
- discharge planning

#### 5. Supporting self care

- service user initiated follow up after discharge
- automated telemonitoring
- self monitoring
- self management education

#### 6. Providing care according to need

- targeting people at highest risk

#### 7. Simplifying access to services

- direct GP access to hospital based tests
- direct GP access to specialist treatment

### Key success factors

Those initiatives that have successfully supported a shift from hospital to community care have a number of common features, including:

- empowering people to take responsibility
- focussing on changing professional behaviour
- training to support staff in new roles
- increasing staff competencies
- adequate investment in services
- adequate timeframes in which to test services
- realistic targets
- involvement of all key stakeholders
- whole systems approaches
- providing care based on levels of need
- not running (competing) services in parallel
- and not assuming that shifts will reduce costs

The key learning points from the published evidence are:

Shifting the focus from hospital to primary care requires much more than simply moving services out of hospital. In fact, there is little evidence that moving hospital specialists or equipment into community venues will help reduce reliance upon secondary care.

Good leadership and a strong culture of quality improvement appear to be important ingredients. Similarly, the attitudes and behaviours of healthcare professionals are essential elements in facilitating or blocking shifts in care. It will be important to examine what would encourage staff to make changes, and the crucial factors that would support such changes. It may also be important to assess the competencies required in changing staff roles and to put appropriate time and resources into upskilling staff where required.

If the aim of transferring services to primary care is to substitute for secondary care rather than to increase overall capacity, it is important to cease secondary care services rather than 'doubling up.'

It cannot be assumed that shifting care from hospital will automatically reduce costs.

These conclusions are based on a rapid review of the literature. The quality and quantity of available research varies widely. We can describe with some certainty interventions that have worked well to facilitate shifting care into the community, but there is insufficient information about a number of key interventions. It is also uncertain whether strategies that have worked well in international health economies will work well in the UK.

To build on the research summarised here, and evidence of local experience (summarised in a companion document), the NHS Institute for Innovation and Improvement is working with several pilot sites to test innovative ways of shifting care. In working with the pilot sites, it will be important to examine the support required to provide high quality sustainable services and to consider contextual factors affecting implementation.

# Contents

<b>1.</b>	<b>Making the shift: background</b>	<b>1</b>
	Why shift care?	1
	How is care changing	2
	Supporting the shift	2
	Scope of the review	3
	Identifying evidence	4
	Things to bear in mind	5
<b>2.</b>	<b>Making the shift by integrating services</b>	<b>6</b>
	Managed care programmes	6
	Shared care	8
	Multidisciplinary teams	10
<b>3.</b>	<b>Making the shift by changing locations</b>	<b>13</b>
	Providing care at home	13
	Intermediate care	16
	Outpatient clinics in primary care	17
	Shifting routine care	18
	Ongoing follow up in primary care	19
<b>4.</b>	<b>Making the shift by substituting skills</b>	<b>20</b>
	Service users	20
	Nurses	20
	Community mental health teams	21
	GPs with special interests	22
	GPs performing minor surgery	23
<b>5.</b>	<b>Making the shift by changing hospital care</b>	<b>24</b>
	Rapid access clinics	24
	Observation units	24
	Day hospitals	25
	Discharge planning	25

<b>6.</b>	<b>Making the shift using technology</b>	<b>26</b>
	Telemedicine consultations	26
	Telecare alert services	26
	Telemonitoring	27
	Telecare information and support	28
<b>7.</b>	<b>Making the shift by supporting self care</b>	<b>30</b>
	Providing accessible information	30
	Self management education	32
	Self monitoring	33
	Written plans	34
	Patient held records	34
	Open access to outpatient care	35
	Changing professionals' attitudes	36
<b>8.</b>	<b>Making the shift by substituting organisations</b>	<b>37</b>
	Treatment centres	37
	Community groups	37
<b>9.</b>	<b>Making the shift by targeting people</b>	<b>38</b>
	Registries	38
	Risk assessment tools	38
	Changing referral behaviours	40
<b>10.</b>	<b>Making the shift by simplifying pathways</b>	<b>41</b>
	Formal care pathways	41
	Direct access to diagnostics	42
	Direct referral to treatment	43
<b>11.</b>	<b>Making the shift: key success factors</b>	<b>44</b>
	What works best?	44
	Key success factors	47
	Annex 1: Keywords used in searches	49
	References	50





# 1. Making the shift: background

## Why shift care?

People in the UK want more flexible, accessible, and timely health and social care services.<sup>2</sup> 'Our Health, Our Care, Our Say: a new direction for community services' describes the Government's vision for shifting health and social care further into the community.<sup>3</sup> The White Paper builds upon other public sector reforms, which emphasise supporting people to live independently and stimulating greater personal choice.

In future, far more care will be provided in more local and convenient settings. People want this, and changes in technology and clinical practice are making it safer and more feasible.<sup>4</sup>

This vision requires a significant 'shift' in the way care is provided, away from a reactive 'one size fits all' approach, towards more responsive community based services.

The government suggests that this shift is important because it is what local people want and because it will help ensure that services are efficient and sustainable.

Services based in acute hospitals are expensive. In fact, acute hospital treatment accounts for more than half of all NHS spending.<sup>5</sup> However, many services are provided in hospital merely due to tradition. There may be no clinical reason why they could not be provided in health centres, Children's Centres, or other community locations. This is especially true of diagnostic testing, follow up after hospital discharge, and other appointments that do not require an overnight stay in hospital (outpatient appointments).

Currently there are nearly 45 million outpatient appointments every year in England. Estimates vary by specialty, but for some specialties up to half of these could eventually be provided in a community setting.<sup>6</sup>

As the population continues to age, there will be even greater demands on health and social care systems.<sup>7</sup> Service provision based around hospitals may be inefficient and unaffordable.

In this context, the government is encouraging NHS and social care organisations to increase the number of people seen in the community rather than in hospital and to limit the number of referrals to hospital services.

However 'making the shift' from hospital to community care involves much more than merely changing the place at which services are provided. Instead, there needs to be a change in the entire way that care is conceptualised and organised. While shifting the location of services is an important step, this needs to be coupled with changes in the roles and relationships of service users, commissioners, and providers.

Shifting care closer to home is one of the pillars that supports our vision of improved community health and social care. What we are seeking is nothing less than a fundamental change in the way health and social care operates, a change that will inspire staff to deliver better quality care and that will put people in control.<sup>8</sup>

## How is care changing?

A wide range of new initiatives are planned or are underway to address the White Paper vision of care in the community. The Audit Commission notes that new service models of this nature should be evaluated fully.

Services [are] often introduced without thorough analysis of the level and types of activity needed to improve access, the human resources needed to deliver it, or the costs this should entail.<sup>9</sup>

In acknowledgement of the need for an evidence-based and fully evaluated service, the Department of Health is working in partnership with demonstration sites to establish new ways of working that can be expanded across the country. The demonstration sites focus on six key clinical areas:

- ear, nose and throat,
- trauma and orthopaedics,
- dermatology,
- urology,
- gynaecology,
- and general surgery.

The aim is to reduce reliance on hospital care, with greater emphasis on community-based specialists and services, including nurses, general practitioners with special interests, and community based diagnostic and treatment facilities.

In particular, the Department of Health has identified scope to shift the following types of care from acute hospitals (see Figure 1):

- simple diagnostic tests,
- outpatient appointments,
- day case surgery,
- step down care,
- and outpatient follow up.

## Supporting the shift

The NHS Institute for Innovation and Improvement was set up in 2005 to help identify potential solutions to key challenges and to test innovative ideas, practices, and technologies to improve care, including the shift from hospital to community care.

The mission of the NHS Institute for Innovation and Improvement is to improve health outcomes and raise the quality of delivery in the NHS by accelerating the uptake of proven innovation and improvements in healthcare delivery models and processes, medical products and devices and healthcare leadership.<sup>10</sup>

The Institute has set up a Primary Care / Long Term Conditions Priority Programme to examine the best strategies to support shifting care into the community. The Programme involves working with local NHS test sites to examine how shifting care works in practice, which approaches help encourage and increase shifts, and how to accelerate effective, evidence-based change across the NHS.

The challenge is to make best practice in the NHS the norm, rather than the exception. Shifting care has to be evidence-based.<sup>11</sup>

The Institute recognises that good practice should be based on previous experience and research. Therefore the field tests are underpinned by a review of the literature and a review of NHS experience about success factors for making the shift.

This rapid review of published research is one component of the NHS Institute's underpinning evidence base.

## Scope of the review

The aim of this rapid review is to help identify key success factors in shifting the provision of specialist services from acute hospitals towards care in the community.

The review describes high quality studies that have evaluated the impact of interventions designed to produce strategic shifts of care. The findings from the review will be combined with a description of NHS experience and case studies plus the learning from the Institute's field sites to help develop a set of high impact solutions for making the shift.

The University of Birmingham's Health Services Management Centre team has reviewed NHS experience relevant to the making the shift. This experience review comprises a survey of SHA leads and two 'by invitation' workshops for clinicians and managers knowledgeable about shifts of care in England. The experience review is reported in a separate document, to be read in conjunction with this review of published literature.

Based on these reviews and field test sites, the Institute aims to be able to provide practical guidance about how to implement and accelerate changes in an evidence-based way.

The Institute's Primary Care / Long Term Conditions Priority Programme has identified four key themes to consider when shifting services from hospital:

### 1. Integration of services

### 2. Substitution

- of location
- of skills
- of technology
- from clinical to self management
- of organisations

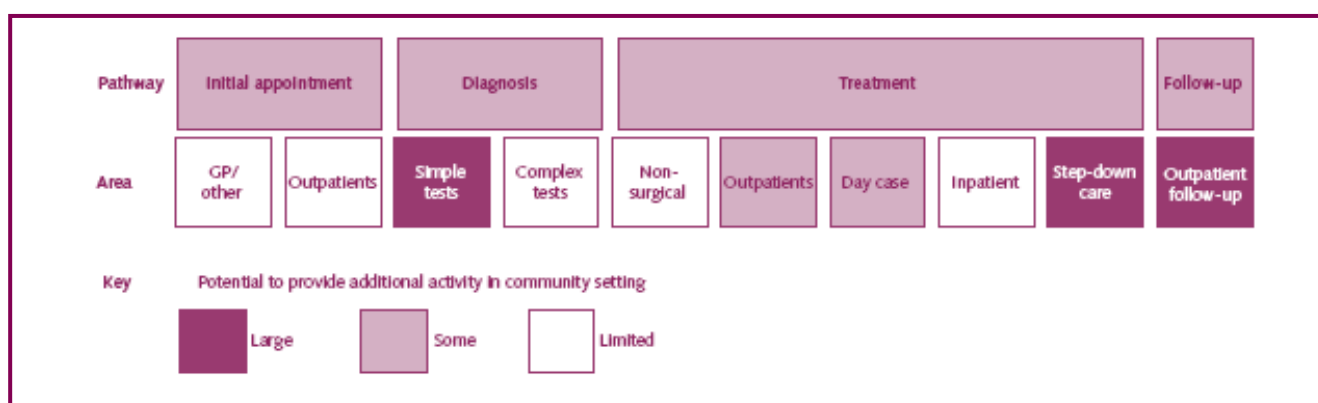
### 3. Segmentation (including sectors and targeting)

### 4. Simplification (reducing structures and pathways)

This review summarises research to identify what works best to achieve each of these themes.

Although Department of Health priority areas were used as a starting point to conceptualise the review, the review is much broader than the areas identified by the Department as having potential to shift care (see Figure 1). Literature is drawn from many specialisms in addition to the six clinical priority areas identified for the Department of Health demonstration sites. This is because the NHS Institute wanted to collate as much evidence as possible about best practice in the core themes above, that can then be applied to pilot sites.

**Figure 1: Department of Health analysis of potential to shift<sup>3</sup>**



## Identifying evidence

To identify studies for the review, one reviewer searched 16 electronic databases including Medline, Embase, Eric, C2-SPECTR, Cinahl, the Science Citation Index, the Cochrane Library and Controlled Trials Register, PsychLit, HealthStar, the WHO library, Health Management Information Consortium, Sigal, ReFeR, Dissertation Abstracts, National Research Registers, and ASSIA for material available as at 17 May 2006.

Keywords are listed in Annex 1.

We contacted experts in the field and hand searched relevant journals, websites, conference proceedings, and the bibliographies of identified articles for additional studies. Due to the timeframe for completion, only readily available published research was eligible for inclusion.

There were no language restrictions. Any documents in a language other than English were translated, by the original authors where possible.

To be eligible for inclusion in the review, studies had to:

- be primary research or systematic reviews,
- assess an intervention related to at least one of the four core themes for shifting care identified by the NHS Institute,
- include data on outcomes for service users or health or social care systems,
- be published between 1980 and 17 May 2006.

In total, two reviewers independently assessed summaries of 252,402 studies. Inter-rater agreement was 98%. After discarding repeated reports and papers that did not contain relevant primary or secondary research, the full text of 62,312 studies was checked for validity and relevance by two reviewers independently, using the methodology of the Cochrane Collaboration and the NHS Centre for Reviews and Dissemination.

Studies of any design, any sample size, and on any topic area or clinical field were eligible for inclusion. Studies low in the hierarchy of research evidence were excluded if larger and more rigorous research was available on that topic. In other words, priority was given to systematic reviews and randomised trials. Less rigorous designs were included as exemplars if few randomised trials or systematic reviews were available on a certain topic. Individual studies included in systematic reviews were not reported twice.

613 studies met these criteria and are summarised in this overview.

One reviewer extracted data about interventions, origin, participant and disease characteristics, and outcomes from all included studies. Ten percent of extracted studies were checked for accuracy by a second reviewer. Inter-rater agreement was 100%. Data were extracted using a standardised form. When more than one publication was available about the same study, these reports were extracted together.

The studies are heterogeneous in design, participants, and intervention types, so it is not possible to undertake a meta-analysis quantifying the impacts of different interventions or detailing the extent to which various characteristics contributed to good practice. Instead, the key findings are synthesised in narrative form.

The findings of selected studies are used as examples to illustrate general themes. The review examined interventions that may work well across a range of speciality areas, rather than focussing solely on disease-specific interventions. Studies of people with particular types of conditions are provided as examples to illustrate key success factors and good practice, but the aim is to generalise to people with a wide range of needs.

## Things to bear in mind

This rapid review is not an exhaustive overview of all evidence on this topic. It does not attempt to systematically review research about every type of intervention to shift care into the community or to alter the type of care provided in acute settings. Instead, the aim is to summarise key trends to help identify good practice - practice that could be trialled within the Institute's pilot sites.

Before summarising the evidence, it is important to raise the following caveats:

- The review focuses on identifying interventions that work well to shift specialist care into the community. Other interventions might have equally important outcomes for service users, staff, and health and social care systems, but only interventions that may impact on shifting care are included.
- In many instances the quality and scope of the evidence is lacking. While a number of innovative strategies are currently being trialled in the UK and abroad, data from most of these is not readily available. The companion 'experience review' document prepared by the University of Birmingham Health Services Management Centre team seeks to describe some such practice which has not been reported in published form.
- A lack of comparative evidence does not mean that there are no differences between interventions or that an initiative has no impact. It merely means that there is insufficient evidence to draw conclusions, positive or negative.
- Many of the studies included complex interventions with multiple interventions. It is difficult to isolate which components of these interventions may be most beneficial, or which best support shifts in models of care.

- It is also important to emphasise that the context in which initiatives are implemented has an impact on outcomes. Much of the available evidence is sourced from the United States or Europe, which have very different healthcare economies and styles of working to the UK. While we can draw inferences about the merits of different initiatives from the evidence summarised overleaf and suggest areas in need of further local testing, we cannot assume that outcomes would be the same when transferred to a UK context.

- On a related note, some studies compare an intervention with 'usual care.' What comprises 'usual care' in one country or location may be very different from 'usual care' in another context. Often studies do not define the components of usual care in any detail, however.

- The data was synthesised by one reviewer and checked by a second. Ideally, a second reviewer would have participated more fully in the synthesis process to check for accuracy and consistency.

Readers should bear these points in mind when interpreting the findings of the review.

However, despite these limitations, we believe this review is sufficiently robust to identify important factors that may have most impact in shifting care from hospital to the community and to highlight good practices that can be tested further in pilot sites.

## 2. Making the shift by integrating services

One of the NHS Institute's key themes for shifting more care into the community involves integrating primary (community) and secondary (hospital) services. This section examines some potential ways to integrate services, including:

- providing managed care programmes,
- sharing care between GPs and hospitals,
- sharing care between health and social care,
- and working in multidisciplinary teams.

### Managed care programmes

The Department of Health's strategy for reducing reliance on hospital care draws heavily on the principles of broad managed care programmes, particularly those developed to support people with long-term conditions.<sup>12</sup>

There are many different definitions of managed care, but this term has come to refer to co-ordinating and monitoring care through an entire spectrum of services (home care, primary / community care, and hospital care). Care is 'managed' to help people receive the most appropriate care in the most suitable settings for their individual needs.

Some programmes have developed into formal named 'models' of managed care and other strategies are known more generically as 'disease management.'

Many broad programmes are based on the *Chronic Care Model*, originally developed in the United States. Programmes based on this model aim to redevelop care by focusing on six main elements:<sup>13</sup>

- using community resources to meet people's needs,
- creating an organisational culture and mechanisms to promote safe high quality care,
- empowering and preparing people to manage their health and healthcare,
- delivering effective, efficient care and self-management support,
- promoting care that is consistent with research evidence and service users' preferences,
- and organising data to facilitate better care.

Although there are some dissenting views,<sup>14</sup> the majority of evidence suggests that broad managed care programmes can reduce reliance on hospital care by reducing the length of stay in hospital or nursing homes,<sup>15</sup> and avoiding the need for hospital admission.<sup>16,17, 18,19,20</sup>

For example, a systematic review of multi-component programmes for people with heart failure included seven studies with 3927 participants. Key success factors in reducing reliance on hospital care included joint working by cardiologists and nurses; patient education; lifestyle changes; exercise; home visits; nurse case managers; a multidisciplinary team; weekly mailings and telephone calls; home monitoring; and intensive outpatient support in primary care. Six of the seven studies included in the review reported a 50% to 85% reduction in hospital admissions.<sup>21</sup>

Another trial in the US examined providing people with heart failure with education from a geriatric cardiac nurse, medications review by a geriatric cardiologist, early consultation with social services to support discharge planning, dietary advice from a hospital dietician, and follow up after discharge by a home care team.<sup>22</sup> Here the important success factors in reducing hospital use were (1) integrated working by hospital specialists and the primary care team, and (2) ongoing follow up in primary care rather than in hospital.

Cost-effectiveness analyses are also positive. For instance, a comparison of the cost-effectiveness of the Kaiser Permanente model of managed care in the US found that managed care was associated with more comprehensive and convenient primary care and more rapid access to specialist services compared with NHS models. Age-adjusted rates of acute hospital use were one third of service use in the NHS.<sup>23</sup>

A similar cost analysis found that the Kaiser model reduced days in hospital compared to the NHS. The authors argued that the major reason was integrated care.<sup>24</sup> The Kaiser model has integrated inpatient and outpatient care which enables people with long-term conditions to move between hospitals and the community, or into nursing facilities if needed. Medical specialists work alongside general practitioners in multidisciplinary medical groups, rather than being 'tied' to specific hospitals. The Kaiser model also integrates prevention, diagnosis, and treatment. Doctors have rapid access to diagnostic services in the outpatient setting, so people do not need to stay in hospital solely for diagnostic purposes.<sup>25</sup>

However, most studies cannot distinguish which components of managed care programmes are most effective.<sup>26</sup> Therefore although there is good evidence that these programmes can help reduce reliance on hospital care and shift to a greater focus on care in the community, the available research gives us limited insight into specific 'good practice' factors for shifting care.

Much research about the effects of multi-component managed care programmes is not 'high quality' evidence. There are randomised trials of specific components of the *Chronic Care Model*, such as self-management or risk stratification (summarised in separate sections overleaf), but there have been relatively few high quality studies assessing best practice within broad managed care programmes themselves. Those studies that do exist tend to have relatively small samples, be sponsored by industry, or to be observational studies rather than trials.

Most studies of managed care are also based in the US, meaning that they are unlikely to be generalisable to a UK context.

In order to identify best practice for shifting care into the community, it is perhaps more useful to examine specific components of managed care programmes in more detail. One important component involves sharing care between family doctors and hospital specialists.



## Shared care

'Integrated' or 'shared care' is a term used to describe collaborative working, commonly between community (primary care) and hospital (secondary) care.

There are four main ways that care can be shared between primary and secondary care:

- In the most simple models, appointments alternate between GP clinics and hospital settings.
- More formal models of shared care involve hospital specialists and primary care practitioners deciding on a joint management plan with elements delivered by each clinician. This may enable primary care staff to manage people that they might not otherwise feel confident to manage alone. The aim is to reduce outpatient attendances and help people receive more of their care close to home.<sup>27</sup>
- Another way of sharing care involves joint consultations or joint planning between primary care and specialists. This is sometimes known as the consultation-liaison model. Care is shared through regular face-to-face contact between specialists and the primary care team. Referral to specialist services takes place only after the primary care team and specialist have met to discuss the service user. If the specialist takes on the referral, they feed back to the primary care team and help the team manage the service user. This model has been used most extensively in mental health services.<sup>28</sup>
- The term 'shared care' has also been used to describe involving health specialists, social care, and voluntary organisations in primary care processes, for instance as part of a multidisciplinary team.

Sharing care between GPs and hospital specialists has been promoted to improve efficiency in healthcare delivery and reduce perceived fragmentation of services. However, we found inconsistent evidence about whether shared care really does make a difference to shifting the focus from hospital care.

### *Alternating appointments*

It is uncertain whether alternating appointments between primary and secondary care will consistently improve outcomes for service users and reduce hospital use.

A randomised trial in the UK found no significant differences in unplanned admissions between integrated care and usual hospital care for people with diabetes. The integrated care group was seen in general practice every three or four months for two years and at a hospital clinic annually.<sup>29</sup>

On the other hand, a randomised trial of shared primary and secondary care following hospital discharge involved review at a hospital heart failure clinic, individual and group education sessions in primary care, and follow-up alternating between the hospital and GP. Alternating appointments, and the improved communication that resulted, reduced multiple hospital admissions.<sup>30</sup>

Few studies have assessed the benefits of sharing records between primary and secondary care, but those that do exist have inconsistent findings.<sup>31</sup>



### *Joint management*

Similarly, the benefits of joint clinical management, with primary care practitioners and specialists allocated specific roles, remain uncertain.

A Cochrane review of shared care involving joint management of individual service users is currently underway.<sup>32</sup> Preliminary findings suggest that shared care can improve treatment satisfaction, medication adherence, and care delivery in people with long-term conditions, but may not affect health outcomes.<sup>33</sup>

Another review found that shared care was associated with few differences in clinical and health outcomes, but people receiving shared care were less satisfied. There was inconsistent evidence about costs.<sup>34</sup>

Other studies also have less than favourable findings about the effects of shared care.<sup>35,36</sup> For example, a systematic review of different ways to organise asthma care included 27 studies of integrating services across the primary and secondary sectors, including shared care, general practice asthma clinics, outpatient programmes, inpatient admissions policies, and use of specialists. Although shared care was generally as effective as hospital-led care, there was no evidence to favour one strategy over another, and no difference in unplanned admissions.<sup>37</sup>

A Cochrane review assessed the effect of integrating primary healthcare services on cost, outcomes, and user acceptability. There was no consistent pattern of benefits. In half of the studies in the review, integrated services were associated with less positive outcomes than usual care.<sup>38</sup>

### *Consultation-liaison model*

Consultation-liaison, whereby specialists and primary care practitioners meet to decide on referrals and to manage ongoing care, aims to increase the skills and confidence of generalists and to minimise unnecessary referrals.<sup>39</sup>

This approach has been linked to improved functional status in mental health, though the effects on other outcomes are less certain.<sup>40,41,42</sup>

A Cochrane review found little change in referrals to hospital outpatient clinics. There was some evidence that GPs' prescribing may change, but only when this shared care approach is part of a multifaceted intervention and when service users are under the direct care of specialists.<sup>43</sup>

Consultation-liaison models do not appear to improve clinical outcomes or impact on outpatient referral rates. There is limited good quality data on which to base conclusions about any impacts on the cost of care. However, since there is little evidence that consultation-liaison models are effective (in terms of improvement in reported outcomes), they are unlikely to be cost-effective.

While shared care between GPs and hospitals can improve satisfaction and some clinical outcomes, there is little evidence that shared care consistently reduces reliance on hospital services or prevents readmission to hospital.

It appears that the benefits of shared care are specific to local contexts<sup>44,45</sup> and that good communication between specialists and primary care staff is a critical success factor in areas where this works well.<sup>46</sup>

## Multidisciplinary teams

Multidisciplinary teams are often a component of integrated care strategies. There is evidence about multidisciplinary teams in primary care, in hospital, and teams that span community and specialist fields.

### *Adding specialists to primary care teams*

The main characteristic of attaching specialists to primary care teams is that the specialist is integrated within primary care services and may even be employed by the primary care team. Service users might be managed by specialists within the primary care team instead of being referred to outpatient services, thus promoting greater access to services whilst reducing referrals.

Two systematic reviews found that this model improved physiotherapy health outcomes, reduced waiting times, and reduced costs compared to outpatient clinics. Adding physiotherapists to primary care teams also reduced the overall demand on hospitals.<sup>47,48</sup> But a systematic review of integrating specialist epilepsy nurses into primary care teams found no significant impact.<sup>49,50</sup>

Research has also investigated integrating pharmacists into traditional primary care teams made up of practice nurses and GPs.<sup>51,52,53,54,55,56,57,58,59</sup> However, we found no evidence to directly link expanding the role of pharmacists with reducing reliance on acute hospital care.

One randomised trial in the United Kingdom assessed home-based medication review by pharmacists as part of primary care. Participants were aged over 80 years with an unplanned admission from any cause. Rather than reducing admission rates, pharmacist medication reviews were associated with a significantly higher rate of unscheduled admissions.<sup>60</sup>

Another trial in The Netherlands found that monthly consultations from a community pharmacist had no effect on unplanned admissions in people with heart failure.<sup>61</sup>

We identified a number of studies suggesting that including mental health workers within primary care teams could increase communication, improve perceived quality of care, and improve some symptoms.<sup>62,63,64,65,66</sup> On the other hand, a Cochrane review of 38 studies assessed the effects of on-site mental health workers in primary care. There was no evidence that adding mental health workers to primary care teams in 'replacement' models promoted a significant change in the behaviour of primary care staff. 'Consultation-liaison' interventions where primary care and mental health providers worked together may lead to changes in prescribing, but these appeared to be short-term.<sup>67</sup>

GPs do not appear to acquire skills from specialist colleagues that help them manage people better in primary care.<sup>68</sup>

The available evidence suggests that basing physiotherapists in primary care may have positive outcomes but including epilepsy nurses, mental health workers, and pharmacists as part of primary care teams has no enduring effect on hospital referral rates, health outcomes, or GP workload.

This suggests that merely adding specialists to primary care teams is not sufficient to help 'make the shift.'

### *Integrating social and healthcare*

There is limited research about best practice strategies for integrating social and healthcare, although there is some evidence that joint working between health and social care can help shift the focus to care in the community.

For instance, in Italy a randomised trial found that integrated social and medical care for frail elderly people living in the community was associated with fewer admissions to hospital or nursing homes. The estimated financial savings were about £1125 per year of follow up.<sup>69</sup>

Another controlled study of elderly people with long-term conditions in the US compared usual care from a GP versus shared care between GPs, nurses, and social workers. Over a one year period, people receiving shared social and healthcare had fewer unplanned hospital admissions than those receiving usual care.<sup>70</sup>

This suggests that further investigation is needed about how health and social care teams in the UK can work in partnership most effectively.

Given that a number of health and social care teams are currently working together, it would seem important to share the learning from local experiences and to draw out examples of good practice for widespread dissemination.

### *Integrated hospital teams*

As well as looking at how primary and secondary care might work best together, we also examined whether there were any lessons to learn from the composition of hospital teams.

A number of studies suggest that altering the staff mix in hospital can affect how long people stay in hospital and whether they are readmitted.<sup>71,72,73,74,75</sup> This has important implications for shifting more care into the community, or ensuring that people can return to the community earlier than might otherwise be the case.

For example, one US trial assessed multidisciplinary teams for elderly people hospitalised with heart failure. Multidisciplinary care reduced hospital readmissions<sup>76</sup> and days in hospital.<sup>77</sup>

A Cochrane review found that daily, structured, hospital team ward rounds, in which nurses, doctors and other professionals made care decisions jointly, shortened the average length of hospital stay and reduced hospital costs.<sup>78</sup>

On the other hand, a randomised study in the UK evaluated adding an 'Accident and Emergency Physician' to the usual emergency department team. The Accident and Emergency Physician was trained in both general medicine and emergency medicine. Their role was to review people referred from the emergency department for medical admission and divert people away from admission when appropriate. All people presenting to the emergency department were referred, not just those with certain conditions. However this role did not reduce unscheduled admissions.<sup>79</sup>

### *Primary care workers in hospital*

There is limited evidence about the benefits of integrating primary and secondary care teams in hospital.

Hospitalists are general physicians who specialise in inpatient medical care, predominantly in the US. A cost-effectiveness analysis of hospitalists versus other physicians included almost 10,000 people in the US. Hospitalists were associated with a shorter length of stay and a lower readmission rate.<sup>80</sup>

A meta-analysis of intensive care unit physician staffing examined using different types of staff for critically ill adults and children in the US. Twenty-seven studies with 23,569 participants were included. Greater use of primary care physicians in intensive care units led to significant reductions in the length of hospital stay.<sup>81</sup> However, this is very specific to the US style of healthcare.

Overall, the evidence suggests that the type of staffing available in hospitals themselves may have an impact on the extent to which people stay in hospital or are able to return more quickly to receive care in the community. It may be important to examine hospital staff mix as part of the jigsaw of best practice that will help 'make the shift' from hospital to community care.

### *Multidisciplinary teams after discharge*

There is evidence that multidisciplinary follow up after discharge can reduce reliance on hospital care, helping to shift the focus further to care close to home.<sup>82,83,84</sup>

For instance, two systematic reviews of multidisciplinary follow up programmes for people with heart failure included joint working by family doctors, heart specialists, nurses, pharmacists, dieticians, physical therapists, and social workers. Multidisciplinary follow up programmes reduced the use of hospital care.<sup>85,86</sup>

The location of such multidisciplinary follow up may be important. A trial of a multidisciplinary programme for people with renal insufficiency in the US comprised consultations for primary care patients in a hospital outpatient clinic staffed by two nephrologists, a renal nurse, a renal dietician, and a social worker. There were no differences between groups in use of health services for up to five years. This suggests that specialist care based on hospital outpatients appointments may be no more effective than primary care alone.<sup>87</sup> The location of services is considered further in the next section.

These studies suggest that while multidisciplinary follow up can provide more integrated care, primary care settings may be just as effective as hospital outpatients appointments.

### 3. Making the shift by changing locations

This section describes how providing care in locations other than acute hospitals may offer some examples of good practice for shifting the focus towards community care. Alternative locations include private homes, community hospitals, primary care centres, community centres and other similar venues.

#### Providing care at home

Care may be provided at home either to avoid people accessing hospital services or as a way to promote earlier hospital discharge.

##### *Home as an alternative care location*

A great deal has been written about the benefits and limits of providing care at home rather than in hospital. Home care can take many forms, including 'hospital at home' and rehabilitation programmes.

For instance, in some countries children newly diagnosed with diabetes are admitted to hospital for stabilisation and training, even if they are not ill. A Cochrane review of six studies of outpatient or home-based programmes for these children found that home management did not have any negative effects on clinical outcomes, hospitalisations, behaviour, or total costs.<sup>88</sup>

'Hospital-at-home' care involves health professionals providing care in a service user's home that would otherwise be provided in hospital. Care is provided for a limited period, rather than being indefinite. People may be discharged from hospital early and then receive hospital at home care, or they may start off with hospital at home care in order to avoid admission.

A review of 27 studies from seven countries found that hospital-at-home care was as effective as traditional hospital care as long as participants were carefully selected. However, such services did not reduce overall healthcare costs. Good organisation, communication, and funding were key success factors.<sup>89</sup>

Another review of randomised trials examined hospital at home services for people with acute exacerbations of chronic obstructive pulmonary disease. Hospital-at-home care appeared equally effective to inpatient care, was associated with cost savings, and freed up inpatient beds.<sup>90,91</sup>

An additional trial with people with chronic obstructive pulmonary disease evaluated whether home hospitalisation could improve outcomes compared to conventional hospitalisation. During home hospitalisation, care was delivered at home by a specialist nurse and service users had free-phone access to nurses for an eight week follow up period. There was no difference between groups in mortality and hospital readmissions. The home care group had fewer emergency department visits, improved quality of life, improved knowledge of their condition, better self management, and greater satisfaction. Home hospitalisation reduced the overall cost of care by 38% compared to conventional hospitalisation.<sup>92</sup>

On the other hand, a Cochrane review of hospital-at-home schemes included studies with elderly people, people discharged after elective surgery, people with hip fracture, and the terminally ill. There was some evidence that service users preferred care at home, but carers' views were mixed. Reduced hospital stay costs were offset by costs incurred in the community.<sup>93</sup>

Another randomised trial assessed transitional nurse care at home for two weeks following discharge. At 6 and 12 weeks the transitional care group had better reported physical and emotional outcomes compared to usual care, although there was no difference in overall quality of life or hospital readmissions.<sup>94</sup>

Some rehabilitation programmes focus on early discharge from hospital, with supportive home care. A Cochrane review of 11 trials with 1579 participants found that early supported discharge plus home based rehabilitation for people with stroke reduced the average length of hospital stay by eight days.<sup>95,96</sup> Other studies have suggested similar findings in people recovering from stroke<sup>97,98</sup> and the frail elderly.<sup>99,100</sup>

Cost-effectiveness analyses suggest costs may be significantly lower for people receiving integrated care at home compared to institutional care,<sup>101</sup> especially among people with low levels of dependency.<sup>102</sup>

Not all evidence is positive, however.<sup>103</sup> For instance, a randomised trial in Turkey compared stroke rehabilitation in hospital or at home. Those who received multidisciplinary care in hospital had better clinical outcomes than those who received care at home.<sup>104</sup> Similarly, a trial in Australia found that while early hospital discharge plus home based rehabilitation reduced the length of stay from an average of 30 down to 15 days, this impacted negatively on the caregivers of people recovering from stroke.<sup>105</sup>

The evidence suggests that hospital-at-home and home based rehabilitation services can help shift care from hospitals into the community, but the impact on overall costs is unclear. Further research is needed to assess which type of people benefit most from home care and by whom care should be provided (generalist or specialist staff).

### *Care homes*

It is uncertain whether the outcomes of providing care at home transfer to older people's residential care homes. A Cochrane review suggested that there is insufficient evidence to compare the effects of care home environments, hospital environments, and own home environments on rehabilitation in older people.<sup>106</sup> Another Cochrane review found insufficient evidence to estimate the likely benefits, harms, and costs of institutional or at home care for functionally dependent older people.<sup>107</sup>

One randomised trial assessed a rehabilitation service based in Social Services older people's homes in the UK. Participants were elderly and disabled hospitalised patients who wished to go home but were at high risk of institutionalisation. The rehabilitation programme was associated with significantly fewer days in hospital over the next 12 months, but participants spent an average of 36 days in a care home rehabilitation facility.<sup>108</sup>

There is good evidence to suggest that providing care at home may have positive clinical outcomes and has the potential to reduce costs. It is uncertain whether this trend holds if care is offered in other residential settings or in community or cultural centres.

### *Home visits to reduce admissions*

Systematic reviews suggest visiting elderly people at home, either as a preventative measure or as follow up after hospital discharge, has positive effects on physical, social, and mental health, knowledge, and service use.<sup>109,110</sup> There may also be benefits for unplanned admissions.<sup>111,112</sup> Most of these studies involved home visiting as an 'extra' service rather than substituting home visits for care in other locations.

For instance, a systematic review found that nurse home visits were associated with positive effects on physical, mental and social health, knowledge, and service use.<sup>113</sup>

A meta-analysis of 22 studies assessed the impact of home visits on days in hospital among elderly chronically ill and terminally ill people. Home visits were associated with a significant reduction in days in hospital, with a trend towards reduced overall healthcare costs.<sup>114</sup>

A randomised trial in the UK assessed a community support scheme for 903 people aged over 75 years. The intervention involved support and practical help from care attendants on the first day following hospital discharge and for up to 12 hours a week for two weeks. Three months after initial discharge, there were no significant differences between groups in physical independence, morale, or death. However, hospital readmission rates within 18 months of discharge were significantly less in the group who received home care. Benefits were particularly high among people living alone. The authors concluded that if home care was provided to everyone discharged from hospital over the age of 75 living alone, an average health district might expect to save about 23 hospital beds at a net annual saving of £220,000 in the short-term.<sup>115</sup>

A similar trial with people with heart disease in the UK assessed nurse home visits at 1-2 and 6-8 weeks after hospital discharge. Compared to those receiving usual care, people visited at home by nurses had fewer hospital readmissions and an average of two fewer days of hospitalisation after initial discharge.<sup>116</sup>

Other studies have found that nurse home visits may help improve clinical outcomes in people with moderate chronic airways disease,<sup>117</sup> prevent functional decline in older people,<sup>118</sup> and reduce admissions in people with heart failure<sup>119,120</sup> and mental illness.<sup>121</sup> The more frequently home visits occur, the greater the benefits.<sup>122</sup>

Home visits may also reduce other types of institutionalisation. For instance, in Denmark, people aged 75 or older discharged from hospital were randomly assigned to usual care or a home visit from a district nurse on the day after discharge and a home visit from their GP two weeks later. After one year, those receiving home visits were less likely to be admitted to a nursing home and spent fewer days in institutions.<sup>123</sup>

But not all evidence is supportive. In Australia, a randomised trial evaluated nurse home visits for people with chronic obstructive pulmonary disease discharged from hospital. There were no differences in GP visits or hospital admissions.<sup>124</sup> Another similar trial in Australia with people with severe chronic obstructive pulmonary disease found that home visits did not improve hospital admissions, length of stay, or the number of outpatient or emergency department visits.<sup>125</sup>

Overall the evidence suggests that home visits following hospital discharge or as a preventative measure may reduce subsequent unplanned admissions and days in hospital.

It is important to note that home visits may be done as part of a broader care programme, such as case management and that they are usually added to other services rather than substituting for care in another location.



## Intermediate care

'Intermediate care' refers to services at the interface between primary and secondary care which aim to help reduce the use of acute services and shift care into community settings. Most intermediate care services involve some type of follow up after hospital discharge in community venues, but some intermediate care focuses on preventing admissions in those older than 75, whether or not they have been admitted before.<sup>126</sup> The exact interventions can take various forms.

Mirroring the heterogeneity of interventions described as 'intermediate care,' evidence about its effectiveness also varies widely. This section provides some examples of intermediate care programmes. Additional examples of specific intermediate care interventions are provided in other relevant sections of the review.

There is little evidence that intermediate care helps 'make the shift.'

The national evaluation of intermediate care programmes in England found little evidence to suggest that these services helped reduce hospital use. Intermediate care may have limited capacity to impact on other service use, and may be providing an additional service rather than substituting for hospital or primary care services. However, the most successful programmes shared a common characteristic:

Effective partnership working between health (PCTs) and social services organisations at both operational and strategic levels was identified as the most important lever in facilitating the development of intermediate care in local contexts. Poor partnership working, insufficient or short-term funding and workforce problems (ie staff shortages and difficulties in recruiting staff) were all identified as impediments to the development of intermediate care.<sup>127</sup>

Evaluations of specific programmes are also available. For example, one study found that staying in a joint Social Services / NHS intermediate care rehabilitation unit was no more effective than usual care for diverting older people from hospital or long-term care.<sup>128</sup>

A quasi-experimental study compared matched groups of elderly people before and after the introduction of an intermediate care service in the UK. A multi-agency, multidisciplinary team assessed people's needs and enlisted support from intermediate care teams. Intermediate care had no significant effect on readmissions.<sup>129</sup>

There are similar findings about the limited effectiveness of intermediate care services in the US,<sup>130</sup> The Netherlands,<sup>131</sup> and Australia.<sup>132</sup>

Another attempt to bridge the gap between hospital and community care is 'Transmural Care' developed in The Netherlands. Here, hospital care and community care are provided by different organisations. Transmural Nurse Clinics provide a link between primary and hospital care.<sup>133</sup> An evaluation in rheumatology found that attendance at a Transmural Clinic led to increased attendances with specialists and therapists, but no significant improvement in functioning or use of appliances.<sup>134</sup>

A number of descriptions of 'step up' and 'step down' care are available, whereby people receive care in community hospital beds before or after receiving acute care. However, we identified little good quality UK evidence outlining the impact of step up or step down care on the use of acute services. In the US, this is known as 'skilled nursing facility' care.<sup>135</sup> One study found that providing care in such community hospitals had no significant effect on the average number of days in healthcare facilities (acute hospitals, nursing homes, or rehabilitation hospitals).<sup>136</sup> Another study found that skilled nursing facilities increased the overall length of stay.<sup>137</sup>



## Outpatient clinics in primary care

Outpatient clinics often see people that GPs have referred for clinical assessment by a hospital specialist. Shifted outpatient clinics or 'outreach clinics' are an alternative to outpatient appointments. Hospital specialists provide appointments at community venues, including health centres, community hospitals, or specialist community clinics. On one hand this may increase access to specialist services, but it may also have the potential to increase referral rates if primary care practitioners lower the level of referral criteria used.<sup>138,139</sup>

There is evidence that people are satisfied with receiving specialist care in community settings.<sup>140,141</sup> However there may not be consistent differences in health outcomes, waiting times, or attendance rates.<sup>142,143</sup> A Cochrane review concluded that specialist outreach alone may have few impacts, but when implemented as part of more complex multifaceted interventions involving collaboration with primary care, education, or other services, outreach may be associated with improved health outcomes, more efficient and guideline-consistent care, and less use of hospital services.<sup>144</sup>

Although such outreach work may enable GPs to manage people more effectively in primary care,<sup>145</sup> there is little evidence to support this in a UK context. This may be because GPs have limited involvement in outreach clinics.<sup>146</sup>

There is limited data about the appropriateness of referral to outreach clinics. A number of the available UK studies were conducted prior to service reconfiguration and the development of new teams that act as an alternative to outpatient services.<sup>147</sup>

A randomised trial in the UK compared rehabilitation for 105 older people in a day hospital and in social services day centres with visiting therapists. The authors found that using centres in the community helped share skills and resources, but there were problems with the acceptability of facilities and attitudes of staff and regular attendees.<sup>148</sup>

Another study of outreach clinics in gynaecology, orthopaedics and urology found that people receiving shifted outpatient care were more likely to be referred for investigation and added to hospital waiting lists compared to those seen in hospital settings. This may be due to a lack of diagnostic services in primary care.<sup>149</sup> One study of ear, nose and throat specialist outreach found that three quarters of service users needed a further outpatient appointment for investigations that could have been performed at the first appointment if people had been seen in hospital.<sup>150</sup>

Interestingly, the number of people seen per clinic tends to be lower in outreach clinics compared to outpatient appointments.<sup>151</sup> For instance, a Cochrane review found that outreach clinics in urban areas were more costly and provided fewer consultations per clinic compared to hospital appointments.<sup>152</sup>

Although some studies have suggested that shifted outpatient models can reduce health service costs,<sup>153,154,155</sup> others that have directly compared the costs of hospital versus outreach clinics suggest that outreach costs may be higher.<sup>156,157</sup> For example, five out of six studies in one review reported higher direct costs to the NHS in outreach clinic settings. Savings to service users were outweighed by higher costs to the NHS.<sup>158</sup>

Service users say they like shifted outpatient models, but there is a paucity of evidence about the effects on health outcomes. There is some evidence to suggest that providing specialist appointments in the community may reduce the number of people seen and increase overall health service costs. This suggests that simply moving the location of services is not the best way to foster a shift in models of care.

## Shifting routine care

Some studies have examined the effects of moving day to day care that would traditionally be provided in hospital into community venues. The difference from 'shifted outpatients' models (where hospital staff provide care in the community) is that the care is provided by primary care clinicians in either primary care or other community venues.

This section focuses on routine care rather than ongoing follow up after hospital discharge (which is covered overleaf).

There is inconsistent evidence about whether shifting care from hospital into community venues staffed by primary care practitioners has any benefits. Some studies suggest advantages. For instance a US trial trained staff in 22 community child health clinics to diagnose and manage asthma. Offering care in the community helped improve the quality and quantity of services accessed by children from minority ethnic groups.<sup>159</sup>

Another trial compared community care versus hospital admission for mentally ill people. People were treated more effectively and economically in the community, without shifting any burden onto their relatives.<sup>160</sup>

Another study in Ireland found that it was feasible for primary care practices to conduct anticoagulant testing and therapy, instead of using outpatient settings.<sup>161</sup> Furthermore, a comparative study in England found that the overall costs of providing anticoagulant therapy in primary care are lower than in secondary care, once service user costs are taken into account. Costs to the health service might be slightly higher when anticoagulant care is moved from secondary to primary care, but service users attending hospitals have significantly higher costs compared to patients attending primary care clinics.<sup>162</sup>

On the other hand, a systematic review of 14 randomised trials examined whether providing clinical pharmacy services for the elderly in community based settings reduced drug-related problems and improved health. The reviewers found that providing care in the community, especially in community venues, reduced the incidence of drug-related problems but there was limited evidence of an effect on morbidity, mortality, or healthcare costs.<sup>163</sup>

There is inconsistent evidence about the value of shifting routine care from hospital outpatients environments into community venues staffed by primary care physicians. While services may be more accessible and convenient for service users and may improve the perceived quality of care, the impact on healthcare resource use and overall costs is uncertain.

## Ongoing follow up in primary care

People discharged from hospital may be asked to attend outpatient clinics so clinicians can check on their progress and continue treatment. Outpatient visits might be one-offs (such as to remove wound dressings) or involve ongoing visits, especially when people have terminal or chronic conditions. Some of this follow up may be able to be provided by primary care clinicians or may not be necessary at all.<sup>164</sup>

For example, a randomised trial in Canada found that women with breast cancer could be followed up in primary care rather than secondary care, with no adverse effects on health outcomes or quality of life.<sup>165</sup> Similar studies suggest that routine follow up by GPs may improve quality of care compared to hospital outpatient follow up. GPs may give patients more time and reduce costs.<sup>166,167</sup>

Another trial found that discharge the day after surgery with follow up by community nurses or GPs was as effective as longer stays in hospital and outpatient follow visits.<sup>168</sup> However another trial found that GPs may prescribe antibiotics unnecessarily after surgery.<sup>169</sup>

A UK trial found that having liaison nurses could help primary care nurses provide effective follow up to people discharged from hospital with heart problems. This study suggested that when primary care nurses provide such support, their role focuses on helping service users sustain behaviour change, encouraging doctors to prescribe appropriate medication, and encouraging service users to adhere to medication.<sup>170</sup> These tasks may be quite different to the primary prevention roles that practice nurses are used to, where the focus is on identifying risk and facilitating change. Once again, this emphasises that shifting care is not just about changing locations, but may also require the development of new skill sets and competencies.

Research supports moving ongoing chronic care management from secondary to primary care, as embedded within the General Medical Services contract of 2004. A Cochrane review of primary care versus outpatient management for people with diabetes found that health outcomes in general practice were as good or better than in outpatient clinics when primary care used disease registers and regular recall and review systems based on evidence-based guidelines. The key learning point is that structured systems and follow up techniques are required, rather than merely a hand over of care from the secondary to the primary care sector.

It is not possible to draw conclusions about whether primary care is more cost-effective or whether primary care acts as a substitute or an addition to outpatient care. It appears that well structured general practice clinics can reduce outpatient visits whilst improving access to care.<sup>171</sup>

It is also difficult to draw conclusions about the impact of shifting secondary care on GP workload. GPs tend to perceive that their workload increases when services are shifted from secondary care, but little substantive data are available. Some studies suggest that if workload does increase when care is shifted, this is largely administrative rather than clinical work.<sup>172,173,174</sup>

There is some evidence that primary care can substitute for ongoing outpatient follow up and long-term care. There is insufficient evidence to suggest whether this might be more true for some populations or conditions than others. There is also insufficient evidence to draw conclusions about the cost-effectiveness of this approach.

## 4. Making the shift by substituting skills

This section describes how using the varied skills of personnel more effectively may help to sustain a shift in care. We examine substituting:

- service users for professionals,
- nurses instead of doctors,
- community teams for hospital specialists,
- GPs with special interests instead of specialists,
- and GPs to provide minor surgery.

### Service users

There is good evidence that service users themselves can support others. For instance, peer-led self management programmes have been found to improve health outcomes and help people feel more confident in managing their own care.<sup>175,176,177</sup> (Further information about self management education is provided in Section 8).

A number of studies suggest that using community based volunteers to support service users can be beneficial. For instance, a randomised trial in London found that volunteers 'befriending' women with chronic depression improved clinical outcomes.<sup>178</sup>

Similarly, a randomised trial in Canada found that community based volunteers were just as effective as health providers at reducing alcohol consumption among 106 people with chronic alcohol problems.<sup>179</sup>

There is also preliminary evidence from the United States that people with mental health issues can act effectively as case managers for other service users.<sup>180,181</sup> One analysis of eight literature reviews concluded that case management by paraprofessionals and peers may improve health outcomes, but that further research is required.<sup>182</sup>

It may be worth investigating the potential role of service users further.

### Nurses

#### *Substituting nurses for other care*

A number of interventions have redesigned the way care is organised or delivered by expanding the role of nurses. Other studies of nurse-led interventions are described throughout this review, for instance nurse home visits or nurses as part of multidisciplinary teams. This section focuses on programmes where nurses have been substituted for other professionals.

Specialist nurses are trained to provide care for people with a particular condition. A Cochrane review compared specialist nurse care for people with diabetes versus usual care in hospital clinics or primary care. Nurse-led care had no impact on hospital use.<sup>183</sup>

Similarly, a trial comparing specialist nurse care, in-patient team care, or day patient team care in people with arthritis found no significant differences in hospitalisations after two years.<sup>184</sup>

However a randomised trial with elderly people with heart failure in Sweden found that follow up by nurses after hospital discharge was more effective for optimising medication compared to follow up in primary care clinics. Nurse follow up did not improve hospital readmission rates.<sup>185</sup>

In primary care, nurses have substituted for general practitioners.<sup>186</sup> A Cochrane review found that substituting nurses for GPs in managing long-term conditions maintains the quality of care and may increase satisfaction with care.<sup>187</sup>

Overall the evidence suggests that nurses may provide equally good, but not necessarily better, care compared to other professionals.

### *Adding the skills of specialist nurses*

Studies that focus on adding specialist nurses to healthcare teams, rather than substituting them for other staff, have more positive findings. For instance, a randomised trial found that specialist asthma nurses in UK general practices reduced unscheduled visits for asthma compared to usual care.<sup>188</sup> Similarly adults in the US receiving education and follow up from a specialist asthma nurse after hospitalisation had a 60% reduction in total hospitalisations after six months.

In Scotland, people hospitalised with heart failure received care from a specialist nurse. The intervention started before discharge and continued after people left hospital, with home visits for up to one year. People who received support from a specialist nurse were less likely to be readmitted to hospital.<sup>189</sup>

A number of countries have begun using nurse-led clinics to help manage long-term conditions and other illnesses in primary care. Reviews and randomised trials suggest that nurse-led clinics may improve the quality of care.<sup>190,191</sup> Research from Sweden, The Netherlands, and the UK<sup>192,193</sup> suggests that nurse-led clinics are effective for managing chronic obstructive airways disease and asthma,<sup>194</sup> heart failure,<sup>195</sup> diabetes,<sup>196,197</sup> and people receiving anticoagulant therapy.<sup>198</sup> But we identified few high quality studies suggesting any impact on hospitalisations.

However a systematic review of 18 randomised trials of heart failure clinics relying at least in part on specially trained nurses found that nurse-led clinics are associated with reduced hospital readmissions and fewer days in hospital compared to usual care.<sup>199</sup> The importance of nursing skills here remains uncertain though. Indeed, most studies of nurse-led care do not differentiate the success factors most critical for shifting care - and whether it is the presence of a nurse or other complex inter-related factors that make the difference.

### **Community mental health teams**

NHS community mental health teams are multidisciplinary teams which include nurses, psychiatrists, psychologists, and social workers. These teams have been developed to replace some hospital based care for people with mental illness.

A Cochrane review comparing community mental health teams with conventional hospital based care found that community teams helped to reduce mortality rates, drop out rates, hospitalisations, and health service costs.<sup>200,201</sup>

A WHO review found that community mental health teams for working age adults increased user satisfaction and improved adherence to treatment, although there was no evidence of improvement in symptoms or social functioning compared to hospital based care.<sup>202</sup>

Other studies have found that community teams appear to be appropriate substitutes for hospital care in many contexts.<sup>203,204,205,206</sup>

For example, a study in New Zealand found that while increasing locally available mental health services did not reduce the number of inpatient referrals, length of hospital stay and outpatient referrals were significantly less.<sup>207</sup>

There is evidence that specialist teams, based in the community, may help shift the focus from secondary care. Community mental health teams are one example of a service set up to replace hospital based care. The available evidence suggests that this has largely been successful in the UK, although it has not always been fully successful in other countries.

## GPs with special interests

'GPs with special interests' are family doctors in the UK who specialise in specific clinical areas.<sup>208</sup> Most have undertaken continuing medical education in their field of interest and provide specialist GP care in a range of settings, including their own clinics, acute hospitals, and community hospitals and trusts.<sup>209</sup>

There is considerable variation in how GPs with special interests are trained, accredited, receive referrals, manage service users, and receive support and supervision. Few empirical studies have been conducted in this area.

The impact of GPs with special clinical interests has not been studied in any detail, and measures of success for these schemes, where they exist, may fail to address the wide range of potential positive and negative effects. Their cost effectiveness has been questioned, and yet in the future more of these types of schemes seem likely. GPs with special interests may be part of an increasingly flexible career structure that sees GPs and secondary care doctors and consultants having much more interchangeable career paths.<sup>210</sup>

GPs with special interests are often involved in specialist community based clinics. There is some evidence that service users in the fields of musculoskeletal problems,<sup>211</sup> dermatology,<sup>212,213</sup> and ear, nose and throat problems<sup>214</sup> are more satisfied with these types of clinics compared to usual care. Easy access, shorter waiting times, and a less clinical atmosphere may all contribute to levels of satisfaction.

However, care from GPs with special interests does not seem to improve health outcomes.<sup>215,216,217</sup> This may be because a lack of equipment, expert support, and inability to request diagnostic tests limits the scope of what GPs with special interests can do.

Offering services from GPs with special interests tends to increase referral rates (in terms of other GPs referring more people to them for care).<sup>218, 219,220,221</sup> This may be due to a lowering of the referral threshold. One study found that 30% of referring GPs saw GPs with special interests as an addition to hospital outpatient care rather than as a substitute.<sup>222</sup>

Generally, waiting times for appointments with GPs with special interests are lower than for hospital outpatients,<sup>223,224,225</sup> especially when clinics are located in the community rather than in hospital.<sup>226</sup>

The cost of GP with special interest services varies a great deal, depending on the type of service provided. One study found that the cost to the NHS ranged from £35 to £94 per patient. No information was provided about equivalent hospital costs.<sup>227</sup>

Another study estimated that costs were £30 to £40 per consultation compared with hospital costs of £60 to £80 per outpatient. However hospital costs included overheads which were not included in the costings for GPs with special interests.<sup>228</sup> When all costs are taken into account, overall costs may be lower in outpatient clinics compared to GP with special interest clinics.<sup>229</sup>

Most studies of GPs with special interests focus on orthopaedics and musculoskeletal services, dermatology, cardiology, and ear, nose and throat schemes. Most of the research in this field is not of the highest quality, so it is difficult to draw conclusions about the extent to which such services might help shift more care into the community. This is especially pertinent because many GPs with special interests provide care in hospital settings.

## GPs performing minor surgery

It may be feasible to move some minor surgical procedures from hospital to primary care settings, including melanoma excision, removal of sebaceous cysts, and nail operations.<sup>230</sup> Changes to contracts for general practitioners in 1990 provided financial incentives for GPs in England and Wales to undertake minor surgical procedures. It is estimated that this significantly increased the number of procedures undertaken in primary instead of secondary care.<sup>231,232</sup> However this may not have reduced hospital referral volumes.<sup>233,234</sup>

There is some evidence that service users may be satisfied with minor surgery performed in general practice and that waiting times may be less than for hospital surgery.<sup>235,236,237,238</sup>

However, some studies suggest that GPs may perform surgical excisions less adequately than hospital specialists and there are concerns that GPs may not always be able to recognise and adequately treat serious lesions.<sup>239,240,241,242</sup> There is little evidence about infection or complication rates or overall costs.<sup>243</sup>

One of the most extensive studies of the impact on hospital use of GPs performing minor surgery examined data from six Health Authorities serving about 4 million people. The study found that financial incentives for GPs undertaking surgery may mean that more costly interventions are being substituted for less costly and more simple surgical procedures, because this is more financially advantageous for GPs.<sup>244</sup>

Performing minor surgery in general practice may not be a good substitute for hospital care. There are some concerns over the quality of care provided. It is also possible that many of the people receiving minor surgery in general practice would not be referred to hospital, so the service is an addition rather than a substitute.



## 5. Making the shift by changing hospital care

Previous sections have focussed on ways to shift the location or skills from hospitals to primary care. There are also lessons to be learned about reducing reliance on acute hospitals from interventions to change the way care is provided in hospitals themselves.

People are sometimes admitted to hospital one or two days prior to treatment, but this can be an inefficient use of space and hospital resources. People may also be admitted to hospital for diagnosis only, which could be carried out without hospital admission, or they may be admitted when they are not fit for surgery and have to be discharged without treatment. In general surgery, up to one third of admissions in some areas are discharged without any treatment.<sup>245</sup>

The most effective strategies to alter hospital care are likely to have many different components. For instance, one systematic review focussed specifically on the most effective initiatives for reducing unplanned hospital use, particularly in the emergency department. The most effective strategies for reducing hospital use included improving access to primary care clinics or providers; asking primary care providers to pre-approve specialist care; educating patients about when to use specialist services and the benefits of continuous primary care; and referring non urgent situations to other care settings. Triage training and telephone helplines were also beneficial.<sup>246</sup>

This section describes some of the key interventions which have been used in hospital settings to avoid admission and speed discharge, including:

- rapid access clinics,
- observation units,
- day hospitals,
- and discharge planning.

### Rapid access clinics

Rapid access clinics aim to provide access to outpatient services promptly, upon referral from general practitioners. Although these services are usually provided in hospital rather than in the community, they may have the potential to reduce hospital admissions and to reduce the number of outpatient appointments by providing clinical assessment and diagnostic testing in a single visit. Sometimes treatment is even initiated on the first visit.

Most published descriptions of rapid access clinics are for people that GPs suspect might have cancer or heart disease.<sup>247,248,249,250</sup> The majority of studies suggest that rapid access clinics are an effective way to diagnose people, rather than having to rely on hospital admission in order to make a diagnosis.<sup>251,252,253,254</sup>

For instance, a systematic review of nine studies about rapid access chest pain clinics found that these services might lead to more appropriate and earlier diagnosis and reduce hospital admission for people with non cardiac pain. However rapid access clinics tended to increase hospital costs compared conventional outpatient referrals.<sup>255</sup> On the other hand, another study suggested that rapid access chest pain clinics might reduce overall costs of care.<sup>256</sup>

### Observation units

Observation wards or units are sometimes used when people present to hospital, as an alternative to immediately admitting people to hospital. A systematic review found that observation units generally reduce unnecessary hospital admissions and decrease the length of stay in hospital.<sup>257</sup> Additional trials suggest cost savings and reduced hospital use, including in children.<sup>258,259,260,261,262,263,264,265</sup>



## Day hospitals

Day case surgery involves performing operations without an overnight stay. This is less expensive than inpatient care and service users tend to prefer it. The Department of Health's '10 High Impact Changes' recommend day case surgery as the preferred form of surgery. If all appropriate procedures were treated as day cases, Trusts may be able to achieve overall day case rates of 75%, saving £88 million.<sup>266</sup> Day case surgery may also reduce the reliance on acute hospital care by increasing the amount of surgery that can be delivered by other providers.

Service users reportedly like day surgery<sup>267,268,269</sup> and there is evidence that day surgery may reduce the overall cost of hospital care.

One UK trial found that day surgery for general surgical emergencies was as effective as inpatient care. GPs and service users were equally satisfied with day surgery and day surgery saved about £150 per person compared to inpatient care.<sup>270</sup> Day surgery has also been found to be cost-effective for cataracts,<sup>271,272</sup> haemorrhoidectomy,<sup>273</sup> hernia,<sup>274</sup> and cholecystectomy.<sup>275</sup>

But a trial in Canada found that while day surgery reduced costs and had similar clinical outcomes to inpatient surgery, service users said they would have preferred an overnight stay.<sup>276</sup>

We also identified information about the impact of day hospitals for people with severe mental disorders. A meta-analysis of data from nine trials found that day hospitals could help avoid admissions and reduce the number of days spent in hospital compared to usual inpatient care.<sup>277</sup> Other reviews and trials comparing mental health day hospitals or inpatient admissions have similar findings,<sup>278,279,280,281,282,283</sup> though not all studies have found that day hospitals improve outcomes.<sup>284</sup>

There is inconclusive evidence about whether day hospital services are more or less effective than outpatient services.<sup>285</sup>

## Discharge planning

In the UK there is a great deal of variation in the length of time people stay in hospital for specific treatments. Improving the discharge process can help to reduce length of stay so people can be discharged as soon as they are ready, rather than when the system is ready to discharge them.<sup>286</sup>

Discharge planning involves assessing where a service user will go and what their immediate needs will be following hospital discharge. It involves considering the type of care that people need and options for releasing them from hospital without a prolonged stay.

A systematic review of discharge planning plus postdischarge support included 18 studies with older people with heart failure. Discharge planning reduced unplanned readmissions in the eight months following discharge.<sup>287</sup>

Other studies suggest that discharge planning improves health outcomes and reduces service use.<sup>288,289</sup> For instance, a randomised trial in Canada examined the effects of a nurse medical team coordinator whose role was to facilitate administrative tasks such as discharge planning, to coordinate tests and procedures, and to collect and collate patient information. Having a dedicated discharge planner reduced the average length of stay by about two days compared with usual care.<sup>290</sup>

Another trial in the US found that focussing on discharge planning, in addition to using multidisciplinary teams and wards rounds, significantly reduced the length of stay in a general medical population and reduced hospital costs without altering the quality of care or clinical outcomes.<sup>291</sup> However, not all studies have found favourable impacts.<sup>292,293,294,295</sup>

Overall, the evidence suggests that there is scope to change hospital diagnosis, admission, and discharge strategies to facilitate shifts in care.

## 6. Making the shift using technology

Technological advances may help shift the focus from hospital care towards providing more care in the community. This section summarises two key themes:

- telemedicine consultations with specialists,
- and telecare (providing care direct to patients).

### Telemedicine consultations

We define telemedicine consultations as video-conference or teleconference links between a specialist, other medical professional, and a service user. Usually a member of the primary care team sits in on the consultation. Images or data may also be transmitted either at the same time, or separately from any consultation ('store and forward'). The aim is to replace conventional outpatient appointments.

There is evidence that telemedicine has a reasonable level of diagnostic accuracy.<sup>296,297,298,299,300,301,302</sup> and is accepted by many service users and clinicians.<sup>303,304,305,306,307,308</sup>

A randomised trial found that telemedicine consultations were more likely to involve outpatient follow up appointments compared to conventional outpatient appointments, especially in the fields of orthopaedics and ear, nose, and throat problems.<sup>309</sup> However, another trial found that people seen in outpatient clinics were more likely to have tests performed.<sup>310</sup>

The cost-effectiveness of telemedicine remains uncertain, due to a lack of good quality data,<sup>311,312,313,314,315</sup> although some studies suggest cost savings.<sup>316</sup>

It seems that telemedicine may have potential but there are few high quality studies available. Much research is based in countries with remote populations so the findings may not be applicable here.

### Telecare alert services

In contrast to telemedicine, which focuses on interfaces between service providers themselves (for instance, linking hospitals and general practitioners), telecare involves monitoring or supporting service users in their homes via telecommunications technology. The main differentiating characteristic is that telecare links practitioners with patients in their homes, whereas telemedicine tends to link practitioners or provider sites together.

There are three broad types of telecare:

- services which focus on safety and security, for example community alerts or falls detectors,
- services which transmit clinical indicators for practitioners to review (telemonitoring),
- and information and support provided via telephone and the internet.

Each of these is examined below.

A great deal has been written about the use of alert systems such as community alarms and fall detectors for the elderly. However, we identified no randomised controlled trials or large observational studies that explicitly examined the effects of such alert systems on clinical outcomes or quality of life.

We identified two observational studies about the effects of alert systems on system outcomes. One case control study in the UK found that a home alert system for people with dementia may help people stay at home and have improved functional status.<sup>317</sup> Another observational study in Scotland compared the costs of a home alert system and call centre for 170 people staying in their homes versus 170 care home places. The estimated cost saving was £1,689,970.<sup>318</sup>

## Telemonitoring

### *Automatic telemonitoring*

Telemonitoring involves using computer systems or telephone lines to transmit data about clinical indicators such as blood pressure or blood glucose. There are many different types of telemonitoring, but the most common involves automated data transfer. Data can be transmitted to primary care or to hospital teams. Such telemonitoring has the potential to shift care significantly from hospital settings, by empowering service users to monitor their clinical readings at home and transmit them to professionals to check. However, findings about the benefits of automated monitoring are inconsistent.

A number of studies have found no significant difference in clinical outcomes following teletransmission of blood glucose measurements in people with diabetes.<sup>319,320,321,322,323</sup> However, other trials found that transmitting clinical data via telephone lines and receiving feedback from professionals was associated with significantly improved clinical indicators in people with diabetes.<sup>324,325,326</sup> Similarly, some trials suggest that automated telemonitoring improves medication adherence and blood pressure control in people with hypertension.<sup>327,328,329</sup>

Other trials found that telemonitoring was associated with improved quality of life<sup>330</sup> and reduced mortality for people with heart failure.<sup>331</sup> However, another trial found that automated telephone monitoring improved adherence but had no impact on quality of life for people with heart failure.<sup>332,333</sup>

Automatically transmitting clinical readings using a telephone line appears to be at least as efficient as usual care and may reduce the use of health services. For instance, one trial found that transmitting blood glucose measurements saved time and money for people with diabetes and the professionals caring for them.<sup>334,335</sup> Two other trials found no difference in clinic time, efficiency, or workflow when people with diabetes used modems versus telephones to transmit data.<sup>336,337</sup>

Another trial found that monitoring vital signs and sending alerts to nurses for values outside the normal range reduced days in hospital and emergency department visits for the elderly and people with heart failure, diabetes, and chronic lung disease.<sup>338</sup> Similarly, transmitting monitoring data and telephone follow up was associated with reduced healthcare costs and fewer admissions and days spent in hospital for people with heart failure<sup>339,340,341,342,343,344,345,346,347</sup> and COPD.<sup>348</sup>

### *Entering data using touch tone phones*

We found limited evidence about the effects of asking people to enter clinical monitoring data manually using touch tone telephones. One observational study found that reporting readings by touch tone telephone and receiving immediate feedback was associated with improved clinical indicators in people with diabetes.<sup>349</sup> Another observational study in people with heart failure found that entering clinical data by telephone, with computerised voice prompts, may be associated with reduced healthcare costs and admission rates.<sup>350</sup>

A trial in people with asthma found that transmitting readings by text message was associated with improved symptoms, but did not affect adherence to treatment.<sup>351</sup>

### *Internet*

We found limited evidence about the effect of monitoring clinical signs via internet and email. One trial in people with asthma found that internet based monitoring improved quality of life and clinical outcomes more than routine monitoring by specialists or GPs.<sup>352</sup>

Regardless of the specific type of telemonitoring involved, most studies found that telemonitoring was most beneficial when coupled with telephone follow up from a professional to discuss readings with participants, rather than merely transmitting data to clinicians.

## Telecare information and support

### *Telephone support*

Telephone support or case management by telephone has been found to improve clinical outcomes or reduce symptoms in people with depression,<sup>353,354,355,356,357</sup> heart disease,<sup>358,359</sup> diabetes,<sup>360,361,362,363,364,365</sup> asthma,<sup>366</sup> and the frail elderly,<sup>367</sup> amongst others. Most studies included weekly, fortnightly, or monthly telephone calls from nurses following hospital discharge.

But there are divergent findings. One trial found no clinical improvements<sup>368</sup> and another trial found no improvements in quality of life in people with diabetes receiving telephone support.<sup>369</sup>

There is good evidence that providing information and following up people by telephone may reduce health service use. For example, regular telephone calls from nurses have reduced hospital admissions or delayed subsequent health care encounters in people with heart disease,<sup>370,371,372,373,374</sup> asthma,<sup>375</sup> and diabetes.<sup>376</sup>

The most effective frequency of telephone support remains uncertain. An observational study found that people with diabetes receiving daily telephone contact had reduced healthcare service use, but people who received weekly follow up had increased service use.<sup>377</sup> Other studies found that daily telephone support reduced rehospitalisation and improved quality of life in elderly people<sup>378</sup> and in those with various long-term conditions including diabetes and heart failure.<sup>379</sup>

### *Videophones*

The benefits of videophones are unclear. A trial including people with heart failure, diabetes, and chronic obstructive pulmonary disease found that adding videoconferencing to telephone support and home visits had no effect on knowledge and medication adherence,<sup>380</sup> but another trial suggested that people with COPD were more satisfied with videophone care compared to usual care in the UK.<sup>381</sup>

A trial of home visits plus either telephone follow up by nurses, videophone follow up, or usual care following hospital discharge for heart failure found that video and telephone follow up were associated with reduced readmissions compared to usual care.<sup>382</sup> Similarly, a trial found that home videoconferencing reduced readmission costs in people with heart failure.<sup>383</sup>

But another trial in the US found that videophones were no more effective than telephone follow up for people discharged from hospital with spinal injuries. Both telephone and videophone follow up significantly improved outcomes over usual care.<sup>384</sup>

### *Automated education*

There is also insufficient evidence about providing automatic education messages by telephone. An observational study found that an automated telephone education and self-monitoring system improved education and some clinical indicators in people with diabetes.<sup>385</sup> On the other hand, a trial found that sending educational text messages to mobile phones did not improve treatment adherence in people with hypertension.<sup>386</sup>

Another trial found no significant improvements in functional status or quality of life among people with heart failure receiving education through an automated hand held device.<sup>387</sup>

### *Internet education and support*

There are inconsistent findings about the benefits of providing information and support via the internet. There are some positive findings. For instance, a randomised trial found that email and egroups were associated with improved symptoms in people with heart disease.<sup>388</sup> Another trial found that internet support was associated with improved self management in people with diabetes.<sup>389</sup> An observational study found that people with depression who used internet support groups frequently were more likely to have resolved depression compared to those who used the groups less frequently.<sup>390</sup>

In contrast, another trial found no significant improvements in quality of life for women with diabetes receiving internet support.<sup>391</sup>

There is inconsistent evidence about the effects on service use of internet education. Two trials in general population samples found that an internet system or secure messaging to facilitate contact between patients and providers may reduce clinic visits.<sup>392,393</sup> On the other hand, a trial in people with chronic back pain found no significant differences in clinic visits or hospitalisations following email support.<sup>394</sup>

### *Substituting telephone calls for clinic visits*

There is some evidence about scheduled telephone consultations in people's homes. One large observational study found that teleconsulting, based in people's homes, could reduce costs for individuals.<sup>395</sup>

A randomised trial assessed clinician-initiated telephone calls instead of selected primary care visits for men in the US. Over a two year period, men receiving telephone calls had fewer hospital admissions, shorter stays in hospital, and fewer intensive care unit days. Healthcare expenditure was 28% less for men receiving telephone care over the two year period. Savings were greatest for men with poorer health at the beginning of the study.<sup>396</sup>

Another trial found that telephone consultations enable a greater proportion of people with asthma to be reviewed at no additional cost to the health service.<sup>397</sup>

However, another trial found that substituting telephone consultations for same-day appointments saved time initially, but may have been offset by higher re-consultation rates in a general population sample.<sup>398</sup>

A trial of nurse telephone consultations using decision support software for out of hours primary care found that telephone support did not affect unplanned hospital admissions in a general population group.<sup>399</sup> However, an economic analysis suggested that the number of admissions avoided made out of hours nurse telephone support cost-effective overall.<sup>400</sup>

A large amount of research has been conducted about telecare of various sorts, although most is not of the highest quality. There is evidence that telemonitoring can help to reduce health service use, including reducing hospital admissions and costs. Telephone support can also improve clinical outcomes and, when used following hospital discharge, is associated with reduced reliance on other health services. There is inconsistent evidence about the benefits of substituting telephone calls for routine clinic visits, and more research is needed in this area.

It is important to note that most studies about telecare have been conducted outside the United Kingdom, in locations with very different care systems and health economies, so the findings may not be generalisable. Also, the bulk of the studies focus on people with diabetes, heart failure, and other long-term conditions.

## 7. Making the shift by supporting self care

The NHS Institute for Innovation and Improvement suggests that moving from clinical to self management is a key ingredient in shifting reliance from acute hospital care. This section examines evidence about what works best to involve people in their own care, including:

- providing accessible information,
- self management education,
- self monitoring,
- patient-held records,
- and direct access to outpatient care.

There is good evidence that involving service users in healthcare decision-making may:

- encourage people and their families to take more responsibility for their care,<sup>401,402,403,404,405</sup>
- help people feel more in control,<sup>406,407,408</sup>
- encourage health professionals to follow recommended care protocols,<sup>409,410</sup>
- and have some impacts on quality of life.<sup>411</sup>

However, there is little evidence about whether involving people in making decisions about their care will help shift more care into the community.

### Providing accessible information

In order to help substitute self management for clinical management, people need to be able to make informed choices based on easily available, accurate, and timely information. A great deal has been written about different ways to provide information to people in order to empower them to manage their own care.

Merely providing information is not enough to ensure that people feel informed, 'educated,' and able to manage their own conditions. Information must be presented in a way that is easily accessible, inviting, and encourages people to apply it in practice.<sup>412</sup>

### *Written information*

A number of written materials to support self management have been evaluated, including decision aids, guidebooks, and printed educational materials. Systematic reviews and trials suggest that decision aids and educational materials may improve people's knowledge, attitudes, and adherence to treatment, but used alone, they may have little effect on behaviours, health outcomes, or service use.<sup>413,414,415,416,417,418,419</sup> There is much less information about the effect of decision aids and educational materials on how people use hospital care.

We found a small number of studies assessing the impacts of written information on hospitalisation. For instance, a Cochrane review included 12 trials of the effects of limited 'information only' education on health outcomes in adults with asthma. Limited asthma education did not reduce unplanned admissions for asthma.<sup>420</sup>



A randomised trial in the US examined providing individualised written materials during hospitalisation, one week after discharge, and one month after discharge for people with heart failure. Providing tailored messages changed people's knowledge and beliefs, but had no effect on readmission rates.<sup>421</sup>

A similar trial in the US assessed mailing people health risk assessments at six or 12-month intervals, with individualised reports and recommendation letters, self management materials, and quarterly newsletters. Posting written educational materials to a general population did not reduce unscheduled hospitalisation.<sup>422</sup>

On the other hand, a randomised trial of adults in Scotland compared posting four asthma education booklets personalised by computer versus conventional face-to-face education at outpatient or surgery visits. The authors found that personalised booklets may reduce hospital admissions among outpatients.<sup>423</sup>

Similarly, a randomised trial in Canada found that a mailed health promotion programme with individualised educational letters reduced the number of days in hospital for people with Parkinson's disease.<sup>424</sup>

There is inconsistent evidence about whether providing written information can help shift the focus from hospital care. It seems that written materials can help to support attitude and behaviour changes when used as one component of broader change management strategies, but alone they are unlikely to make a significant difference.

### *Clinical education sessions*

A number of studies have examined the benefits of providing group or individual education sessions to inform people about their conditions. Such education focuses on clinical information provision, rather than explicitly supporting people to manage their own care.<sup>425</sup>

There is evidence that group educational sessions may improve people's satisfaction and feelings of wellbeing,<sup>426,427,428</sup> adherence to treatment and quality of care,<sup>429,430</sup> and clinical outcomes.<sup>431,432,433,434,435,436,437,</sup>

Research also suggests that one-to-one education sessions may increase people's knowledge, but it is unlikely to have greater impacts unless it is targeted, specific, and long-term.<sup>438,439,440</sup> These trends tend to hold for a wide range of conditions including diabetes,<sup>441</sup> arthritis,<sup>442</sup> asthma,<sup>443,444</sup> and heart failure.

We identified little evidence to suggest that providing people with more information about their conditions in person would help foster a shift from hospital to community care. However, where shifts were event, these were based on one-to-one sessions. For instance, one review found that one-to-one education for people with heart failure improved clinical outcomes and reduced unnecessary hospitalisations.<sup>445</sup>

Another randomised trial in the UK assessed medication and information discharge summaries plus pharmaceutical counselling in hospital and at home for elderly people prescribed more than four items. Medication plans plus counselling reduced unplanned GP visits and readmissions.<sup>446</sup> However, most studies have found that individual education has little impact on the use of hospital resources and other health care.<sup>447,448</sup>

Clinical education can also be delivered video, computers, and the mass media. Some studies have suggested that these strategies improve care processes and people's experiences,<sup>449,450,451,452,453,454,455</sup> but we found limited evidence that they had any effect on shifting care into the community.<sup>456</sup>

## Self management education

An underpinning facet of the Department of Health's strategy for shifting more care into the community is the principle that many people know as much or more about their condition and their needs as health and social care professionals.<sup>457</sup>

For example, in the field of chronic care, about three quarters of people with long-term conditions do not need specialist one-to-one management from health and social care professionals on an ongoing basis. Instead, they manage their conditions themselves, perhaps with annual reviews from their general practitioner.<sup>458</sup>

There are a range of ways that health and social services can help people manage their own conditions including providing written, verbal and online information; teaching people to manage their own care; and providing equipment to help people monitor and identify their symptoms. The Department of Health drew together examples self-management support services in England and concluded that these initiatives can make a real difference to people's physical and mental wellbeing.<sup>459</sup> Such strategies could also be rolled out to people with other conditions, but are of particular importance to those who would receive ongoing hospital or GP care.

Educational sessions to help people learn about how to manage their condition more effectively have gained increasing popularity in recent years. While clinical education sessions focus on providing information about conditions themselves (as summarised in the preceding section), 'self management education' sessions aim to help people learn how to manage their own care, including when to use different healthcare services and how to communicate with professionals.

Self-management education can be provided either by professionals or, as is increasingly common, by service users themselves. For instance, the *Expert Patient Programme* is based on the concept that people with long-term conditions often understand their condition as well or better than healthcare professionals. The programme involves a self management course facilitated by lay people with long-term conditions, using a structured manual. Courses usually comprise a 2.5 hour session for 8 to 16 participants weekly for six weeks. The programme is being used extensively in England, but as yet there is no high quality data about whether it helps shift the focus of care from hospitals to the community.<sup>460</sup>

There is evidence from throughout the world that peer-led self management programmes, which focus on self management strategies rather than specific illnesses, can improve how people feel about their condition<sup>461,462</sup> and some clinical outcomes, particularly in arthritis,<sup>463,464,465,466,467,468</sup> diabetes,<sup>469,470,471,472,473</sup> heart disease,<sup>474,475</sup> hypertension,<sup>476</sup> asthma,<sup>477,478,479</sup> chronic obstructive pulmonary disease,<sup>480</sup> and stroke.<sup>481</sup>

Although the UK Health Development Agency / National Institute for Health and Clinical Excellence suggested that there is little quantifiable evidence about the impact of lay-led courses on unplanned admissions or length of hospital stay,<sup>482</sup> some empirical information is available.<sup>483,484</sup> For instance, a five-year randomised trial with more than 1000 people in the UK found that self management education reduced days in hospital.<sup>485</sup>

Another trial in the UK assigned people with ulcerative colitis undergoing hospital follow up to patient-centred self management training and follow up on request, or usual care. Self management training was associated with faster access to treatment when needed, reduced hospital visits, and fewer GP visits.<sup>486,487</sup>



Another randomised trial in 19 hospitals in North West England examined whether a 'whole systems' approach to self management improved clinical outcomes and cost-effective use of services. Consultants were trained to provide a patient-centred approach to care and guidebooks about ulcerative colitis and Crohn's disease were developed with service users. Service users prepared written self management plans and referred themselves to health services based on their own evaluation of their need for advice. After one year, the self management group had fewer hospital admissions, but there was no change in the number of primary care visits.<sup>488</sup> This suggests that whole systems approaches that focus on supporting self management may be able to help shift the focus of care away from hospitals.

These trends have also been observed in other parts of the world.<sup>489,490</sup> For instance, a randomised trial in six US hospitals examined self management education for older women with heart disease. Days in hospital reduced by 46% and inpatient costs were 49% lower than usual care. Hospital cost savings exceeded the cost of self-management education by 5 to 1.

Some studies have suggested that including additional self care education by a professional, rather than leaving all the education to a lay person, could strengthen the benefits of peer support.<sup>491,492</sup>

Overall, it appears that providing structured self management education may help to facilitate shifts in the locus of care. It remains to be seen whether these trends will hold for people without long-term conditions. Further investigations are required to assess how self management education might work for people undergoing surgery or outpatient care for other conditions.

## Self monitoring

Closely linked to self management education is self monitoring, whereby people monitor their symptoms in order to track their progress, modify their behaviours or medications accordingly, and assess when to seek help from health professionals.

This section considers initiatives where people monitor their own vital signs or symptoms, but do not transfer this data to health professionals. Instead they use it themselves to help manage their own care needs.

Self monitoring of factors such as blood pressure and blood glucose may improve clinical indicators in people with high blood pressure, diabetes, and asthma.<sup>493,494,495,496,497,498,499</sup> However we identified no high quality study that made a direct link between self monitoring of clinical indicators and shifting care from hospitals to the community.

One case control study in Australia found that early identification of adverse trends in clinical signs recorded electronically at home may help avoid hospital readmission and reduce the length of hospital stay in people with long-term conditions.<sup>500</sup>

A cost analysis in the US found that self monitoring and self care significantly reduced monthly Medicare expenditures over a one year period.<sup>501</sup>

The benefits of self monitoring on 'making the shift' remain uncertain, but this may be a promising area in need of further exploration. In particular, future studies could explore whether self monitoring alone is as effective as adding checks or follow up by a health professional (as in telemonitoring).

## Written plans

Written care plans, held by service users, have been used to help empower people to manage their own care. There is inconsistent evidence about whether written plans, or self management 'action plans,' help shift care from hospital into the community.

There is evidence that written plans can help people better adhere to treatment and may improve some health outcomes.<sup>502,503,504,505</sup> For instance, a Cochrane review assessed the effects of asthma self management coupled with regular health practitioner review in 36 randomised trials. The authors found that self monitoring by either peak expiratory flow or symptoms coupled with regular medical review and a written action plan improved health outcomes for adults with asthma. Combining self monitoring and written plans was a key success factor in reducing the use of hospital resources, including admission rates.<sup>506,507</sup> In fact, the reviewers concluded that programmes that enable people to adjust their medication using a written action plan appear to be more effective than other forms of asthma self management.<sup>508</sup>

However, another review found no strong evidence that written plans improved outcomes for people with asthma. One type of plan was not consistently more effective than another. The reviewers suggested that no firm conclusions can be drawn about the benefits of including written self management plans in comprehensive asthma care programmes.<sup>509</sup>

Similarly, other trials have found that individualised care plans do not help shift the focus of care from secondary to primary care for frequent users of the emergency department<sup>510</sup> or people with COPD.<sup>511</sup> A Cochrane review of hospital discharge plans found that written discharge plans had no effect on length of hospital stay or readmission rates.<sup>512</sup>

The effect of written care plans on helping to reduce reliance on hospital care remains uncertain.

## Patient-held records

Sometimes service users are given their medical records to keep and bring to each consultation. The aim is to empower people to retain ownership of their information and care.

Some studies suggest that patient-held records can improve clinical outcomes in people with diabetes<sup>513</sup> and in preventive care.<sup>514</sup> But a Cochrane review with eight trials found no overall positive or negative effects from patient-held records. Computerised systems did not improve clinical outcomes.<sup>515</sup>

The available evidence suggests that patient-held records do not promote shifts in care. For example, a randomised trial in 28 general practices in the UK found that patient-held records did not improve health service use for people with long-term mental illness.<sup>516</sup>

Similarly, a US trial of patient-held records for people who had suffered stroke found that while participants were pleased to have a copy of their records, took them when they visited doctors, and reported learning more about their stroke, there was no difference in health practices or behaviours compared to usual care.<sup>517</sup>

Other studies report similar findings for people with a range of conditions including stroke, cancer, and mental illness.<sup>518,519,520,521,522,523,524,525</sup>

We found no evidence that patient-held records help shift care from hospital to community settings.

## Open access to outpatient care

People discharged from hospital or those with ongoing specialist care needs may be asked to attend outpatient clinics for follow up. However, ongoing outpatient visits might be inconvenient or not correspond to when people need them most. Therefore, the potential for service user-initiated follow up has been investigated.

Open access or direct access clinics involve encouraging service users to visit outpatient services when they feel the need, rather than assigning them scheduled appointments. Usually these outpatient services are based in hospital, but they could be provided in community settings, in 'shifted outpatients' models.

A number of studies suggest that open access models could have scope to significantly reduce reliance on secondary care.

For instance, a randomised trial in Wales assessed open access clinics for 180 adults with inflammatory bowel disease. Open access clinics were associated with fewer hospital day visits and outpatient visits, but some people had difficulty obtaining an urgent appointment. There were no significant differences in specific investigations undertaken, inpatient days, GP clinic or home visits, drugs prescribed, patient costs, or quality of life. The average total cost in secondary care was lower for open access patients, but when primary care and patient costs were added there were no significant differences in total NHS or societal costs. GPs and patients both preferred the open access model. The authors concluded that open access follow up of patients with chronic inflammatory bowel disease is more effective than routine booked appointments. Open access clinics use fewer acute sector resources, result in the same quality of life for patients, and are preferred by service users and GPs.<sup>526</sup>

In the UK, people with rheumatoid arthritis are traditionally seen regularly as outpatients, regardless of perceived need. A randomised trial compared routine outpatient review (usual care) versus no routine follow up, but access to rapid review on request (open access). There were no clinical differences between groups at two or four years. People in the self referral group had higher self efficacy and greater satisfaction and confidence than the usual care group.<sup>527</sup>

Direct access models may help people feel more in control of their care. Studies suggest that some people with cancer,<sup>528,529,530</sup> inflammatory bowel disease,<sup>531,532,533,534,535</sup> and rheumatoid arthritis<sup>536,537,538,539</sup> may prefer patient-initiated follow up and that patient-initiated follow up may reduce outpatient attendances and overall costs. However, some people may prefer fixed appointment systems so they don't have to explicitly ask for help.<sup>540</sup>

Open access clinics for outpatient follow up may help to support self management, and shift the focus from hospital care to supported self care in the community. The available evidence suggests that this is an area in need of further investigation. However, it is important to note that this model may not work well for people who do not like to feel that they are asking for help or impinging on anyone's time by attending an open access appointment.

## Changing professionals' attitudes

A UK Health Technology Assessment review examined ways of involving service users in research and decision-making. The authors concluded that effective methods for involving service users require appropriate skills, resources, and time to develop and follow good working practices.<sup>541</sup> The skills and attitudes of healthcare providers may therefore be important in helping to shift the focus from clinical to self care.

An international comparative study based on interviews with GPs in 11 European countries found that most GPs thought that involving older people in healthcare decisions had positive outcomes. However, GPs saw patient involvement as a process taking place solely during consultations. The main barrier for GPs wanting to involve service users was lack of time. The authors suggested that it will only be possible to increase the involvement of people in healthcare decision-making and to truly support self care when GPs adopt a more developed concept of patient involvement and receive help to achieve this.<sup>542</sup>

This view is supported by a randomised trial in The Netherlands which found that many GPs were not positive about involving service users in care processes. They felt that gathering feedback from service users required considerable time and energy and most saw little reason to change their behaviour as a result of what service users said they wanted.<sup>543</sup>

In order to support the shift from clinical to self care, doctors need to be able to communicate information effectively and to consider what level of involvement is appropriate for different people. A randomised trial found that training GPs about risk communication tools and shared decision-making could improve prescribing and was unlikely to have major impacts on the cost of care in the UK.<sup>544</sup> However another UK study found that while GPs appear receptive to service user involvement, training in shared decision-making did not help them achieve this or improve health outcomes.<sup>545,546</sup>

## 8. Making the shift by substituting organisations

We have described strategies for reducing reliance on hospital care by altering the type of care provided, the staff involved, and the location of care. Another important facet involves working in partnership with organisations outside health and social care. The voluntary and private sector may be able to substitute in the provision of some hospital services.

This section examines two examples:

- treatment centres run with the private sector,
- and working with community groups.

### Treatment centres

Treatment Centres provide testing, diagnosis, and treatment services separately from conventional hospital services. Often they are run by the private sector under contract to the NHS.<sup>547</sup>

While Treatment Centres and other services run by the private sector have been described,<sup>548</sup> a full analysis of their impact is not yet available.

The Service Delivery and Organisation NHS Research and Development Programme has commissioned a comparison of Treatment Centres versus traditional hospital provision. Findings will be released in mid 2006.

We found little published evidence upon which to compare Treatment Centres or other private sector initiatives with conventional hospital services in the UK.

### Community groups

Another method for shifting care away from acute hospitals involves working with community organisations or the voluntary sector, or delivering services in community (non health) venues. A number of authors have suggested potential advantages with this approach or described their attempts to use community centres, schools, churches, and voluntary organisations to deliver health care.<sup>549,550,551,552,553,554,555,556,557,558</sup>

However, few randomised trials or systematic reviews have investigated the effects of partnerships with the voluntary sector on shifting the use of hospital services.

One randomised trial found that providing services in community venues may reduce unplanned admissions. The initiative involved running a disability prevention and self management programme at a community seniors centre in the US with eight nurse-led sessions over a one year period.<sup>559</sup>

Other trials have found that co-ordinating care between community groups and healthcare providers can improve service use and increase satisfaction. The US Alzheimer's Association integrated their care consultation service with the services offered by a managed care system for people with dementia and their caregivers, resulting in improved access to services.<sup>560</sup> Providing care in the community for people with Alzheimer's disease was associated with greater use of community services.<sup>561</sup>

Although there are many descriptions of shifting care to community venues and working with voluntary groups, the impact of this on care models remains uncertain. This may be an area with positive potential to explore in future.

## 9. Making the shift by targeting people

Another way to help shift the focus from hospital to community care is to group or target people for specialist intervention.

Segmentation involves categorising people, often in terms of their behaviours, clinical characteristics, or service use history, in order to provide them with different services or care pathways.

Segmentation identifies patients with similar needs and/or preferences, and groups them together so that a specific pathway can be designed for them and specific resources can be allocated to them. An example is a strategy for people with long term conditions such as diabetes and asthma... a person with mild disease could be offered a disease specific education programme or expert patient programme to help with self care. A patient with more severe disease or multiple diseases might be offered one to one support in the community to avoid crisis and prevent hospital admission.<sup>562</sup>

While there are a number of descriptions of segmentation approaches, we identified little high quality evidence about the impact of segmentation on shifting care from hospital into the community. However, we did find studies focussed on assessing risk, targeting those at high risk, and changing referral patterns based on segmentation. A full exploration of risk management and segmentation tools is outside the scope of this review, however this section provides some examples of the general principles of targeting care.

### Registries

There is some evidence that disease registries, whereby information is compiled centrally and used to identify and track people at high risk of hospitalisation, may have positive impacts on quality of care and clinical outcomes.<sup>563,564,565,566</sup> Registry data may also be used to send reminders to service users and physicians about routine check-ups or medication reviews.

However, we identified no high quality evidence that disease registries alone had an impact on shifting care from hospital into the community.

### Risk assessment tools

Many of the most successful approaches to shifting care into the community focus on segmenting groups of service users so different levels of care can be provided for those with different needs. For example, a Kings Fund assessment of five 'high performing' organisations running managed care programmes in the US found that four out of five organisations used risk stratification techniques to identify people at high risk and targeted these people for intensive case management (nurse-led follow up).<sup>567</sup>

In order to identify people most at risk of clinical deterioration and hospitalisation, routine monitoring and data collection strategies are needed. A range of tools are available to help organisations evaluate the strengths and weaknesses of the way they deliver care.<sup>568</sup> For example the ACIC tool developed in the US focuses on system characteristics for supporting people with long-term conditions. A 13 month before and after study in the US found that the ACIC could identify system changes in the delivery of care, including shifts from hospital to community care.<sup>569</sup>

Another example is the PRA, which is one of the most widely used screening tools for older adults at risk of increased healthcare use in the US. A large cohort study of older adults in the US found that using screening tools can help predict people at high risk of service use and hospitalisation.<sup>570</sup>

In England, the Department of Health has funded several investigations of monitoring tools and risk stratification methods,<sup>571,572</sup> including the development of new indicators and assessment techniques such as the PARR tool for people with long-term conditions.

While there are numerous descriptions of monitoring and data collection strategies and of system assessment tools,<sup>573,574</sup> we found limited comparative evidence about the effects of different routine monitoring systems.

Studies have assessed the clinical benefits of targeting people at high risk.<sup>575,576,577,578</sup> There is also some evidence that targeting people at high risk to receive care in the community can change the use of hospital services. For example, one randomised trial assessed whether focussing services on people at 'high risk' would make services more effective in the US. The trial found that targeting services such as case management towards those at highest risk of repeated service use made a significant difference to hospital use.<sup>579</sup>

Another study in the US found that predictive modelling and simple databases could improve the quality and integration of care for people with diabetes.<sup>580</sup>

Another trial of integrated stroke care with elderly people in hospital found that, when targeted towards those at highest risk, integrated care increased survival and reduced the need for institutional care.<sup>581</sup>

A small randomised trial in the US assessed the benefits of providing case managers with information about the risks and potential benefits of different types of care for their patients. The authors concluded that providing case managers with risk assessment tools can improve targeting of services for people long-term conditions.<sup>582</sup>

In England, a health centre in Cheshire has trialled a case management approach targeting high risk people over the age of 65 years. People were visited at home by a nurse for an initial assessment. The nurse then coordinated care and facilitated patient education. There was a 15% reduction in admissions and 31% reduction in length of hospital stay.<sup>583</sup>

Evaluation of a programme developed in the US for 'high cost' patients found a 60% reduction in total hospitalisations, a 15% increase in functional status, and a 55% decrease in total costs among 1915 people with heart failure over a 13 month period. The programme used standardised, disease-specific protocols and case managers to support self management.<sup>584</sup>

A cost analysis emphasised the importance of adequate screening when providing services. The authors found that using screening tools, even those with low predictive value, can help to ensure services are correctly targeted and more cost-effective.<sup>585</sup>

Similarly, a cost-effectiveness analysis found that people at high risk of clinical deterioration or hospitalisation were most likely to benefit from disease management programmes<sup>586</sup> and an analysis of eye examinations in people with diabetes also found that targeting people at high risk may be most cost-effective.<sup>587</sup>

However, targeting is not always effective. A randomised trial in 106 general practices in the UK compared universal versus targeted assessment of elderly people and management by hospital outpatient geriatric teams versus primary care teams. There was no difference between groups in hospital or institutional admissions.<sup>588</sup>

It appears that segmenting people into groups according to different levels of need, when done as part of a multifaceted approach,<sup>589</sup> has the potential to help identify those who would most benefit from care in the community; more intensive care; and specific services to avoid reliance on the acute sector.



## Changing referral behaviours

An important component of targeting specialist care towards those who need it most involves changing referral patterns. A number of studies have examined interventions to alter GPs' prescribing and referral behaviours, including referral guidelines, audit and feedback, educational interventions, organisational interventions, and financial incentives.

A Cochrane review included 17 studies, most of which originated in the UK. Nine studies evaluated educational interventions, five assessed financial incentives, and three examined organisational interventions. The review found that referral guidelines with structured prompts about elements of pre-referral investigation; educational activities with specialists; requiring a second, in-house opinion prior to referral; fee-for-service systems; and GP fundholding in the UK may reduce referrals to hospital.<sup>590</sup>

However, there was no good evidence that the following affected referral: passive dissemination of referral guidelines; feedback about referral rates; discussion of referral rates with an independent medical adviser; or changes in payments that made it more advantageous for patients to self-refer to GPs rather than specialists.

An additional study supports the use of feedback and referral guidelines to change GP referral practices.<sup>591</sup>

There is some evidence that referral guidelines plus structured referral sheets or educational interventions may reduce GP referrals to hospital. Financial incentives also change referral rates, but it is unknown whether they reduce the appropriateness of referrals.

Strategies have also been trialled to advise primary care practitioners whether or not a referral is necessary, or to whom service users should be referred. Examples include telephone helplines, computer decision-support systems, and triage systems.<sup>592</sup>

Referral management centres are one such initiative, set up at the interface between primary and secondary care. The aim is to count referrals, assess their nature, and redirect referral requests.

Referrals may be assessed for several reasons. Firstly, they may be assessed so that patients can be diverted to a service or specialist with more capacity... Secondly, assessment may be done purely to provide feedback to referrers. Information could be sent to the referring doctor pointing out deficiencies with the aim of improving future referrals. Thirdly, and more contentiously, referrals might be assessed to identify patients whose referral is clinically unjustified or who require further investigation in primary care.<sup>593</sup>

However, there is little published evidence available about how these centres work in practice and whether they can help target those most in need of referral, thus reducing reliance on secondary care.<sup>594</sup>



## 10. Making the shift by simplifying pathways

The NHS Institute for Innovation and Improvement suggests that reducing structures and minimising the 'passing on' of service users may be an important component of 'making the shift.'

This section examines evidence about two examples of simplifying healthcare structures:

- evidence-based care pathways,
- and direct referrals for diagnosis and treatment.

### Formal care pathways

Evidence-based care pathways are a tool to help provide more integrated and continuous care. Care pathways aim to provide guidelines about how people can progress through health and social care systems, and what services and medications they should be accessing at various points along the 'pathway.' They also aim to help service providers work together using a 'whole systems' approach, often using specific guidelines.

National Service Frameworks (NSF) are a type of care pathway, developed to help practitioners apply guidelines and high quality evidence.

However, there is little evidence about the impact of care pathways on quality of care. A randomised trial in the UK examined an integrated care pathway following stroke. The care pathway was a goal-orientated time-managed plan that aimed to facilitate interdisciplinary coordination, improve discharge planning, and reduce length of hospital stay, but this care pathway had no benefits over usual care in a hospital unit.<sup>595,596</sup>

There is inconsistent evidence about the effects of care pathways on clinical outcomes. A Cochrane review of ten studies assessed the effects of care pathways compared to standard medical care. Care pathways did not improve survival, dependency, or discharge destination over usual hospital care.<sup>597</sup>

Sixty general practices in North East England participated in a randomised trial of computerised evidence-based clinical guidelines for managing asthma and angina in primary care. The computerised decision support system had no significant effect on consultation rates, process of care, prescribing, or any patient reported outcomes, but GPs did not use the software much.<sup>598</sup>

Other studies suggest that simple care pathways can make a difference to people's quality of life and the care they receive.<sup>599,600,601,602</sup>

There is little evidence about whether care pathways help shift care from hospital into the community. However, some studies suggest that care pathways can reduce hospital use for specific populations.<sup>603,604</sup>

## Direct access to diagnostics

People who require specialist treatment by hospital professionals are often referred by their GPs to an outpatient service. During outpatient appointments a specialist assesses the service user and decides whether they need subsequent visits for diagnosis or treatment.

Newer models of care have tested whether the specialist gatekeeper role can be removed from the patient's journey, allowing for direct referral for diagnosis or treatment by GPs or service users themselves.

Although there are numerous descriptions of programmes that encourage direct referrals from service users themselves, we found little evidence about the impact of such programmes on healthcare resources and service use. Therefore this section focuses on GP referrals for diagnosis, and the following section focuses on direct GP referral for specialist treatment. (Rapid access clinics and open access services for patients are reported in previous sections).

We found evidence about the impact of direct diagnostic access for GPs in the fields of echocardiography, electrocardiography, sigmoidoscopy, osteoporosis, endoscopy, gastroscopy, radiology, mammography, and medical ultrasound.<sup>605,606,607,608,609,610,611,612,613</sup>

There is evidence that providing GPs with direct access to diagnostics may reduce outpatient appointments.<sup>614,615</sup> GPs estimated that up to nine out of ten people could be managed in primary care who would otherwise have been referred for outpatient appointments. The proportion was highest for heart diagnoses and lowest for radiology and sigmoidoscopy.<sup>616,617,618,619,620,621,622,623,624,625,626,627,628,629,630,631</sup>

One UK study suggested that the average waiting time for outpatient appointments reduced from 120 to 37 days when GPs could refer directly for gastroscopy.<sup>632</sup> Other studies suggested that direct access was associated with prompter diagnoses.<sup>633</sup>

It appears that the majority of referrals by GPs are appropriate, especially when GPs receive referral guidelines.<sup>634,635,636,637,638</sup> In fact, one UK study suggested that adherence to referral guidelines was significantly better for GPs than for consultant referrals for ultrasound.<sup>639</sup>

However some studies suggest that when direct access is available, GPs may be more likely to use these services than if outpatients clinics acted as gatekeepers.<sup>640,641,642</sup>

Even so, one trial in the UK found that direct access sigmoidoscopy clinics reduced combined NHS and service user costs by £105 per person compared to outpatient appointments.<sup>643</sup>

Another UK trial found that direct GP access to scans for people at risk of osteoporosis had similar clinical outcomes to a consultant-led service, and was more economically efficient than hospital referral.<sup>644</sup>

There is little evidence about whether or not people prefer direct access to diagnostic services. One randomised trial found no significant differences in people's satisfaction or anxiety depending on whether they used direct access sigmoidoscopy or conventional outpatient services.<sup>645</sup>

Overall, the evidence suggests that it may be worth pursuing direct GP access to diagnostic tests. However this is likely to be most effective for tests that GPs know a lot about. Further education and upskilling may be required to ensure that GPs can take best advantage of direct access to diagnostics.

## Direct referral to treatment

GPs may also refer service users directly for specialist care, rather than using outpatient services as a gatekeeper.

We identified studies of direct GP referrals to specialists in the fields of surgery, physiotherapy, hearing aids and other devices, gynaecology and urology.<sup>646,647,648,649,650,651</sup>

Two reviews found that people had better health outcomes when referred by their GPs directly to physiotherapy services rather than via outpatient services.<sup>652,653</sup> A trial in dentistry had similar findings,<sup>654</sup> but a study of direct access to urology found no difference in clinical outcomes.<sup>655</sup>

There is some evidence that service users are more satisfied with direct referrals to specialists compared to outpatient appointments,<sup>656,657</sup> possibly due to the reduced waiting times associated with direct access.<sup>658,659,660,661,662,663,664,665</sup>

There is some qualitative data to suggest that the appropriateness of GP referrals can be improved via improved communication and referral guidelines:

The selection of appropriate referrals by GPs could be helped by improved communication and better definitions of appropriateness. Closer working between the two professions would result in the better management of problematic patients and prevent wasted resources through avoiding inappropriate referral. Written guidelines appeared to be of less use than direct contact.<sup>666</sup>

There is inconsistent evidence about whether direct referrals reduce outpatient visits. Some studies suggest that direct access reduces overall hospital workload and outpatient activity.<sup>667,668,669</sup> But one study found no significant change in hospital referral rates in the years before and after the introduction of direct GP referral for urology services.<sup>670</sup>

Two systematic reviews found that direct access to physiotherapy reduced overall costs compared to conventional outpatient models, but savings may be offset by increased rates of referral.<sup>671,672</sup>

Some studies support self referral by service users themselves, but most of these focus on acute conditions.<sup>673</sup> A study of direct access initiated by people with long-term conditions found that there was no reduction in emergency department or hospital admissions, but the overall cost of care increased.<sup>674</sup>

Although direct access to diagnostics seems to reduce the use of hospital services overall, the same is not necessarily true of direct GP referrals for specialist care. There is some evidence to suggest that this can have positive outcomes, so this may be an area worth exploring further in future. The key learning point is that GPs need to be confident and skilled in making appropriate referrals.

# 11. Making the shift: key success factors

Shifting from a model that treats people as passive recipients of care towards an approach that empowers and supports self management involves more than merely shifting the location of services from hospital into the community.

The NHS Institute for Innovation and Improvement suggests that four key themes are integral to shifting the model of care in the UK:

## 1. Integration of services

## 2. Substitution

of location  
of skills  
of technology  
from clinical to self management  
of organisations

## 3. Segmentation (targeting)

## 4. Simplification (reducing structures and pathways)

This rapid review has examined published evidence about strategies that may work best to facilitate each of these key themes.

There is evidence that transferring services from hospital to primary care is generally associated with improved access and convenience for service users, whilst maintaining good quality care and health outcomes. The exception is when primary care clinicians are asked to undertake tasks outside their competencies without support, further training, and further funding.

However, focussing on community care may not always reduce hospital workload because there may be more demand and hospital referrals from community based services. Neither can it be assumed that shifting care from hospital into the community will automatically reduce costs. In a number of instances, care in the community may be more costly than providing care in hospital.

## What works best?

'Making the shift' is about much more than merely relocating services. A recent review concluded that:

Transfer and professional behaviour change are generally effective strategies for reducing outpatient demand, whereas relocation and liaison are largely ineffective.<sup>675</sup>

The strategies that we found to reduce reliance on hospital care most effectively are listed in Table 1.

Our review supports some of the suggestions in the White Paper regarding areas where there is most scope to shift care from hospital into the community, particularly in the fields of diagnostics, day hospitals, and outpatient follow up (see Figure 2).

However the review also identified numerous additional areas where there is scope to facilitate shifts that were not initially prioritised in the White Paper. These include:

- self management education and support,
- changing GP referral behaviours,
- targeting those at high risk of hospitalisation,
- telemonitoring,
- changing the way that care is provided in hospital,
- multidisciplinary hospital teams,
- discharge planning,
- and telephone support.

The scope of conditions that could effectively be targeted to shift care also appears broader than those prioritised in the White Paper.

We found insufficient research to support the White Paper's focus on step down care. This is largely because little high quality evidence has been published on this topic. Other strategies for shifting care from hospital to the community have a stronger evidence-base.

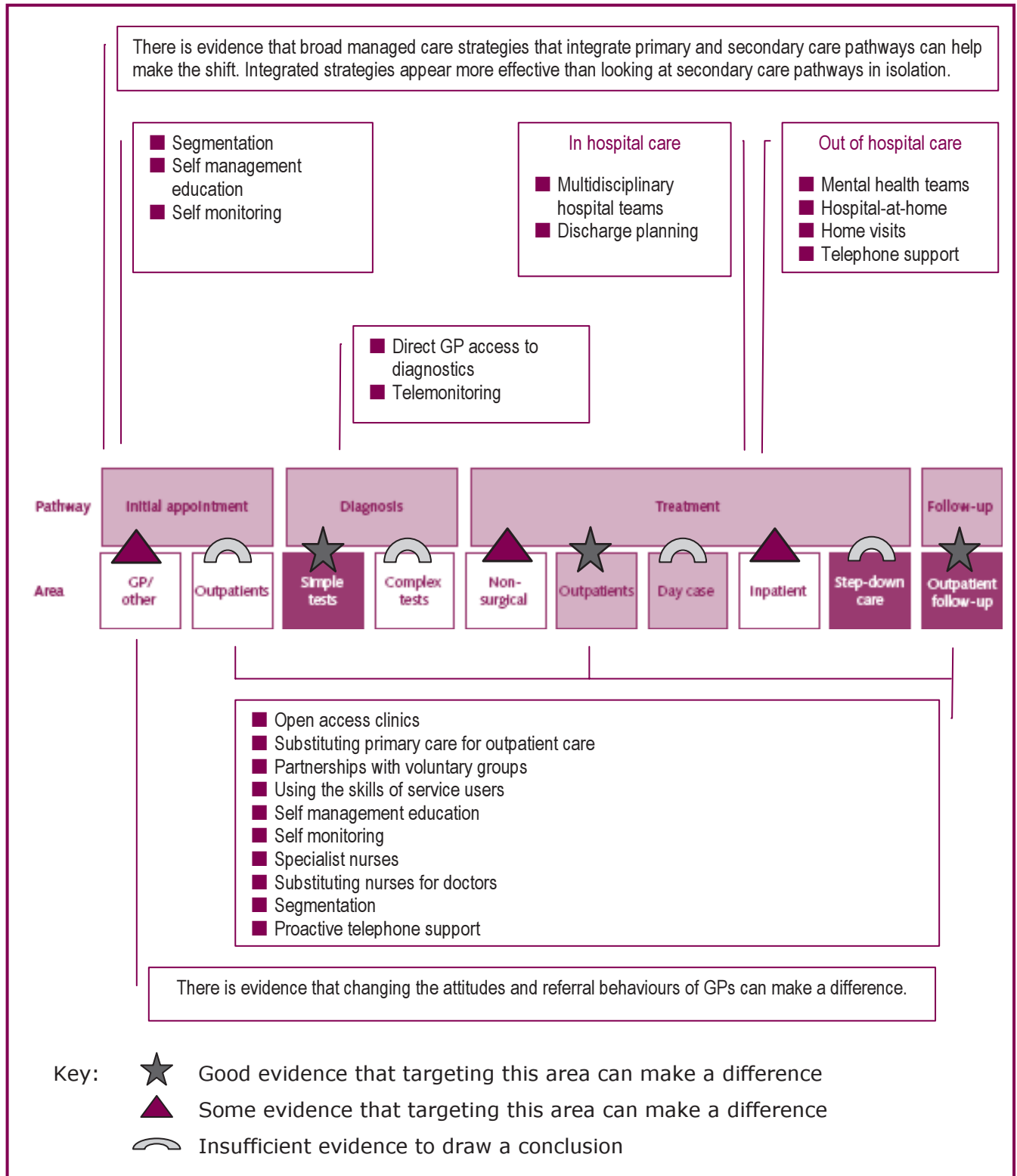
**Table 1: Summary of evidence-based factors to support making the shift**

Factors that do help to facilitate shifts	Factors with insufficient evidence
<p>Integration of services</p> <ul style="list-style-type: none"> <li>■ broad managed care programmes</li> <li>■ changes in the attitudes and behaviours of staff</li> <li>■ partnership working with voluntary groups</li> </ul> <p>Substitution</p> <ul style="list-style-type: none"> <li>■ developing multidisciplinary hospital teams</li> <li>■ utilising the skills of service users</li> <li>■ substituting nurses for doctors</li> <li>■ multidisciplinary community mental health teams</li> <li>■ discharge planning</li> <li>■ service user initiated follow up after discharge</li> <li>■ primary care follow up after hospital discharge</li> <li>■ hospital-at-home (but no cost reduction)</li> <li>■ home visits added to usual care</li> <li>■ ongoing long term care in primary care</li> <li>■ shifting care to non health venues</li> <li>■ telecare information and support</li> <li>■ automated telemonitoring</li> <li>■ self monitoring</li> <li>■ self management education</li> </ul> <p>Segmentation</p> <ul style="list-style-type: none"> <li>■ targeting people at highest risk</li> </ul> <p>Simplification</p> <ul style="list-style-type: none"> <li>■ direct GP access to hospital based tests</li> <li>■ direct GP access to specialist treatment</li> </ul>	<p>Integration of services</p> <ul style="list-style-type: none"> <li>■ shared care</li> </ul> <p>Substitution</p> <ul style="list-style-type: none"> <li>■ general practitioners with special interests</li> <li>■ relocating specialist services to other venues</li> <li>■ GPs performing minor surgery*</li> <li>■ inserting specialists into primary care teams</li> <li>■ intermediate care</li> <li>■ outpatient clinics in primary care</li> <li>■ hospital observation units</li> <li>■ day case surgery</li> <li>■ telemedicine consultations</li> <li>■ substituting telephone calls for clinic visits</li> <li>■ private sector treatment centres</li> <li>■ information alone to support self management*</li> <li>■ written care plans</li> <li>■ patient-held records*</li> </ul> <p>Segmentation</p> <ul style="list-style-type: none"> <li>■ dividing the population into sectors or types</li> </ul> <p>Simplification</p> <ul style="list-style-type: none"> <li>■ formal care pathways</li> <li>■ rapid access clinics*</li> </ul>

\* denote that there is evidence that these strategies do not work to facilitate care shifts

**Figure 2: Linking evidence to White Paper expectations**

The figure lists areas where there is evidence that strategies can help shift hospital care into the community



## Key success factors

It is often assumed that shifting care from secondary to primary care will reduce costs, reduce overall demand for hospital services, and provide care of the same or better quality. However not all of the evidence supports these assumptions.<sup>676</sup>

Overall, research suggests that merely relocating secondary services or specialists into primary care settings will not reduce demand on hospital resources. More complex and multifaceted approaches are required, combining a range of factors outlined in Table 1.

Those initiatives that have successfully supported a shift from hospital to community care have a number of common features:

- empowering people to take responsibility,
- supporting people to manage their own care,
- involving users in planning and development,
- focussing on changing professional behaviour,
- training to support staff in new roles,
- increasing competencies not assuming proficiency,
- adequate investment in services,
- adequate timeframes in which to test services,
- realistic targets rather than unrealistic goals,
- involvement of all key stakeholders,
- whole systems approaches,
- providing care based on levels of need,
- phased introduction of changes if needed,
- not running (competing) services in parallel,
- additional resources for primary care,
- acknowledging the impact of unmet need,
- not assuming that shifts will reduce costs.

Good leadership and a strong culture of quality improvement also appear to be important ingredients in efforts to reduce unscheduled admissions and days in hospital.<sup>677,678</sup>

The attitudes and behaviours of health care professionals are essential elements in facilitating or blocking shifts in care. Interviews with managers and clinicians in England and Scotland found that:

Shifts in activity from secondary to primary care were regarded as small, non-strategic, piecemeal, and not directly underpinned by resource shifts. Barriers identified by responders include the immobility of existing resources, concerns in the primary and secondary care sectors about the appropriateness of the shift, weak incentives supporting the shift, the perspectives of general practitioners involved in commissioning, and the absence of co-operation between key stakeholders.<sup>679</sup>

The authors concluded that before shifts from secondary to primary care can be successful, a fundamental tension needs to be resolved: the managerial and clinical staff to whom control has devolved may be neither equipped nor minded to fully engineer the strategic resource shifts necessary to underpin such a shift in vision. Time and resource must therefore focus on examining factors that would encourage these staff to make changes, and the crucial factors that would support such changes.

While this review has examined discrete interventions that, when combined, could help facilitate further shifts to primary care-led, there is more work to be done in terms of generating a real will to make the shift. A first step is to better understand the barriers to change.



Further investigation may be needed into the factors that would support staff to make such a shift, including facilitating more appropriate referrals and ensuring that both specialist staff and primary care staff feel comfortable with new roles and responsibilities.

There is little evidence that financial incentives support such shifts consistently. In fact, financial incentives may act as a barrier or lead to inappropriate referrals and treatments.

It may also be important to assess the competencies required in changing staff roles, and to put appropriate time and resources into upskilling staff where required rather than assuming that staff will be able to take on new roles without support. The interventions that most successfully foster a shift in care tend to be those that offer additional training and resources to primary care teams.

If the aim of transferring services to primary care is to substitute for secondary care rather than to increase overall capacity, it is important to cease secondary care services during the transfer process. Otherwise, similar primary and secondary care services will run in parallel, which will increase resource use.

It is important to emphasise that these conclusions are based on a rapid review of the literature rather than an exhaustive review. The quality and quantity of available research varied widely in different topic areas. While we can describe with some certainty various interventions that have worked well to facilitate more integrated care and reduce reliance on hospital services, there is insufficient information about a number of key interventions. It is also uncertain whether strategies that have worked well in international health economies will necessarily work well in the UK.

To build on the published research summarised here, and evidence of local experience (summarised in a companion document), the NHS Institute for Innovation and Improvement is working with five pilot sites to test innovative ways of fostering shifts in care processes.

In evaluating pilot sites, it will be particularly important to examine the management and other support required to provide high quality sustainable services and to consider contextual factors that affect implementation. This will ensure that not only does the evidence base in this report help to underpin the processes and learning in the pilot sites, but that learning from the pilot sites can be widely disseminated to help support evidence-based shifts in care throughout England.

# Annex 1: Keywords used in searches

A selection of the types of keywords used in database searches is presented below:

community care	GPs with special interest	telecare
care in the community	family doctor	telemedicine
out of hospital	specialist nurses	telehealth
service co-location	health care scientists	telehomecare
prevention	pharmacists	ehealth
healthcare delivery	multidisciplinary teams	telephone monitoring
partnership working	teams	alerts
liaison	home care teams	telephone support
shifted outpatient	voluntary sector	telesecurity
outpatient	nursing home	community alarm
referral	residential	teleconsultation
managed care	social services	teleconference
shared care	home care	call centre
	home visit	telecommunications
	treatment centre	
discharge	targeting	ear, nose and throat
early discharge	stratification	trauma
day case surgery	segmentation	orthopaedics
day surgery	high risk	dermatology
specialist triage service	registry	urology
hospital outreach	care pathway	gynaecology
	pathways	general surgery
intermediate care	clinical protocols	frail elderly
step down care	guidelines	long-term conditions
step up care	referral management	chronic condition
community hospitals	change management	chronic care
	gatekeeper	heart failure
polyclinics	self referral to specialists	asthma
community clinics	self management	diabetes
community diagnostics	self monitoring	depression
healthy living centres	patient education	dementia
rehabilitation	patient empowerment	arthritis
specialist clinics	patient information	stroke
home hospitalisation	self care equipment	hypertension
geriatric assessment	counselling	COPD
rapid access	patient-held records	
direct access		systematic review
open access		randomised trial
tests		names of key authors
diagnosis		

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