



SERVICE INNOVATIONS BACKGROUND RESEARCH RAPID REVIEWS

SIBR③

Report 4

What evidence is there to demonstrate the effectiveness of health and social care interventions and services in reducing pressures on the acute hospital system ?

D.F. O'Neill and F. Meade

July 2001

What evidence is there to demonstrate the effectiveness of health and social care interventions and services in reducing pressures on the acute hospital system ?

Contents

Executive Summary	4
1. Introduction	6
2. Background	6
3. Methods	6
3.1 Search Strategies	6
4. Results	10
4.1 Defining Intermediate Care	10
4.1.1 What is Intermediate Care?	10
4.1.2 Conceptual Framework	10
4.2 Defining Long-term Health Care	12
4.2.1 Background	12
4.2.2 Long-term Care	13
4.3 The Current Prominence of Intermediate Care	13
4.4 Who Needs and Uses Long-term Care	14
4.4.1 Factors Affecting Individuals' Use of Health Care	14
4.4.2 Consumer-Directed Care	14
4.5 Who Provides Care	15
4.5.1 Formal Care	15
4.5.2 Informal Care	16
4.5.3 Long-term Care Delivery	16
4.5.4 Community Support/Community Care Teams	17
4.5.5 Community Hospitals	19
4.5.6 Funder and provider initiatives	19
4.5.6.1 Amalgamations of acute and non-acute providers	20
4.5.6.2 Integrated care networks	20
4.5.6.3 Assisted living	20
4.6 Care Settings	21
4.6.1 Relationships Between Acute and Long-term Care	22
4.6.2 The Role of Residence in Long-term Care	22
4.7 Communication and Continuity of Care Across Professional Boundaries	23
4.7.1 Effectiveness of methods	23
4.7.2 The appropriateness of information transferred	23
4.7.3 Formal and informal strategies for information transfer	23
4.7.4 Use of information technology	23

4.7.5	Factors associated with communication breakdown	23
5.	Outcomes Arising From Different Interventions	24
5.1	Interventions examining the primary and secondary care interface and GP referrals.	25
5.2	Interventions examining admissions (prevention and process) and hospitalisation.	33
5.3	Interventions examining hospital emergencies and the use of A&E.	42
5.4	Interventions examining the prevention of re-admissions	51
5.5	Interventions examining the enhancement of discharge planning and reductions in discharge delays.	57
5.6	Interventions examining the enhancement of discharge planning and reductions in discharge delays	64
5.7	Interventions examining the effectiveness/efficiency of rehabilitation Schemes, hospital at home and home care schemes	68
6.	Conclusions	86
7.	Recommendations	88
8.	References	89
Appendix 1	Community Hospital	104
	Definitions	104
	Function of rural and urban community hospitals	105
	Future of community hospitals	106
	Classification of community hospitals	106

Executive Summary

This paper addresses the following research question:

What evidence is there to demonstrate the effectiveness of health and social care interventions and services in reducing pressures on the acute hospital system ?

It is a report on currently available research evidence relating to the effectiveness of health and social care interventions and services in reducing pressures on the acute hospital system.

Literature reviews have been conducted in the areas of :

- 1) Intermediate care including communication and continuity of care across professional boundaries***
- 2) Outcomes arising from interventions to reduce pressure on acute services***

Performance in the South East on access to care is substantially worse than the rest of the country. This has been shown in NHS performance indicators. They show evidence of large numbers of long trolley waits, cancelled operations, inefficient use of acute hospital resources, increased costs, stress of staff and consequent impact on recruitment and retention.

This work represents part of the Regional Office's strategic response to the problem.

In the first section of the report background literature policy and practice of intermediate care are explored. Many are included here to demonstrate their existence rather than their effects, particularly in the case of innovative policies, because for many they are reported in the literature but have never been the subject of controlled experiments. In the second section the more robust and coherent evidence has been isolated from the many literature sources examined. This provides a profile of the best evidence available in terms of outcomes. The evidence supports the probability that interventions based on it are likely to have the best chances of being successful in reducing pressures on the acute hospital system and removing barriers to optimal utilisation.

The essence of the outcomes evidence on which to base interventions is as follows :

Avoidable admissions

A recent UK study identifies lists of conditions considered to be potentially preventable through primary care. Pre-existing social care dependency correlates with longer than average hospital stay. These factors should be used in identifying target groups.

Levels of appropriateness of in-patient days fall off after admission, particularly in certain case-mix groups. It is potentially possible to predict the risk of inappropriateness for certain groups of patients. These factors should also be used in identifying target groups.

An index of appropriateness at hospital level has been described and this may also have potential for broad (regional) application to focus resources for strategic responses.

Short stay facilities can cost effectively reduce hospital inpatient admissions for children and lengths of stays for older persons.

In terms of managing acute admission rates, modifying the availability of community hospital beds could potentially have an impact on acute pressures.

Discharge planning and support teams are cost effective and should be in place universally.

Increasing short term follow up of discharged patients may be useful in preventing re-admissions if selectively applied.

Current methods of transferring information about elderly patients are poor, liaison workers can improve this situation.

We found the strongest evidence of beneficial effect and economic advantage in programmes of assessment and co-ordinated care. Outcomes were improved and avoidance of adverse events (unplanned re-admissions) were reduced and long term admissions were delayed.

The effect of home care programmes on acute hospital admission rates and average length of stay in acute hospitals in the UK is probably small. However, they do prevent or delay admission to long stay nursing and residential homes. They do improve user satisfaction. They may have a slight detrimental effect on activities of daily living.

The regional office has substantial evidence on where barriers to optimal acute utilisation are the worst. In the conclusions and recommendations we propose that this could be mapped against the profile of existing intermediate care interventions, currently in place. This would then provide a template on which to examine existing supply and outstanding need, and best options for intervention.

The most appropriate strategic responses in terms of evidence based initiatives can be derived from this model, it would be useful to test some out directly and to consider subjecting the larger and more complex initiatives to pilot projects.

1. Introduction

This paper is a report on currently available background research evidence relating to the effectiveness of health and social care interventions and services in reducing pressures on the acute hospital system.

In order to tackle the scope of this subject three mechanisms were adopted. These included:

- a) reproducing existing reviews
- b) updating previous studies
- c) conducting new short reviews

The mechanisms adopted were dependant on the category being reviewed. The categories covered by this review are:

- 1) Intermediate care including communication and continuity of care across professional boundaries
- 2) Outcomes arising from interventions to reduce pressure on acute services

2. Background

Performance in the South East on access to care is substantially worse than the remainder of the country. Delayed transfers of care are a significant cause of poor performance; this is reflected in the performance indicators, which reveal large numbers of long trolley waits, many cancelled operations, inefficient use of acute hospital resources, increased costs, stress of staff and consequent impact on recruitment and retention.

Addressing this situation has become a top priority for SERO and for SCR(S) in 2001/2. In doing so SERO and SCR(S) have commissioned work on a number of key issues. This has included a stakeholder workshop, the production of a Performance Atlas, linkage with national work on residential care facilities and a literature review of the evidence base on the effectiveness of health and social care interventions in reducing pressure on the acute hospital system. This report is the last mentioned literature review.

3. Method

The research question

What evidence is there to demonstrate the effectiveness of health and social care interventions and services in reducing pressures on the acute hospital system ?

3.1 Search Strategies

This is a rapid review in a very broad subject area. Different search strategies have been adopted depending on the category being examined. Where reviews by other authors are referred to, they are appropriately cited and referenced. The original reviews on which this work is based used a broad search strategy outlined below, where recent updating was required this was confined to Medline, Department of Health Databases and relevant reviews.

Data bases searched:

Medline
Embase
Cinhal
Dare
HTA
CED

Search terms:

Long-term care,
Intermediate care,
Community care,
Home Care

Search terms were cross referenced with:

definitions,
directives,
processes,
incentives,
initiatives,
workforce,
care teams,
commissioning,
structures,
market interventions.

Further searches including all headings were further cross referenced with:

provision,
impact,
outcomes.

The Department of Health databases of Circulars (COIN) and Publications (POINT) were searched for documents using the key words.

In addition the following web sites were examined for publications:

Kings Fund
University of Exeter
ENB Health Care Database
Caresearcher UK
Cochrane Library
ECHHSR database

Additional Journals searched:

Home Care Provider
Age and Ageing
CRD
EMJA
Quality in Healthcare

BMJ

New England Journal of Medicine

The search strategy for the update review followed the framework laid out in the proposal and both the CRD guidelines and Cochrane handbook. The search was carried out through the use of: databases, hand searching, published and grey literature and electronic searches of various journals.

Databases

DARE (using the search terms of ‘admissions’ and ‘acute’ and ‘emergency’)

NHS Economic Evaluation database (using the terms of ‘admissions’)

TRIP (using the search terms for Medline)

NRR (using the search terms for Medline)

POINT (DoH database)

In addition the following web sites were examined for publications:

Effective Health care Bulletins

Effectiveness Matters

CRD Reports

Health Technology Assessment

APC Journal Club

Evidence Based Medicine

Bandolier

Best Evidence

Evidence Based Health Policy and Management

Evidence

Annals of Internal Medicine

Audit Commission

Kings Fund

Department of Health - press releases, executive letters and circulars

Medline (PubMed) Search terms:

Appropriateness

Intervention

Review

Utilisation

Acute

Readmission

Evaluation

Systematic

Emergency

Inappropriate

Admission

Substitution

Diversion

Acute referrals

and combinations.

Embase (key word and author searches were performed) The key word search term were:

001 admissions.tw.

014 evaluation.tw.

002 appropriate.tw.

015 substitution.tw.

003 readmissions.tw.

016 diversion.tw.

004 utilisation.tw.

017 1 and 2

005 preventable.tw.

018 1 and 5

006 recurrent.tw.

019 1 and 6

007 referral.tw.

020 2 and 7

008 emergencies.tw.

021 9 and 10 and 11

009 hospital.tw.

022 1 and 12

010 services.tw.

023 1 and 4

011 review.tw.

024 4 and 14

012 inpatient.tw.

025 1 and 15 and 16

013 aep.tw.

026 8 and 15 and 16

Hand searching

Health Service Journal

BMJ

Health Trends
Journal of Health Services Research Policy
Journal of Public Health Medicine

Areas of interest:

- | | |
|---|-------------------------------------|
| a) utilisation reviews - AEP, ISD-A and SMI | g) discharge arrangements |
| b) resource allocation | h) social services/community care |
| c) cost effectiveness | I) rehabilitation |
| d) preventable admissions | j) whole systems approach |
| e) appropriateness of referral patterns | k) primary/secondary interface, PSI |
| f) bed management | l) substitution of care |

Additional information was obtained from the 'Balancing Emergency Pressures' - NHS Confederation conference held in September 1998 and the 'Local Partnership Projects - Learning the Lessons' - held by East and West Surrey Health Authorities in November 1998.

The original search covered approximately 182 articles/documents including EL's, Health Service Circulars, press releases, and unpublished reports. There were approximately 86 evidence based articles found, of which 18 were randomised clinical trials/randomised control trials.

The updated search was restricted due to time constraints, but attempted to address the most recent reviews and articles on the subject, post 1998 data.

The sites searched in the update process of the review include:

PubMed
Embase
Dare
POINT
NRR

Search terms used incorporated the following:

Appropriateness
Intervention
Utilisation
Inappropriate
Admissions
Referrals
Discharge
Rehabilitation
Home care
Interface

And combinations of the above terms.

4. Results

4.1 Defining Intermediate Care

4.1.1 What is Intermediate Care?

Intermediate Care is defined by the Department of Health as :

*“A whole systems approach to a range of multidisciplinary, multi-agency services designed to promote independence by –
Reducing avoidable admissions to acute hospitals,
Facilitating timely discharge from acute hospital and promoting effective rehabilitation
Minimising premature or avoidable dependence on long term care in institutional settings”
(DoH 2000)*

In Department of Health guidance to health services and local authorities the following definition is provided:

“To ensure a clear and consistent approach to developing, monitoring and benchmarking services across the country the Department of Health intends to adopt the following standard definition of Intermediate Care. The NHS and councils will be expected to apply this definition in reporting investment and activity plans for intermediate care. For these purposes the intermediate care should be regarded as describing services that meet all the following criteria:

- a) are targeted at people who would otherwise face unnecessarily prolonged hospital stays or inappropriate admission to acute in-patient care, long term residential care or continuing NHS in patient care;*
- b) are provided on the basis of a comprehensive assessment, resulting in a structured individual care plan that involves active therapy, treatment or opportunity for recovery.*
- c) Have a planned outcome of maximising independence and typically enabling patients / users to resume living at home;*
- d) Are time-limited, normally no longer than six weeks and frequently as little as 1-2 weeks or less: and*
- e) Involve cross-professional working, with a single assessment framework, single professional records and shared protocols”.*

(DoH 2000, *ibid*)

4.1.2 Conceptual framework

Traditionally definitions of Intermediate Care emphasise five dimensions

- A Function*
- B A state of transition*
- C A setting*
- D A professional role*
- E A medley or grouping of services*

A Function

- * to facilitate illness to recovery
- * to smooth admission to, and discharge from, hospital
- * to bring care closer to patients homes
- * to combine and co-ordinate health and social care
- * to relieve pressure on primary and secondary care.

B State of Transition

Intermediate Care addresses the care needs of people in a state of transition.

States of transition are said to exist in the following circumstances:

- * between illness and health (health status)
- * between medical dependence and social independence (dependency)
- * between settings e.g. hospital and home (settings)
- * between high and low cost care (cost)
- * between high and low technology settings (technology).

C Setting

Intermediate Care can be provided in a variety of settings; both as traditional care in traditional settings and as new ways of providing care in alternative settings.

- * own home
- * carer's home
- * residential/ nursing home
- * community hospital
- * resource centre
- * polyclinic
- * community care centre
- * hospital

For example:

acute services sited in the community and general practice

hospital out reach clinics, minor injury facilities / acute care provided in community settings by primary care professionals

GP in-patient beds / new services within acute settings

in-patients nursing schemes, co-operative care beds (where patient management is shared with the carer) and hotel beds.

D Professional & Non- Professional Carer

Intermediate Care can be provided by a variety carers, examples include:

- * self care
- * relatives and friends
- * "non professional" carers
- * professional carer (e.g.. existing community and primary care staff)
- * specialist "intermediate" care staff (e.g. community specialist liaison staff - diabetic nurse)
- * acute hospital staff (e.g. out reach)

Intermediate Care can be multi-disciplinary in terms of inputs and in terms of stake holder 'ownership'. Steiner (1996) and McCormack (1993) have emphasised the nursing contribution. The Royal College of General Practitioners (RCGP) emphasises the role of GPs.

The carers role is central in co-operative care beds and hospital at home schemes. However defining Intermediate Care by professional group is unhelpful because of the changing skill mix and changing roles. This is especially so in general practice and primary care and with the development of new multi-skilled professionals working at or across organisational boundaries .eg. nurse consultants.

E Grouping of Services

Intermediate Care is a group of services that cannot be confined to standard definitions of acute or primary care. Intermediate Care can be emergency care (e.g. in minor injury facilities), it can be elective care, (e.g. hospital at home schemes rehabilitation, continuing and palliative care).

Some Intermediate Care facilities, such as community hospitals and resource centres provide a combination of these services. For example, a community hospital may provide in-patient beds, rehabilitation services, respite care services, out-patient and day care services, therapeutic services, and casualty. There is considerable local variation even between similar models of Intermediate Care such as community hospitals which are "custom built" from different components.

A pragmatic definition of Intermediate Care (Dixon et al, 1992) is that Intermediate Care is concerned with care which is normally delivered outside of mainstream primary and acute settings. They describe two main types a) short episodes of acute treatment which do not need hospital care. b) care for people whose needs are complex and who require a multi-professional, multi-agency response greater than which can be efficiently and effectively organised within general practice.

4.2 Defining Long-Term Health Care

4.2.1 Background.

Health care in the past few decades has been reorienting. There has been a move to reduce inappropriate acute hospital stays, primarily by increased provision of chronic care, by various providers in various settings.

Hospital productivity in the UK increased substantially over the 1980s and 1990s. Over two thirds more patients were treated using two fifths fewer beds, between 1982 and 1997/8. The dramatic activity increase, in the face of shrinking acute bed numbers, was seen to be at its height at the end of the eighties. Since 1991 the main source of increasing activity has been a result of day surgery which has seen four to five fold increases.

During this period while the acute hospital throughput rate doubled, (the equivalent to an effective increase in capacity, there was been a concomitant growth in the private sector, particularly in the provision of nursing home beds, but also in social care and local authority care provision (and the private acute sector, although this peaked in the early nineties). The volume of first attendance's at outpatients has increased less dramatically suggesting that the smaller increases in individual access have in turn been provided with larger amounts of inpatient and day care services. It is suggested that the inexorable increase in throughput and shortening length of stay must sooner or later plateau as external constraints such as nursing

home placement, limitations of social services and other discharge difficulties exert their effect. (Hensher & Edwards, 1999)

4.2.2 Long-term care.

While acute care generally consists of a limited episode of treatment delivery, and care, long-term care focuses on helping individuals to function (Stone and Kemper, 1989). This is mainly through low tech processes which minimise, rehabilitate, or compensate for loss of independent physical or mental functioning. eg. assistance with basic activities of daily living (ADLs eg. bathing), and help with instrumental activities of daily living (IADLs eg. house chores) through hands-on and stand-by or supervisory human assistance; assistive devices such as canes and walkers; and technology such as computerised medication reminders and emergency alert systems that warn family members and others when an elder with a disability fails to respond. They also include home modifications like building ramps and the installation of grab bars and door handles that are easy to use.

4.3 The Current Prominence of Intermediate Care

Changing family structures and fragmentation of communities in urban areas are cited as major precipitants for supportive care. See annex 1. In response governments are enacting legislation to bring about such care in appropriate environments.

In England the White Papers ‘The New NHS: Modern and Dependable’ and ‘Modernising Social Services’ set out the Government agenda to modernise services to meet the needs of users and carers. In the NHS plan there is a response to the Royal Commission on long term care in which the government commits itself to making the NHS responsible for meeting the costs of registered nurse time in providing, delegating or supervising care in any setting, based on full assessment of an individual’s needs. The new Health and Social Care Act 2001 removes the responsibility for providing nursing care by a registered nurse from the local authorities (section 49). In October 2001 there will be free nursing care in England for those assessed as being in need of such care, including former self payers. (DoH, 2001)

Annex 1. Major Influences on the Development of Intermediate Care	
<u>Drivers for change</u>	<u>Contributing factors</u>
Changing demand	ageing population changing patients and public expectations increasing emergency admissions
Service options	development of new therapeutic and diagnostic technologies
Government policy	reduce dependence on institutions primary care commissioning, PCTs and CCTs NHS Modernisation National Service Frameworks focus on efficiency, effectiveness and responsiveness seamless care
Resource constraints	managing demand workforce availability
Leadership	professional enthusiasm

Early Intermediate Care sought to maintain patients, especially vulnerable groups such as children, in the community or their own homes to reduce their exposure to psychological trauma, cross infection, and long waits in hospital outpatients, in addition to reducing pressure on inpatient beds. Recently, care outside hospitals has been regarded as an alternative to expensive acute admission in the face of rising demand and focus on cost containment. Coupled with new options provided by new technology and consumer preference for local services, policies now focus on patient choice, local low tech. care and a strong primary care base as exemplified by a "primary care led NHS" and as increasingly seen with models of managed care in the USA. The effectiveness of Intermediate Care as a substitute for acute care or as a way of alleviating need for admission, particularly in terms of comparisons in quality, price and consumer preference, is not well understood at this juncture. The Department of Health has recently commissioned research in this very area.

4.4 Who Needs and Uses Long-Term Care

Functional limitations increase substantially with age, particularly for the oldest old. A US study has shown that among those aged 85 and over, 21 percent were in nursing homes and another 49 percent were community residents with long-term care needs (Alecxih, 1997a).

The prevalence of dementia and other forms of cognitive impairment is difficult to assess. A 1996 consensus panel organised by the Agency for Health Care Policy and Research concluded that the rate of moderate to severe dementia is about 2 percent in people aged 65-69, 4 percent in people aged 70-74, 8 percent in people aged 75-79, and 16 percent in people over 85.

4.4.1 Factors affecting individuals' use of health care

a) Population

At any given time, slightly more than 10 percent of people over age 65 live in the community and need some degree of long-term care. Another 5 percent are in nursing homes.

b) Trends

The proportion of elderly people spending one or more nights in a nursing home dropped over the past decade, but those in nursing homes are more cognitively impaired than before.

c) Needs and demand

Among elderly people living in the community, more than one in three report unmet or undermet needs, although most of these problems involve the less intense instrumental activities of daily living (IADLs) rather than activities of daily living (ADLs). The demand for long-term care increases dramatically with age, underscoring the need to pay special attention to people aged 85 and over.

4.4.2 Consumer-Directed Care

Consumer choice is a relatively recent phenomenon in acute care. It has a lengthier history in long-term care, due primarily to the disability rights and independent living movements that started in America in the 1960s and 1970s. Catalysed by younger people with physical disabilities who strongly oppose institutionalisation and want a range of home and community-based options controlled by consumers, a trend toward more consumer involvement and direction has also begun to emerge among elderly people and their carers.

Consumer direction emphasises privacy, autonomy, and the right to "manage one's own risk." In long-term care, it is seen as a way to level the playing field between institutional care and home and community-based care. A growing number of policymakers also see it as a potential way to save money through more efficient allocation of resources and delivery of care.

Policy options range from consumer involvement in planning and decision-making to the ultimate in consumer direction – the direct provision of cash benefits to beneficiaries and letting them purchase their own services, (which is to some degree what happens in acute care, in insurance based systems). Rather than receiving case managed services through an agency, participants can choose to hire and fire their own workers. As employers, they can direct their care and be more responsible for its quality.

One study has demonstrated an association between consumerism and better client outcomes (Doty et al., 1999) - the consumer-directed model had more desirable outcomes than those receiving professionally managed services within three broadly defined areas: satisfaction with services, feelings of empowerment, and perceived quality of life. No significant differences were found between the two models in client safety and unmet needs.

4.5 Who Provides Care

Much long-term care, in contrast to more medically oriented services, is unpaid assistance provided by family and friends. This has been true in the past, and despite the persistent myth of family abandonment fostered by many policymakers, it remains true today. Paid providers include both professional and paraprofessional workers.

4.5.1 Formal care

Most paid providers of long-term care are paraprofessional workers– nursing auxiliaries in the nursing home or home care workers who deliver the largest share of the primarily low-tech personal care and the assistance with managing daily life (Shank 1999).

Since the Implementation of the Community Care Act in 1993 the needs of older people and their carers are formally assessed by social services, with a view to providing suitable services. Such services are provided under contract with the Social Services Departments. Contractors increasingly include the voluntary and private sectors.

The Council for Voluntary Service is an organisation which acts as a co-ordinating body for voluntary services, the National Council for Voluntary Organisations also provides this function. There are two national advocacy agencies for older persons care they are Help the Aged and Age Concern, There are a whole range of specific disability organisations such as the Stroke Association or the Alzheimer's Disease Association.

Nearly all nursing homes and many residential homes are provided by the private sector. Other services include home care services, Day and Night sitting services, live-in companions, 24-hour help lines for emergencies and alert buttons, domiciliary nursing, day trips for the person being cared for to relieve the carer, respite holidays, respite breaks in residential / NH care. Most of these are recommended standards in the Government Charter for Long Term Care (DoH, DETR 1999) and which should be reflected in local charters which are in place this year and due for public release by end June 2001.

4.5.2 *Informal Care*

Most older people with disabilities have a primary carer who provides the bulk of the care and obtains and co-ordinates additional help from other, "secondary" carers, unpaid and paid. A third of the informal care provided to the over 65s is provided by people who themselves are over 70. (Travers F, 1996) In 1995 over six million people in the UK were looking after a disabled friend or relative at home. One third of older people can expect to become carers during their retirement.

Many organisations exist whose objectives are to provide practical help to carers such as Crossroads and the Carers National Association which are national and more locally focused groups. (Baodawala S. 1996). Identification of carers' needs is a major issue in supporting carers. Nolan et al (1995) have described an index for assessing coping strategies employed by informal carers. A European multi-centre project (COPE) is developing a first stage assessment tool to address this. (Nolan & Philip 1999)

4.5.3 *Long-Term Care Delivery*

Integration of Acute and Long-Term Care Services

While the trend in the UK has been to separate acute care from primary, community and social care the opposite has been occurring in the USA. This has meant integrated funding and commissioning across the spectrum of care. Integrated services demand the following elements:

- broad and flexible benefits, including primary, acute, and long-term care; far-reaching delivery systems that go across and beyond the traditional hospital;
- shifting medical and post-acute services to community-based long-term care, care management, and speciality providers;
- adoption of mechanisms that integrate care, such as care management and care planning protocols, interdisciplinary care teams, centralised records, and integrated information systems;
- overarching quality-control systems with a single point of accountability; and flexible funding with incentives to integrate funding streams and minimise cost shifting.

(Booth et al., 1997)

In spite of there being acute and community provider separation in the NHS the moves towards primary and community integration and broadening commissioning roles will actually provide a similar outcome. Integrated commissioning and integrated provision are key interventions outlined in the National Service Framework for Older People.

There has historically been a dearth of experimentation and successful innovation, due in part to:

- a) fragmentation of funding sources, and eligibility criteria.
- b) fear of financial risk on the part of plans and providers involved in integrating acute and long-term care. There is no valid and reliable risk-adjustment methodology, or other technique, to ensure that payments will cover the costs of providing care to people with chronic illness and disability.

- c) lack of knowledge, information, and training that health and long-term care providers need in order to offer, co-ordinate, and manage an array of services. There is no recognised authority in the current US health care system for managing care across time, place, and profession, and little acknowledgement that individuals with chronic disabilities shift among physicians, hospitals, nursing homes, and their own homes.
- d) Acute and post-acute care providers generally do not communicate well with long-term care providers, even though an elderly person may be getting services from both sectors (see below). The absence of management information systems and patient databases that span time and place is another obstacle to the integration of acute and long-term care.

The opportunity to test out innovation through national pilot schemes is pressing.

4.5.4 Community support/community care teams

Community support and community care teams – provide support to those individuals who wish to remain in their own homes rather than move to a residential care setting. Provision of care services incorporate those people with learning disabilities, elderly people, those with mental health problems and people with physical and/or sensory disabilities. Community support services can cover a wide number of issues including the demands of home care (including practical equipment, medical equipment, home modifications), co-ordination of professionals (between hospital, hospice etc and primary care teams), teamwork, nursing services, palliative care teams and respite care. (Orsquo and Rodway, 1998)

One definition of community care is that it is “formed by an amalgam of services, some from health (such as rehabilitation, nursing, continence, chiropody) and some from social services (day care, home care, housing adaptations, aids to daily living), which help support and maintain disabled people in their own homes. Although several client groups are the focus for these services, the exponential relation between disabling conditions and age results in older people being the most frequent recipients of community care”. (Young and Turnock 2001)

Fine (1999) identifies the importance of enhancing the links between community and residential care services, hospitals and other health care providers. Mechanisms to improve the co-ordination of services ranged from individualistic approaches based on information and referral, through gate-keeping schemes, case management, and brokerage of services, to models involving the reconfiguration of organisational structures. Developing the linkages across the interface of acute and community care services for the aged was also highlighted by Robinson (1999) in a 2 year study which involved an Aged Care Assessment Team (ACAT). These are multi-disciplinary teams who mediate between hospitals and the aged care system in the community. The teams have a key role in promoting the links between various service providers in the field.

Drennan and Levenson (1999) state that although a written agreement outlining responsibilities for home care between local authorities, a health authority and a community trust has been welcomed by the staff, they emphasise that there is no substitution for good personal communication between the different groups.

McCormack (1998) identified that the increasing need for acute care in community settings does not have the corresponding increase in resources and that the divide between health and social care needs has enabled health care to evade its responsibility for continuing care of older people. This lack of attention to the continuing care was highlighted in the 1998 report by the Clinical Standards Advisory Group entitled 'Community Health Care for Elderly People.' The Advisory Group found that there was poor co-ordination of discharge plans, interagency collaboration, attention to the rehabilitation needs of older people, and inequities in provision.

The need for flexibility and skill mix within the community nursing workforce and clearer information about the professional roles and boundaries need to be clearly identified if the patient/client demand is to be met over the next couple of decades. (Jenkins-Clarke and Carr-Hill, 2001)

In a study by Newton (1999) schemes such as the one set up in North London University, which encouraged and trained students to become part-time community support workers to those people with mental health difficulties, appears to have been successful, although the service does require a high level of supervision.

The challenge in the USA, which can similarly be applied in the UK, has been highlighted by McBeth (2000) as working together to "develop a shared vision of health with our community partners which is committed to eliminating disparities in health for all our populations". For some people this concept of a shared vision equates to a shared or pooled budget. Warden (1998) emphasises the difficulties which result in attempting to identify the boundaries between health and social care stating that the Clinical Standards Advisory Group suggest getting rid of this divide in order to ensure that all nursing care, wherever it is provided, should be provided by the NHS.

In a study conducted by Bernabei et al (1998) a programme of integrated social and medical care among frail elderly people living in the community was examined. They found that the intervention group made savings of approximately £1125 per year, had improved physical function and a reduction in the decline of cognitive status.

Community care is not so easily represented by statistical formats such as those like waiting lists and admissions to hospitals used in health care and thus may be at a disadvantage in attracting the attention of the public and the politicians. One mechanism for recording information on the community services may be the number of people currently waiting for community services. Young and Turnock (2001) identify an example of a global indicator for community care. This is shown in Annex 2.

Annex 2. Example of a global indicator for community care

Number of people within each health authority waiting for:

Home adaptations (eg rails, access ramps)*

Equipment for disabled living (eg kitchen aids, bathing aids, commodes, pressure relieving mattresses)*^

Wheelchairs^

Day centre places*

Nursing home or residential care places*

Complex needs assessments*

Total No of people waiting

Items have been selected because: (a) considerable variations in provision, (b) mainstream for disabled older people and their cares, (c) routinely available data.

Items 1, 2, and 3 represent a whole system approach – that is the sum of individuals waiting for assessment or waiting for delivery or installation. Item 4 is valued by users and provides respite for carers. Item 5 is an indicator both for adequate primary capacity and for depth of home support services. Delayed responses on item 6 contribute to carer strain or hospital admission.

* Provided by local authorities. ^ Provided by health authorities.

4.5.6 Community Hospitals

Community hospitals are a major subject for which there is a broad body of literature. We have addressed the subject in relatively detailed manner for a rapid review. We have therefore set the detail aside from the main text. It is attached at Appendix 1.

4.5.6 Funder and Provider Initiatives

Common funding for acute and long term care has been shown to have certain advantages. The EverCare model is an American programme which enrolls nursing home residents in a risk-based HMO, with the nursing home costs covered by Medicaid or private insurance. Teams of geriatricians and nurse practitioners provide more intensive primary care services than usual to nursing home residents, and co-ordinate this care with the long-term care services provided by nurses and nurses' assistants. Because EverCare pays for all medical services incurred by the nursing home resident, regardless of the site where they are delivered, there is no incentive for the nursing home provider to shift costs by hospitalising a resident. The intent is to maintain enrollees' health and functioning, to treat enrollees holistically, and to prevent medical crises that could lead to hospitalisations (Shield, 1996). While no HCFA evaluations have been completed yet, the program appears to save money by shortening the length of hospital stays and paying the nursing homes for the additional costs associated with caring for residents who would otherwise be hospitalised (Malone et al., 1993). Nursing homes participate because they see the marketing advantage in the improved, co-ordinated health care their residents receive (Kane et al., 1998).

4.5.6.1 *Amalgamations of acute and non-acute providers.*

In the USA hospitals are integrating vertically—buying nursing homes, rehabilitation centres, and home health agencies—in an effort to become an all-purpose provider in the community. Skilled nursing facilities and, to a lesser extent, home health agencies, are more likely to be integrating horizontally—building alliances with hospitals, physicians’ groups, assisted living developers, and other community-based providers.

4.5.6.2 *Integrated Care Networks*

The National Chronic Care Consortium (NCCC) is a strategic alliance of 31 not for profit health systems in the United States and Canada that share a vision of integrated care for individuals with chronic health conditions and disabilities. The NCCC aims to enable member organisations to serve as laboratories for establishing chronic care networks. Networks are defined as “a set of primary, acute and long-term care providers in a given community committed to working together to collectively prevent, delay, and reduce the progression of disability associated with serious and disabling chronic conditions.” To achieve this goal, the NCCC advocates the creation of integrated administration, information, financing, and care management arrangements to help providers work together in minimising costs while maximising the long-term health and well-being of the population being served.

One of the major contributions by the NCCC is the development of the Self-Assessment for Systems Integration (SASI) tool, a set of guidebooks and training materials. SASI identifies nine key objectives essential for chronic care integration and addresses these objectives through sections on goal-setting, planning, self-measurement, and resources. To date, SASI has been used internally by selected NCCC members to assess their progress toward integration. No evaluations have been published, so it is difficult to assess SASI’s effectiveness. The NCCC intends to market this package to provider groups interested in developing integrated systems, but SASI has not yet been used by non-NCCC members.

4.5.6.3 *Assisted Living*

Another trend that is attracting attention from policymakers, private developers, and consumers is assisted living. One significant problem with this trend is the lack of a consistent definition used by providers, regulators, and policymakers. Some argue that “assisted living” is just a ‘90s label for a long-term care setting that has been around for centuries—another example of “old wine in new bottles.” Homes for the aged, frequently associated with not for profit fraternal and religious organisations, proliferated in the nineteenth and early twentieth centuries to supply room and board for poor, infirm elderly people. Over the past three decades, sporadic attention has focused on scandalous mistreatment of residents in board and care homes, a version of homes for the aged that also became a refuge for the people with chronic mental illness in response to the de- institutionalisation frenzy of the 1960s.

In the 1980s the term “residential care facility” became fashionable as a catch-all label for places providing room, board, and some level of protective oversight. Hawes et al. (1993) have estimated that about a half million people live in residential care facilities or board and care homes in the United States. Perhaps twice that number are living in unlicensed facilities (Newcomer et al., 1997).

Residential care is again in fashion. It is viewed as a desirable alternative to nursing homes because of its ostensibly less institutional character and its emphasis on a social, rather than a medical, model. One recent study estimates that anywhere between 15 and 70 percent of the nursing home population, nation wide, could live in residential care instead (Spector et al., 1996). One study found a significant incidence of cases where older persons and the chronically disabled were being sent to nursing homes, where little nursing delivered. Kane (1997). In the USA, therefore there is a belief that potential for improved care can be realised through not just keeping people out of hospitals but also out of nursing homes where they do not receive substantive nursing care.

4.6 Care Settings

Long-term care is provided in a range of settings, depending on the recipient's needs and preferences, the availability of informal support, and the source of reimbursement. Much geriatrics literature refers to a continuum of care, identifying the nursing home as the most restrictive and one's own home as the least restrictive setting in the spectrum. The literature also stresses the appropriateness of a setting, assuming that a mechanism exists for judiciously matching the individual and setting. The "continuum" and "appropriateness" paradigms have been challenged (Kane et al., 1998; Stone, 1999) by those who argue that services can be delivered in any one of many settings, depending on a constellation of individual, familial, and policy factors.

"Home and community-based care" is a catch-all phrase that refers to a wide variety of non institutional long-term care settings, ranging from various types of congregate living arrangements to recipients' own homes. One category of home and community-based care, residential care, includes assisted living facilities, board and care, and adult foster homes. The boundaries between institutional and non institutional environments are far from clear. Many assisted living and board and care facilities are large buildings that strongly resemble hotels or nursing homes in physical appearance and philosophy. Other residential care options are small, homey settings that offer privacy and choice to residents. Some make services available to disabled residents either directly or through contracts; many, however, are long on room and board and short on care.

In the USA residential care is handled by state and local jurisdictions. Consequently, there is no consensus on the definition of "residential care"; the nomenclature, as well as the nature and scope of services, varies tremendously (Mollica, 1998). One recent national study of assisted living reported an estimated 11,472 facilities with approximately 650,500 beds and 558,400 residents at the beginning of 1998 (Hawes et al., 1999). The definition of "assisted living" in this study includes facilities that have 11 or more beds; serve a primarily elderly population; provide 24-hour oversight, housekeeping, and at least two meals a day; and supply personal assistance with at least two of the following activities: taking medications, bathing, and dressing.

Residential care tends to be regarded as an option for individuals who may not require nursing home assistance but who can no longer remain in their own homes. It is seen as a substitute for living at home and as the next step in a downward trajectory toward nursing home placement.

Several forms of adult day care have been established to meet the needs of the elderly long-term care population and their families. Most elderly people with long-term care needs live at home, either in their own homes, with or without a spouse, or in the home of a close relative such as a daughter. In this setting, care may be defined as "home health care," which includes some skilled nursing and supervised custodial care, and "home care," which includes personal services like bathing, dressing, and toileting as well as housework such as meal preparation and laundry.

4.6.1 Relationship between acute and long-term care

Blurred boundaries between long-term care and various stages of medical care—acute, post-acute, and sub acute—is frequently seen due to the confounding of settings with services. (Post-acute care is care directly after a hospital intervention; sub acute refers to a vague treatment modality that may bypass hospitals altogether or that focuses on longer-term rehabilitation, ventilation care, and the like.)

Increasingly acute care and high-tech rehabilitation formerly provided in hospitals is being provided in non-hospital settings traditionally used for long-term care, such as skilled nursing facilities, and private homes. It is some times difficult to know where medically oriented care stops and long-term care begins and intermediate care tends to enhance the blurring effect. Should medical interventions such as intravenous drug therapy, ventilator assistance, and wound care that are delivered in a nursing facility, residential care facility, or the home be considered acute care, sub acute care, or long-term care? Should medication management for older people with chronic disabilities, including the administration of injections and the monitoring of adverse drug interactions, be considered long-term care or ongoing medical care? Hospitals still provide long-term care for some patients; as Kane et al. (1998) have noted. Flexible commissioning strategies should be able to redefine some of these borders over time, providing that commissioners are aware of where the blurs exist.

4.6.2 The role of residence in long-term care

In long-term care, unlike acute care, housing conditions are as essential as services. Where they live strongly influences life quality, and greatly enhance or impede a person's functional disability, independence, and quality of life. Nursing home policies explicitly recognise the residential needs of the long-term care population by including room and board, as well as care, in their costs. The importance of housing is less clear in home- and community-based policies. Housing conditions are often overlooked when care is delivered in an elder's own residence, although there is increasing recognition that home modifications may help keep individuals in the community and reduce their need for formal services. But while housing is crucial to the development of residential care, there is tremendous variation in the extent to which services are integrated with housing needs.

In defining long-term care, then, several points are worth emphasising:

Long-term care is primarily concerned with maintaining or improving the ability of elderly people with disabilities to function as independently as possible for as long as possible. Long-term care also encompasses social and environmental needs and is therefore broader than the medical model that dominates acute care.

Long-term care is primarily low-tech, although it has become more complicated as elderly persons with complex medical needs are discharged to, or remain in, traditional long-term care settings, including their own homes.

Services and housing are both essential to the development of long-term care policy and systems.

- Informal care
- Assisted living
- Community based care provision
- Respite care in residential homes
- Respite care in hospices
- Respite care offering intensive home support
- Hospital hostel (ward in a house)/ Hospital at home.

4.7 Communication and Continuity of Care across Professional Boundaries

Payne et al. have conducted a systematic review, informed by Cochrane Principals, entitled *Delivering Care Across Professional Boundaries: The Communication of Information about elderly people between health and social care practitioners*. The project was the subject of a grant from the SE Region Project Grant Scheme.

4.7.1 Effectiveness of methods

The authors found that existing methods of transferring information were poor. This was particularly so for social workers and across organisation boundaries between nurses (hospital - community based) and between doctors (hospital – general practice), and mainly referred to the hospital to home pathway.

4.7.2 The appropriateness of information transferred

The authors found that in particular the timing of information transfer was a major problem. This was in relation to the most frequent problem, which was too little information arriving too late, and to the timing of events such as insufficient notice of discharge. The inefficiency of such poor information transfer is borne out in the opinions of recipients who do not rely on it.

4.7.3 Formal and informal strategies for information transfer.

Formal communication is widely reported as unreliable and informal telephoning is frequently preferred. However, the informality of it frequently leads to weaknesses in responsibility and accountability.

4.7.4 Use of information technology

There is no reported evidence in the literature on the use of electronic computerised information transfer systems.

4.7.5 Factors associated with communication breakdown

Hospital staff prioritise hospital needs and are unaware of community workers.

Information breakdown is associated with: perceived busyness, lack of role understanding, lack of priority for planning, lack of co-ordination, fragmentation of knowledge between different professionals, erroneous assumptions about family support issues made by those discharging the patients, lack of consensus on the use of key workers .

5. Outcomes arising from different interventions

In 1997 a project evaluating the challenge fund initiatives in South Thames Region was funded by a research grant from the Regional Office. As part of the project a literature review was conducted, examining the main focus areas for investigation. For the purpose of this exercise the review has been updated. The review process is described below. The updating process has, by necessity of the rapid review process, been limited to a narrower data search. This is also described below.

The key review areas included:

Interventions examining the primary secondary care interface and GP referrals

Interventions examining admissions (prevention and process) and hospitalisation

Interventions examining hospital emergencies and the use of the A&E Department (including short stay wards attached to A&E)

Interventions examining prevention of re-admissions

Appropriateness of admissions into acute hospitals and utilisation reviews

Interventions examining the enhancement of discharge planning and reductions in discharge delays

Interventions examining the effectiveness / efficiency of rehabilitation schemes, hospital at home and home care schemes.

The original review considered a broad range of schemes/interventions. Exclusion of particular studies due to patient group or intervention was not imposed, however a greater focus was placed on emergency admissions rather than elective admissions and concentrated on interventions and studies carried out in England. The studies which were examined for inclusion in the review were those containing the words/phrase 'admission', 'emergency' and 'acute referral' and/or their synonyms in the title or abstract of the study, and those which involved substitution or diversion of care; capacity interventions were excluded.

5.1 Interventions examining the primary/secondary care interface and GP referrals

Authors and Publication	Title	Objectives and details	Results/Outcomes	Commentary
<p>Aaraas I, Fylkesnes K, Forde OH. Fam Pract 1998 Jun; 15(3):252-8</p>	<p>GP's motives for referrals to general hospitals: does access to GP hospital beds make any difference?</p>	<p>To explore the relative impact of medical and other situational motives on GP's decisions to refer patients to specialist care in general hospital + to assess whether having access to a GP hospital influences the decisions.</p> <p>Prospective study 2496 Doctor-patients contacts during one week. Motives for different referral decisions were explored through frequency analysis and logistic regression.</p>	<p>441 patients were considered for any kind of referral of which 205 were referred to the general hospital. Medical needs were recorded as the only referral motive of major importance. The GP hospital option was mainly chosen because of the long distance from the general hospital, nursing needs and the preferences of the patient and family - resulted in fewer patients being referred to general hospitals from GPs with access to GP hospital.</p>	<p>Medical motives dominate the decision to refer patients to the general hospitals, but access to a GP hospital in certain cases, reduces the number of patients being referred to general hospitals.</p>
<p>Ambery P, Donald IP J Public Health Med 2000 Sep;22(3):422-6</p>	<p>Variation in General Practice Medical Admission rates for elderly people</p>	<p>To analyse and explain underlying reasons for variations in emergency admission rates in the elderly according to GP. Account was made of socio-economic and GP attitude factors</p>	<p>Emergency admission rates vary by practice. Only partly explained by morbidity rates.</p>	<p>Consistent with other studies in showing reasons for variations in admission rates to be multifactorial And difficult to explain completely.</p>

<p>Balla JI, Jamieson WE Med J Aust 1994 Dec 5;161(11-12):656-659</p>	<p>Improving the continuity of care between general practitioners and public hospitals.</p>	<p>To improve the quality of clinical care through better continuity of services between the public hospital and GP's. Observation during ward rounds + unstructured interviews with hospital staff and GP's. Semi-structure interviews with registrars and GP's of 30 patients (admitted to medical ward, discharged to GP care)</p>	<p>Lack of trust on both sides, poor communication. Registrars focused on specialist care, outpatient follow-up, made no use of GP's knowledge of the case. GP's felt alienated from the hospital system.</p>	<p>Info about patients GP should be available to hospital staff. Interns should call GP's after admission Early discharge summaries should be forward. Registrars and interns should be educated about the involvement of GP's in the discharge process. Direct involvement of the GP with the patient during stay should be encouraged. Pilot study should be constructed investigating the role of a liaison person to overcome the transitional problems.</p>
<p>Conlon C, Flaherty P, Long B, Murphy M. Ir Med J 1998 Jan-Feb/91(1):19-20</p>	<p>Acute hospital admission systems: problems experienced by general practitioners.</p>	<p>To examine the existing system of access for general practitioners in arranging acute admissions to three general hospitals in the Southern Health Board area. 128 patients admitted over 1 week. GP's were surveyed on the process of admission.</p>	<p>Response rate was 118/128 (92%). Hospital A had 53 admissions, B had 41, C had 24. 25% of admissions took over 1 hour to arrange. The admission sister was responsible for confirming the route of admission in 102 cases. In A 43% were referred to A&E, 9.8% in B and 8.3% in C</p>	<p>Possible alternatives to the current acute admission system are discussed.</p>

<p>Cooling N, Warpole B Aust Fam Physician 1992 May;21(5):621-8</p>	<p>General practitioner referrals to a department of emergency medicine.</p>	<p>To determine the number and content of GP referral letters and phone calls in 1000 consecutive patterns and assess the outcome for the referred patients.</p>	<p>Communication between GP's and emergency medicine staff was of general acceptable quality.</p>	<p>Communication could be improved in areas of letter content and call back to GP's by emergency medicine staff.</p>
<p>Crone P NZ Med J 1987 Oct 14;100(833):632-4</p>	<p>Are pre-admission general practitioner telephone calls of value? A study in communication.</p>	<p>To examine the value of telephone calls made by GP's in referring patients to the A&E department of Wellington Hospital. 34 day study period.</p>	<p>GP's spoke to the medical registrar in 115 out of 196 acute adult medical referrals. 158 were admitted along with 131 self-referred patients. Verbal communication was considered to be useful in assessing the patient. Preliminary telephone referrals made no difference to the time in which the patients spent in A&E waiting for admission.</p>	<p>Verbal communication was preferred by the majority of GP's and medical registrars and can be considered as beneficial with regards to the patients being assessed.</p>
<p>Duffield JS, Craig K, Plant WD Scott Med J 1997 Aug;42(4):105-7.</p>	<p>Patterns in acute referral to hospital.</p>	<p>To assess factors affecting acute referral and subsequent hospital admission by general practitioners. 2,303 consecutive referrals from all GP's in defined study area were collected over 1 month. Retrospective</p>	<p>Fundholding practices - 13% of the population referred 13% of all referrals and resulted in 14% of admissions. Referral through A&E resulted in more patients being discharged upon initial assessment.</p>	<p>A telephone call accompanying referral dramatically increased the chance of hospital admission. Referral to hospital was more likely to be the socially deprived patient, but had no bearing on admission.</p>

<p>Franks P, Mooney C, Sorbero M. 2000 Aug;38(8):836-46</p>	<p>Physician referral rates: style without much substance?</p>	<p>To examine relationships between referral rates and a range of associated factors</p>	<p>Appropriately designed study showed many factors not to have significant association with referral rates</p>	<p>Few discernable relationships between GP referral practice and costs and patient outcome. Only moderate association demonstrated was a positive one between refferral artes and patient satisfaction.</p>
<p>Jenkins C, Bartholomew J, Gelder F, Morrell D Br J Gen Pract 1994 Jun;44(383):251-4</p>	<p>Arranging hospital admission for acutely ill patients: problems encountered by general practitioners.</p>	<p>To investigate the problems encountered by GP's in one family health services authority in south east London in arranging acute admissions to hospital.</p> <p>Self-reported questionnaire was completed by a sample of GP's every time an acute admission to hospital was attempted.</p>	<p>493 questionnaires were completed by 111 GP's over a 47 day study. Problems were experienced with the admission procedure in 35% of the cases. 115 of the 537 phone calls resulted in a refusal to admit the patient to that particular hospital. Main problem reported was that there was 'no beds available'. Over 75 year old patients also were less likely to be given a bed than a younger patient.</p>	<p>Possible changes to the current method of arranging acute admissions to hospital in London are discussed.</p>
<p>Kvamme Oj, Olsen F, Samuelsson M. Qual Health Care 2001 Mar;10(1):33-9</p>	<p>Improving the interface between primary and secondary care: a statement from the European Working Party on Family Practice (eQuiP)</p>	<p>To develop a consensus statement on improving the primary secondary care interface.</p>	<p>Focus groups of professionals and stakeholders</p>	<p>Targets for development Leadership, Initial shared care approaches, Task division Mutual Guidelines, Patient perspective, Informatics Education, Team building, Quality monitoring systems and Cost Effectiveness</p>

<p>Mageean RJ Br Med J (Clin Res Ed) 1986 Nov 15;293(6557): 1283-4</p>	<p>Study of 'discharge communications' from hospital</p>	<p>To analyse all hospital discharge communications associated with acute admission from one GP over a 3 month period.</p>	<p>There was an appreciable delay between the time that the patient was discharged and the information received by the GP. Just over half of the patients had contacted their GP after discharge before the GP had received any information. No communication was received for 11% of patients.</p>	<p>There is a need for more efficient communication between secondary and primary care.</p>
<p>Maggs-Rapport F, Kinersley P, Owen P. Soc Sci Med 1998 Jan,46(1):131-6</p>	<p>Qualitative study of Intra-practice, inter GP referral.</p>	<p>To elucidate views on acceptability, practicality, value to Gps and Patients.</p>	<p>High levels of satisfaction reported</p>	<p>Innovative approach Evidence for effectiveness as substitute for conventional practice not developed</p>
<p>Mcglade KJ, Bradley T, Murphy GJ, Lundy GP BMJ 1988 Nov 12;297(6658): 1246-8</p>	<p>Referrals to hospital by general practitioners: a study of compliance and communication.</p>	<p>To determine the extent of non-attendance at first hospital appointments. 269 hospital referrals made in one practice over 14 weeks were analysed retrospectively.</p>	<p>Non-attendance was more likely among patients referred to outpatient departments than to casualty or for admission. 15% of all patients and 20% of outpatients failed to keep their initial appointments. 20 weeks after the last referral, no communication had been received by the practice for 24% of all referral letters received by the hospital.</p>	<p>Minimum delays to appointments and improved communication between hospitals and general practitioners would help GP's to make appropriate referrals and improve compliance.</p>

<p>Montalto M, Harris P, Rosengarten P Aust Fam Physician 1994 Jul;23(7): 1320-1, 1324-5, 1328</p>	<p>Impact of general practitioners' referral letters to an emergency department.</p>	<p>To determine the impact of GP communication on the efficient management of patients who present to the emergency department. All patients presenting at the emergency department of a hospital in one month in 1992 were included in the study.</p>	<p>Referral letter made no difference to patients' waiting time and time spent in the department. The GP's call however significantly reduced the patient's waiting time.</p>	<p>Despite the ability of the GP to select appropriate cases for referral, only the telephone call results in a quantifiable benefit for patients who attend their GP.</p>
<p>O'Donnell CA Fam Prac 2000 Dec 17(6):462-71</p>	<p>Variation in GP referral rates: what can we learn from the literature?</p>	<p>Critical review of literature on variation in referral rates.</p>	<p>Search of six bibliographic data bases 40% of variation due to patient characteristics 10% of variation due to practice and GP characteristics Lack of consensus on appropriateness Referral guidelines only limited success</p>	<p>Not useful to target outliers.</p>

<p>Rasmussen SW, Thomsen H, Jensen P, Angermann P, Appelquist E. Ugeskr Laeger 1994 Aug 29; 156(35):4968-71</p>	<p>Referrals to emergency unit before and after changes in the practitioner-on-call system.</p>	<p>To investigate attendance at the casualty department of a central hospital in Naestved during 2 similar times before and after changes were made in the practitioner-on-call system. 4454 attendances took place during the 2 times. 2330 before the changes and 2123 after the changes to the practitioner-on-call system.</p>	<p>1673 orthopaedic and 136 medical patients before changes. 1552 orthopaedic and 133 medical patients after the reorganisations. No changes in medical specialities of the attendances were highlighted.</p>	<p>No changes in the pattern of attendance at the casualty department could be shown after the re-organization in general practice.</p>
<p>Redfern J, Bowling A Health Place 2000 Mar 6(1):15-23</p>	<p>Efficiency of Care at the primary-secondary care interface: variations with GP fundholding</p>	<p>To investigate patient, GP, and Specialist perceptions of the referral process.</p>	<p>Little difference seen between fund holders and non- fund holders.</p>	<p>Impact on effectiveness and efficiency of health care by fund holding found to be low or negligible.</p>

<p>Wensing M, van der Weijden T, Grol R Br J Gen Pract 1998 Feb;48(427):99 1-997</p>	<p>Implementing guidelines and innovations in general practice: which interventions are effective?</p>	<p>Evaluation of the effectiveness of interventions in influencing the implementation of guidelines and adoption of innovations in general practice.</p> <p>Systematic literature study. Medline search Jan 80 - Jun 94 (21 medical journals searched manually)</p>	<p>143 studies found. 61 selected for analysis, covering 86 intervention groups. Information transfer alone was effective in 2 out of 18 groups. Combinations of info transfer and learning through social influence or management support were effective in 4 out of 8 and 3 out of 7 respectively. Info linked to performance was effective in 10 out of 15 groups. Combination of info transfer + info - effective in only 3 from 20</p>	<p>Some multifaceted interventions are effective in inducing change in general practice. Social influence and management support can improve effectiveness of info transfer, but info linked to performance does not necessarily do so.</p>
---	--	---	---	---

5.2 Interventions examining admissions (prevention and process) and hospitalisation

Authors and Publication	Title	Objectives and details	Results/Outcomes	Commentary
<p>Bigby J, et al Am J Med 1987 Dec; 83(6):1031-1036</p>	<p>Assessing the preventability of emergency hospital admissions. A method for evaluating the quality of medical care in a primary care facility.</p>	<p>To assess the quality of primary medical care by studying the events leading to emergency admissions. 686 emergency admissions. Admissions reviewed by independent physician reviewers.</p>	<p>59 admissions were potentially preventable. 40 were due to iatrogenic factors, 12 due to lack of patient compliance, 7 to both. Patients with preventable admissions had more medical diagnoses, were prescribed more medication and were older than those patients whose admissions were not preventable.</p>	<p>Emergency hospitalizations may be preventable, only in small percentages though. Systematic review of emergency hospitalizations provide a means of measuring quality of primary medical care.</p>
<p>Bindman Ab, et al. JAMA 1995 Jul 26;274(4):305-311</p>	<p>Preventable hospitalizations and access to health care.</p>	<p>To examine whether the higher hospital admission rates for chronic medical conditions resulted from community differences in access to care, prevalence of disease, propensity to seek care, or physician admitting style.</p> <p>Rates calculated for 5 chronic conditions. 6674 patients aged 18-64 residing in 41 areas.</p>	<p>Access to care was inversely associated with the hospitalization rates for the 5 chronic conditions. The other variables remained independent predictors including self-rated access to care..</p>	<p>Communities where people perceive poor access to medical care have higher rates of hospitalization for chronic diseases.</p> <p>Improving access is the key.</p>

<p>Caradoc-Davies TH, Harvey JM Disabil Rehabil 1995 Jul;17(5):247-51</p>	<p>Do 'social relief' admissions have any effect on patients or their care-givers?</p>	<p>Patients and care-givers were studied before and 1 week after a social relief admission - psychological and physical factors assessed.</p>	<p>Patients' self-care abilities slightly improved. Care requirements remained the same. Care-giver stress levels - no change. Mental health significantly improved.</p>	<p>These admissions enable care-givers to carry on looking after dependent people.</p>
<p>Casanova C, Colomer C, Starfield B Int J Qual Health Care 1996 Feb;8(1):51-59</p>	<p>Pediatric hospitalization due to ambulatory care-sensitive conditions in Valencia (Spain).</p>	<p>To identify the sociodemographic and primary care factors associated with pediatric hospitalization for ambulatory care-sensitive conditions.</p> <p>Survey 504 children. Sociodemographic variables: type of physician and ambulatory care use prior to hospitalization.</p>	<p>Females under 2 years old at significantly higher risk for hospitalization due to ambulatory care-sensitive conditions. Socioeconomic variables were not associated with a different risk of hospitalization.</p>	<p>More specific classification of conditions would be useful for determining the factors or process of health services related to hospitalisation.</p>

<p>Durojaiye LI, Hutchison T, Madeley RJ Public Health 1989 May;103(3):181-188</p>	<p>Improved primary care does not prevent the admission of children to hospital.</p>	<p>To compare paediatric medical admissions in 1985 with those in 1975 and relate differences to changes in services. To measure the number of preventable admissions. Results compared with similar study undertaken in 1975 by Wynne and Hull. + Hosp. Activity Analysis data for Trent.</p>	<p>100% increase in children's admissions in Nottingham with similar increases in Trent. Increases in every diagnostic category expect ingestions. 6 fold increase in lower resp tract problems. 9% social admissions</p>	<p>Idea of certain admissions being preventable is not a useful concept. Improvements in primary care have not been accompanied by a fall in admissions.</p>
<p>Fitzgerald JF, Smith DM, Martin DK, Freedman JA, Katz BP Arch Intern Med 1994 Aug 8;154(15):1721-1729</p>	<p>A case manager intervention to reduce admissions. (RCT)</p>	<p>To detect and fulfil unmet medical and social needs, intensify post-discharge care, identify and mobilise effective community services and enhance primary care access. 668 patients aged 45+ who were discharged from the general medical inpatient service who had access to telephone and received primary care at hospital's clinics were randomised into the two groups.</p>	<p>6260 patient-case manager contacts. Intervention patients had more frequent visits per patient per month to the general medical clinic. No significant differences between groups in non-elective re-admissions, readmission days or total re-admissions.</p>	<p>Information discharged to intervention group at 24 hours after discharge and called 5 days later to review and resolve unmet needs. Contact if no visit made for 30 days by case manager. Frequent contacts for care, education and accessibility by case managers using protocols were ineffective in reducing non-elective re-admissions.</p>

<p>Hilsted JC, et al. Dan Med Bull 1995 Sep;42(4):371-373</p>	<p>Acute admissions to medical departments. A comparison between an urban and a rural district.</p>	<p>To compare hospitalisation into medical departments, acute admissions into a city hospital and into a district hospital over a 2 week period.</p> <p>Prospective</p>	<p>Patients referred to city hospital on average are older, more frequently living alone, greater amount of social care attendance in their homes.</p> <p>Similarities in the two areas were for referral diagnoses, overall patient activity, occupational status and contact with relatives.</p> <p>Admissions due to social reasons to the city hospital was 13%, to the district hospital it was 3%.</p> <p>Relative alternatives to admission seemed to exist in 50% of those in the city hospital - 3% for district hospital.</p>	<p>Patients admitted for social reasons block hospital beds for longer than those admitted for other reasons. This may explain differences in LOS and why it is longer in city hospitals rather than rural ones.</p>
<p>Hutchinson SG, Tarrant J, Severs MP Age & Ageing 1998 27(2):95-98</p>	<p>An inpatient bed for acute nursing home admissions.</p>	<p>To determine whether a hospital assessment bed might provide better assessment and treatment and may be a more appropriate placement for selected older people.</p> <p>34 older patients assessed.</p>	<p>22 (65%) needed further clinical assessment or care 26(75%) left hospital for places other than nursing homes.</p>	<p>Inpatient assessment = successful way of assessing needs for those older people who would have been admitted directly from their homes to nursing homes</p>

<p>Keenan SP, Doig GS, Martin CM, Inmand KJ, Sibbald WJ Intensive Care Med 1997 May;23(5):574- 580</p>	<p>To determine the ability of the current literature to supply appropriate data for bench marking admission to a multidisciplinary critical care unit. Retrospective review of 614 patients data - consecutive admissions to the critical care unit over 6 months</p>	<p>Therapeutic Intervention Scoring System (TISS) Acute Physiology and Chronic Health Eval II Comparison of patients admitted during stay in critical care units and the index critical care unit and those in the literature. Greater proportion of patients admitted to the unit received active treatment (97.7%), compared with other studies in the literature (20-66%). Confounding factors were present - availability of intermediate care units, overnight recovery room ventilation and critical care bed availability between index and literature.</p>	<p>Current literature does not provide adequate data on critical care unit admission practices to allow for the useful application of bench marking.</p>	
<p>Nasraway SA, Cohen IL, Dennis RC, Howenstein MA, Nikas DK, Warren J, Wadel SK Critical Care Medicine 1998 26(3):607-610.</p>	<p>To present guidelines for writing admission and discharge policies for adult intermediate care units. Opinions of practitioners</p>	<p>Consensus reached regarding characteristics of patients suited for care in an intermediate unit, supported by literature review.</p>	<p>Criteria developed defining patients who are optimal candidates for management in intermediate care unit.</p>	

<p>Numa A, Oberklaid F Med J Aust 1991 Sept; 155(6):395-398</p>	<p>Can short hospital admission be avoided? A review of admissions of less than 24 hrs duration in a paediatric teaching hospital.</p>	<p>To assess the admission and discharge of children admitted to hospital for less than 24 hrs and their suitability for admission to short stay area. Retrospective study. One in three sample of all children admitted to general medical units in the hospital over the year. 220 patients selected out of 660.</p>	<p>87.7% of admissions justified on medical grounds alone with 65% fit for discharge in 12 hrs. The mean duration of admission = 17 hrs. 78.9% of admissions fell into 4 groups - asthma, ingestions, infections and convulsions. Criteria for admission to short stay ward were satisfied in 65% of patients. No patients inappropriately discharged.</p>	<p>Significant cost savings are possible with the use of a short stay facility.</p>
--	--	--	--	---

<p>Parchman ML, Culler S J Fam Pract 1994 Aug;39(2):123-128</p>	<p>Primary care physicians and avoidable hospitalisations.</p>	<p>To determine the relationship between the availability of primary care physicians and the rate of avoidable hospitalisations. Discharge data 26 health service areas in Pennsylvania.</p>	<p>As the number of family practice physicians and general practice physicians increased in each area the avoidable hospital conditions (AHC) rate decreased. No significant correlation was found between the adult AHC or number of general pediatricians and the pediatric AHC rate.</p>	<p>Future studies should address whether care by family physicians is more cost-effective as a result of this reduction in avoidable hospitalisations.</p>
<p>Petty R, Gumpel M J R Coll Physicians London 1990 Jan;24(1):32-251</p>	<p>Acute medical admissions: changes following a sudden reduction in bed numbers at Northwick Park Hospital (NPH).</p>	<p>To gather information on the consequences of hospital bed closures on acute admission patterns. Each November during 1986-1988 a survey of requests and referrals for acute medical admissions to NPH.</p>	<p>Between 86-87 15 acute medical and 16 surgical beds were closed. In 86 the hospital was full and closed overnight to admissions from GP's on 3/15 days. In 87 this had increased to 16/27 days and in 1988 it was 20/31 days. Because of admission difficulty GP referrals fell from 55.8% to 44.3%. Self-referral rose 27.1 to 39.1%.</p>	<p>Changes have had important effects on medical practice and suggest that audits of this type are necessary to quantify these changes.</p>

<p>Riundi R et al Ricerca e Pratica 1997 13(76):144-149</p>	<p>Hospitalization of elderly hosts of residential homes.</p>	<p>Evaluation of 285 people living in 14 residential homes, admitted to hospital during 1993. GP's were asked about the state of the host upon return to their care and the usefulness of hospitalization.</p>	<p>70% of patients sent to hospital were totally dependent, 51% were admitted for medical conditions, 31% for surgical conditions, 15% for orthopaedic problems. Complications arose in 21% of cases and 17% of patients died. 66% of patients improved during the hospital stay - worse for totally dependent subjects.</p>	<p>Non totally dependent patients with surgical conditions were the group to benefit the most from hospital admission.</p>
<p>Ricketts TC, Randolph R, Howard HA, Pathman D, Carey T. Health Place 2001 Mar;7(1):27-38.</p>	<p>Hospitalisation rates as indicators of access to primary care.</p>	<p>USA study of correlations between hospitalisation rates for indicator conditions and associated factors.</p>	<p>Admission rates correlate with income but not with primary care resources.</p>	<p>Lower rates of admissions may be more a function of social status than access to primary care resources and that reducing health status disparities may go beyond health care provision</p>

<p>Sanderson C. Dixon J J Health Serv Res Policy 2000)ct 5;(4):222-30</p>	<p>Conditions for which onset or hospital admission is potentially preventable by timely and effective ambulatory care.</p>	<p>To identify a list of common conditions likely to be ambulatory care sensitive, by expert panel consensus.</p>	<p>174 conditions considered. For 30 conditions at least 70% of admissions considered to be preventable. 66 conditions 50%+ of admissions considered to be preventable.</p>	<p>Scope for admission avoidance through better ambulatory care considered substantial. Only substantive study of its type in UK published thus far.</p>
<p>Wanklyn P, Hosker H, Pearson S, Belfield P J R Coll Physicians London 1997 Mar;31(2): 173-176</p>	<p>Slowing the rate of acute medical admissions.</p>	<p>To study the effectiveness of a dedicated medical receiving room (MMR) with senior registrar(SR) assessment of GP requests for admission. Questionnaire was sent to GP's of patients discharged in period 3 to assess their satisfaction with the service.</p>	<p>Same-day discharge rate increased from 3.6% in period 1 to 15% in period 3. Use of specialist and off-site beds increased 1.2 p/w to 3.1 p/w. 28-day readmission rate decreased 13.3% to 6%.</p>	<p>GP's were satisfied with the service. Assessment of GP referrals by SR's in MMR allows for safer discharge on the same day than if assessment is carried out by junior doctor.</p>

5.3 Interventions examining hospital emergencies and the use of the A&E department (including short stay wards attached to A&E)

Authors and Publication	Title	Objectives and details	Results/Outcomes	Commentary
Black DA Clin Rehabil 1997 Nov; 11(4):344-346	Emergency day hospital assessments.	To describe the use of a geriatric day hospital for emergency multidisciplinary assessment as an alternative to admission for some frail older people. Immediate multidisciplinary assessment of selected patients.	67 consecutive referrals 63% of patients needs could be met without emergency hospital admission on the same day. 29% of originally admitted patients were subsequently admitted within the following 3 months.	Emergency day hospital assessments can be used as an alternative to immediate admission for some groups of frail older people.
Conway H Br Med J 1976 Aug 28;2(6034):511-3	Emergency medical care	To study the mode of referral of emergency medical patients to a district general hospital. Survey carried out of 5 periods between 1973 and 1975.	2511 patients. 51% referred themselves. 40-8% were referred by GP's and 4-7% by doctors employed by the emergency treatment service. 1720 patients were admitted to the medical wards 50-9% of these were referred by GP's.	

<p>Denman-Johnson M, Bingham P, George S J Epidemiology Community Health 1997 Aug 51 (4):386-390</p>	<p>A confidential enquiry into emergency hospital admissions on the Isle of Wight, UK.</p>	<p>To quantify the proportion of potentially avoidable emergency short term admission to hospital and to identify ways in which they could have been avoided. All emergency, short term admissions to medicine, general surgery, orthopaedics, gynaecology, ophthalmology, ENT specialties for 28 days over a 6 month period in 1994(discharged home within 5 days)</p>	<p>81 cases out of 123 were evaluated. 21 of these were judged 'potentially avoidable'. 7 of 10 patients referred, could have been dealt with by the GP alone, 2 of 10 required home support to avoid admission, 11 could have been discharged home.</p>	<p>Consultant opinion either in A&E or outpatient clinic would have prevented most of these inappropriate admissions. Home support could also help in discharging patients earlier. Research into cost and benefits of the methods is urgently needed.</p>
<p>Diego Dominguez F et al. Aten Primaria 1990 26:274(4):305-311</p>	<p>Hospital emergencies in the catchment area of Leon. A study of the repercussions of primary care.</p>	<p>Filter role of primary health care on attendance to hospital emergency services was evaluated.</p>	<p>Patients who had not attended primary care services before had a higher rate of problems for which emergency attention was considered unjustified.</p>	<p>Filter role of primary care is higher than that shown by similar studies, although optimal levels have not yet been achieved.</p>

<p>Driscoll PA, Vincent CA, Wilkinson M Arch Emerg Med 1987 Jun;4(2):77-82.</p>	<p>The use of the accident and emergency department.</p>	<p>To examine the feasibility of methods of reducing inappropriate attendance to the A&E department.</p>	<p>Inappropriate = trivial or non-urgent complaints. Inappropriate attenders should be treated by GP's or equivalent primary car services.</p>	<p>There is no practical way of reducing inappropriate attendance that does not involve risk to a certain amount of patients. Possibility of extending the role of A&E dept to provide more general primary care is discussed.</p>
<p>Finucane PM et al. Aust NZ J Med 1999 Aug;29(4):494-9</p>	<p>Profile of people referred too an emergency department from residential care</p>	<p>South Australian prospective study to determine patterns of use of an emergency department by elderly people living in residential care</p>	<p>300 referrals in 3 months represented 4.9% of residential care population and 2.4% of all referrals. 58% bypassed GP</p>	<p>High usage of emergency department presents a potential population for targeting preventive strategies.</p>
<p>Gold S, Bergman H Journal of Am. Geriatric Soc. 1997 Jun;45(6):764-7</p>	<p>A geriatric consultation team in the emergency department.</p>	<p>Older ED patients have multiple problems. 628-bed tertiary care hospital at McGill University teaching hospital. Consultation team - geriatrician, nurse clinician and part-time physical and occupational therapists.</p>	<p>Consultations received mainly from ED physicians. Geriatric assessment enables rapid disposition: discharge home or admission to acute geriatrics ward or other. Service functions as a gatekeeper for admissions to acute geriatrics ward.</p>	<p>Co-ordinates follow up in hospital and in community through the outpatient geriatric clinic, home visits or links to community resources.</p>

<p>Hadden DS, Dearden CH, Rocke LG J Accid Emerg Med 1996;13(3):163- 165</p>	<p>Short stay observation patients: general ward are inappropriate.</p>	<p>To assess the efficiency of short stay observation ward attached to the A&E department of a main teaching hospital. 107 patients admitted to A&E observation ward. 107 admitted to general wards.</p>	<p>Patients in A&E observation ward were seen sooner by a senior doctor, had fewer investigations and a shorter stay than those on general wards.</p>	<p>A&E observation ward was more efficient than the general acute wards at dealing with short stay patients.</p>
<p>Jankowski RF, Mandalia S BMJ 1993 May 8;306(6887):1241- 1243</p>	<p>Comparison of attendance and emergency admission patterns at accident and emergency departments in and out of London.</p>	<p>To compare sociodemographic characteristics, diagnoses, mode of referral and emergency admissions between A&E department in inner London and an outer London hospital. 3039 new attenders to A&E (1476 inner, 1563 outer).</p>	<p>GP referrals = similar for inner and outer London. Inner London attendees more likely to be tourists, long distance commuters, single, living alone, recently moved or homeless.</p>	<p>Differences in sociodemographic factors were more important than the GP referral patterns.</p>
<p>Jenner GH Br Med J (Clin Res Ed) 1985, Jul 13;291(6488); 113- 4</p>	<p>Medical patients aged 65 and over admitted to an accident and emergency department.</p>	<p>To establish if the mode of referral (by GP or Self-referral) influenced the presentation and severity of illness and the eventual outcome. 94 cases analysed.</p>	<p>55 cases were self-referrals, 39 were sent in by their GP. No significant differences were found between the 2 groups of patients.</p>	<p>Results appear to suggest that the patient is as discriminating as the GP in deciding when emergency referral to hospital is necessary</p>
<p>Khan SA, Millington H, Miskelly FG J Accid Emerg Med 1997 May;14(3):151- 152</p>	<p>Benefits of an accident and emergency short stay ward in the staged hospital care of elderly patients.</p>	<p>To study the potential of short stay wards attached to A&E dept. + reduce admissions by enabling elderly patients to be monitored for up to 24 hours before discharge or formal admission. Medical records of patients over 65 who were admitted to the short stay ward were reviewed over 9 months</p>	<p>502 admissions to short stay ward of people aged 65+. 71% discharged home usually within 24h.</p>	<p>Short stay ward can shorten hospital stay for selected elderly patients. Improves quality of care to those in the A&E department.</p>

<p>Mather HM J R Coll Physicians London 1998 May;32(3):211-218</p>	<p>Coping with pressures in acute medicine. The Royal College of Physicians Consultant Questionnaire survey.</p>	<p>To assess the impact of reduced junior doctors' hours and increasing emergency admissions of acute medical care. Questionnaire of all 2,980 consultant physicians in UK except Scotland.</p>	<p>Mean number of admissions in a 24 hour period was 20-24. Most common medical team was one specialist registrar (SpR), a senior house officer (SHO) and a house physician (HP). 42% of consultants had introduced partial shift rotas - most were critical of them. 70% had introduced an admissions ward.</p>	<p>New initiatives to cope with admissions were: 2x daily consultant take rounds. Use of nurse practitioner and staff-graded doctors. 12 hour takes and ward-based admission schemes. Measure to expedite discharges = discharge lounges, nurse facilitators, low-dependent. wards & hospital@ home schemes.</p>
<p>Moller LA, Paaby J Ugeskr Laeger 1990 Feb 12;152(7):461-464</p>	<p>Alternative possibilities to emergency admissions to a medical department.</p>	<p>175 patients included who were 60+ Referring practitioners knew their patients well (40% said they knew their patients very well)</p>	<p>GP's were aware of alternatives to emergency hospitalization. 36 patients were described as socially-conditioned and 2/3 of these as socio-medically-conditioned. Physicians considered 81% of these 36 patients could have avoided admission or that admission could have been postponed (12%).</p>	<p>Requisites for this were primarily easy access to nursing homes or to emergency home nursing facilities.</p>

<p>Murphy AW Fam Practice 1998 Feb;15(1):33-37</p>	<p>Inappropriate attenders at accident and emergency departments II: health service responses.</p>	<p>To assess how the health service responds to 'inappropriate' attenders.</p>	<p>3 ways: 1) decrease numbers of patients attending A&E. 2) refer inappropriate attenders to another site. 3) by performing triage of attenders they provide appropriate care for their needs. Sessional GP's in A&E depts manage non-emergency attenders safely and use fewer resources than do usual A&E staff.</p>	<p>Future initiatives should concentrate on making A&E services more appropriate to the patient.</p>
<p>Murphy AW Fam Practice 1998 Feb;15(1):23-32</p>	<p>Inappropriate attenders at accident and emergency departments I: definition, incidence and reasons for attendance.</p>	<p>To review research relation to the definition, incidence and reasons for attendance of 'inappropriate' attendees.</p>	<p>Enormous variability (6-80%) on what is inappropriate or not. Due to the implicit and subjective judgements. Important factors are the perceived appropriateness of the condition for A&E, A&E accessibility and GP availability.</p>	<p>Major deficiency in the available research is that patients have retrospectively been labelled as 'inappropriate' on the basis of the results of assessment and treatment. Definitions and management strategies need to consider social and psychological context of the patients' decisions to attend.</p>

<p>Poncia HD, Ryan J, Carver M J accid Emerg Med 2000 Sep;17(5):337-40</p>	<p>Next day follow up of the elderly: a needs assessment and critical incident monitoring tool for the accident and emergency department</p>	<p>Needs assessment after A&E discharge , targeting elderly. Patient survey of risk and concurrent intervention strategy by community liaison nurse.</p>	<p>8% inadequate support 8% in need of urgent intervention</p>	<p>Low cost high quality intervention Potential for reducing inappropriate return visits.</p>
<p>Round A Public Health 1997 Jul;111(4):221-224</p>	<p>Emergency medical admissions to hospital -- the influence of supply factors.</p>	<p>Review of adult medical inpatient hospital records in one health district (pop 378,000) over 3 consecutive years. Admissions compared between sections of the population with differing access to hospital beds. Retrospective study</p>	<p>Emergency medical admission rates were consistently higher in the population whose GP had access to community hospital beds.</p>	<p>Multi-variable analysis suggests age, sex, morbidity and socio-economic circumstance influence admission rates.</p>

<p>Spillane LL, Lumb EW, Cobaugh DJ, Wilcox SR, Clark JS, Schneider SM Academic Emergency Medicine 1997 4(6):574-580.</p>	<p>Frequent users of the emergency department: Can we intervene? (RCT)</p>	<p>To determine whether the use of individualized patient care planes and multidisciplinary case management would decrease emergency department utilization by frequent ED users. Prospective randomized clinical trial 70 patients - Control group received standard emergency care.</p>	<p>25 out of 37 control, 27 out of 33 treatment patients made visits to the hospital in the year. Control group made 247 visits to hospital and 179 to community hospitals. Treatment group made 320 visits to hospital and 254 to community hospitals</p>	<p>The care plans and case management did not significantly decrease ED utilization by frequent users. Impact however on quality of care remains to be determined.</p>
<p>Thomson H, Kohli HS, Brookes M J Accid Emerg Med 1995 Dec;12(4): 279- 281</p>	<p>Non-emergency attenders at a district general hospital accident and emergency department.</p>	<p>To investigate factors relating to the bypassing of GP's by 'self-referred' patients and inappropriate use of the department. Survey carried out in A&E over 5 consecutive days. 245 non-emergency patients who attended the department during GP surgery hours completed a questionnaire.</p>	<p>49 patients (20%) were defined as inappropriate, 152 (62%) were self- referred.</p>	<p>Self-referred patients were no more likely to use the A&E department inappropriately than those who were referred.</p>
<p>Walsh M J Adv Nurse 1995 Oct;22(4):694-699</p>	<p>The health belief model and use of accident and emergency services by the general public.</p>	<p>To examine the reasons why people attend A&E and factors that delay or accelerate attendance. Health Belief Model - says individuals carry out a cost-benefit analysis when making decisions about seeking medical assistance. Sample 200 adult, ambulatory A&E patients were interviewed.</p>	<p>Various factors were shown to make statistically significant differences to the delay times involved in deciding to attend A&E and the time taken to attend and register as a patient.</p>	<p>A&E needs to be seen as a logical decision-making process that requires hospital to provide appropriate services rather than labelling patients as 'inappropriate attenders'.</p>

<p>West R, Rosen M Health Trends 1996 28(1):13-19.</p>	<p>United Kingdom study of urgent and emergency admission to hospital.</p>	<p>To observe all urgent or emergency admissions for 7 consecutive days in a sample of health districts. 27 districts were selected. 30 hospitals in total in study. Emergency/urgent admissions = 999, GP urgent, self- referred and inter-speciality urgent. Observer teams = 5-10 experienced nurses. 28 day follow-up of records.</p>	<p>50% of urgent emergency admissions were GP referrals, 29% were 999 emergencies, 20% self- referrals, 2% inter-hospital referrals. 71% of emergencies were seen in 30 minutes, 51% for urgent referrals. Differences existed between specialties. Hospitals in the South-east were slower to admit than those in the rest of the UK. 6.1% of all urgent or emergency admissions resulted in death. Wide geographic variation</p>	<p>Wide variations between hospitals. Delays throughout the admission process, in doctor attendance, in assessment, in admission and in definitive management, contributes to in-hospital mortality. Identification of inter- hospital variation has already led to the intro of timing guidelines.</p>
---	--	---	--	---

5.4 Interventions examining prevention of re-admissions

Authors and Publication	Title	Objectives and details	Results/Outcomes	Commentary
<p>Alsop JC, Langley JC Methods of Information in Medicine 1998 37(1):32-37</p>	<p>Determining first admissions in a hospital discharge file via record linkage.</p>	<p>To identify first admissions in a hospital discharge file with greatest possible accuracy. Computerised data linkage Admission status indicators compared with manual review.</p>	<p>Small absolute reductions in error were obtained using a probabilistic linkage over a deterministic linkage. Large relative reductions in error were reflected.</p>	<p>Validity check confirmed initial results</p>
<p>Chambers M, Clarke A BMJ 1990 Nov 17;301 (6761):1134-1136.</p>	<p>Measuring readmission rates</p>	<p>To assess the feasibility of extracting data on readmissions (+ rates) from Korner data, for use as health service indicators</p> <p>Retrospective - records assessed Jan 88-April 89</p> <p>Analysis of inpatient data. No. of readmissions after index discharge for acute specialties, re-admission rates at 28 days after discharge.</p>	<p>All specialties showed early pick in admissions. Levelled off by 28 days. Readmission rates at 28 days lower in surgical specialties than medical ones.</p>	<p>Readmission rates can be measured using Korner data. Readmissions should not be measured before 28 days after discharge. Rates require age/sex standardisation.</p>

<p>Clarke A BMJ 1990 Nov 17;301 (6761):1136-1138</p>	<p>Are readmissions avoidable?</p>	<p>To examine the possible use of readmission rates as an outcome indicator of hospital inpatient care. Investigating avoidability of unplanned readmissions in 28 days.</p> <p>Retrospective - Jul 87-Jun 88 263 assessments 100 case notes - 74 available for study.</p>	<p>General medical and geriatric readmissions and surgical readmissions at 0-6 days after discharge were more likely to be assessed as avoidable than those at 21-27 days. Greatest variability of judgment was at 21-27 days.</p>	<p>Assessors related only 49.3% of the high avoidable admission groups as avoidable. The use of readmission rates as an outcome indicator of hospital inpatient care should be avoided.</p>
<p>Colledge NR, Ford MJ Scott Med J 1994 Apr;39(2):51-52</p>	<p>The early hospital readmission of elderly people</p>	<p>226 consecutive patients aged 75+ who were discharged following an acute medical admission were followed up 6 months later.</p>	<p>46 required emergency admission within 3 months of discharge. 19 had diagnosis related to the original admission. 27 had unrelated diagnosis. Mean time to readmission was 34 days. Mean time was shorter in those with related diagnosis - 21 days. Those readmitted had more often required admission in the year prior to their index admission, had more co-morbidities, higher use of social services, and no carer. No differences in age, gender, LOS, or diagnosis.</p>	<p>Most readmissions are due to medical problems rather than social ones, most are unavoidable. Efforts - directed at preventing early medical relapse in at risk patients.</p>

<p>Frankl SE, Breeling JL, Goldman L Am J. Med 1991 Jun;90(6):667-674</p>	<p>Preventability of emergent hospital readmissions</p>	<p>To determine whether emergent readmissions within 30 days of discharge are potentially preventable.</p> <p>Prospective - assessed readmissions over 4 months. 327 readmissions, 42 readmitted more than once.</p>	<p>75% of readmissions due to previously diagnosed medical conditions. 29% = due to complications of drugs for therapeutic procedures. 3 reviewers judged 28 readmissions as potentially preventable. Of these 89% occurred in 10 days of discharge.</p>	<p>Potentially preventable readmissions would nearly always be detected by reviewing readmissions within 10 days of discharge. Many may be amenable to systematic interventions and better post-discharge follow-up.</p>
<p>Henderson J, Goldacre MJ, Graveney MJ, Simmons HM BMJ 1989 Sep 16;299 (6701):709-713</p>	<p>Use of medical record linkage to study readmission rates.</p>	<p>Data collected from Oxford record linkage study for 1968-85. Rates calculated for readmissions within 28 days after discharge from first index event.</p>	<p>Elective readmissions rose from 3.5% to 7.1% (after elective index admission). Elective readmissions after A&E index admissions rose from 2.4% to 3.5%. Emergency readmission after A&E index admission rose 4.0% - 7.0%, Emergency readmission after an A&E index admission rose 1.3% - 2.5%.</p>	<p>Rise in elective readmission may reflect a trend to planned discharge with expectation of readmission. Rise in emergency readmissions may in some cases be due to pressure on resources and inappropriate short LOS. Readmission rates = one of the few potential measures for assessing outcomes.</p>

<p>Miles TA, Lowe J. J. Qual Clin Pract 1999 Dec: 19(4):211-4</p>	<p>Are unplanned re-admissions to hospital really preventable?</p>	<p>Study of characteristic of preventable re-admissions</p>	<p>437 of 3081 admissions were readmissions. Of these 5.5% were adverse events 24 cases. 16 were considered highly preventable and 10 of these were of minor temporary severity.. Associations with predictor factors were not found.</p>	<p>While technically preventable in retrospect better outcomes may not be practically possible.</p>
<p>Safran C, Phillips RS Med Care 1989 Feb:27(2):204-211</p>	<p>Interventions to prevent readmission. The constraints of cost and efficacy.</p>	<p>Decision analysis to examine interrelationship of cost and success for intervention program to prevent unexpected readmissions to acute care.</p> <p>Strategies: interventions for patients at high risk, intervention for all patients admitted to service, no intervention. 4,769 patients discharged from a hospital in Boston USA during 1 year period.</p>	<p>If intervention for high risk patient cost \$250.00 per patient costs would be saved if the success rate of the intervention was 9% or greater. If the success rate exceeded 17% the intervention offered to all patients would reduce costs.</p>	<p>Decision analysis = useful framework for evaluation of economic implications of intervention strategies.</p>

<p>Smith DM, Weinberger M, Katz BP, Moore PS Med Care 1988 Jul;26(7):699-708.</p>	<p>Post-discharge care and readmissions.</p> <p>(RCT)</p>	<p>Multifaceted intervention to increase post-discharge ambulatory contacts and reduce nonelective readmissions. 1001 patients. Randomized into control or intervention group.</p> <p>Intervention group - had phone calls from nurses, mailings of appointment reminders and lists of early warning signs and prompt rescheduling of visit failures.</p>	<p>Intervention group had 10.4% more office contact than control group. Intervention group had 7.6% fewer nonelective readmission days - not statistically significant. Patients in the intervention group at high risk (181) had 28.1% more office visits and 31.9% fewer nonelective readmission days - again not statistically significant.</p>	<p>Intervention significantly increased post-discharge contacts, primarily in high risk patients, but did not reduce the incidence of nonelective readmission days significantly.</p>
<p>Stewart S, Pearson S, Luke CG, Horowitz JD J of the American Geriatrics Society 1998 46(2):174-180</p>	<p>Effects of home-based intervention on unplanned readmissions and out-of-hospital deaths.</p> <p>(RCT)</p>	<p>To determine the effect of HBI on the frequency of unplanned admissions and out-of-hospital death. 762 medical and surgical patients discharged home after hospitalization. HBI group = 381 patients counselled before discharged and given a home visit</p>	<p>The HBI group had fewer unplanned readmissions (154 vs 197 for the usual care group), out-of-hospital deaths (1 vs 20), total deaths (12 vs 29), ED attendances (236 vs 314), and total days of hospitalization (1452 vs 1766). Hospital-based costs during study follow-up tended to be lower in the NBI group.</p>	<p>HBI is beneficial in limiting the number of unplanned readmissions and in reducing risk of out-of-hospital death for those high-risk patients after discharge. May be cost effective if selectively applied to patients with a history of frequent unplanned admission.</p>

<p>Thomas JW, Holloway JJ Med Care 1991 Apr;29(4):377-394</p>	<p>Investigating early readmission as an indicator for quality of care studies.</p>	<p>Readmission shortly following a discharge may be viewed as adverse outcome of care.</p> <p>Data on discharges for 1 year from 18 hospitals investigated.</p> <p>Questions addressed: is case severity an important predictor of readmission risk? Are predictors of readmission risk different for the types of cases? Do readmission risks differ on hospital size? Is readmission risk a function of patients LOS? Is readmission influenced by whether the patient is discharged home or into organised care environments?</p>	<p>Focus on unplanned readmissions within 31 days of discharge. Patient Management Category system and ICD-9-CM diagnosis used.</p> <p>In each of 22 sets of related DRGs - unplanned readmissions indicate that severity/complexity is an important risk factor for early readmission.</p> <p>Clinical and other risk factors differ for different DRG groups</p>	<p>In examining relationships between early readmission and hospital characteristics, no consistent patterns were detected which suggested problems in the quality of care.</p>
--	---	--	--	---

5.5 Appropriateness of admissions into acute hospitals and utilisation reviews

Authors and Publication	Title	Objectives and details	Results/Outcomes	Commentary
<p>Anderson FH, Pedersen IL, Nielsen MO, Ehlers DP, Fredensborg N, Homegaard SN, Sanders SC Ugeskr Laeger 1994 Jul 18;156(29): 4233-6</p>	<p>Alternatives to acute admission to a city hospital. Is it possible to reduce the number of acute admissions?</p>	<p>Scandinavian study. To evaluate the number of inappropriate admissions to a small city hospital. 421 patients included in the study.</p>	<p>13.6% of all patients were inappropriately admitted. Implies that 1 out of every 7 acute admissions could be replaced by an alternative such as immediate care in residential homes, contact to outpatient's clinic better access to evaluation.</p>	<p>Alternatives can achieve greater efficiency and better economics.</p>
<p>Angellillo IF, et al. Public Health 2000 Jan; 114(1):9-14</p>	<p>Appropriateness of hospital utilisation in Italy.</p>	<p>Italian study, a retrospective AEP review with analysis of patient characteristics associated with inappropriate bed days.</p>	<p>Higher risk for inappropriate hospital days associated with Distance from home Medical admission Planned admission Weekend admission</p>	<p>Highest risk of inappropriate bed days associated with inappropriate admission in first place. Potential for other forms of care (eg rapid outpatient review), when this is a problem.</p>

<p>Atkinson DI, Jenkins S, Collins PE, Minor J. HealthcManage Forum 1999 Summer; 12(2):31-6</p>	<p>CONTINUUM-Activity Index: managing admission inappropriate stays in a community hospital.</p>	<p>Canadian Study in General Hospital utilisation</p>	<p>Ongoing measuring of appropriateness provides index for managing and reducing inappropriate utilisation.</p>	<p>Canadian study could be reproducible in other environments.</p>
<p>Celic Y et.al. World Hosp Health Service 2001;37(1):6-13,33-4</p>	<p>Inappropriate use of hospital beds:a case study of university hospitals in Turkey.</p>	<p>Retrospective AEP review</p>	<p>Associations with age, sex, case-mix and type of insurance described.</p>	<p>High levels of inappropriateness early in stay associated with premature admissions and possible inadequate use of pre-admission services</p>
<p>Chopard P et al International J or Epidemiology 1998 27(3):5513-519</p>	<p>Predictors of inappropriate hospital days in a department of internal medicine.</p>	<p>To identify predictors of inappropriate hospital days in a department of internal medicine, as a basis for quality improvement interventions. Assessment of 5665 hospital days contributed by 500 patients admitted to Dept. Of Internal Med. by AEP</p>	<p>15% of hospital admissions and 28% of hospital days rated as inappropriate. Inappropriate hospital days were more frequent amongst older patients and people whose admission was inappropriate.</p>	<p>Admission and discharge processes - important sources of inappropriate hospital use. Long hospital stays did not generate a higher proportion of inappropriate days than short hospital stays.</p>

<p>Coast J, Inglis A, Morgan K, Gray S, Kammerling M, Frankel S J of Epid & Community Health 1995 49(2):194-199</p>	<p>The hospital admissions study in England: Are there alternatives to emergency hospital admission?</p>	<p>To assess the potential for substituting alternative forms of care for admission to an acute hospital in particular groups of patients.</p> <p>ISD-A used in cohort of hospital admissions to identify those who could potentially have been treated outside the hospital</p> <p>701 patients admitted to general medical and geriatric specialities in 1 hospital in SW region.</p>	<p>19.7% of admissions could have been potentially treated outside the acute hospital. Assessment by GP panel reduced this figure to between 9.8% and 15.0% of emergency admissions. Alternatives identified as ‘most appropriate’ were community hospital GP-bed and urgent outpatient assessment within either 24 or 48 hours.</p>	<p>Potential exists for treating a certain amount of patients in lower intensity alternatives to that of the acute hospital. If exploited few resource savings would occur.</p>
<p>Donald IP, Jay T, Linsell J, Foy C Br. J. General Practice 2001 Feb; 51(463):95-100.</p>	<p>Defining appropriate use of community hospital beds</p>	<p>Development of Criteria Audit Instrument for Community Hospital Bed Utilisation in the NHS</p>	<p>AEP related instrument . Specific finding for levels of appropriateness were of similar order to use of Acute instruments in DGHs.</p>	<p>Signal study in specific location. Needs follow up validity studies with same instrument applied elsewhere.</p>
<p>Ingold BB, Yersin B, Wietlisbach V, Burckhardt P, Bumand B, Bula C. Aging (Milano) 2000 Dec; 12(6):430-8</p>	<p>Characteristics associated with inappropriate hospital use in elderly patients admitted to a general internal medicine service.</p>	<p>Swiss study, a concurrent AEP review with analysis of patient characteristics associated with inappropriate bed days.</p>	<p>Higher risk for inappropriate hospital days associated with Living alone, Functional impairment Depression .</p>	<p>Main reason (87%) for inappropriateness – discharge delays. Certain patients at higher risk.</p>

<p>Lowy A, Kohler B, Nicholl J J Public Health Med 1994 Jun;16(2):134-140</p>	<p>Attendance at accident and emergency departments: unnecessary or inappropriate?</p>	<p>To validate the classification developed by the Nuffield Provincial Hospitals Trust (NPHT), develop and validate other systems of classification.</p> <p>Two novel methods devised - one based on the ICD-9 diagnosis and the other on processes of care.</p>	<p>The existing NPHT was found to be very unreliable. The diagnosis method had high specificity but poor sensitivity whereas the technique based on the processes of care agreed well with the GP sample and was applied retrospectively to samples of 8877 adult self-referrals to 16 A&E depts.</p>	<p>The technique based on processes or care provides a simple and valid retrospective method for identifying patients suitable for general practice care. The methods could be used to identify groups of inappropriate attenders and be used to meet/assess the needs in general practice and for those whose needs lie in a more appropriate setting.</p>
<p>McDonagh MS, Smith DH, Goddard M Health Policy 2000. Oct; 53(3):157-84.</p>	<p>Measuring Appropriate use of acute beds. A systematic review of methods and results.</p>	<p>Systematic Review of Methods used to assess appropriateness of acute bed use and the evidence for different groups. (SR)</p>	<p>AEP commonest and most widely tested tool</p>	<p>Safe to assume 20% inappropriate bed use in acute hospitals. Long term care needs frequently given as reason for inappropriateness in elderly.</p>

<p>Mozes B, Schiff E, Modan B Quality Assurance in Health Care 1991, 3(3):211-217</p>	<p>Factors affecting inappropriate hospital stay.</p>	<p>To assess the appropriateness of hospital stay and identify the factors affecting the hospital stay days. Prospective study over 2 months. 921 patients (381 on paediatrics, 209 on surgery, 331 on medical ward) 6319 hospitalization days.. Patient evaluations were performed daily by the study coordinator. Modified AEP criteria used.</p>	<p>Unjustified days were classified into one of 6 categories: follow-up care, diagnostic evaluation, non-medical, physician deliberation, awaiting consultation, pre-invasive procedure. Unjustified hospital stay days ranged from 26.3% on paediatrics to 54% on medicine. Between 55-75% of all unjustified hospital stay days were attributed to follow-up care and diagnostic evaluation Ethnic origin was found to affect the hospital stay days of surgical patients.</p>	<p>Clinical uncertainty in overuse of health services resources by physicians. Absence of defined clinical policy may contribute to the uncertainty. Patient characteristics and support systems play an important role in over utilization of health services. Differences in the proportion of unnecessary hospital stay days reflect differences in socioeconomic and cultural circumstances- although this should be addressed with caution</p>
<p>O’Neill D and Pearson M. International Journal for Quality in Health Care 1995. 7(3):239-244.</p>	<p>Appropriateness of Hospital Use in the United Kingdom: a Review of Activity in the Field.</p>	<p>To review experience in both research and application, with measures of appropriateness applied to the utilization of hospital inpatient services in the UK.</p>	<p>The evolution of different methods for measuring appropriateness of the use and the associated reasons for mis-utilization are described.</p>	<p>Contemporary enthusiasm with ‘Diagnosis Independent Explicit Criteria Utilization Review Instruments’ is observed and some underlying influences are explored.</p>

<p>Santos-Eggimann B, Sidler M, Schopfer D, Blanc T Int. J. For Quality in Health Care 1997 9(2):115-120</p>	<p>Comparing results of concurrent and retrospective designs in a hospital utilization review.</p>	<p>To investigate whether a higher rate of inappropriateness is estimated in a retrospective data collection, examined judgements based on concurrent and retrospective data collection. Utilization review at the end of 1993 by 2 reviewers to test AEP(concurrent review), 1 year later re-review of admissions and stays (retrospective review). 162 patients (155 acute care stays, 1035 days in total).</p>	<p>Rates of inappropriate admissions and inappropriate bed days were estimated to be lower in the concurrent review than the retrospective review. The number of days found to be appropriate in the concurrent review were 937 (reviewer 1) and 834 (reviewer 2).</p>	<p>The comparison between concurrent and retrospective approaches is a valuable tool at local level.</p>
<p>Smeets PM, Verheggen FW, Pop P, Panis LJ, Carpay JJ Int J Qual Health Care 2000 Dec 12(6): 483-93</p>	<p>Assessing the necessity of hospitalstay by means of the AEP: how strong is the evidence to proceed.</p>	<p>Literature review and pilot test of Dutch AEP.</p>	<p>Questioned the reliability of versions of AEP</p>	<p>Recommends more disease specific versions of instrument and use of computerised medical records.</p>
<p>Strumwasser I et al Medical Care 1990 Feb; 20(2):95-111</p>	<p>Reliability and Validity of Utilization Review Criteria (AEP, SMI, ISD)</p>	<p>To assess the reliability and validity of the three utilization review instruments to determine whether inpatient care is required. Reliability and validity assessed retrospectively. 119 medical cases from 21 hospitals reviewed.</p>	<p>AEP and ISD moderately reliable. SMI had low reliability. AEP and ISD found to be moderately valid and the SMI was found to have low validity.</p>	<p>SMI should not be used.</p>

<p>Trerise B, Dodek P, Leung A, Spinelli JJ Int J Qual Health Care 2001 Feb; 13(1):27-32</p>	<p>Underutilisation of acute care settings in a tertiary care hospital</p>	<p>Retrospective and concurrent cohort study to estimate underutilisation using ISD-AC®.</p>	<p>ISD® can measure unmet acute needs and critical care needs in patients being discharged or in lower than critical care dependency beds.</p>	<p>A small but significant proportion of patients were found to be not receiving appropriate care either through too early discharge or no access to critical care bed.</p>
---	--	--	--	---

5.6 Interventions examining the enhancement of discharge planning and reductions in discharge delays

Authors and Publication	Title	Objectives and details	Results/Outcomes	Commentary
<p>Anderson MA, Helms L Orthopaedic Nurse 1993 Jul-Aug;12(4):41-9</p>	<p>An assessment of discharge planning models: communication in referrals for home care.</p>	<p>To examine whether various discharge planning models employed by hospitals resulted in differences in the quantity and quality of communication about patients referred for home health care</p>	<p>Half the data recommended by the literature was transferred. Data was mainly background. Discharge planning model did make a difference on the data shared. Liaison nurses sending most data.</p>	<p>Anderson and Helms claim that the discharge planning models just describe an allocation of responsibility among health personnel.</p>
<p>Evans RL, Hendricks RD Med Care 1993 April; 31(4):358-370</p>	<p>Evaluating hospital discharge planning: a randomized clinical trial. (RCT)</p>	<p>Randomized clinical trial to evaluate a protocol that used risk factors identified on hospital admission. To determine if intervention with high-risk patients could reduce the need for hospital admission or skilled care. 13,255 patients screened. 835 study participants Half assigned to experimental group and received discharge planning from day 3 of hospital stay. Control group only had discharge planning if there was a written request from the physician.</p>	<p>Patients receiving early systematic discharge planning had an increased likelihood of successful return to home after hospital admission and a decreased chance of an unscheduled readmission for the 9 month study period. Hospital stay was not affected by early planning.</p>	<p>Discharge planners can decrease the need for and use of health care resources after the hospital admission.</p>

<p>Griffiths P, Wilson-Barnett J. Int J Nurs Std 2000 Jun;37(3):245-55</p>	<p>Influences on length of stay in intermediate care: lessons from the nursing –led inpatient unit studies.</p>	<p>Study of NLIU showing dramatically increased average length of stay (ALOS) when compared to usual care in hospital.</p>		
<p>James A, Williams J, Wilkins WE. Journal of the Royal College of Physicians London 1998 May-June; 23(3):231-4</p>	<p>A pre-discharge ward for acute medical patients.</p>	<p>To evaluate a 15-bedded pre-discharge ward (PDW).</p>	<p>810 patients admitted - in 1st year 24% respiratory illness 62% required physiotherapy, 51% needed OT, 35% needed increased social support. 84% were discharged to their admission address, 4.2% dept. For care of the elderly, 3.6% to relatives 2.8% to residential or nursing homes 2.7% returned to acute medical beds 1.% to GP beds, 1.1% died. Average LOS = 7.32 days</p>	<p>The ward provides assessment and focused discharge planning for patients of GP's. Stay in acute medical beds was not prolonged.</p>

<p>Martin F, Oyewole A, Moloney A Age Ageing 1994 May 23(3):228-234</p>	<p>A randomized controlled trial of a high support hospital discharge team for elderly people.</p> <p>(RCT)</p>	<p>To provide practical help and promote independence of patients at home for up to 6 weeks after discharge from hospital through the use of a Home Treatment Team (HTT) 29 patients received the HTT 25 patients were controls receiving conventional community services.</p>	<p>Fewer HTT patients were readmitted than those in the control group. HTT group (4 by 6 weeks, 9 by 12 weeks), control group (9 by 6 weeks, 14 by 12 weeks). The HTT group spent fewer days in hospital during 12 weeks and more at home during 12 months than control group. Neither group showed a change in mental state or functional abilities over 12 weeks.</p>	<p>Confounding factors were considered insufficient explanation for the difference in outcomes between the two groups.</p> <p>HTT was beneficial, but the mechanism of effect was not identified.</p>
<p>Naylor M, Brooten D, Jones R, Lavisso-Mourey R, Mezey M, Pauly M Ann Intern Med 1994 Jun 15;120(12):999-1006</p>	<p>Comprehensive discharge planning for the hospitalized elderly. A randomized clinical trial</p> <p>(RCT)</p>	<p>To study the effects of a comprehensive discharge planning protocol on patient and caregiver outcomes and costs of care. Designed for the elderly to be implemented by nurse specialists. 276 patients, 125 caregivers. Patients 70 + Patients placed in medical and surgical cardiac DRGs. Outcomes measured 2,6,12 weeks after discharge.</p>	<p>Patients in the medical intervention group had fewer readmissions, less re-hospitalized days, lower readmission charges, reduced charges for health care services after discharge. No differences between surgical and control groups.</p>	<p>Supports the need for comprehensive discharge planning to improve outcomes after discharge and achieve cost savings. Greatest effect in the medical intervention group during the first 6 weeks after discharge.</p>
<p>Tran B, Zureik M, Davido A, Levy A, Trouillet JL, Lang T,</p>	<p>Hospital discharge planning and length of hospital stay in elderly</p>	<p>To assess the influence of difficulties of orientation at discharge on length of stay.</p>	<p>Mean length of stay 18.3+/- 15.4 days. Discharge = to social or nursing care institution with a 12 day</p>	<p>Hospital discharge management has impact on elderly LOS.</p>

<p>Lombrail P Rev. Epidemiol Sante Publique 1995;43(4): 337-47</p>	<p>patients admitted through the emergency department.</p>	<p>Prospective study 426 patients aged 75+</p>	<p>longer mean LOS than home discharge.</p>	<p>Social and geriatric assessment on admittance should be applied to avoid problems of orientation at discharge.</p>
<p>Waters KR J Adv Nurse 1987 May; 12(3):347- 355</p>	<p>Outcomes of discharge from hospital for elderly people.</p>	<p>Reports on the findings of a study which examines the outcomes of discharge for 32 elderly people admitted to geriatric wards.</p>	<p>Independence in daily living activities was lower and an increase in the amount of help need after hospitalisation was found.</p>	<p>Increases in the rate of discharge will have implications for formal and informal carers.</p>

5.7 Interventions examining the effectiveness/efficiency of rehabilitation schemes, hospital-at-home, and home care schemes.

Authors and Publication	Title	Objectives and details	Results/Outcomes	Commentary
<p>Bernabi R, Landi F, Gambassi G, Sgadari A, Zuccala A, Mor V, Rubenstein L, Carbinin PU. BMJ 1998; 316:1348-1351</p>	<p>Randomised Controlled Trial of impact of model of integrated care and case management for older people living in the community. (RCT)</p>	<p>Italian randomised controlled trial to evaluate the impact of a programme of integrated social and medical care among frail elderly people living in the community.</p> <p>Intervention consists of care planning by community geriatric evaluation unit and GPs followed by tailored integrated package of care.</p>	<p>Intervention group demonstrated: later and less frequent admissions to hospital or nursing home, similar use of health services to controls except for GPs (less), improved ADL scores, less decline in cognitive status, estimated financial saving of c.£ 1125 per year of follow up.</p>	<p>Strong research model – randomised study, subject to community type study weaknesses. Moderate to good evidence for effectiveness of intervention. Demonstrated cost efficiency, based on local conditions.</p>
<p>Boult C, Boult LB, Morishita L, Dowd B, Kane RL, Undangarin CF. J Am Geriatrics Soc 49(4)351-359, 2001.</p>	<p>Randomised clinical trial of outpatient geriatric evaluation and management. (RCT)</p>	<p>American randomised controlled trial to measure the effects of outpatient geriatric evaluation and management on functional ability and use of health services in high-risk older persons.</p>	<p>Intervention group demonstrated the following benefits: less restriction in ADL scores, less decline in functional ability, less use of home health care services. There was similar health service use in both groups. The intervention cost \$US1350 per person.</p>	<p>Single outpatient catchment population. Strong model . Moderate to good evidence for effectiveness of intervention. Cost benefit demonstrated for local conditions.</p>

<p>Brazil K, Bolton C, Ulrichsen D, Knott C Journal of Community Health 1998 Feb;23(1): 29-43</p>	<p>Substituting home care for hospitalization: the role of a quick response service for the elderly.</p>	<p>To examine the role of a rapid access home-based service as a means to avoid admission of elderly people to an acute-care hospital.</p> <p>Information derived from emergency department records, home care records and a survey of 96 patients and 119 medical staff.</p>	<p>Elderly women with multiple health problems, living alone were the most frequent users of the service.</p> <p>The service did avert hospital admissions.</p>	<p>The service facilitated a process of avoiding intermediate step of hospitalisation before higher level care.</p> <p>Value to patients and care givers rather than cost savings to acute care hospitals.</p>
<p>Castro JM, Anderson MA, Hanson KS, Helms LB, Island R Journal of Emergency Nurs. 1998 April;24(2): 127-32</p>	<p>Home care referral after emergency department discharge.</p>	<p>To assess the need for home health care referral screening for elderly people after emergency department discharge.</p> <p>Non-experimental Retrospective Descriptive design</p> <p>194 closed medical records from patients aged 65 and over</p>	<p>88 patients could have benefited from a home care referral.</p>	<p>If the screening for home care referral is performed before ED discharge a seamless delivery system of care is provided. The screening should be integrated into the ED discharge activities.</p>
<p>Coast J, Richards SH, Peters TJ, Gunnell DJ, Darlow MA, Pounsford J BMJ 1998 June 13; 316 (7147):1802-1806</p>	<p>Hospital at home or acute hospital care? A cost minimisation analysis.</p> <p>(RCT)</p>	<p>To compare the costs associated with early discharge to H@H scheme and those associated with continued care in an acute hospital. Viewpoints from NHS and SS and Patients.</p> <p>241 hospitalised medically stable elderly patients (as above). Cost to NHS, SS and patients over 3 months are randomisation.</p>	<p>Mean cost for H@H patients over 3 months was £2516, for hospital patients it was £3292.</p>	<p>Hospital = in north of Bristol H@H scheme is less costly than care in the acute hospital. Results may be generalisable to schemes of similar size and scope, operating in a similar context of rising acute admissions.</p>

<p>Dansky KH, Dellasega C, Shellenbarger T, Russo PC Clin Nurs Res 1996 May 5(2):185-198</p>	<p>After hospitalization: home health care for elderly persons.</p>	<p>To assess immediate post-hospitalization outcomes for elderly people who received home health services after discharge, compared with those who did not receive home health care services. Assessment = Mini-Mental State Exam The Delirium Symptom interview and the Everyday Problem Solving Test.</p>	<p>Hospital discharge data collected. Patients aged 80+ were less likely to report health problems or complications if they had received skilled nursing services.</p>	<p>The 'old-old' elderly should be targeted for needs assessment and discharge planning.</p>
<p>Evans RL, Connis RT, Haselkorn JK Disabil Rehabil 1998 Aug;20(8):298-307</p>	<p>Hospital-based rehabilitative care versus outpatient services: effect on functions and health status.</p>	<p>To examine the long-term impact of rehabilitative care on the health status of patients diagnosed with a disabling disorder.</p> <p>First time hospitalisations from commonly admitted diagnostic groups. Patients randomly assigned to inpatient rehab (43) or outpatient follow-up (42).</p> <p>Clinical Trial</p>	<p>No significant treatment effects at 6 months or 1 year. No differences between groups in their use of nursing homes, mortality , LOS or hospital readmissions.</p> <p>Rehab services and cost of care - significantly higher than outpatient services.</p>	<p>Hospital-based rehab care does not have lasting benefits, alternative care or follow-up by a subacute care facility may be needed to help patients maintain functional gains and health benefits.</p>
<p>Fulop NJ, Hood S, Parsons S J R Soc Med 1997 Apr 90(4):212-215</p>	<p>Does the NHS want hospital-at-home?</p>	<p>Describe development of H@H schemes in London, draw on evaluation of 5 schemes.</p>	<p>Study identified small group of patients who do not want H@H + resistance to it by some health care professionals and managers, particularly in hospitals.</p>	<p>Organisational issues to be considered in evaluation of H@H plus issues of quality, outcome + cost. Feasibility studies needed to identify organisational barriers. Consider in wider debate of care.</p>

<p>Godfrey M, Randall T, Long A, Grant M. Centre for Evidence Based Social Services University of Exeter 2000.</p>	<p>Home Care: Review of Effectiveness and Outcomes. (SR)</p>	<p>A systematic review of empirical studies of effectiveness in home care.</p>	<p><u>Housework and personal services:</u> weak associations with reduction in mortality, perceived improvement in health, declining ADLs. Needs reduced, Costs increased. <u>Home support on hospital discharge:</u> Inconclusive. <u>Case managed programmes:</u> No evidence of improved outcomes except possible evidence of weak association with LT/NH admission rate reduction. Cost effectiveness inconclusive.</p>	<p>Little evidence that home care provision has direct effect on health outcomes. Housework and personal services may have limited effect on certain outcomes, does address outstanding needs. Further research desirable.</p>
<p>Griffiths P. Wilson _Barnet J. International Journal of Nursing Studies June 2000, 37(3) 245-255.</p>	<p>Influences on Length of Stay in Intermediate Care: Lessons from the Nursing led In-patient unit studies</p>	<p>To study the effect of nurse-led inpatient unit on ALOS.</p>	<p>ALOS increased dramatically</p>	<p>Long term study showing outcomes different to earlier evidence. Further exploratory analyses required</p>

<p>Hansen FR, Spedtsberg K, Schroll M Age Ageing 1992 Nov 21(6):445-450</p> <p>Also in Ugeskr Laeger 1994 May 30;156(22):3305-3307</p>	<p>Geriatric follow-up by home visits after discharge from hospital: a randomized controlled trial.</p> <p>(RCT)</p>	<p>To carry out and evaluate a model for follow-up by home visits after persons aged 75+ had been discharged from hospital.</p> <p>Feasibility study, prospective 163 patients were visited in their own homes the day after their discharge by district nurses. 2 weeks later the patients were evaluated by their GP. The control group had 181 patients with discharge taking the usual procedures.</p>	<p>Significantly more people in the control group had been admitted to nursing homes (25, compared with 10 p< 0.05). The controlled group stayed 2700 days at institutions, compared with the trial group which spent 1950 days at institutions.</p>	<p>The simple and practical follow-up routine should be introduced in connection with the discharge of elderly people from hospital.</p>
<p>Hogan DB, Fox RA Age Ageing 1990 Mar 19(2):107-113</p>	<p>A prospective controlled trial of a geriatric consultation team in an acute-care hospital.</p>	<p>Prospective, controlled trial of GCT 132 out of 352 patients met the inclusion criteria 66 assigned to the intervention group and control group.</p>	<p>Intervention was associated with 6 month survival, improved Barthel Index at 1 year and a trend towards decreasing reliance on care in hospitals or nursing homes during the follow-up year.</p>	<p>Findings support the utility of GCT and highlight the importance of follow-up after the discharge from hospital.</p>
<p>Hughes SL, Ulasevich A, Weaver FM, Henderson W, Manheim L, Kubal JD, Bonarigo F Health Serv Res 1997 Oct;32(4):415-432</p>	<p>Impact of home care on hospital days: a meta analysis</p>	<p>To examine the impact of home care on hospital days. Search of databases covering 1964-1994 412 articles. Meta analytic analysis used secondary data between 1967 and 1992.</p>	<p>Small to moderate positive impact of home care in reducing hospital days, ranging from 2.5 to 6 days.</p>	<p>Effect sizes although small to moderate, the consistent pattern of reduced hospital days across a majority of studies suggests that home care has a significant impact on this costly outcome. (Hospital care)</p>

<p>Knowelden J, Westlake L, Wright KG, Clarke SJ J Public Health Med 1991 Aug:13(3):182-188</p>	<p>Peterborough Hospital at Home: an evaluation.</p>	<p>To examine the roles of H@H, hospital ward and the district nursing service. Two surveys - first = retrospective of patients admitted to 1 of the 3 care settings during 1983, second = prospective study of H@H patients in 1985 with index diagnosis of: malignant neoplasm, cerebrovascular accidents and post-operative patients discharged early.</p>	<p>In 1985, 284 patients admitted to H@H scheme (73 were terminally ill cancer patients). H@H provided care for more severely ill patients than those cared for by district nursing service.</p>	<p>Emphasis on terminal care by H@H appears to enhance the usual domiciliary nursing services as majority of cancer patients would probably have been admitted to hospital.</p>
<p>Kosasih JB, Borca HH, Wenninger WJ, Duthie E. Arch Phys Med Rehabil 1988 Jun;76(6):670-3</p>	<p>Nursing home rehabilitation after acute rehabilitation: predictors and outcomes.</p>	<p>To determine the predictive factors & functional outcomes of patients discharged from acute rehab unit to nursing home care unit at a Veterans Affairs hospital.</p> <p>81 patients admitted to Veterans Affairs hospital over 1 year.</p>	<p>Both groups had an increase in functional independence measure (FIM) scores, but the nursing home care unit had significantly lower admission FIM scores and lower LOS efficiency because of longer acute rehab LOS. Post acute nursing home care rehab = significant FIM scores at slower rate. 64% of the nursing home patients returned to the community.</p>	<p>Nursing home rehab can result in beneficial outcomes (functional and community) for selected patients.</p>

<p>Mistiaen P, Duijnhouwer E, Wijkel D, de Bont M, Veeger A J Adv Nurs 1997 June 25(6):1233-1240</p>	<p>The problems of elderly people at home one week after discharge from an acute care setting.</p>	<p>To investigate problems following discharge as part of a larger study.</p> <p>251 elderly patients who had been discharged after a hospital stay of 3 days were studied. Half received a questionnaire the others were interviewed at home, over a 3 month period.</p>	<p>145 respondents. 80% mentioned the need for information. Housekeeping tasks caused most patients some difficulty. 40% identified some kind of unmet need.</p>	
<p>Montalto M Medical Journal of Australia 1998; 168(6):277-280</p>	<p>How safe is hospital-in-the-home care?</p>	<p>To describe the rate of negative, unexpected and adverse events associated with HIH care in an established unit.</p> <p>Prospective, descriptive survey. 231 patients accepted for acute home-based care at the HIH unit.</p>	<p>190 admission examined. 5.8% of admissions required an unscheduled staff home attendance, 4.2% of episodes resulted in a return to hospital, 2.6% required continued care in hospital, 2.2% of episodes resulted in a return to hospital within 14 days of discharge for a related problem. Iatrogenic adverse events constituted 3.5%.</p>	<p>HIH care is very safe. Study may help define safety standards for HIH care.</p>

<p>Nankervis J, Schofield H, Herrman H, Bloch S Int J Geriatr Psychiatry 1997 Feb; 12(2):193-201</p>	<p>Home-based assessment for family carers: a preventative strategy to identify and meet service needs.</p>	<p>To identify unmet need for services among family carers and their frail or disabled relatives + facilitate links to services. Survey 186 carers (69 participants) + 2 month follow-up telephone call. Intervention study.</p>	<p>93% of carers (dyads) recommended a new service, 73% wanted increase in range 41% wanted extensions to the services. 2 services required ACAT (aged care assessment team) respite care, aids and paramedical services. Three-quarters of the carers rated intervention as helpful.</p>	<p>Preventative programme of needs assessment for carers has potential for identifying needs, engaging new services, providing emotional support.</p>
<p>Oterino de la Fuente D, Ridao M, Peiro S, Marchan C Med Clin 1997 Jul 5; 109(6):207-211</p>	<p>Hospital at home and conventional hospitalization. An economic evaluation.</p>	<p>To carry out an economic evaluation of H@H schemes with conventional hospitalization. Minimization cost analysis. 2 groups 148 H@H patients with 1776 days of care. 148 hospitalized patients with 1113 days of care. Outcomes: cost per hospital episode + cost per day.</p>	<p>Average episode cost at home was 172,043 ptas less than that of the hospitalization cost. When HH staff considered as a differential cost (new set up) the marginal cost was 2,276 pesetas higher than the conventional hospitalization.</p>	<p>Hospital at home is cost-effective when it is consider as a new unit versus a new hospital ward, or as a substitute services through conversion of existing services. It is not cost-effective when created as a new additional resource.</p>

<p>Richards SH, Coast J, Gunnell DJ, Peters TJ, Pounsford J, Darlow MA BMJ 1998 Jun 13; 316 (7147):1796-1801</p>	<p>Randomised controlled trial comparing effectiveness and acceptability of an early discharge, hospital at home scheme with acute hospital care.</p> <p>(RCT)</p>	<p>To compare effectiveness and acceptability of early discharge to a hospital at home scheme with routine discharge from acute hospital.</p> <p>Pragmatic RCT 241 hospitalised, medically stable elderly patients, fulfilling the criteria for early discharge to H@H scheme. Assessment at 4 weeks and 3 months after randomisation to treatment group for quality of life, satisfaction and physical functioning. After 3 months - LoS + mortality.</p>	<p>No significant differences in patient mortality, QoL and physical functioning. H@H patients perceived higher levels of involvement in decisions. LoS for those receiving routine hospital care was 62% of LoS in H@H scheme.</p>	<p>H@H scheme was similar to routine hospital discharge in terms of effectiveness and acceptability. Increased LoS associated with the scheme to be interpreted with caution.</p>
<p>Shepperd S, Harwood D, Jenkinson C, Gray A, Vessey M, Morgan P BMJ 1998 Jun 13; 316 (7147):1786-1791</p>	<p>Randomised controlled trial comparing hospital at home care with inpatient hospital care I: three month follow up of health outcomes.</p>	<p>To compare H@H with inpatient care in terms of patient outcomes. Patients recovering from hip replacement (n=86), knee replacement (n=86), hysterectomy (n=238), elderly (n=96), chronic obstructive airway disease (n=32).</p> <p>Dartmouth COOP chart, SF-36 Barthel index, Oxford hip score Bristol knee score, carer strain index hospital readmission + mortality data Patients preference.</p>	<p>No major difference in outcome between H@H and hospital care except those recovering from hip replacement stated a greater improvement of quality of life.</p> <p>H@H did not seem suitable for patients recovering from a knee replacement as 30% remained in hospital. Those with chronic obstructive airways disease patients preferred hospital care.</p>	<p>Few differences in outcomes were detected.</p> <p>The cost of hospital at home compared with hospital care becomes a primary concern.</p>

<p>Shepperd S, Harwood D, Gray A, Vessey M Morgan P BMJ 1998 Jun 13;316(7147):1791-1796</p>	<p>Randomised controlled trial comparing hospital at home care with inpatient hospital care II: cost minimisation analysis.</p>	<p>To examine the cost of providing H@H in place of some forms of inpatient care in hospitals. Patients as above.</p>	<p>No difference in total healthcare costs for patients recovering from hip or knee replacement or for elderly people. Significantly increased health care costs for patients recovering from a hysterectomy and those with chronic obstructive airways disease(COAI). H@H increased GP's costs for elderly medical patients and COAI.</p>	<p>H@H did not reduce total health care costs. Significantly increased for hysterectomy and COAI patients. Evidence that costs were shifted to primary care for elderly medical patients and those with COAI.</p>
<p>Shepperd S, Illiffe S J Public Health Medicine 1998 20(3):344-350</p>	<p>The effectiveness of hospital at home compared with in-patient hospital care: a systematic review</p>	<p>Five trials included in review. Compared H@H with acute in-patient care for those aged 18+. Excluded long-term care needs, obstetric patients and those requiring mental health services. Databases searched. Data extracted for outcomes. Analysis and quality assessment undertaken by two independent reviewers following standard methods described by EPOC group.</p>	<p>No statistically significant differences were detected for patient outcomes. Patients discharged home after elective surgery - greater satisfaction than those remaining in hospital. No statistically significant difference was detected for overall net health costs.</p>	<p>The review does not support the widespread adoption of the hospital at home schemes. But it also does not support the discontinuation of existing schemes for elderly patients, those who have had elective surgery or those with terminal illness.</p>

<p>Solomon DH, Wagner DR, Marenberg ME, Acompora D, Cooney LM Jr, Inouye SK J Am Geriatr Soc 1993 Sep;41(9):961-966</p>	<p>Predictors of formal home health care use in elderly patients after hospitalization.</p>	<p>To study the incidence and risk factors for home health care in elderly medical and surgical patients discharged from acute care. Prospective cohort study 226 medical and surgical patients aged 70+. HHC initiated within 14 days after discharge.</p>	<p>Incidence of HHC within 2 week post discharge was 75 (34%). Median of 3 visits per week. Four predictors of HHC identified. Educ level, less accessible soc support, impairment of one+ daily living activity and prior HHC use.</p>	<p>A simple predictive model based on four risk factors can be used on admission to predict HHC use. Model may be useful for discharge planning and health care utilization planning for the elderly population.</p>
<p>Steiner A, Walsh B, Pickering R, Wiles R, Ward J, Brooking JI. BMJ 2001; 322:453-460</p>	<p>Therapeutic nursing or unblocking beds? A randomised controlled trial of a post-acute intermediate care unit.</p>	<p>RCT to compare post-acute intermediate care in an inpatient nurse-led unit (INLU) with conventional post acute care on general medical wards.</p>	<p>The effect of longer ALOS in intervention group is cancelled out fewer transfers to community hospital beds for ongoing care. Outcomes were similar in both groups. INLU patients had fewer medical reviews and more therapies.</p>	<p>INLU demonstrates similar effectiveness to conventional care. No evidence of more efficient care but may offer some internal flexibility in acute unit staffing and between acute and community hospitals.</p>

<p>Stewart S, Pearson S, Horowitz JD Archives of Internal Med 1998/ 158(10):1067-1072</p>	<p>Effects of a home-based intervention among patients with congestive heart failure discharged from acute hospital care.</p> <p>(RCT)</p>	<p>To examine the effect of a home-based intervention (HBI) on readmission and death among 'high-risk' patients with congestive heart failure. Those with CHF, impaired systolic function, intolerance to exercise and a history of 1 or more admissions for acute heart failure were selected - 48 in control group, 49 in HBI group. Patients in HBI group had a single home visit to optimize medication management, identify early clinical deterioration, intensify follow-up and caregiver vigilance as appropriate.</p>	<p>During the follow-up patients in the HBI group had fewer unplanned readmissions (36 vs 63) fewer out-of-hospital deaths (1 vs 5) and fewer days of hospitalisation (261 vs 452).</p>	<p>Among high-risk patients with congestive heart failure the home based intervention was associated with reduced frequency of unplanned readmission plus out-of-hospital deaths within 6 months discharge from the hospital.</p>
--	--	--	---	---

<p>Townsend J, Piper M, Frank AO, Dyer S, North WR, Meade TW BMJ 1988 Aug 20; 297(6647):544-547</p>	<p>Reduction in hospital readmission stay of elderly patients by a community based hospital discharge scheme: a randomised controlled trial.</p> <p>(RCT)</p>	<p>To compare a community support scheme with standard aftercare - assessing effects on independence and morale of elderly patients discharged from hospital. 903 patients over 75 years. 464 patients received support from care attendants on their first day at home and for up to 12 hours a week for 2 weeks. Remaining 439 patients had standard aftercare.</p>	<p>After 3 months - no significant difference between the 2 groups in physical independence, morale or in death rates. Within 18 months, there had been significantly more readmissions from the control group Control group spent a mean of 30.6 days in hospital, support group spent 17.1 days in hospital. 15% of patients living alone who were followed up after 18 months had been readmitted more than twice, compared with 5% who had support from care attendants.</p>	<p>The policy should be extended to all patients over the age of 75 who are living alone. An average health district might expect either to save about 23 hospital beds at a net annual saving of £220,000 in the short term or to increase available beds by this number.</p>
<p>Williams EI, Fitton F Br J Gen Pract 1991 Feb;41(343):72-75</p>	<p>Use of nursing and social services by elderly patients discharged from hospital.</p>	<p>To determine reasons for early unplanned readmission of elderly patients to hospital - provision of nursing and social services assessed before and after admission. Random sample 133 patients who had been readmitted in an emergency 133 controls who had not been readmitted.</p>	<p>The readmitted group had significantly more nursing and social service support before and after discharge than the control group. Problems experienced after discharge were: no arrangements, delay in starting services, inadequate services for needs.</p>	<p>Guidelines for the provision of nursing and social services after discharge of patients from hospital are suggested.</p>

<p>Zimmer JG, Groth-Juncker A, McCusker J Am J Public Health 1985 Feb;75(2):134-141</p>	<p>A randomized controlled study of a home health care team.</p> <p>(RCT)</p>	<p>To assess a team approach to home care for homebound chronically or terminally ill elderly. Team = physician, nurse practitioner, social worker. Weekly team conferences to assure coordination of patient care. Team available for emergency consultation through a 24-hour telephone service. Team physician attends to patient during necessary hospitalizations. Evaluated impact on utilization of health care, functional changes in patients, and patients and carer satisfaction.</p>	<p>Team patients had fewer hospitalizations, nursing home admissions and outpatient visits than the controls. More often able to die at home if it was their wish. They used more in-home services. Their overall cost was lower than their controls, but not statistically significant. Functional abilities did not change differently from controls. Carers expressed significantly higher satisfaction with care received.</p>	
---	---	--	--	--

Interventions and evaluations at the primary/secondary care interface and GP referrals

Variations in general practitioner referral rates are shown to be multi factorial and difficult to explain in several studies, outcomes and costs not demonstrated to correlate with high or low referral rates.

GP referral decisions were found to be dominated by medical motives in a descriptive analytic study of 2496 patient doctor contacts (Aaraas 1998).

Communications are a major source of problems at the interface. Barriers to speedy admission and proposed alternative delivery strategies for piloting are identified in a number of studies (Balla 1994, Cooling 1992, Jenkins 1994, Coulon 1998, Magean 1986). Some things have been shown to effect delivery. Telephone calls accompanying referrals to AE raise the odds that patients will be admitted (Duffield 1997) and decreased the waiting time in A&E (Mont al to 1994).

Social deprivation is associated with high referral rates to A&E but not higher admission rates (Duffield *ibid*)

Prevention and process of admissions

In 1994 Anderson et al identified 1 in 7 acute admissions which could possibly have been treated in alternative care - nursing home, GP, residential support.

A higher level of 'social admissions' has been demonstrated in the city hospital catchment vs non city hospital catchment (Fitzgerald 1994). However social relief has been shown to improve patient and carer self care abilities and mental health (Cardoc-Davies 1995). For some conditions (chronic diseases) close access has been associated with higher admission rates (Bindman et al 1995) and short sharp inpatient assessment has been suggested as a possible strategy for decreasing nursing home dependance (Hutchinson 98) though the numbers in this study are small.

Nanaway (1998) has described intermediate care guidelines for identifying suitable patients, and certain types of Nursing Home resident have been shown to fair better than others in the event of their requiring hospital admission (Ruindi 1997). When available beds are reduced demand for acute admission appears to be maintained because as GP's reduce their referrals, self referrals to A&E go up (Petty and Gumble 1990).

However where primary care services are very thin as in USA increasing the numbers of GP'S because admissions Parchman & Culler 1994, this was not thought to be the case in UK (Dirofaiye 1989).

However a more recent study suggests that substantial numbers of admissions are potentially preventable and has generated a list for England (Dixon 2000) Appropriate assessment of GP acute medical referrals with specialist registrar receiving room has been shown to increase same day discharge rates. (Wauklyn). It has similarly been suggested that much of acute care in children can be modified through the case of a short stay therapy unit - as up to 65% of children's admissions can be well enough to go home in 12-18 hours whereas getting out of a formal inpatient ward can take twice as long. (Numa 1991).

Primary care preventable admissions in the elderly are most likely through the careful management of therapy (Bigby 1987).

Hospital Emergencies and A&E use

In 1976 Conway found that half of A&E attenders referred themselves. Those who self refer to not have significantly different admission rates than those referred by GPs (Jenner 1985), Thompson 1995) though Diego-dominguez (1990) found higher rates of multiple problems in the self referred.

Murphy (1998) pointed out the difficulties with definitions of appropriate A&E use. Described a range of alternatives to A&E use (Moller (1990) showed an association between nursing home bed availability and available admission rates, however the presence of GP beds has paradoxically been associated with higher admission rates with age, sex, morbidity and living in the South East being influences (Rand 1997).

Driscoll 87 identified the involvement of other risks when adopting strategies to avoid inappropriate use of A&E Strategies which provide primary care may be relevant to some centres but not others. 5% of acute admissions on the Isle of Wight were potentially avoidable Denman - Johnson 1997, but may not have represented best resource use in a small community.

Various options for reducing admissions and a.l.o.s have been evaluated (Khan 1997, Mather 1998, Spillane 1997, Black 1997, Hadden 1996, Poncia 2000).

Unplanned re-admission rates

A topic of interest in the past decade as a measure of quality it has been the subject of much discussion when used highly specifically to case mix and other co factors it is seen to be useful but if not can be spurious. Severity and complexity and case mix are risk factors, Thomas and Holloway 1991).

In general rates are higher in medical rather than surgical patients (Chambers & Clark 1990). In general medicine and geriatrics only half are really avoidable (Clark 1990). It is necessary to identify 'at risk' groups (College & Ford 1994). Risk factors include, identified previous diagnosis and iatrogenic risk. These are identifiable therefore preventable through discharge programmes (Frankle 1991). Saffron & Philips (1989) demonstrated the cost efficiency of preventing unplanned re-admission. Another has demonstrated reductions associated with home based interventions (Stuart 1998). Although one R.C.T. of post discharge contacts did not demonstrate a reduction in re-admission rates (Smith 1988).

Steward (ibid) also demonstrated cost efficiency but in selected application Henderson (1989) used the possibility of an association with inappropriately shortened lengths of stay.

Discharge Planning

Discharge planning increased information sharing and the allocation of responsibility (Anderson & Helms, 1993).

Studies have shown associations with independence at home and lower re-admission rates (Evans 1993, Martin 1994, Naylor 1994) Evidence of improved communication (James, 1998), and a.l.o.s. (Naylor 1994).

Appropriateness

Studies into the appropriateness of acute hospital use have been reported intermittently for over 30 years. The picture has been one of intermittent interest and activity which, more often than not, has been in direct response to contemporary health policy and resourcing.

A cluster of studies appeared towards the end of the 1950s. The first, consisting of medical record reviews and interviews with relatives of patients discharged from a Birmingham hospital, reported "No diagnostic or therapeutic requirements at hospital level in a quarter of patients" (Crombie 1959).

A second, using consultant opinions, reported similar findings for existing inpatients (Forsythe 1960). A further larger survey in Birmingham, this time on admissions and delayed discharges, reported 4.7% admissions and a further 13.3% of delayed discharges unnecessary on medical grounds alone (MacIntosh 1961). All of these studies used implicit clinical opinion in determining the appropriateness or otherwise of a case. Later researchers used different ways to try to overcome the inherent weakness of implicit criteria. One such study channelled opinion into general categories of reasons for admission (e.g. consultant opinion required, alternative services unavailable) and introduced basic explicit needs criteria (medical records, nursing needs, etc.) (Torrence 1972).

Another paper put forward a method for incorporating consensus clinician opinion derived through local use of Delphi techniques (Rosser 1976)]. These were found to be of doubtful validity across different environments or too cumbersome for practical wider use when heavily structured.

In recent years there has been growing interest in researching the use of Explicit Criteria Diagnosis Independent instruments in the NHS. In 1988, the development of an audit instrument consisting of nine explicit appropriateness criteria and 16 criteria representing "reasons for not being at home" was reported. The authors called it the Bed Study Instrument Anderson 1987. They acknowledged similarity between their instrument and the AEP (Appropriateness Evaluation Protocol) (Gertman and Restuccia 1981) The similarity can be found in the subject area of the majority of criteria for appropriateness of hospital days. The number of criteria and level of detail are less in the Bed Study Instrument than in the AEP. The authors also created a 16 item list of reasons "for not being at home". This was applied to patients who were deemed to have not met any of the criteria.

In a 1991 study at an Inner London District Health Authority, all admissions to three hospitals over a period of 1 month, (except obstetrics and psychiatry), were included (Victor 1993). A comprehensive study of general medical and geriatric inpatients at a teaching hospital in Bristol using the ISD-A instrument (Intensity, Severity and Discharge screens) [Interqualt] and validating against the AEP is reported (Coast 1994). The Bristol study included extensive testing for validity and reliability. The findings were that the instrument was valid, given a full range of services being available. However, the authors question the validity of the instrument for routine assessment of appropriateness within the current system.

Bristow, Beech & Hudson (1998) conducted a multi-centre three-phase study using the adult AEP (locally modified) and cross validation studies with the Bed Study Instrument has commenced in South Thames. This instrument was tested and validated at a number of centres in South Thames and is in the public domain.

Systematic analysis of acute admission days and days of stay against agreed sets of acute care criteria can provide the potential to assess a unit's activity. A study of the sub-groups which fail to meet the criteria can be used to identify the major reasons why patients may be receiving inappropriate care and the magnitude of the problem. Some of the reasons found will be amenable to internal managerial action. Other reasons will be identified which reveal barriers to appropriate use arising from the external environment. Where these reasons identify significant activity at an "inappropriate level of care", valid grounds for shifting care from one sector to another can be substantiated. Information which describes these "external barriers" should be of significant value in informing the focus of intervention for the resources.

Several recent articles have reported on the use of this type of study in UK and Europe and a systematic review of methods has been published (McDonagh 2000) and this gives a minimum estimate of the size of the inappropriate acute bed use burden in the UK. A similar instrument for use in community beds has been described (Donald et al 2001) and should probably be further researched. Of particular interest is a Canadian Study which describes an index for managing and reducing inappropriate admissions.

Home care and post discharge care

Studies of patients post discharge identify patient information and home help as major deficits (Mistiaen 1997). Particularly at risk are the 'old old' elderly (Danisky 1996). Pre-existing social care can break down as a result of hospital admission (Williams 1991).

Various studies have examined a range of strategies and different outcomes. (Anderson 1998, Castrol 1998, Hansen 1992, Hogern 1990, Stewart 1998, Townsend 1998, Zimmer 1995). Outcomes demonstrated to be effected include, shared information levels, re-admissions, (early & late), out of hospital deaths. Post discharge specialist domiciliary visits have also been the subject of study and have demonstrated, more independence (Hansen 1992) less nursing home admissions (Hogan 1990) and a meta analysis by Hogan 1997 has shown reduced a.l.o.s.

Finally Solomon (1993) has identified four indicators that can be used at individual case level and for modelling to predict home health care needs.

Shepherd & Iliffe 1998 in a systematic review found similar costs and outcomes, but more satisfaction in the post surgery sub group. Wide adoption was not recommended.

Rehabilitation, Hospital at Home and Home Care

Inpatient and outpatient rehabilitation have been compared in an RCT the results showed no difference except cost (Evans 1998). Coast (1998) demonstrated lower costs for hospital at home per episode. Oterino (1997) in Spain made a similar finding but found the practice lead to increased capacity rather than substitution. Knowleden (1991) found it provided better care than district nurses for the more severe cases (this might be where the substitution occurs).

Monlalto found lower rates of adverse events than in hospital. Richards (1998) for early discharge hospital at home found similar outcomes but longer overall l.o.s., Shepherd (1998) found higher costs at home for post hysterectomy care and C.O.A.D.

An American study (Hughes et al 1997) reported on a meta-analysis 412 articles on the impact of home care on hospital days. The results indicated a small to moderate positive impact of home care in reducing hospital days, ranging from 2.5 to 6 days. Godfrey et al. have conducted a review of effectiveness and outcomes of Home Care their findings are summarised as follows:

- a) Homemaker / Home care (Housework and personal services) are associated with no impact on acute hospital admissions and lengths of stay. An association with nursing home admissions has not been demonstrated. There was evidence of lower mortality rates but declining activity of daily living abilities were seen with one study. This was associated with a perceived improvement in health by users. Higher costs, and a reduction in unmet needs were associated.
- b) Short term home support schemes for hospital discharges were evaluated and the effect on outcomes has been inconclusive. Further research is recommended.
- c) Case-managed programmes had no evidence of favourable effects on rates of acute hospital admission. A reduction in rates of admission to long term care was seen with one specific type of programme. Cost effectiveness was inconclusive.

There are a number of randomised controlled studies which investigate the effects of assessment, and co-ordinated home care for a range of situations in care of older people (Bernabi et al. 1998, Boulton et al. 2001, Hansen et al 1992, Hogan et al 1990, Stewart et al 1998, Townsend et al 1988, Zimmer et al 1985) they all demonstrate beneficial effects across a range of outcomes. Other studies of different methodologies add further weight of evidence (Brazil et al 1988, Castro et al 1998, Nankervis et al. 1997, Williams et al 1991.)

6. Conclusions

The review has addressed this very broad topic under several headings or categories of evidence. The wide coverage identifies numerous descriptive studies in the literature. Of many studies there are relatively few which have robustly demonstrated true effectiveness in terms of pragmatic applicable solutions to the problems of pressures on the acute hospital system. Those areas in which there are some important findings are as follows:

Primary / Secondary Care Interface

Accessibility of GP beds effects GP referrals to acute hospitals, (community hospitals are discussed in detail in appendix 1), otherwise determinants of GP referral rates are difficult to predict. ***In terms of managing acute admission rates, modifying the availability of community hospital beds could potentially have an impact on acute pressures***

Admission Prevention and Process

Improving primary care access to increase preventable hospital admissions has been considered less of a prospect in Europe than the USA, ***however a recent UK study identifies conditions considered to be potentially preventable through primary care. Pre-existing social care dependency correlates with longer than average hospital stay.***

A&E and short stay wards

Short stay facilities can cost effectively reduce hospital inpatient admissions for children and lengths of stays for older persons. Various types of assessments are cited as having potential to provide appropriate alternatives to inpatient care. Self referral to A&E does not appear to have different rates of appropriateness to GP referral

Re-admission rates

There is evidence to show that most re-admissions are due to medical rather than social problems, however the preventability of adverse events leading to readmission may have only small practical benefit. ***Increasing short term follow up of discharged patients may be useful in preventing re-admissions if selectively applied***

Appropriateness.

Levels of appropriateness on admission day is relatively high in NHS.

Levels of appropriateness on subsequent in patient days fall off particularly in certain case-mix groups. An index of appropriateness at hospital level has been described and this may have potential for broad (regional) application to focus resources for strategic responses. Also there is some potential for predicting inappropriateness according to casemix and patient characteristics.

Discharge Planning

Discharge planning and support teams are cost effective and should be in place universally.

Communication and Continuity

Current methods of transferring information about elderly patients are poor, ***liason workers can improve this situation.***

Rehabilitation, hospital at home and home care schemes.

We found the strongest evidence of beneficial effect and economic advantage in programmes of assessment and co-ordinated care. Outcomes were improved and avoidance of adverse events (unplanned re-admissions) were reduced and long term admissions were delayed.

Hospital at home can provide as good a quality of care as the acute hospital service where appropriate, with higher levels of patient satisfaction. It is not clear from the evidence that it hospital at home economically advantageous and therefore its benefits can probably only be realised through substitution, cost transfer and closure of the substituted service. Certain indirect costs may also be hidden, such as increases in GP time. Models have been described to predict the hospital inpatients likely to benefit from such schemes.

The effect of home care programmes on acute hospital admission rates and average length of stay in acute hospitals in the UK is probably small. ***They do prevent or delay admission to long stay nursing and residential homes. They do improve user satisfaction. They may have a slight detrimental effect on activities of daily living.***

In parallel with this exercise the South East Regional Office is conducting a wide scope investigation into all the parameters of health service performance and the relevant antecedents.

This project has attempted to demonstrate where evidence can be found to underpin certain interventions and strategies which appear to improve the performance and outcomes of

particular functions within the health care system, and to identify evidence of specific weaknesses in the system.

We would suggest that appropriate next steps would be to conduct an evidence based strategic response for the overall exercise. The conceptual framework for such an exercise is explained below.

7. Recommendations

The exercise conducted by the S E Regional Office on Delayed Transfers of Care in the South East should provide an outline of the health and social care system in the South East. This rapid review provides a synopsis of the current evidence on which interventions have the greatest potential to deliver improvements to the functioning of the system. The next step would be to target the maximum potential for delivering improvement to the parts of the system most in need.

There is already substantial evidence on where discharge delays are the worst. These could be mapped against existing intermediate care interventions, currently in place (using the survey of intermediate care projects). This could provide a profile of outstanding need as follows:

Profile of current practice.

Evidence base of what is known about best practice.

Difference / gap between current and best practice.

Analysis of cost and practicality to move current practice to best practice.

Analysis of expected change in outcome to be gained through move to best practice

Recommendation on desirability and amount of change

Recommendation on testing or implementation of any proposed strategic change.

A further refinement would be to enlarge the picture by looking beyond discharge delays for other barriers to optimal utilisation of acute services. This could be done through a utilisation review study measuring appropriateness across the whole patient stay. However that in itself is a substantial undertaking. There is currently a substantial amount of experience, and at least one comprehensive review, relating to measures of appropriateness in the NHS. Much of it the experience gathered in the South East. Before embarking on a major utilisation review exercise, it would be recommended that a detailed study of the results of such work be conducted and certain assumptions using those results be derived and tested for validity in application to the region's acute care services. (eg these particular types of patients have an odds ratio of 0.35 of appropriateness, therefore by measuring the throughput we should get an idea of the expected levels of inappropriateness and the underlying reasons).

Based on current evidence, the interventions likely to be the most useful in addressing the barriers to optimal acute care utilisation are those highlighted in the conclusions section above and in the executive summary.

8. References

- Aaraas I, Fylkesnes K, Forde OH** GPs' motives for referrals to general hospitals: does access to GP hospital beds make any difference? *Fam Pract* 1998 Jun;15(3):252-8
- Alsop JC, Langley JC** Determining first admissions in a hospital discharge file via record linkage. *Methods of Information in Medicine* 1998 37(1):32-37
- Alexih LM** What is it, Who needs it, and Who provides it? In Boyd, ed. 1997. 1-17.
- Ambery P, Donald IP** Variation in General Practice. Medical admission rates for Elderly People. *J. Public Health Med.* 2000 Sep;22(3):422-6.
- Anderson FH, Pedersen IL, Nielsen MO, Ehlers DP, Fredensborg N, Homegaard SN, Sanders SC** Alternatives to acute admission to a city hospital. Is it possible to reduce the number of acute admissions? *Ugeskr Laeger* 1994 Jul 18;156(29): 4233-6
- Anderson MA, Helms L** An assessment of discharge planning models: communication in referrals for home care. *Orthopaedic Nurse* 1993 Jul-Aug;12(4):41-9
- Anderson MA, Helms LB** Comparison of continuing care communication. *Image J Nurs Sch* 1998;30(3):255-60
- Anderson P, Meara J, Brodhurst S, Attwood S, Timbrell M, Gatherer A** Use of hospital beds: a cohort study of admissions to a provincial teaching hospital. *BMJ* 1988 Oct 8;297(6653):910-912
- Angellillo IF, et al.** Appropriateness of hospital utilisation in Italy. *Public Health* 2000. Jan 114(1):9-14.
- Atkinson DI, Jenkins S, Collins PE, Minor J.** Continuum – Activity Index: managing admission inappropriate stays in a community hospital. *Healthcare Manage. Forum* 1999. Summer 12 (2):31-6.
- Bagust A, Place M, Posnett** The Rise in Emergency Admissions. West Midlands. 1998
- Balla JI, Jamieson WE** Improving the continuity of care between general practitioners and public hospitals. *Med J Aust* 1994 Dec 5;161(11-12):656-659
- Barodawala S.** Care of older people: Community care, the independent sector. *BMJ* 1996;313(21 September):740-743.
- Bensley** The rise in non-elective admissions. 2nd Report. Northern & Yorkshire RHA 1995

- Bernabei R, Landi F, Gambassi G, Sgadari A, Zuccala G, Mor V, Rubenstein L, Carbonin P, Bertakis KD** Randomised trial of impact of model of integrated care and case management for older people living in the community. *BMJ* 1998;316:1348-1351.
- Bertakis KD** Impact of a patient education intervention on appropriate utilization of clinic services. *J Am Board Fam Pract* 1991 Nov;4(6):411-418
- Bigby J, et al** Assessing the preventability of emergency hospital admissions. A method for evaluating the quality of medical care in a primary care facility. *Am J Med* 1987 Dec; 83(6):1031-1036
- Bindman Ab, et al.** Preventable hospitalizations and access to health care. *JAMA* 1995 Jul 26;274(4):305-311
- Black DA** Emergency day hospital assessments. *Clin Rehabil* 1997 Nov; 11(4): 344-346
- Booth M, Fralich J, Saucie P, Mollica R and Riley T.** Integration of Acute and Long-term Care for Dually Eligible Beneficiaries through Managed Care. Technical assistance paper prepared by the Muskie School of Public Service, University of Southern Main and the National Academy for State Health Policy, under a grant from the Robert Wood Johnson Foundation Medicare/Medicaid Integration Program. 1997
- Boult C, Boult LB, Morishita L, Dowd B, Kane RL, Undargarin CF.** Randomised clinical trial of outpatient geriatric evaluation and management. *J Am Geriatrics Soc* 49(4)351-359, 2001.
- Brazil K, Bolton C, Ulrichsen D, Knott C** Substituting home care for hospitalization: the role of a quick response service for the elderly. *Journal of Community Health* 1998 Feb;23(1): 29-43
- Bristow A, Hudson M, Beech R** Analysing Acute Inpatient Services: the development and application of utilisation review tools. *UMDS Dept. Of PHM.* 1997 May.
- Caradoc-Davies TH, Harvey JM** Do 'social relief' admissions have any effect on patients or their care-givers? *Disabil Rehabil* 1995 Jul;17(5):247-51
- Casanova C, Colomer C, Starfield B** Pediatric hospitalization due to ambulatory care-sensitive conditions in Valencia (Spain). *Int J Qual Health Care* 1996 Feb;8(1):51-59
- Castro JM, Anderson MA, Hanson KS, Helms LB, Island R, Celic Y et al.** Home care referral after emergency department discharge. *Journal of Emergency Nurs.* 1998 April;24(2): 127-32
- Celic Y et al.** Inappropriate use of hospital beds: a case study of university hospitals in Turkey. *World Hospital Health Service* 2001; 37(1):6-13, 33-4.

- Chambers M, Clarke A** Measuring readmission rates. *BMJ* 1990 Nov 17;301 (6761):1134-1136.
- Chopard P et al** Predictors of inappropriate hospital days in a department of internal medicine. *International J or Epidemiology* 1998 27(3):5513-519
- Clark A.** Are readmissions avoidable? *BMJ* 1990. Nov 17;301(6761):1136-1138.
- Coast J, Richards SH, Peters TJ, Gunnell DJ, Darlow MA, Pounsford J** Hospital at home or acute hospital care? A cost minimisation analysis. *BMJ* 1998 June 13; 316 (7147):1802-1806
- Colledge NR, Ford MJ** The early hospital readmission of elderly people. *Scott Med J* 1994 Apr;39(2):51-52
- Conlon C, Flaherty P, Long B, Murphy M** Acute hospital admission systems: problems experienced by GP's. *Ir Med J* 1998 Jan;91(1):19-20
- Conway H** Emergency Medical Care. *Br Med J* 1976 Aud 28;2(6034):511-3.
- Cooling N, Walpole B** General practitioner referrals to a department of emergency medicine. *Aust Fam Physician* 1992 May;21(5):621-8.
- Crombie DL, cross KW** *Med Pract* 1959. 242:361
- Crone P** Are preadmission general practitioner telephone calls of value? A study in communication. *NZ Med J* 1987 Oct 14; 100(833):632-4.
- Crossen-White et al** The Rise in Emergency Admissions. West Midlands. 1998
- Dansky KH, Dellasega C, Shellenbarger T, Russo PC** After hospitalization: home health care for elderly persons. *Clin Nurs Res* 1996 May 5(2):185-198
- Denman-Johnson M, Bingham P, George S** A confidential enquiry into emergency hospital admissions on the Isle of Wight, UK. *J Epidemiol Community Health* 1997 Aug;51(4): 386-390
- Department of Health** Developing emergency services in the community. *DOH* 1997 EL(97)46
- Department of Health** The New NHS Modern, Dependable. Department of Health. 1997

- Department of Health** Modernising Social Services. Department of Health, 1998.
- Department of Health** All Health Authorities to get cash boost in £31 billion funding allocations. Press Release 1998/0500
- Department of Health** £32 million will help bring down waiting lists. Press Release 1998/0601
- Department of Health** 2,200 New Ways to Help Hospital Through Winter. Press Release 1999/0606
- Department of Health** Health Authorities and councils in £18 million joint drive to deal with winter pressures. Press Release 1999/0020
- Department of Health** Record Winter Effort by NHS Confirmed. Press Release 1999/0077
- Department of Health** One in three casualty units get £30 million to modernise. Press Release 1999/0088
- Department of Health** Health and Personal Social Services Modernisation Fund. HSC 1999/039
- Department of Health** £20 million boost to reduce waiting lists and waiting times. Press Release 1999/0097
- Department of Health** Intermediate Care. Web site: <http://www.doh.gov.uk/intermediate.htm>. Department of Health. Crown Copyright. 2000.
- Department of Health** Health Service Circular/Local Authority Circular HSC 2001/015:LAC (2001)18.
- Department of Health** Better Care, Higher Standards: Guidance for 2001/02 – LAC (2001)6:HSC 2001/006.
- Diego Dominguez F et al.** Hospital emergencies in the catchment area of Leon. A study of the repercussions of primary care. Aten Primaria 1990 Jan;7(1):37-38.
- Dixon PN, Gatherer A, Pollock RM.** Hospital services for the 21st century: A report to the Oxford Regional Health Authority. 1992.
- Donald IP, Jay T, Linsell J, Foy C.** Defining appropriate use of community hospital beds. Br. J. General Practice 2001. Feb: 51(463):95-100.
- Doty P, Benjamin AE, Matthias RE and Franke TM.** In-home supportive services for the elderly and disabled: A comparison of client-directed and professional management models of service delivery. Nontechnical Summary Report US

- Department of Health and Human Services Assistant Secretary for Planning and Evaluation, Office of Disability, Aging and Long-term Care Policy. Washington DC. 1999
- Drennan V, Levenson R.** Community care. Blurred Vision. Health Service Journal. 1999;12(109):22-23
- Driscoll PA, Vincent CA, Wilkinson M** The use of the accident and emergency department. Arch Emerg Med 1987 Jun;4(2):77-82.
- Duffield JS, Craig K, Plant WD** Patterns in acute referral to hospital. Scott Med J 1997 Aug;42(4):105-7
Department of Renal Medicine, Royal Infirmary NHS Trust, Edinburgh.
- Durojaiye LI, Hutchison T, Madeley RJ** Improved primary care does not prevent the admission of children to hospital. Public Health 1989 May;103(3):181-188
- Edwards N** The growth in emergency admissions - a challenge for health services research. J Health Serv Res Policy 1996;1(3):125
- Edwards N** Evaluation of Additional Resources for the NHS in Norath Thames. London Health Economics Consortium. July 1998
- Emergency Services Action Team** ESAT Report to the Chief Executive on Winter Pressures - 1997. NHS Executive (May)
- Emergency Services Action Team** ESAT Report 1998. NHS Executive (August)
- Evans RL, Connis RT, Haselkorn JK** Hospital-based rehabilitative care versus outpatient services: effect on functions and health status. Disabil Rehabil 1998 Aug;20(8):298-307
- Fine MD.** Coordinating health, extended care, and community support services: reforming aged care in Australia. Journal Aging Social Policy. 1999;11(1):67-90.
- Finucane PM et al.** Profile of people referred to an emergency department from residential care. Aust NZ J Med 1999. Aug 29(4):494-9.
- Fitzgerald JF, Smith DM, Martin DK, Freedman JA, Katz BP** A case manager intervention to reduce admissions. Arch Intern Med 1994 Aug 8;154(15):1721-1729
- Forsyth G, Logan RFL** The Demand for Medical Care. Nuffield Provincial Hospital Trust 1960.
- Frankl SE, Breeling JL, Goldman L** Preventability of emergent hospital readmissions. Am J. Med 1991 Jun;90(6):667-674

- Franks P, Mooney C, Sorbero M.** Physician referral rates: style without much substance? 2000. Aug 38(8):836-46.
- Fulop NJ, Hood S, Parsons S** Does the NHS want hospital-at-home? J R Soc Med 1997 Apr 90(4):212-215
- Gertman PM, Restuccia JD** The appropriateness evaluation protocol: a technique for assessing unnecessary days of hospital care. Med Care 1981 Aug;19(8):855-871
- Godber E, Robinson R, Steines A** Economic Evaluation and Shifting Balance Towards Primary Care: definitions, evidence and methodological issues. Health Econ. 1997 May - June 6(3): 275-94
- Godfrey M, Randall T, Long A, Grant M.** Home Care: Review of Effectiveness and Outcomes. Centre for Evidence Based Social Services, University of Exeter 2000.
- Gold S, Bergman H** A geriatric consultation team in the emergency department. Journal of Am. Geriatric Soc. 1997 Jun;45(6):764-7
- Griffiths P, Wilson-Barnett J.** Influences on length of stay in intermediate care: lessons from the nursing-led inpatient unit studies. Int. J. Nurse Std. 2000 Jun;37(3):245-55.
- Hadden DS, Dearden CH, Roche LG** Short stay observation patients: general ward are inappropriate. J Accid Emerg Med 1996;13(3):163-165
- Halpin J** Acute admissions to hospital. Northern & Yorkshire RHA. April 1995
- Hansen FR, Spedtsberg K, Schroll M** Geriatric follow-up by home visits after discharge from hospital: a randomized controlled trial. Age Ageing 1992 Nov 21(6):445-450/
Ugeskr Laeger 1994 May 30;156(22):3305-3307
- Hawes C, Wildfire JB and L.J Lux.** Regulation of Board and Care Homes: Results of a survey in the 50 states and the District of Columbia: National Summary. Washington DC. American Association of Retired Persons. 1993.
- Henderson J, Goldacre MJ, Graveney MJ, Simmons HM** Use of medical record linkage to study readmission rates. BMJ 1989 Sep 16;299 (6701):709-713
- Hilsted JC, et al.** Acute admissions to medical departments. A comparison between an urban and a rural district. Dan Med Bull 1995 Sep;42(4):371-373.
- Hogan DB, Fox RA** A prospective controlled trial of a geriatric consultation team in an acute-care hospital. Age Ageing 1990 Mar 19(2):107-113

- Hughes SL, Ulasevich A, Weaver FM, Henderson W, Manheim L, Kubal JD, Bonarigo F** Impact of home care on hospital days: a meta analysis. *Health Serv Res* 1997 Oct;32(4):415-432
- Hutchinson SG, Tarrant J, Severs MP** An inpatient bed for acute nursing home admissions. *Age & Ageing* 1998 27(2):95-98
- Ingold BB, Yersin B, Wietlishback V, Burckhardt P, Bumand B, Bula C.** Characteristics associated with inappropriate hospital use in elderly patients admitted to a general internal medicine service. *Aging (Milano)* 2000. Dec: 12(6):430-8.
- InterQual Inc.** The ISD-A review system with adult criteria. The ISD-A review system with paediatric criteria 1987. Chicago IL.
- James A, Williams J, Wilkins WE.** A pre-discharge ward for acute medical patients. *Journal of the Royal College of Physicians London* 1998 May-June; 23(3):231-4
- Jankowski RF, Mandalia S** Comparison of attendance and emergency admission patterns at accident and emergency departments in and out of London. *BMJ* 1993 May 8;306(6887):1241-1243
- Jenkins C, Bartholomew J, Gelder F, Morrell D,** Arranging hospital admission for acutely ill patients: problems encountered by general practitioners. *Br J Gen Pract* 1994 Jun;44(383):251-4
- Jenkins-Clark S, Carr-Hill R.** Changes, challenges and choices for the primary health care workforce: looking to the future. *J. Adv. Nursing.* 2001;34(6):842-9.
- Jenner GH** Medical patients aged 65 and over admitted to an accident and emergency department. *Br Med J (Clin Res Ed)* 1985 Jul 13;291(6488):113-4.
- Kane RA, Kane RL and Ladd RC** *The Heart of Long-term Care.* New York: Oxford University Press. 1998.
- Kane RL, RA Kane, Finch M et al.** S/HMOs, the Second Generation: Building on the Experience of the First Social Health Maintenance Organisation Demonstrations. *Journal of the American Geriatrics Society.* 1997; 45(1):101-7.
- Keenan SP, Doig GS, Martin CM, Inmand KJ, Sibbald WJ** Assessing the efficiency of the admission process to a critical care unit: does the literature allow the use of benchmarking? *Intensive Care Med* 1997 May;23(5):574-580
- Khan SA, Millington H, Miskelly FG** Benefits of an accident and emergency short stay ward in the staged hospital care of elderly patients. *J Accid Emerg Med*

- 1997 May;14(3): 151-152
- Knowelden J, Westlake L, Wright KG, Clarke SJ** Peterborough Hospital at Home: an evaluation. *J Public Health Med* 1991 Aug;13(3):182-188
- Kosasih JB, Borca HH, Wenninger WJ, Duthie E.** Nursing home rehabilitation after acute rehabilitation: predictors and outcomes. *Arch Phys Med Rehabil* 1988 Jun;76 (6);670-3
- Krakauer H, Itzhak J, Millman M, Lukomnik JE** Physician impact on hospital admission and on mortality rates in the Medicare population. *Health Services Research* 1996;31(2):191-211
- Kvamme OJ, Olsen F, Samuelsson M.** Improving the interface between primary and secondary care: a statement from the European Working Party on Family Practice (eQuiP). 2001. Mar;10(1):33-9.
- Lang T, Davido A, Logerot H, Meyer L** Appropriateness of admissions: the French experience. *Int J Qual Health Care* 1995 Sep;7(3):233-238
- Langlands A** Emergency Services. DOH 1996 August EL(96)73
- Langlands A** Additional Resources for the NHS: 1997/98. DOH 1997 October EL(97)64
- Langlands A** Additional Resources in 1998-99 to Reduce NHS Waiting Lists. DOH 1998 April. HSC 1998/067
- Langlands A** Additional Resources in 1998-99 for 'Whole Systems' Action to Support Sustained Reductions in NHS Waiting Lists. DOH 1998 May. HSC 1998/096
- Langlands A, Laming H** Better Services for Vulnerable People. DOH. 1997 October Misc(97)62
- Liddell A** Funding For Priority Services 1996/97 and 1997/98. DOH 1996 November EL(96)109
- Lowy A, Kohler B, Nicholl J** Attendance at accident and emergency departments: unnecessary or inappropriate? *J Public Health Med* 1994 Jun;16(2):134-140
- Mackintosh JM, McKeown T, Garrat FN** An examination of the need for hospital admission. *Lancet* 1961 April 15:815
- Mageean RJ** Study of 'discharge communications' from hospital. *Br Med J (Clin Res Ed)* 1986 Nov 15; 293(6557):1283-4
- Maggs-Rapport F, Kinersley P, Owen P** Qualitative study of Intra-Practice, inter GP referral. *Social Science Medicine*. 1998 Jan;46(1):131-6.

- Malone JK, Chase D, and Bayard JL.** Caring for Nursing Home Residents. *Journal of Health Care Benefits.* 1993;2(3):51-4.
- Martin F, Oyewole A, Moloney A** A randomized controlled trial of a high support hospital discharge team for elderly people. *Age Ageing* 1994 May 23(3):228-234
- Mather HM** Coping with pressures in acute medicine. The Royal College of Physicians Consultant Questionnaire survey. *J R Coll Physicians London* 1998 May;32(3):211-218
- McBeth A** Community care partnership: planning within the community. *Semin. Nurse Management.* 2000;8(2):116-23.
- McCormack B.** The developing role of community hospitals: an essential part of a quality service. *Quality in Health Care.* 1993;2:253-258.
- McCormack B.** Individual choice. *Elderly Care.* 1999. Jan 10th. 10(6):21-3.
- McCormack B.** Community care for elderly people. *BMJ.* 1998;317:552-553.
- McCormack G** Community Hospitals Development Project – Final Report. Oxfordshire Community Health NHS Trust. 1993.
- McDonagh MS, Smith DH, Goddard M.** Measuring Appropriate use of acute beds. A systematic review of methods and results. *Health Policy* 2000. Oct; 53(3):157-84.
- McGlade KJ, Bradley T, Murphy GJ, Lundy GP** Referrals to hospital by general practitioners: a study of compliance and communication. *BMJ* 1988 Nov 12;297(6658):1246-8.
- Meglade KJ, Bradley T, Murphy GJ, Lundy GP** Referrals to hospital by general practitioners: a study of compliance and communication. *BMJ.* 1988. Nov 12;297(6658):1246-8
- Miles TA, Lowe J.** Are unplanned re-admissions to hospital really preventable? *J. Qual Clin Pract.* 1999. Dec:19(4):11-4.
- Mistiaen P, Duijnhouwer E, Wijkel D, de Bont M, Veeger A** The problems of elderly people at home one week after discharge from an acute care setting. *J Adv Nurs* 1997 June 25(6):1233-1240
- Moller LA, Paaby J** Alternative possibilities to emergency admissions to a medical department. *Ugeskr Laeger* 1990 Feb 12;152(7):461-464
- Mollica RL.** State Assisted Living Policy. 1998. Washington DC: Office of the Assistant Secretary for Planning and Evaluation.
- Montalto M** How safe is hospital-in-the-home care? *Medical Journal of Australia* 1998; 168(6):277-280

- Montalto M, Harris P, Rosengarten P** Impact of general practitioners' referral letters to an emergency department. *Aust Fam Physician* 1994 Jul;23(7):1320-1, 1324-5, 1328.
- Mozes B, Schiff E, Modan B** Factors affecting inappropriate hospital stay. *Quality Assurance in Health Care* 1991, 3(3):211-217
- Murphy AW** Inappropriate attenders at accident and emergency departments I: definition, incidence and reasons for attendance. *Fam Practice* 1998 Feb;15(1):23-32.
- Murphy AW** Inappropriate attenders at accident and emergency departments II: health service responses. *Fam Practice* 1998 Feb;15(1):33-37
- NAHA Tand RCP** Tackling NHS Emergency Admissions: Policy into Practice. 1997
- Nankervis J, Schofield H, Herrman H, Bloch S** Home-based assessment for family carers: a preventative strategy to identify and meet service needs. *Int J Geriatr Psychiatry* 1997 Feb; 12(2):193-201
- Nasraway SA, Cohen IL, Dennis RC, Howenstein MA, Nikas DK, Warren J, Wadel SK** Guidelines on admission and discharge for adult intermediate care units. *Critical Care Medicine* 1998 26(3):607-610.
- Naylor M, Brooten D, Jones R, Lavisso-Mourey R, Mezey M, Pauly M** Comprehensive discharge planning for the hospitalized elderly. A randomized clinical trial. *Ann Intern Med* 1994 Jun 15;120(12):999-1006
- Newcomer R, Wilson KB and Lee P.** Residential Care for the Frail Elderly: State Innovations in Placement, Financing and Governance. In Newcomer, Wilkinson and Lawton, 1997. 162-82.
- Newton J.** Community Care. Flexible Friends. *Health Service Journal*. 1999;23(109):24-5.
- NHS Centre for Reviews and Dissemination** Undertaking Systematic Reviews of Research on Effectiveness. CRD Guidelines Report 4. University of York. 1996 January
- Nolan M, Philip I** COPE: towards a comprehensive assessment of caregiver need. *Br. J. Nursing* 1999;8(20):1364-6.
- Numa A, Oberklaid F** Can short hospital admission be avoided? A review of admissions of less than 24 hrs duration in a paediatric teaching hospital. *Med J Aust* 1991 Sept; 155(6):395-398

- O'Donnell CA.** Variation in GP referral rates: what can we learn from the literature? *Family Practice* 2000. Dec;17(6):462-71.
- O'Neill D, Pearson M** Appropriateness of hospital use in the United Kingdom: a review of activity in the field. *International Journal for Quality in Health Care.* 1995 Vol 7(3):239-244.
- Orsquo;Neill B and Rodway A.** ABC of palliative care: Care in the community. *BMJ* 1998;316:373-377.
- Oterino de la Fuente D, Ridao M, Peiro S, Marchan C** Hospital at home and conventional hospitalization. An economic evaluation. *Med Clin* 1997 Jul 5; 109(6):207-211
- Parchman ML, Culler S** Primary care physicians and avoidable hospitalizations. *J Fam Pract* 1994 Aug;39(2):123-128
- Petty R, Gumpel M** Acute medical admissions: changes following a sudden reduction in bed numbers at Northwick Park Hospital (NPH). *J R Coll Physicians London* 1990 Jan;24(1):32-251
- Poncia HD, Ryan J, Carver M.** Next day follow up of the elderly: a needs assessment and critical incident monitoring tool for the accident and emergency department. *J accid Emerg Med.* 2000 Sept;17(5):337-40.
- Pringle M, Falk-Whynes J, Rothera I, Whynes D, Chilvers C, Fielding K, Von Fragstein M** Avoidable acute medical admissions project: An evaluation of interventions at two sites: Rotherham and Doncaster. University of Nottingham 1998
- Rasmussen SW, Thomsen H, Jensen P, Angermann P, Appelquist E.** Referrals to an emergency unit before and after changes in the practitioner-on-call system. *Ugeskr Laeger* 1994 Aug 29;156(35):4968-71.
- RCGP and Association of General Practitioner Community Hospitals.** Occasional paper 43, Community Hospitals – Preparing for the Future. 1990.
- Redfern J, Bowling A.** Efficiency of care at the primary-secondary care interface; variations with GP Fundholding. *Health Place.* 2000. March. 6(1):15-23.
- Richards SH, Coast J, Gunnell DJ, Peters TJ, Pounsford J, Darlow MA** Randomised controlled trial comparing effectiveness and acceptability of an early discharge, hospital at home scheme with acute hospital care. *BMJ* 1998 Jun 13; 316 (7147):1796-1801
- Ricketts TC, Randolph R, Howard HA, Pathman D, Carey T.** Hospitalisation rates as indicators of access to primary care. *Health Place.* 2001. Mar;7(1):27-38.

- Riundi R et al** Hospitalization of elderly hosts of residential homes. *Ricerca e Pratica* 1997 13(76):144-149
- Robinson A** At the interface of health and community care: developing linkages between aged care services in a rural context. *Aust. J. Rural Health*. 1999;7(3):172-80.
- Roemer M, L** Hospital Utilisation and the Supply of Physicians. *JAMA*. December (1961) 198: 989-993
- Rosser RM** The reliability and application of clinical judgment in evaluating the use of hospital beds. *Med Care* 1976 Jan;14(1):39-47
- Round A** Emergency medical admissions to hospital -- the influence of supply factors. *Public Health* 1997 Jul;111(4):221-224
- Royal College of Physicians, The NHS Confederation** Tackling NHS emergency admissions: policy into practice. Best Practice Paper No. 1. The NHS Confederation 1997
- Safran C, Phillips RS** Interventions to prevent readmission. The constraints of cost and efficacy. *Med Care* 1989 Feb;27(2):204-211
- Sanderson C, Dixon J.** Conditions for which onset or hospital admission is potentially preventable by timely and effective ambulatory care. *Journal of Health Services Research Policy*. 2000 Oct 5(4):222-30.
- Santos-Eggimann B, Sidler M, Schopfer D, Blanc T** Comparing results of concurrent and retrospective designs in a hospital utilization review. *Int. J. For Quality in Health Care* 1997 9(2):115-120
- Scrivens E, Cropper S, Beech R** Making winter monies work: A review of locally used methods for selecting and evaluating supply-side interventions. Centre for Health Planning and Management, University of Keele. November 1998
- Shank F.** Public Relations at American Occupational Therapy Association. 1997. AOTA Member Composition Survey.
- Shield RR.** Managing the Care of Nursing Home Residents: The Challenge of Integration. 1996. In Newcomer, Wilkinson and Lawton, eds. 1997 60-77.
- Shepperd S, Harwood D, Jenkinson C, Gray A, Vessey M, Morgan P** Randomised controlled trial comparing hospital at home care with inpatient hospital care I: three month follow up of health outcomes. *BMJ* 1998 Jun 13; 316 (7147):1786-1791
- Shepperd S, Harwood D, Gray A, Vessey M Morgan P** Randomised controlled trial comparing hospital at home care with inpatient hospital care II: cost minimisation analysis. *BMJ*

- 1998 Jun 13;316(7147):1791-1796
- Shepperd S, Illiffe S** The effectiveness of hospital at home compared with in-patient hospital care: a systematic review. *J Public Health Medicine* 1998 20(3):344-350
- Smeets PM, Berheggen FW, Pop P, Panis LJ, Carpay JJ.** Assessing the necessity of hospital stay by means of the AEP; how strong is the evidence to proceed. *Int. J. Qual. Health care.* 2000 Dec. 12(6):483-93.
- Smith DM, Weinberger M, Katz BP, Moore PS** Post-discharge care and re-admissions. *Med Care* 1988 Jul;26(7):699-708.
- Solomon DH, Wagner DR, Marenberg ME, Acompora D, Cooney LM Jr, Inouye SK** Predictors of formal home health care use in elderly patients after hospitalization. *J Am Geriatri Soc* 1993 Sep;41(9):961-966
- Spector WK, Reschovsky JD and Cohen JW.** Appropriate Placement of Nursing-Home Residents in Lower Levels of Care. *Milbank Quarterly* 1996;74(1):139-60.
- Spillane LL, Lumb EW, Cobaugh DJ, Wilcox SR, Clark JS, Schneider SM** Frequent users of the emergency department: Can we intervene? *Academic Emergency Medicine* 1997 4(6):574-580.
- Steiner A,** Intermediate care: A conceptual framework and review of the literature. Southampton. Institute for Health Policy Studies.1996
- Steiner A, Walsh B, Pickering R, Wiles R, Ward J, Brooking JJ.** Therapeutic nursing or unblocking beds? A randomised controlled trial of a post-acute intermediate care unit. *BMJ* 2001; 322:453-460
- Stevens and Raftery** Health Care Needs Assessment : The epidemiologically Based Needs Assessment Reviews. Oxford: Radcliffe Medical Press 1994/1997
- Stewart S, Pearson S, Luke CG, Horowitz JD** Effects of home-based intervention on unplanned readmissions and out-of-hospital deaths. *J of the American Geriatrics Society* 1998 46(2): 174-180
- Stewart S, Pearson S, Horowitz JD** Effects of a home-based intervention among patients with congestive heart failure discharged from acute hospital care. *Archives of Internal Med* 1998/ 158(10):1067-1072
- Strumwasser I et al** Reliability and Validity of Utilization Review Criteria (AEP, SMI, ISD) *Medical Care* 1990 Feb;20(2):95-111
- Thomas JW, Holloway JJ** Investigating early readmission as an indicator for quality of care studies. *Med Care* 1991 Apr;29(4):377-394

- Thomson H, Kohli HS, Brookes M** Non-emergency attenders at a district general hospital accident and emergency department. *J Accid Emerg Med* 1995 Dec;12(4): 279-281
- Torrance N, Lawson J, Knox J** Acute admissions to medical beds. *J Royal College of General Practitioners* 1972 22:211-219
- Townsend J, Frank A, Piper M** Continuing rise in emergency admissions. *BMJ* 1996 Aug;313:302
- Townsend J, Piper M, Frank AO, Dyer S, North WR, Meade TW** Reduction in hospital readmission stay of elderly patients by a community based hospital discharge scheme: a randomised controlled trial. *BMJ* 1988 Aug 20; 297(6647):544-547
- Tran B, Zureik M, Davido A, Levy A, Trouillet JL, Lang T, Lombrail P** Hospital discharge planning and length of hospital stay in elderly patients admitted through the emergency department. *Rev. Epidemiol Sante Publique* 1995;43(4):337-47
- Travers AF** Caring for older people: Carers. *BMJ*. 1996;313:482-486.
- Treerise B, Dodek P, Leung A, Spinelli JJ.** Under-utilisation of acute care settings in a tertiary care hospital. *Int. J. Qual Health Care*. 2001. Feb: 13(1):27-32.
- Victor CR, Khakoo AA** Is hospital the right place? A survey of 'inappropriate' admissions to an inner London NHS Trust. *J Public Health Med* 1994 Sep;16(3):286-290
- Victor C, Nazareth B, Hudson M et al** The inappropriate use of acute beds in an inner London District Health Authority. *Health Trends* 1993 5:91
- Walsh M** The health belief model and use of accident and emergency services by the general public. *J Adv Nurse* 1995 Oct;22(4):694-699
- Wanklyn P, Hosker H, Pearson S, Belfield P** Slowing the rate of acute medical admissions. *J R Coll Physicians London* 1997 Mar;31(2): 173-176
- Warden J.** Community care is failing elderly people. *BMJ*. 1998;316:327.
- Waters KR** Outcomes of discharge from hospital for elderly people. *J Adv Nurse* 1987 May; 12(3):347-355
- Wensing M, van der Weijden T, Grol R** Implementing guidelines and innovations in general practice: which interventions are effective? *Br J Gen Pract* 1998 Feb;48(427):991-997.
- West R, Rosen M** United Kingdom study of urgent and emergency admission to hospital. *Health Trends* 1996 28(1):13-19.

- Williams EI, Fitton F** Use of nursing and social services by elderly patients discharged from hospital. Br J Gen Pract 1991 Feb;41(343):72-75
- Young J, Turnock S.** Community care waiting lists and older people. BMJ 2001;322:254.
- Zimmer JG, Groth-Juncker A, McCusker J** A randomized controlled study of a home health care team. Am J Public Health 1985 Feb;75(2):134-141

Appendix 1 Community Hospitals

1. *Definitions*

There are no firmly agreed definitions of what a community hospital is. eg. cottage hospitals, GP hospitals, neighbourhood hospitals. 'Community hospital' is a generic term defined by :

a) *Patient group*

Community hospital provides care for patients who need nursing care that cannot usually be provided at home, need the medical support of their GP but not of their consultant, who do not or not yet need or no longer need the services of the district general hospital, who live locally.

b) *Relationship to professional group*

General Practice, where "the admissions, care and discharge of patients is under the direct control of a general practitioner who is paid for this service through a bed fund or equivalent" Nursing, where "the hospitals are "nursing led", the dominant treatment required being nursing in partnership with other disciplines". Hospital Consultants where "the community hospital provides services for patients under the care of GPs as well as those under the care of hospital consultants".

c) *Services provided*

An appropriate range and format of accessible health care facilities and resources. *"These will include in patient and may include out patient, diagnostic, day care, primary care and out-reach services for patients provided by multi-disciplinary teams"*

Acute, rehabilitation, respite, palliative and continuing care. *"Where appropriate and practical, the community hospital provides among other services rehabilitation and continuing care of elderly patients including the elderly severely mentally infirm"*

Low technology services: *"....based on primary care services that can be viewed as a lower technical buffer care in contrast to highly technical district general hospital care".*

d) *The relationship to the General Hospital*

In the majority of cases, *"the community hospital does not form part of a district general hospital complex "*, although may sometimes be an out-reach facility.

e) *Espoused values*

"The community hospital has a declared philosophy and an objective of meeting the local community's non specialist health care needs. It takes an holistic approach to patient care. It considers both social and medical needs when maintaining patients in the community."

f) *Effectiveness*

"Only those patients would be admitted for whom hard evidence existed that there was little risk of medical detriment in treating them in the community hospital as opposed the district general hospital".

So, community hospitals should

- consider the health and social needs of both patients and their communities,
- provide accessible care to local residents,
- be staffed by general practitioners, nurses and therapists in multi-disciplinary teams, working with hospital consultants,

- include a range of mostly low tech. facilities,
- provide some episodic, acute in patient, rehabilitation, palliative, terminal and less frequently, continuing care,
- be an appropriate alternative to providing care in the acute hospital, general practice or at home,
- be safe and effective.

2 *The function of rural and urban community hospitals*

Community hospitals seek to reduce social exclusion.

This may be geographical (eg. rural, so need access to standard health packages), or social (eg. inner cities and mobile populations lacking home support and residential accommodation, and effected by concentration of tertiary care institutions, so need access to standard social packages).

Other purposes of community hospitals

- improve primary care,
- take immediate post-operative patients for recovery and rehabilitation when close to DGHs.

The first "cottage" hospital was Cranleigh (Surrey) in 1859, subsequently many were built as war memorials in market towns, by public subscription. There are now over 300 in the UK. Originally they provided "acute medical and nursing care, and some surgery, for patients who could not be cared for satisfactorily at home, as well as some emergency treatment after accidents". GPs dominated as providers, and received fee for service for patients. The 1962 Hospital Plan sought centralisation. Opposed by GPs and the Association of GP Hospitals. Several experimental units were set up by the Oxford RHA which recognised "cottage" hospitals as an extension of primary care rather than secondary care out-posts .

1974 DoH (integrated rational planning) issued guidance on the new "community hospitals" which, in theory, would be planned according to need, strengthen primary care, improve liaison with social services, prevent unnecessary admissions, ease discharge and reduce the length of stay in the District General Hospitals (DGH). Guidance was given on bed numbers (50-150) and recommended facilities, although the overall configuration of the new larger community hospitals remained an enigma subject to interpretation (HC (78) 12). By the 1980s a policy vacuum existed regarding community hospitals, there were reports emphasising importance of GP role, but a lack of firm policy direction.

In the 1990s the Tomlinson report recommended the construction of community resource centres in the inner city as part of the primary care development programme, based on the Lambeth Community Care Centre. "A primary care led NHS" talked of resurrection in the "new style" cottage hospital. Two national studies of community hospitals in Wales and Scotland supported their ongoing role .

In summary:

Community hospitals are widely diverse and their role is often ill defined. There has been relatively little systematic evaluation.

They are both are both outposts of secondary care and/or extensions of primary care This leads to complicated management and accountability arrangements. Policy to centralise and standardise services or decentralise and diversify has fluctuated over time .

3 *The future of community hospitals*

Opportunities for developing community hospitals include:

The demographic changes and an increasing elderly population.

Public support. The commissioning and the contracting process

Strengthened primary care through PCTs and CCTs

The blurring of health and social care boundaries.

Changes in the acute hospitals including reconfiguration, various new technologies such as day surgery, near patient testing and telemedicine.

4 *Classification of community hospitals*

The Trent Regional Office uses the following Classification System:

- a) The "basic community hospital" Consultant out-patient clinics, GP beds and respite care, day hospitals, part-time minor casualty, a limited range of support services
- b) "Community Plus Hospital Consultant medical beds, elective surgery and anaesthesia, rehabilitation beds for elderly people, beds and day care for elderly mentally ill people, full time occupational therapy, a 24 hour minor casualty
- c) "Enhanced Community Plus Hospital" Maternity, a wider range of surgery, speech therapy, a greater range of diagnostic facilities.

Additional services being introduced into community hospitals include hospital at home schemes, out of hours services, post operative recovery, the provision of telemedicine links with general practice or other local hospitals, rehydration, IV therapy, blood transfusion, chronic care, e.g., parenteral nutrition, AIDS management (McCormick B 1993).

Examples of changing community hospitals:

Worth Valley has developed an intermediate health care centre with X-ray, ultrasound, and pathology services. Berkshire and Bromsgrove have developed hospital at home schemes, the latter providing local respite care in nursing homes, to support people at home or on early discharge.

Evaluation and Audit

The Royal College of General Practice has developed detailed recommendations for policies, procedures, training and the use of audit. Several accreditation programmes exist which aim to assess units against standards to enhance effectiveness and spread good organisational practice, have been developed, for example, by the Kings Fund, Caspe and Trent Regional Health Authority . There is not a large amount of useful literature on the subject. Studies tend to be old and of limited quality. The literature reveals that there are up to 1000 small hospitals in the UK, although approximately 300 'community hospitals'. Community hospitals defined according to beds. There may be may be up to 10,000 beds, i.e. 3% of NHS complement, in

CHs (33). Most CHs have less than 50 beds (32) and serve populations of under 50,000. On average they are 13 miles from nearest DGH in England, and 38 miles in Scotland (50).