NEW ZEALAND HEALTH TECHNOLOGY ASSESSMENT (NZHTA)

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Home Care Thoughts from Abroad

A review of the literature on the cost-effectiveness of home-based services and on ways of funding and organising home-based care

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Part of the work undertaken during the fellowship period consisted of data analysis of Christchurch and Hamilton home support agencies. This will hopefully be completed and written up by mid 2004.

The opinions outlined in this report are my own and are not intended to reflect the policy of the Ministry of Health or the South Island Shared Support Agency.

COPIES OF THE REPORT AND REFERENCES

This report is intended as a resource document for health planners. Hyperlinks to references have been given where possible. Books and larger documents have been put in the Ministry of Health library or are available from the author. A copy of the original literature search results was sent to MoH Disability Support Services in 2001.

The full electronic bibliography is available from New Zealand Health Technology Assessment (NZHTA), in both Endnote and Word format (contact Susan Bidwell: susan.bidwell@chmeds.ac.nz). This bibliography includes additional material not analysed here, including references on workforce and quality issues, carer support, home care utilisation and specific interventions. It also includes the additional material collected after the NZHTA literature search had been completed.

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- Summarises the literature on the cost effectiveness of home-based services as an alternative to acute hospital care and long-term residential care.
- Summarises overseas experience and literature on the most cost-effective ways of organising and funding home-based services.
- Reviews New Zealand's home-based services in the light of these findings and makes suggestions for further action.

The report is intended as a reference document for people working in the health sector, particularly in planning and funding roles. At the end of each section, the report suggests 'what to keep an eye on'.

> *"Knowing **what to fund** and **how best to fund it** are both necessary if we are to achieve value for money in our health systems. Neither alone is sufficient… **How** various health services are best funded has an immediate impact on, and important outcomes for, patients, providers and payers… in relation to equity, efficiency and incentives."*
>
> *Kathy Eagar, NZ/Australia Health Services & Policy Research Conference, Wellington, 2001.*

2. COST-EFFECTIVENESS OF HOME-BASED SERVICES – FINDINGS FROM THE LITERATURE

2.1 As an alternative to acute hospital care

- Early studies on 'home-based services' gave only limited evidence of their cost-effectiveness as an alternative to acute hospital care, because of the range of different interventions covered and the lack of cost data. Many studies did not clearly show how the intervention differs from 'normal' treatment, which makes it difficult to generalise from their findings.
- However, recent studies of specific types of interventions for specific groups of people give more positive results. It appears that the most productive line of study is to look at what works for specific conditions or types of patient.
- Most studies show home-based interventions make no difference/have a positive effect on outcomes such as mortality, health, functioning or satisfaction.

- Overall, home-based interventions appear to reduce the length of stay in the acute hospital, but have a mixed effect on the rate of readmission.

- In those few studies that include detailed cost analyses, including costs to the whole health/welfare system and to the patient and carers, the findings are mixed. However, more cost studies are now being done and appear positive.

- Good linkage between the acute hospital and primary care is crucial for home-based interventions to work successfully as an alternative to hospital care.

- 'Home-based' care is increasingly seen as one component of 'non-acute' care that is linked to other components such as intermediate care, carer support and respite care and disease management activities.

- **Planned early discharge** - results vary by type of patient. Most studies show no difference in outcome, a reduction in acute hospital stay but mixed impact on hospital readmission. Few cost analyses have been done so far.

- **Rehabilitation at home with or without early discharge** - most studies are of stroke patients and show no difference in patient outcome and a reduced hospital stay. Few analyses of cost have been done so far.

- **Specialist geriatric services at home** - the home setting shows little effect on survival but some improvement in functioning. The rate of readmissions was not affected but overall length of stay in the acute hospital was reduced.

- **'Hospital at home'** - studies show little difference in patient outcome. Patient satisfaction may increase (but not among all patients) but carer burden may be greater. Most studies show a reduction in hospital stay and the more recent studies show a reduction in overall cost, although numbers are still small.

- **Specialist outreach nursing** at home - studies show conflicting results for patient outcomes and readmission rates.

- **'High-tech' interventions at home** - there is an extensive literature to consult on each intervention. Generally, the more specific the intervention, the patient type and the disease or condition, the easier it is to establish the cost-effectiveness of home versus hospital setting. Cost-effectiveness can be shown more easily for single or time-limited conditions.

- **Primary based preventive activities** (e.g., falls prevention) - there is a growing literature to consult on specific interventions. As with 'high- tech' interventions, it seems that the more specific the intervention, the easier it is to show its cost-effectiveness. This aspect of home-based services overlaps with other types of non-acute care, such as hospices, intermediate care, carer support and primary and community-based disease management activities.

What to keep an eye on

The Cochrane Library and Medline for systematic reviews of specific interventions. www.update-software.com/cochrane

2.2 As an alternative to residential care

Little research has been done at the level of randomised controlled trials on the relative costs and outcomes of long-term care at home for older people versus care in a 'residential facility'. Such trials are difficult to do because of the long-term nature of the services and the potential confounding effect of other factors.

The evidence from a variety of studies on this topic suggests that:

- Long-term intensive home care for the frail elderly appears to have no different outcome to long-term residential care in terms of mortality, functioning, satisfaction or carer burden.
- Home care appears to be less costly than residential care, but only if people are triaged to ensure they receive one service or the other, not both.
- Home care recipients have a higher use of acute hospital services than residential care users and this makes up a high proportion of their total cost to the health and welfare system.
- A number of longitudinal studies of large client datasets have been done which help us understand the inter-relationships among services and over time. However these cannot be easily generalised beyond their local area.
- The relationship between home care and residential care is very much affected by how the whole system of continuing care is organised and funded. Rather than trying to answer the question: 'Is home care more cost-effective than residential care for elderly frail people?', it is probably more useful to ask 'How much resource should be allocated to home care vis a vis residential care and other continuing care services in a population? For which types of people?' These questions are addressed further in Section 4.2.

What to keep an eye on

- The Cochrane Library for systematic reviews of institutional versus home-based long-term care for functionally dependent older people, and similar reviews www.update.software.com/cochrane
- The Personal Social Services Research Unit website for studies of intensive case management. www.ukc.ac.uk/PSSRU

3. OVERSEAS EXPERIENCE OF FUNDING AND ORGANISING HOME-BASED SERVICES

3.1 What we can learn from United Kingdom

The story of home-based care for the elderly in Britain is a fascinating one of erudite policy-focused research teams producing valuable long-term work within a health and welfare system that continues to frustrate practitioners and researchers alike with its structural problems. What we can learn from them:

- It continues to be difficult to co-ordinate health and welfare services for older people if the funding and accountability for these two sectors are not integrated at the highest level.
- A warning – we will be 'missing opportunities for intervention' if health professionals and social service professionals are not working closely together in their care of older people.
- The lack of a national dataset for home-based services that links easily to health datasets hampers the development of strategies as to how to get the right 'mix' of health and welfare services for an older population.
- The Personal Social Services Research Unit's (PSSRU) detailed economic studies on the costing of home care are the best available.
- The PSSRU's detailed economic analyses of the cost-effectiveness of different mixes of home care and residential care for different groups of elderly people, and the options for various forms of targeting, are some of the most convincing.
- The longitudinal PSSRU studies of the usage of long-term care services by older people and their carers are a very comprehensive evaluation of a change in government home care policy.
- These longitudinal studies offer simple validated tools and templates for measuring needs and outcomes for both users and carers, including measures of functioning, satisfaction and control, costs etc.
- Various local and national reports give interesting detail on local innovations and pilots of integrated care, case management etc.
- The national service framework for services for older people is a useful reference and comparison in developing national and local strategies for the care of older people.

What to keep an eye on

- The PSSRU website www.ukc.ac.uk/pssru with its publication list and regular detailed Bulletin. Check out the website if you are looking for detailed work on anything to do with 'community care' - dementia, physical disability, standard assessment tools, pricing tools, residential care etc.
- The National Service Framework and the concept of 'intermediate care' - www.doh.gov.uk/nsf
- British Medical Journal – reflects the major issues and controversies, including services for older people. www.bmj.com

3.2 What we can learn from Australia

- It is difficult to improve the co-ordination of services in a system where the funding and resource allocation for those services are not integrated at a high level, and where stakeholders (such as GPs and home care providers) do not have particularly strong incentives to maximise such co-ordination.
- It is difficult to prioritise services at the state or federal government level (e.g., allocating resources to different groups or services according to need) without some standard way of measuring those services.
- The detailed work that Australia has done on developing and implementing national minimum datasets for home-based services and district nursing – New Zealand could adopt these validated tools and procedures and not have to re-invent the wheel.
- In comparison to Australia, the valuable tool that New Zealand has in having a National Health Index covering a relatively small population and enabling record linkage.
- The work done on casemix in the non-inpatient sector.
- The value of multi-disciplinary geriatric assessment teams in gate-keeping long-term care.
- Detailed examples of local co-ordination though the various co-ordinated care trials, and the critique of these trials.
- The increasing interest in the linkage of acute hospital services and primary care to home-based services and residential services for older people, and the role of geriatric assessment teams and case managers in this.

What to keep an eye on

- Publications from the Australian Institute of Health and Welfare (AIHW), particularly the national minimum dataset development for home-care services (HACC), specialist geriatric assessment services (ACAT) and other long-term care programmes, and any casemix work. www.aihw.gov.au/publications/

- Publications from the Centre for Health Service Development. www.uow.edu.au/commerce/chsd/Publications.htm

- Evaluations of the successive waves of co-ordinated care trials. www.health.gov.au/hsdd/primcare/acoorcar/pubs/index.htm

- The AIHW biennial summary reports on the health and welfare sector. www.aihw.gov.au/publications/aus/aw01/index.htm

- The Dept of Veterans' Affairs website, for details of their minimum dataset for community nursing. www.dva.gov.au/health/provider/community%20nursing/cnindex.htm

3.3 What we can learn from Canada

- It is important to integrate administrative and funding structures at the highest level if we want to be able to allocate resources among services and population groups in the most cost-effective way – British Columbia provides a template for how this could be done.

- We can use the data that is routinely collected by health and welfare services to help us understand how and how well the system is working in terms of equity and cost-effectiveness – so long as we put resources into managing these data well. The British Columbia POPULIS database provides a template for this. New Zealand is small and relatively integrated enough to be able to use this type of model.

- The close relationship between research and policy – policy-makers in both provincial and federal health departments appear to be able and willing to seek detailed rigorous reviews and evaluation from academia, and in turn the research community appears to be aware of and responsive to important policy issues and are therefore ready to work on them.

- The continued emphasis by many studies on the value of a single point of entry to the continuum of care, with assessment, triage and case management.

- A warning - expanding home care and long-term care for older people shifts additional costs onto people, their families and carers, with resulting inequity of access and unmet need.

- The proposal that this cost-shifting to users be prevented through a greater resourcing of home care, either through new funding or through an explicit transfer of resources from acute medical services to long-term care.

- Information on the likely expenditure needed per head of population for each type of service within the continuum of long-term care, based on British Columbia experience.

- Analysis of the pros and cons of different ways of reimbursing continuing care services.

- Substantial and practical evaluations of many aspects of long-term care for older people – the National Evaluation of the Cost-Effectiveness of Home Care and other evaluation programmes.

- The importance of explicit political and sector commitment at the highest level if home care and community services are to be adequately resourced, organised and evaluated.

- The need for champions for the sector, to raise the crucial issues.

What to keep an eye on

- Anything done by Hollander Analytical Associates, who co-ordinated the National Evaluation of the Cost-Effectiveness of Home Care. Hollander had practical experience in implementing a resource allocation model for British Columbia's health/welfare services, described in Section 4.2.1. www.hollanderanalytical.com/main.html

- Healthcare*Papers* electronic journal - for debate on home care and other health issues. www.longwoods.com/hp/fall00/lead.html

- CARP Report Card - for a quick consumer-focused review of current home care. services www.50plus.com/carp/

- The POPULIS website – for ways of setting up and using an administrative database system for practical policy research. www.umanitoba.ca/centres/mchp/populis.htm

- The Home Care Evaluation and Research Centre (HCERC) website at Toronto – for policy research relevant to home-based services. www.hcerc.utoronto.ca

3.4 What we can learn from the United States

- It is important to integrate funding and resource allocation decisions if resources are to be allocated in the most cost-effective and equitable way. HMOs and Medicare are examples of highly integrated systems, while the overall US health system is an example of the lack of integration.

- The drive for the most cost-effective process at the individual service delivery level means that United States leads in clinical innovations, such as tele-medicine techniques and specific forms of service delivery (e.g., intravenous therapy at home).

- Specific pilots of case management and integrated care, such as PACE and other HMO-based projects.

- Models of casemix classifications and prospective payment funding for home care services, including the OASIS dataset.

What to keep an eye on

- Models of standard datasets (e.g., OASIS) and assessment tools, arising from the Medicare and other casemix work.

- Specific clinical innovations and techniques – best accessed through specific Medline type searches.

- Compared to the other countries reviewed, there are relative few governmental or independent policy research centres working on home care or continuing care

4. COST EFFECTIVE WAYS OF ORGANISING AND FUNDING HOME-BASED SERVICES – THE EVIDENCE

4.1 Co-ordinating services - key points from overseas experience

- Co-ordinating continuing care services is made much easier by integration – i.e., bringing together under one organisational structure the funding and allocative decision-making for the whole range of services. This would clearly appear to be the preferred course of action for a funder.

- To the extent that this integration cannot be achieved at the highest organisational level, there are no easy answers as to how to achieve co-ordination, and local solutions need to be found.

- Britain and Australia have many local integrated care projects which give models for improving co-ordination for specific groups of people or types of health problem. However, these projects cover only limited populations or health conditions.

- Case management of individual clients is useful, but particularly for complex and high needs users. Most people need the same type of routine low level home care service (mostly social support), a few need more complex packages and a very small number need intensive case management.

- The primary care setting is the ideal base for the co-ordination of continuing care services for older people, but only if there is a strong clear input of social work and needs assessment skills and resources, and easy referral to specialist geriatric services for complex problems.

Worth a read

- Marcus Hollander and team's discussions of Canadian experience in integrating services – the pragmatic and thoughtful perspective of a funder doing research to answer practical policy questions. (Hollander 2001 and 2002b, Hollander et al. 2000)
  www.homestudy.com/overview; www.homestudy.com/reports;
  www.hollanderanalytical.com

- The shorter and more accessible statements of PSSRU ideas about how best to co-ordinate home care services (Davies 1997, Davies & Fernandez 2000, and the PSSRU Bulletin) www.ukc.ac.uk/PSSRU

- The critique of the Australian Co-ordinated Care trials from varying standpoints (Centre for Health Service Development 1999). www.uow.edu.au/commerce/chsd

4.2 The right mix of services - key points from overseas experience

Whatever method is used to determine the 'right' mix of services – top-down resource allocation, bottom-up case management, or implementing a casemix classification – to work well all of them depend on:

- A standard minimum client-based dataset encompassing all services.

- A standard assessment tool that gives a consistent measure of people's level of need, whatever service they are using.

The British Columbia POPULIS database exemplifies the value that a country or region could get from cleaning up, maintaining and analysing its routine service utilisation and expenditure data.

British Columbia has developed some benchmarks for volume of services per head of population. Mostly other countries' systems of care are too varied to allow easy comparisons of service usage. However, common themes emerge:

- To get the most value from home care services, they must be considered in the context of the overall continuing care system.
- Pressure of demand and tightness of resourcing over past decades means that home care services are now more closely related to need – services are more efficient.
- It may now be less and less cost-effective to provide ever bigger packages of community care to individuals with high needs, and increasingly important to maintain services to those with low level needs to prevent their admission to acute hospital or residential care.
- It may be cost-effective to have standard packages of care with minimal assessment and universal entitlement for people with low level needs, and focus case management on the tiny minority of complex cases.
- The greater part of the cost of keeping people at home comes not from their home care services but from their higher rate of hospital admission – efforts to reduce/avoid acute hospital admission and readmission are worth pursuing (e.g., quick response teams, intermediate and convalescence beds, planned earlier discharge and rehabilitation at home).
- Carer support services and rehabilitation services need more development.
- Work on care pathways, packages of care and casemix classifications for specific, easily defined types of client or problem (e.g., dementia, hip fracture) may be a fruitful way of building a picture from the bottom up of what resources are needed for a population.

Worth a read

- Again, Marcus Hollander and team - the Canadian funder experience in getting the right mix of services for the population – Hollander 2001, Hollander & Chappell 2002 www.homestudy.com/reports
- Again, the more accessible statements of PSSRU's detailed findings as to what mix of services has the optimum outcome for users, carers and funders – Davies 1997, Davies & Fernandez 2000, and the PSSRU Bulletin www.ukc.ac.uk/PSSRU
- Davies 1997, Davies & Fernandez 2000, and the PSSRU Bulletin - for more accessible statements of PSSRU ideas than some of the longer books. www.ukc.ac.uk/PSSRU

- Howe and Gray 1998 – the Australian investigation into whether we should target home-based services to high needs users only. www.health.gov.au/acc/hacc/targeting

- Commonwealth Department of Health and Family Services 1997 – for a readable discussion of how casemix could be applied to home-based services. http://www.health.gov.au/acc/reports/download/hacctrak.pdf

4.3 The right level of funding - key points from overseas experience

- It is difficult to quantify the 'right' level of funding for home care services for a population because of the interdependence of these services with others in the continuum of care, and the degree to which home care is being used in the most cost-effective manner.

- Without basic information on how much is being spent on home care vis a vis other services in the continuum of care, and on whom it is being spent in terms of level of need, it is impossible to know how any country or region compares to others.

- The shift towards home-based services means a shift of costs to the user and their carers – it is increasingly urgent to have public debate as to what should be publicly funded and what should not, so that this cost shifting is at least made transparent.

Worth a read

- MacAdam 2000 - a lively Canadian discussion on the funding of home-based services in the context of the whole health/welfare system. www.longwoods.com/hp/fall00

- The 'CARP Report card' – a regular consumer oriented critique of the current state of Canada's home care services – Parent et al. 2001. www.50plus.com/carp

5. RECOMMENDATIONS FOR NEW ZEALAND HOME-BASED SERVICES

5.1 Organisational integration

- Joint work by the MoH and DHBs to establish robust mechanisms for developing and evaluating proposals for the re-allocation of resources, on the basis of evidence of cost-effectiveness.

- Development by MoH of measures of DHB performance that will demonstrate DHB capacity for rational resource allocation.

- Provision by MoH of robust and easily accessible resources of information, analysis and networking to aid DHBs in their planning.

- Development by MoH and DHBs of mechanisms to ensure that funding for continuing care services for older people is not transferred into acute hospital services.

5.2 Good information

- Setting up a national project, on the model of the MoH project for national mental health data, to improve information on the continuum of services for older people, including home-based services, using the current CCPS database for DSS-funded services as a foundation.

- Setting up a joint group of MoH Health of Older People, MoH Disability Services Directorate and DHBs, together with interested researchers and academics, to work on cleaning up, linking, maintaining and using health and disability databases, on the POPULIS model (see Section 4.2.1). This project would link basic data on hospital admissions, residential care, home support, GP visits, pharmaceutical use and census data etc to identify trends and variations in utilisation and expenditure, as a tool for planning and resource allocation.

- Finalising and implementing the standard assessment tool, as is being done nationally.

- Progressing the clean-up of the NHI database and ensuring that NHI numbers are attached to all aspects of continuing care services, including DSS-funded services, primary care, hospital outpatient and home-based services.

5.3 Single point of entry and primary based case management

- Ministry of Health Disability Services Directorate and Health of Older Persons sections working closely and actively with DHBs to find practical solutions to achieving greater linkage between primary care services, NASC agencies and specialist geriatric services.

- Improving information systems to give good basic utilisation and expenditure information on who is getting what.

- Encouraging use of the standard national assessment tool by a range of key workers, including GPs and practice nurses.

- Introducing some form of capitated funding for all general practices, so that GPs have in incentive to work with other health professionals.

5.4 Establishing what works best for different groups

- MoH and DHBs supporting and encouraging Older Person's Health and other clinical services in conjunction with IPAs and NASCs to develop joint guidelines for clinical pathways and best practice guidelines for different groups of users of long-term services, and initiatives for improving service co-ordination.
- Development of good basic information systems, based on a standard assessment tool, to give utilisation and expenditure information to support this work and allow guidelines to be evaluated.
- Funding and encouraging evaluation of innovative projects.

5.5 Home-based services for maintaining health and fitness

- Support from MoH and DHBs for IPAs to develop models of disease management and schemes to reduce hospitalisation and entry to long-term residential care and/or prevent illness and disability.
- Maintaining current levels of funding for home support for users with low needs until more work is done to establish optimum levels of such services.
- Development of information systems to establish current levels of home-based service provision and to develop benchmarks of services per head of population.
- Estimating the budgetary impact of removing the means–test from long-term home support services, and consider whether it would be cost-effective for DHBs to do this in the long-term (see Hollander 2001).
- Extension of funding for supportive housing options, while being aware of the potential problems.

5.6 Champions for home-based services

- Raising the profile and status of home-based services through better pay rates, working conditions, accreditation procedures, training etc.
- More involvement of DHBs in the MoH policy-making processes on home-based services so that they have greater buy-in to the final policies that they will be required to implement.
- MoH support for gatherings of home-based providers, users, researchers, etc on home-based service issues.

1. INTRODUCTION

1.1 THE QUESTIONS TO BE ANSWERED

Health and support services that enable people to stay at home rather than go into hospital or into long-term care are becoming increasingly important. Admission to hospital or long-term care is costly, people usually prefer to stay at home if they can, and new technologies increasingly enable this to happen.

Over the past decades, home-based services in New Zealand have grown like Topsy - unplanned and mostly unnoticed. It is time to take stock of this growth and address some crucial questions as to where home-based services fit on the 'continuum of care'.

We need to address issues such as:

- **Cost-effectiveness** - are home care services a cost-effective alternative to residential long-term care or to acute hospital care? Under what circumstances?

- **Co-ordination** - what ways of funding and organising home care services are most likely to ensure their co-ordination with other health and support services?

- **The right mix of services** - what is the right mix of home care services vis a vis other continuing care services, such as residential care? What are the outcomes and trade-offs from different mixes of services? Should we target home care services to people with high needs or ensure a spread over people with low needs?

- **The right level of funding** - what is the right level of resourcing for home care services?

Considerable work has been done in other western countries on these questions. This paper summarises this work and looks at what New Zealand could learn from this work, with a focus on services for the elderly.

1.2 THE CONTEXT FOR THE REVIEW

In 1999, the national health funding body in New Zealand, the Health Funding Authority (HFA), began a joint project with the 21 district-level publicly owned Hospitals and Health Services (HHSs) to get more consistency in what was funded – service descriptions, quality standards, volumes of service and expenditure per head etc.

The project included an examination of the 'community services' provided by the HHSs – district nursing, home help and personal care, meals on wheels, continence and stomal services, domiciliary oxygen and home-based allied health services.

The project developed national service specifications for each of these services, including national standard reporting requirements. They analysed the available

information on expenditure and volumes and made recommendations for the development of the services (Wainwright 2002).

During this work it became clear that:

- These home-based services had been expanding fast, even though the budgets contractually allocated to these services remained static over several years.
- No reliable or consistent national information existed on actual expenditure, volumes of services or the number and types of people receiving services. Even the figures for budgeted expenditure were not reliable at a district level.
- District nursing and the mostly short-term home support services given to people after hospital discharge or during an acute illness in the community were organised and funded separately from long-term home support provided for people with long-term disability, including age-related disabilities.
- Since 1993, the funder had explored the role of home-based care as an alternative to long-term residential care for people with disabilities (including the elderly). However, there had been little policy discussion at a national or local level on how to integrate this long-term home-based care with acute hospital services, primary care or the other home-based services such as district nursing.
- Although it was widely assumed that home-based care must be cost-effective compared to acute hospital or long-term residential care, little policy work had been done to confirm this.

The project group identified these gaps in policy and information and commissioned a literature review on:

- The likely demand for home-based services.
- The cost-effectiveness of home-based services.
- The best way to organise and fund home-based services, to ensure continuity of care to the user and the most cost-effective use of resources for the funder.

The original literature search was completed in mid-2000 but no resources were available at that time to write it up. In 2001, the author applied for and obtained a one-year Foxley Fellowship from the Health Research Council in part to undertake this work.

This report was completed in March 2003. Since then, funding for long-term disability support services has been devolved to District Health Boards. More work is now being done nationally and locally on home-care issues, so the description of the New Zealand situation is now a little out of date. However, the policy issues remain live ones.

1.3 METHODOLOGY

1.3.1 Literature search

Susan Bidwell of New Zealand Health Technology Assessment (NZHTA) undertook an initial search of the literature in 2000 (See Appendix A for the terms of this initial search). Additional material was added to this search by the author up to about November 2002.

Exploration of the Internet produced a large number of additional reports by government departments and policy research organisations that do not so readily appear in conventional literature searches.

1.3.2 What was included and excluded

Because of the broad nature of the issue, considerable time was spent in narrowing down the topic to a manageable size, as follows:

- A focus on home-based services in general, rather than specific interventions (such as intra-venous therapy, continence services or respiratory outreach nursing). There is a large body of clinical research on many of these specific interventions, to which this study could not have done justice.

- A focus on services for the elderly. This was because the elderly are the biggest users of home-based services, as they are of acute hospital and residential services.

- The exclusion of specific services and user groups that are better dealt with separately:

    - services for children

    - maternity-related services

    - services for people with lifetime physical disabilities or with sensory, intellectual or psychiatric disabilities

    - palliative care services.

Terms - in the report the terms 'home care' and 'home-based services' have been used interchangeably to refer to both nursing and support services received in people's homes. 'Home support' has been used to refer solely to home help and personal care services considered together.

1.3.3 A policy focus

The aim of the review is to provide people working in health planning and funding roles at both national and district level with:

- A summary of what the current literature tells us about some major practical policy questions facing planners as they wrestle with improving the coordination and cost-effectiveness of health services.

- A guide to the most important policy research centres/websites etc to keep an eye on for future work in this area.

The format of the review is therefore one of presenting brief summaries of often very complex studies. As such, it is a rapid skim across issues that deserve to be analysed in far more depth. I hope that this review at least encourages more debate and work on the issues raised here, and greater exploration of the rich policy literature that exists on home-based services.

2. THE COST-EFFECTIVENESS OF HOME-BASED SERVICES

2.1 HOME-BASED SERVICES AS AN ALTERNATIVE TO ACUTE HOSPITAL CARE

As the cost of acute hospital services rises, health planners are increasingly interested in whether and in what circumstances home-based services could substitute for services currently provided in the acute hospital.

The literature on this topic is extensive, reflecting the range of services encompassed by the concepts of' 'home-based care' and 'substitution for acute hospital care'.

Home-based care as an alternative to acute hospital care can include:

- Planned early discharge with home support.
- Rehabilitation at home (with or without planned early discharge).
- Specialist nursing outreach services at home.
- Specialist geriatric services delivered at home.
- 'Hospital at home' - hospital-level 24-hour nursing and specialist medical input at home, either after hospital discharge or to avert hospital admission.
- Specific 'high-tech' techniques and equipment used at home, such as intravenous therapies or renal dialysis.
- Quick response teams and other primary care based interventions to avoid acute admission.
- Primary care based preventive interventions to reduce hospital admission.

In practice these various types of interventions may overlap. What is initially seen as a 'high-tech' procedure, such as IV therapy, may come to be part of the routine district nursing repertoire. 'Planned early discharge' schemes may turn into 'routine' procedures for specific conditions (Marks 1991).

The variety of interventions that come under the definition of 'home-based services' in itself makes it difficult to compare studies, because they are often measuring different interventions, on different groups of people. In many cases, while the intervention may be described, there is no clear or detailed description of the 'normal' management to which it is compared.

The outcomes may include measures of:

- Patient outcomes: mortality rate, length of survival, level of functioning, disease-specific outcome measures, quality of life, patient satisfaction.
- Carer burden, stress and satisfaction.

- Length of stay in the acute hospital, number of hospital bed-days.
- Rate of readmission to the acute hospital, length of time before readmission.
- Rate of entry to long-term residential care, length of time before entry.
- Costs - hospital costs, community service costs, primary care costs, costs to patients and carers.

Policy literature over the past two decades has shifted from broad reviews of the cost-effectiveness of home care as a substitute for acute hospital care, to more careful detailed analyses of the specific circumstances under which home-based services may result in lower costs and/or better outcomes.

Just as the actual number of studies has burgeoned over recent years, so have the different ways in which the issue can be explored. Because of the large number of studies, this review has concentrated on randomised controlled trials (RCTs) and on systematic reviews and meta-analyses by the Cochrane Collaboration or similar review groups. Further work is needed to examine each of the areas in more detail.

An early description of home-based alternatives to acute hospital care can be found in Marks, who noted that the success of such schemes depends on having professional multi-disciplinary teams that spanned hospital and home (Marks 1991).

2.1.1 General studies of home support after hospital discharge

A few reviews exist of 'home support' after hospital discharge, with no mention of early discharge or of rehabilitation. The provision of district nursing, home support and general practitioner (GP) contact for patients after discharge from hospital may be considered routine in New Zealand, so these studies may have less relevance here.

- A meta-analysis of studies found that hospital length of stay was reduced by four types of home-based care: 'high tech' care at home, palliative care, skilled district nursing, and home support. A Cochrane review of the meta-analysis felt it was not detailed enough (Hughes et al. 1997).
- A review of controlled trials of 'home care' for adult patients with hip fracture, hip replacement, chronic obstructive respiratory disease (CORD), hysterectomy and knee replacement found no difference in health outcome for patient or carer, but variable costs depending on the condition (Soderstrom et al. 1999).
- A pre and post-intervention analysis of a large American Health Maintenance Organisation (HMO) dataset found that those patients who received an integrated package of care that included inpatient hospital care, district nursing, case management and respite care had fewer days in hospital than those receiving just inpatient care (Burns et al. 1996).

These studies highlight the difficulty of comparing or generalising from studies where the intervention is not clearly defined, and also where the difference between the intervention and 'usual care' is also not clearly defined.

2.1.2 Planned early discharge with home-based services

Planned early discharge with multi-disciplinary assessment and planning in the hospital followed by district nursing, GP involvement and home support has commonly been compared to the 'usual' longer stay in hospital.

This intervention may be distinguished from 'hospital at home' by the lack of specialist medical input or 24 hour nursing care at home. Studies where planned early discharge has been combined with rehabilitation given at home are covered in the next section.

There is also a considerable body of literature on the process of discharge and discharge planning, which has not been reviewed here. A good review of barriers to effective discharge planning can be found in a report from the Canadian National Evaluation of the Cost-effectiveness of Home Care (Arundel & Glouberman 2001).

- A review of supported discharge after hospitalisation for the elderly found nine randomised controlled trials (RCTs) and quasi-RCTs. These compared patients who received support after discharge with those who did not, and patients who received the usual support to those who received additional support. The reviewer concluded that supported discharge made no difference to mortality rates, and had an unclear effect on patient functioning and on carer and patient preferences. It may be associated with fewer admissions to long-term care and fewer hospital admissions. Information on costing was not available (Hyde et al. 2000).

- A Cochrane systematic review of RCTs of early supported discharge for acute stroke patients noted that such discharge made no difference to patient outcomes in terms of death, health or functioning, had no effect on readmission rates, but may have reduced hospital length of stay. They concluded however that the risks, costs and benefits of such discharge schemes are still unclear (Early Supported Discharge Trialists 2002).

- A Cochrane systematic review of RCTs of discharge planning compared to 'routine discharge', for medical and surgical inpatient of all ages, found that that it had no effect on patient outcome (mortality, health, functioning) and was preferred by medical patients. It led to a small drop in length of hospital stay for medical patients and a drop in their hospital costs but had a mixed effect on their readmission rates. Surgical patients showed no difference in length of stay, readmission rates or hospital costs. Information on community costs was not available. This study does not specifically examine the role of home care, but it has a good discussion of the complexity of the issue and the difficulty of getting clear results from these reviews (Parkes & Shepperd 2002).

- Two US controlled trials of nurse-directed multi-disciplinary discharge planning and intensive home follow-up, for elderly heart failure patients and high-risk frail elderly patients respectively, found no effect on functioning but greater patient satisfaction in one study, and shorter length of hospital stay and lower rates of readmission in both studies (Rich et al. 1995; Naylor et al. 1999).

- A Swedish controlled trial of 'geriatric-oriented' discharge planning for elderly patients found no difference in patient functioning or readmission rate, but shorter length of stay (Styrborn 1995).

- A British study of early discharge and intensive home care for hip fracture patients compared to inpatient care, which included a cost analysis, found that costs were lower for home-based care, but length of stay was longer, so overall the scheme was not cheaper (Hollingworth et al. 1993, Hensher et al. 1996).

  In summary - results vary by the type of patient. Most studies show no difference in patient outcome, a reduction in acute hospital stay but a mixed impact on hospital readmission. Few cost analyses have been done so far.

2.1.3 Rehabilitation at home, with or without early discharge

Rehabilitation at home may be compared to rehabilitation as a hospital inpatient, outpatient or day patient. Many studies focus on patients with specific diagnoses, particularly stroke and hip fracture. Rehabilitation at home may or may not also be combined with planned early discharge.

- A review of RCTs of rehabilitation at home for stroke patients compared to rehabilitation as an inpatient or day-patient found that home rehabilitation made no difference to patient outcome (functioning, patient health, carer stress etc), and was less costly than day hospital but more costly than inpatient rehabilitation. The reviewers note that home rehabilitation may be best if used for selected high functioning patients and combined with early discharge (Britton & Andersson 2000).

- A discursive 1996 review of studies of 'community' versus hospital rehabilitation found little difference in patient or carer outcomes but a possible risk of increased mortality and hospital readmission and not enough information on cost or acceptability. The reviewer suggests that more research is needed (Lafferty 1996).

- A British RCT of early discharge with intensive allied health rehabilitation at home for stroke patients found no difference in patient outcome or functioning and noted that home rehabilitation released hospital beds but was probably not any cheaper than conventional inpatient care (Beech et al. 1999).

- An American RCT of cardiac patients being encouraged to continue their rehabilitation exercises after the rehabilitation period ended found no difference in patient outcome (Brubaker et al. 2000).

- An Australian RCT of early discharge and home rehabilitation versus inpatient rehabilitation for stroke patients found no effect on clinical outcomes, a shorter length of hospital stay but an increased carer burden (Anderson, Mhurchu et al. 2000, Anderson, Rubenach et al. 2000).

- Two Swedish RCTs of early discharge and rehabilitation at home for stroke patients compared to rehabilitation as an inpatient, day-patient or outpatient, found no difference in patient outcome. In one study home-based patients were more satisfied and had a shorter length of hospital stay (van Koch et al 2001, Widen Holmqvist et al 1996).

In summary, most studies were specifically of stroke patients. Most found that home-based care made little difference to patient outcomes in terms of mortality and

functioning, and also that average length of hospital stay was shorter for home-based patients. However, few studies had detailed costing information and questions still remain about the risks, costs and benefits of home-based rehabilitation.

2.1.4 Specialist geriatric services at home

There is a considerable body of literature on the cost-effectiveness of specialist geriatric assessment for improving health outcomes for elderly people[1], which has not been reviewed here except in relationship to the setting of the service.

Specialist geriatric assessment and treatment may be provided in a variety of settings – specialist inpatient wards, day hospitals, outpatient clinics and at home. These settings have been compared to one another, as well as to no assessment at all or to medical/surgical ward consultations.

The following studies examine the effect of home-based specialist geriatric services on acute hospital admissions. Section 2.2.4 examines studies of the effect of specialist geriatric services at home on entry to long-term residential care.

- A meta-analysis of controlled studies of comprehensive geriatric assessment and management compared different settings for this service to one another and to no service at all. The settings were a hospital-based geriatric unit, a hospital-ward-based consultancy, a general home-based service, a home-based service linked to early discharge and an outpatient service. All settings together showed an improvement over no service in terms of patient mortality, hospital admission, patient functioning and likelihood of living at home. Home-based settings showed no difference to other settings in terms of mortality or functioning but a greater likelihood of the person living at home and fewer hospital admissions. The study also showed that favourable results were more likely if programmes had control over their medical recommendations and if they provided extended ambulatory follow-up (Stuck et al. 1993).

- An Italian quasi-experimental study of comprehensive geriatric assessment and management at home for frail elderly people found a reduction in hospital readmissions and shorter length of hospital stay (Landi, Gambassi et al. 1999, Landi, Lattanzio et al. 1999).

- A Swiss RCT of annual home-based comprehensive geriatric assessment by a specialist nurse with consulting geriatrician found some benefit to functioning and a reduction in entry to long-term residential care, but no difference in acute hospital admissions or short-term residential care (Stuck et al. 1995).

- A German RCT of comprehensive geriatric assessment and post-discharge home intervention for the elderly found no effect on survival but they did improve functioning and could reduce the length of the initial hospital stay. There was no difference in the rate of acute hospital readmission but these readmissions were shorter. The intervention delayed entry to both short-term and long-term residential care (Nikolaus et al. 1999).

[1] For example: Silverman et al. (1995)

In summary - the meta-analysis comparing settings for geriatric assessment found that the home setting demonstrated little effect on patient survival but some improvement in functioning. The rate of hospital readmissions was not affected but overall length of stay in the acute hospital was reduced.

2.1.5 "Hospital-at-home" - specialist medical and/or nursing services at home

'Hospital-at-home' has been defined as 'active treatment by health care professionals in a patient's home of a condition that otherwise would require acute hospital inpatient care, always for a limited period' (Shepperd & Iliffe 2002). As such it may be distinguished from less resource-intensive or short-term forms of home-based care.

Hospital-at-home may be provided at the end of an acute hospital stay together with early discharge, or it may be offered as people enter hospital, to avert inpatient admission.

- A Cochrane systematic review of RCTs compared hospital-at-home schemes to conventional inpatient care. The reviewers found no difference in patient outcome for elderly medical patients and patients recovering from elective surgery. Outcomes for stroke patients were conflicting. Patients allocated to hospital-at-home expressed more satisfaction with care than those in hospital. However, carers expressed less satisfaction with hospital-at-home than with hospital care. Allocation to hospital-at-home resulted in a reduction of hospital bed-days but hospital-at-home patients stayed in the scheme for more days than the control group did, so their overall length of time in care was longer. The reviewers concluded that hospital-at-home schemes were not cheaper, although they may release hospital beds. Elderly medical patients and elective surgery patients may benefit from early discharge to hospital-at-home, if carer burden is addressed. Stroke patients, however, may do better with admission avoidance schemes (Shepperd & Iliffe 2002).

- A Cochrane systematic review of services (including hospital-at-home) for helping acute stroke patients avoid hospital admission analysed four RCTs. It found no difference in patient outcomes and possibly an increase in hospital bed-days and costs for the home-based group. The reviewers concluded that the findings did not justify a shift to home-based care at present for these patients (Langhorne et al. 2002).

- An Australian RCT compared acutely medically ill people entering a hospital emergency department and being admitted to hospital with those receiving a hospital-at-home service in place of admission. They found no difference in patient outcome for the hospital-at-home group, the same or greater level of satisfaction, and a lower overall length of hospital stay (Board et al. 2000, Caplan 2000, Caplan et al. 1999).

- A British RCT of early discharge to a hospital-at-home service for medically stable elderly patients found no effect on patient outcomes or acceptability and a reduction in hospital length of stay. An associated cost analysis found a rise in primary care costs in the study group, but no difference in patient or home-based services costs and a drop in hospital costs because of the shorter length of stay (Coast et al. 1998, Richards et al. 1998).

- A British RCT of hospital-at-home care compared to inpatient care for hip replacement, knee replacement, hysterectomy, elderly medical and chronic respiratory (CORD) patients found no difference in carer burden or patient outcome (except positively for hip replacement patients). All patients, except CORD patients, preferred hospital-at-home. Many of the knee replacement patients allocated to home care remained in hospital (Shepperd et al. 1998).

- A British RCT of an admission avoidance scheme allocated people referred to hospital by their GP to either a hospital-at-home scheme or routine admission. Most patients were over 55 years with conditions including stroke, falls and infections. The study, which also included an analysis of health and social costs, found no difference in patient outcome or dependency and a 45 percent reduction in days of treatment among home-based patients. The researchers concluded that the admission avoidance scheme was cost-effective (Jones et al. 1999, Wilson et al. 1999).

- A Cochrane systematic review of home care by outreach respiratory nursing for CORD analysed four RCTs and concluded that patients with moderate CORD may have mortality and health gains from such a programme, but there are no data about the effect on hospital utilisation. Patients with severe CORD do not appear to benefit and one study found no reduction in hospital admissions for this group (Smith et al. 2002).

- An Australian RCT of a home visit by a cardiac nurse and pharmacist to heart failure patients after discharge to ensure the patient understood and complied with the prescribed medication found improved mortality and quality of life and fewer unplanned hospital admissions. The researchers noted that the intervention was best suited to patients with high unplanned needs (Stewart et al. 1999, Stewart et al. 1998).

- An Australian RCT of short-term educational home visits by a nurse to CORD patients after discharge showed only minimal effect on functioning and no effect on readmissions, but higher patient satisfaction (Hermiz et al. 2002).

In summary - one of the Cochrane reviewers commented that while the results of the systematic review of hospital-at-home did not encourage adoption of such schemes at that time, research currently being done could give more encouraging results (Iliffe 1998). This appears to be the case as the studies become more specific and include detailed cost analyses.

However, as one study notes, the numbers are still currently too small for hospital-at-home schemes to have much impact on the issue of rising acute admissions. Savings are unlikely to be made in practice unless either new resources are added to enable such schemes to be set up or resources are freed up from the acute hospital sector (Jones et al. 1999, Wilson et al. 1999).

The role of general practitioners appears to be important in the success of hospital-at-home schemes, since such schemes are augmenting primary care and/or enabling or requiring primary care services to prevent admission (Marks 1991)

Hospices have been described as one model for hospital-at-home schemes, in that they combine specialist care with a non-hospital setting. The alliances that hospices have built with hospitals may serve as a model for other schemes whereby hospital services move into the community setting (Marks 1991).

Some have warned that the shifting of complex medical/nursing services out of the acute hospital setting may have quality implications, and that measures such as the rate of unplanned readmissions need to be monitored (Montalto 1998). Others have noted that the studies show that a small group of patients and/or their carers do not want hospital-at-home services (Fulop et al. 1997).

2.1.6 'High-tech' interventions at home

The use of 'high-tech' interventions in the home setting has increased rapidly, particularly in the United States where funders and providers have had a strong incentive to find cost-effective alternatives to hospital-based procedures (see Section 3.4) (de Lissovoy & Feustle 1991).

Home-based interventions include:

- Home and ambulatory dialysis for end stage renal failure.
- Intravenous therapy, such as antibiotics and chemotherapy.
- Parenteral and enteral feeding.
- Home oxygen, nebulisers and ventilators.
- Complex wound care, such as compression bandaging and ulcer treatment.
- Stomal therapy.
- Continence services.
- Tele-medicine, including tools for long-distance monitoring, diagnosis and treatment.

Some of these interventions have now become a routine part of domiciliary care (e.g., intravenous therapy) while some involve complex procedures and/or costly equipment (e.g., ventilators)

There is a considerable literature on the cost-effectiveness of hospital versus home setting for each of these specific interventions. These studies are more appropriately analysed within a clinical context, and so have not been reviewed here. [2]

The cost-effectiveness of home versus hospital settings for these specific 'high-tech' procedures is often easier to measure than other forms of home-based care because of the specific nature of the intervention and/or the condition for which it is being used. It has been commented that these interventions may work best where there is a single discrete or time-limited condition being treated. Given that the majority of home care users are older people, often with multiple chronic health and disability problems, this suggests that the 'high-tech' home-based procedures, while important, should not be seen as the prime or only focus in considering the development of home-based services for the elderly (de Lissovoy & Feustle 1991).

[2] The original literature search contains a considerable number of references to studies of specific interventions. The electronic version of this search is available from NZHTA, and a hard copy of the original search results is held by the Ministry of Health Disability Services Directorate.

Much of the literature on tele-medicine appears still to be in the early stage of description of services, rather than any researched evaluation of them. A general discussion of innovations in tele-medicine may be found in a Canadian review (Health Canada 1998b, 1998c).

There appears to be considerable variability in the extent to which different countries take up the home use of specific interventions (Richards et al. 1997, Marks 1991). Exploring the possible reasons for this is also beyond the scope of this study.

2.1.7 Primary-based initiatives to prevent admission

Much of the focus in the literature, as in practice, has largely been on the use of home-based services in the period **after** hospital discharge. However, there is also increasing interest, shown in the more recent hospital-at-home studies, in using home-based services to **avoid** admission (Wilson et al. 1999).

At this point the discussion on home-based services broadens out to include other non-acute hospital services such as:

- Sub-acute inpatient services: 'intermediate care' facilities, short-term use of rest home beds, hospices and convalescent beds.
- Various forms of carer support and respite care.
- Quick response services and other primary sector activities aimed at preventing admission to hospital (Marks 1991).
- Disease management initiatives aimed at maintaining good health and fitness (Marks 1991; Commonwealth Department of Health & Aged Care 2001).

These are other aspects of 'home-based' services that this review has not had the scope to explore in any detail. Some examples of home or community-based preventive initiatives include the following:

- An American RCT of a nurse-led disability prevention and disease management programme in a community setting for the elderly showed improvements to health and functioning and reduced hospital admissions and length of stay (Leveille et al. 1998).
- A NZ study of a nurse/physiotherapist-led exercise programme aimed at preventing falls in the elderly showed a reduction in falls and hospital admissions (Robertson, Devlin et al. 2001, Robertson, Gardner et al. 2001).
- An American multi-site RCT of enhanced access to primary care for congestive heart failure patients showed no effect on functioning or hospital readmissions (Oddone et al. 1999)

Key points

Home-based services as an alternative to acute hospital care

- Early studies on 'home-based services' showed only limited evidence of their cost-effectiveness as an alternative to acute hospital care, because of the range of different interventions covered and the lack of comprehensive cost data. Many studies did not clearly show how the intervention differs from 'normal' treatment, which makes it difficult to generalise from their findings.

- However, recent studies of specific types of interventions for specific groups of people give more positive results. It appears that the most productive line of study is to look at what works for specific conditions or types of patient.

- Most studies show home-based interventions make no difference to or have a positive effect on patient outcomes such as mortality, health, functioning or satisfaction.

- Overall, home-based interventions appear to reduce the length of stay in the acute hospital, but have a mixed effect on the rate of readmission.

- In those few studies that include detailed cost analyses, including costs to the whole health/welfare system and to the patient and carers, the findings are mixed. However, more cost studies are now being done and appear positive.

- Good linkage between the acute hospital and primary care is crucial for home-based interventions to work successfully as an alternative to hospital care.

- 'Home-based' care is increasingly seen as one component of 'non-acute' care that is linked to other components such as intermediate care, carer support, respite care and disease management activities.

- **Planned early discharge** - results vary by type of patient. Most studies show no difference in patient outcome, a reduction in acute hospital stay but a mixed impact on hospital readmission. Few cost analyses have been done so far.

- **Rehabilitation at home with or without early discharge** - most studies are of stroke patients and show no difference in patient outcome and a reduced hospital stay. Few analyses of cost have been done so far.

- **Specialist geriatric services at home** - the home setting shows little effect on survival but some improvement in functioning. The rate of readmissions was not affected but overall length of stay in the acute hospital was reduced.

- **'Hospital-at-home'** - studies show little difference in patient outcome. Patient satisfaction may increase (but not among all patients) but carer burden may be greater. Most studies show a reduction in hospital stay and the more recent studies show a reduction in overall cost, although numbers are still small.

- **Specialist outreach nursing** - studies show conflicting results for patient outcomes and readmission rates.

- **'High-tech' interventions at home** - there is an extensive literature to consult on each intervention. Generally, the more specific the intervention, patient type, disease or condition, the easier it is to establish the cost-effectiveness of home versus hospital setting. Cost-effectiveness can be shown more easily for single or time-limited conditions.

- **Primary based preventive activities** - there is a growing literature to consult on specific interventions. As with 'high-tech' interventions, it is likely that the more specific the intervention, the easier it is to show its cost-effectiveness. This aspect of home-based services overlaps with other types of non-acute care, such as hospices, intermediate care, carer support and primary and community-based disease management activities.

What to keep an eye on

The Cochrane Library and Medline for systematic reviews of specific interventions. www.update-software.com/cochrane/
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Table 1. Studies of the effect of substituting home-based care for acute hospital care

LOS = Length of stay
RCT = Randomised controlled trial
CORD = Chronic obstructive respiratory disease

Author, Year Country	Study type	Intervention and sample type	Result
Home support after discharge from hospital (general studies)			
Hughes et al. 1997 US	Meta-analysis of studies 1967-1992	Four types of intervention: • High tech care at home • Palliative care • Skilled district nursing • Home support/personal care Excluded children and mental health patients.	Hospital LOS reduced (Cochrane opinion: Analysis of studies not detailed enough).
Soderstrom et al. 1999 Canada	A review of controlled trials 1975-1998	"Home care " Hip fracture, hip replacement, CORD, hysterectomy, knee replacement patients.	No effect on health (carer or patient). Social/health costs vary by condition (lower for hip fracture, higher for others).
Burns et al. 1996 US	Analysis of large dataset pre and post intervention	HMO funding for a hospital to provide integrated care (inpatient care, case management, district nursing and respite care) versus funding for just inpatient care.	Reduced hospital LOS where people received integrated care.
Planned early discharge with home support			
Hyde et al. 2000 UK	Review of RCTs and quasi-experimental studies 1972-1995	Supported discharge (district nurse, home help, personal care) after hospitalisation, for elderly (supported v not-supported, and high support v routine support).	No effect on mortality, unclear effect on functioning. Unclear effect on carer or patient preferences. Maybe fewer hospital admissions. Maybe fewer admissions to long-term care. No cost information.
Early Supported Discharge Trialists, 2002	Cochrane systematic review of RCTs	Early supported discharge for acute stroke patients.	No effect on mortality or functioning. Lower hospital LOS. No effect on hospital readmissions. Concluded: risks, costs and benefits are unclear.

Table 1. Studies of the effect of substituting home-based care for acute hospital care (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Planned early discharge with home support			
Parkes & Shepperd, 2002 UK	Cochrane systematic review of RCTs	Discharge planning (not necessarily with home care) versus routine discharge for medical and surgical patients of all ages.	No effect on outcomes. Small drop in hospital LOS for medical patients, but not surgical. Preferred by medical patients. Drop in hospital costs for medical patients, no other cost information. Mixed effect on readmissions for medical patients, no effect for surgical.
Naylor et al. 1999 US	RCT	Comprehensive discharge planning by advanced practice nurses and home support for high-risk elderly patients.	No effect on functioning, outcome or patient satisfaction. Fewer readmissions and fewer hospital days stay.
Rich et al. 1995 US	Partly-randomised study (reviewed by Cochrane)	Multi-disciplinary nurse-directed discharge planning and intensive home support and follow-up of heart failure patients 70+ years.	Fewer readmissions. Better quality of life and patient satisfaction. Shorter hospital LOS.
Styrborn, 1995 Sweden	Non randomised trial (reviewed by Cochrane)	Geriatric-oriented discharge planning for elderly.	No effect on functioning or readmissions. Lower hospital LOS.
Hollingworth et al. 1993 and Hensher et al. 1996 UK	RCT and cost analysis	Early discharge and intensive home care for hip fracture patients versus inpatient care.	No effect on outcome. Shorter hospital LOS but lower hospital cost offset by longer contact with community services.

Table 1. Studies of the effect of substituting home-based care for acute hospital care (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Rehabilitation at home (with or without planned early discharge)			
Britton & Andersson, 2000 UK	Review of RCTs 1966-99 (reviewed by York University)	Rehabilitation at home for stroke patients versus rehabilitation as inpatient or day-patient.	No effect on functioning or on patient or carer stress. Less costly than day hospital, more costly than inpatient. May work best if used for selected high functioning patients and combined with early discharge.
Lafferty, 1996 UK	Literature review 1985-93	'Community' versus hospital rehabilitation.	No effect on patient or carer outcome. Not enough information on cost or acceptability. Possible risk of increased mortality/ readmission – needs more research.
Beech et al. 1999 UK	RCT	Early discharge and intensive allied health rehabilitation at home for stroke patients.	No effect on functioning or outcome. Not much cheaper, just releases beds.
Brubacker et al. 2000 US	RCT	Elderly cardiac patients encouraged to do rehabilitation exercises at home after end of rehabilitation programme.	No effect on health outcome.
Anderson, Mhurchu et al. and Anderson, Rubenach et al. 2000 Australia	RCT and cost analysis	Early discharge and home rehabilitation of stroke patients versus inpatient rehabilitation.	No effect in clinical outcome. Shorter hospital LOS. Increased carer burden.
Van Koch et al. 2001 Germany	RCT	Home rehabilitation for stroke patients.	Home rehabilitation may work better because patient initiates more.
Widen Holmqvist et al. 1996 Sweden	RCT (reviewed by Cochrane)	Early discharge and rehabilitation at home for stroke patients.	No effect on outcome. Lower hospital LOS. More patient satisfaction.

Table 1. Studies of the effect of substituting home-based care for acute hospital care (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Specialist geriatric management and/or assessment at home			
Stuck et al. 1993 Switzerland	Meta-analysis of CTs	Comprehensive geriatric assessment and management in different settings: home, home + early discharge, hospital medical ward consultancy, hospital geriatric unit, geriatric outpatient clinic.	All settings better than none for mortality, functioning and hospital admissions. Home no different from other settings in patient mortality or functioning, but fewer hospital admissions and more likely to be living at home. Works best if have control over management, not just assessment.
Landi et al. 1999 Italy (2 studies)	Quasi-experiment	Comprehensive geriatric assessment and management at home for frail elderly.	Fewer readmissions. Shorter hospital LOS.
Stuck et al. 1995 US	RCT	Annual in-home comprehensive geriatric assessment by gerontological nurse with consulting geriatrician, 3-year follow-up, people living in community 75+ years.	Delay in onset of disability. No effect on admissions to acute hospital or to short-term residential care. Fewer permanent admissions to long-term care. More GP visits.
Nikolaus et al. 1999 Germany	RCT	Geriatric assessment and home intervention for elderly.	Lower hospital LOS. Delayed entry to long-term care. No effect on mortality, but better functioning. No effect on hospital readmissions.

Table 1. Studies of the effect of substituting home-based care for acute hospital care (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Hospital-at-home – specialist medical and nursing services at home			
Shepperd & Iliffe, 2002, UK	Cochrane systematic review of RCTs	Hospital-at-home versus inpatient care.	Patient outcome no different for elderly medical and surgical patients; conflicting findings for stroke patients. Preferred by patients but not by carers. Reduced hospital LOS but higher LOS overall, as patients stayed in hospital-at-home longer than in hospital, so no cheaper in service costs.
Langhorne et al. 2002 UK	Cochrane systematic review of RCTs	Services for helping acute stroke patients avoid hospital admission.	No effect on patient outcomes. Possibly increased hospital LOS and costs for home-based group.
Caplan 2000, Board et al. 2000 & Caplan et al. 1999 Australia	RCT & cost analysis	Acute patients seen at Emergency Dept, (69% aged 65+ years), discharged <24 hours to outreach team at home, (medical officer/GP, nurse, IV therapy) versus hospital admission.	No effect on mortality or adverse events. Same or higher patient satisfaction. Lower hospital LOS.
Coast et al. 1998, and Richards at al. 1998 UK	RCT & cost analysis	Early discharge to hospital-at-home with nurse, physio, OT and support workers for elderly medically stable patients.	No effect on mortality, physical functioning, quality of life or acceptability. Lower hospital LOS, so lower hospital cost. Unclear if it prevents readmissions or facilitates early discharge. Primary care costs may rise. Cost of ordinary community care are the same. Patient costs similar. Overall lower cost.

Table 1. Studies of the effect of substituting home-based care for acute hospital care (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Hospital-at-home – specialist medical and nursing services at home			
Shepperd et al. 1998 UK	RCT	Hospital-at-home compared to inpatient care for hip replacement, knee replacement, hysterectomy, elderly medical & CORD patients.	No effect on outcome except better quality of life for hip replacement patients. Knee patients – 30% allocated to hospital-at-home but stayed in hospital. Preferred by all patients except CORD patients. No effect on carer burden.
Wilson et al. 1999 and Jones et al. 1999 UK	RCT and cost analysis	Admission avoidance scheme: GP referrals allocated to inpatient care or to hospital-at-home with multi-disciplinary team 24-hour care. Diagnoses included: chest infection, diarrhoea, stroke, fall, urinary infection, immobility.	No effect on patient outcomes or dependency level. 45% fewer days of treatment (including readmission). Same or lower cost to health, social services & family – it is cost effective.
Smith et al. 2002 Australia	Cochrane systematic review of RCTs	Outreach respiratory nursing at home for CORD patients.	Little effect on mortality or lung function. Higher quality of life for less severe patients only. No effect on hospital readmissions.
Stewart et al. 1998 and Stewart et al. 1999 Australia	RCT	Post-discharge home visits by cardiac nurse and pharmacist for heart failure patients.	Fewer unplanned readmissions. Lower mortality out of hospital. Higher quality of life. Best if used for patients with high unplanned needs.
Hermiz et al. 2002 Australia	RCT	Post discharge educational home visits by community nurse to CORD patients.	No effect on overall functioning but better activity scores. Higher patient satisfaction. No effect on hospital readmissions.

Table 1. Studies of the effect of substituting home-based care for acute hospital care (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Primary/preventive services at home			
Leveille et al. 1998 US	RCT	One-year targeted multi-component disease self-management and disability prevention programme led by a geriatric nurse practitioner in a senior centre.	Less decline in functioning, more active and fewer on psychoactive medication. Fewer hospital admissions and shorter LOS.
Robertson, Devlin et al. 2001 and Robertson, Gardner et al. 2001 New Zealand	RCT & cost analysis	Nurse or physio delivered home exercise programme to prevent falls in elderly people.	Falls reduced. Fewer hospital admissions. Programme was cost-effective for people aged 80+ years.
Oddone et al. 1999 US	RCT multi-site	Enhanced access to primary care for patients with congestive heart failure.	No effect on health or quality of life. Increased hospital readmissions.

2.2 HOME-BASED SERVICES AS AN ALTERNATIVE TO LONG-TERM RESIDENTIAL CARE

Is it cost-effective to substitute home-based services for long-term residential care? Is it a more efficient use of resources while retaining the same or better outcomes in terms of patient health and functioning as well as quality of care and satisfaction for both users and their carers?

The literature addressing this question is as complex as the question itself. In contrast to the relatively plentiful randomised controlled trials comparing home and acute hospital settings for the delivery of care, there are few such trials comparing long-term home care to long-term residential care. Studies to assess the relative cost and effectiveness of the two modalities are probably more difficult to devise because of their long-term nature. In addition, the relationship between home care and residential care appears to be more dependent on the broader social context than does the relationship between home care and acute hospital services.

Health policy-makers started exploring the feasibility of replacing long-term residential care with home-based services in the 1980s, as the reduction in acute and long-term beds in the public hospital system in many countries led to burgeoning expenditure on rest homes and private long-stay hospitals, often under uncapped budgets.

Over the past decades, this exploration has moved from simple attempts to establish the cost-effectiveness of home care versus residential care to more complex explorations of the situations in which this substitution may work - which types of patients, which types of home care and residential care and in what organisational and societal contexts. It thus leads into the discussion in Section 4 on how to best allocate resources among home-based and residential long-term care services.

2.2.1 General reviews of the cost-effectiveness of 'home care'

Several reviews of the literature have been made, but they have not found many studies that fulfil the usual criteria of controlled trials.

- An early review of the impact of home care found that there was no effect on mortality and that it may reduce entry to long-term residential care. However, the review contained few randomised controlled trials (Hedrick et al. 1989).

- A Cochrane systematic review on institutional versus at-home long-term care for functionally dependent older people was last updated in 2001. 'Home care' included services provided at home, day care, foster care, sheltered housing and respite care. The authors reviewed 133 studies but found only one study of foster care that met adequate criteria for a randomised controlled trial. They concluded that there was insufficient evidence to assess the effect of home care on outcome or cost (Mottram et al. 2002).

  The Cochrane reviewers noted the difficulty of distinguishing between 'home' and 'institution' - where does sheltered housing fit, for example? The wide range of facilities covered by the term 'institution' also make it particularly difficult to compare different countries for their rates of utilisation of long-term residential care (Doty 1990).

- A more discursive Canadian review of United States and Canadian literature undertaken as part of another study concluded that substituting home-based services for residential care (Hollander et al 2000):

  - Has little effect on client outcomes such as mortality, health, functioning, carer burden or user satisfaction.

  - Costs less, so long as there is good triage to ensure that people receive one service or another, not both.

  - Needs to be considered in the context of the whole continuum of care for the elderly.

2.2.2 The American 'Channelling' studies – home care to replace residential care

In the 1980s, a set of randomised controlled trials was conducted in the United States to assess the effect of receiving home care on people's likelihood of being admitted to long-term residential care. The National Long Term Care Demonstration ('Channelling') Project was carried out over 10 sites throughout the country during the mid-1980s. Over 6,000 frail older people living in the community were randomly allocated to receive or not receive additional home services, in some cases combined with intensive case management. These people were followed up to see the differences in outcomes, cost and rate of admission to residential care.

The studies found no clear differences between those receiving home care and those not receiving this care in terms of mortality, functioning, quality of life or acute hospital usage. The groups receiving home care services were just as likely as the control groups to enter residential care. Home care services were an add-on, rather than a substitution, and so those receiving home care in fact generated higher costs than the control group (Applebaum et al. 1988, Carcagno & Kemper 1988, Kemper 1988, Rabiner et al. 1994, Thornton et al. 1988, Weissert et al. 1988, Wooldridge & Schore 1988, Greene et al. 1995)

These findings were unexpected and led to further investigation, which drew out the complexity of the issue. The projects' evaluators and others (e.g., Hollander 2001) comment that the fragmented nature of the American long-term care system meant that there was no process in place for allocating services on the basis of need within the population, and so no form of triage to ensure that people received one form of care or the other, but not both. Residential facilities took in people at varying level of need, not just those with high needs, and also a number of their clients were there for short periods of convalescence or terminal care rather than long-term care. Many of those living at home, although frail, were not in need of residential care. A number of those receiving home care in these pilot projects had not received any form of care in the past – the intervention was meeting a need that had not previously been met.

One group of researchers re-analysed the Channelling data and modelled what the costs would have been if people had been triaged to receive the most appropriate form of care to suit their functional level of need. The results suggested that if this had happened home-based care would have been less costly than residential care (Greene et al. 1992, 1995).

Individual projects within the National Demonstration, such as the Program of All-inclusive Care for the Elderly (PACE), showed some benefit in reducing the uptake of long-term residential care within the population being served. The various PACE programmes throughout the US provide interdisciplinary team care management, easier access to home-based services and integrated funding for primary and secondary services to an enrolled population 55 years and over assessed as eligible for residential care. However, the generalisability of the results are limited by the voluntary enrolment in the scheme. (Eng et al. 1997)

2.2.3 Intensive case management at home as an alternative to residential care

A number of studies have examined whether older people who have been assessed as eligible for long-term rest home care could be cared for at home just as cost-effectively.

From the mid-1970s, a number of related British projects evaluated the use of case management and home care as an alternative to residential care. The Darlington project provided intensive case management and home-based services for a group of frail elderly people (half of them stroke patients) who had been discharged from the acute hospitals and who were assessed as appropriate for long-term residential care. The evaluation found that managing these patients at home had no effect on carer burden, a slightly positive effect on mortality and on acute admissions and a lower overall cost. A year later, over half of them were still living at home (Bauld & Mangalore 1998, Challis et al. 2001, Challis et al. 1991a, 1991b, Challis et al. 1998)

- A similar Italian RCT of the impact of intensive case management and integrated medical and social care (including geriatrician input) for older people living in the community also found a lower rate of entry to nursing homes in the study group. This study had only a limited analysis of costs (Bernabei et al. 1998)

- A non-randomised Auckland study of the use of intensive home-based case management for elderly people assessed as eligible for long-term residential care found no impact on mortality, health or functioning, higher user satisfaction but also higher carer burden, and a higher rate of hospital admission but overall lower costs (Richmond & Northey 1997).

In summary - substituting long-term intensive home-based care for residential care may be cost-effective, so long as carer burden is addressed.

2.2.4 Specialist geriatric services at home to delay entry to residential care

A number of related reviews and studies have looked at the effect of specialist geriatric services delivered at home on people's entry into long-term residential care.

- A systematic review and meta-analysis of studies of home visits to prevent nursing home admission and functional decline in elderly people found that preventive home visiting programmes appeared to be effective, provided the interventions were based on multi-dimensional geriatric assessment, included multiple follow-up home visits and were focused on people at lower risk of death. Benefits to survival were seen in the young-old group, not the old-old group (Stuck et al. 2002)

- A Swiss three year RCT of quarterly in-home preventive visits by public health nurses with annual multi-dimensional geriatric assessment found a reduction in disability among elderly people at low risk. However, this improvement was dependent on individual nurse performance. Those at high risk showed no difference in functioning and in fact a higher rate of entry to residential care (Stuck et al. 2000). An RCT of the same intervention undertaken in California by the same research group had found a delay in nursing home placement (Stuck et al. 1995).

- A German RCT (reviewed in section 2.1.4) of comprehensive geriatric assessment and post-discharge home intervention for the elderly found that it delayed entry to long-term residential care (Nikolaus et al. 1999).

In summary - providing specialist geriatric services at home appears to have mixed results in reducing entry to residential care, depending on the nature of the intervention and the type of client.

2.2.5 Relationships among services - studies of large client datasets

A number of studies have attempted to elucidate the relationship between home-based services and residential care through longitudinal analysis of datasets from large survey samples or routinely collected service utilisation data.

- An American study examined the usage over six years of both home care and residential care by a sample of community dwelling disabled elderly people. Perhaps not surprisingly, those who were admitted to residential care had also received formal home care services, were living alone or had experienced carer burnout. The authors comment that looking at the global hypotheses about the effect of home care on risk of residential care is less useful than looking at specific services and specific types of users (Jette et al. 1995).

- Another American study analysed a large sample of elderly nursing home residents in one US state to see which sort of people went back home. Those remaining in residential care tended to be older, more dependent and not eligible for public funding for home care (Chapin et al. 1998).

- A substantial dataset analysis was done as part of the Canadian National Evaluation of the Cost-Effectiveness of Home Care Services (Hollander 2001). This study analysed the British Columbia administrative dataset of new admissions to residential care in the periods 1987-1988, 1990-1991 and 1993-1994. Analysis of linked data on the expenditure and utilisation of acute hospital services, home care and long-term residential services showed that (Hollander 2001):

    - People receiving only home-based services cost ½ - ¾ less than residential users.

    - Half the total cost for people who use only home care services comes from their use of the acute hospital.

    - People with stable needs have the lowest cost.

    - The highest costs come from transitions – from home to hospital or hospital to rest home – it pays to reduce the risk of these transitions.

- In Britain in the mid-1980s, the Personal Social Services Research Unit (PSSRU) undertook an extensive national longitudinal sample survey of old people living at home to document their use of health and support services over 18 months. This survey was replicated 10 years later to assess the impact of the national community care reforms and the move towards the case management of long-term care for the elderly by social service agencies (See Section 3.1) (Bauld et al. 2000, Davies 1999, Davies & Fernandez 2002).

- In related work, the PSSRU surveyed admissions to long-term residential care with an 18 month follow up, followed up a sample of 2,500 residential care users three years after entry, and also did a snapshot survey of 12,000 residents in 618 residential facilities (Bebbington et al. 1996, Bebbington et al. 1999, Netten et al. 1999, Netten et al. 2001, Bebbington et al. 2002).

These studies of large datasets of residential and home care users are descriptive and do not look directly at the impact of home care on residential care. However, they are useful in giving an idea of the types of people using the services, the rate at which people enter and exit, the movements among home, residential care and acute hospital, and how this may be changing over time. They have been used as a basis for the studies exploring the most cost-effective mix of long-term services for the elderly, which are reviewed in Section 4.2.

The PSSRU work assumed that home-based services can in fact be used to reduce the need for long-term residential care, and seeks to determine the optimum level and type of home care services that is needed in a population to do this. Entry to long-term residential care is seen as just one outcome that is assessed along with others such as acute hospital admission, mortality, other user health outcomes and carer burden.

The findings on the use of long-term care services by specific populations are difficult to generalise or even use for comparison to other regions and countries because of the locality-specific nature of what is being described. Countries and regions vary as to whether ‘residential care’ includes short-term periods of respite and palliative care or not. Regions also vary in their tools for assessing who is ‘disabled’ and in their criteria for access to services.

Key points

Home-based services as an alternative to residential care

Little research has been done at the level of randomised controlled trials on the relative costs and outcomes of long-term care at home for older people versus care in a 'residential facility'. Such trials are difficult to do because of the long-term nature of the services and the potential confounding effect of other factors.

The evidence from a variety of studies on this topic suggests that:

- Long-term intensive home care for the frail elderly appears to have no different outcome to long-term residential care in terms of mortality, functioning or carer burden.
- Home care appears to be less costly overall than residential care, but only if people are triaged to ensure they receive one service or the other, not both.
- Home care recipients have a higher use of acute hospital services than residential care users and this makes up a high proportion of their total cost to the health and welfare system.
- A number of longitudinal studies of large client datasets have been done which help us understand the inter-relationships among services and over time. However, these cannot be easily generalised beyond their local area.
- The relationship between home care and residential care is very much affected by how the whole system of continuing care is organised and funded. Rather than trying to answer the question: 'Is home care more cost-effective than residential care for elderly frail people?', it is probably more useful to ask 'How much resource should be allocated to home care vis a vis residential care and other continuing care services in a population? For which types of people?' These questions are addressed further in Section 4.2.

What to keep an eye on

- Cochrane Library for systematic reviews of institutional versus at home long-term care for functionally dependent older people, and other similar reviews. www.update-software.com/cochrane
- The PSSRU website for further work done on intensive case management. www.ukc.ac.uk/PSSRU

Table 2. Studies of the relationship between home-based care and long-term residential care for older people

Author, Year Country	Study type	Intervention and sample type	Result
General literature reviews of the cost-effectiveness of 'home care'			
Hedrick et al. 1989 US	Meta-analysis (not all RCTs)	'Home care'.	No effect on mortality. May reduce entry to residential care.
Mottram et al. 2002 UK	Cochrane systematic review of RCTs and others	Home versus residential care for disabled older people. Homecare = home based services, sheltered housing, day care, foster care, respite care.	Insufficient evidence of effect on health, cost, quality or satisfaction. Distinction between 'home care' and 'institutional care' is unclear.
Hollander et al. 2000 Canada	Literature review	Cost-effectiveness of home care versus residential care.	Little effect on mortality, functioning, quality of life, user satisfaction or carer burden. Costs less if triage is used to ensure people do not get both types of service. Need to consider whole system of service delivery.
The American 'Channelling' studies – home care to replace residential care			
Applebaum et al. 1988, Carcargno & Kemper, 1988, Kemper, 1988, Rabiner et al. 1994, Thornton et al. 1988, Woolridge & Schore, 1988 US	Set of RCTs – National Long-Term Care Demonstration Project	Home care services, with and without case management, given to frail elderly living at home – 6,376 people in 10 sites.	No clear effect on mortality, functioning, quality of life. No effect on acute hospital usage. No effect on entry to residential care. Increased cost because no reduction in entry to residential care.
Greene et al. 1992, 1995. US	Re-analysis of National Long-Term Care Demonstration Project	Modelled effect on cost if services had been allocated on basis of functional need.	Cost would have been be lower for those using only home care.
Eng et al. 1997 US	Description of one of the National Long-Term care Demonstration Projects (PACE)	Interdisciplinary team case management, integrated primary/secondary funding and easier access to home care for an enrolled population 55+ assessed as eligible for residential care (av. age 80 yrs).	Lower rate of entry to residential care. Cost saving to funder.

Table 2. Studies of the relationship between home-based care and long-term residential care for older people (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Intensive case management at home as an alternative to residential care			
Challis et al. 1991a, b, Challis et al. 1998, Challis et al. 2001, Bauld & Mangalore, 1998 UK	Quasi experiments	Intensive case management and care at home versus long-term hospital care for frail elderly discharged from geriatric or acute medical wards assessed as needing long-term residential care (1/3 were stroke).	57% still at home after 12 months. Slightly lower mortality. Higher quality of life and user satisfaction. No effect on carer burden. Slightly fewer acute hospital admissions. Overall lower cost.
Bernabei et al. 1998 Italy	RCT	Intensive case management and integrated medical/social care at home for frail older people.	Lower rate of entry to residential care.
Richmond & Northey 1997 NZ	Non-randomised trial	Intensive home-based case management for older people eligible for rest home care.	No effect on mortality, health or functioning. Higher user satisfaction. Higher carer burden. Higher rate of hospital admission. Overall lower cost.
Specialist geriatric services at home to delay entry to residential care			
Stuck et al. 2002 Switzerland	Systematic review and meta-analysis	Home visits to prevent nursing home admission and functional decline in elderly people.	Lower mortality for lower risk and younger people. Delayed onset of disability for lower risk & younger people. Need to have multi-dimensional geriatric assessment and multiple home follow-ups. No effect on 'old old 'people.
Stuck et al. 2000 Switzerland	RCT	Annual assessments and quarterly preventive home visits by gerontological nurses (in collaboration with geriatricians) to elderly people living in the community, followed over three years.	Low risk (but not high risk) people maintained better functioning. High risk people had higher rate of entry to residential care. Effect depended on nurse performance.

Table 2. Studies of the relationship between home-based care and long-term residential care for older people (continued)

Author, Year Country	Study type	Intervention and sample type	Result
Specialist geriatric services at home to delay entry to residential care			
Stuck et al. 1995 US	RCT	Annual in-home comprehensive geriatric assessment by gerontological nurse with consulting geriatrician (3-year follow-up, people living in community 75+ years).	Delay in onset of disability. No effect on admissions to acute hospital or to short-term residential care. Fewer permanent admissions to long-term care. More GP visits.
Relationships among services – studies of large client datasets			
Jette et al. 1995 US	Record analysis over 6 years	Sample of community-dwelling disabled elderly people.	Those entering residential care also had had formal home care, were living alone and/or had carer burden.
Chapin et al. 1998 US	Record analysis	Sample of nursing home residents 65+ years.	11% of 85+ years with light needs went back home. Stayed in if older, more needs, on Medicaid not Medicare.
Hollander 2001 Canada	Record analysis	British Columbia state dataset, new admissions to continuing care 1987/1988, 1990/1991, 1993/1994, total costs (acute hospital, home care, residential care etc).	Homecare clients cost1/2-3/4 less than residential clients. Half the cost for home care clients is from acute hospital admissions. People with stable needs have lowest cost.
Bauld et al. 2000, Davies, 1999, Davies & Fernandez, 2002, Bebbington et al. 1996, 1999, 2002 and Netten et al. 1999, 2001 UK	Record & cost analyses	1. Follow-up survey of 2,500 long-term residential clients up to 3 years after entry. 2. Survey of 618 long-term residential facilities, 12,000 clients, 1996.	Considerable increase in dependency since 1980s.

3. ORGANISING AND FUNDING HOME-BASED SERVICES – OVERSEAS EXPERIENCE

This chapter describes the historical development of home-based health services in the United Kingdom, Australia, Canada and the United States. It summarises the common issues faced by each country and the typical solutions they have found for organising and funding home-based services.

3.1 UNITED KINGDOM

History and issues

Post-war welfare reform - in the post war years, local authorities were responsible for the residential care of older people. From the late 1960s, this role expanded to include other welfare services for the elderly, including home-based support services. These services were managed by social workers, with referral from multiple points, including self-referral, general practitioners and hospitals. The National Health Service (NHS), on the other hand, was responsible for health services, including district nursing and the long-term hospital care that was provided mostly in long-term hospital wards (Kesby 2000).

Further separation of health and social services in mid-1970s - the reorganisation of the National Health Service in 1974 saw a more explicit line drawn between the health services run by the new NHS trusts and the welfare services provided by local authorities. District nursing was drawn into tighter connection with hospital services through inclusion in the new trusts, while personal care was defined as a welfare service and incorporated in the role of the local authorities (Bauld et al. 2000, Kesby 2000).

Pressure on hospital costs - the economic downturn of the late 1970s meant pressure on health costs and a move to case-mix based funding for hospitals. This resulted in a drop in the average length of stay in acute hospitals and a gradual closure of the public hospital long-stay beds. This in turn created a problem of 'bed blocking' as people waited in acute hospitals for long-term beds (Kesby 2000).

Growth of residential care - as the long-term wards in the public hospitals closed, there was a corresponding expansion in rest homes and other long-stay facilities, run mostly by private and voluntary agencies. Places in these facilities were funded not through the capped NHS payment system but through uncapped patient-linked subsidies from the Department of Social Services.

Thus, by the 1980s, long-term support services for older people, both home-based and residential, were mostly provided in 'the community', with more attenuated links to the public health system than previously (Challis et al. 1998). By 1999, Bowman could characterise the NHS as having a decreasing commitment to the long-term care of the elderly – 70 percent of long-term residential care was provided by rest homes and other private facilities, and other forms of "sub-acute" care, such as convalescence and terminal care, were also being provided outside of the acute hospital (Bowman et al. 1999).

Geriatric medicine in the hospital - the 1970s saw the rise of geriatric medicine as a specialty, partly in response to the 'bed-blocking' issue and the needs of elderly people in the public hospital 'back wards'. With the creation of NHS trusts, the specialist geriatric units became more closely linked to the acute medical services within the NHS trust hospitals. Compared to equivalent specialist services in other countries, the units had only a limited and informal linkage with the long-term rest home and hospital services for the frail elderly that were funded by local authorities and provided mostly by the voluntary and private sector (Challis et al. 1998).

Home care seen as an alternative to rest homes - admissions to rest homes and long-stay hospitals rose rapidly in the 1980s, under the incentive of an uncapped funding system and the pressure to free up acute hospital beds. Both local and central government became concerned at the cost blow-out and increasingly interested in the use of home care as an alternative to residential care. A national review of community care (Griffiths 1988) was undertaken, which led to the first explicit national policy on home-based services (Department of Health 1989), and in turn to the first legislation for home-based care. The focus of the policy, under the Conservative government, was on user choice, maintaining people's independence at home and support for carers.

Case management for long-term care - the NHS and Community Care Act was passed in 1990 and implemented from 1993 onwards (Kesby 2000). The main provisions of this key piece of legislation were that:

- Local authorities were required to manage the need for long term care, both home care and residential.
- Needs were to be assessed by care managers employed by the authorities.
- The care managers were to purchase services flexibly from both public and private providers, not just the public sector.
- Care managers were explicitly required to assess the needs of carers as well as service users.
- The Act required local authorities to work with NHS services to co-ordinate health and welfare services, though it did not include any major structural or funding change to facilitate this.

Support for carers - the Carers Recognition and Services Act 1996 ensured that carers were legally entitled to separate assessments, and a few years later the Department of Health outlined a national strategy for carers (Department of Health 1999).

Variable co-ordination between health and welfare services - in the absence of any government move to integrate the structure and funding of health and welfare services at the national level, co-ordination between health and social services was achieved only variably throughout the country. Some social service departments placed social workers within the NHS trust geriatric teams or linked them to primary care services, while other departments ran generic social work units with much weaker links to the health sector (Challis et al. 1998, Bauld et al. 2000, Kesby 2000).

Unclear role for district nursing - the various waves of NHS restructuring since 1980 have all emphasised the importance of primary care (whether through fund-holding or joint commissioning). This theoretically should have strengthened the role of the district nurse. However, various reviews of district nursing noted that staffing for district nursing had not kept up with demand and that the role had become marginalised. Some local authorities contracted personal care services to private agencies with no links to the district nurses employed by health authorities. The Audit Commission recommended that district nurse caseloads be reduced, that nurses be used more appropriately and be more closely involved in social service assessments and care, and that specialist nurses be used more widely (Audit Commission 1999; Kesby 2000).

Seeking co-ordination through regulation and pilot projects - since the mid-1990s, Britain has produced a stream of national governmental reports on home care and services for the elderly and their carers. Most reflect the government's desire for better co-ordination between health and welfare services. This is seen as achievable through promulgating statutory requirements for partnership, and through encouraging small-scale innovative integration pilots. These reports include:

- White Papers from the Departments of Health and Social Services, which recognised the need for more integration between health and social sectors, but again did not recommend legislation to embody this in terms of a major national integration of budgets or administrative structures (Bauld et al. 2000, Kesby 2000).

- An Audit Commission review of services for the elderly put forward a checklist of proposals to help health and social service authorities improve co-ordination. This included streamlining discharge procedures, preventing avoidable admissions to acute hospital, increasing rehabilitation services, devolving budgets to case managers to enable more flexible use of case management, better contracting with private residential facilities and improvements to utilisation information to enable services to be mapped to needs (Audit Commission 1997).

- A White Paper on primary and preventive health services again reinforced the need for better co-ordination between health and social services. This report proposed innovation at local level through 'Health Action Zones' and the new 'Primary Care Groups' that were set up by the Health Act 1999 to replace GP fund-holding (Secretary of State for Health 1999).

- A 1998 Royal Commission on Long-Term Care was charged with evaluating the community care reforms of 1993, as well as the broader issue of funding services for the elderly, in response to growing public concern at the means-testing of long-term residential care. The Commission's report recommended full funding for residential care and for home-based personal care (but not home help), pooled budgets for social and health services and more support for carers (Royal Commission on Long Term Care 2000). Some of these recommendations were adopted by the Scottish Parliament but not by the English government (Department of Health 2000).

- In 1999, the government elaborated on its response to the Royal Commission by releasing a National Service Framework for Services for the Elderly, giving local authorities and trusts very specific guidance as to how to develop co-ordinated services. The framework for the first time set standards for rest homes and long-term care. It focused strongly on unnecessary admissions to acute hospital beds,

and proposed a new range of acute and rehabilitation services, termed 'intermediate care'. These services were intended to reduce the admissions of older people to acute hospital beds, as well as speed up their discharge. They included expansion of specialist geriatric teams, rehabilitation units, convalescence beds and quick response teams (Department of Health 2001).

Considerable additional funding for the new 'intermediate care' was announced. The government again reiterated the need for better co-ordination of health and social services through joint commissioning and single assessment tools, but did not propose structural integration (Department of Health 2001).

Commentators welcomed the support for geriatric medicine, but noted that additional 'intermediate care' beds may be unnecessary if geriatric units were more closely linked to the community, including rest homes and general practitioners (Brown & Evans 2001, Grimley-Evans 2001, Pencheon 2002).

Local integration projects - several reports have described and evaluated the many local projects to co-ordinate health and social services:

- In 1995-1996, a Community Care Development Programme initiated around 60 projects intended to encourage partnerships among agencies, involvement of users and carers in service planning, and/or innovation in the delivery of community services and care management. The Programme's evaluation report found many worthwhile activities (described in interesting detail) but noted that most did not involve radical change (Henwood 1998).

- An evaluation report on the Health Action Zones projects described the 26 innovations initiated by local and/or health authorities from 1997, and also concluded that many could be considered mainstream co-ordination exercises (Judge 1999).

- An evaluative report on the joint commissioning activity of the new Primary Care Groups which, along with health trusts, were required to set up partnerships with local authorities when commissioning community services, found considerable local variations in how much and how this joint commissioning was done (Glendinning et al. 2001).

- A national review of the Joint Investment Plans for Older People developed by health and social service authorities also revealed extensive local variation and noted the negative impact of continual health system restructuring on professional relationships, as well as an overload of information that was increasingly unused (Jones & Lewis 1999). A more recent review of joint commissioning arrangements also describes many projects in detail (Hamer & Easton 2002)

Home care information - compared to Australia and some Canadian provinces, Britain appears to have done little work towards establishing a national data-set for home-based care, or linkage of home care data to other health data such as acute hospital admissions and primary care data. Almost all of the detailed work done by policy research units such as the PSSRU is based on sample studies of service usage.

The interesting case of Northern Ireland - in striking contrast to the rest of Britain, in 1973 Northern Ireland had fully integrated funding and planning for health and social services at the highest national level. In the 1990s case management was brought into services for older people, using multi-professional teams that involved a variety of health and social service workers, including social workers, nurses, geriatric specialists and general practitioners. These teams are based at the local primary care level, with devolved budgets that enable them to purchase primary, community and hospital services (Challis et al. 2000, Kesby 2000).

Evaluation of the British changes - the changes to long-term care for the elderly have been the object of intensive policy research for over two decades. The Personal Social Services Research Unit, based at Kent University and later also at Manchester and London Universities, played a major role in developing and evaluating the 1990 community services legislation. The PSSRU has studied home-based services since the 1970s, initially piloting projects on intensive case management at home as an alternative to long-term residential care (Challis et al. 1998, Challis et al. 2001).

In addition, the unit has undertaken a large number of detailed studies on various aspects of community based health and welfare services, including costing methodologies, assessment tools and methods, outcome evaluations etc (Turvey 1995, Davies 1997, Bebbington et al. 1999, Clarkson & Challis 2000, Bebbington et al. 2002).

Many of the PSSRU findings on home-based services are discussed further in Sections 2.2.3, 2.2.5 and 4.2. [3]

What can we learn from United Kingdom

The story of home-based care in Britain is a fascinating one of erudite policy-focused research teams producing valuable long-term work within a health and welfare system that continues to frustrate practitioners and researchers alike with its structural problems. What we can learn from them:

- It continues to be difficult to co-ordinate health and welfare services for older people if the funding and accountability for these sectors are not integrated at the highest level.
- A warning - we will be 'missing opportunities for intervention' if health professionals and social service professionals are not working closely together in their care of older people.
- The lack of a national dataset for home-based services that links easily to health datasets hampers the development of strategies as to how to get the right 'mix' of health and welfare services for an older population.

[3] Most of the PSSRU's reports are available on their website and their work is summarised in a regular PSSRU Bulletin.

- The PSSRU's detailed economic studies on the costing of home care are the best available.
- The PSSRU's detailed economic analyses of the cost-effectiveness of different mixes of home care and residential care for different groups of elderly people, and the options for various forms of targeting, are some of the most convincing.
- The longitudinal PSSRU studies of the usage of long-term care services by older people and their carers are a very comprehensive evaluation of a change in government home care policy.
- The longitudinal studies offer simple validated tools and templates for measuring needs and outcomes for both users and carers, including measures of functioning, satisfaction, control, costs etc.
- Various local and national reports give interesting detail on local innovations and pilots in integrated care, case management etc.
- The national service framework for services for the elderly is a useful reference and comparison in developing national and local strategies for the care of the elderly.

What to keep an eye on

- The PSSRU website (www.ukc.ac.uk/pssru) with its publication list and regular detailed Bulletin. Check out the website if you are looking for detailed work on anything to do with 'community care' - dementia, physical disability, standard assessment tools, pricing tools, residential care etc.
- The National Service Framework and the concept of 'intermediate care' - www.doh.gov.uk/nsf.
- British Medical Journal - reflects the major issues and controversies, including services for older people http://.bmj.com.

3.2 AUSTRALIA

History and issues

Home-based care - Australia's home-based health and support services developed during the 1950s, 60s and 70s in a series of programmes, each set up separately under its own Act – district nursing, home help, meals on wheels, allied health. Most of these services were funded on a 50:50 basis by the Commonwealth and the states, with payments made in the form of client-based subsidies. Co-payments were sought for most services and the size of these varied by state. The services were delivered by a large number of relatively small voluntary agencies that were later joined by a few private organisations. However, long-term support to enable the elderly to stay at home was the exception rather than the rule until the mid-1980s, since the bulk of long-term care funding went into subsidies for residential care (Fine 1992).

Residential care for the aged - this was provided by nursing homes (equivalent to New Zealand long-stay hospitals) and hostels (equivalent to New Zealand rest homes). In the 1970s, these were funded by uncapped client-based subsidies and run mostly by voluntary/charitable organisations and some private companies (Ozanne 1990, Fine 1992, Commonwealth Dept of Health & Ageing 2002).

Concern about residential care costs - by the early 1980s, the economic downturn and resultant pressure on health and welfare costs meant the federal and state governments became increasingly concerned at the burgeoning expenditure on long-term residential care and interested in the concept of 'community care' as an alternative. During the 1980s, the federal government devolved more accountability for health services to the states and to private agencies. The states funded acute hospital care and so had an incentive to cost-shift to long-term residential and home-based care, which was part-funded by the Commonwealth (Ozanne 1990).

The Aged Care Reform Strategy - in 1985, the federal government initiated a 'lengthy period of substantial reform aimed at improving the level of efficiency, equity, access, service quality and responsiveness of long-term care of the aged' (Australian Institute of Health & Welfare 2001). Specifically, the reforms aimed to reduce unnecessary admissions to long-term residential care by capping funding at a set ratio of beds to population, and by substantially expanding home-based services through the Home and Community Care Programme (HACC) (Australian Institute of Health & Welfare 2001, Commonwealth Department of Health & Aged Care 2001a). The reforms had several related aspects:

- **Capped residential care funding** - in 1986, the federal government introduced a planning/funding ratio for long-term residential places for the aged, capped at 100 places per 1,000 people aged 70 years or more. Sixty places were allocated to nursing homes and 40 to hostels. This led to a drop in nursing home beds and a corresponding increase in hostels (Australian Institute of Health & Welfare 2001).

- **Aged Care Assessment Teams (ACATs)** - to ensure that access to residential care beds was given according to need, in 1986 the government set up regional geriatric specialist teams to assess and approve all applications for residential placements and for community care packages. These multi-disciplinary teams work closely with the HACC programme, although are not responsible for assessing applicants for home-based services. They vary from big teams working out of urban teaching hospitals to small rural nurse-based teams.

- **Home and Community Care (HACC) Programme** - this national programme was set up in 1985 by 'combining and expanding a number of existing community care services previously delivered under a range of disparate arrangements' (Australian Institute of Health & Welfare 2001). Services include district nursing, personal care, home help, meals on wheels, allied health, respite care, laundry, transport, housing modifications, education and information services. Some assessment and brokerage for clients with very complex needs is also done. Additional funding was injected into the programme, contributed half by the federal government and half by the states. While the programme is administered nationally, services are delivered by a wide variety of local voluntary organisations and to a lesser extent private agencies. Some large agencies provide a range of services, many provide only one specific service. The size and mechanism for co-payments vary across the states and include means-testing. By 2000, the federal government accounted for 60 percent of HACC's public funding and the states for 40 percent. The national Veterans Home Care programme, which also provides home based services, was rolled into HACC in 1987 and then separated again and expanded in 1999 (Australian Institute of Health & Welfare 2001).

- **The Community Aged Care Package** programme was set up in 1992 to enable people who would otherwise need hostel (rest home) care to remain at home with a package of home-based services co-ordinated by a single worker/agency. Funding for these packages comes solely from the federal government, and access to the service is through ACAT assessment. The number of packages rose rapidly during the 1990s. By 1995 the ratio of residential places was reduced to 90 per 1,000 people 70+ years, and a ratio of 10 community aged care packages per 1,000 people 70+ years was implemented. A similar programme, Community Options Packages, was started around the same time for people with complex care needs who would otherwise need institutional care – this programme has a higher proportion of younger clients (Australian Institute of Health & Welfare 1997, 2001).

Central linkage of health and welfare - in 1987 the Commonwealth Departments of Health and of Community Services were merged into one entity. In 1998 this Department's responsibility for children, families and disability services was transferred elsewhere and in 2001 the Department was renamed the Department of Health and Ageing. The HACC programme is administered through the Aged and Community Care division of this Commonwealth Department (Bishop 1999).

Evaluating home care - expenditure on the HACC programme expanded rapidly in the 1980s and 1990s, and both state and federal governments became interested in managing this expenditure. An evaluation of the effectiveness of the HACC programme contributed to growing debate on the most cost-effective ways of organising long-term care for the elderly. Major themes were co-ordination, targeting and casemix (Department of Human Services & Health 1995).

Improving co-ordination among services - like Britain, Australia has developed a number of ways of co-ordinating services among the many disparate agencies that deliver them. These include: general practitioners co-ordinating HACC and health services for their patients, regional geriatric assessment teams assessing people for residential care and complex care packages, and HACC case managers managing complex care packages for high-risk individuals. None of these points of co-ordination however have responsibility for the whole range of long-term care for the elderly (Fine 1991).

Like Britain, Australia has focused on encouraging local projects and innovations, rather than setting up a centrally funded and administered structure for allocating resources (Clare et al. 1997, Fine 1997). Two groups of co-ordination projects are notable:

- **The Co-ordinated Care Trials** - a 1995 Council of Australian Governments report recommended setting up pilots to co-ordinate the full range of long-term care services. The pilots were to pool the budgets of all participating agencies, emphasise the role of GPs as care co-ordinators, and be systematically evaluated. Nine two-year pilots started in 1997 and several more in 1998. The definition of 'long-term care projects' was broad and included pilots on discharge planning, enrolling chronic disease patients, and intensive case management.

  The report of a 1999 conference on the outcome of the evaluations gives some frank critiques of the strengths and weaknesses of the trials (see Section 4.1.2). (Centre for Health Service Development 1999, Commonwealth Department of Health & Aged Care 1999a, 1999b, 1999c).

- **The New South Wales Community Care Demonstration projects** - these local projects to improve co-ordination among services were set up in the mid 1990s (Fine 1997).

In 1999, the government's National Strategy on Ageing still envisaged co-ordination in terms of specific projects and programmes, such as carer resource centres, packages of care for individuals using budget-holding, self-care arrangements and more support for GPs co-ordinating care for chronically ill patients through co-ordinated care trials (Bishop 1999).

Targeting - prioritising home care services - as HACC resources became more stretched, the programme gave more priority to users with high needs and gave fewer services to users with low needs (Australian Institute of Health & Welfare 2001). There was increasing debate as to whether this was cost-effective, as well as concern at the loss of services to low needs users (Turvey & Fine 1996). This led to evaluative research on the effects of targeting home care, which is discussed further in Section 4.2.4.

Standard datasets and casemix work - Australia has done considerable work on developing national datasets and casemix systems for home-based services. In 1987, the federal government set up the Australian Institute of Health and Welfare (AIHW) to provide statistics and policy research for the sector. AIHW initiated a National Community Services Information Development Plan (Australian Institute of Health & Welfare 1999), which included specific projects to develop and implement national minimum datasets for the HACC programme, the ACAT service, Community Care packages and the Respite for Carers Programme. (Australian Institute of Health & Welfare 2001, Commonwealth Department of Australia 1998, 2001, Ryan et al. 1999). Standard minimum datasets for community nursing have also been developed, although these have not yet been fully implemented nationally.

The nursing dataset developed by the Australian Council of Community Nursing Service is used by the Department of Veteran's Affairs (Australian Council of Community Nursing Services 1997, Dept of Veterans' Affairs 2003).[4]

AIHW also undertakes longitudinal studies of service usage, partly because Australia, unlike New Zealand, has no unique national patient identifier, so record linkage among services cannot easily done without specific research projects (Mottram et al. 2000).

The casemix work is discussed in Section 4.2.5.

Links with acute medical services - more recently as elsewhere the focus has shifted to looking at how long-term services for older people can be better linked with acute hospital and primary care services, to prevent unnecessary hospital admission. The National Strategy for Ageing recommended better discharge planning and more step-down and rehabilitation services (Bishop 1999).

More flexible residential care funding - the Aged Care Act 1997 allowed hostels to take high dependency clients at a higher level of funding and introduced the same eight category scale of dependency-related funding for both nursing homes and hostels. This allowed hostel residents to remain at the same facility as they grew more frail. It led to an increase in the number of high dependency clients in most hostels, from both new admissions and existing clients 'ageing in place'. By 2001, nearly a quarter of hostel residents were high dependency. The same Act also allowed for higher co-payments from residents (Australian Institute of Health & Welfare 2002).

Residential care – the new 'back wards'? - the Australian Society of Geriatric Medicine notes the importance of the geriatric assessment teams being linked closely to both the acute hospital and to general practice and HACC's home-based services. The Society is concerned that long-term residential facilities are becoming de facto post-acute centres, but without adequate access to specialist geriatric services (See also Section 4.1.3) (Australian Society for Geriatric Medicine 2000, 2001a, 2001b).

What can we learn from Australia

- It is difficult to co-ordinate services in a system where the funding and resource allocation for those services are not integrated at a high level, and where stakeholders (such as GPs and home care providers) do not have particularly strong incentives to maximise such co-ordination.
- It is difficult to prioritise services at the state or federal government level (e.g., allocating resources to different groups/services according to need) without some standard way of measuring those services.

[4] It is not easy to access a hard copy of this minimum dataset except by contacting the Council directly - see the website for the Dept of Veterans Affairs for details: *www.dva.gov.au/health/provider/community%20nursing/guidelines/outcomes1/intro.htm*

- The detailed work that Australia has done on developing and implementing national minimum datasets for home-based services and district nursing – New Zealand could adopt these validated tools and procedures and not have to re-invent the wheel.

- In comparison to Australia, the valuable tool that New Zealand has in having a National Health Index covering a relatively small population and enabling record linkage.

- The work done on casemix in the non-inpatient sector.

- The value of multi-disciplinary geriatric assessment teams in gate-keeping long-term care.

- Detailed examples of local co-ordination through the various co-ordinated care trials, and the critiques of these trials.

- The increasing interest in the linkage of acute hospital services and primary care to home-based services and residential services for older people, and the role of geriatric assessment teams and case managers in this.

What to keep an eye on

Publications from AIHW, particularly the national minimum dataset development for HACC, ACAT and other long-term care programmes, and any casemix work.
www.aihw.gov.au/publications

Publications from the Centre for Health Service Development.
www.uow.edu.au/commerce/chsd/Publications.htm

Evaluations of the successive waves of co-ordinated care trials.
www.health.gov.au/hsdd/primcare/acoorcar/pubs/index.htm

The AIHW biennial summary reports on the health and welfare sector.
www.aihw.gov.au/publications

The Dept of Veterans' Affairs website, for details of their minimum dataset for community nursing.
ww.dva.gov.au/health/provider/community%20nursing/cnindex.htm

3.3 CANADA

History and issues

No one national home care programme - like Australia, Canada's health and welfare system is made up of provincial jurisdictions linked by a federal government. Canada has no national home care programme equivalent to the Australian HACC programme, however, and no standard national protocols for data collection. Provinces vary in how the range of home care services is administered and delivered. In Saskatchewan, for example, most services are provided by public agencies, while Ontario funds both private and public agencies through budgets held by case management agencies. Provinces also vary in the extent to which a standard assessment tool or minimum dataset is being used throughout the province (MacAdam 2000).

Wide acceptance of 'continuing care' as a concept - despite the variety in service delivery, all provinces have had integrated funding and administrative systems for health and welfare services since the 1980s. Prior to this, long-term care was funded and administered through three different structures – the acute hospital system (long-term wards, day hospitals, geriatric assessment and rehabilitation), public health services (district nursing) and social services (home help, rest homes and meals on wheels). However, by the 1980s most Canadian provinces had brought social services under the health jurisdiction and the concept of 'a continuing care system' for the elderly and disabled was widely accepted (Hollander 2001, MacAdam 2000).

Most if not all of the provinces see home care as one part of this 'continuing care system'. The features of 'continuing care' include:

- A single point of entry, with assessment, client classification and placement.
- Case management.
- A single provincial or regional administration.
- A similar range of services, including support for carers.

Table 3 in Section 4.1.1 describes the services included in the continuing care concept.

Funding sources - the federal government funds the provinces on a population basis for residential long-term care, ambulatory services and home care. The federal government also funds home help services and day care on a 50:50 cost-sharing basis with the provinces. In 1996, the various forms of federal funding to the provinces were amalgamated in the Health and Social Transfer Act, which gave provinces more flexibility to shift funding among different services. The federal government also directly funds smaller home care programmes for veterans, Inuit and First Nation people (Health Canada 1999a, MacAdam 2000).

Home care not fully publicly funded - unlike the hospital and medical services covered under the Canada Health Act, long-term residential care and home-based health or social care are not defined as a universal free entitlement. All provinces provide free district nursing, rehabilitation and case management but most charge a

means-tested co-payment for home help personal care and respite care, with varying criteria for eligibility (MacAdam 2000, Williams 1996).

Growth in home care from 1980s - Canada saw rapid growth in residential care from the 1950s to 1970s and by the 1980s had one of the highest ratios among Western countries of long-term care beds to population (Hader 1994, Litwin & Lightman 1996, Thompson 1994). In the 1970s, the federal government reduced its support for residential care and encouraged private funding (Williams 1996). Since then there has been a steady shift from institutional care to home care, and a steady increase in the proportion of home care expenditure coming from private sources (Health Canada 1999a).

Home care on the government agenda - as pressure on the health and welfare budgets grew in the 1980s and 1990s, federal and provincial governments became more interested in home care as a substitute for both residential care and acute hospital care. The 1990s saw considerable national and provincial resources put into research and policy work in this area:

- In 1992, the Saskatchewan government set up a Health Services Utilisation and Research Commission (HSURC) to review hospital usage in the context of the whole health system. Saskatchewan had a relatively high number of acute admissions and long-term care beds, and the use of home care was seen as a way of reducing these costs. Solutions were seen in the use of case management to target home care services more effectively, and the integration of services through a common budget (Hader 1994, Health Services Utilisation & Research Commission 1996, 1998, Thompson 1994).

- Ontario set up a Health Services Restructuring Commission (HSRC) from 1996-2000 to examine the role of hospitals within the overall health system. The HSRC's report outlined a vision for developing an integrated programme of long-term and continuing care for the province, which included shifting resources from the hospitals into continuing care, developing a primary care strategy, and improving information and accountability systems (Health Services Restructuring Commission 2000).

- In 1995, the Federal/Provincial/Territorial Ministers of Health commissioned a national review of 'community-based health services'. As well as describing home care and other community-based services throughout Canada, the report reviewed the literature on the cost-effectiveness of home care and proposed a 'framework for planning and evaluating' services. Like much Canadian work, this report looked at home-based services within the broader context of all health services and recommended that home care be part of an integrated system of care and funded on a population basis (Church et al. 1995, Wanke et al. 1995a, b)

- In 1998, the Federal/Provincial/Territorial Ministers of Health commissioned studies of funding options for continuing care. These reports give detailed analyses of the cost-effectiveness of different funding options (Hollander, Anderson et al. 2000, Hollander, Deber et al. 2000).

- In 1997, the National Forum on Health, a federal review of the organisation of the health sector, recommended that home care be formally included in the Canada Health Act – i.e., be fully funded. This, however, has not been done (Health Canada 1998a).

- In 1998, Health Canada set up a Home Care Development division with a time-limited mandate to do research and policy analysis. The HCD produced a detailed review of provincial home care services throughout Canada[5] (Health Canada 1999b), and brought together providers, academics, funders and consumers working in the sector in several conferences (Health Canada 1998a). This culminated in a National Roundtable on Home and Community Care in 1999, which recommended that federal and provincial governments put more resources into research and development in home care services. The Roundtable highlighted issues of concern, such as the impact of acute hospital downsizing, the increasing burden on families, and the need for national standards of care, greater equity of access, and more support for carers (Health Canada 1999c, Shapiro 2000).

Major programmes of policy evaluation - between 1997 and 2000 the federal government put considerable extra funding into home care research and service development through the Health Transition Fund. This Fund, which also covered policy research on primary care, integrated care and pharmaceuticals, funded major research projects on the cost effectiveness of home care, as well as service developments for First Nation, Inuit and rural communities. Two major programmes were:

- **The Home Care Evaluation and Research Centre (HCERC)** set up in 1998 at the University of Toronto, Ontario, with a major research programme of home care studies. Topics include population-based analysis of home care and its utilisation, funding options, human resource implications, uptake of new technology, home as an environment for health services delivery and evaluation of the cost effectiveness of home care (Home Care Evaluation & Research Centre 1999, 2000, 2001).

  The National Evaluation of the Cost Effectiveness of Home Care, the biggest of the research projects sponsored by the federal and provincial governments. This $1.5 million, 15-study research programme based out of British Columbia looked at the cost-effectiveness of home care as an alternative to both long-term residential care and acute hospital services. Although this national programme includes studies done throughout Canada, its base in British Columbia is perhaps not surprising. British Columbia is notable for the integrated funding and administrative structure of its continuing care system, and for POPULIS, the integrated data system that enables linkage among health, welfare and other administrative data (Alcock et al. 2000, Arundel & Glouberman 2001, Hebert & Desrosiers 2001, Hirdes et al. 2001, Hollander 2001, 2002, Hollander & Chappell 2002, Hollander et al. 2002, Hollander et al. 2001, Neudorf & Franko 2001, Tuokko & Rosenberg 2001, Uyeno & Hollander 2001).[6]

  The POPULIS database was developed by Manitoba University from the routine utilisation data collected by health and welfare services and linked to other datasets, such as the census. This gives the province a unique opportunity to analyse the ways in which the full range of continuing care services is being used and how they interconnect with acute medical care. (See Section 4.2.1 for further discussion of specific studies from this programme). (Manitoba Centre for Health Policy 2001a, 2001b, Shanahan & Gousseau 1999).

[5] This is a good template for such reviews – see http://www.hc-sc.gc.ca/homecare/english/profil.html

[6] The reports from this research programme are easily accessible at www.homestudy.com

By 2000, many of the commissioned evaluation reports confirmed the cost-effectiveness of home-based care as a substitute for both long-term residential care and acute hospital care, if certain conditions are met. These include: an integrated funding and resource allocation system with a single point of entry to continuing care services, case management, the use of geriatric specialist services to assess, maintain and rehabilitate people, and support for carers. (See Section 4.2 for more discussion).

People in the sector were now debating the feasibility and possible shape of a national policy for continuing care/home-based care, including common standards, access criteria and information (Baranek et al. 1999, Bergman et al. 1997, Casebeer et al. 2000, Coyte 2001, Leatt et al. 1996, McDaniel 1999). In 2000, the electronic journal, Healthcare*papers*, gave a good summary of the Canadian scene from a range of research and policy commentators (MacAdam 2000).

As in other countries, the Canadian focus is shifting to the linkage between the acute hospital and the continuing care system, and there is a strong call to increase resources in continuing care by a transfer from acute services. Integration of both acute and continuing care services under one funding and planning jurisdiction is seen as a crucial prerequisite by many in the sector, who regret the recent health restructuring which has further fragmented health planning entities (Hollander 2001, MacAdam 2000, Cohen 2003).

A 2002 report to the Provincial Premiers' Conference again reinforced provincial governments' collective support for home and community based care (Premiers' Council on Canadian Health Awareness 2002). The report identified the following priorities for action:

- Improve support to caregivers.
- Expand the use of in-home technologies.
- Expand new models of supportive living arrangements.
- Achieve better integration between home care and acute hospital, primary care and residential care.
- Improve information on home and community care services.

Lobby groups - Canada is notable in having active lobby groups for the home care and continuing care sector – this is perhaps both a result and a cause of the policy and research activity of the past decade. As Canadian researchers [7] visiting New Zealand in 2001 remarked – the sector needs champions for things to happen. The Canadian Association for Community Care, set up in 1995, is a sector-based association of home care and long-term residential care providers. The Canadian Home Care Association is a broader grouping that includes publicly funded providers, funders, researchers and consumer groups. The Dialogue on Health Reform is a web-based group debating and critiquing the Canadian health system (Dialogue on Health Reform 2002).

[7] Karen Parent and Malcolm Anderson.

Cost to the user - the shifting of costs to users and their families that is inherent in the move to home-based care is a continuing concern and issue for debate. The 'CARP Report-Card' has been produced regularly by a consumer group, using research to critique the state of the home care sector from the users' point of view (Parent et al. 2001).

What can we learn from Canada

- It is important to integrate administrative and funding structures at the highest level if we want to be able to allocate resources among services and client groups in the most cost-effective way – British Columbia provides a template for how this could be done.

- The data that is routinely collected on expenditure and utilisation can be invaluable in helping us understand how and how well the system is working in terms of equity and cost-effectiveness – the POPULIS database provides a template for maintaining and using these data in the most effective possible way. New Zealand is small and relatively integrated enough to be able to use this type of model.

- The close relationship between research and policy – policy-makers in both provincial and federal health departments appear to be able and willing to seek detailed rigorous reviews and evaluation from academia, and in turn the research community appears to be aware of and responsive to important policy issues and are therefore ready to work on them.

- The continued emphasis by many studies on the value of a single point of entry to the continuum of care, with assessment and case management.

- A warning – expanding home care and long-term care for older people is shifting more costs onto service users, their families and carers, with resulting inequity of access and unmet need.

- The proposal that this be prevented through a greater resourcing of home care, either through new funding or through an explicit transfer of resources from acute medical services to long-term care.

- Information on the likely expenditure needed per head of population for each type of service within the continuum of long-term care, based on British Columbia experience.

- Analysis of the pros and cons of different ways of reimbursing continuing care services.

- Substantial and practical evaluations of many aspects of long-term care for the elderly – the National Evaluation of the Cost-Effectiveness of Home Care and other programmes.

- The importance of explicit political and sector commitment at the highest level if home care and community services are to be adequately resourced, organised and evaluated.

- The need for champions for the sector, to raise the crucial issues.

What to keep an eye on

- Anything done by Hollander Analytical Associates, who co-ordinated the National Evaluation of the Cost-Effectiveness of Home Care. Hollander had practical experience in implementing a resource allocation model for British Columbia's health/welfare services – see Section 4.2.1. www.hollanderanalytical.com/main.html

- Healthcare*Papers* electronic journal - for debate on home care and other health issues. www.longwoods.com/hp/fall00/lead.html

- CARP Report Card - for a quick consumer-focused review of current home care services. www.50plus.com/carp/

- The POPULIS website – for ways on setting up and using an administrative database system for practical policy research. www.umanitoba.ca/centres/mchp/populis.htm

- The Home Care Evaluation and Research Centre (HCERC) website at Toronto – for policy research relevant to home-based services. www.hcerc.utoronto.ca

3.4 UNITED STATES

History and issues

A fragmented and limited home care system - in the 1970s, district nursing and home support were provided by a wide variety of mostly private agencies, funded mostly by private health insurance and private payment. There was limited connection between these mostly stand-alone providers and other health services such as hospitals. The per capita level of expenditure and utilisation of home care services was considerably lower than in other western countries at this time, as these services were generally not covered by private insurance, Medicare or Medicaid[8] (Ford 1994).

Pressure on acute hospital and residential care costs - in the 1980s, as elsewhere, United States hospital funders reacted to rising hospital costs by introducing casemix-based prospective payment systems, which in turn led to a drop in average length of hospital stay and a rise in the use of residential facilities, often for short-term post-discharge care.

[8] Most older people are eligible for Medicare, and Medicaid is available to people of all ages passing a means-test.

Interest in home-based services - funders became increasingly interested in home-based care as an alternative to both acute hospital and long-term residential care (Binstock & Spector 1997, Liu et al. 1999). Major research programmes were undertaken to explore the use and cost-effectiveness of home-based services, including:

- **The National Long-Term Care Survey 1982** - this one-off comprehensive census of American older people's usage of long-term care services examined predictors of entry into residential care, the extent of demand for home-based services and the relationship between the need for services and actual utilisation. The survey was also used as a basis for simulation studies as to what the demand for home-based services would be if they were reimbursed more fully (Coughlin et al. 1992).

- **The National Long Term Care Demonstration (the 'Channelling' studies)** - this set of projects, evaluated by randomised controlled trials, was undertaken in a number of states to examine whether the provision of home-based services reduced the need for residential care among the frail elderly. In some studies the additional home-based services were accompanied by case management and integrated health services (Eng et al. 1997).

  The Demonstration on the whole showed an increase in costs for those receiving home care. This finding reflected the facts that a) some older people had needed home care but had not been receiving it because of expense, b) even though frail, many older people did not need long-term residential care, and c) some older people used residential facilities for short-term stays (e.g., for convalescence or terminal care. The evaluations pointed out the difficulty of allocating resources cost-effectively when there is no single point of entry to the system where people could be triaged according to a standard assessment of need. Where this triage existed, as in the PACE studies, the projects were more successful (Eng et al. 1997. See also Section 2.2.2 for a more detailed discussion of these studies).

  Many commentators noted that it was difficult to develop a way of allocating resources in a cost-effective manner because of the fragmented nature of US health funding (Bolland & Wilson 1994, Gamm & Benson 1998, Hollander 2001, Hurley 1997, Light 1997, Mechanic 2001, Myrtle et al. 1997).

Rise in use of home-based care - despite the ambiguous findings from the National Demonstration research, the use of home-based services rose in America during the 1980s. Medicare extended its reimbursement to cover physician-referred district nursing, allied health and home support, and then in 1988 to cover post-discharge services (Binstock & Spector 1997, Boult et al. 2000, Liu et al. 1999, Vladeck & Miller 1994).

The managed care response - Health Maintenance Organisations (HMOs) multiplied and expanded in the 1980s as funders reacted against rapidly rising costs in all types of health services. HMOs sought control over costs by seeking greater vertical integration of services and by transferring risk to the providers through capitation-based payment systems for a defined population. In effect, they were giving providers an incentive to perform the triage to the most appropriate service that the Channelling studies had shown was needed (Mechanic 2001, Turnbull 2000).

Prospective payments and casemix systems - the funders, both governmental and private, also worked on ways of restraining rising home care expenditure by looking for the most cost-effective mix of service in terms of outcomes (Liu et al. 1999, O'Donnell & Sampson 1994, Perry 1998, Turnbull 2000). Medicare, the largest single funder of services for the elderly, tightened its criteria for reimbursement for home care services in 1997 through the Balanced Budget Act. The Act introduced a series of measures aimed at giving the funder greater control over the budgets:

- Prospective payment systems were brought in for many home care services and payments were capped according to the mix of client types the provider was likely to have.

- A casemix system was introduced that grouped home care clients into categories according to the amount and type of resources they are likely to need.

- To support the casemix system, standard assessment tools, a minimum data set (OASIS) and standard review procedures were introduced.

See Section 4.2.5 for a discussion of casemix systems (Hurley 1997, Mechanic 2001, Turnbull 2000, Vladeck & Miller 1994)

Interest in regulation and quality - vertical integration of services through an HMO or other funder may control the funder's costs and prevent cost-shifting among the elements of care (Hurley 1997), but putting the financial risk onto providers may lead to a drop in quality. The funders' attempts to manage this risk led to an increased interest in quality regulation and audit during the 1990s (Binstock & Spector 1997).

Reaction to managed care - the introduction of managed care by HMOs and government funders has had a mixed reaction. Some argue that, in a system where funders compete for clients, it gives the funder an incentive to cream-skim for healthy clients. Prospective funding on a casemix basis is seen to give providers an incentive to under-serve, just as fee for service reimbursements encourage over-serving (Binstock & Spector 1997, Eng et al. 1997, Ford 1994, Schlenker et al. 1995).

In an interesting critique, Mechanic notes that the public debate on managed care in the United States tends to revolve negatively around quality of care and choice of professional, but rarely positively around the broader social issues of a more equitable and cost-effective use of resources (Mechanic 2001).

Few governmental policies on ageing or continuing care - health and welfare services for older people in the United States are covered by 80 separate programmes and 23 federal agencies (Myrtle & Wilber 1994). In this context, it is difficult to achieve a national or even state-level policy on resource allocation for these services. It is noticeable that US discussion on improving co-ordination among services focuses on community-level activity – helping people access services, setting up lead agencies to foster linkage, relationship building, and client-level service co-ordination through case management. Co-ordination, as in Canada, is not such an issue for debate, although for the opposite reason: 'Complex delivery systems are unstable in a market economy – it is better to have loosely linked components'. Agencies want more resources, not more co-ordination (Myrtle & Wilber 1994).

Focus on specific interventions and innovations - home-based services have developed in relative organisational isolation from other parts of the health system, and have been predominantly provided by private companies and voluntary organisations. They have been correspondingly freer to respond quickly and in innovative ways to the need of HMOs and other hospital providers and funders for cost-effective alternatives to acute hospital services. More than in any of the other countries reviewed, the United States has developed innovations in 'high-tech' services delivered at home and in other specific 'niches' where the care is quite specific (Binstock & Spector 1997, Boult et al. 1998, O'Donnell & Sampson 1994).

These include:

- Sub-acute care units.
- Hospital-at-home programmes.
- Specific interventions and products for continence, intravenous therapy, wound and pressure sore management.
- Disease management procedures and specific services for Alzheimer sufferers, cardiovascular patients, pain, diabetes, infection, orthopaedic rehabilitation.
- Innovations using tele-medicine, such as computer linkage between hospital, home and physician surgery, vital signs monitoring, testing, automated houses.

As with the casemix systems, most of these innovations work most effectively for well-defined conditions or client groups (de Lissovoy & Feustle 1991).

What can we learn from the United States

- It is important to integrate funding and resource allocation systems if resources are to be allocated in the most cost-effective and equitable way. HMOs and Medicare are examples of highly integrated systems, while the overall US health system is an example of the lack of integration.
- The drive for the most cost-effective process at the individual service delivery level means that United States leads in clinical innovations, such as tele-medicine techniques and specific forms of service delivery.
- Specific pilots of case management and integrated care, such as PACE and other HMO-based projects.
- Medicare's and other models of casemix classifications and prospective payment funding for home care services, including the OASIS dataset.

What to keep an eye on

- Models of standard datasets (e.g., OASIS) and assessment tools, arising from the Medicare and other casemix work (see Section 4.2.5).
- Specific clinical innovations and techniques – best accessed through specific Medline type searches.
- Compared to the other countries reviewed, there are relative few governmental or independent policy research centres working on home care or continuing care.

4. COST-EFFECTIVE WAYS OF ORGANISING AND FUNDING HOME-BASED SERVICES – THE EVIDENCE

This section summarises the main findings from the policy-based research from Canada, Australia, United Kingdom and United States in order to answer the three questions posed at the start:

- **Co-ordination** - what are the best ways of funding and organising home-based services to ensure their co-ordination with other health and welfare services, particularly services for older people?

- **The right mix of services** - what is the right level and type of home care services in relation to other continuing care services, such as residential care? What are the outcomes and trade-offs from different mixes of services?

- **The right level of funding** - what is the right level of funding for home care services?

This is of necessity a brief overview of a very complex topic and the reader should refer to the studies themselves for more detail.

4.1 CO-ORDINATION OF SERVICES

How do we co-ordinate services so that people get the right type of treatment and care when they need it, without having to deal with a confusing multiplicity of care-givers or duplicate assessments? This is the view of how well the system is working from the user's, carer's and clinician's perspective.

Firstly, what services should be co-ordinated? For an elderly person (and their family) to move smoothly among services – from the general practice team to the hospital and back, from hospital to rest home or home support services, from specialist geriatric assessment and rehabilitation back to general practice, and so on – there needs to be co-ordination among:

Health services	**Social support services**
Medical, nursing, allied health, geriatric assessment, acute hospital	Home help, transport, advocacy

*This has been called **horizontal** co-ordination of different types of service and professionals, dealing with much the same level of complexity of need (Challis 1998).*

Primary/low level services	**Secondary or specialist services**	**Long-stay/ complex services**
GP, generalist district nurse, home help	Acute hospital, continence advisor, stroke rehabilitation	Long-stay hospital

*This has been called **vertical** co-ordination of services with different degrees of complexity, specialisation and/or resourcing (Challis 1998).*

The Canadian concept of a 'continuing care system' offers a useful list of the range of health and social support services needed for older people – see Table 3 (Hollander 2001). Home-based services will be considered in the context of this concept of a 'continuing care system' for most of the following discussion.

4.1.1 Co-ordination versus integration

It may be useful to distinguish 'co-ordination' from 'integration' (Davies & Fernandez 2000).

Co-ordination of services can be seen as the desired end result, where service delivery is flowing smoothly and in a timely way, and professionals, carers and users are all communicating effectively to get things done – 'the right service from the right person at the right time'.

I**ntegration**, on the other hand, can be seen as an objective structural characteristic of how the care system is organised. As such it may be one way of achieving co-ordination.

Integration of services involves the organisational linking of services where there is:

- A defined set of services that are funded.
- A defined user or group of users.
- Some form of common funding.
- Some mechanism for allocating funding among the various services.

Integration, in this sense of services linked through a single point where funding is held and allocation decisions are made, may exist at several levels:

- **At the individual client level** - where the client receives funding for their own care and is responsible for paying their own carers (Wasem 1997), or where a case manager has a budget and responsibility for funding appropriate services for his/her clients (e.g., the complex care packages managed by the Australian HACC case managers or the case managers of the United Kingdom social service agencies).
- **At a local agency level** - where the funding for services for a group of people has been pooled and is the responsibility of a local agency or group of agencies – such as some British integrated care pilots (Glendinning et al. 2001, Glendinning et al. 1998). Australian general practitioners in some Co-ordinated Care trials, (Centre for Health Service Development 1999) or the HMO case managers in some United States pilots (Eng et al. 1997).
- **At a broad regional or national level** - where the responsibility for allocating the funding for a range of services to a defined population is held by a single administration. This population may be geographic, as in the case of regional or national governments such as British Columbia or Northern Ireland (Davies 1997, Hollander 2001), or non-geographic, as in the case of HMOs or Medicare in the United States.

Table 3. Components of the continuing care service delivery system (Hollander 2001)

Assessment and Case Management Services - determining care needs, admitting clients into service and providing for the ongoing monitoring of care requirements, including the revision of care plans as necessary.

Meals-on-Wheels - providing and delivering meals to the client's home.

Homemaker Services - non-professional (lay) personal assistance with care needs or with essential housekeeping tasks.

Home Nursing Care - one-to-one comprehensive nursing care to people in their homes. Can be curative, rehabilitative or palliative.

Community Physiotherapy and Occupational Therapy Services - treatment, consultative and preventative services to clients in their homes, plus equipment to cope with physical disability, and training for family members to assist clients.

Adult Day Care Services - personal assistance, supervision and an organised program of health, social and recreational activities in a protective group setting.

Group Homes - independent private residences which enable persons with physical or mental disabilities to increase their independence through a pooling of group resources.

Long Term Care Residential Facilities - care for clients who can no longer safely live at home, including medication supervision, 24-hour surveillance, assisted meal service, professional nursing care and/or supervision.

Chronic Care Units/Hospitals - care to persons needing long-term hospitalisation but not needing all the resources of an acute, rehabilitation or psychiatric hospital. Twenty-four hour nursing coverage and on-call physicians, plus care by other health professional staff.

Assessment and Treatment Centres and Day Hospitals - short-term intensive assessment, diagnostic and treatment services in a special unit within an acute care hospital. May include inpatient beds, a day hospital and/or an outreach capability to assist clients in care facilities or in their homes.

Equipment and Supplies - e.g., medical gases, assisted breathing apparatus, wheelchairs, walkers, electronic aids, etc.

Transportation Services - for the disabled to allow them to go shopping, keep appointments and attend social functions.

Support Groups - initiated by many sources – e.g., community and institutional services, friends and families of clients, and clients having similar disabilities.

Crisis Support - emergency assistance in the community when existing arrangements break down, e.g., illness of the spouse caring for a disabled person, which could include emergency admission to institutional care.

Life and Social Skills for Independent Living - retraining and support for independent living, and for social and personal development, in group settings or on an individual basis.

Respite Services - temporary relief for caregivers by providing a substitute for the caregiver in the home or by providing alternate accommodation to the client.

Palliative Care - for dying persons in their homes or in residential settings.

Volunteers - programs of volunteer help utilised in most aspects of long term care.

Congregate Living Facilities - apartment complexes which offer amenities such as emergency response, social support and shared meals.

At each level, the person or agency that holds the funding makes decisions about allocating it among the various services. This situation holds an inherent tension, particularly for individual case managers and local agencies, who are caught between the responsibility and desire to meet the needs of their individual clients and their responsibility to manage a constrained amount of funding to meet the needs of a whole population equitably (Bauld et al. 2000, Davies & Fernandez 2000).

To the extent that the elements of any system of care are not integrated at the highest level, the system of care could be described as 'fragmented '– that is, there is a multiplicity of service providers and/or funders. The historical Topsy-like growth of home care and continuing-care services in most western countries means that each country and in fact each region or province has its own distinctive pattern of fragmentation and integration. For example:

Australia - the continuing–care system is characterised by many different small providers but one national funding and eligibility system for home care (and another for residential care), which is however administered somewhat differently in each state.

Canada - most provinces have integrated the funding for health and social support services, but they are delivered in a variety of ways - some deliver most services directly through government employed staff, while others contract with both public and private agencies to deliver services.

- **United States** - the U.S. has an extremely fragmented system overall, with a wide variety of funding and delivery mechanisms, and yet also has examples of very tight integration among services that are funded and delivered to specific populations (e.g., HMO client groups).

- **United Kingdom** - Britain has a mostly publicly funded and delivered system, but only limited integration of funding and delivery between primary and secondary services, and between medical and social support services. However, Northern Ireland has a more integrated system.

4.1.2 Different approaches to co-ordinating services

How each country typically addresses the issue of co-ordination reflects the integration of their services - the extent to which the services making up the continuing care system are integrated under one funding structure, and the levels at which this integration occurs.

This section describes the ways in which co-ordination among services has been sought.

Networking among agencies

One way of improving co-ordination is to encourage relationship building among agencies and professionals. The United States literature on co-ordination is notable for the strong focus on networking as a way of improving the co-ordination of services (Gamm & Benson 1998, Myrtle et al. 1997). This is perhaps unsurprising, since the very fragmented system of funding and delivering health and welfare services makes structural solutions more difficult to implement, except within individual funding

organisations responsible for specific populations such as HMOs or Medicare. (Mechanic 2001, Myrtle & Wilber 1994, O'Donnell & Sampson 1994, Perry 1998)

Government decree and regulation

Governments or other funders may issue policy statements to the various elements of the health and welfare system, encouraging or exhorting them to co-ordinate their services.

This may be more common where the elements of the system have the same government funder but are not linked through a common administrative structure, such as in Britain.

Britain is notable for the plethora of official documents produced by the government over the past decade, requiring the district health and social services agencies to plan and work together, and setting up ever-tighter regulatory systems to monitor whether this has happened. (See Section 3.1)

Case management

The use of a case manager to co-ordinate the services for individual clients has been identified in all countries as an important way of improving service co-ordination to individuals and their families, particularly to those with ongoing complex and high needs (Bauld et al. 2000, Challis et al. 1998). This form of co-ordination can be effective for individual users, even within an overall fragmented system (Eng et al. 1997).

However, writers in all countries have noted that most elderly or disabled people who need continuing care services do not need intensive case management. Intensive case management is in itself a costly input and home care resources are allocated more cost-effectively where case management is reserved for those with the highest needs (Centre for Health Service Development 1999, Weissert 1988, Welch 1998). Australian studies have estimated that individual case management is most appropriate for the 15 percent or so people with high ongoing needs or who need exceptionally complex or high-cost packages. The majority of people are best served by easy access to a standard package of care according to set access criteria (Howe & Gray 1998).

Budget-holding by the case management agency - if the case management agency does not hold a budget for the services they are co-ordinating, their role becomes limited to that of broker or advocate. They are less able to influence the amount of resources available to each person and so less able to ensure equity and cost-effectiveness among all users of the service. This may be acceptable if the agency is not comfortable with the rationing role (as with individual general practitioners) (Centre for Health Service Development 1999).

Where case management agencies do hold a budget, they face an inherent tension between the need to find the best solutions for their individual clients, and the agency's responsibility for allocating limited resources in the most cost-effective way for the whole population being served. This tension becomes particularly difficult when resources are tight and the agency is forced to ration and prioritise among clients and services (Caldock 1994, Clark 1996, Cox 1997, Sturges 1996).

British commentators support budget-holding by case management agencies because not enough is known about what mix or package of service is best for specific groups of people or problems (e.g., dementia sufferers). Budget-holding case managers are in the best position to identify this and to work at developing best practice (Bebbington et al. 1999, Davies 1997, Davies & Fernandez 2000, Davies et al. 2000).

These writers suggest that the tension between advocacy and rationing for a budget-holding agency could be eased to the extent that the funder is able to allocate to the case managers the appropriate total amount for the population and let them manage it flexibly within that total. The minority of people who need intensive case management could be allocated case managers, and the vast majority of people would access services through meeting standard access criteria (Cox 1997, Davies 1997).

The resulting difficult question of how the funder is to know how much to give the budget-holder – i.e., the 'appropriate' amount of total funding for continuing-care services in a population – is addressed in Section 4.3.

The issue of where case management should be based (primary care or social services agency etc) is discussed later in this section.

Local integrated care projects with pooled funding

For the past decade or so, local integrated care projects have been widely used as a method for improving co-ordination among services. Both Australia and Britain have experimented with local pilot projects where health and welfare agencies have pooled their funding on a limited local basis to case-manage the care of a group of clients. (See Sections 3.1 and 3.2)

Pooling the funding is aimed at reducing the incentive for individual agencies to manage their financial risk by cost shifting on to other agencies. However, the experiences of these pilots also illustrate the difficulties and limitations of pooling funds on a small local basis when funding is not integrated in the wider system. Most Australian home support agencies, for example, are small and locally based – they face considerable risk if they join with other agencies in a short-term innovative pooled budget arrangement; from the point of view of long-term organisational survival it may make more sense to keep on competing for clients (Fine 1992, Turvey & Fine 1996).

The British and Australian experiments with small-scale integrated care pilots appear to have mixed results. On the one hand, many of these pilots appear to have improved the co-ordination of care for the population involved and helped services work together better. On the other hand, it is unclear how the pooled funding arrangements adopted by these pilots can be spread to the majority of the population. The variety among local projects and arrangements, even within the same country or region, make it difficult to disseminate these practices in the hope that they will eventually join up like inkblots (Centre for Health Service Development 1999).

Another problem with some local integrated care initiatives is that they do not cover the full range of relevant services. Many have pointed out that it is risky to change one part of the health and welfare system without considering the flow-on effects for other parts. Examples of such risks include:

- One British report describes a past vicious circle whereby a reduction in average length of stay on geriatric wards led to an increase in admissions to long-term residential care, which resulted in less resources available for home care and

preventive services, and so more acute admissions to hospital. (Audit Commission 1997)

- Commentators on the British Government's planned introduction of 'intermediate care' warn that this could result in less cost-effective services if it just results in the transfer of older people to lower-level facilities with less input from geriatricians (Grimley-Evans & Tallis 2001, Pencheon 2002).

At this point, the comment made by an Australian writer appears pertinent: co-ordination is defined as a problem mostly in places where the system of care is fragmented (Fine 1992). It is noticeable that 'co-ordination' appears as a problem more in the policy literature from Britain (where health and social services funding is not integrated) and Australia (where social and health services are delivered by a wide variety of agencies, albeit under a national funding programme).

In contrast, social and health services in most Canadian provinces have been integrated under one funding jurisdiction for many years, and the Canadian policy debate on home care focuses less on co-ordination than on equity and cost-effectiveness (Premiers' Council on Canadian Health Awareness 2002).

Integration of funding for a defined population

Co-ordinating services through organisational integration of funding, and concomitant decisions about resource allocation, can be based on either geographically or non-geographically defined populations:

- **Non-geographic populations** - in the United States, the HMO and Medicare structures are examples of how service co-ordination has been achieved through integration of all the relevant services under one funding and resource allocation mechanism (Boult et al. 1998, 2000). HMOs and Medicare look after defined (non-geographic) populations and contract with a set range of providers to deliver services to that population.

  HMOs and Medicare as funders have an incentive to ensure that the most cost-effective mix of services is used, so that costs to the funder are kept down and cost-shifting among providers is discouraged (or is irrelevant to the user and funder) (Hurley 1997).

  While there is some evidence that this may result in under-servicing and cream skimming of low-risk people, it also may ensure a more rational and equitable mix of services for the population being served, as well as a more cost-effective use of the funder's resources (Binstock & Spector 1997, Eng et al. 1997, Ford 1994, Mechanic 2001).

- **Geographic populations** - of all countries reviewed and despite variations among the provinces, Canada has the greatest degree of structural integration of continuing care services.

  Compared to the US with its plethora of funding agencies, in Canada almost all funding for continuing care comes from the government. Compared to Britain where health and social spending are still separately administered at the national level, in Canada these funding streams are integrated through single joint funding authorities. Compared to Australia where home-based support, specialist

geriatric services, district nursing and residential care all have different entry points and funding/administrative arrangements, most Canadian provinces link such services under a single jurisdiction of some sort.

Northern Ireland is another country where health and social support services have been integrated since the 1970s under a single national funding and administrative structure. This integration has been identified as an important factor in making it relatively easy to establish multi-disciplinary teams at the primary level, which in turn helped co-ordination within the continuing care system. Budgets for home care services are devolved to local primary level (Challis et al. 2000, Kesby 2000).

Methods of co-ordination – summary

Canada's greater structural integration has allowed them to start to address other aspects of the continuing care system, such as how much resource should be put into each type of service, and what services should be publicly funded. (See Section 4.2.1).

In the absence of this high level structural integration, what can be done to improve co-ordination? Both Australian and British commentators note that there is no easy answer to this and that workers in the sector need to explore many different ways of increasing co-ordination among services at the individual, agency or local level (Bishop 1999, Davies 1997, Davies et al. 2000).

British and Canadian writers point out that the continual restructuring in recent decades of the organisations responsible for funding and allocating resources for health and social services has made it difficult for stable new relationships to emerge among agencies and practitioners (Glendinning et al. 1998, 2001, Hollander & Chappell 2002, Jones & Lewis 1999, MacAdam 2000).

Persistent pressure on funding for home-based services, which has occurred over the same period due to the ageing population and the steady reduction in hospital stay, also makes it harder for services to develop as fully as demand would warrant (Clark & Lapsley 1996, Kesby 2000).

4.1.3 Case management – who by?

A related issue pertinent to case management is – which profession or service is the most appropriate for taking on the case management role within the system of continuing care services for the elderly? General practitioners/primary care teams, needs assessors/social workers and geriatric specialists have all been identified as having relevant skills, and each professional group has advantages and disadvantages in a case management role:

Social service agencies

In Britain, local authority social service departments are responsible for co-ordinating long-term services for older people. The role of case management and service co-ordination clearly fits the skills of staff with social work training, given their focus on

the social needs of the client and the identification and involvement of family and community resources.

However, the UK system has been criticised for its lack of adequate linkage with health services. The nature of actual working relationships between health and social services varies around the country. Some social service departments have very close co-operative relationships with local general practitioners, district nurses, hospitals and geriatric assessment units and have case workers who specialise in the care of the elderly. Other departments, however, use only generic social workers as case managers and have limited linkage with health services. In most places district nurses have only a limited role in assessment or in the training and supervision of home support workers (Audit Commission 1999, Bauld et al. 2000, Kesby 2000).

The elderly user of continuing care typically needs both health and social support services. The limited medical or nursing input into the care of older people at home in Britain has led to 'missed opportunities for interventions that could prevent hospitalisation or entry to long-term care' (Davies 1997).

Primary health care services

Many countries are developing and implementing strategies that envisage primary care as pivotal in the health system (e.g., Britain's 'primary-care-led NHS'). Primary care teams are seen as having a crucial role in co-ordinating the range of care that the patient needs, from hospital treatment to social services and residential care (Glendinning et al. 1998, 2001, Centre for Health Service Development 1999, Commonwealth Department of Health & Aged Care 1999a, 1999b, 1999c).

The primary care sector's increasing interest in disease management and in developing clinical pathways for the management of chronically ill patients also reflect the move towards the primary care physician and/or team taking on a co-ordinating role for these patients (who are typically elderly).

Several countries have initiated local projects where primary care physicians or teams take the main co-ordinating role in long-term care. In Britain, primary care fund-holders have been encouraged to enter into local joint commissioning with social service departments, and the government has funded innovative local pilots using general practice as the base for service co-ordination (see Section 3.1).

The Australian Co-ordinated Care Trials of the late 1990s explicitly encouraged general practitioners to take a central role in a wide variety of pilot projects to improve the co-ordination of services to patients. A number of these projects focused on the continuing care of the elderly, and these have been extensively evaluated, with mixed results (see Section 3.2).

The initial findings suggest that primary care teams are effective in co-ordinating older people's need for low-level ongoing care and medical services, with referral to specialist geriatric services as needed. However, many primary care physicians were not willing, trained, adequately supported or adequately resourced to take on a more intensive co-ordinating role than this.

The vast majority of general practitioners do not have social work training, and general practice as it is currently funded and organised does not easily allow for inclusion of staff with these skills into the general practice team (Commonwealth Department of Health & Aged Care 1999c, 2001b, Centre for Health Services Development 1999).[9]

Specialist geriatric services

Several studies have found that that assessment by a specialist geriatric multi-disciplinary team is effective in identifying more health and social problems than would be picked up by primary care teams or by social service case managers (Bauld et al. 2000, Hanger & Sainsbury 1990).

However, specialist geriatric services are a resource that is needed by a relatively small proportion of the elderly. As such, they are less appropriate for co-ordinating care for the majority of users who have a low level need for care. Australia uses geriatric assessment teams as gatekeepers for long-term residential care and for complex home-based packages of care, but not for routine low-level home-based care (Australian Society for Geriatric Medicine 2000, 2001a, 2001b).

The Australian and British Societies for Geriatric Medicine both propose that geriatric specialist services should have closer links with acute hospitals, primary care, home-based care and residential care, with the role of developing best practice care pathways for specific conditions. Dementia, incontinence, falls, depression, palliative care needs and chronic medical conditions are common in older residents of long-stay facilities and more could be done to ensure they get the care and rehabilitation they need. Appropriate clinical pathways could be developed for specific subgroups, including people with dementia, those who are stable but disabled, those for whom rehabilitation is feasible, and those needing palliative care (Australian Society for Geriatric Medicine 2000, 2001a, 2001b, British Geriatrics Society 2001).

So, which type of professional should be the case manager? Initially, the answer to this question appears, like so many others, to depend on the nature of the overall continuing care system. Where there is insufficient input by geriatric specialist teams to the care of elderly in the community and maybe relatively weak linkage with general practice, then the specialist unit may be more likely to pick up undetected problems. But if there were stronger linkage between the specialist unit and general practice, then perhaps the latter would pick up these problems.

Where there is good linkage between general practice and the local social needs assessors, it may not matter who is the 'case manager', as the job will get done. But if the two types of skills are kept apart organisationally, then social assessors may miss health problems and general practitioners/practice nurses may not pick up problems and opportunities that a social work training would have identified.

[9] The website for the Australian Co-ordinated Care Trials has a number of articles evaluating various aspects of the trials www.health.gov.au/hsdd/primcare.

One British writer comments that it is '*a matter of making the most of the chemistry of those from each profession who have the skills and commitment to make it work and of expanding the number by example and persuasion'* (Davies et al. 2000).

This commentator also envisages that different types of case management are appropriate for different types of users – based on secondary care for some people with complex needs, and primary care for others (Davies et al. 2000).

So perhaps the ideal answer to 'where should case management be based' is an amalgam of the above:

Multi-disciplinary primary level teams with linkage to specialist geriatric services

Given that most elderly people need only a relatively low level of long-term support, they are best served by a multi-disciplinary primary level team that includes medical, nursing, social work and needs assessment skills, with appropriate referral to specialist geriatric services. People with intense or complex needs may be most appropriate case managed by the geriatric specialist team (Challis et al. 2001, Kesby 2000).

Both Northern Ireland and some Canadian provinces appear to provide such a form of case management for its elderly. It is noticeable that these regions have integrated the funding for all three types of service – primary care, specialist geriatric and social services.

Key points – co-ordinating services

- Co-ordinating continuing care services is made much easier by integration – i.e., bringing together under one organisational structure the funding and allocative decision-making for the whole range of the continuing care services. This would appear clearly to be the preferred course of action for a funder.
- To the extent that this integration cannot be achieved at the highest organisational level, there are no easy answers as to how to achieve co-ordination, and local solutions need to be found.
- Many local integrated care projects have been undertaken, particularly in Britain and Australia. These give models of how co-ordination could be improved for specific groups of people or types of health problem. The problem remains however that these projects cover only limited populations or health conditions.
- Case management of individual clients is useful, but particularly for complex and high needs users. Most people need routine low level home care services (mostly home support), a few need more complex packages and a very small number need intensive case management.

- The primary health care setting is the ideal base for the co-ordination of continuing care services for older people, but only if there is a strong clear input of social work/needs assessment skills and resources, and easy referral to specialist geriatric services for complex problems.

Worth a read

- Hollander 2001 and 2002b, Hollander et al. 2000 – good discussions of co-ordination and integration from the perspective of a funder facing practical policy issues. www.homestudy.com/overview; www.homestudy.com/reports; www.hollanderanalytical.com

- Davies 1997, Davies & Fernandez 2000, and the PSSRU Bulletin - for more accessible statements of PSSRU ideas than some of the longer books. www.ukc.ac.uk/PSSRU

- The critique of the Australian Co-ordinated Care trials from varying standpoints – Centre for Health Service Development 1999. www.uow.edu.au/commerce/chsd

4.2 GETTING THE MIX OF SERVICES RIGHT

How do we know how many resources to put into each element of the continuing care system? Resources are always scarce, so how do we make sure they are distributed in the most effective way for the population? This is the view of the system from the funder's and health planner's perspective.

This can be split into two interrelated questions:

- **The right mix of services** - what proportion of the total resources should be put into home care versus long-term residential beds and other continuing care services? This is related to the cost-effectiveness of home care services as an alternative to acute hospital care and long-term residential care.

- **Targeting home care** - how should resources be allocated within the home care budget? This raises the issue of priority-setting, rationing and targeting – how far should we continue the trend towards concentrating resources on services for users with the higher level of needs and away from low level users? Alternatively, to what extent should we spread funding more thinly over a bigger group of people with lower level needs?

Two major programmes of policy research have attempted to answer these resource allocation questions – the Canadian National Evaluation of the Cost-Effectiveness of Home Care, and the work on the equity and efficiency of community care undertaken by the PSSRU.

The debate is also informed by casemix and other related work from Canada, Australia and the United States.

4.2.1 Canadian work on resource allocation

Several Canadian provinces have developed an integrated system of care funded on a population basis, and have been interested in trying to estimate how much to allocate to home care within this integrated system of care (Church et al. 1995, Health Services Utilisation & Research Commission 1996, 1998, Home Care Evaluation & Research Centre 1999, Wanke et al. 1995a,b).

The most explicit attempt by any jurisdiction to allocate resources within its continuing care on the basis of the evidence of cost-effectiveness was undertaken in British Columbia. This was written up as an important part of Canada's National Evaluation of the Cost-Effectiveness of Home Care, a multi-site, multi-study research programme that has just been completed.[10] (See Section 3.3) (Hollander 2001, Hollander & Chappell 2002).

In 1993, the Continuing Care division of the British Columbia Health Department implemented a Planning and Resource Allocation model for the continuing care services in the province. All continuing care services for elderly and disabled people in British Columbia were integrated under a single provincial administrative, policy-making and funding entity, with regional management and delivery of services. In the late 1980s the Continuing Care Division undertook an extensive review of planning models, determinants of service utilisation and service utilisation ratios in order to establish benchmarks against which to set target population ratios for each of its services (Hollander 2001).

They used POPULIS[11], British Columbia's administrative data system for health and welfare services, to analyse actual expenditure on and utilisation of services by people with the same level of need. This analysis included home-based services, long-term residential services, acute hospital services and primary care services, including pharmaceutical costs. Table 4 shows the definitions of levels of need that were used.

The researchers found that the costs of providing home and community based continuing care services (direct medical and nursing care, home-makers, adult day care and assessors) were about 20 percent to 30 percent of the costs of residential long term care for people with the same level of need (Hollander 2001).

[10] See the website for the National Evaluation of the Cost-Effectiveness of Home Care at www.homecarestudy.com.

[11] POPULIS is a data repository that links together province-wide client-level administrative datasets for all British Columbia's acute hospital services, long-term residential care, home-care services, primary health visits and pharmaceutical usage, as well as census data and various research survey datasets. It is maintained by the Manitoba Centre for Health Policy (MCHP) at the University of Manitoba and widely used by policy-makers and researchers. See the MCHP website for more information: www.umanitoba.ca/centres/mchp/data.htm

Acute hospital costs accounted for about 50 percent to 60 percent of the overall costs for people living at home and receiving home care, with general practitioner services accounting for an additional 5 percent to 10 percent. For clients living in long-term residential facilities, acute hospital costs accounted for only 15 percent of their total cost. People who died at home also had higher overall costs than people dying in residential facilities did (Hollander 2001).

Given this assessment of the cost-effectiveness of home care compared to residential care for people at the same level of need, the Continuing Care Division developed target utilisation rates per head of population for: residential care (at two levels of complexity), home-maker hours, adult day care days and full-time equivalents for assessor staff. The residential ratios were based on comparison with other countries, but there was too little information to allow this to be done for home care services (See Table 5).

The Division used this model to implement a shift of resources over several years from residential care to home care, mostly by substituting home care for clients with low care needs who had been receiving residential care. They used the POPULIS database to evaluate the impact of these changes. A detailed discussion of the model, its implementation and its policy implications is given in reports from the programme (Hollander 2001, Hollander 2002b, Hollander & Chappell 2002).

Table 4. Levels of care (British Columbia continuing care system)

As part of the standard assessment process conducted by the assessors/case managers, long term care clients, both residential and community based, are categorised into one of five distinct levels of care. These are:

Personal Care (PC): This level of care recognises the person who is independently mobile with or without mechanical aids, requires minimal assistance with the activities of daily living, and requires non-professional supervision and/or assistance.

Intermediate Care 1 (IC1): This level of care recognises the person who is independently mobile with or without mechanical aids, requires moderate assistance with the activities of daily living, and requires daily professional care and/or supervision.

Intermediate Care 2 (IC2): This level of care recognises the need for more intensive care and/or supervision requiring additional care time. The basic characteristics of this level of care are the same as for Intermediate Care Level 1.

Intermediate Care 3 (IC3): This level of care recognises persons with dementia who may have severe behavioural problems on a continuing basis. However, this level of care may also be used for persons requiring more intensive care involving considerably more staff time than at the Intermediate Care 2 level but who are not eligible for extended care.

Extended Care (EC): This level of care recognises the person with a severe chronic disability which has usually produced a functional deficit which requires 24-hour-a-day professional nursing services and continuing medical supervision, but does not require all the resources of an acute care hospital.

Source: Hollander 2001.

Table 5. Planned utilisation rates for some components of British Columbia's continuing care system, 1994-95*

Long term care (rest home level care)	35 beds/1,000 people 65+
Extended care (long-stay hospital level care)	20 beds/1,000 people 65+
Homemaker hours	1,519 hours/1,000 people 65+
Adult day care days	33 days/1,000 people 65+
Full Time Equivalent assessor staff	0.78 assessors/1,000 people 65+

Note: these planned utilisation rates covered all age groups and all forms of disability and need for continuing care, not just age-related need.

Source: Hollander 2001.

In a summary of the national evaluation programme, Hollander makes the following points about the place of home care in the continuum of care for the elderly and disabled (Hollander & Chappell 2002):

- **Don't plan for home care in isolation** - home care must be treated as an integral part of the continuing care system for the elderly and disabled. Hollander and Chappell warn that the recent focus on home care per se has led to a focus on home care primarily as 'a medical support system for early discharges from the acute hospital'. This has led to the dismantling of the maintenance and preventive functions of home care as services for people with lower level care needs are reduced (see also Cohen 2003).

  They note that the analysis of cost-effectiveness done by the national evaluation programme could only have been done in an integrated system – continued fragmentation of care services contributes to an ongoing ignorance of what is and is not cost-effective, let alone the ability to act on that knowledge

- **Use administrative data to know what's going on** - information technology initiatives in health tend to focus on setting up new systems rather than cleaning up, maintaining and analysing the information that we already have. The POPULIS dataset proves that routinely collected data can provide a wealth of useful policy information if it is maintained and analysed appropriately.

- **How best to use new money in continuing care** - the easy savings may have already been achieved, given the significant reductions in hospital length of stay and in long-term residential care admissions. Further gains will probably need much better planning to make the most cost-effective use of services and find the best trade-offs between outcomes (this message is reinforced by PSSRU and other writers).

- **Movement between services is costly** - the Canadian study found that people who generate the highest costs are those moving from one form of service to another. People remaining stable at any level of care have the lowest costs. We should invest in services that maintain functioning or that help to return people to stable functioning as quickly as possible (such as home care to users with low-level needs, and rehabilitation and early intervention services).

- **Reduce the divide between health and supportive services** - given that an increase in support services may reduce health costs, government funders should considering investing more in services that are purely supportive and which traditionally have been means-tested or not funded in most countries (such as home help or sheltered housing). This pragmatic approach runs counter to the common perception that most people are willing to accept inequities in living situations but not in access to health care.

- **Additional support for informal caregivers** - it is cost-effective to support carers to maintain people in their own homes (this message is also reinforced by the PSSRU and other writers).

4.2.2 The UK search for the most cost-effective mix

Although Britain does not have an integrated funding system for continuing care services, or a comprehensive information system like POPULIS, the PSSRU has for several decades run an extensive research programme examining the cost-effectiveness of alternative mixes of long-term services for the elderly. This has been based on large survey datasets and other data-gathering methods (see Section 2.2.5).

In 1984, the PSSRU undertook a major 18-month longitudinal sample survey of older people and their long-term service usage. They replicated this survey in the mid-1990s, to assess the effectiveness of the government's policy to implement case management for home care services (Bauld et al. 2000, Personal Social Services Research Unit 1998).

PSSRU used data from this and other related research to analyse the cost-effectiveness of different types of service mix, and to see how services changed over the decades. They used economic modelling to calculate the mix of home care and residential services that would give the optimum outputs in terms of such factors as mortality, level of functioning, user satisfaction, carer burden, usage of acute hospital services, and entry to residential care. [12] (Davies 1997, Davies et al 1989, Davies et al. 1996, Davies et al. 1998, Davies et al. 2000).

A very simplistic summary of their conclusions follows. [13] It is interesting how many of these conclusions mirror those of the Canadian research, even though they have been derived through quite a different type of work programme.

The British writers focus on the long-term care of the elderly but many of the conclusions apply to others with long-term chronic needs for health and social support, such as people with lifelong disabilities.

How the mix of services has been changing

- The number of people entering residential care has not dropped, but there has been a drop in the average length of stay – people are staying at home for longer before they enter care (Davies 1997).

- There has been a gradual upward drift in the unit cost of home care services (around 3% a year in UK) as services and user needs become more complex (Davies 1997).

- The difference in cost between entry to residential care and maintaining someone at home has narrowed over the past decades. There is a point beyond which it is not cost-effective to keep people at home (Davies 1997).

[12] The PSSRU website at www.ukc.ac.uk/PSSRU gives details of the Unit's work programme and publications, and is a very useful resource for all aspects of community based services, including costing methodologies, assessment tools, economic analysis of various policy options, analysis of broad health and social policy issues.

[13] Some of the economic analysis is dense and complex to understand. Simpler versions of the arguments can be found in briefer summary articles on the website (e.g., Davies 1997).

- Although intensive care management at home has been proven to be a cost-effective alternative to residential care, it has not been widely taken up as an option (only 5% of UK local authorities use it – mostly from lack of resources) (Challis et al. 2001).

- The 1980s saw a shift in home care resources away from people with very light needs to those with heavy needs. The balance of services now appears to be working efficiently in that people's needs and the level of service they receive are more closely related (Davies 1997).

- There is less and less pay-off in putting additional resources into people with high needs. Putting resources into people with light needs has been shown to have a higher pay-off in terms of outcomes (Davies 1997).

- The fact that resources are being used more efficiently than before suggests that the current level of resources should be at least maintained (Davies 1997).

- Client risk factors (e.g., mental health, presence of carer) in fact have little effect on outcome (Davies 1997).

- The range and provision of services has become less uniform, reflecting a greater ability of case managers to tailor services to their clients (Davies 1997).

- There is a gap in rehabilitation services and insufficient linkage between health and social services, leading to missed opportunities for quick preventive medical and allied health interventions to prevent deterioration and acute hospital admission (Davies 1997, Kesby 2000).

- Carer burden has not reduced over the decades and has in fact increased for some groups (e.g., carers of people with very high needs) – this is an area where more services are needed (e.g., respite care) (Davies 1997).

- Lack of resourcing makes it difficult for workers in the field to respond to the need for joint planning and co-ordination activities. Constant restructuring of health systems makes it difficult for health and social service workers to maintain and build on the relationships they do make (Kesby 2000, Clark & Lapsley 1996).

On finding the right mix of long-term services

- The costs and benefits of different mixes of long-term services are becoming clearer. However, the trade-offs are not necessarily clear-cut – optimising one output (e.g., the user's sense of control) may pull down another (e.g., length of stay at home before rest home admission). Some outcomes may inherently conflict (e.g., carer burden and user sense of control). Optimising outcomes for one type of user (e.g., with high needs) may disadvantage another type (e.g., with low needs) (Davies 1997, Davies et al. 1996, Davies et al. 1998, Davies et al. 2000).

- Not enough is yet known about the optimum mix of services for different types of clients/problems (Davies 1997).

- Case management agencies responsible for managing services for a set population within a capped budget are in a good position to identify the optimum mix for specific groups (Davies 1997, Davies et al. 1996, Davies et al. 1998, Davies et al. 2000, Turvey 1995).

- To do this they need to be supported by reliable standard information on what type of person gets what type of service and on the outcomes of this (Davies 1997).

- This entails using a standard assessment tool and standard access criteria (Turvey 1995, Davies 1997).

- If the routine data that case management agencies collect on their clients were standardised, well maintained and regularly analysed, it would yield useful information for the funder on the cost of services and their impact on outcomes. In the absence of a linked dataset like POPULIS, Turvey proposes a way in which data collected by case managers could be used to analyse service usage (Turvey 1995).

- This information would enable the funder to calculate the trade-offs between outcomes for different groups of clients in a systematic way (Davies 1997).

On standard versus flexible packages of care

- Case management agencies face a constant tension between doing the best for any individual client and spreading resources fairly over the whole agency population. One way to handle this would be for the funder to cap the total funding for the population, and give the agency clear criteria as to who gets what type and level of service (based on evidence of its cost-effectiveness vis a vis other services). The agency could then have discretion to allocate resources flexibly within the total capped funding to suit individual needs (Davies 1997).

Recommendations to funders

Given all of the above, PSSRU's key recommendations to funders have been (Davies 1997):

- Allocate more resources to the less dependent to keep them out of acute hospital and long-term residential care.

- Spend more on newer services – since we do not know the optimal mix of services, let’s try new ones, not just keep investing in old ones.

- Give higher priority to carers.

4.2.3 Information to enable resource allocation

It is interesting to compare the British and Canadian approaches to resource allocation and information development.

- **Resource allocation – top-down or bottom up?** The British Columbia Department of Health worked on a top-down allocation of resources, setting target volumes per head of population.[14] The Department was able to do this because the services were fully integrated in terms of funding and administration, and a well-developed information system was available to give accurate longitudinal data on service usage by level of client need.

  In contrast, the PSSRU researchers propose a more bottom-up approach, whereby case managers have a critical role in finding the best way of managing their budgets to get the optimum mix of services for each group of people. This reflects the relatively more fragmented British system of continuing care and lack of administrative information, which prevents any form of top-down resource allocation.

- **The role of information** – however, the PSSRU approach also reflects the fact that more work needs to be done to find the optimum mix of long-term care services for specific groups. The PSSRU writers point out that not enough is known yet about what is the optimum level and mix of services for specific groups (e.g., dementia sufferers and their carers). They recommend using standard assessment tools and developing local information systems, to give case managers feedback on what worked best for what groups, so they can adapt their practice accordingly.

  PSSRU has developed useful tools for measuring levels of need and outcomes. Table 6 shows the basic measures of need that many PSSRU studies have used to categorise older people's need for long-term services (Bauld et al. 2000, Turvey 1995).

  Both top-down and bottom-up resource allocation methods rely on workers using a **standard assessment tool** as a means of categorising people's level of need that is common across all the services. Without a tool that is used across the spectrum of care, it is impossible to compare the cost-effectiveness of one form of care (e.g., home care) versus another (e.g., residential) or thereby make reinvestment decisions (Hollander & Chappell 2002).

[14] A top-down approach to resource allocation is also illstrated by the Australian population:residential placement ratios.

Table 6. Measures of level of need for elderly people needing support services

Degree of independence

Independent – people requiring no help with activities of daily living (ADL) tasks

Long interval need – people requiring help with one or more ADL tasks but less than once a day

Short interval need – people requiring help with ADL tasks at least once a day

Critical interval need – people requiring help with ADL tasks frequently and at short notice

Degree of cognitive impairment and/or behavioural disturbance

People without cognitive impairment/behavioural disturbance

People with cognitive impairment/behavioural disturbance

Presence of informal support

Not living alone

Living alone – informal carer

Living alone – no informal carer

Bauld et al. (2000), Turvey (1995)

4.2.4 Australian studies on targeting home care

In 1985, the Australian government set up the national Home and Community Care (HACC) programme to fund and deliver home-based services as an alternative to long-term residential care. As demand for home care grew rapidly in the 1980s and 1990s, HACC responded to the pressure on resources by directing services away from people with low needs and towards those with high needs.

There was increasing debate as to whether this was cost-effective and concern at the loss of services to low needs users. A major report on targeting reviewed the options for prioritising long-term home care services provided by the HACC programme (Howe & Gray 1998). Its priorities for resource allocation again reflects similar themes to the British and Canadian studies.

The Australian report recommended that priority be given to:

- Targeting those high needs users not already getting services to prevent their entry to long-term residential care.
- Maintaining services to low level users so as to maximise their independence.
- Supporting carers.

Targeting was seen as a process of resource allocation that occurred at all levels, from individual client assessment decisions to the national allocation of funding to the home care programme and to residential services. The report proposed a three-tier system of access to home care services:

- 'Basic HACC', covering most people - open access based on assessment by the providers according to standard guidelines and within the provider's price-volume capped budget.

- 'HACC Plus', needed by 15 percent of clients - individualised packages of care assessed and brokered by case managers.

- 'HACC exceptional', needed by two percent of clients - exceptionally high cost/complex cases for which a separate pool of money should be set aside.

The report recommended a national planning framework for allocating resources according to this type of classification of need. This would fit in with government moves towards population-based funding of services (Howe & Gray 1998).

4.2.5 Casemix classifications and prospective funding

To implement the type of rational resource allocation among continuing care services that is envisaged by the studies described above, necessitates much better information than has currently existed. In the case of British Columbia, this need for information was met by the POPULIS database, in Britain by the PSSRU research datasets, and in Australia by work on a national minimum datasets for home care and other non-inpatient health and support services[15].

Another approach to determining the level of resourcing within a set population is shown in the development of casemix-based funding methods for home-based services.

This can be seen as a 'bottom-up' approach to information system development – aimed at identifying groupings of clients/problems with similar needs, costs and/or outcomes and trying to determine the optimum volume of service or expenditure for specific conditions.

The casemix approach to resource allocation has been used to reduce the funder's risk in the face of potentially endless demand by passing some of this risk to the provider. When linked with a prospective payment system, the funder aims eventually to be able to establish the 'right' mix of services for a set population, so as to be able to implement top-down allocation of resources among the different types of care.

[15] For example, the HACC is currently implementing a national minimum dataset for home-care services and a standard minimum dataset has been developed for district nursing (Commonwealth Dept of Australia 1998, 2001, Ryan et al. 1999, Australian Council of Community Nursing Services 1997).

United States casemix work

Medicare, HMOs and other funders have become increasingly interested in using casemix systems for categorising clients, so they can develop prospective payment systems to enable them to manage the demand for home care.

These initiatives seek to identify groupings of clients with similar service usage and costs on the model of the Diagnostic Related Groupings (DRGs) used for inpatients. These groupings are then used as a basis for funding agencies differentially, depending how many of each type of client they see (Binstock & Spector 1997, Boult et al. 1998, Liu et al. 1990, Turnbull 2000, Vladeck & Miller 1994).

Medicare introduced a prospective payment system for home-based services in 1997, based on a casemix classification system of some of these services. Home care services are grouped into 44 resource utilisation groups. The top 26 groups are skilled (e.g., rehabilitation, parenteral feeding, ventilator care, ostomy, continence, wound care) and are reimbursed on a prospective payment system, which pays a per diem price for staffing, equipment and supplies. The remaining 18 less skilled groups (e.g., home help and personal care) continue to be reimbursed under a fee-for-service method (Turnbull 2000).

To enable this classification to work, Medicare also requires providers to use a standard minimum dataset (the OASIS system) and a standard assessment procedure. Clients are assessed at entry and at each 60 days, with data collected at each stage (Turnbull 2000).

Problems that have been identified with using casemix classifications as a basis for funding home care and other long-term services include:

- The tension between the clinician allocating the service and the funder who sets the budget – however, this tension is probably inherent in any resource allocation system (Perry 1998).

- The lack of data on the relationship between services and outcomes – the outcome of long-term care is particularly difficult to ascertain because of its duration and the likelihood of other factors contributing to the final outcome.

- It is difficult to classify need, given the variability of people's lives and support systems. Older people also often have multiple chronic illnesses and disabilities that gradually worsen over time. Casemix classifications, on the other hand, appear to work best for short-term and medical/nursing focused interventions, such as post-discharge convalescence or rehabilitation, IV therapy, palliative care or ostomy services (O'Donnell & Sampson 1994).

- Current American casemix work has been criticised as overly medical and not client focused. Although not looking specifically at home care, Kane[16] proposes an interesting way of categorising long-term care settings based on the elements of care that people are likely to need for different conditions/situations, viz (Kane 1995):

    - Terminal – short-term need for normal surroundings, pain control, privacy and psychological support.

    - Convalescence – short-term need for nursing, home help and personal care.

    - Rehabilitation – relatively short-term need for intensive allied health support.

    - Comatose – where a hospital ward could suffice.

    - Chronic disability but cognitively alert – long-term need for assisted living, home help, personal care, privacy, equipment, social support.

    - Chronic disability but impaired cognitive functioning – same as above but in a safe predictable living space.

Australian casemix work

A casemix classification for district nursing was developed in Australia in 1995. This 12-category classification was to be made when the client was assessed. It grouped clients as to whether they needed acute care, palliative care or support/maintenance and on how long their need lasted. Again, the lack of common standard data elements has limited the use of this classification (Maddox 1995, 1996).

In 1997, the HACC commissioned a review of the options for developing a casemix classification for HACC home care services. This report reviewed current casemix classifications for home-based care (including Medicare's OASIS), surveyed provider agencies' views on casemix options and discussed the information base needed to be able to implement casemix classification. The report recommended that HACC develop a casemix system for grouping clients according to level of need, so that providers could be funded more fairly on the basis of the nature of their caseload. The report proposed that a standard assessment tool and minimum dataset be adopted, and that clients be assigned to a class at assessment and then funded for their complete episode of care accordingly (Commonwealth Department of Health & Family Services 1997, Hindle 1998). [17]

[16] This article also argues for more flexible definitions of "residential care" and looks at the increasingly blurry boundaries between home-based services and 'residential care'.

[17] The Commonwealth Department of Health and Family Services reference is a short readable summary of casemix concepts for provider agencies, based on Hindle's longer paper, and is available on the website: www.health.gov.au/acc/reports/download/hacctrak.pdf

The report acknowledged the difficulty of developing such a classification given the number and variety of health and welfare services used by the elderly on a long and short-term basis. Although the report set out a timeline for implementing such a casemix system, this does not appear to have been implemented yet. However, HACC has been implementing a standard national dataset, which would be a prerequisite for such a classification (Commonwealth Department of Australia 1998, 2001).

Other casemix work done in Australia includes the AN-SNAP classification for sub-acute and non-acute inpatient services, which covers palliative care, rehabilitation, psycho-geriatric care and geriatric evaluation and management (Eagar et al. 1997, Lee et al. 1998).

Key points – the right mix of services

Whatever method is used to determine the 'right' mix of services – top-down resource allocation, bottom-up case management, or implementing a casemix classification – all of them depend on:

- A standard minimum client-based dataset encompassing all services.
- A standard assessment tool that gives a consistent measure of people's level of need, whatever service they are using.

The British Columbia POPULIS database exemplifies the value that a country or region could get from cleaning up, maintaining and analysing its routine service expenditure and utilisation data.

British Columbia has developed some benchmarks for volume of services per head of population. Mostly other countries' systems of care are too varied to allow easy comparisons of service usage. However, common themes emerge:

- To get the most value from home care services, they must be considered in the context of the overall continuing care system.
- Pressure of demand and tightness of resourcing over past decades means that home care services are now more closely related to need – services are more efficient.
- It may now be less and less cost-effective to provide even bigger packages of community care to individuals with high needs, and increasingly important to maintain services to those with low level needs to prevent their admission to acute hospital or residential care.
- It may be cost-effective to have standard packages of care with minimal assessment and universal entitlement for people with low level needs, and focus case management on the tiny minority of complex cases.

- The greater part of the cost of keeping people at home comes not from their home care services but from their higher rate of hospital admission – efforts to reduce/avoid acute hospital admission and readmission are worth pursuing (e.g. quick response teams, intermediate and convalescence beds, planned earlier discharge and rehabilitation at home).

- The burden on carers may well have increased and carer support services need further development.

- Work on care pathways, packages of care and casemix classifications for specific, easily defined types of client or problem (e.g. dementia, hip fracture) may be a fruitful way of building a picture from the bottom up of what resources are needed for a population.

Worth a read

- Hollander & Chappell 2002, Hollander 2001 – good discussions of the Canadian work on getting the right mix of services from a practical policy perspective. www.homestudy.com/reports

- Davies 1997, Davies & Fernandez 2000, and the PSSRU Bulletin – for more accessible statements of PSSRU ideas than some of the longer books. www.ukc.ac.uk/PSSRU

- Howe and Gray – for a discussion of Australian work on targeting home-based services. www.health.gov.au/acc/hacc/targeting

- Commonwealth Department of Health and Family Services 1997 – for a readable discussion of casemix applied to home-based services. www.health.gov.au/acc/reports/download/hacctrak.pdf

4.3 THE RIGHT LEVEL OF FUNDING

What is the right level of resourcing for home care? This is slightly different from knowing what proportion of funding should go into home care, since it is possible that the whole continuing care system may be under-funded and that unmet need exists.

There are several interrelated questions here:

- **Unmet need** - is there significant unmet need now? If so, does this reflect an overall need for more resources in home care services or in the whole continuing care system? Conversely is there wastage in the system? Could it operate more efficiently?

- **Geographic equity** - are services distributed fairly in geographic terms? Do people have the same access to services wherever they live? Geographic equity is one benchmark that people tend to use where there is no more objective way of knowing if the distribution of resources is right. But how do we know if one area's high level of funding is 'gold standard' or wasteful?

- **The cost to the user** - what services should people have to pay for and what should be publicly subsidised? Home help? Personal care? Nursing? Physiotherapy?

4.3.1 Unmet need

It is difficult to quantify the level of unmet need for home care or continuing care services for a population, because of the variability in the way services are organised and funded in different countries and regions. Various work in the area has touched on it, including:

- **The US National Demonstration ('Channelling') Projects in the 1980s** - the evaluations of these projects found that the increased costs for those people who used home care services reflected the fact that these were new services meeting a previously unmet need. Other studies have noted that a rise in the use of home care in the United States has been concomitant with the increasing willingness of funders, such as Medicaid and Medicare, to include home care among the services that they reimburse (see Section 2.2.2 for references).

- **The PSSRU's longitudinal studies** - these examined changes in the relationship between people's need and their utilisation of home care over time in Britain. They concluded that home care services had improved in efficiency since 1970, shown by a closer fit between the level of need and the amount of services received. On the basis of this they recommend that home care services should continue to be funded to at least the same level as at present (Bauld et al. 2000, Davies 1997).

- **Canadian work** - the issue of how much resource should go into home care has received most public debate in Canada (Coyte 2001). Commentators have discussed whether the state and provincial governments should increase funding to home care and/or whether the need could be met by transferring resources from other parts of the health system, particularly acute hospital services. Some Canadian provinces (such as Alberta, British Columbia, Saskatchewan) are

developing methods for making these transfers within health/welfare funding (Coyte et al. 2000, MacAdam 2000, Parent et al. 2001, Premiers' Council on Canadian Health Awareness 2002).

Apart from this, there is little guidance as to what level of home care services or continuing care services is the 'right' amount for a population. Compared to other clinical interventions (such as IV therapy or hip replacement), there is little compatible national or regional information on need or on service usage or expenditure to allow for the easy development of benchmark levels for funding these services.

Most commentators warn, however, that while home-based services may be a more cost-effective use of health and social welfare resources, they are not necessarily a cheaper option, particularly if funders are unable to transfer resources into home care from the acute medical sector (Coyte 2001, Davies 1997, Parent et al. 2001).

4.3.2 Geographic equity

One way of addressing the problem of finding a benchmark for the 'right' level of funding for home care services in a population is to look at geographic differences in funding and access to home care services. Taking the average home care funding per head of population of a group of regions is a crude way of creating such a benchmark. A more useful method is to take as benchmark a region where the service is seen as adequate.

Canadian policy-makers have been most interested in geographic equity, partly because of the problems they face in getting services to huge, remote and sparsely populated rural areas. One study used expenditure per head in the most populous province, Ontario, as a baseline and calculated the additional funding that Canada as whole would need to ensure that everyone had the same level of access as in Ontario (Coyte 2001).

4.3.3 The cost to the user

In all the countries reviewed, home care and long-term residential services are usually not fully funded by the state and are means-tested in some way. The level of subsidy varies even within the same country or region and has changed over time. In the United States, limited reimbursement of home care services was introduced gradually by Medicare and Medicaid over the 1980s and 1990s (Vladeck & Miller 1994). The different provinces and states of Canada and Australia vary in the level and type of subsidy for these services (Australian Institute of Health & Welfare 2001, MacAdam 2000).

Public debate about the extent to which home care services should be publicly funded has been most lively in Canada.[18] Several Canadian commentators have warned of the cost-shifting to users and families that is inherent when care in the home replaces care in the acute hospital or in a long-term residential facility.

[18] A readable discussion of home-care issues in Canada can be found in the Fall 2000 issue of the electronic journal Healthcare *Papers* at www.longwoods.com/hp/fall00

Over the past two decades, the average length of stay in the acute hospital has dropped and fewer low-needs people have been admitted to long-term residential care. This means that at least some of the costs once covered by the hospital or residential facility (such as pharmaceuticals, physician services, basic nursing and housekeeping support), are now picked up by the client and their family in both monetary and labour terms.

Should home care be fully funded or should people be expected to pay for part of it? The issues are perhaps more complex than they may first appear. One Canadian writer argues that the actual costs to clients are not great and that, rather than fully funding home care, users and families would be better served by increased public funding for some other aspects of the health system that are currently not fully funded – such as pharmaceuticals, dental services or optical services (MacAdam 2000).

In Britain, a recent Royal Commission on the long-term care of older people sparked widespread public debate on the funding of long-term residential and home care services. Among other things, the Commission proposed that personal care at home and district nursing in rest homes be free to the user, while home help continue to be means-tested. The Scottish Parliament decided to follow these recommendations, while the English Parliament decided to continue to means-test personal care and instead to fund a range of 'intermediate care' services, aimed at keeping older people out of the acute hospital (Royal Commission on Long Term Care 2000).

There was mixed reaction to these decisions, with some arguing that fully funding personal care was a less cost-effective use of resources than other services (Grimley-Evans & Tallis 2001).

In New Zealand, Saucier has similarly argued that the government's intention to remove asset-testing for long-term residential care, while popular with the public, may be a less productive use of resources than other measures aimed at improving services for older people (Saucier 2002).

This is a broader debate than can be entered into here. What has been touched on briefly suggests that policy-makers need to be aware how costs may be shifted unintentionally within the whole system of continuing care. Adding resources or costs to one element of the whole system of care may unintentionally affect the other elements, with an impact on overall equity and cost-effectiveness.

Going back to the initial issue of how much should home care services be subsidised by the public purse – there seems to be a common public acceptance in most of the countries reviewed that medical and nursing care should be free as of right, but that it is acceptable that people contribute to services that are to do with their living arrangements – residential care, home help etc.

On the other hand, there is a growing interest among policy-makers in the cost-effectiveness of supportive housing arrangements and other social policies in keeping older people healthy and independent of health care. It may well be worth providing free home help or subsidised housing if it prevents admission to acute hospital or long-term residential care (Hollander & Chappell 2002).

Key points – the right level of funding

- It is difficult to quantify the 'right' level of funding for home care services for a population because of the interdependence of these services with others in the health and welfare system, and the degree to which home care is being used in the most cost-effective manner.

- Without basic information on how much is being spent on home care vis a vis other services in the continuum of care, and on whom it is being spent in terms of level of need, it is impossible to know how any country or region compares to others.

- The shift towards home-based services means a shift of costs to the user and their carers – it is increasingly urgent to have public debate as to what should be publicly funded and what should not, so that this cost shifting is at least made transparent.

Worth a read

- Macadam 2000 – a lively Canadian discussion on the funding of home-based services in the context of the whole health/welfare system.
  www.longwoods.com/hp/fall00

- The CARP Report card – a regular consumer oriented critique of the current state of Canada's home care services (Parent et al. 2001).
  www.50plus.com/carp

5. THE IMPLICATIONS FOR NEW ZEALAND

5.1 HOME-BASED SERVICES IN NEW ZEALAND

5.1.1 Situation in the 1970s and 1980s

Nursing and support services given to New Zealanders in their own homes were funded and delivered in a variety of ways in the 1970s. Most district nursing services were funded and provided by local hospital boards, while the government's funding agency for social services (called variously the Department of Social Security and the Department of Social Welfare (DSW)) funded most long-term home support and residential care for the elderly and infirm (Moore & Tennant 1997).

District nursing services in the 1970s and 1980s were provided by hospital boards from departments based in the main hospitals. In Christchurch the Nurse Maude Association was an anomaly, being a voluntary organisation that since the 1940s had received public funding under a separate Act of Parliament to provide district nursing services (Allan 1996).

At this time, district nursing showed little of the differentiation into the various specialisations that now exist, such as stomal and continence care, IV therapy and complex wound management, and there were few formal training courses in these aspects of care.

Personal care (showering, helping with transfers etc) was included as part of the work of a district nurse until the 1980s when it started to be defined as a separate role that could be undertaken by people without nursing training. This separation from nursing was reinforced in 1993 when long-term personal care services were included in the separate ring-fenced budget for Disability Support Services (DSS), and linked with home help and the former DSW-funded 'attendant care' as part of 'home support' services for people with disabilities (see Section 5.1.6 for a discussion of 'advanced personal care") (Moore & Tennant 1997).

Home help in the 1970s and 1980s was funded and delivered in a confusing variety of ways. DSW and its predecessors had since the 1950s provided a means-tested supplementary benefit to allow elderly and infirm people to pay for home assistance. From 1963, hospital boards were required to provide free home help as needed to people who were using district nursing services. In addition, the Department of Health partially funded several voluntary agencies, including Nurse Maude and Women's Division of Federated Farmers, to provide home help where people needed it because of sickness, frailty or hardship (including services to new mothers) (Hyslop & Dourado 1978).

Rest homes and long-stay hospitals were mostly operated by voluntary and private organisations, with residents funded through a means-tested resident subsidy administered by DSW. Public long-stay hospitals and wards providing free care also existed, particularly for people with dementia or other complex needs (Saucier 2002).

Cost constraints of the mid 1970s and 1980s - New Zealand in this period, like most other countries, was caught between the increasing needs and demands of an ageing population with high expectations of its public health service, and the reality of economic downturn. Growing constraints on health spending from the late 1970s onwards led to successive governments moving towards funding hospital boards on the basis of their population rather than their historical expenditure. Funding for medical/surgical services came to be based on volumes of case-weighted discharges in each Diagnostic Related Group (DRG). This led to a drop in the average length of hospital stay as hospital boards worked to remain within budget.

Specialist geriatric services - as in other countries, cost constraints also led hospital boards to close their long-stay hospitals and wards and to transfer their residents to long-stay hospitals run by private or voluntary agencies in the community. There was increasing concern about 'bed blocking' by patients admitted to the general hospital but who needed less intensive care than the general hospital provided. Many of these were older people with chronic conditions needing convalescence and rehabilitation, palliative care or long-term non-acute care. Hospital boards set up Assessment, Treatment and Rehabilitation (AT&R) units, where newly formed departments of geriatric medicine provided specialist care for older people (Service Evaluations Ltd 1999).

Area Health Boards - in the late 1980s, the hospital boards were replaced with fewer and slightly larger Area Health Boards, with broader responsibility for their community's health. However, this structural change had little direct impact on services for older people, which were still something of a 'Cinderella service' in New Zealand compared to the medical/surgical services (Sainsbury & Wilkinson 2002).

5.1.2 The 1993 health reforms

The health reforms of 1993 had a major impact on the funding and organisation of home-based and other services for older people. The 15 Area Health Boards were replaced by a larger number of Crown Health Enterprises (CHEs)[19] and by four Regional Health Authorities (RHAs). The RHAs were responsible for allocating funding among all health services within their region. The main aspects of the reforms relevant to home-based services were:

Integration of health and social support funding and administration - the new RHAs were responsible for a much wider range of health and disability support funding than the area health boards. During 1993-1995, the funding held by DSW for home help, attendant care, residential care, carer support, equipment and other smaller support services was transferred to the RHAs, as part of their 'Disability Support Services' (DSS) budget. To this budget was added the funding for the AT&R Units and other specialist geriatric services provided by the former hospital boards. Thus, the funding for most of the continuing care services for older people was brought together under one administration (Ministry of Health 2002b, Health Funding Authority 1999f).

[19] Crown Health Enterprises continued the largely hospital-based services of the previous hospital boards. The general hospital sector in New Zealand has been the major component of, successively: Hospital Boards, Area Health Boards, Crown Health Enterprises, Hospital and Health Services (HHSs) and more recently District Health Boards (DHBs).

The 'Disability Support Services ring-fence' - the funding for these long-term services for 'people with age-related disabilities' was combined with funding for similar services for people with other forms of disability – physical, sensory, intellectual and psychiatric. The resulting total budget for people with disabilities was ring-fenced and managed separately from 'personal health' services [20] within the RHAs, partly to ensure that it would not be taken over by the ever-growing demand for expenditure on medical/surgical services.

A capped budget - the RHAs, in contrast to previous government funding entities, were explicitly required to manage a number of demand-driven services (including long-term home support and residential care) within a total annual capped budget. Thus where formerly subsidies for residential care or home help were disbursed through DSW on individual application, the total funding for these services was now capped and managed by each RHA. This increased the incentive on the funder to actively find the most cost-effective use for this funding (Ministry of Health 1995b).

The National Disability Strategy and Framework - the bringing together of most of the funding for people with age-related and other disabilities was accompanied by a considerable amount of policy work in this area. This policy, summarised in a number of national documents (Ministry of Health 1992, 1995b, Ministry of Disability Issues 2001), had a strong focus on supporting people with disabilities to remain independent, with an emphasis on social care, client choice, case management and consumer empowerment. The disability support services sector, of which services for older people were a major part, grew in confidence during the 1990s and there was increasing joint planning of the services that were defined as DSS-funded (Minister for Disability Issues 2001, Macdonald et al. 2002, Moore & Tennant 1997, Bray 2002, Ministry of Health 1992, 1995b, Southern Regional Health Authority 1993, 1997, Heenan & Allen 1995).

Definition of 'disability' - DSS funding was intended for people with disabilities that were age-related (e.g., stroke, dementia, general frailty), physical, sensory, psychiatric or intellectual. A definition of 'disability' was developed that included specific conditions and diagnoses and assumed a likely need for services for more than six months. The ambiguities in the definition, as well as more or less flexible interpretations of the eligibility criteria, meant that access to DSS funded services has varied around the country[21] (Health Funding Authority 1999b).

Greater variety of providers - the RHAs were able to contract with a range of different providers, not just the publicly funded hospital-based services, and there was a burgeoning of home support services provided by smaller providers. This was a continuation of the former DSW policy of giving subsidies to the client who then chose the home help, attendant care, residential care or carer support that they wanted. It also reinforced the DSS philosophy of giving disabled people more choice in who cared for them (Ministry of Health 1995b, Minister for Disability Issues 2001).

[20] 'Personal Health' funded services cover medical/surgical services, primary health care, maternity and child health services, dental services etc. In practice, it is a catch-all category that comprises all those services that are not funded through budgets for Disability Support services, Mental Health services or Public Health services.

[21] For instance, a person disabled by chronic obstructive respiratory disease was eligible for DSS-funded services in the Central region, but not in the Southern region. An 85 year old disabled by heart failure but not otherwise frail may be assessed as eligible for age-related DSS funding by one assessor, but not another even within the same region.

Explicit contracts for service, quality and reporting - the RHAs funded health and disability support services through contracts with providers. These included (often for the first time) explicit statements (specifications) of the services to be provided for the funding, including quality standards and reporting requirements (Ministry of Health 1995a).

Case management - Needs Assessment and Service Co-ordination (NASC) agencies were set up in each local area, with the role of assessing the needs of people referred to them for DSS-funded services and helping them access these services. In some regions (such as Midland), the NASC agencies were given responsibility for managing a budget, while in other areas (e.g., Southern) NASC agencies initially had no budgetary responsibility and acted more as advocates and brokers. In some areas (e.g., Christchurch) the NASC agency for older people was based near the local hospital-based AT&R unit, in other places (e.g., Hamilton) it was free-standing in the community.[22]

5.1.3 Moves towards national and regional consistency

The four Regional Health Authorities developed somewhat different organisational structures for funding, delivering and collecting information on both DSS-funded and personal-health-funded home care services. One major regional project aimed at improving consistency within a region was:

- **Central region's survey of 'community services' utilisation and funding** - in 1997, the Central RHA and the Crown Health Enterprises of the region undertook a major collaborative review of the district nursing and domiciliary allied health services provided by the CHEs. These 'personal health' funded services included generalist district nursing, IV therapy, chronic wound care, continence and stomal services, allied health, home oxygen, orthotics and palliative care services. A one-off sample survey was done of the number and type of people using the services in August 1997. The data from this survey still comprise the only detailed information available on the number and type of people using short-term district nursing services in New Zealand. The survey results were used to develop standard service specifications (used later as the basis of national specifications) and to develop and implement more regionally equitable prices and volumes per head of population (Awan & Rodgers, 1997). [23]

The amalgamation of the four RHAs into one national Health Funding Authority (HFA) in 1998 made little change to the basic arrangements for the funding and delivery of home-based services, except for greater movement towards national consistency in access, service delivery, pricing and information.

[22] Bray (2002) describes in detail the development of funder policy on the NASC agencies between 1993 and 2001.
[23] Personal communication, Sylvia Watson, Central Region Technical Advisory Service.

This is evident in:

- **A national joint HFA/HHS community services project** - from 1998 to 2002 the HFA/MoH worked with HHSs/DHBs on a project to develop common service specifications and reporting units for the personal health funded community services provided by HHSs/DHBs. These included primary-referred and post-discharge district nursing, stomal services, continence services, home help and personal care, meals on wheels, home oxygen services, domiciliary/outpatient allied health and community-based palliative care. This project also undertook a national stocktake of volumes and expenditure and a national pricing exercise, and initiated reviews of stomal, continence and meals on wheels services (Wainwright 2002).

A work-stream within this project documented the boundary problems between DSS and personal health funded home support services and recommended further work to resolve these problems (Health Funding Authority 1999b, Wainwright 2002).

- **Projects to improve national consistency of long-term services** - in its short life, the HFA initiated several projects to improve national consistency in DSS-funded home care and other continuing care services, including (Health Funding Authority 1999f, Bray 2002, Watson & Chan 1999, Chan 2000):

    - **A national quality audit of DSS-funded home support services** - this audit, which covered 50 percent of all providers, found many excellent providers with a strong client-centred focus. The audit also revealed variability in the quality of training given to home support workers, and a need for greater linkage between personal carers and district nursing services. The report recommended that the HFA review and agree on ways of funding personal health and DSS-funded services to improve co-ordination between them (Goodyer 1999).

    - **National service specifications for home support services** were developed, in conjunction with the national community services project (Wainwright 2002).

    - **National review of NASC services** - a major review of NASC services was undertaken during 1998 to 2000 to address variability in the operation and quality of NASC services throughout the country. The review led to a plan for major changes to the NASC service, including the implementation of a standard NASC model to cover all types of clients, fewer NASC agencies, budget management by all NASC agencies and the use of standard assessment tools and access criteria. This plan was not implemented before the transfer of HFA functions to the Ministry of Health in 2001. However, since then the MoH has developed and distributed a set of national guidelines for NASCs for assessment procedures, standard packages of care, access criteria and reporting requirements (Chan 1999, Bray 2002, Ministry of Health 2002e).

- **Other related reviews of long-term services** included a national review of Assessment, Treatment and Rehabilitation (AT&R) services to address variability in access and delivery around the country and a national review of long-term residential care. These reviews resulted in national service specifications for these services, and in the case of residential care also resulted in a national pricing model for these facilities, which was implemented in 2001 and 2002 (Watson & Chan 1999, National Benchmarking Agency Ltd 2000).

- **Stocktake of DSS services and an information plan** - a stocktake of DSS expenditure and utilisation of DSS-funded services was made. The evidence of lack of reliable national information resulted in a detailed proposal for a national information strategy for these services. This strategy was however not implemented before the changeover from HFA to MoH (Chan et al. 2001, Health Funding Authority 1999c, Watson & Chan 1999).

5.1.4 Rising expenditure on home-based services

An estimate made in 2001 found that New Zealand currently spent around $282 million a year on district nursing, allied health and home support (see Table 7). The bulk of long-term services consist of home support – mostly home help plus meals on wheels and some personal care. The bulk of short-term services was divided between district nursing (both generalist and specialist) and community allied health services.

Accurate and compatible data on the expenditure and utilisation of both long-term and short-term services have been difficult to obtain. Information for DSS-funded services is based on actual expenditure (from the payments systems), while information on personal health funded services is based on the budgeted amounts shown in the HHS/DHB contracts/funding agreements, which is likely to be an underestimate of actual expenditure (see below). These data should thus be treated cautiously.

Long-term home-based services

The HFA stocktake of DSS expenditure showed that total spending on DSS services rose by four to seven percent per year between 1995/96 and 2000/01. Expenditure on home support services (home help and personal care) fluctuated and then rose steadily between 1995/96 and 1998/9 in all regions (Chan et al. 2001)

The number of home support clients, on the other hand, showed a drop between 1995/96 and 1998/99 in the two regions for which data was available. This may suggest a move towards more intensive packages for care for existing clients (Chan et al. 2001).

Figures obtained for the MoH/DHB community services review initially found around $106 million (ex GST) was spent on long-term home support in 2000 to 2001 (Wainwright 2002). More recent figures showed that DSS-funded home support expenditure rose nationally from $96 million (incl. GST) in 1999/00 to $118 in 2000/01, a rise of 23 percent in one year. Home support comprises about 10 percent of total DSS-funded services (Ministry of Health 2000a).

Per capita expenditure on home support has been variable throughout the country, with some areas (such as the southern region) having a higher per capita expenditure than others. The same regions also appear to have higher than average expenditure on carer support, residential care and AT&R services (Chan et al. 2001).

Table 7. Rough estimate of total New Zealand expenditure on home-based services, 2000-2001 [1]

Includes Personal Health and DSS funding streams, and both DHB and non-DHB providers

Service	Personal Health funded	DSS funded	TOTAL	% of Total
	$ million	$ million	$ million	%
District nursing (including palliative, home IV, wound)[2]	61.5	1.1	62.6	22.2
Home oxygen services	3.5		3.5	1.2
Continence services	9.7		9.7	3.4
Stomal services	10.1		10.1	3.6
Home help [3]	8.0	118.0[3]	126.0	44.7
Personal care [3]	2.9		2.9	1.0
Meals on wheels	4.0		4.0	1.4
Domiciliary and outpatient allied health (all types) [4]	20.2	42.8	63.0	22.4
TOTAL	**119.9**	**161.9**	**281.8**	**100.0**

Notes

1 Continuing problems with unbundling Auckland data meant that only a rough estimate of the breakdown among the various service types and funding streams could be made.

2 This does not include the home-based palliative nursing provided by hospices, nor specialist hospital outreach nursing services such as respiratory outreach, home dialysis etc.

3 Personal care is underestimated and home help overestimated, as DSS-funded personal care could not easily be separated from home help and has been included there.

4 This includes physiotherapy, occupational therapy, social work, speech language therapy, podiatry and dietetics delivered at home or in a non-medical outpatient clinic. DSS funding includes AT&R outpatient, day and domiciliary services ($30.2m), child development services ($10.2m), accredited assessments ($1.4m) and approximately $1m smaller non-DHB contracts. Personal health funding includes 'Orthotics'.

Source: Ministry of Health (Wainwright 2002, with more recent figures for DSS funded home support)

The causes of the increase in long-term home support expenditure have been identified as:

- **The demand-driven nature** of most DSS-funded services, including home support services, which makes them more responsive to increases in demand due to the ageing population as well as to higher user expectations.

- **Removal of means-testing** from personal care services in 1996, which led to an immediate rise in usage after the transfer of this funding from DSW to RHAs.

- **Access to 'attendant care' was extended** to people over 65 years when DSW transferred this funding to RHAs in 1996. This also resulted in an immediate rise in usage.

- **Identification of unmet need** - NASC agencies, set up in the 1990s to enable people with disabilities identify and access the services they needed, found a degree of need that had been unmet through the previous DSW funding system.

- **'Acuity creep'** - the tendency for people with complex health and disability support needs to be increasingly cared for at home, and so requiring higher packages of care than in the past (Goodyer 1999).

- **'Ageing in place' initiatives** - this policy, introduced around 2001, encouraged local initiatives to enable older people with high complex needs to remain at home with increased home support rather than enter residential care.[24]

District nursing and short-term home support services

In 2000/01, New Zealand spent an estimated $63 million on district nursing, another $23 million on continence, stomal and home oxygen services and around $11 million on personal health funded (mostly short-term) home support. (See Table 7, Wainwright 2002).

Little reliable information is available on trends in expenditure or utilisation of these services during the 1980s and 1990s. However, anecdotal evidence from the sector suggests that expenditure and utilisation rose during this period for several reasons (Saucier 2002, Pileggi et al. 1995):

- **Increasing hospital use by an ageing population** - the number of actual admissions to hospitals (and so the demand on post-discharge services) grew during the period, because of an increase in the older population (Ministry of Health 2002b).

- **More intensive use of hospital beds** - in New Zealand as elsewhere in this period, the rate of hospital admissions rose and average length of stay dropped, as new techniques allowed the hospital to treat more people as day-patients or outpatients or in the home. The increasing throughput of patients resulted in a rise in the number of people needing post-discharge care (Hider 1998).

[24] See MoH website www.moh.govt.nz/olderpeople/projects

- **More complex services delivered at home** - the 1980s and 1990s saw the growth of several specialisations within district nursing, including continence advisory services, stomal services, home IV therapy, and more recently complex/chronic wound management. This period also saw the rise of the hospice movement and an increase in specialist palliative care being given in the community hospice or at home. Specialist hospital departments, particularly paediatrics, dialysis, respiratory and cardiac services, started to provide outreach nurses to deliver services in people's homes (Wainwright 2002, Goodyer 1999).

- **Poor information on actual versus budgeted expenditure** - in many DHBs, expenditure on district nursing and short-term home support services has not been clearly accounted. The budgeted expenditure and volumes for these services shown in the HHS/DHB annual contracts or funding agreements remained much the same over the 1996/97 to 2001/02 period. However, it is clear that the actual volume of service (and thus expenditure) has increased during this period for the reasons given above (Wainwright 2002).

  The national pricing exercise for DHB-provided short-term district nursing and home support found an average difference of around 20 percent between budgeted expenditure and what the HHSs/DHB community services managers estimated was actually spent on these services (Wainwright 2002).

5.1.5 Managing the rising expenditure on home-based services

The differences in the way long-term (mostly DSS) and short-term (mostly personal health) services were funded and delivered resulted in different approaches to managing rising expenditure in each of these areas.

Long-term home support expenditure

During the 1990, the RHAs and later HFA faced a continual pressure on funding for the DSS-funded demand-driven services. The funder relied largely on the NASC agencies to manage the growing pressure on long-term home support funding (Bray 2002, Health Funding Authority 1999f, Ministry of Health 2000a).

The funder aided this process by:

- Gradually extending NASC budget-management, resulting in the HFA's plan to implement a consistent national NASC budget-managing model.

- Introducing national standard access criteria for home support and other services.

- Working on a national standard assessment tool.

- Implementing tighter criteria for the definition of 'disability' so that it included fewer people whose primary need was for palliative care or convalescence care after a medical/surgical event.

- Keeping tight control on prices paid to providers for residential and home care services.[25]

District nursing and short-term home support expenditure

In contrast to DSS-funded home support services, GP-referred and post discharge home support and district nursing form a relatively small and capped proportion of the total personal health budget, overshadowed by the high and rising demand-driven expenditure on acute inpatient admissions and community pharmaceuticals.

Neither funder nor provider organisations expressed much concern at the increasing expenditure on home-based services. This lack of concern probably reflects:

- The relative invisibility of these services in comparison with the other hospital-based services provided by the HHSs, and the difficulty in getting accurate information on the expenditure or utilisation of HHS-provided home care services.

- The common-sense reasoning of people responsible for hospital budgets that it must be cheaper to discharge patients to home-based care than to keep them in an acute hospital bed.

- The incentive and feasibility for the acute hospitals to shift the care and cost of hospital 'bed-blockers' to DSS-funded services, such as AT&R services and long-term home support.

5.1.6 Moves towards a national policy on 'integrated care'

New Zealand's approach to 'integrated care' could be typified as both:

- **Bottom-up** - a concern with the fragmentation of primary, hospital and community services, the negative effects of cost-shifting on patients and the gaps in services that result.

- **Top-down** - a debate about setting a budget for a range of services, and more especially about what organisation should hold that budget – the government funder or a non-governmental entity?

[25] A 1999 study of home care workers in New Zealand found them to be a casualised workforce with particularly low wage rates (Burns et al. 1999).

During the late 1990s there was debate of both types:

Bottom-up - practical problems with the DSS ring-fence

The 1990s saw more calls for greater co-ordination between disability support services and health services, particularly for older people who often have both medical and social needs.

The ring-fence had been welcomed as a necessary protection to prevent resources for the elderly and disabled being siphoned off into the acute hospital sector. However, by the late 1990s funders, providers and users were increasingly concerned at the various boundary issues between the funding streams for disability support and health. These issues, which are still relevant, include:

- **Definition of 'disability'** - a gap exists in services for people who are disabled by chronic medical illnesses, such as heart failure or emphysema. In many areas, these people are not entitled to DSS-funded services, such as respite care or equipment. Similarly, the distinction between disability and personal health becomes increasingly blurry as more people with life-long disabilities grow old and develop illnesses such as cancer (Health Funding Authority 1999b, Wainwright 2002).

- **Ad hoc resourcing for complex care in the community** - people discharged from the acute hospital to home or to residential care have more complex needs now – for convalescence, rehabilitation, palliative care or ongoing nursing care or oversight (e.g., stomal care, IV therapy). The separation of DSS and personal health budgets means that acute hospitals have had an incentive to transfer people out of inpatient beds into AT&R units, long-term home support or residential care, but no corresponding incentive to ensure that adequate resources follow these patients. This has led to increasingly ad hoc and administratively cumbersome arrangements for funding care in non-hospital settings for people with complex and/or high needs (Heath Funding Authority 1999b, Wainwright 2002).

- **Advanced personal care issue** - as care at home comes to include more procedures once only done in hospital or outpatient clinic (e.g., stomal care), good linkage between personal carers and district nurses has become increasingly important. The 1999 home support audit found that personal carers were sometimes delivering 'invasive' cares with limited training or nursing supervision. People with stable lifelong disabilities and their carers were often comfortable with this, but it was more problematic for less medically stable older people. Debate started during this period on the role and training of 'advanced personal carers' and enrolled nurses or 'second-level nurses' and their relationship to district nurses (Health Funding Authority 1999a, Goodyer 1999).

- **Relationship between NASC agencies and AT&R units** - there has been ongoing tension between the role of NASC agencies and specialist geriatric AT&R units, played out in different ways around the country. There was concern that some NASC agencies did not always refer clients appropriately to AT&R units for specialist assessment, and conversely that some AT&R units provided unnecessarily complex assessments for people who just needed referral to routine low-level home support (Bray 2002, Service Evaluations Ltd 1999).

- **Relationship between primary care and NASC services** - while some tension exists between GPs and NASC agencies over who has primary responsibility for co-ordinating the care of older people, this has tended to play out more through local services than through national policy debate. 'Integrated care' as it referred to GPs has mostly meant GPs' linkage to the acute hospital and less attention has been paid to linkage with community or continuing care services, though this may slowly be changing (Ministry of Health 2002d).

'Top-down' debate - ambivalence to 'integrated care '

In principle, responsibility for resource allocation decisions for the whole range of health and disability support services was structurally integrated within the four RHAs, when in 1993 they were each given a total capped budget covering hospitals, primary care, disability support services and public health.

In 1998, the RHAs were combined into one national funding organisation, the Health Funding Authority, which as a smaller body theoretically could have taken these allocation decisions even more easily.

In fact, the RHAs and later the HFA addressed the issue of 'integrated care' in an interestingly sporadic and unclear fashion. They encouraged and funded pilot 'integrated care' initiatives throughout the country, commissioned reports and supported various initiatives to foster discussion (such as a MoH website and a HFA newsletter, now both defunct). However, no explicit policy statement was produced as to what an 'integrated care' system would look like (Moore 2000, Health Funding Authority 1999d, 1999e, Ministry of Health 2000b, Chan 1999, Mays 1999, Rillstone 1998).

The HFA developed explicit processes for allocating resources *within* the personal health, public health and DSS funding 'silos'[26], but did not in its short life appear to have addressed the issue of allocating resources *among* silos. It does not appear to have explored the cost-effectiveness of trade-offs between primary care, secondary hospital care and home-based services that some Canadian provinces, for example, had started to explore (Hollander 2001).

The HFA and RHAs had the possibility of moving resources around among these sectors. Why then, did they do not do this to any great extent? There may be several reasons:

- **Lack of time** - as wholly new organisations most RHAs took two to three years to establish their operation as a funder within each service sector, before they were able even to start looking at broader issues of resource allocation among sectors.[27] In the fourth year, the RHAs were disestablished and replaced in 1998 with the HFA. The HFA had an even shorter period of operation before being disestablished in 2000.

[26] Such as the requirement for any change in funding to be accompanied by evidence of its impact on cost-effectiveness, acceptability, equity etc.

[27] In 1996, the Southern RHA, for example, started several agency-wide projects on broader planning issues such as resource allocation and priority setting, which were aborted when RHAs were abolished in 1997.

- **'Integrated care' was a politically loaded concept in the 1990s** - to many in the health sector this phrase resonated, whether positively or negatively, with images of American 'managed care' whereby organisations such as HMOs funded an integrated set of services for specific groups within the population. The RHAs had been set up by a government that had wanted to go further towards a market-type reform of the health sector by not just splitting the purchaser and provider functions within the health sector, but also bringing in multiple funders in the form of HMO-style 'health plans', covering specific population groups. This proposal met with strong public opposition and was finally discarded (Fougere 2001).

  The RHAs' and later HFAs' lack of clear policy statements on 'integrated care' reflects the lack of internal consensus on this issue that existed within these organisations, the sector and the government during this time. While no-one could argue that services could be better co-ordinated, there was little agreement on how to pool the funding for these services or on the organisation that should manage this total budget. Should the public funder retain this allocative responsibility and its associated financial and service risk? Should it be devolved to Independent Practice Associations (IPAs), to local iwi organisations, to local community trusts, to groupings of local services? While the HFA initiated debate on these issues, it took a cautious approach in proposing solutions (Moore 2000, Cumming 2000, Mays & Hand 2000, Chan 1999).

- **Lack of information** - the lack of basic, linkable expenditure and utilisation information for primary care, hospital services, community services and long-term residential and other DSS-funded services has been a major obstacle to any attempt to allocate resources among these services in a more explicit manner. The major restructuring of the health funder function at two to four yearly intervals for the past 15 years in New Zealand has moreover made it difficult for any funder to implement robust long-term plans for improving information systems (Francis & Hart 1998).

5.1.7 Local 'integrated care' pilot projects

Both providers and funders have initiated a considerable number of 'integrated care' pilots from the late 1990s with the aim of improving service co-ordination. Several focussed on the care of older people, and at least one pilot suggested that funding for the full continuum of care for the elderly should be integrated into one funding 'pool' (The Eldercare Canterbury Project 2001). A number of other pilots devised better ways of improving co-ordination between primary and secondary services, but then often could not obtain funding to continue.

The proposals for pooled funding or for transfers of funding between secondary and primary sectors were rarely implemented. This may have been for several reasons:

- The funder lacked a clear policy on integrated funding, as described above.

- The funder lacked clear decision-making processes for the transfer of funding between sectors.

- The continual restructuring of the funder organisations made it difficult for providers and clinical staff to maintain relationships and negotiations with funder staff.

- In the absence of clear funder support, the various provider organisations making up a pilot project were often unable and/or unwilling to risk their own budgets in a shared endeavour.

Limited information is available on the various pilot projects, apart from a brief HFA statement and the reports of process evaluations of a number of projects undertaken by Health Services Research Centre (Health Funding Authority 1999d, Health Services Research Centre 2001). Two examples of projects involving care in the community for older people were:

- **The Eldercare Canterbury Project** - this pilot addressed the particularly fragmented nature of home support and other services in Christchurch City by setting up projects on specific co-ordination issues. The focus was on building relationships among the various providers and services. These projects, which still operate, include (The Eldercare Project 1998, 1999a, 1999b, 1999c, 2001, Health Services Research Centre 2001):

    - The Co-ordination Of Services for the Elderly (COSE) pilot – key workers from the AT&R-based NASC agency were attached to specific groups of general practices, with responsibility for assessing the needs of their older patient populations, organising their home support services and referring them for specialist care as appropriate.

    - The Stroke project – specific services for stroke patients were developed, including acute and rehabilitation beds, and community rehabilitation services (Hanger 2002).

    - The Broken Hip and Acute Confusion projects – clinical pathways and guidelines were developed for the management of these patient groups.

    - Discharge Planning project – a range of initiatives to improve communication between primary care and the hospitals.

- **North Health care management for older people** - an evaluated project using case management and home support services for older people who would otherwise have entered long-term residential care, and a related study of the cost of informal care given to older people living at home or in residential care (Belgrave & Brown 1997, Richmond & Northey 1997) (see Section 2.2.3 for more discussion).

5.1.8 National policies for older people's health

By the late 1990s, the concern at the boundary issues between DSS and Personal Health services, particularly for older people, led to a number of reports and two major national policy documents that reflected a change in the direction of services for older people:

- **National Health Advisory Committee report on older people** - this report summarised the concern at the separation of health and disability support services that was inherent in the clear differentiation between NASC agencies and medical services, and in the ring-fenced DSS budget for 'age-related' services. The report argued that the strong focus on non-medical case

management and consumer choice may be more advantageous for younger people with life-long disabilities than it was for older people who typically needed increasing contact with both health and social services as they age (National Health Committee 2000).

- **The New Zealand Guidelines Group reports** - these included:

  - A detailed descriptive and critical review of the RHA and HFA policy on needs assessment since 1993 (Bray 2002).

  - A literature review of needs assessment tools for older people, which emphasised the role of specialist geriatric assessment (Davey 2002).

- **Health of Older People Strategy and the 'integrated continuum of care'** - in 2002, the MoH released a detailed national policy document outlining a vision for services for the health of older people. This was the Ministry's contribution to a broader governmental policy on 'Positive Ageing', introduced in 1999 (Dalziel 2001). At the core of the Health Of Older People Strategy is the concept of an 'integrated continuum of care', whereby all health and disability support services are well co-ordinated to meet the older person's needs (Dyson 2002).

  It is notable that this strategy did not mention the role of NASC agencies or the HFA's plans for further development of the NASC model.

  The literature review that the MoH undertook during the preparation of this document gives many examples of localised service integration projects that may be of use to those undertaking such projects (Ministry of Health 2001a).

- **Policy projects on older people's health and home-based services** - from around 2001, the Ministry began a number of projects addressing aspects of services for older people, including:[28]

  - **Guidelines for needs assessment** - in late 2001, the New Zealand Guidelines Group began a project to examine the evidence for the most effective methods of assessing the health and well-being of people aged 65 years and over. A draft 'Guideline for assessment process for people aged 65 years and over' was released for consultation in April 2003. The final assessment tool(s) will be trialled and evaluated[29] (New Zealand Guidelines Group 2003).

  - **Review of specialist health services for older people** - The aim of this MoH project is to contribute to the development of an integrated continuum of care for older people by developing a service model of specialist geriatric and psycho-geriatric services that are integrated:

    * Across mental and physical health and disability support care.
    * With primary health care and other specialist health services.

[28] See MoH website for more details of these projects: www.moh.govt.nz/olderpeople

[29] See the New Zealand Guidelines Group website for this guideline: ww.nzgg.org.nz/development/wip.cfm#65

- **Ageing in place** - this project supports the development of initiatives aimed at helping older people with high and complex needs to remain where they are and avoid entry to residential care. A major aim of the project is to develop a method for evaluating these programmes.

- **Home based support services** - this project is working on a strategic plan for the development of home-based services, as well as a planning and purchasing approach and a plan for implementing changes to these services.

- **Long-term care for older people** - policy work around the government's commitment to remove asset testing of older people in long-term residential care.

5.1.9 Health reforms of 2001 – District Health Boards

The next upheaval of New Zealand's health planning and funding workforce produced, like previous restructurings, both opportunities for positive change and obstacles to the continuity of useful work.

In 2001, the government created 21 District Health Boards (DHBs) with responsibility for allocating /funding among health services for their populations. The Ministry of Health retained responsibility for overall policy direction.

The government decided not to devolve the ring-fenced DSS funding to DHBs at this point, and this funding was held nationally by the Ministry of Health. A criteria for transferring this funding to DHBs was that the latter had to show their capability to manage this funding and to achieve an integrated continuum of care for older people (Ministry of Health 2002c).

The ring-fenced DSS funding for services for people with 'age-related disabilities' was transferred to district health boards in October 2003.

5.2 AN EVALUATION OF NEW ZEALAND SERVICES FROM AN INTERNATIONAL PERSPECTIVE

5.2.1 Common themes from overseas experience and literature

The literature review suggests there are few simple answers to the questions: 'Can home care substitute for acute hospital services or long-term residential care?' or 'What's the most cost-effective mix of home-based and other services?' However, there is considerable consensus on several recurring themes:

- **Organisational integration** - co-ordination of services is made easier where all relevant services in the continuum of care are part of an integrated organisational structure for allocating resources among them.

- **Standard datasets and assessment tools** - being able to shift resources among services to achieve the most cost-effective mix for the older population can only be done if we know what is being used by whom, how this has changed over time and the impact of each service upon the others. Deciding on the most cost-effective mix of services is well-near impossible without this information.

Deciding on the most cost-effective mix of services is also difficult unless all services are using the same standard measure of individual need – i.e., a standard assessment tool.

- **Case management at primary care level** - there needs to be a single point of entry into the continuing care system, and standard access criteria, so that people are triaged and referred to the most appropriate service. Older people typically have ongoing needs for both health and disability support services, and a small minority have complex problems. Triage and initial assessment are best done by multi-disciplinary primary-based teams, which include needs assessment/social work skills as well as medical/nursing skills, and which have strong links to geriatric specialist services.

- **Establishing what works best for different groups** - home-based services can be a cost-effective alternative to both long-term residential care and acute hospital care – in specific situations and for specific groups of people. We need to explore in detail the interventions or service mixes that are best suited to specific groups of people or types of health problems.

- **Maintaining health and fitness** - maintaining people at their current level of functioning and preventing deterioration keeps people out of acute hospital and long-term residential care. Low-level home support, as well as various community-based services and interventions, are effective in preventing acute hospital admission and entry to long-term care.

- **The need for champions** - strong lobby groups of providers and users of home-based services help to keep crucial issues on the agenda. These include the cost of home-based services to the users, and the impact of low pay rates and casualised working conditions on quality and accessibility of home support services.

How does New Zealand compare? This section examines how New Zealand's home care system addresses some of the major themes emerging from the review.

5.2.2 Organisational integration

The RHAs and HFA made some broad moves towards 'integration', and also initiated much local activity to try to improve service coordination throughout the country.[30] However, the government funders made relatively few statements as to how the funding silos could or should be integrated at the highest organisational level.

The RHAs and HFA's limited development of mechanisms for integrating resource allocation decisions for personal health and disability support services suggests that integrating these budgets within one organisation (even small and flexible agencies with relatively clear allocative processes) is not a sufficient condition for ensuring that the decisions are made. Silos persist within organisations. However, this situation might well have changed over time if the organisations had been given time to mature.

[30] The Southern RHA, for example, integrated the funding of DSS-funded and personal health funded home support services throughout the South Island in order to improve the coordination of these services.

The recent transfer of resource allocation responsibility to local DHBs, and the devolution of DSS funding to DHBs, provide both opportunities and barriers to the establishment of integrated resource allocation:

Opportunities

- The smaller size of DHBs means that clinical staff can become more closely involved with decision-making, which should increase buy-in and the workability of decisions.

- The role of services for the older people has become more firmly established over the past decade in most places, and they are probably more able to compete for decision-makers' attention than was the case in the past.

- The Ministry is explicitly committed to greater integration of services for older people, to helping DHBs develop the capability for this integration, and to transferring the funding for these services when this capability has been demonstrated.

Barriers

- Most of the 21 elected District Health Boards have not yet established robust mechanisms for allocating resources among the full range of services on the basis of evidence of cost-effectiveness.

- As locally elected people with direct responsibility for the delivery of services, Board members are under great pressure to give priority to addressing short-term operational issues, particularly within the acute hospitals (e.g., staff pay negotiations), which means less time to address long-term planning.

- Boards and their staff face the same learning curve of 'understanding the business' that all previous funders have faced, from Area Health Boards to RHAs to HFA. One former RHA CEO commented that it takes any new organisation about three years to figure out what it should be doing, before it can think about how to do it better. Few government health planning entities have been given that luxury in New Zealand.

- Many DHBs lack adequate analytical or informational resources to develop cost-effectiveness scenarios for long-term care services for older people, even if data were easily available.

Recommendations – organisational intergration

- Joint work by MoH and DHBs to establish robust mechanisms for developing and evaluating proposals for the re-allocation of resources, on the basis of evidence of cost-effectiveness.
- Development by MoH of measures of DHB performance that will demonstrate DHB capacity for rational resource allocation.
- Provision by MoH of robust and easily accessible resources of information, analysis and networking to aid DHBs in their planning.
- MoH and DHBs developing mechanisms to ensure that funding for continuing care services for older people is not transferred to acute hospital services.

5.2.3 Good information

New Zealand currently has limited information on home-based service expenditure and utilisation at national, regional or district levels. There is also limited capacity for data linkage among home-based services, acute hospital services, residential care and primary care. On the other hand, New Zealand may have a greater potential than other countries for developing a good information base.

The state of current information:

- **Long-term DSS-funded home support services** - the legacy of the different management systems set up by the four RHAs make it difficult to get consistent national figures on expenditure and volumes for DSS-funded services. Central and Southern regions have used a centralised payment and monitoring system,[31] which collects expenditure and utilisation information on actual services delivered to individual clients, based on payment data. However, Northern and Midland regions did not use this system and their home support data has had to be retrieved from the NASC agencies in those regions (Chan et al. 2001).

  The MoH is currently undertaking a detailed work programme to improve this and other datasets of DSS-funded services for older people, to aid the devolution of these services to DHBs (Health Funding Authority 1999c, Ministry of Health 2002c).

[31] The Client Centred Payment System (CCPS), based in the Ministry of Health's HealthPAC office in Dunedin. This system also collects data on payments for other DSS-funded services, including residential care, carer support, respite care, transport and accommodation.

- **'Personal health' funded home support and district nursing** - in most DHB areas these mostly short-term GP-referred or post-discharge services are funded and provided directly by the DHB. The yearly budgeted expenditure is shown in the CHE/HHS/DHB contracts/funding agreements with the MoH. Aggregate data on service volumes can be found in the monitoring reports of the DHBs. No client-level data is collected nationally or regionally, and there is no way of analysing usage of service by client type. Lack of client level data means it is impossible to link these data to hospital discharges or DSS-funded services.

The national community services project agreed on national reporting standards but no central validation process was set up to implement these effectively and ensure that common definitions are used. As a result utilisation data remains unreliable, inconsistent and unusable for comparative purposes. The anomaly between what is budgeted for these services and what is spent also means that the data on budgeted expenditure is also unusable for comparative purposes (Wainwright 2002).

- **Moves towards a standard assessment tool** - no national standard tool or process has yet been implemented for assessing older people as to their need for all types of long-term care. It is therefore currently impossible to know whether the high rate of entry to residential care in one district is a result of higher need or merely looser access criteria. Within one district there may be people in residential care who have the same level of need as people receiving home care. However, a national guideline for needs assessment for older people has just been released and the MoH currently has a work programme to trial and evaluate it (Ministry of Health 2002d, New Zealand Guidelines Group 2003).

- **National Health Information Strategy (WAVE)** - a review of national health information systems commissioned by the MoH in 2001 recommended that the gaps in client-level data for hospital outpatient and community services should be filled. The MoH is now implementing this report. However, no explicit priority has been given to improving information on outpatient, community or DSS-funded services. Although the implementation programme has a work-stream on 'integrated care', this is defined in terms of linkage between primary health sector and hospitals, not between DSS and non-DSS funded services (Ministry of Health 2001b, 2002d).

- **Linkage of data through the National Health Index** - New Zealand has a unique patient identifier (NHI number) for all hospital inpatient episodes of care. This is increasingly being adopted by primary care and other providers. This identifier potentially enables confidential linkage of service information at client level so that service usage patterns can be analysed. Cleaning up and maintaining this database is one of the MoH's IT priorities and is part of the WAVE work programme (Ministry of Health 2002d).

- **Client-level datasets for most publicly-funded health and disability support services** - client-level datasets exist for public hospital admissions, long-term and most short-term admissions to rest homes and long-stay hospitals, long-term home support services, carer support and respite care, about half of primary care

visits,[32] all community-prescribed pharmaceutical expenditure and laboratory tests, and inpatient, outpatient and community mental health services.[33] Most of these datasets are national (or have the potential to be national) and most could have NHIs attached and so be able to be linked.

Opportunities

- **NHI** - New Zealand's small population and predominantly publicly funded health and disability support system makes the adoption of the NHI identifier by all publicly funded services achievable. In this respect, New Zealand is more fortunate than many other countries.

- **Client-level datasets for most publicly-funded health and disability support services** - compared to some other countries, New Zealand has a relatively large proportion of its health services using client-level data systems. This means a greater potential for linking the various administrative dataset for research and planning purposes.

- **Adoption of overseas tools** - New Zealand could take advantage of the detailed work that has been done overseas in developing, piloting and implementing national minimum datasets. Adoption and adaptation of the national minimum dataset for Australia's HACC programme could probably be done relatively easily (Ryan et al. 1999).

- **National guideline for needs assessment** - work is progressing on trialing and evaluating a standard needs assessment tool for older people.

- **DHBs have an incentive to get better information** - DHBs are required to develop integrated continuums of care for older people, so have an incentive to obtain reliable information on service usage and expenditure.

Barriers

- **Low priority of disability support service information** - the standard dataset for disability support services needs further work if it is to provide reliable data for planners. Although MoH cleaned up this dataset prior to the transfer of funding to DHBs, neither MoH nor DHBs have a clear ongoing work programme to maintain and improve this dataset or other information in this area.

- **Gaps in community and outpatient data** - no client-level information exists for short-term home-based health services or medical/surgical outpatient services. Although these gaps were noted in the national review of health information, the MoH has no explicit work programme for addressing them.

[32] About half the population (plus all children up to 6 years and all women in pregnancy) are eligible for the community service card subsidy for a GP consultation, on which data is collected.

[33] The Mental Health Information National Collection (MHINC) is a New Zealand Health Information Services project within the MoH to establish a client-based dataset for all mental health services, including inpatient, outpatient and community settings. (See website at www.nzhis.govt.nz/collections/collections-mhinc.html, Pennebaker & Wood 2001).

- **Conflicting views over the assessment process** - there is still a lack of clarity as to the relative role in assessment of NASC agencies, AT&R services and the primary care sector.

- **Relatively weak linkage between policy and research sectors** - compared to the countries reviewed, New Zealand has put relatively few resources into health policy research. This is undoubtedly due to the country's small size, but it also reflects a relatively weak linkage between health policy and academic research sectors. Continual restructuring of the health policy workforce has made it difficult for policy staff to form alliances with the research community, and vice versa, particularly since research work timetables are usually longer than the typical two-year life-span of each successive funder organisation.[34]

Recommendations – good information

- Setting up a national project, on the model of the MoH project for national mental health data, to improve information on the continuum of services for older people, including home-based services, using the current CCPS database for DSS-funded services as a foundation.

- Setting up a joint group of MoH Health of Older People, MoH Disability Services Directorate and DHBs, together with interested researchers and academics, to work on cleaning up, linking, maintaining and using health and disability databases, on the POPULIS model (see Section 4.2.1). This project would link basic data on hospital admissions, residential care, home support, GP visits, pharmaceutical use and census data etc to identify trends and variations in utilisation and expenditure, as a tool for planning and resource allocation.

- Finalising and implementing the standard assessment tool, as planned.

- Progressing the clean-up of the NHI database and ensuring that NHI numbers are attached to all aspects of continuing care services, including DSS-funded services, primary care, hospital outpatient and home-based services.

5.2.4 Single point of entry and primary-based case management

In most New Zealand districts, the local NASC agencies provide a single point of entry to DSS-funded age-related services, through case management coordination of these services. Many NASC agencies manage the budgets for this range of services, so have an incentive to seek the most cost-effective mix. NASC agencies are currently implementing national guidelines for access criteria and standard packages of care.

[34] See also Kathy Eager's address to the NZ/Australian Health Servcies Policy Research Conference in 2001, where she pointed out a lack of research attention to evaluating models of funding services, which is not restricted to New Zealand (Eager 2001).

However, in a number of areas NASC agencies have had limited linkage with primary medical/nursing services or with specialist geriatric services. NASC staff are responsible primarily for allocating DSS-funded long-term services – they have had no clear guidelines or process for co-ordinating with the client's GP or with any district nursing or short-term home support that the GP or the hospital wards may organise. In many areas of the country the agency providing long-term home help to an older person may well be different from the one delivering short-term home help to the same person, because of the way of the services are funded and contracted.

The New Zealand Guidelines Group drafted an evidence-based report on assessment processes for older people, and the Ministry has a national work programme to trial and evaluate a standard assessment process and tool(s).

However, there appears to be a lack of clear consensus or direction within the Ministry of Health as to the role of NASC agencies in assessment and service co-ordination for older people, relative to other services such as general practice or specialist geriatric services.

In the Health of Older People Strategy, the government and Ministry have given a reasonably clear vision as to what a well-co-ordinated health service for older (indeed all) people should look like. The government's Primary Care Strategy, which envisages the growth of Primary Health Organisations (PHOs) also gives a vision for multi-disciplinary service co-ordination based at the primary level (King 2001).

But as yet it is unclear how these policies could translate into actual funding arrangements and service configurations. Only a relatively small number of PHOs have so far been established, and it is unclear what their role will be in service co-ordination vis a vis NASC agencies or IPAs. The DHBs have taken responsibility for DSS-funding services for older people from October 2003. NASC agencies are currently the primary mechanisms for managing the bulk of the uncapped funding for these services. DHBs will need to consider what forms of service integration and budget management will be most effective in terms of financial management as well as well-coordinated services.

Opportunities

- Funding for the range of services for older people for each district came under one funding entity (DHBs) in late 2003, enabling these services to be planned together. This could allow much innovation in how services are delivered.

- The MoH is actively encouraging local integrated care pilots that seek better linkage between primary, hospital, community and long-term services.

- The 'integrated continuum of care' for older people sought by the MoH supports the concept of a single point of entry.

- The government's Primary Care Strategy and support for PHOs provides encouragement for GPs to work more closely with other primary level health workers, such as NASC agencies.

- New Zealand's experience of the delivery of NASC services means that a workforce exists with growing skills and experience in case management, managing budgets and triaging people to get the right mix of services.

- The NASC agencies are currently working to national guidelines and access criteria.

- A national set of guidelines for the assessment of older people's needs has been completed and is being trialled.

Barriers

- Many in the sector are concerned that once the DSS funding ring-fence is loosened or abolished, its hard-won resources will be taken over by hospital-based services. Similarly, there is resistance to what is feared to be an over-medicalising of older people's disabilities and the abandonment of the DSS philosophy of client control over their own care. This constrains the growth of trusting relationships among the various health and social support professionals.

- Primary Health Organisations are establishing only slowly and it is not clear when or if they will replace the current IPA structures. In the meantime, most IPAs and the GPs within them continue to be funded on a fee-for-service basis per GP visit. This means GPs have little incentive (or indeed financial capacity) to share any of their tasks or patients with other primary health workers such as NASCs or to incorporate these workers within the primary care setting.

- There is a lack of clarity within DHBs as to **how** best to manage the uncapped DSS funding to both manage the financial risk and to maximise their co-ordination with other health services. There appears to be a lack of consensus within MoH as to the direction for this, with the earlier plan for the national development of the NASC function having been discarded and no clear alternative emerging in terms of a financial management strategy. Since it is not now the role of the Ministry to develop such operational strategies, DHBs will need to develop expertise rapidly in this sector. Given the small size of many DHBs, it would make sense for them to work together on this.

Recommendations – single point of entry and primary-based care management

- MoH's Disability Services Directorate and Health of Older Persons sections working closely and actively with DHBs to find practical solutions to achieving greater linkage between primary care services, NASC agencies and specialist geriatric services.
- Improving information systems to give good basic utilisation and expenditure information on who is getting what.
- Encouraging use of the standard national assessment tool by a range of key workers, including GPs and practice nurses.
- Introducing some form of capitated funding for all general practices, so that GPs have an incentive to work with other health professionals.

5.2.5 Establishing what works best for different groups

As described in Section 5.1.6, a large number of local projects are underway throughout the country on:

- Developing clinical pathways and guidelines for the best mix of services.
- Improving linkage between services e.g. discharge planning.
- Disease management and hospital avoidance initiatives.
- Averting entry to residential care for some older people with high complex needs by increasing their home support services (the MoH's 'Ageing in Place' initiatives).

For the reasons described in Section 5.1.6, providers and clinicians working on these projects have in the past often met with a lack of response or support from the funder when they have sought to put a successful pilot into common practice, particularly when it involves transfer of funding from one sector to another. The despondency that this has often generated could be dispelled by DHBs and MoH actively responding to and supporting these pilots when they show their worth in improving service co-ordination.

Opportunities

- The inherent energy and enthusiasm that many people working in the health and welfare sector have for working together to improve their services.

- The requirement on DHBs that they implement an integrated continuum of care for older people will hopefully encourage the Boards to support these initiatives and develop them further.

- The devolution of DSS funding to DHBs will hopefully also encourage them to explore ways of managing the wider financial and service risks to DHBs by looking at the interactions between DSS-funded services, hospital services and primary care and seeking he optimum mix among these services.

Barriers

- The devolution of DSS funding for older people has only just been implemented and many DHBs still need to build up capability to manage it.

- DHBs are likely to concentrate on the short-term crises they face within the personal health services they already manage, rather than pursue complex longer-term solutions.

Recommendations – establishing what works better for different groups

- MoH and DHBs supporting and encouraging Older Person's Health and other clinical services in conjunction with IPAs and NASCs to develop joint guidelines for clinical pathways, best practice guidelines for different groups of users of long-term services and initiatives for improving service co-ordination.

- Development of good basic information systems, based on a standard assessment tool, to give utilisation and expenditure information to support this work and allow guidelines to be evaluated.

- Funding and encouraging evaluation of innovative projects.

5.2.6 Home-based services for maintaining health and fitness

The government has produced a number of policy documents supporting a greater focus on the overall health, well-being and fitness of older people. The Positive Ageing Strategy (Dalziel 2001) provides an overall framework and the Minister of Health's Health of Older Persons Strategy (Dyson 2002) is the action plan for the health sector within this broader framework.

Both strategies emphasise the importance of 'ageing in place' - developing services that allow people to remain in the residence of their choice as they age.

Supportive housing - the number of sheltered housing complexes and retirement villages has been increasing. Most are established by private companies and are financially beyond the means of many people. It is likely that there is an unmet demand for a diverse range of housing options for older people who do not need or want rest home care but seek more support and companionship than can be met by living alone with home support. There is an emerging interest in publicly subsidised retirement complexes for older people, such as the Abbeyfields movement.[35] The MoH has been providing some funding for these initiatives, and is also supporting several 'ageing in place' initiatives to develop alternatives to residential care for older people with high and/or complex needs.[36]

Low-level home support to maintain functioning - some countries/regions have responded to pressure on funding by cutting low-level home support even though this has been shown to be effective in preventing entry to long-term care (Cohen 2003). There is some evidence that the number of people getting low-level home support in New Zealand has been dropping (Chan et al. 2001).

Lack of information means it is impossible to know if this reduction represents a more efficient use of these resources (as in the early UK reduction in home help) or whether it has dropped below the level needed to keep people out of residential care. Variability in the usage of long-term home support around the country means that either scenario could be true in specific districts. This is a fertile area for policy research, if the data were improved.

Disease management and early intervention - many Independent Practitioner Associations and others in the primary care sector have started disease management initiatives, supported by MoH and DHBs. These initiatives aim to identify groups of people with specific chronic illnesses and work towards better management, including a focus on early intervention and the use of home-based services. Some IPAs are developing services to prevent acute hospital admission, including the use of more intensive home services and short-term use of rest home beds.

Opportunities

- The MoH's funding for publicly subsidised retirement villages and the 'ageing in place' initiatives reflect the MoH's recognition of the contribution of housing and social support to health and fitness.

- The Health of Older Persons Strategy and other explicit national policies support the extension of home-based services and the development of innovative and diverse models of home support and supportive housing.

- The creation of DHBs, with their broad responsibility for the health of the local population, may encourage more local joint-sector initiatives – e.g., housing, recreation.

[35] See the Abbeyfield website for a description of this movement in New Zealand and overseas: www.abbeyfield.org.nz

[36] See MoH website www.moh.govt.nz/hop/projectupdate

Barriers

- If the devolution of DSS-funded services to DHBs results in a greater dominance of a 'medical model' of health, there is a danger that policy-makers will concentrate on developing new short-term 'high-tech' home based services and ignore the crucial role of basic low-level home support in maintaining health and fitness (Hollander & Chappell 2002, Cohen 2003).

- British Columbia has recently introduced a programme of 'assisted housing' for people who would otherwise need rest home care. Commentators have identified problems with this policy, including:

  - Greater costs borne by the user (e.g., medical and pharmaceutical costs).

  - A narrow focus on reducing long-stay beds to meet cost constraints, without adequate assessment of the number of frail elderly people for whom this care would be appropriate – the risk that some people's eligibility for long-stay care has been removed inappropriately.

  - Lack of licencing procedures means concerns about quality of care.

  - Unclear boundary with personal care/district nursing services – are residents eligible for these services as they would be in their own homes? This is an issue now emerging in New Zealand for people living in retirement villages.

  These issues need to be clearly explored and publicly debated. (Cohen 2003)

Recommendations – home-based services for maintaining health and fitness

- Support from MoH and DHBs for IPAs to develop models of disease management and schemes to reduce hospitalisation and entry to long-term residential care and/or prevent illness and disability.

- Maintaining current levels of funding for home support for users with low needs until more work is done to establish optimum levels of such services.

- Development of information systems to establish current levels of home-based service provision and to develop benchmarks of services per head of population.

- Estimating the budgetary impact of removing the means–test from long-term home help services, and considering whether it may be cost-effective for DHBs to do this in the long-term (see Hollander 2001).

- Extending funding for supportive housing options, while being aware of the potential problems.

5.2.7 Champions for the home-based services sector

Policy research - home-based services have not been high on the policy agenda at any stage during the various restructurings of the New Zealand health service. Little work has been done in this area in the academic and research communities, or within the Ministry of Health or other funding bodies.

However, this may be changing with the focus on an 'integrated continuum of care' and the support for the 'ageing in place' concept. In 2002, the MoH initiated a Home-Based Support Services project to develop a strategic plan for these services.[37]

Workforce issues - there is clear evidence that low pay rates and conditions for home support workers are a continuing urgent problem in New Zealand, resulting in high staff turnover and difficulties in recruiting and retaining workers. This in turn impacts on the availability and quality of services (Burns et al. 1999, Goodyer 1999).

In 2002, the MoH reported to the Minister of Health on standards for home-based services, the government set up a Ministerial group to address working conditions and training issues in the home care sector, and the MoH set up a work programme to address workforce issues (Ministry of Health 1995a, 2002a).

In 2002, the Health Workforce Advisory Committee made recommendations for the future development of the New Zealand health workforce. It is noticeable that this report did not address the work-force issues facing home-based nursing and support services, except in terms of better training for support workers for people with disabilities (Health Workforce Advisory Committee 2003).

Sector lobby groups - the Home Health Association of New Zealand was established in 1993 to bring together consumers, volunteers and providers involved in home-based support services. The Association has had a primarily private provider focus so far, with only limited membership among public providers (e.g., the DHB short-term community services), user groups, researchers or policy-makers. [38]

Planned removal of asset testing - in 2000, the government made a commitment to remove asset testing for long-term residential care for older people. The government and MoH are currently working through the details of this policy change.[39] It is likely that when these details are available for comment there will be considerable public debate about the pros and cons of this policy, and its impact on the demand for home-based services. It is unclear whether means-testing for long-term home help services will also be removed as part of this policy – this also will have an impact on demand for this service (Saucier 2002).

[37] See MoH website: www.moh.govt.nz/olderpeople

[38] More information on the Home Health Association of New Zealand can be found at their website: www.everybody.co.nz/support/nzhha.htm

[39] See MoH website www.moh.govt.nz/olderpeople

Opportunities

- Much more national policy work is now being done on home-based services, within the context of an 'integrated continuum of care' for older people.

- Public consultation on these policies and on the proposed removal of asset testing may lead to further debate and a higher profile for home-based services, particularly in the context of long-term care for older people.

Barriers

- New Zealand has a small population, which makes it harder to establish and maintain specific interest groups around particular issues or services.

- The separation of MoH's policy function from DHB operational accountability may make it more difficult directly to implement funding and contractual policies to improve the pay rates and conditions of home care workers.

Recommendations – champions for home-based services

- Raising the profile and status of home-based services through better pay rates, working conditions, accreditation procedures, training etc.

- Involving DHBs more in the MoH policy-making processes on home-based services so that they have greater buy-in to the final policies that they will be required to implement.

- MoH support for gatherings of home-based providers, users, researchers, etc on home-based service issues.

GLOSSARY OF ABBREVIATIONS USED

ACAT	Aged Care Assessment Team (Australia)
ADL	Activities of Daily Living
AIHW	Australian Institute of Health and Welfare
AHB	Area Health Board
AT&R	Assessment, Treatment and Rehabilitation
CCPS	Client Centred Payment System
CHE	Crown Health Enterprise
CORD	Chronic Obstructive Respiratory Disease
DHB	District Health Board
DRG	Diagnostic Related Group
DSS	Disability Support Services
DSW	Department of Social Welfare
GP	General Practitioner
HACC	Home and Community Care (Australia)
HFA	Health Funding Authority
HHS	Hospital & Health Services
HMO	Health Maintenance Organisation (US)
IPA	Independent Practitioner Association
IV	Intravenous (therapy)
LOS	Length of stay
MHINC	Mental Health Information National Collection
MoH	Ministry of Health
NASC	Needs Assessment and Service Co-ordination
NHI	National Health Index
PACE	Program of All-inclusive Care for the Elderly (US)
PHO	Primary Health Organisation
PSSRU	Personal Social Services Research Unit (UK)
RCT	Randomised Controlled Trial
RHA	Regional Health Authority

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APPENDIX:

METHODOLGY OF THE NZHTA LITERATURE SEARCH

This is taken from Susan Bidwell's documentation of the search. Additional material was added later in a more ad hoc way.

COMMUNITY CARE – NZHTA Comprehensive Literature Search *(Level One search)*

Requested by: Torfrida Wainwright, Health Funding Authority

Date of search: September 2000

- What are the national/international trends in the utilisation of/demand for community health services?
- What are the causes/drivers of this demand?
- What is the optimum level of these services for a population?
- How are these services currently organised/funded/structured in different countries
- What are the advantages/disadvantages of different types of funding arrangement/organisation?

Psychiatric/mental health services, health promotion, and nursing homes were excluded.

Search limited to information in English from 1990 onwards.

This work has been undertaken at Level One – i.e., a comprehensive search of the published literature and selected grey literature sources on the topic described above according to the NZHTA search protocol:
http://nzhta.chmeds.ac.nz/nzhtainfo/protocol.htm

GUIDE TO THE SEARCH

General Comments

- There is an extensive literature on the various aspects of community and home care. This search has been large and sprawling in an effort to cover the full spectrum even superficially. Retrieval has been limited to the past 10 years and mental health excluded but the result is still very large.

- Because of the size of the literature, this search has been treated more in the nature of a scoping exercise rather than an in depth search of every facet of the community care topic. Individual themes relating to palliative care, home support services for the elderly and the disabled, geriatric assessment, hospital at home (including intravenous therapy, oxygen etc), early discharge after acute care, and maternal/infant care came up in the search. These would all need investigating in individual searches to do them justice, and some of these topics would need to be broken down even further.

- A specific search of the bibliographic databases was made for information on utilisation/demand for community care services. The results are given in a separate section of the combined file (See Section Two).

- The search for organisation/funding/structure of services concentrated on general articles, reviews and overviews. There are several relevant systematic reviews available on the Cochrane Library. These have been copied and supplied in full text.

- In order to keep the amount of information retrieved from becoming overwhelming, the internet search was restricted to major sources of evaluated information.

BIBLIOGRAPHIC REFERENCES

- **Combined files of references from bibliographic databases I. Utilisation**

References with abstracts where available from the searches of Medline, Embase, Cinahl, Science/Social Science Citation Indexes, Current Contents and Healthstar. The references have been downloaded into a bibliographic package (Endnote) so that duplicates can be identified and deleted.

- **References from the Cochrane Library**

References from sections of the Cochrane Library other than the systematic reviews and protocols. These references are mostly from the Controlled Trials Register with a few following from the NHS Economic Evaluation database. There may be some duplication between the references on the Controlled Trials register and the references in the combined file from the bibliographic databases.

INTERNET SEARCH

Documents from the websites of Canadian, Australian, and US bodies in this section include bibliographies, lists of current and completed projects, statistics and other resources. Relevant documents of larger size have been supplied separately bound in full text.

Please note: particularly that in searching "grey" literature within the timeframe for a Level One search, it is not possible to state that full coverage has been made.

EVIDENCE-BASED REVIEWS

This section contains systematic reviews and protocols from the Cochrane Library, reviews from the *Best Evidence* database, and reviews and ongoing projects from the

suite of databases at the University of York (the Database of Abstracts of Reviews of Effectiveness, the NHS Economic Evaluation database, and the Health Technology Assessment database. The HTA database references also include information about reviews that are currently being undertaken.

SOURCES SEARCHED

Bibliographic databases
Medline
Embase
Cinahl
Current Contents
Healthstar
WebofScience – Science & Social Science Citation Indexes
Index New Zealand

Review databases
Cochrane Library
Best Evidence
NHS Centre for Reviews and Dissemination databases (DARE, NHS Economic Evaluation, Health Technology Assessment)

Library catalogues
New Zealand bibliographic database – Te Puna
US National Library of Medicine
University of Sydney
NZ Ministry of Health
British Library
North Thames regional catalogue - (health authority libraries)

Websites

New Zealand
NZ Ministry of Health

UK
Organised Networked Medical Information (OMNI)
TRIP database – University of Wales College of Medicine
Scottish Intercollegiate Guidelines Network
Aggressive Research Intelligence Foundation (ARIF) - University of Birmingham

Australia
Commonwealth Department of Health & Family Services
Victoria Department of Human Services Community Care Division

United States
Centers for Disease Control
Department of Health & Human Services
National Guidelines Clearing House
Agency for Healthcare Research and Quality
New York State Association of Health Care Providers

Canada
Health Canada
University of Toronto Home Care Evaluation & Research Centre
Ontario Association of Community Care Access Centres
Health Services Utilization and Research Commission Saskatchewan

Search engines
Google
SearchNZ

Other
Review of NZHTA in-house collection and files of previous work

SEARCH STRATEGIES

Medline
community health services/
home care services/
community health nursing/
hemodialysis, home/
home nursing/
home care services, hospital-based/
((community adj2 care) or (hospital adj2 home) or (home adj2 care)).ti,ab.
(home adj2 (intravenous or iv or physiotherapy or physical therapy or stoma: or wound)).ti,ab.
(community adj2 (physiotherapy or physical therapy or stoma: or wound or intravenous or iv)).ti,ab.
(domiciliary adj2 (physiotherapy or physical therapy or stoma: or wound or intravenous or iv)).ti,ab.
((home or community or domiciliary) adj2 (speech or language)).ti,ab.
((home or community or domiciliary) adj2 oxygen).ti,ab.
or/8-12
or/1-6
*delivery of health care/
delivery of health care, integrated/
health care costs/
(service or model).ti.
(service: adj2 delivery).ti.
or/15-19
14 and 20
(psychiatr: or mental: or schizophreni: or psycho:).ti,sh.
(alzheimer: or dement: or depress:).ti,sh.
(alcohol: or substance).ti,sh.
or/22-24
21 not 25
limit 26 to english
limit 27 to yr=1990-2000
(letter or news).pt.
case report/
29 or 30
28 not 31
from 32 keep (selected references)
from 32 keep (selected references)
from 32 keep (selected references)

33 or 34 or 35
*community health services/
*home care services/
*community health nursing/
*hemodialysis, home/
*home nursing/
*home care services, hospital-based/
or/37-42
limit 43 to review
limit 44 to yr=1990-2000
45 not 25
limit 46 to english
47 not 31
48 not 32
(hiv or aids).ti.
49 not 50
from 51 keep (selected references)
*home care services/td,og
32 or 51
53 not 54
55 not 25
limit 56 to english
limit 57 to yr=1995-2000
58 not 31

Medline 2

1 Home Care Services/td, ut [Trends, Utilization] (793)
2 Community Health Services/td, ut [Trends, Utilization] (1204)
3 Community Health Nursing/td, ut [Trends, Utilization] (368)
4 Health Services/td, ut [Trends, Utilization] (2866)
5 Delivery of Health Care/og, st, ma, td, ut [Organization & Administration, Standards, Manpower, Trends, Utilization] (7524)
6 (home adj3 care).mp. (7722)
7 (community adj3 care).mp. [mp=title, abstract, registry number word, mesh subject heading] (5762)
8 (hospital adj3 care).mp. [mp=title, abstract, registry number word, mesh subject heading] (11932)
9 1 or 2 or 3 or 4 or 6 or 7 or 8 (27984)
10 limit 9 to (english language and yr=1991-2000) (14674)
11 5 and 9 (389)
12 limit 11 to (english language and yr=1991-2000) (187)
13 from 12 keep (selected references) (11)
14 from 12 keep (selected references)(8)
15 from 12 keep (selected references)(7)
16 australia/ or new zealand/ (40051)
17 9 and 16 (421)
18 limit 17 to (english language and yr=1991-2000) (198)
19 18 not 12 (191)
20 from 19 keep (selected references) (6)
21 from 19 keep (selected references)(6)
22 from 19 keep (selected references) (9)
23 from 19 keep (selected references)(3)

24 (health care needs and demands).mp. [mp=title, abstract, registry number word, mesh subject heading] (19)
25 "Health Services Needs and Demand"/og, td, ma, ut [Organization & Administration, Trends, Manpower, Utilization] (1916)
26 from 24 keep 2 (1)
27 9 and 25 (196)
28 limit 27 to (english language and yr=1991-2000) (99)
29 28 not 19 (96)
30 from 29 keep (selected references) (16)
31 from 29 keep (selected references) (7)
32 Community Health Planning/ (449)
33 32 and (10 or 16 or 25) (61)
34 from 33 keep (selected references) (15)
35 Health Services Accessibility/ec, st, lj, td, og, ut [Economics, Standards, Legislation & Jurisprudence, Trends, Organization & Administration, Utilization] (3020)
36 35 and 9 (194)
37 limit 36 to (english language and yr=1991-2000) (140)
38 37 not (33 or 29) (130)
39 from 38 keep (selected references) (7)
40 asthma/ (51437)
41 from 38 keep 112,115,125 (3)
42 (hospital adj3 home).mp. [mp=title, abstract, registry number word, mesh subject heading] (2642)
43 5 and 42 (12)
44 limit 43 to (english language and yr=1991-2000) (7)
45 from 44 keep 1-2,5 (3)
46 42 and (16 or 25 or 32 or 35) (39)
47 limit 46 to (english language and yr=1991-2000) (25)
48 from 47 keep 2,4-5,7-10,15,17,19,22 (11)
49 13 or 14 or 15 or 20 or 21 or 22 or 23 or 26 or 30 or 31 or 34 or 39 or 41 or 45 or 48 (104)

Embase

community care/
((community adj2 care) or (home adj2 care) or (hospital adj2 home)).ti,ab.
domiciliary.ti,ab.
home care/
home dialysis/
home monitoring/
(home adj2 (physical therapy or physiotherapy or wound or iv or intravenous or stoma:)).ti,ab.
(community adj2 (physical therapy or physiotherapy or wound or iv or intravenous or stoma:)).ti,ab.
(domiciliary adj2 (physical therapy or physiotherapy or intravenous or iv or wound or stoma:)).ti,ab.
((home or community or domiciliary) adj2 (speech or language)).ti,ab.
or/1-10
(service: or model:).ti.
(service: adj2 delivery).ti,ab.
*health care delivery/
exp *health care financing/
or/12-15

11 and 16
(psychiatr: or mental or psycho: or alzheimer: or dement: or schizophren: or depress:).ti.
17 not 18
limit 19 to english
limit 20 to yr=1990-2000
letter/
case report/
22 or 23
21 not 24
nursing home/
25 not 26
from 27 keep (selected references)
28 or 29
3 or 4 or 5 or 6 or 7 or 8 or 9 or 10
limit 31 to review
32 not 17
33 not 18
34 not 26
35 not 24
limit 36 to yr=1990-2000
(hiv or aids).ti.
37 not 38
exp mental disease/
39 not 40
limit 41 to english
from 42 keep (selected references)
43 not 30

Embase 2

1 community care/ (4727)
2 ((community adj3 care) or (home adj3 care) or (hospital adj3 home)).ti,ab. (6808)
3 health care utilization/ (6613)
4 health care need/ (2663)
5 (utilis: or utiliz: or need: or demand:).ti. (27843)
6 or/1-2 (10486)
7 or/3-5 (34892)
8 6 and 7 (903)
9 limit 8 to english (873)
10 limit 9 to yr=1990-2000 (823)
11 letter/ or case report/ (576252)
12 10 not 11 (804)
13 (psychiatric: or mental:).ti. (22976)
14 12 not 13 (709)
15 from 14 keep (selected references)(56)
17 from 14 keep 420-709 (290)
18 from 17 keep (selected references)(40)
19 from 17 keep 251-290 (40)
20 from 19 keep (selected references) (11)
21 15 or 16 or 18 or 20 (143)

Cinahl

(community adj3 care).ti,ab.
(home adj3 care).ti,ab.
(hospital adj3 home).ti,ab.
community health services/
community health nursing/
community programs/
home nutritional support/
home intravenous therapy/
home physical therapy/
home health aides/
home respiratory care/
home oxygen therapy/
home dialysis/
or/1-13
health resource utilization/
utilization review/
"health services needs and demand"/
quality of health care/
quality of nursing care/
continuity of patient care/
economics/
health care costs/
(utilis: or utiliz:).ti.
health care delivery/
or/15-24
14 and 25
(psychiatr: or mental or alzheimer: or psycho: or learning disab: or retard:).ti,sh.
26 not 27
limit 28 to yr=1990-2000
limit 29 to abstracts
limit 29 to review
30 or 31
limit 32 to english
from 33 keep (selected references)

Healthstar

community health services/
home care services/
community health nursing/
hemodialysis, home/
home nursing/
home care services, hospital-based/
((community adj2 care) or (hospital adj2 home) or (home adj2 care)).ti,ab.
(home adj2 (intravenous or iv or physiotherapy or physical therapy or stoma: or wound)).ti,ab.
(community adj2 (physiotherapy or physical therapy or stoma: or wound or intravenous or iv)).ti,ab.
(domiciliary adj2 (physiotherapy or physical therapy or stoma: or wound or intravenous or iv)).ti,ab.
((home or community or domiciliary) adj2 (speech or language)).ti,ab.
((home or community or domiciliary) adj2 oxygen).ti,ab.

or/8-12
or/1-6
*delivery of health care/
delivery of health care, integrated/
health care costs/
(service or model).ti.
(service: adj2 delivery).ti.
or/15-19
14 and 20
(psychiatr: or mental: or schizophreni: or psycho:).ti,sh.
(alzheimer: or dement: or depress:).ti,sh.
(alcohol: or substance).ti,sh.
or/22-24
21 not 25
limit 26 to english
limit 27 to yr=1990-2000
(letter or news).pt.
case report/
29 or 30
28 not 31
*community health services/
*home care services/
*community health nursing/
*hemodialysis, home/
*home nursing/
*home care services, hospital-based/
or/33-38
limit 39 to review
limit 40 to yr=1990-2000
41 not 25
limit 42 to english
43 not 31
44 not 32
(hiv or aids).ti.
45 not 46
*home care services/td,og
32 or 47
48 not 49
50 not 25
limit 51 to english
limit 52 to yr=1995-2000
53 not 31
32 or 47 or 54
limit 55 to nonmedline
from 56 keep (selected references)

Current Contents

community health.mp. [mp=abstract, title, author keywords, keywords plus]
community care.mp. [mp=abstract, title, author keywords, keywords plus]
community nurs:.mp. [mp=abstract, title, author keywords, keywords plus]
home nurs:.mp. [mp=abstract, title, author keywords, keywords plus]
home care.mp. [mp=abstract, title, author keywords, keywords plus]
domicilary.mp. [mp=abstract, title, author keywords, keywords plus]

1 or 2 or 3 or 4 or 5 or 6
(service: or delivery).mp. [mp=abstract, title, author keywords, keywords plus]
7 and 8
9 not (psychiatr: or mental or substance or alcohol:).mp. [mp=abstract, title, author keywords, keywords plus]
limit 10 to yr=1999-2000
from 11 keep (selected references)
from 11 keep (selected references)
from 11 keep(selected references)
from 11 keep (selected references)
hospital at home.mp. [mp=abstract, title, author keywords, keywords plus]
limit 16 to yr=1999-2000
17 not 10
limit 18 to english language
from 19 keep (selected references)
12 or 13 or 14 or 15 or 20

Other databases were searched using combinations of the following keywords:

Community near care, home near care, community near service*, service near deliver*, hospital near home, utiliz*, utilis*

INDEX