New influences on care

SUMMARY

New service models and technology have an important role in enabling older people to remain in their own homes and avoid unnecessary moves into residential care or hospital. This chapter reviews the evidence for the impact and cost-effectiveness of the main new service models.

- Telecare (any service bringing health and social care directly to a user, generally in their own homes, supported by information and communication technology) has the potential to postpone and divert older people from moving into residential care and possibly hospital, and in doing so will redistribute costs and benefits around the system. This needs to be taken into consideration when apportioning budgets and telecare implementation costs.

- Most telecare pilot studies have provided positive results, but there has been no consensus framework for the cost assessments, so it is difficult to model the future cost impact of telecare if implemented nationally. However, enough lessons have been learned from pilot studies that the emphasis should now shift to moving telecare into the mainstream.

- The demands of an ageing society come too low on the list of strategic housing priorities, with the housing concerns of first-time buyers and key workers appearing more immediate.

- Extra care housing offers the potential for extended independent living and better quality of life for some older people who can no longer manage in their own homes, but barriers to expansion mean that it is unlikely to be available to more than a minority. Nor is it always clear how cost-effective it is compared to the alternatives.

- New models of dementia care will be important given the projected increase in older people aged 85 and over. There is a need for greater provision of dementia-specific care services and care workers, and consideration should be given to ring-fenced funding for dedicated services.

- Preventative measures can reduce people’s dependency, disability and ill health, but rigorous quantitative studies are rare. Evidence suggests that such schemes should be targeted at people whose condition is likely to deteriorate or who have a high predicted risk of costly future needs.

- The rehabilitation potential of intermediate care also appears to be more effective when targeted at specific conditions or groups of people. The cost impact is unclear, however, because many studies do not take into account resource utilisation over the longer term.
Standard outcome measures need to be developed to facilitate the evaluation of various new service interventions, as this will allow future studies to be compared and a more robust evidence base to be collected. It is also often difficult to establish a clear causal link between a specific service and its impact on outcomes because of the complex nature of care packages. Nevertheless, technology and new models of care will be needed to address the future demand for long-term care.

1 Introduction

Social care must continually develop in response to changing needs, attitudes and expectations. It will also be influenced by technological possibilities, policy priorities, improvements in incidence of some of the major disability-causing diseases such as cardiovascular disease, and less promising trends around dementia. Cognitive impairment is a very significant driver of social care demand, so an important area of development will be new models in social care for people with dementia.

People’s attitudes to traditional forms of social care are changing. As the baby-boomer generation moves into old age, they expect choices and control, regardless of significant disability. New models, such as extra care housing, can meet these changing demands and also alleviate other pressures on the system. Social care is very labour intensive at present but technology offers possibilities, especially concerning supervision and monitoring functions, and might shift some of the balance.

High on the policy agenda is the potential for preventative services and strategies to reduce the need for mainstream services. Intermediate care is an important part of this agenda. Some see the prospect of early help from low-level services reducing more significant need as people age.

Some of these new models (for example, intermediate care) have swiftly been adopted into the mainstream. Others (such as telecare) are still mostly confined to pilot studies. Many are likely to become more commonplace over the next 20 years as part of a new approach to care. This chapter begins to consider their worth and how they might evolve.

Such models are complementary and might achieve most when combined. Specialist dementia care, for instance, can successfully be provided in extra care housing units fitted with a range of telecare systems. Similarly, intermediate care can take place in an older person’s telecare-equipped house, in an extra care setting or some appropriate health care facility, and generally includes preventative measures. Applied successfully, and sensitively, the new service models should be able to help some older people live in lower-intensity care settings.

Determining the cost implications of the various new care models is challenging. Often, there are shortcomings in the evidence base for similar reasons.

- Many new models – such as telecare, intermediate care and prevention – straddle the boundary between health and social care.
- Costs and cost savings usually fall to different organisations. Most commonly, investment and costs are incurred by social services, but the financial benefits accrue to the NHS in terms of reduced acute and hospital care.
There is a lack of standard outcomes for measuring the impact and effectiveness of new service models. Some studies have used extra life years gained. Others have opted for quality-adjusted life years. Others have taken a measure specific to the intended outcome (for example number of falls prevented). General quality of life measures are more nuanced, but can be very subjective.

It is often difficult to establish a clear causal link between a specific service and the outcomes.

While the primary aim must be to improve quality of life and care provision, these new service models will be needed to meet the wider challenges of providing social care to more people. These include shortages of appropriate accommodation, the need to adapt older people’s own homes for continuing residence, an inadequate supply of formal care workers and a shrinking pool of informal carers.

2 Telecare and related technology

‘Telecare’ describes any service bringing health and social care directly to a user, generally in their own homes, supported by information and communication technology (Audit Commission 2004). In most cases, data is collected through sensors, fed into a home hub and sent electronically to a call or monitoring centre. Existing basic telecare units include fall alarms, safety sensors for risks such as gas leaks and bath floods, and ‘wander’ monitors for people with dementia. In the UK, around 1.5 million elderly people already use community alarms to contact a central control centre which can summon help; this is often the basis for the introduction of telecare. More advanced ‘intelligent’ systems are designed to recognise changes in activity levels, such as visits to the toilet or fridge, which may indicate that a person’s condition is deteriorating. Early targeted interventions can then be implemented, with the emphasis on prevention. Separately, ‘telehealth’ can be defined as the remote monitoring of vital signs such as temperature and blood pressure which can be used by medical professionals for diagnosis, assessment and prevention.

The government believes that telecare can increase independence and choice by helping the elderly remain in their own homes longer. It can also ‘give carers more personal freedom and more time to concentrate on the human aspects of care and support and will make a contribution to meeting potential shortfalls in the workforce’ (Department of Health 2005f), while ‘using technology appropriately can re-balance the all-or-nothing approach to care and independence, where people either have daily visits by a care worker, or nothing at all’ (Ladyman 2005). The Department of Health’s ‘Preventative Technology Grant’ is paying out £80 million over two years from April 2006 to promote the use of new technology as a way of reducing avoidable admissions to hospital and residential care. Looking further ahead, the recent White Paper promotes telecare as a means of enabling people ‘to feel constantly supported at home, rather than left alone, reliant on occasional home visits or their capacity to access local services’ and plans ‘intensive use of assistive and home monitoring technologies’. The Department’s own IT targets aim to provide telecare in 20 per cent of homes requiring it by the end of 2007, and in all homes requiring it by the end of 2010, levels which look very ambitious unless a very low definition of telecare need and service is used.

Since loneliness is a big issue in old age, it might seem contrarian to promote technology which could reduce interaction with carers. But proponents of telecare argue that it can allow a redeployment of carer time, with a shift of resources towards more meaningful...
interactions. Given that an ‘intensive’ care package is usually defined as domiciliary care of more than 10 hours a week, that leaves many hours when telecare can complement formal care rather than substituting for it.

Costs per individual can be modest, for example typically £360 for a basic home safety and security package of equipment, plus monitoring costs of £5 a week; additional sensors are around £80 each, and an extra £1 per week per sensor (Department of Health 2005k). Home health monitoring packages tend to be more expensive, at around £700 for an initial package, and £10 a week monitoring cost. Government guidelines for the Preventive Technology Grant state that if telecare equipment is provided after a community care assessment as an aid to assist with nursing at home or aiding daily living, it should be provided free of charge. The local authority’s normal means-testing regime can be used for the service elements, that is, the weekly charges. Equipment installed for preventive reasons can be charged for (Department of Health 2005a).

An overview of telecare, including a number of pilot studies and its acceptability to older people, is provided in Background Paper 7 (‘Telecare’) in the Appendix. For this Review’s modelling exercise, the relevance of this technology is its apparent potential to offer value in a number of ways.

- It can avoid or defer an elderly person’s move into a care home or hospital. (Although, in some cases, the level of care necessary to keep someone at home can make a move into a care home the cheaper option.)
- It can reduce or replace some of the routine inputs needed from carers, formal and/or informal, in the home setting, permitting them to be more effectively deployed.
- It can speed up an elderly person’s discharge from hospital by providing added support in their own home or in another intermediate care setting, thus freeing up hospital beds.
- It can help someone maintain a healthier lifestyle, thereby reducing or delaying future needs.
- It can improve efficiency within a care home and help keep down costs.
- Using wireless technology, much of the available equipment can be installed in existing homes, and removed when no longer needed.

**The evidence base**

Various pilot studies are beginning to offer evidence that providing an early, limited package of telecare to someone in a low-needs category can delay a move into a higher-needs service band, particularly when an inexpensive telecare package can prevent a move into residential care by an older person who feels unsafe and vulnerable in the community.

The UK’s biggest telecare pilot study is the ‘Opening Doors for Older People’ project in West Lothian, launched in 1999. The council is rolling out technology packages for its ‘Home Safety Service’ to everyone in the district aged 60 and over (about 10,000 households). The aim is to increase the level of care as needs increase, rather than moving the person into increasingly intensive care settings. Separately, smart technology is being used in newly built housing developments designed to offer ‘Housing with Care’ with an onsite staff team for those who really cannot manage in their own homes. By February 2006, there were 1,950 Home Safety Service households with a package consisting of:

- a ‘lifeline’ unit, which links sensors to the call centre when triggered
- two passive infra-red (PIR) detectors to monitor activity and potential intruders
two flood detectors, activated by leaking pipes, overflowing baths, etc
one heat sensor, sensitive to both high and low temperatures
one smoke detector.

About 10 per cent of participating households had additional technology such as falls detectors, falls alarms, medication reminders and bed occupancy monitors. The whole project is supported by a care team of staff from a range of backgrounds who have been given intensive training to identify the appropriate technology for a user. In an interim evaluation (Bowes and McGolgan 2005), nearly all the respondents reported the positive impact of the smart technology, which had been important in relieving worries about falling and about home security.

Preliminary cost analysis suggests that cost savings can be achieved from the new services, when compared to the cost of an institutional care place. The gross costs of the various care options are: a care home place in West Lothian (February 2005) at £21,840 per annum; a Housing with Care tenancy at £16,400 a year, including a technology package, personal care and housing support; and support in the community, including the Home Safety Service technology package and 10 hours of formal care a week, at £7,121 a year (Bowes and McGolgan 2005). The director of the council’s community and support services estimates that the cost of a package of telecare equipment amortised over five years plus the staffing costs to support the scheme work out at around £7 a week in total (Kelly 2005).

Any cost-benefit analysis of telecare is highly sensitive to whether potential NHS costs are included in the calculation. In West Lothian, the average length of stay in a care home has dropped from around three years in 2000 to around 16 months in 2005. As of April 2005, the proportion of people over the age of 65 experiencing delayed discharge from hospital in West Lothian was 1.4 per 1,000, compared with an average in Scotland of 2.7 and a Lothian average of more than 4. The mean length of stay by someone delayed in hospital is 30 days, compared with a Scottish average of 112 days (Kelly 2005). Further analysis of the cost-benefits of the telecare project will be published in a forthcoming final evaluation by Bowes et al.

Models of telecare
Examples of successful small telecare schemes have encouraged a growing consensus that even basic telecare can reduce the demand for care home and hospital beds. The danger comes from trying to extrapolate from small pilot studies into the population as a whole, and from seeing telecare as some catch-all ‘magic bullet’ solution.

There is a lack of rigorous data on telecare cost implications due to the mostly small-scale, short-term nature of trials (Barlow et al 2005). There have also only been a handful of attempts to model the potential cost-effectiveness of the introduction of telecare on a very large, or national, scale. One theoretical cost model for a city-based advanced telecare scheme (based on Birmingham) involving 11,618 community alarm users (Brownsell et al 2001) predicted a return on the necessary investment after 10 years. Expected savings in the model arose mainly from a reduction in the time spent in hospital and residential care.
If the results were extrapolated for the whole of the UK, assuming 1.6 million community alarm users, there would be savings in excess of £1 billion over the first 10-year period (Brownsell and Bradley 2003). Over the following 10 years, telecare could produce even greater savings as the infrastructure would already be in place.

The time-lag effect shown by Brownsell was also seen in a separate model (Bayer et al 2005) which explored the effect of the introduction of telecare under different scenarios, in particular the effect on the number of clients in institutional care and the overall cost. Under the most optimistic combination of assumptions, the institutional care population after 5 years dropped by 11 per cent compared to the non-telecare case; under the most pessimistic assumptions by less than 1 per cent. It was when looking at the longer-term—more than 20 years—that the effect of telecare was far more pronounced, and a substantial reduction (albeit with a large funnel of doubt) was seen in the long-term care home population. This is because the impact on the care home population is small in the short term with those who are already very frail or in care homes. The improved outcomes are seen in the longer term, when the provision of telecare to users with mild or medium needs feeds through to produce an extended period of independence at home. This model supported the view that telecare development should be focused on those in the middle, rather than high frailty groups, to have an impact on subsequent moves into care homes.

Several pilot studies have concluded that telecare will divert and shift people from residential care and possibly hospital, and that the costs and benefits will be redistributed around the system. In July 2005, the Department of Health made available two separate—but related—telecare models to assist local authorities in designing cost-effective projects under the £80 million 2006/08 Preventive Technology Grant. The Balance of Care model illustrates, at a strategic level, the potential shift in service provision that might be feasible if telecare were introduced, and the resulting impact on the gross cost profile. Three scenarios were used: baseline (no telecare), low invest (introduction of telecare services for the more dependent older population only), and extended (wider rollout of telecare to lower dependency older people). The scenarios were applied to ‘Telecare Valley’ which represents an imaginary ‘average’ council whose population and service levels are the current England totals divided by 150 (the number of councils). The overall impact on annual costs showed that the £42.5 million total for the low invest scenario was only around 5 per cent cheaper than the baseline scenario, while the extended scenario was 5.5 per cent cheaper, despite both these figures including estimated savings on acute bed costs for some older people receiving more than 10 hours of care a week. The model thus introduces a note of caution about claims of very large immediate financial savings from telecare. In particular, the levels of care assistant hours assumed in the scenarios remain high. However, these costs could reduce substantially if telecare helped to prevent people moving into residential care for reasons other than personal care needs (for example concerns over risks or security not otherwise addressed by personal care). Details are given in Background Paper 7 (“Telecare”) in the Appendix.

The associated Business Case Model provides a 10-year view of the potential impact in ‘Telecare Valley’ of investment in telecare using the Preventative Technology Grant money in 2006–08. It therefore only shows the possible effect of giving telecare to a relatively small number of people with immediate need for telecare, and does not model a more strategic decision to invest in telecare on a long-term basis. Forecasts of the total requirement for care home places (for existing and new users) confirm that the decline only becomes evident after a time-lag of a few years (see Figure 42 opposite), when
telecare recipients are able to remain in their own homes for longer. In this model, it is the expected delay in entry to a care home which has the main impact on the total estimated for care home places in future years.

With more people able to remain in their own homes longer, there is a commensurate increase in the numbers of visits and hours of home care (including both personal care and practical help) (see Figure 43 overleaf). The introduction of telecare changes the total care package, and in the medium and long term an older person who continues to live at home rather than moving into residential care will increase the overall demand for domiciliary care. As with both these graphs, the model only looks at the impact of the telecare investment relating to the two-year Preventative Technology Grant.

A rigorous business case for the long-term benefits of making telecare a mainstream feature of social care is complex and has to rely on many assumptions. There is also the uncertainty of how the technology itself will evolve, and how its price will change, over 20 years. To get the complete picture, social care costs, NHS costs, and the state benefits system all need to be included, as well as the impact on the economy of any improvement in the earnings potential of informal carers.

**The future**

Advances in technology over the next 20 years will play an important role in long-term care. The difficulty is in predicting the impact on total costs. There has been a large number of relatively small pilot studies, plus the much more extensive introduction of telecare in West Lothian. Most studies have provided positive results, but there has been no consensus framework for the cost assessments, so it is difficult to model the future cost impact of telecare if implemented nationally. Nevertheless, enough lessons have been learned from the pilot studies to ensure that the emphasis should now shift to moving telecare into the mainstream.
Telecare will postpone and divert older people from moving into residential care and possibly hospital and, in doing so, will redistribute costs and benefits around the system. This needs to be considered when apportioning the costs of implementing telecare. In particular, it is important to make like-with-like comparisons. Often the full costs of residential care (that is, including the ‘hotel’ element) are compared with the personal care costs of home care. This comparison stems from an artefact of the current funding system. In other funding systems, the housing costs of care homes could be made much more distinct. After all, when someone moves into a care home, they free up the housing stock from where they moved and possibly release capital.

There is evidence that telecare development should be focused on those in the middle, rather than high frailty groups, in order to have an impact on subsequent moves into care homes. This means that the associated cost benefits will take some time to feed through, which in turn demands a realistically long-term investment horizon. As a word of caution, the micro-simulation models used Chapter 13 suggest that a person’s needs fluctuate over time; there is not a simple transition at the individual level from low to middle to high dependency (see Chapter 2).

If the aim is to improve quality of care, then technology may not actually reduce the amount of care worker hours needed because of the demands of older people who remain in their homes for longer.

The biggest challenge in bringing telecare into the mainstream will be creating the necessary organisational structures and retraining staff. Telecare should become an automatic consideration in any care package after a needs assessment.

A key issue will be to decide who is offered telecare, and the specification of the equipment provided. It needs to be debated whether national standards will be set for such decisions, or if local authorities will implement their own telecare eligibility regimes. Related to this will be the level of free or means-tested provision for telecare services for older people.
3 Housing and extra care housing

The homes currently being planned and built will contribute to the housing stock in 20 years' time. Yet the demands of an ageing society often come low on the list of current strategic priorities, with the housing concerns of first-time buyers and young families appearing more immediate. Recent government-backed programmes for new affordable housing do not specifically promote houses for the elderly. Yet looking ahead to 2026, the rising number of older people, combined with increased longevity, will create a much greater need for properties suitable for the impaired and averagely frail very old. This calls for a commitment for new ‘lifetime’ homes to be constructed with the lifestyles of older people in mind. There is a need to plan ahead for the whole of the ageing population, not just those who will be eligible for state-supported social care. This includes the increasing number of ageing owner-occupiers who require suitable smaller properties into which to downsize.

If older people are to have the choice of staying in their own homes as they become more dependent then properties need to have the potential for assistive technology features such as stair-lifts, and/or ground floor bedrooms and bathrooms. The ODPM in 2004 announced a potentially helpful review of the Building Regulations to look at changes which would allow people to remain in their own homes for longer as they aged, with a view to legislating by 2007.

Research into how far, and at what cost, the existing housing stock can be modified to accommodate different types of assistive technology has been carried out by King’s College, London and the University of Reading, with a focus on social rented housing (Tinker and Lansley 2005). A range of assistive technology adaptations was considered including telecare and stair-lifts. Access and mobility issues played a major role in determining whether a property could be adapted to meet an elderly person’s abilities; many properties, for example, cannot be made wheelchair accessible. Obstacles to adaptations included changes in floor level within the same floor, a small bathroom or no scope for enlargement, concrete structures and restricted areas around the property.

Current housing arrangements for older people

The 2006 White Paper recognises that there is a growing evidence base showing that preventive measures involving a range of services, including suitable housing, ‘can achieve significant improvements in well-being’. Some 30 per cent of all UK households are currently headed by someone aged 60 or older (Easterbrook 2005), but the current provision of housing for the elderly is of very variable quality. According to the English House Condition Survey 2001, 35 per cent of people aged over 60 lived in property that did not meet its ‘decent home’ standards, only slightly above 33 per cent for the population as a whole. But the rate was above 40 per cent when the older person was either aged 85 and over, resident in the same house for 30 years or more, or a private tenant (Office of the Deputy Prime Minister 2003).

There are clear age-related differences in the tenure of housing (see Table 38 overleaf) which will influence the provision of, and payment for, long-term care in the future. Home ownership has steadily increased so that 80 per cent of those who will reach the age of 65 over the next 20 years already own their own homes. This means there will be a bigger market for privately owned homes suitable for the elderly. As well as wanting the
opportunity to downsize into smaller owner-occupier units, there is also the possibility that some older people will in future choose to sell and move into rented accommodation in order to release capital.

**Extra care housing**

The choices that older people will make in the future about where they want to live will be influenced by many factors. These include rising home ownership, the trend away from residential care and towards intensive home care, and the variety of emerging housing options including extra care housing (also referred to as very sheltered housing), ‘close care’ and specialist housing designed for dementia sufferers. The future demand for these different types of homes will depend largely on demographic pressures. But it will also demonstrate the changing preferences of the ‘new old’ for whom independent living and control are increasingly a priority.

There are no hard and fast definitions of the various types of properties aimed specifically at older people; many terms are used in different ways by different organisations. (A full description of the various housing models is included in Background Paper 8 (‘Housing options’) in the Appendix.) There is often also a variety of tenure options including ownership, part-ownership and rental, although not necessarily on the same site. Unlike those in care homes, residents in extra care and sheltered housing have security of tenure.

Extra care units are self-contained, but with round-the-clock care and support on offer, sometimes with nursing support and a meals service. The service element is integral to the extra care product, and not an added extra. The communal facilities tend to include social and practical facilities, such as lounges and laundries, but can be more extensive with gyms and small shops, depending on the size of the whole scheme. Extra care aims to be a permanent home for life (although this cannot always be the case), and to promote independent living and a higher quality of life than a residential care home.

The commonly expressed preference of older people for avoiding a move into a residential care home has encouraged interest in extra care housing. As Table 39 opposite shows, however, even when using a very wide definition, extra care units are much less common.

<table>
<thead>
<tr>
<th>Tenure</th>
<th>Age 45–64 (%)</th>
<th>Age 65–74 (%)</th>
<th>Age 75+ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned outright</td>
<td>32</td>
<td>69</td>
<td>64</td>
</tr>
<tr>
<td>Buying with a mortgage</td>
<td>47</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>All owners</td>
<td><strong>80</strong></td>
<td><strong>76</strong></td>
<td><strong>67</strong></td>
</tr>
<tr>
<td>Rented from council</td>
<td>10</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Rented from residential social landlord</td>
<td>5</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>All social rented sector tenants</td>
<td><strong>14</strong></td>
<td><strong>20</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td>Rented privately</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: Residents of communal establishments not included.

Source: Office of the Deputy Prime Minister website

### TABLE 38: AGE OF HOUSEHOLD REFERENCE PERSON, BY HOUSING TENURE

<table>
<thead>
<tr>
<th>Tenure</th>
<th>Age 45–64 (%)</th>
<th>Age 65–74 (%)</th>
<th>Age 75+ (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned outright</td>
<td>32</td>
<td>69</td>
<td>64</td>
</tr>
<tr>
<td>Buying with a mortgage</td>
<td>47</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>All owners</td>
<td><strong>80</strong></td>
<td><strong>76</strong></td>
<td><strong>67</strong></td>
</tr>
<tr>
<td>Rented from council</td>
<td>10</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Rented from residential social landlord</td>
<td>5</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>All social rented sector tenants</td>
<td><strong>14</strong></td>
<td><strong>20</strong></td>
<td><strong>28</strong></td>
</tr>
<tr>
<td>Rented privately</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Office of the Deputy Prime Minister website

Note: Residents of communal establishments not included.
than sheltered units, at only 3.4 per 1,000 people aged 65+ compared with 60.1. Extra care is only available to a very limited number of people; approximately 20,000 older people live in self-contained extra care schemes, compared with over a third of a million residents of care homes and a comparable number of people receiving dispersed home care in the community (Laing and Buisson 2005c). The Elderly Accommodation Counsel figures (EAC, personal communication) also show considerable regional variation in availability, ranging from 1.9 units per 1,000 in Yorkshire and Humberside to 5.4 units per 1,000 in the West Midlands.

**Benefits and costs**

One survey (Sitwell and Kerslake 2004) of a group of older people recently admitted to residential care looked at whether extra care would have offered an alternative. In 28 of the 36 cases, the decision to enter a care home followed a critical event such as a fall and/or hospital admission. In the absence of community-based 24-hour care, residential care was seen by relatives and professional teams as the option of least risk, with the older person agreeing to the decision in order to avoid being a burden. It was estimated that two-thirds of those surveyed could instead have entered extra care either currently or at the time of an earlier move. The extra care model can be tailored for specific groups of potential residents. Extra care housing can also help to limit the splitting up of elderly couples when an elderly carer can no longer cope alone.

There are individual studies that suggest extra care residents tend to show a reduction in need. The Extra Care Charitable Trust (which runs 25 housing/care schemes with 2,000 residents) cites independent research from 1997 showing that extra care residents demonstrated significant improvements in their condition after admission; the superficial physical assessment score jumped more than 50 per cent on average; there was a mobility improvement of more than 35 per cent; a 20 per cent improvement in daily living functions; a 10 per cent increase in sensory ability; and a 25 per cent reduction in medication use. The majority of residents had transferred from hospital or nursing homes, and the greatest improvements were seen in the first 10 weeks in extra care. It is of course unclear whether people would have improved anyway after discharge from hospital, and since no control group was reported caution is needed. Nonetheless, there is sufficient promise to justify a more rigorous analysis.

### TABLE 39: EXTRA CARE AND SHELTERED HOUSING UNITS IN ENGLAND, JULY 2005

<table>
<thead>
<tr>
<th></th>
<th>Rent Local authority</th>
<th>Residential social landlord</th>
<th>Both</th>
<th>Sale</th>
<th>All</th>
<th>Population of 65+</th>
<th>Units per 1,000 (65+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra care* housing</td>
<td>5,558</td>
<td>14,904</td>
<td>20,462</td>
<td>6,162</td>
<td>26,624</td>
<td>7,807,600</td>
<td>2.6</td>
</tr>
<tr>
<td>Sheltered housing</td>
<td>183,073</td>
<td>195,549</td>
<td>378,622</td>
<td>90,782</td>
<td>469,404</td>
<td>7,807,600</td>
<td>48.5</td>
</tr>
</tbody>
</table>

Source: Based on figures from the Elderly Accommodation Counsel (personal communication 2005)

* Includes extra care, very sheltered, close care and assisted living.
It is not clear whether extra care housing saves money overall compared with alternative care packages. It can be cheaper to social services because the housing costs are often covered by housing budgets and Supporting People. The financial outcomes for the various stakeholders depend on many variables including whether the individual qualifies for means-tested financial support and state benefits. The different charging policies of local authorities for home-based care also mean that it is impossible to generalise for the whole of England. Finally, the strong support and the recent availability of government funds for extra care schemes also tend to make the financial picture look more attractive than it might be in the longer term if those subsidies are no longer available. A recent detailed model of the comparative costs of extra care housing and other care options in the Yorkshire and Humber region is included in Background Paper 8 (‘Housing options’) in the Appendix.

Any estimate of the cost impact of extra care housing will be based on a number of changeable assumptions. In an initial comparison with residential and nursing care homes, capital costs can look more expensive because the accommodation units are much larger. But the ongoing cost profiles of different housing options will depend on an individual’s type and scale of care needs, and extra care can prove cheaper over time. The cost argument will also depend on which costs are taken into account. ‘There are early indications that very sheltered housing may reduce the incidence and duration of admission to hospital; if this proves to be the case, it will generate significant savings for the NHS that should be considered when comparing forms of care,’ according to Laing & Buisson (2005c). From the viewpoint of self-funders, extra care will probably be cheaper for less dependent people than a residential home (Laing & Buisson 2005c), but for someone who is very dependent that may well not be the case because of higher domiciliary care costs. The final financial outcome for a self-funder is likely to be dependent on changes in property values and the final judgement by individuals will be based on their perceptions of the value of the relative benefits of each housing option.

There may be a proportion of residents for whom extra care housing cannot provide a home for life, and for whom a move into residential care may become inevitable. Although extra care housing normally has 24-hour onsite care, it does not provide the same level of support as the care home model which is designed specifically for people who have unpredictable and continuous need, particularly people with severe dementia.

**Barriers**

There are a number of financial barriers to setting up extra care housing particularly associated with the significant up-front capital costs. Often multiple partners are required as a result and this slows the process. The government is keen to see public/private partnerships for extra care housing, in order to increase supply and also promote new models of provision, but such partnerships have yet to become widespread. The Association of Retirement Housing Managers (ARHM) is pessimistic saying that most local authorities ‘have no proper housing need assessments to justify private sector investment’.

One of the biggest obstacles cited by private developers is obtaining land and planning permission. A partnership with the local authority can help overcome this problem, if the council provides a site. Re-modelling existing social sheltered units into extra care housing also has the benefit of providing an existing site, although the initial capital costs can be
more expensive than a new-build scheme (see Background Paper 8 (‘Housing options’) in
the Appendix).

The future

- There is a need for government housing policy to be directed more at older people’s
  housing both in the private and social sector. Such a policy shift would lead to greater
  opportunities for older owner-occupiers to downsize, thereby releasing housing stock
  for families and younger people.
- Greater awareness should be promoted among the public of the various new housing
  options available to older people including the continuum of care offered by extra care
  housing.
- Improved knowledge about extra care housing is also needed among planning officials,
  with more flexibility in the planning categories that recognise the need for a continuum
  of provision in housing for the elderly. This would help promote financial models to
  cover the high capital costs, including public–private partnerships.
- Extra care may not always provide a home for life. Also, it is not always clear how cost-
  effective extra care housing is compared to alternatives. It can sometimes be more
  expensive than a care home, although there are important factors that affect the cost-
  benefit calculation. Extra care does offer the potential for extended independent living
  and better quality of life for some older people who can no longer manage in their own
  homes. A comprehensive evaluation is required.

4 Dementia care

The level of social care needed by those with dementia varies according to the stage of the
disease, the level of support available from informal carers and the need that those carers
themselves have for support. In the initial, mild stages, many people with dementia
continue to live in their own homes and rely on informal care from family members,
sometimes augmented by formal social care services. However, as the disease progresses
through the moderate to the severe stages, there is a greater need for formal social care
services and an increased likelihood of admission to a residential or nursing care home.

People with dementia represent a large proportion of those in institutional care. A typical
study (Matthews and Dening 2002) found that 34 per cent of people with dementia lived in
institutions, and that within institutions dementia prevalence was 62 per cent. Earlier
research (Kavanagh et al 1993) on those with advanced cognitive impairment found 13 per
cent lived alone, 50 per cent lived with others, and 37 per cent in residential settings
(including NHS). The decision to move into a residential or nursing home is most common
among those who suffer both cognitive impairment and ADL disability. The MRC CFAS
figures (see Introduction, p6 for information about this survey) show that 17 per cent of
those with only cognitive impairment, and 53 per cent of those with combined disability
lived in institutions. Its data showed that, overall, 46 per cent of all those living in
institutions had diagnostic levels of cognitive impairment, somewhat lower than the earlier
figure due to a relatively strict definition.

A detailed comparison of dependency and living arrangements for those 65 and over
based on 1998 data (Comas-Herrera et al 2003) is shown in Table 40 overleaf. Some 85 per
cent of those with both ADL limitations and cognitive impairment were living in
institutions.
The MRC CFAS data also provides a detailed breakdown of the level of demand that people with dementia living outside institutions present to the social care system. Table 41 above demonstrates that even the most dependent group relies heavily on help from spouses and informal carers, boosting calls for significantly more support for carers of people with dementia.

### TABLE 40: PERCENTAGE OF THE POPULATION AGED 65+, BY DEPENDENCY AND LIVING ARRANGEMENTS

<table>
<thead>
<tr>
<th>Living arrangement</th>
<th>Level of dependency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No dependency (%)</td>
</tr>
<tr>
<td>Alone without informal carer</td>
<td>28</td>
</tr>
<tr>
<td>Alone with informal carer</td>
<td>9</td>
</tr>
<tr>
<td>Single with others</td>
<td>6</td>
</tr>
<tr>
<td>Couple</td>
<td>56</td>
</tr>
<tr>
<td>All in community</td>
<td>100</td>
</tr>
<tr>
<td>Residential home</td>
<td>–</td>
</tr>
<tr>
<td>Nursing home</td>
<td>–</td>
</tr>
<tr>
<td>Hospital</td>
<td>–</td>
</tr>
<tr>
<td>All in institutions</td>
<td>0</td>
</tr>
<tr>
<td>Total number by dependency</td>
<td>6,548,000</td>
</tr>
</tbody>
</table>

Source: Comas-Herrera et al 2003

### TABLE 41: PERCENTAGE OF THE POPULATION AGED 65+ LIVING OUTSIDE INSTITUTIONS, BY DEPENDENCY AND TYPE AND SOURCE OF HELP

<table>
<thead>
<tr>
<th>Level of dependency</th>
<th>Level of dependency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cognitive impairment only (%)</td>
</tr>
<tr>
<td>Receiving any help</td>
<td>49</td>
</tr>
<tr>
<td>Type of help received</td>
<td></td>
</tr>
<tr>
<td>Personal and household</td>
<td>2</td>
</tr>
<tr>
<td>Personal only</td>
<td>0</td>
</tr>
<tr>
<td>Household only</td>
<td>47</td>
</tr>
<tr>
<td>Type of helper</td>
<td></td>
</tr>
<tr>
<td>Spouse only</td>
<td>21</td>
</tr>
<tr>
<td>Other informal</td>
<td>13</td>
</tr>
<tr>
<td>Mixed (including formal)</td>
<td>2</td>
</tr>
<tr>
<td>Formal services only</td>
<td>14</td>
</tr>
</tbody>
</table>

Source: Comas-Herrera et al 2003

The MRC CFAS data also provides a detailed breakdown of the level of demand that people with dementia living outside institutions present to the social care system. Table 41 above demonstrates that even the most dependent group relies heavily on help from spouses and informal carers, boosting calls for significantly more support for carers of people with dementia.
A study conducted in the United States (Langa et al. 2001) looked at the need for informal care (defined as assistance with ADLs or IADLs from a relative or unpaid non-relative). It found that after adjusting for socio-demographic characteristics, co-morbidities and potential care-giving networks, the number of hours needed increased sharply as the dementia progressed.

<table>
<thead>
<tr>
<th>Level</th>
<th>Informal Care Needed (hours per week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal cognition</td>
<td>Received average of 4.6 hours</td>
</tr>
<tr>
<td>Mild dementia</td>
<td>Received average of 13.1 hours</td>
</tr>
<tr>
<td>Moderate dementia</td>
<td>Received average of 39.4 hours</td>
</tr>
<tr>
<td>Severe dementia</td>
<td>Received average of 46.1 hours</td>
</tr>
</tbody>
</table>

**New models of care**

Services for people with dementia in the UK are often criticised for failing to provide what users and their families really want and need (Godfrey et al. 2005b). Care models for dementia need a variety of elements to achieve the best outcomes, something which the Department of Health recognised in November 2005 with the publication of Everybody's Business, Integrated mental health services for older adults. Meeting carers’ needs is a particularly acute issue, especially as many of the informal carers of people with dementia are themselves elderly. Partners and relatives have to cope with the emotional toll of seeing a loved one’s cognitive abilities decline, as well as the challenging behavioural aspects of dementia, including aggression, wandering, and insomnia. The rising number of people with dementia over the next two decades, as outlined in Chapter 2, will require new types of service provision to meet these needs. A well-designed social care package can promote the independence of someone with dementia, provide assistance towards maintaining an active life and help avoid admission into a care home (unless that is the preference).

Important aspects of dementia care include:
- continuity in care staff, so that the person with dementia is not unsettled by regular changes in domiciliary care staff
- staff with specific training in dementia care
- an emphasis on maintaining physical health, despite the mental deterioration
- high-quality day care centres for leisure and social contact
- ‘memory clinics’ – effectively a ‘one-stop-shop’ offering assessment, diagnosis, support and counselling, information, monitoring of treatment, and education and training
- regular respite care as part of a package of measures to relieve the burden on informal carers.

Telecare and extra care housing are often elements of new models of dementia care. Technology, including ‘wander monitors’, can make it considerably safer for someone with dementia to remain living in an extra care unit or at home, although there are ethical issues including the question of obtaining informed consent for the installation of monitoring devices. Several extra care housing pilot schemes have been designed specifically for dementia residents and have produced positive results, but they tend to be small. Examples of telecare and extra care case studies are summarised in Background Paper 7 (‘Telecare’) and Background Paper 8 (‘Housing options’) in the Appendix.
A review commissioned by Age Concern and the Mental Health Foundation (Godfrey et al 2005b) looked at successful models of dementia care provision in Europe, the US and Australasia. One study compared the provision of integrated family support services with psychiatric day care attendance, and found family support was more beneficial in improving behavioural problems and increasing engagement. Work conducted in Finland found that offering intensive community-based support from a dementia family care co-ordinator for two years significantly reduced admission into institutional care during the first months of the intervention but by the end of the period the institutionalisation rates were the same. Institutionalisation was thus delayed but not avoided. There is little published research relating to specialist domiciliary care for older people with dementia, in terms of improving and maintaining well-being and quality of life and little in the literature on what constituted quality home care for people with dementia.

Care homes often lack the type of design features which enhance the environment for those with dementia, such as high light levels, non-institutional dining areas, highly visible toilets and the use of colour and décor to ease corridor negotiation. This is despite the high proportion of residents who have dementia symptoms, and the fact that many with advanced dementia have no alternative to residential care. The Age Concern/Mental Health Foundation review cites a UK study which compared nursing home ‘intermediate care’ (aimed at rehabilitation and discharge back home) with permanent ‘home for life’ nursing home care for people with dementia. The behaviour of participants in the intermediate care group deteriorated more than those in permanent settings, and those who moved back to their own home fared worst of all. So, high-quality care homes have an important role to play.

Many of the interventions which have proved most effective for people with dementia do not demand specialist technology or housing inputs. Behaviour therapy, activity programmes, planned walking, pet therapy, and music and light therapy are various interventions that for some people with dementia can improve behaviour and well-being, although the lack of randomised controlled trials makes firm conclusions difficult.

The need for greater provision of all dementia-specific care services remains. The Alzheimer’s Society argues for more ring-fenced funding for dedicated services, saying that people with dementia tend to lose out otherwise. One example of such ring-fencing is Australia which in January 2005 launched the development of a National Framework for Action on Dementia to co-ordinate a ‘strategic, collaborative and cost-effective response’ to dementia. In its 2005 Budget, the Australian Government announced A$320.6 million (£136 million) over five years to support people with dementia and their carers, as well as training and support for health care professionals and care workers. This included A$225 million for an extra 2,000 ‘care at home’ places specifically targeted at people with dementia.

It is possible that new treatments will emerge to prevent, delay or alleviate the symptoms of dementia. Dementia is most common at an advanced age, so a fairly modest delay of a few years in the onset of the disease or on its progression could potentially mean a significant reduction in the number of more severely affected people and the future cost of social care. For instance, a decline in the UK of 1 per cent per year in the prevalence of moderate to severe cognitive impairment could broadly offset the impact of the expected increase in the overall numbers of older people between 1998 and 2031 (Comas-Herrera et al 2003). A study in Australia estimated that, if the onset of Alzheimer’s disease could be
delayed by five years, by 2050 there would be a 49 per cent reduction in the total number of cases projected (Access Economics 2004). However, there are as yet no immediate candidates to provide such a breakthrough among the wide-ranging research into vaccines, enzymes, drugs and gene therapy.

**The future**

- The burden on informal carers is particularly acute with dementia care, and this cost to society, which was raised by the NICE appraisal of dementia drugs, needs to receive greater attention (see Chapter 8).
- There also needs to be a big increase in the number of carers and care home staff with specialist dementia training and skills.
- The scope for greater provision of dementia-specific care services remains, and consideration should be given to ring-fenced funding for dedicated services.
- Basic information is lacking for planning in that there remains a shortage of dementia-specific data including the cost of care at home, details of the services that people with dementia receive, and the number of people in contact with an ‘old age’ psychiatrist.
- Residential care will remain a core option for people with severe dementia and more high-quality care homes will be needed which are specifically designed to meet the living and care needs of people with dementia.

5 Prevention

Preventive services have become increasingly prominent in health and social care policy in recent years, in part because of their perceived potential to reduce demand for high-intensity, high-cost services. Proactive measures which reduce older people’s dependency levels, or slow their decline, appear to offer an opportunity to improve quality of life and independence, while also saving money. Preventive and rehabilitation services for older people usually seek to break the cycle of unplanned admissions to hospital or unnecessary moves into residential care.

The term prevention covers a lot of ground. Two distinct concepts have been described as part of the prevention agenda:

- public health and low-level services preventing or delaying the need for social care services by reducing people’s dependency, disability and ill health
- prevention in the sense of preventing inappropriate use of more intensive services for people with given dependency, disability and ill health.

The latter is more concerned about an appropriate mix of services from low-intensity services (such as low-level home care) to intensive services (such as hospital treatment) and was discussed in Chapter 4. In this chapter, the focus is on the former, the question of whether low-level services and interventions can prevent people’s conditions from deteriorating, or at least slow the deterioration.

The 2006 White Paper comes out strongly in favour of prevention. It mixes both forms of prevention outlined above, for example stating that integrated preventive health and social care services can help prevent inappropriate use of specialist or acute health care, and that timely interventions and enhanced social inclusion can prevent or reduce the severity of episodes of mental illness or homelessness (Department of Health 2006). The key issue is how much spending on prevention can be justified and the type of preventive
services most effective in reducing long-term need. The White Paper calls for ‘an increased commitment to spending on prevention’, recognising that the UK spend on prevention and public health is low relative to other advanced economies. In order to bring about an increase in such spending, PCTs are to be scrutinised against a number of preventive spending goals from 2008 onwards (Department of Health 2006).

Determining the cost-effectiveness of preventive measures is complex mainly due to the challenge of attributing cause and effect. Even when using a very narrow specific target such as reducing the number of falls in a locality, determining cost-effectiveness is not straightforward. Although there may be fewer falls following a prevention scheme, there may be numerous factors at play (for example new transport facilities). When subjective measures such as independence or quality of life are included in the assessed outcomes, the challenge of judging cost-effectiveness is even greater. Preventive services often only have an impact over a long period of time, beyond the timescale of a typical pilot study.

Low-level services: the evidence base

While rigorous quantitative studies are relatively uncommon, there is a wealth of qualitative information (for example, Joseph Rowntree Foundation 2005), which suggests that low-level interventions are highly valued by older people. These services include help with gardening, laundry, cleaning and DIY, and/or the provision of low-cost home adaptations, such as handrails and ramps. Several pieces of research have reported that good self-esteem brought about by, for example, a clean house and a feeling of control over one’s life, leads to better health and, as a result, reduced utilisation of health and social care services (New Economics Foundation 2005). Thus, it has been argued that services such as home help, befriending and gardening can be considered as preventive (Godfrey et al. 2005a). This type of low-level intervention, however, is usually discussed principally in terms of the impact it has upon immediate quality of life. The extent to which it delays deterioration or reduces service utilisation is unclear on the evidence available.

The government’s Social Exclusion Unit (SEU) has attempted to calculate the extent of potential cost savings from a wide range of low-level interventions, based on work produced by PSSRU (Wittenberg 1998). PSSRU has estimated that if age-specific dependency prevalence rates fall by 1 per cent (not 1 percentage point) per year and the proportion of elderly people in institutional care also falls by 1 per cent per year, the projected number of elderly people in residential, nursing home or hospital care in 2031 would rise by just 14 per cent (on 1995 figures) compared with 64 per cent if there were no reductions. The SEU states that lowering age-specific dependency rates by 1 per cent per year could reduce public expenditure by £94 million per year by 2031 and lowering the rate of institutional care by 1 per cent per year could save £3.8 billion (Office of the Deputy Prime Minister 2006). Another study concluded that 10 per cent of Disability Facility Grant recipients were kept out of residential care as a ‘direct result of adaptations’, and that 98.5 per cent of those using the grant to fund adaptations reported improved quality of life, with 89.1 per cent saying it had improved ‘a lot’ (Office of the Deputy Prime Minister 2006).

One area in which there have been several attempts to quantify costs is falls prevention. The cost of falls to health and social care services is significant. Scuffham et al. (2003) estimates that in 1999, falls by people over 60 years of age cost health and social care services around £1 billion, approximately 41 per cent of which was paid for by social
services. In addition to the acute care costs incurred as a direct result of a fall, research shows that people who have fallen also have an increase in morbidity, mortality and health care utilisation increasing general health care costs (Hendricks et al 2005). The evidence on prevention is mostly about health care impact. It is generally positive, but only indirectly affects social care (see Annex, p 175).

While falls programmes can be applied across cohorts, stroke prevention schemes tend to fall into the category of ‘secondary prevention’ in that they generally target individuals who have already had one episode and are therefore at risk of a further event. Strokes are the third highest cause of death and the leading cause of severe disability in the UK (Rennison et al 2003) and cost the NHS between 4 per cent and 5 per cent of its total budget (Ebrahim 2000). The direct cost of an individual stroke patient is estimated to be between £4,600 per stroke episode (1988) in Scotland and £5,900 (1983) in Sweden, but the expenditure on associated long-term care costs also needs to be considered. An estimated 100,000 people have a ‘first stroke’ in England and Wales every year and there is a 30 per cent to 50 per cent chance of recurrence over 5 years (Rennison et al 2003). An important aspect therefore is identification of the most appropriate individuals to include in any programme. The Stroke Association states that there is ‘strong evidence’ that the risk of stroke recurrence can be reduced by lifestyle changes, such as reducing smoking rates (Rennison et al 2003). Ebrahim (2000) claims that modification of such factors as cholesterol, blood pressure and smoking can be ‘very cost effective’ if effectively targeted. For instance, smoking cessation advice from a GP is estimated to cost £270 per QALY, and anti-hypertensive treatment for stroke prevention (ages 45–64) costs £940 per QALY (Ebrahim 2000). Similarly, another study found effective strategies for secondary prevention of stroke to include treatment of hypertension (Sharon et al 2002), although this paper did not include cost-effectiveness analysis. If these interventions were fully implemented the demand for care would be reduced, as modelled in Chapter 2.

Wider community services

These are services that can help maintain an independent and high-quality life and, ultimately, promote social inclusion. Such ‘interventions’ may include public health programmes (some of which may also target specific conditions) and services such as housing, transport and policing. These general services can be considered to play a role in prevention because social inclusion has been shown to be critical to good mental health, which in turn is important in reducing the consumption of health and social care resources. As found by the House of Lords Select Committee on Science and Technology, ‘inactivity and isolation accelerate physical and psychological decline, creating a negative spiral towards premature, preventable ill health and dependency’ (House of Lords 2005).

Recent research shows a link between social engagement and happiness (Puttnam 2001), social contact and happiness (Clark et al 1998), and good self-esteem/happiness and good health (Layard 2005, Clark et al 1998). If people are happy, they tend to have lower needs and are able to participate in society. The New Economics Foundation’s Well-being Manifesto even goes as far as claiming that ‘the scale of the effect of psychological well-being on health is of the same order as traditionally identified risks such as body mass, lack of exercise and smoking’ (New Economics Foundation 2004). The key complexity underlying measuring the cost-effectiveness of such interventions is that the main outcome (social inclusion and engagement) is ill-defined, making it very difficult to attribute outcomes to specific services. Taking a very expansive approach, work by the SEU
also considered the economic benefits of older people’s contribution to society and community services, arguing that older people in good mental and physical health not only consumed fewer health and social care resources but also made an economic contribution to society (often through volunteering and unpaid care). This embryonic evidence base is sufficient to prompt further work.

The future

- Recognition should be given to the wealth of qualitative evidence about the value placed on lower-level services by older people in helping them to maintain their independence.
- Given the difficulty of collecting robust evidence about the impact of low-level preventive services, a proactive approach should be encouraged whereby certain promising interventions could be implemented and formally evaluated during roll-out. At the same time, longitudinal surveys, such as the English Longitudinal Survey of Ageing and the British Household Panel study should be encouraged to collect information about low-level services.
- Priority should be given to targeting interventions at people whose condition is likely to deteriorate or who have a high predicted risk of costly future needs.
- Standard outcome measures of prevention need to be developed to facilitate the evaluation of various interventions, as this will allow future studies to be compared and more robust evidence to be collected.
- The recent White Paper puts much emphasis on prevention including the need to shift resources towards these services. It would be regrettable if this did not extend to low-level interventions, although this may also need greater public awareness and willingness to self-fund.
- Further work on any link between the emotional well-being of older people and their broader contribution to society would be a useful addition to the literature.

6 Intermediate care and rehabilitation

Intermediate care includes those services that exist on the boundary between intensive health care (mainly hospitals) and community services, including social care. Intermediate care has three functions. First, it provides a service option for people with long-term conditions who experience an acute exacerbation of their condition, but which need not be managed in a hospital. Second, it provides a short-term solution for people ready to be discharged from hospital in order for their long-term care options to be assessed and arranged. Third, on discharge from hospital, it seeks actively to rehabilitate people to make it easier for them to adjust to life back in the community. In this case, the aim is to improve people’s functioning and independence, and help to restore confidence. Often the second and third functions are linked. However, what differentiates the third function is the emphasis on trying to improve people’s underlying health condition. The first two functions were considered in Chapter 3. In this chapter, the focus is on the rehabilitation potential of intermediate care.

Original proponents of intermediate care saw it as an active service designed not to facilitate better patient flows around the care system, but to improve people’s conditions, especially after an acute episode. Intermediate care was intended to include short-term preventive measures, such as rehabilitation and provision of community equipment. The National Services Framework (NSF) for Older People describes intermediate care as ‘an
opportunity to maximise people’s physical functioning, build confidence, re-equip them with the skills they need to live safely and independently at home, and plan any on-going support needed’ (Department of Health 2001a).

There is reasonable consensus that intermediate care and rehabilitation which is geared towards a targeted group is more effective than general services (Young and Sykes 2005). The NSF for Older People stated that the evidence is ‘strongest for specialist units for stroke rehabilitation and geriatric orthopaedic rehabilitation with evidence of faster improvement in physical function and fewer hospital re-admissions with no greater costs’ (Department of Health 2001a). Based on evidence published in the *British Medical Journal*, the NSF states that there is strong evidence that people who have a stroke are more likely both to survive and to recover more function if admitted promptly to a hospital-based stroke unit with treatment and care provided by a specialist co-ordinated stroke team within an integrated stroke service. It claims that these benefits can be achieved at no overall additional cost to health and social care (Department of Health 2001a).

Stroke units have been the subject of several reviews. An article in *Bandolier* (Bandolier 2005) states that, with lower lengths of stay, they deliver better outcomes in terms of mortality and return home, but that benefits weaken over time. A Cochrane review of stroke units (Stroke Unit Trialists’ Collaboration 2001) concluded that they decreased mortality and improved physical function, and achieved better destinations at discharge. Inpatient rehabilitation generally reduced mortality when compared to usual care, but the review found that this might reduce over time. In terms of cost-effectiveness, some evidence suggests that inpatient rehabilitation and day hospitals would lead to additional costs for the health service, although this is contradicted by other studies (Bandolier 2005). Young and Sykes’ (2005) systematic review found cost savings of 20 per cent from reduced length of acute hospital bed days for a group discharged under the care of a specialist stroke team when compared to another group that stayed in hospital. (A full summary of stroke prevention studies appears in Background Paper 1 (Prevention) in the Appendix.)

A review of intermediate care in general found it to be generally more costly than a hospital stay (see Curtis and Netten 2005, Godfrey et al 2005a). Another study looked at cost per bed day and found only a marginal difference, with one medical bed day costing £136 and one intermediate care bed day costing £131 (Bernhaut and Mackay 2002, Godfrey et al 2005a). These studies, however, did not consider resource utilisation by patients over the longer term. One analysis has demonstrated that nurse-led intermediate care patients had a longer length of stay and higher inpatient costs than patients receiving standard hospital post-acute care, but post-discharge costs were lower (Richardson et al 2001). The question of relative cost therefore depended on the length of time for which the post-discharge costs were incurred. In the Richardson study, the nurse-led intermediate care inpatient costs averaged £10,278 compared with £7,757 for those in standard care (all at 1996/7 prices), but post-discharge costs, evaluated one month after discharge, were significantly lower for the nurse-led group (£990 compared with £1,259). Thus, one month after discharge, the average cost of total services (inpatient and post-discharge) used by the nurse-led intermediate care patients were higher, but if long-term reductions in post-discharge resource use were maintained, the use of intermediate care might not eventually add to costs.

The choice of service model for intermediate care delivery can have a significant impact on outcomes, and therefore cost-effectiveness. The models considered in one review (Young...
and Sykes 2005) included hospital at home, day hospitals, nurse-led units, community hospitals and short-term care/nursing home placement with the following conclusions:

- hospital at home (generic): cost neutral when compared with standard care
- hospital at home (specialised focus): yields savings when compared with standard care
- nursing-home based intermediate care (generic): not effective for short-term rehabilitation. More effective for slower track, step-down care. Unlikely to be cost effective
- nurse-led unit: longer length of stay than standard care but more independent at discharge. Higher mortality than usual acute care.

One study of post-acute nurse-led intermediate care found similar results. The nurse-led units were associated with longer lengths of stay than in standard care but post-discharge resource use was lower, possibly because the cohort in nurse-led intermediate care were discharged with a higher level of functionality (Griffiths et al 2005). In addition, patients in nurse-led units had lower medical inputs, which are a key driver of cost. A further finding in this study, which is consistent with Godfrey’s work, was that discharge into institutional care was considerably lower, along with early re-admission to hospital, than for those who received standard post-acute care. However, this difference between the two cohorts reduced with time, until at the 6 month follow-up there was no significant difference. This conflicted with the evidence presented by Richardson et al about long-term cost savings.

A Quick Response Unit can provide one form of step-up intermediate care. A Canadian study considered the costs of a community-based alternative for hospital treatment (the Quick Response Program, QRP) for elderly patients who presented at an accident and emergency (A&E) department with non-acute needs. The treatment included nursing home care, physical therapy, occupational therapy, social work and meals-on-wheels. The study found the QRP to provide an appropriate and effective alternative level of care for non-acute individuals, compared with hospital care. The average cost of providing such services to a user in a hospital setting was C$3,927 for 2 admissions, totalling 12 days of non-acute hospital care. The cost of providing community-based services, including QRP costs, to the user for 30 days after an A&E visit was C$358 (Franko, 2001).

**MEDWAY TEACHING PCT**

Medway Teaching PCT was able to supply the Review with figures about the impact of its intermediate care rapid response team. The scheme specifically targets individuals who have had a non-complicated elective orthopaedic operation and is intended to bring about early discharge.

Data relates to 53 patients who received a total of 116 hours nursing care, 92 hours occupational therapy care and 54 hours of physiotherapy. The patients each spent an average of 16 days in the care of the rapid response team following discharge. Overall, their length of stay in hospital was reduced from an average of eight days to five. Over the five month period of the study, this amounted to a total saving of 141 bed days. This translates to an extra 18 orthopaedic patients being treated (average stay of eight days) or 28 extra patients (reduced average stay of five days). Although the PCT has not undertaken a costing study, the initial findings do suggest that patients are receiving a higher quality standard of care with early discharge home.
The future

- Clarity is needed on the desired outcomes from intermediate care. If these are immediate improvements to quality of life and/or functional status, then the most recent evidence suggests targeting patients with the greatest clinical need whose intermediate care services will be relatively expensive. If immediate cost savings are the main aim, then admission avoidance schemes should receive more emphasis, although this does not take long-term care costs into account. A balance is needed between the two approaches. (See also Chapter 3.)

- There appears to be scope for more non-residential intermediate care schemes, which are also associated with lower costs.

- The six-week time limit for intermediate care services is often too rigid, and this should be reassessed with the possibility of it becoming more flexible.

- The evidence points to the higher cost-effectiveness of intermediate care schemes targeted at specific conditions or groups of people, and this is likely to shape the development of intermediate care in the future.

Annex. Falls prevention evidence

A full review of prevention is presented in Background Paper 1 ('Prevention') in the Appendix. Falls is an area where the evidence is relatively developed.

One study provided evidence for the cost-effectiveness of a multi-factor targeted falls prevention programme (Rizzo et al 1996). This randomised controlled trial in the US is one of the few to provide detailed cost information. The results found that the average costs of the intervention group (those who received a combination of medication adjustment, behavioural recommendations, and exercise) were US$2,000 less than the group receiving usual care. Hospital costs were $7,509 per person for the intervention group compared with $11,509. Given that the intervention cost was an average $906, the programme was considered to be cost-effective overall.

One UK paper studied an exercise pilot for the over 65s and found exercise classes to offer a low-cost way of preventing death and reducing inpatient episodes, including falls. The evaluation found that the scheme, with a cost of £854,700, was estimated to have prevented 76 deaths and to have avoided 230 inpatient episodes, saving costs of around £601,000 to the NHS. Based on an assumption that average life expectancy after 65 was (an apparently low) 10 years, the programme cost about £330 per life-year saved (Munro et al 1997).