Care Services Efficiency Delivery

Demand Forecasting and Planning

Configuring Joint Preventive Services

A Structured Approach to Service Transformation and Delivering Better Outcomes for Older People

August 2008

CSED published a Configuring Future Services Toolkit in October 2007. The approach, developed with the Institute of Public Care, Oxford Brookes University [IPC], identified opportunities at the health and social care interface to build on Joint Strategic Needs Assessment [JSNA] with joint projects.

IPC literature research on conditions affecting older people provided evidence for interventions aimed at maintaining independence and avoiding costly residential care and hospital admissions.

Two pilot authorities tested the approach and their experience, including problems they encountered in organisation, resourcing and information access, has influenced the revised recommendations for implementation of such change projects.

This paper sets out the new approach and summarises our conclusions on the process of service transformation to deliver better outcomes for older people.

The Care Services Efficiency Delivery Programme is a collaborative programme to help councils achieve their CSR 07 efficiency targets in adult social care.

www.csed.csip.org.uk

1. Introduction

CSED, working with the Institute of Public Care [IPC], is developing tools to support councils with social services responsibilities [CSSRs] in forecasting demand and planning care services for older people.

- POPPI brings together information projecting the population of older people, the prevalence of conditions affecting the demand for care and local authority performance data.
- The Anticipating Future Needs project developed methodology for consulting pre-retirement age groups and service users about their care requirements.

Increasing service provision in line with the population growth projected in POPPI is unaffordable and the Anticipating Future Needs pilots suggest that it would not meet the changing expectations of older people.

This project explores opportunities at the health and social care interface to build on Joint Strategic Needs Assessment [JSNA] with specific, practical joint projects for CSSRs and PCTs.

Transforming Social Care funds can provide the resources to invest in new preventive services.

CSED published an initial Toolkit in October 2007 while two of our core group councils tested the approach. Extensive consultation with the councils and their PCT partners has added to our understanding of the issues and this review paper presents our conclusions and recommendations.

Background

Over the last ten years, there have been many research projects and service reviews of conditions affecting older people at the health and social care interface. These conditions are not key topics in health care but have implications for both health and social care services. Unaddressed, they could propel older people towards costly residential care or hospital admission.

CSED commissioned IPC to explore ways to address these issues through local preventive services to maintain older people's independence for as long as possible.

The objectives were:

1. To enable JSNA to go beyond analysis of population data and public consultation to consider the key drivers setting older people on pathways to care home or hospital admission.
2. To develop sets of brief and readable literature reviews that could help to initiate a structured examination of existing provision at a local level.
3. To provide a tested framework for change for a care and health community to reconfigure services.

This paper provides the research evidence for service reconfiguration to address six conditions based on the current literature and an implementation planning approach. It draws on lessons learnt from work with two pilot authorities on how to configure joint working for such change projects.

Re-thinking the approach to service planning

Traditionally, social care and health managers have decided who received services and ensured delivery to time, cost and quality. With services increasingly purchased from the private and voluntary sectors, managers need to take a wider perspective, understanding the complex nature of demand and the options to influence it.

Events that lead to major expenditure for one agency may have their antecedents in the work of another. For example:

- Lack of health service physiotherapy may limit stroke recovery, leading to increased demand for social care.
- The absence of an early social care intervention may lead to hospital admission.

Joint commissioning requires an evidence base, an understanding of cause and effect and the ability to allocate funding or resources across organisational boundaries.
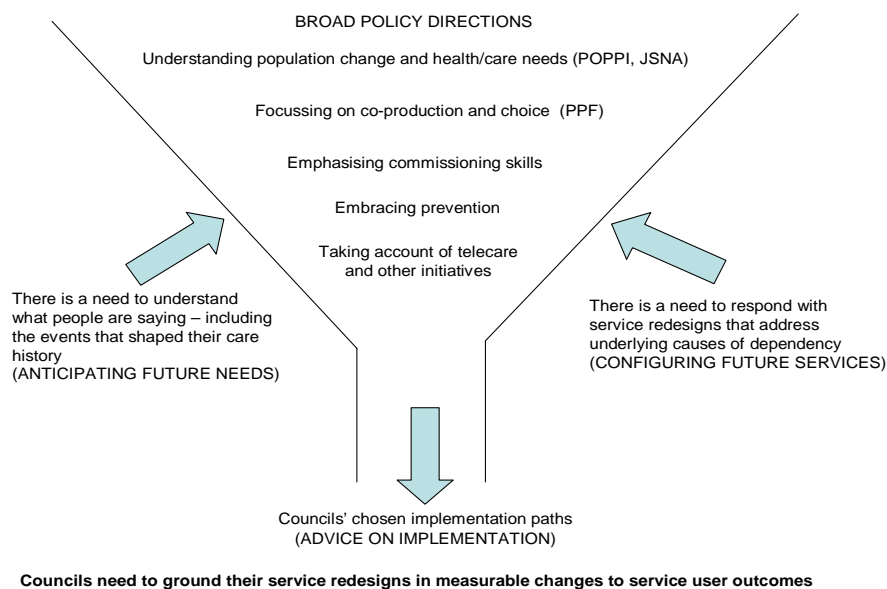
Rethinking service provision needs focus and research - asking questions in a structured way.

- Is the quantity, intensity and type of service achieving outcomes a service user wants and maximising potential recovery and independence?
- Could targeted community-based interventions avoid people entering care homes?
- Is the timing of intervention appropriate for the best outcomes - are eligibility criteria barring people from provision when it might have the greatest preventative impact?
- Are there unintended consequences to current service provision – for instance, do mobility aids actually exacerbate immobility?

Answering such questions is difficult, time consuming and may challenge professional practice. There may be inadequacies in the data that make linking cause and effect on a care pathway difficult. Information on the choice of service or the impact of delays on outcomes is often not available or not collated. But a methodology that improves understanding of cause and effect is better than relying on broad policy directions and professional "intuition" alone.

Figure 1 illustrates a focused approach to designing future services.

Figure 1 Causal analysis for building the business case

BROAD POLICY DIRECTIONS

Understanding population change and health/care needs (POPPI, JSNA)

Focussing on co-production and choice (PPF)

Emphasising commissioning skills

Embracing prevention

Taking account of telecare and other initiatives

There is a need to understand what people are saying – including the events that shaped their care history
(ANTICIPATING FUTURE NEEDS)

There is a need to respond with service redesigns that address underlying causes of dependency
(CONFIGURING FUTURE SERVICES)

Councils' chosen implementation paths
(ADVICE ON IMPLEMENTATION)

Councils need to ground their service redesigns in measurable changes to service user outcomes

2. The Case for Change

Understanding the events that lead to admission into residential care or hospital is vital given demographic change. National projections of the population aged over 85 show a 50% increase by 2025 from 1.1 to 1.7 million in 17 years.

- **Eleven shire counties face more than 75% growth in their over 85 population [POPPI].**
- At current performance levels, POPPI projects the number of older people in residential and nursing care supported by CSSRs to increase from 278,000 to 390,000 by 2025
  - **a 40% increase and an incremental cost of £2 billion per year at current prices.**

A key element of the response is personalisation – choice and control. If people purchase their own care, money should be spent more effectively and services will better reflect the aspirations of users.

Personalisation needs to be complemented by other elements of the transformation agenda - including early intervention - if outcomes are to improve. Partnership for Older Peoples Projects (POPPs) explore a wide range of such preventative measures.

The ability of older people and their families to purchase packages of care effectively depends on good information and advice as well as service availability. Even if they have the resources, through their own finances or a direct payment, they are unlikely to purchase rehabilitative care unless they believe it to be effective. If, for example, they accept incontinence as part of normal ageing that cannot be cured or they do not recognise the full potential for stroke recovery.

Some of the issues are about the frameworks within which health and care services exist.

- Health tends to be condition focussed; social care on delivery or output. This is unlikely to change until the balanced outcomes framework is implemented to monitor outcomes.

- Many conditions at the health and social care interface are managed as long-term conditions rather than opportunities for rehabilitation.

- There is a tendency to look for general, equitable solutions instead of targeting those aspects that are most amenable to change.

- Finally, the causal factors along a care pathway may not be clear. For example, someone may be admitted to a care home because they fell and suffered a fracture but the incident and its effects may be influenced by many factors.
  - The fall may have been caused by poor accommodation or bad footwear or a continence problem - the individual got out of bed in the dark and fell, or limited their fluid intake and became dehydrated and unsteady.
  - Full recovery from a fracture may be possible but they may have lost confidence in their ability to cope at home and/or been told by doctors and family members that they might be at risk or they have lost vital links with their community.
  - Alternatively, the therapeutic rehabilitation may not be offered at a sufficient volume or intensity to deliver the maximum potential recovery.

Establishing that link between precipitating or predisposing factors and the eventual outcome is very hard for health and care economies. Sometimes the relationship is unclear and data that could test such a link is not available. In some instances, the problem is not understood sufficiently for effective interventions to be developed. This project attempts to start the process of causal analysis and develop a local methodology to build business cases for innovation and change.

Some factors will push towards change whilst others may inhibit change.

Catalysts for change:

- The demographic profile means the need for change is considerable and urgent, particularly in shire counties.

- The post war generation of older people is less likely to accept what is provided.

- Many older people have financial resources and may want to pay for rehabilitation and recovery.

- There is recognition that we need to move to measuring success in terms of outcomes rather than the volume or speed of service.

- The Transforming Social Care initiative may provide the stimulus needed to embrace change.

Change Inhibitors:

- Individual budgets and direct payments may not automatically deliver improvements in quality or refocus effort on a preventative agenda.

- The topics documented in the Appendices of this paper are not considered to be major issues for health services and research and the pressure to deliver change in these areas is not great.

- There is a lack of focus on the factors bringing about poor health and care outcomes and the interventions required to avoid them.

- Current funding structures may not work where one sector funds activity to save money in another.

- There is a reluctance to invest in activities now for uncertain future benefits.

- Separate management of staff groups and professional restrictive practices may inhibit change

This paper seeks to develop an approach where research evidence on the impact of certain conditions is tested locally and the evidence used to help commissioners redesign services and influence local markets. Two local health and care communities tested the initial thinking. The results of these pilot projects suggest that some of the inhibitors to change described above are hard to overcome and that delivering this change is time consuming and requires considerable planned effort when working across health and care.

3. Reconfiguring Services

Developing the Approach

The basis of the project is a process by which health and social care organisations can:

- jointly focus on areas of concern in current service provision,
- understand what is happening in their own local economies and
- develop a change process.

The methodology uses a rational, evidence-based approach to change:

- exploring the evidence base of how we work now, its implications and outcomes;
- concluding there could be a better way to configure services to meet needs and deliver the outcomes that people want.

This section of the paper outlines the approach and the impact it had on the two test sites. The Appendices show the literature reviews used to initiate local thinking.

The first step of the approach identifies key drivers along certain care pathways that cross health/care boundaries. It then seeks to test whether the local evidence shows a need to improve the quality or appropriateness of services. If evidence supports such changes, the final steps are to devise a process for making that change happen.

Two members of the CSED core group of councils volunteered to test the methodology over a six-month period during 2007. The two test sites were both small unitary authorities but they offered contrasts in terms of their location, demography and culture, one being a newly formed Care Trust in the south of England and the other a metropolitan borough in the north of England.
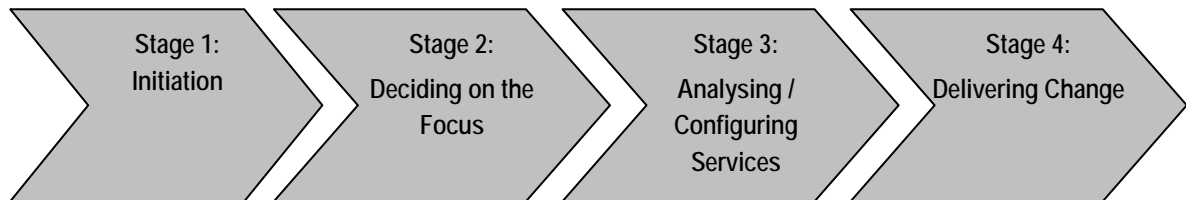
> "The successful change process goes through a series of phases that add up to a considerable length of time. Skipping steps creates only the illusion of speed. Critical mistakes can have a devastating impact, negating hard-won gains. Because they don't do it very often, even very capable people often make at least one big error.'
>
> John Kotter (1995) "Leading change: Why transformation efforts fail", Harvard Business Review.

The initial method outlined a series of sequential steps. The experience of the two test sites suggests that the process actually requires a series of interconnecting loops rather than directly sequential steps. Often, it was found, decisions or parts of the process needed to be revisited if obstacles were encountered. For example, in both sites, there were problems with data collection and there was a reluctance to release resources. Sometimes consideration of change was delayed because it did not fit existing processes of service review or the topic did not have an established care pathway against which change could be judged.

4. The Phases of Change

The project identified four stages for development of the local change with individual steps within each stage.

Stage 1: Initiation	Stage 2: Deciding on the Focus	Stage 3: Analysing / Configuring Services	Stage 4: Delivering Change

Initiation

1. Identifying topics or issues in current service provision that have challenged providers and which conventional commissioning or change approaches have not yet resolved.
2. Defining the leadership process.

Deciding on the Focus

1. Conducting a literature review of the latest research and best practice for the topics.
2. Developing hypotheses to test the supposed root cause of the problems.
3. Exploring whether the evidence is available to judge the validity of hypotheses.

Analysing and Configuring Services

1. Gathering and analysing the data.
2. Deciding whether the hypotheses are valid.
3. Finding solutions based on the research reviews
4. Determining the costs and benefits of the proposed solutions

Delivering change

1. Planning for change
2. Change implementation

Stage 1: Initiation
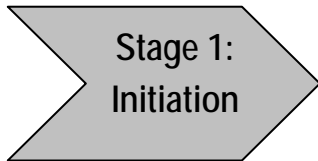
| Stage 1: Initiation | Step 1. Identifying service topics that have challenged the agencies and conventional commissioning has not resolved. |

The Approach

The initial motivation to consider change may come from a number of different starting points:

- From JSNA analysis - the evidence may be available and the need is to evaluate what changes to make and how they might be delivered.

- From the literature reviews - decide which area seems most important / likely to be true / amenable to change in this local health and care economy.

> *'There is nothing more difficult to arrange, more doubtful of success, and more dangerous to carry through than initiating changes….The innovator makes enemies of all those who prospered under the old order, and only lukewarm support is forthcoming from those who would prosper under the new.'*
>
> *Niccolo Machiavelli (1514) The Prince*

- From research at a national or regional level - the problem is identified but may still need local research to see if it is 'true for us'.

- From service managers – identifying an activity not delivering the required outcomes.

- From being alerted by service users or staff - the task might be to assemble coherent evidence.

Reviewing more than one or two topics at a time is not recommended. It would stretch resources and dilute focus and commitment.

Activities at this stage could include:

- A brainstorming session on local drivers of demand.
- A literature review as part of the JSNA exercise.
- Getting a group of commissioners to consider the topics covered in Part Three of this paper.
- Getting front line staff to describe problems that remain unresolved.

The project lead will need to prioritise or narrow down topics. A useful approach might be getting the project group to consider which problems:

- Drive the highest costs – for instance, avoiding a hospital admission or limiting the length of stay.
- Have the biggest impact - podiatry services may not seem to be a priority but losing mobility has a major impact.
- Look the most achievable - we may identify issues that are important /high cost with a big impact but will face opposition from staff or service users.
    - hip protectors may be a solution to falls but people may not wish to wear them,

- locating water coolers in care homes may not work if older people are not used to drinking chilled water.

The Test Sites

The test sites started from the example literature reviews that were made available as part of the project. This shortcuts a time-consuming activity and gives the discussions focus but may limit local commitment to change because the reviews are not a response to their own concerns. If change is to occur, people need to own the circumstances that give rise to the need for change. It may be wise to have local discussions first and then selectively use the national material.

"We did get sign up from senior managers in health. However, there wasn't acknowledgement that people could drop anything in their workload. The most important thing was getting the day job done."

Stage 1: Initiation

Step 2. Defining the leadership process
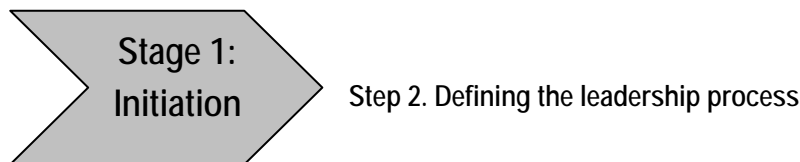
The Approach

This type of project requires a variety of leadership roles. It needs ownership by a senior manager:

- To act as **project sponsor**.
- To direct resources so the work can be completed.
- To own the outcomes.

> *"All the people on whom a manager is dependent have limited time, energy and talent, for which there are competing demands....Trying to influence others by means of persuasion alone will not work...."*
>
> J Kotter.. Power, dependence and effective management. 1977

There is a requirement for a **project manager** who can lead and direct the activity. Managers chosen to lead such projects must be able to:

- Access the resources required.
- Facilitate arrangements across organisational boundaries.
- Motivate disparate multi-disciplinary teams.
- Unblock impediments to progress.
- Keep focused on the issue when other pressures build.

It is important to select and persuade the right people to join a project reference / support group. They need to be the people who can open doors and make things happen, particularly across agency boundaries. It is also important to have operational managers, who manage services within the topic areas, on board and prepared to consider reconfiguration. Where the process involves changing clinical and care practice, joint leadership by a general manager and a senior clinical or care manager may be the most effective.

Activities by leaders at this stage may be identifying:

- Early obstacles and problems and how to overcome them.

- Successful examples of change, to show what might be possible.

- Early resource requirements.

The Test Sites

In the pilot sites, both managers were Commissioners rather than operational service managers or at Director/Chief executive level but the activity related well to roles in LAAs.

"Leadership is about making the most of it. We were in the right place at the right time in terms of taking part in this experiment and being lead officers for the Local Area Agreement."

Stage 2: Deciding on the Focus

Stage 2:
Deciding on
the Focus
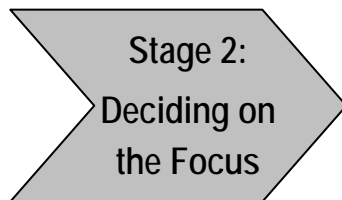
Step 1: Conducting a literature review of the latest research and best practice in relation to the topics

The Approach

If the project starts from a local issue, the literature reviews will help to build support. Alternatively, the reviews in Part 3 may be used to initiate local discussion.

A two-stage process is suggested:

1. A starting point for the literature review could include: reviewing National Service Frameworks, National Institute for Health and Clinical Excellence (NICE) guidelines and Audit Commission reports. These documents can then lead to other sources relating to the issue under consideration.

2. The second phase aims to uncover operational details to guide local implementation. For example, the initial search may establish a range of issues and approaches concerning falls. The more detailed review may then look at how the consequences of a fall may be more serious for people who have a vitamin D deficiency.

> *Modern services require an integrated approach between the various agencies providing social and health care, and this in turn calls for each agency to have a well developed evidence base for its interventions. Put very simply, integrated care will be hindered if social care cannot participate with its sister agencies in basing common policies and practices on evidence.*
>
> P March and M Fisher. Developing the evidence base for social work and social care practice. SCIE. 2005

The reviewer needs to focus on material that can be tested locally to help develop the change agenda and accept that research may take the work in a different direction.

The reviews should be short, punchy, readable pieces of work with a focus on outcomes.

The Test Sites

In the test sites both health and care communities started from the example literature reviews. Both sites held initial workshops with a mix of managers and practitioners, to explain the project philosophy and approach and agree the topic areas.

The literature reviews were powerful tools in motivating clinical and care staff and acted as an important catalyst to debate. Practitioners appreciated seeing the key research and best practice issues in one short document. It also enabled those with an in-depth knowledge and extensive experience of a topic to share this and develop a research base across the whole project team.

"To ask people to engage with a blank sheet is difficult but presented with research evidence, it gave us ideas as to what we could do to change things and enabled people to input more ideas."

> ## Stage 2:
> ## Deciding on
> ## the Focus

Step 2: Developing hypotheses on the root cause of the problem

The Approach

Look for clear measurable statements or hypotheses from the literature reviews that can be tested locally. They may not be easy to agree - sometimes people want to test too much with controlled trials, which is probably unrealistic.

For example, a hypothesis might be that some older people with mobility problems have difficulty cutting their toenails or accessing services to do this. The information needed is:

> *A hypothesis is: 'A supposition or an assumption, especially one made as a starting point for further investigation or research from known facts.'*
>
> Oxford English Dictionary

1. Are there people with mobility difficulties who find it difficult to cut their toenails?
2. Can we estimate the numbers with this problem and any bias for social class, ethnicity or geography?
3. Of those people who find it difficult, who does not have access to a service?
4. For those who do not have access, what are the consequences?
5. Is there any evidence linking this to falls or contributing to a care home or hospital admission?

The Test Sites

At the test sites, the idea of developing hypotheses released a burst of creative energy within the project teams as well as a struggle to find hypotheses that were sensible and measurable. An important lesson was not to be too ambitious but to agree a limited number of uncomplicated hypotheses, which are likely to prove measurable. Many people involved in delivering services do not have a background in analysing data and formulating arguments. Without good preparatory work by the project lead, people can get frustrated because data is not available or because the original statements are not sharp enough.

"We still have some hypotheses we are really interested in. We are looking at diet, hydration and podiatry and we want to use this approach to explore these issues."

> ## Stage 2:
> ## Deciding on
> ## the Focus

Step 3: Exploring whether the evidence is available to prove the hypotheses

The Approach

Determine data availability:

*   Do we know where to look for the data?
*   Does the data exist? (It may need collating)

> *'Nelson et al. (1998) argue that although measurement is essential if changes are to be made in order to improve the quality of care, the measurements themselves must be defined pragmatically. They suggest that usefulness rather than perfection is the determining factor, and that the measurement must fit the work environment, time limitations and cost constraint.'*
>
> Developing Change Management Skills, Valerie Isles and Steve Cranford, NHS Service and Delivery Organisation, 2004

- If it needs to be collected, is the data obtainable? (Ask front line staff about the quality and availability of data)
- Will all partner agencies cooperate to gather it?

A judgement will need to be made of the cost benefit of any new data collection exercise.

The Test Sites

The team in one test site explored a range of hypotheses relating to continence including, for example "That incontinence may be a contributing factor to accident and emergency admissions" and "That incontinence is generally not screened for".

It quickly emerged that the Accident and & Emergency Departments in the Acute Trust did not collect information relating to continence but only information relating to the primary cause of admission. Attempts to persuade them to collect such information were rejected. It also emerged that neither GPs nor the Care Trust screened for incontinence. After further discussion, the team reluctantly concluded that screening for continence was an unlikely candidate for review.

"I don't think we know yet what we haven't got or will need and how we get down to that level of detail. It's only when you do these deep dives for information that you know how sparse or nonexistent the data is."

Stage 3: Analysing / Configuring Services

Stage 3:
Analysing /
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Services
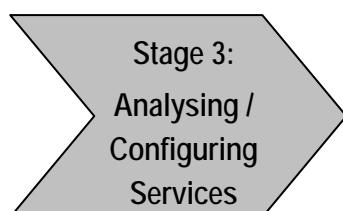
Step 1: Gathering and analysing the data

Step 2: Deciding whether the hypothesis is valid

The Approach

In some areas, even obtaining simple data may prove difficult and there is a need to define:

- What is required
- Who may hold it
- How it can be accessed and brought together
- The costs and how they can be funded

For unbiased results, it would be preferable for data gathering to be independent of those providing the service. Where more than one individual is involved, issues of consistency and interpretation need to be managed.

> *Different people involved in the change programme will have different views of the precipitating event, of the underlying causes of the problem, and of the desirable outcomes of the programme. They will therefore measure different outcomes, and measure them differently. The evidence must consider whose measures are to be used.*
>
> Iles and Sutherland Organisational Change: A Review for Health Care Managers, Professional and Researchers, National Coordinating Centre for NHS Service Delivery and Organisation R&D, May 2001

Three year longitudinal studies with control groups are not required for this method. We need measurement and monitoring of outcomes, conducted as part of daily social care and clinical practice. Nelson et al[1], propose some good simple models for doing this:

"Measurement and improvement are intertwined; it is impossible to make improvements without measurement. Measuring and learning from each patient and using the information gleaned to test improvements can become part of daily medical practice in local settings".

The final part of this process is coming to a decision about the validity of the hypothesis. The test to apply here is 'does this look to be true' or 'can we identify if desired outcomes are being achieved'. Using a legal metaphor, the measure of proof is 'more likely than not' rather than 'beyond all reasonable doubt'.

The Test Sites

The test sites revealed how hard it is to get information on the outcomes of interventions. For example, in one site they wanted to focus on falls and requested information from the local acute service. The service said it did not have the material available (and seemed little inclined to obtain it).

"Going back to the beginning, I think the methodology was sound. It was a good way to start and we did well with the early communication. Where we went wrong was the process lost momentum once we became

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[1] *Building Measurement and Data Collection in to Medical Practice, Nelson, Splaine, Batalden and Plume, Annals of Internal Medicine, vol 128, 6 460-466, 1998*

stumped by the data that was not available. There has got to be a sea change in the way that we are gathering data and manipulating information and the way we look at the content.."

"Getting information on falls and strokes was compromised by not having the ability, or sometimes the permission, to interrogate the data at a high level. For example, the data on readmissions to hospital and stroke was hard to get and, from Accident and Emergency, impossible."

"We wanted to look at data about people going into care homes ……….so we asked homes for data about their admissions. However, this was rapidly compromised because there was always a multiplicity of factors leading to the admission. To separate these out we would have needed to spend time on training people to organise the information and we did not have time for that."

At both sites, there were significant issues around access to information or changing the way material was recorded and analysed. Current data is often about volumes/costs or details required to deliver a service (address, medication, dates of admission and discharge etc.). This is not sufficient to allow commissioners to test the relationship between cost, activity and outcomes that is essential for service reconfiguration.

> ## Stage 3:
> ### Analysing / Configuring Services
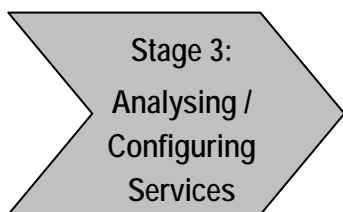
Step 3: Finding solutions based on local reviews

Step 4: Determining the costs and benefits of proposed solutions

The Approach

The literature search helps to develop hypotheses, but it is also useful for identifying best practice.

The results of the local hypothesis testing should allow people to identify the problem and its causation.

This Stage looks at how problem analysis and examples of good practice can be developed into costed proposals.

"Measurement and improvement are two sides of the same coin.

Aim: What are we trying to accomplish?

Measures: How will we know that a change is an improvement?

Changes: What changes can we make that we think will lead to an improvement?"

Building Measurement and Data Collection in to Medical Practice, Nelson, Splaine, Batalden and Plume, Annals of Internal Medicine, vol 128, 6 460-466, 1998

The following questions need to be addressed.

- What approaches are available to tackle this issue?
- Which approaches look to be most successful?
- How would they fit with our current service provision?
- What is the balance of the cost of the change against the value of benefits?
- What is the ongoing cost of the new approach against the benefits?
- What are the implications of not changing in both personal and cost terms?

We need to establish a process to identify the cost/benefits of change. Amongst the range of services identified several may not be adopted because:

- The approach is too expensive for the value of the change delivered.

- The organisation does not have the infrastructure or size to deliver the changes needed.
- It is not be possible to recruit staff to deliver the services identified.
- The authority is geographically too large to deliver a centralised service.

Many of these factors call for isolating the essential elements within good practice and looking at alternative ways in which the outcomes may be delivered. For example, a programme may seem to need a level of physiotherapy beyond available resources. Instead, could personal trainers be used for routine exercises? Could relatives or family members be trained to offer the interventions? Are there cheaper technological approaches that could deliver similar benefits?

It is important to consider the impact of different volumes of service provision. For example, we know that rehabilitation after a stroke is vital to recovery, but what impact do differing volumes and types of rehabilitative input have on long-term recovery?

Calculating cost is not always consistent between or within health and social care, but the evaluation should be based on the *incremental cost* to all the organisations involved. For instance, how much additional service is required? (Direct cost) How much additional management support? (Indirect cost) It is also useful to distinguish 'cashable' and 'non-cashable' cost savings. Finally, the sources of funding and the impact on budgets (this year, and full following year) need to be identified and approved by finance.

The Test Sites

The limitations of the information made it difficult to identify improved practice by testing hypotheses but it was possible to see the potential benefits of targeted investigations.

One of the sites looked at housing adaptations and reported as follows.

"In housing adaptation, we spend too little time monitoring what we achieve and whether it is timely and too much accounting for how the money gets spent. We need to put in strong performance measures and monitoring. For example, the timeline within the system is too long for the adaptations taking place and we are going to make changes to this service… The system is not joined up enough to monitor whether people have falls or lose mobility while waiting for adaptations."

The other test site focused on strokes as one of their topics. Although community matrons were diverted to other issues, the new focus on preventive elements has improved the service.

"Through having the focus on stroke we have ensured that there is a local strategic partnership. Not just around deaths from stroke but now around avoiding disability as a result of stroke. We got that written in so it's going to be a priority for the next three years. Alongside that, the longer term plan is for primary and community care commissioners to work together as a single commissioning agency, to put pressure on the health and care system to take resources out of secondary care and into primary care in this area."

Stage 4: Delivering Change

Stage 4:
Delivering
Change

Step 1 Planning for change.
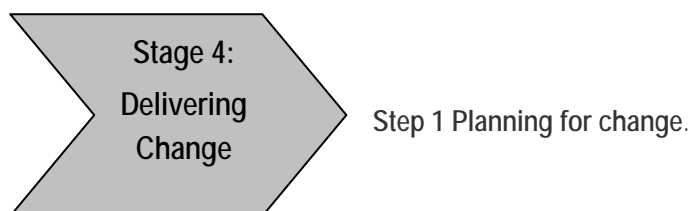
The Approach

This Stage includes considering how the reconfiguration fits with existing plans of health, social care and housing, results of the JSNA, the local commissioning strategy and the Local Area Agreement as well as the Personalisation Agenda.

Change made rapidly or without considering the wider issues involved, can lead to unintended consequences. For example, local authorities may have developed good approaches to new housing for older people but without changing the local environment in terms of drop curbs, street lighting, local shopping facilities or safe transport.

> *When planning for the specific involvement of service users it is vital for the authority to be clear on which of the four main types of engagement it is using, ie:*
>
> - *Communication – providing information.*
> - *Consultation – ideas, suggestions and feedback.*
> - *Negotiation – securing agreement.*
> - *Participation – working together.*
>
> *Authorities should be clear themselves, and with participants, on the objectives of service user involvement and the influence it will have.*
>
> A Guide to Fairer Contracting Part 2, Service Specifications, CSIP, Department of Health, June 2007

The plan for change needs to include the following activities.

1. Examine the strategic fit with the range of plans across the local authority and the PCT and identify which the reconfiguration could impact.

2. Identify the impact on local authority and PCT financial plans. Does the cost/benefit analysis indicate a need for short or long term, revenue or capital resources? Can it be funded from savings made? Is there a need for transfer funding across social care, health or housing to finance the reconfiguration? How might it affect charges?

3. Assess the need for wider consultation identifying the impact on:

   o Political affiliations – will the service reconfiguration align with existing local commitments or impact national targets and performance indicators?

   o Service users / carers – how might changes be viewed by service users and carers? Are they likely to be exposed to greater risks? Will people on individual budgets be affected?

   o Providers – will the relationships between commissioners, service users and providers be affected? Is this service financially viable long term? Have hidden costs been identified? Early supplier involvement is critical to driving continuous, cost-effective improvement in outcomes.

   o Staff – will changes affect work patterns, skill requirements? Is there a need to consult trade unions and professional associations?

4. Finally, develop the action plan identifying:

- o Key actors, tasks and timescales.
- o Requirements for budgets, controls and reporting arrangements.
- o Crucial dependencies, e.g. we cannot do x until y has been trained.
- o Requirements for monitoring the impact of changes.

The test sites

In the test sites, activity was focussed on getting the approach embedded in the local change processes and making sure that the gains made so far were not lost.

"One thing we need to do is put in a dedicated project management function for delivering change. That sounds grandiose but its really someone who has sufficient time and clout to deliver the process, somebody who is in place to pick up on the issues when things start to stray off course".

"One problem we had in considering change was that this approach steps outside their (health) normal pattern of systematic reviews. I think if this had been sold as a contribution to a review, we might have persuaded them that this works and that they might adopt the methodology. Nobody who went through the tools and saw what was on offer said 'no, that doesn't work for me'. But what didn't work was that the process didn't have legitimacy within their organisational paradigm."

Stage 4:
Delivering
Change

Step 2 Implementing change.
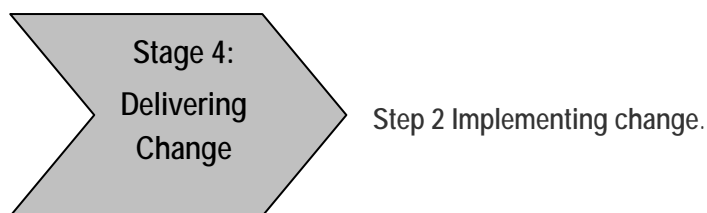
The approach

Change happens all the time and is essential to organisational development. This approach simply attempts to systematise and ground change in a solid evidence base

Increasingly services are externalised and available on the open market where they can be purchased by self-funders or by individuals who hold a direct payment or an individual budget. Delivering the reconfiguration of services may involve a range of models of provision, including directly provided services, services contracted by the local authority or PCT on behalf of users and

> *Effective and sustainable change is not easy to achieve. There are many reasons why people and systems are resistant to change. This resistance will need to be overcome if benefits for people who use services are to be delivered. It is important that we understand the complex nature of change and what helps to bring about change.*
>
> *High Impact Changes for Health and Social Care, CSIP, DH May 2008*

services that are directly purchased by service users via self-funding or an individual budget. Some suggestions as to how this might be achieved are contained in Section 4.

The results in terms of events, costs and outcomes should be monitored against the assumptions made in the assessment and cost/benefit analysis.

It is important to learn from the experience of deriving evidence-based change. For example:

- Has implementing this process suggested a way forward for other issues/services?

- Has the data capture and analysis pointed up issues for information systems and their ability to inform strategic commissioning?

- How will the impact of the change be monitored in the longer term?

- What impact has the process had on partnerships, joint strategic decision-making and operations?

The test sites

Although the test sites struggled to deliver the full approach within the timescales of the test project, both became strong advocates and identified long term benefits they felt would flow from the process:

"One thing that has emerged from this project has been how it has positively influenced our JSNA and what we have decided to do."

"One of the outcomes has been a much better understanding of the role of community matrons and how they might fit into the health and care continuum. For example, we need to look at their role in relation to care homes."

"In the case of stroke our service will change. For example, taking people to places where there is no treatment and then having to move subsequently. People have obviously had a worse service than they were entitled to purely because they were not taken initially to the right hospital. That in the long run has clear cost implications for both health and social care."
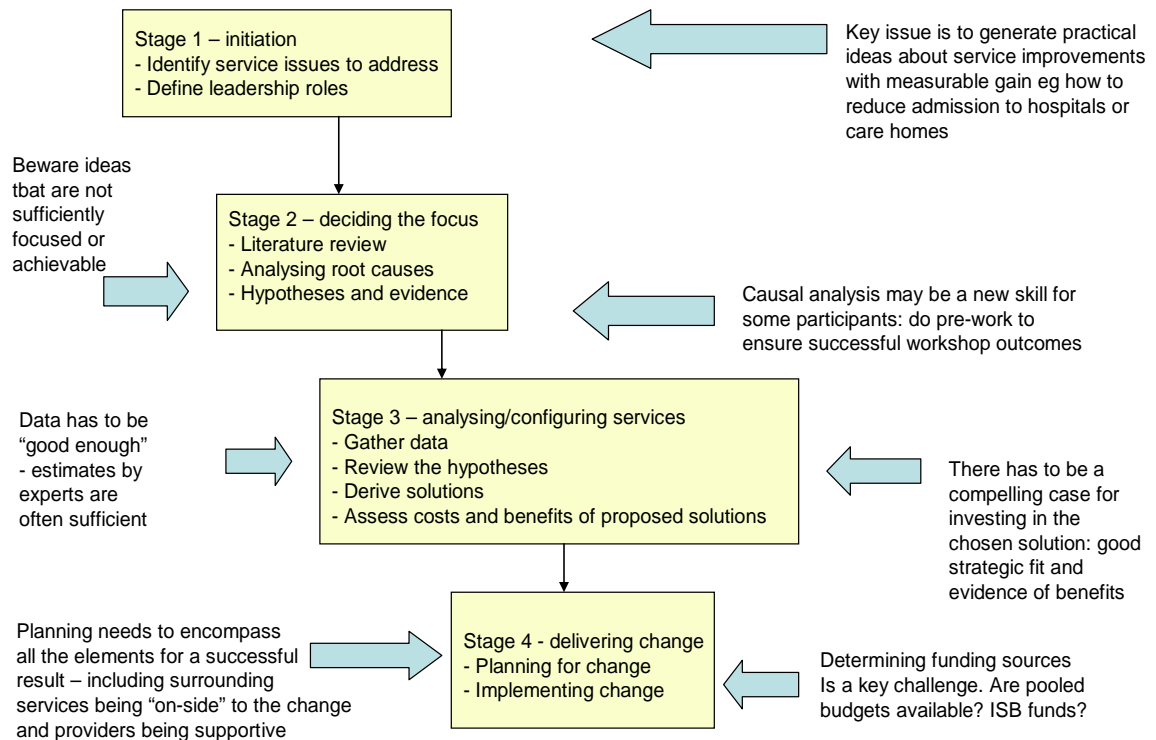
"In my opinion this process has the capacity to challenge ways of doing things and move us towards better outcomes. These are outcomes as defined by the service user based on the experience they are having. So I think it does fit in with an outcome based accountability model"

5. Conclusions and recommendations

Methodology

This project has outlined a 4-stage methodology for reconfiguring local services based on causal analysis and research. Figure 2 summarises the process with comments on key points.

Figure 2: stages and tasks in reconfiguring services

Stage 1 – initiation
- Identify service issues to address
- Define leadership roles

Key issue is to generate practical ideas about service improvements with measurable gain eg how to reduce admission to hospitals or care homes

Beware ideas tbat are not sufficiently focused or achievable

Stage 2 – deciding the focus
- Literature review
- Analysing root causes
- Hypotheses and evidence

Causal analysis may be a new skill for some participants: do pre-work to ensure successful workshop outcomes

Data has to be "good enough" - estimates by experts are often sufficient

Stage 3 – analysing/configuring services
- Gather data
- Review the hypotheses
- Derive solutions
- Assess costs and benefits of proposed solutions

There has to be a compelling case for investing in the chosen solution: good strategic fit and evidence of benefits

Planning needs to encompass all the elements for a successful result – including surrounding services being "on-side" to the change and providers being supportive

Stage 4 - delivering change
- Planning for change
- Implementing change

Determining funding sources Is a key challenge. Are pooled budgets available? ISB funds?

Other important factors are:

- Involving managers, front line staff, users/patients and interest groups and consulting stakeholders before implementation.

- Using research literature to help develop models of changed practice, recognising that if there is a paucity of literature, the problem may still be real.

- Engaging service providers on how change can be delivered and exploring incentives that might be required to stimulate change.

- Measuring whether the desired outcomes are being achieved after implementation.

Lessons learned

Two local health and care economies tested the approach and their experience has been important in formulating our conclusions.

- Strong leadership is required across health and care: operational management commitment is needed as well as commissioner support.

- Information systems and processes need to link activity, expenditure and outcomes – particularly the ability to track back from hospital or care home admission to factors precipitating these events.
- The evidence-based approach needs to fit into existing management frameworks to have an impact on joint strategic decision-making and funding.
- Ways to move money around the health and care economy to fund alternative delivery approaches are key to future success.

Strategic considerations

- If the forecast population increase is to be managed, older people must enjoy better health with less need for care services in the final years of life.
- This means identifying the factors triggering intensive social care and implementing focused initiatives for problems that are amenable to cost effective change.
- Older people will have greater choice through self-payment, direct payments and individual budgets. There is a need to ensure that preventative and rehabilitative services are available and attractive to older people and give users the information and support to make discerning choices.
- To deliver good outcomes at their interface, health and social care agencies need to focus on targeted interventions for working together. This needs to be supported by national performance indicators that measure outcomes and funding mechanisms that allow budget pooling to tackle problems that cross budgetary boundaries.
- A key question is how to drive change in a care economy with greater autonomy for commissioners, service users and providers. Services need to change and improve to ensure older people have a shorter period of ill health and incapacity but providers may lack incentives to change while demand for existing services remains buoyant.
- Strategic commissioners will need to encourage providers to innovate and reconfigure their services with outcome-based contracts.

Next steps

- With IPC research and the practical experience of the pilot sites, the project has evolved a viable approach for joint, evidence-based initiatives in health and social care. This represents an opportunity to build on JSNA with practical, mutually beneficial projects as a contribution to service transformation in services for older people.
- These initiatives are significant change projects for the agencies involved and will need to be appraised and prioritised through existing management processes. The priority is likely to be high for those county authorities facing increases of more than 75% in their over 85 population by 2025.
- The approach has been designed for local implementation by local agencies to tackle locally identified problems. This could be facilitated by establishing a network of authorities interested in applying the approach, building a knowledge base and a basis for mutual support. A suitable starting point could be seminars to discuss the options as the results of JSNAs become available. IPC's experience during the project could help to facilitate these discussions and provide support to authorities with research and implementation.

Appendices - The Literature Reviews

Introduction

This section includes the sample literature reviews that the pilot sites used and the studies mentioned in the introduction.

IPC compiled brief literature reviews for six topics.

1. Incontinence
2. Dehydration
3. Dentures
4. Falls
5. Podiatry
6. Stroke Recovery

The areas were chosen from recent publications that raised issues with implications for health and social care. Because they are not mainstream concerns of any of the agencies it is possible that opportunities for configuring services with better, more cost-effective outcomes are being missed.

The reviews are examples of quick but focussed studies of areas for local examination rather than definitive analyses. Other conditions that could be tested include dementia, COPD or depression in older people.

Each review has a three-part structure:

1. A general background to the condition or subject area
2. Evidence relating to the problem
3. Some suggested hypotheses.

These topics and hypotheses are not the only ones for commissioners to consider but they:

- are a basis for local investigations - the 'Is this true for you?' approach to questioning and investigation;
- prompt questions and discussions that may not have been raised before;
- provide useful examples for local commissioners to develop their own hypotheses.

Topic 1 – Incontinence

Background

Incontinence is caused by physiological changes that compromise the ability to remain continent in up to a quarter of the older population. Urinary incontinence affects 24% and faecal incontinence affects 1-4% of older people living in the community. The percentage of older people who are incontinent is higher in care homes, where 30-60% of older people suffer with urinary incontinence and up to 25% with faecal incontinence.

There is some evidence to suggest that incontinence in older people is under reported in those living in the community because many do not seek services, in part, because they see it as part of normal aging and, in part, because of shame and embarrassment [2]. Incontinence is more common in women than men and has been described as a disabling disease of the elderly[3].

The mortality and morbidity rate for those who are incontinent is higher than continent contemporaries[4]. The need to remain or regain continence is important in the maintenance of self esteem and independence, quality of life, personal hygiene, reducing the risk of falls and minimisation of personal and economic cost.

The National Service Framework for Older People (2001) stipulated that an integrated continence service should be established by April 2004. The National Audit of Continence Care (2005)[5] reported a good basic infrastructure for continence services but inadequate access to integrated services and no guarantee of assessment. It further reported that containment rather than treatment is the dominant approach.

The total cost of incontinence across the UK is unknown because the information is not collected or collated but is undoubtedly very significant. The cost implications play an important part in influencing the shape and intensity of health and care interventions.

Nature and Evidence of the problem

A study showed that the overall prevalence of urinary incontinence in people aged over 65 in any one month was 31% for women and 23% for men. Women generally had more severe frequency of incontinence and a greater degree of wetness than men. Protection use was greater in women than in men. Furthermore, only 40% of men and 45% of women aged over 65 with incontinence had accessed health services[6].

Another study of 3,000 older people (aged over 65), living at home in the UK, were interviewed concerning faecal incontinence. 78 respondents (3%) reported faecal incontinence. There was a small but not significant association with increasing age: 38 (2%) of those reporting incontinence were aged 65–74 years; 40 (3%) were over 75. Faecal incontinence was significantly associated with gender, with reports from 15 men (1%) versus 63 women (4%). It was also significantly associated with anxiety and with depression[7].

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[2] Horrocks S Somerset M Stoddart H Peters TJ (204) What prevents older people from seeking treatment for urinary incontinence? A qualitative exploration of barriers to use of community continence services Family Practitioner Dec;21(6):689-96

[3] HAS (1997)

[4] Rockwood K Stadnyk K Macknight C McDowell I Herbert R Hogan DB (1999) A brief clinical instrument to classify frailty in elderly people The Lancet 353:205-206

[5] National Audit of Continence care (2005)

[6] British Journal of General Practice Volume 51, Number 468, 1 July 2001, pp. 548-552(5)

[7] Age and Ageing, Volume 30, Number 6, November 2001, pp. 503-507(5)

It is clearly important for health and care professionals to enquire about continence and to use acceptable terminology, such as asking about a 'troublesome bladder'. If a problem is acknowledged, a comprehensive assessment, carried out with sensitivity, may identify the causes, many of which are eminently treatable.

Physiotherapists with expertise in continence issues have the knowledge and skills to prevent and alleviate many of the symptoms. Physiotherapy techniques may provide effective treatment in many cases with pelvic floor retraining being effective in alleviating stress incontinence[8], urge incontinence[9] and faecal incontinence[10]. For some of the more problematic causes of incontinence there is evidence to suggest that behavioural modification may be effective in improving continence in older women and that it remains efficacious for up to one year after treatment. If the potential cause is due to medication, referral to the general practitioner for a medication appraisal may be helpful.

Evidence shows that many causes of incontinence are amenable to treatment and that continence in older people can be restored in most cases[11]. Given the extensive nature of the problem, it follows that health and care staff should be trained in continence care so they can initiate diagnosis and treatment. Potter et al (2007) [12] called for the urgent need to re-establish the fundamentals of continence care into the daily practice of nursing and medical staff and to fully integrate quality services into this 'neglected area of practice'.

Though treatment is frequently possible, management of the problem seems to be the dominant approach to helping people cope with incontinence[13] [14]. This is despite the cost implications, in terms of the provision of incontinence pads, which are generally rationed[15], and the toll this may make on both service users and carers. Containment rather than cure is expensive from a health, financial and personal perspective. Furthermore, this may contribute to premature referral for care home admission, as either the older person or their carers reach the point of no longer being able to manage the situation.

Evidence that incontinence is a contributing factor to care home admission

Urinary incontinence has been associated with multiple hospital admissions and is believed to be a contributing factor to care home admission[16] [17]. Should a care home admission take place there is evidence to suggest that quality of life of residents is adversely affected if they develop incontinence or their incontinence gets worse.

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[8] Hay-Smith EJ Bo Berghmans LC Hendricks HJ de Bie RA Vab Waalwijk van Doorn ES (2003) Pelvic floor muscle training for urinary incontinence in women Cochrane Database of Systemmatic reviews issue1

[9] Berghmans L Hendricks H Bie RD Doorn EVWV Bo K Kerrebroeck PV (2000) Conservative treatment of urge incontinence in women: A systematic review. British Journal of Urology International

[10] Solomon MJ Pager CK Roberts P (2003) Randomised, controlled trail if biofeedback with anal manometry, transanal ultrasound , or pelvic floor retraining with digital guidance alone in the treatment of mild to moderate faecal incontinence Diseases of the Colon and Rectum 46:703-710

[11] Tan TL (2003) Urinary incontinence in older persons: a simple approach to a complex problem

[12] Potter J Peel P Main S Lowe D Irwin P Pearson M Wagg A (2007) National audit of continence care for older people: management of faecal incontinence Age Ageing May ;36(3):268-73

[13] Royal College of Physician's Clinical Effectiveness and Evaluation Unit (2005) National Audit of Continence Care

[14] Cheater FM Baker R Gillies C Wailoo A Spiers N Reddish S Robertson N Cawood C (2006) The nature and impact of urinary incontinence experiences by patients receiving community nursing services: A cross sectional cohort study. Int J Nurs Stud Dec 16

[15] Royal College of Physician's Clinical Effectiveness and Evaluation Unit (2005) National Audit of Continence Care

[16] Yarnell JWG, St Leger AS. The prevalence, severity and factors associated with urinary incontinence in a random sample of the elderly Age Ageing 1979; 8: 81-5.

[17] Ouslander J. Urinary incontinence in the elderly West J Med 1981; 135: 482-91.

Thom[18] demonstrated that urinary incontinence was a significant factor in increasing the likelihood of care home admissions in the United States. His work concluded that "Urinary incontinence increases the risk of hospitalisation and substantially increases the risk of admission to a nursing home independent of age, gender and the presence of other disease conditions". His finding that urinary incontinence has little effect on total mortality is in contrast to Rockwood's finding reported earlier.

The PSSRU study on admission to care homes, found that "continence shows good gains immediately following admission, and low rates of decline throughout. However, if the gains are not made immediately after admission, they are much less likely to occur later. This finding probably reflects improved management of incontinence following admission, rather than any great improvement in the underlying condition"[19]. By suggesting that continence can be improved or better managed on admission to a care home, the study implies that continence may well be a factor in stimulating the admission in the first place, although it is noticeable that the continence gets 'managed' rather than treated. As admissions are frequently precipitated by a physical crisis, e.g. a fall or carer illness, incontinence may not always be identified as a major contributory cause. For example:

- Carers may find it difficult to manage someone with a continence problem but may not wish to admit that this is the case.

- Older people with continence problems using pads may become socially isolated because other people limit their contact with them.

- Older people with continence problems may limit the distance they travel from home because of fears of poor bladder control, thereby losing mobility and becoming more socially isolated.

It appears that the percentages of those with urinary and faecal incontinence increase once older people are admitted to a care home or to an acute setting. There may be several reasons for this:

- People living in the community may under report the problem and language may be a key factor, with older people more willing to admit to a 'loss of bladder control' than to incontinence[20]. This may reflect that a 'loss of bladder control' carries less of a stigma.

- It may be that something in the setting influences the likelihood of incontinence, e.g. unfamiliar surroundings, obstacles obscuring the route to the toilet.

- A person may be admitted with 'hidden' incontinence and the effect of institutionalisation exacerbates the problem as they adjust to being cared for. [20]

In conclusion, incontinence can lead to a breakdown in health, psychological and physical difficulties. It can be a financial burden for the family, especially those providing care, and it may hasten care home admission.

Hypotheses

1.   Admissions to care homes may be caused by, or exacerbated by, incontinence.

Possible Indicators
- Draw up a list of the last 50 admissions to care homes

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[18] Thom D (1997) Medically recognised urinary incontinence and risks of hospitalisation, nursing home admission and mortality. Age and Ageing 26;367-374

[19] Bebbington Darton Netten (2001) Survey *Care Homes for Older People: Volume 2. Admissions, Needs and Outcomes. The 1995/96 National Longitudinal Survey of Publicly-Funded Admissions.* Personal Social Services Research Unit, University of Kent

[20] Cochran A (1998) response to urinary incontinence by older persons living in the community Journal of Wound Ostomy Continence Nurse 25;6: 296-303

- Telephone interview; ask the care home manager if a person had a continence problem and what they know about the problem:
  - Is it a long-standing issue?
  - How is the home dealing with the incontinence?

2. **Incontinence may be a contributing factor to accident and emergency admissions**

Possible indicators

- Identify a sample of people admitted to accident and emergency departments following a fall between midnight and 8am.
- Find out from their notes if they had fallen when trying to reach the toilet or commode
- Identify if these people were incontinent either on admission or immediately prior to admission

3. **Continence is generally not identified through existing health and social care assessment processes**

Possible indicators

- Is there a question about continence in the Single Assessment Process?
- Do GPs routinely ask older people about continence?
- Differential patterns in referral to continence services that are disproportionate to older people populations.

Topic 2 – Dehydration

Background

Adequate hydration is a basic requirement for body functioning. Remaining hydrated is generally not a problem for healthy adults who are prompted by thirst coupled with a day structured around nutritional breaks. There is evidence to suggest that some older people may be at risk of dehydration, either because they don't have such structured eating habits or because they are cognitively impaired and lack the thirst sensation. Dehydration can also be associated with significant morbidity and mortality rates. The consequences of dehydration, such as dizziness or forgetfulness may also be confused with other conditions and hence be wrongly attributed.

A targeted strategy to prevent dehydration in people living in the community and people in care homes could help to reduce avoidable emergency hospital admissions and help to meet the public services agreement target to reduce hospital inpatient emergency bed days by 5% by March 2008[21]. The challenge is to identify those people at greatest risk and draw on any evidence of good practice. A necessary pre-requisite is to raise awareness in the general population and, in particular, in the older population about the importance of maintaining adequate hydration.

There is no generally accepted definition of dehydration; however, Jones et al[22] proposed that rapid weight loss of greater than 3% of the body weight could be used. This rapid weight loss could be due to a lack of fluid intake or to sodium depletion where there is an accompanying loss of water.

Nature and Evidence of the problem

There is evidence that adequate hydration is necessary to prevent or aid the treatment of a number of body malfunctions. These are listed and supported by a range of evidence in *Wise up on water*, a publication from Water UK,[23] and include:

- Constipation
- Urinary infections and continence
- Kidney and gallstones
- Heart disease
- Low blood pressure
- Diabetes
- Cognitive impairment
- Pressure ulcers
- Falls
- Poor oral health
- Skin conditions
- Hospitalisation

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[21] Morrison J (2005) Identifying people at high risk of emergency hospital admission BMJ ;330:266 (5 February).

[22] Jones B, Devey J, McLean M, Spacey H, Goodes S, Turner V, Kneebone R (2001) Best Practice. Evidence Based Practice Information Sheets for Health Professionals. Vol 5, Issue ! ISSSN 1329-1874

[23] Water UK (2005) Wise up on water. Hydration and healthy ageing Water UK

There is evidence to suggest that more than 30 per cent of older people coming into Accident and Emergency have a dehydration-related illness[24]. This finding is supported by two American studies[25] [26].

In Australia in 2001, a systematic review of the literature to date was published[27] with the aim of looking at the best available research on maintaining oral hydration in older people. Most of the studies were carried out in nursing or care homes. There was some indication that the more dependent a person was; the more likely they were to have low fluid intake. There was also a weak indication that older people with decreased cognitive status are more likely to be dehydrated. The evidence about risk factors was inconclusive, for age, gender and incontinence but being in a care home was identified as a risk factor in itself.

It has been suggested that older people are at greater risk of becoming dehydrated[28] because of a variety of age related changes including:

- A diminished thirst response - older people may have an impaired thirst sensation[29] including people with Alzheimer's disease
- May be insensitive to thirst[30]
- Physical changes e.g. reduction in mobility
- Mental changes e.g. dementia
- Hormonal changes e.g. sensitivity to anti-diuretic hormone
- Medication e.g. diuretics
- Internal organ degeneration leading to e.g. a decrease in renal perfusion.
- Other underlying conditions such as heart failure which make people sensitive to hydration changes.

Evidence that dehydration leads to care home admission

Dehydration may be responsible for up to one third of hospital accident and emergency admissions. No evidence was found to suggest that care home admissions may result directly from dehydration but, once in hospital, there is greater risk of admission. There is evidence that residents in nursing homes may become dehydrated and have poorer outcomes which could have been avoided.

An audit of admissions over a period may help to provide evidence. It has also been seen that adequate hydration can either prevent or help in the treatment of various conditions, many of which will present in primary care and some of which will need referral to secondary care.

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[24] Hopkins G (2005) Just Add Water Community Care 18th October

[25] Warren JL, Bacon WE, Harris T, McBean AM, Foley DJ, Phillips C (1994) The burden and outcomes associated with dehydration among US elderly,. Am J Public Health Aug;84(8):1265-9

[26] Greene-Burger S Kayser-Jones J Prince-Bell J (2000) National Citizens Coalition for Nursing Home Reform

[27] Hodgkinson B Evans D Wood J (2001) Maintaining Oral Hydration in Older People: A Systematic Review. Joanna Briggs Institute Australia

[28] Water UK (2005) Water for Healthy Ageing

[29] Kenny WL Chiu P (2—1) Influence of age on thirst and fluid intake Medicine and Science in Sports and Exercise 33:1524-32

[30] Albert SG Nakra BR Grossberg GT Carminal Er (1994) Drinking behaviour and vasopressin responses to hyperosmolarity in Alzheimer's disease. International Psychogeriatrics 79-86

Hypotheses

1. Falls associated with dehydration in care homes are higher in older people with dementia or memory loss.
2. Dehydration in general may contribute to falls amongst the whole population of a care home.

Possible indicators

- Review the 'accident' book in a sample of care homes and identify the number of residents who have dementia or memory loss and have fallen as against those who have fallen who do not have a memory loss.
- Review individual's care notes to identify if residents need prompting by carers to drink a sufficient amount.
- Explore the impact on falls of all residents having their fluid intake discreetly but more effectively monitored

3. Ensuring adequate hydration of care home residents may incur a cost saving as a result of fewer urinary tract infections and continence problems, less constipation and fewer falls.

Possible indicators

- Review a sample of past hospital and care home admissions and identify those at risk of dehydration and ascertain if they have a history of urinary tract infections, incontinence or constipation.

Topic 3 – Dentures

Background

Inadequate dentistry can affect the individual and society directly or indirectly in terms of cost and general health and well-being. Hence it is important to try and improve dental health in older people through appropriate dental interventions.

In terms of a direct impact then a person with missing teeth may experience physical difficulties. For instance, the act of chewing food adequately may be impossible; fewer teeth may result in a lack of food choices which could lead to nutritional disorders or deficits. Almost half of older people have some or all of their teeth missing and many either cope without dentures or have inadequate dentures.

Much the same is true for people whose mouth has changed shape and where previously dentures fitted well they may now be loose or uncomfortable which may also lead to a change in eating habits and hence weight loss or nutritional deficits. In addition, whilst dentures have been successful in the past as a way of treating missing teeth, attitudes are changing and there is evidence that older people are distressed as a result of having to wear a complete set of dentures[29].

In a less direct sense the appearance of the mouth and teeth is an important part of self image and contributes to the quality of life of the individual. Unfortunately, a lack of good quality dentistry can affect not only teeth but also a person's facial appearance thus impacting on self image and quality of life. A persons' confidence may be affected by having poor teeth or bad breath caused by decay resulting in avoidance of speaking or smiling and their social life may be curtailed if they avoid eating with friends and family.

Poor dental health may come about because it is difficult for the individual to access dental care because of reduced mobility or some other age related reason.

Nature and Evidence of the problem

It is known that more females than males tend to have missing teeth and that black Caribbean men and women are more likely than other groups to have lost their teeth[30]. The same source also recognises that the utilisation of dental services is poor, with most people only using the service if they have a problem. In addition, as people lose their teeth, they no longer attend the dentist.

Access to dental care may be difficult if the older person has mobility problems or is receiving long term care in hospital or is in a care home. Older people are not all registered with a dentist[31] and access to preventative services is only available to those who are registered. Furthermore, some older people may feel that they no longer require dental services if they have lost teeth or have dentures.

Domiciliary dental care is available for those who require it but may not be readily accessed unless people are informed of its existence. Some treatments may not be possible through a visiting dental service. The effectiveness of the domiciliary denture service for older people was evaluated and oral health-related quality of life measure (the Oral Impact Profile) was used to identify the change in quality of life caused by the provision of complete dentures[32]. Findings included:

- improvement in the oral related quality of life of housebound older people who had no teeth;
- increased likelihood that people would rate their oral health as very good;

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[29] Robinson PG Gibson B Davis D Pearson N Gelbier S (2004) The effect of a domiciliary service for complete dentures on the quality of life of older people. King's College London

[30] Robinson PG Gibson B (2004) The effect of a domiciliary service for complete dentures on the quality of life of older people, Kings college, London

[31] McNally L Gosney MA Dohert U Field EA (1999) The orodental status of a group of elderly in-patients : A preliminary assessment Gerondotology 16 p 81

[32] Robinson PG Gibson B Davis D Pearson N Gelbier S (2004) The effect of a domiciliary service for complete dentures on the quality of life of older people. King's College London

- increased ability to chew foods that they were previously unable to chew;
- a twelve times greater chance of enjoying their food.

The study concluded that the oral related quality of life of housebound or semi- housebound people was significantly improved when they were provided with a complete new set of dentures. Improvements in chewing ability and participating in social events was particularly noted.

Maintaining good oral hygiene of patients in hospital is an important part of the nurses' role and following assessment of the patient this may be self care or assisted care. However, in a Strategic Review of Oral Health[33] Dr Davis was quoted as saying that 'people who work in the National Health Service don't generally have the training to look after someone else's mouth – and the prospect of doing so can be quite daunting'. This could be a contributory factor to the finding (McNally et al[34]) that the dental hygiene of inpatients in an acute hospital was inadequate. It is highly likely that similar conclusions would be found in care homes and amongst people receiving home care but who had difficulties in cleaning their teeth.

Evidence that poorly fitting dentures may lead to care home admission

The National Minimum Standards (NMS)[35] for care homes expect that no service user should move into a care home without having a needs assessment including oral health. The care staff should maintain the personal and oral hygiene of each service user and wherever possible support their ability to self care. The name of the dentist, details of dental treatment, presence of dentures, broken teeth or missing teeth should all be recorded. The assessor should also observe and record reluctance to talk or smile, skin abnormalities around the mouth, the state of gums and if the persons breath is unpleasant. However, in practice the assessment of dental health is sometimes limited to the recording of the presence or otherwise of dentures and possibly their ability to clean their own teeth.

Hypotheses

1. **A comprehensive assessment of an older persons' oral health may highlight the need for domiciliary dentistry**

   Possible Indicators

   - Is a dental assessment part of the Single Assessment Process? Is there a role for a domiciliary dental assessor?
   - Are dental reviews conducted as part of a care home admission or soon afterwards.
   - How many care home residents or those receiving intensive home care have been offered a dental review and the means to attend for treatment if required within the last six months.
   - In care homes or via the home care service is assistance available and offered for teeth cleaning?

2. **Some older people have a poor diet as a direct consequence of poor dental care.**

   Possible Indicator

   - Check how many care home residents or those receiving intensive home care, receive, request or eat food which is mushy, overcooked or has no crisp vegetables because of poor dental care.

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[33] www.dh.gov.uk/en/publications&statistics/Bulletins/Chiefdental

[34] McNally L Gosney MA Dohert U Field EA (1999) The orodental status of a group of elderly in-patients : A preliminary assessment Gerondotology 16 p 81

[35] Department of Health (2000) Care Homes for Older People National Minimum Standards

Topic 4 – Falls

Background

Falls and their consequences are often a sensitive signal of unidentified health risk and unmet health care need in older people[36] as the National Service Framework[37] recognised. Standard six identified a need for a partnership approach to reduce the numbers of falls resulting in serious injury and to ensure effective treatment and rehabilitation for those who have fallen. The NSF called for an integrated service model to ensure the delivery of services to older people who are at risk of falling or have fallen. This was to include:

- Health promotion initiatives to reduce osteoporosis and falls in the general population.
- A single assessment process and community equipment services to promote older people's safety and independence.
- A falls service to be fully functional by April 2005.
- Support for older people who have fallen.

In 2004 the National Institute for Health and Clinical Excellence (NICE) published clinical guidelines[38] for the assessment and prevention of falls in older people considering all the evidence up to 2003. The guidelines were to be used in conjunction with the NSF.

Falls account for 400,000 accident and emergency consultations annually. there is little published evidence on the cost effectiveness of falls prevention but there is evidence that the number of falls and their negative consequences can be reduced by 30% if local health and social care communities work together[39].

Nature and Evidence of the problem

Falls are the main cause of serious injury in older people, a major cause of disability and a leading cause of mortality, with up to 14,000 older people dying each year as a result of osteoporotic hip fractures sustained by falling[40]. They are also the costliest type of injury among older people with health care costs increasing with the frequency of falls and the severity of injuries. The incident rates for falls are two to three times greater in nursing homes and hospitals than in the community[41].

One in three people aged sixty five and over fall each year and of these one in three fall again the following year. In older old age approximately equal proportions of men and women fall but in younger old age, the incidence is greater in women[42].

The risk of injury increases with age and the outcomes may be compounded by individual circumstances. A person who has chronic health issues, which are being managed effectively, may find that a fall is the final straw and that they can no longer cope. As people age, a fall may have a significant effect, not only the person's health and wellbeing, but also on their quality of life and confidence and may be a primary factor in triggering care home admission.

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[36] Swift CG (2001) Falls in late life and their consequences – implementing effective services BMJ 322:855-857

[37] Department of the Health (2001) National Service Framework Older People The Stationery Office London

[38] National Institute for Clinical Excellence (2004) The assessment and prevention of falls in older people. National Collaborating Centre for Nursing and Supportive Care

[39] Department of Health (2003) How can we help older people not to fall again? Implementing the Older People's NSF Falls Standard: Support for commissioning good services Department of Health

[40] Department of Health (2001) National Standards Framework The Stationery Office London

[41] National Institute for Clinical Excellence (2004) Clinical practice guideline for the assessment and prevention of falls in older people. National Collaborating Centre for Nursing and Supportive Care

[42] Kingson P Jones M Lally F Crome P (2001) Older People and falls: a randomised control trial of health visitor (HV) intervention. Reviews in Clinical Gerontology 11:209-214 Cambridge University press

Falls account for most of the accidents sustained by older people. Those aged over 75 admitted to hospital following a fall, will occupy a hospital bed for an average of 18 days[43]. The period of rehabilitation following a fall also has an additional cost dependent on the intensity of practitioner input and other services which may be required. In 1999 the total cost to the NHS and PSS of admissions to hospital following a fall was £908.9 million and 63% of these costs were incurred from falls in people aged 75 and over[44]. Togerson[45] (2001) identified that 86,000 hip fractures occur annually in the UK and Youm[46] (1999) found that 95% of these are as a result of a fall.

The number of falls experienced by older people increases with age. The injuries sustained from a fall may vary from minor bruises to major fractures, long term hospitalisation and mortality. However, it is not only the physical effects of falling that impact on the individual; the emotional effects lead to a loss of confidence and possibly to the reassessment of the way in which the person lives. Vellas et al (1997)[47] identified that approximately one third of people who had fallen developed a fear of falling.

NICE identified the following risk factors as most predictive of falling in people in the community with the first four also being identified for those in care homes:

- Previous history of falling

- Impairments of gait and balance

- Visual impairment

- Cognitive impairment

- Mobility impairment

- Fear

- Urinary incontinence

- Home hazards

Extrinsic factors also contribute to the risks of falling and attention is increasingly being turned to the built environment and to the importance of satisfactory walkways and signage. Yardley et al [48] interviewed 66 older people age 61 -94 and found that they may reject advice on the prevention of falls, not because of their ignorance of their risk of falling but because they may see it as a threat to their identity and autonomy. Developing a prevention strategy to deal with such a wide range of risk factors is challenging but has been an area that those developing a falls service have had to address.

Evidence of care home admission

Nearly half of all nursing home admissions are due to falls or postural instability[49]. In 2006, Rubenstein stressed that attention to risk factors can prevent premature care home admission, which is most associated with an older person

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[43] Department of Trade and Industry (1997) Home accident Surveillance system. Accident data and safety research garden and leisure (21st annual reports) DTI London

[44] Scuffman P Chaplin " (2002) The incidence and costs of unintentional falls in older people in the United Kingdom Journal of Epidemiology an Community Health

[45] Torgerson DJ Iglesias CP Reid DM (2001) The economics of fracture prevention in The effective management of osteoporosis Aesculapius Medical press p111-121

[46] Youm KJ Koval and JD Zuckerman, The economic impact of geriatric Am J Orthop 28 (1999) (7), pp. 423–428 fractures, Am J Orthop 28 (1999) (7), pp. 423–428

[47] Vellas BJ Wayne SJ Romero L Baumgartner RN and Garry PJ (1997) Fear of falling and restriction of mobility in elderly fallers Age Ageing 26(3):189-93

[48] Yardley L Donovan-Hall M Francis K Todd C (2006) Older people's view of advice about falls; a qualitative study Health Education Research Aug 21(4):508-17

[49] Salkeld G Cameron ID Cumming RG et al (2000) Quality of life related to fear of falling and hip fracture in older women: a time trade off study. Commentary: Older people's perspectives on life after hip fractures. British Medical Journal 320:341-346

who has one or more identifiable risk factors[50]. Cotter et al (2006) demonstrated that fall related readmissions are responsible for significant costs and that any intervention to keep costs to a minimum is valid. However, it is important to recognise that whilst falling may precipitate a care home admission, the incidence of falls in a care home or hospital is higher than for people living in the community. The consequences of falling can result in long-term institutionalisation [51]

Hypotheses

1. The design of street layout and architecture can increase the propensity for people to fall.

Possible Indicators

- Using data collected by ambulance services to identify the number of older people who fall and where they fall in the street
- Identify how many falls have been over objects such as bollards, street signs etc.
- Obtain the councils list of reported broken pavements in the last six months and when they were repaired. Identify any relationship between broken pavements and falls in older people
- Identify common sites for falls and ask local shopkeepers if they have observed falls in that area.

2. There is a lack of interventions to prevent falls for people in care homes

Possible Indicators

- Use the 'accident book' identify:
- How many people have fallen in the care home in the last six months,
- The time of day they fell,
- Where they fell, and
- Was the fall related to another activity, eg, were they on their way to the toilet?
- Present information to staff and ask them to identify how those falls could have been prevented

3. There is a lack of interventions to prevent falls for people in care homes who have fallen in the past

Possible Indicators

- Identify a sample of people in care homes who have fallen during the last year and have had a second and subsequent fall.
- Identify any interventions related to the fall and the outcomes of the interventions in relation to further falls.
- Present information to staff and ask them to identify how those falls could have been prevented

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[50] Rubenstien LZ (2006) Falls in older people: epidemiology, risk factors and strategies for prevention. Age and Ageing Sept:35 suppl2ii37-ii41

[51] Feder G Cryer C Donovan S Carter Y (2000) Guidelines for the prevention of falls in people over 65. The Guidelines Development Group. BMJ 321:1007-1011

Topic 5 – Podiatry

Background

Foot problems which arise from toe nails, corns and calluses and medical conditions such as diabetes mellitus, may lead to pain. This is likely to have an effect on mobility and impinge on the social, physical and psychological well-being of older people thus affecting the overall quality of life and their vulnerability to fall.

Foot problems arise as a result of:

- Mobility issues, for as people age they may experience difficulties with bending and therefore inability to perform foot care

- Poorly fitting footwear, both in earlier life and at present may lead to calluses, corns and misshapen toes

- Underlying disease and deformity, for example diabetes, stroke and peripheral vascular disease.

In addition, the normal ageing process will affect sensitivity, touch and vibration in the feet all of which put the person at greater risk of foot problems.

Referrals for treatment are generally via a General Practitioner or other health professional and are only available for those who are at medium or high risk according to criteria defined by PCTs. As statistics on podiatry services and information on the level of intervention are no longer widely collected, future services are unlikely to be planned effectively.

Nature and Evidence of the problem

Help the Aged[52] report that over two thirds of older people have foot problems and there is some evidence[53] that the proportion may be higher as many people are too embarrassed to seek help. Increasing demand for podiatry services has lead to rationing, with people considered to be 'low' risk no longer being eligible for NHS podiatry. In September 2003, the NHS employed 3,807 podiatrists, an average of one podiatrist to over 2,000 older people. If the NHS was to offer the service to all older people in need of professional foot care it would be necessary to double the number[54].

The longer term impact of denying treatment to those considered to have a low risk is yet to be established. It has been suggested that 25% of people needing foot care are no longer receiving it[55].

There is relatively little published research on podiatry and podiatry services; in part, because there is no common assessment tool. However, in 2005 Campbell[56], as part of a larger study, looked at low risk podiatry problems and amalgamated the variables into five with the aim of designing a common assessment tool.

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[52] Help the Aged (2005) Best Foot Forward: older people and foot care Help the Aged London

[53] Malkin K Coffey J Boulton M Dawson J Lavis G Cooke P Jenkinson C (in preparation) Bunions: Patient Experience and Context of Seeking Treatment: A Qualitative Study

[54] http://www.research.plymouth.ac.uk/podiatry/evidencebase.html

[55] Help the Aged (2005) Best Foot Forward: older people and foot care Help the Aged London

[56] Campbell JA (2006) Characteristics of the foot health of 'low risk' older people. A principal components analysis of foot health measure

Evidence that foot health is a contributing factor to care home admission

Although there is no direct evidence that a lack of podiatry provision for older people results in care home admissions, it can be speculated that as poor foot health can lead to social isolation, decreased mobility, and an increase in the number of falls and fractures, there is likely to be a number of people who are admitted as an indirect consequence.

Hypothesis

1. **That the relationship between falls and foot problems is not clearly established and hence not monitored and resolved.**

Possible indicators

- Is there a question about foot problems on the Single Assessment Process, particularly where peoples' immobility is evident and it is likely that they will have difficulties in cutting toenails?

- Does the falls service identify foot problems when they carry out an assessment?

- Where podiatry services are offered, is their frequency sufficient to ensure good foot care?

- If a person falls, are they checked for:
    - Toe nails that have been inadequately cared for and hence cause poor gait or discomfort?
    - Corns and calluses?
    - Medical conditions that may have lead to the foot problems?

Topic 6 – Stroke Recovery

Background

Approximately 110,000 people in England suffer from a stroke each year[57]. The incidence of stroke increases with age and approximately 75% of stroke victims are over the age of 65. Of those who have a stroke about one third will die within the first ten days, one third will recover within one month and one third will be disabled and in need of rehabilitation. Stroke therefore has a major effect on people's lives and health and social care services. This literature review focuses on the potential for older people to make a full recovery from a stroke and how this may be influenced by the volume and type of rehabilitative programme.

Caring for people who have had a stroke uses a significant proportion of inpatient hospital beds and nursing homes places. The overall cost of stroke to the economy is estimated at around £7 billion each year, with stroke patients occupying 2.6 million hospital bed days annually[58] at an annual cost to the NHS of £2.8b.

The National Service Framework (NSF) for Older People (2001), Standard five stressed the importance of a multi disciplinary team approach to the rehabilitation of people with strokes. In 2005 The National Audit Office[59] reported on stroke services, identifying the need for further improvements in the care given. A toolkit for appraising the performance of hospital trusts and commissioners on stroke was produced in 2006 and the recently published NSF Long Term Conditions (2006) included three quality requirements devoted to rehabilitation:

- Early and specialist rehabilitation;
- Community rehabilitation; and
- Vocational Rehabilitation.

The new **National Stroke Strategy**, launched on 5 December 2007, sets a clear direction for the development of stroke services in England over the next ten years. Among key points for action, it concludes:

'Intensive rehabilitation immediately after stroke, operating across the seven-day week, can limit disability and improve recovery. Specialised rehabilitation needs to continue across the transition to home or care home, ensuring that health, social care and voluntary services together provide the long-term support people need, as well as access to advocacy, care navigation, practical and peer support.'

The Nature and evidence of the problem

People who have a stroke are more likely to survive, return home and regain confidence if they are admitted promptly to a stroke unit[60]. A stroke unit is a part of a hospital that provides care almost exclusively for patients who have had a stroke. The unit is characterised by the multidisciplinary approach to care. There is no set formula for the composition of a stroke unit. Indeed, they may be categorised in several ways:

- The acute stroke unit which admits patients acutely and continues treatment for several days and generally not longer than one week
- The combined acute and rehabilitation stroke unit which admits patients acutely and continues treatment for several weeks or months

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[57] Department of Health (2005) Reducing Brain damage: Faster access to better stroke care

[58] The House of Commons Committee of Public Accounts (2006) Reducing Brain Damage: Faster access to better stroke care

[59] National Audit Office (2005) Reducing Brain Damage: Faster access to better stroke care

[60] Department of Health (2001) National Service Framework Older People

- The rehabilitation stroke unit which admits patients after a delay of 1-2 weeks and continues treatment and rehabilitation for weeks or months
- A mobile stroke team which offers stroke care and treatment to stroke patients on a variety of wards

Strand et al[61] identified that older people and those with severe strokes are likely to gain most from a stroke unit admission. Whilst there have been advances in stroke care over the last ten years and evidence to demonstrate the effectiveness of stroke units, only 62% of people who have a stroke are currently admitted to a stroke unit in England[62].

The reasons for patients doing better than those given conventional care uncertain but it has been shown that stroke unit care probably improves patient outcomes by minimising preventable complications and enhancing independence in functional activities[63]. No study has shown to what extent the beneficial effect of care in a stroke unit is due to specific rehabilitation strategies, the daily time spent in physiotherapy and occupational therapy or the effect of a more stimulating environment with competent staff encouraging and supporting patients and family members - or a combination of all of these factors. There is also a lack of evidence about the effectiveness of acute stroke teams without rehabilitation and mobile stroke teams[64], and of scientific evidence demonstrating the values of specific rehabilitation interventions after stroke is limited[65].

It is suggested that if a stroke results in neurological deficit, the fastest recovery occurs within the first three months. However, this may simply reflect the level of intervention at this time as compared to a diminution in intervention further into the stroke recovery period. Kaste suggests that rehabilitation should start soon after admission and continue for as long as an objective improvement in the neurological function continues. Once this point is reached a long term rehabilitation programme should be embarked upon with the aim of sustaining the improvement. There is some evidence to show that improvements in function seen whilst the patient is in hospital may be followed by a decline in function six months after discharge suggesting that some peoples recovery lessens in their own environment[66]

Dietrichs[67] (2007) reflection on a literature review and personal research concluded that the ideal form of rehabilitation is still unclear, but it is known that post stroke rehabilitation 'should start as soon as possible, with good motivation, sufficient intensity and quantity and should be maintained over a long time'. It is also considered that rehabilitation should continue until the maximum recovery is made. However, there are no clear guidelines to suggest at what point the patient has achieved maximum recovery, or what the cost benefit of continuing to pursue recovery in relation to long term health and social care expenditure.

As a consequence of a stroke, carers can be plunged into a role which they were not anticipating and for which they are inadequately skilled. Carers in general, are a vital resource and it is known that their morbidity is high. About one third experience problems with employment and just under two thirds experiencing physical and mental health problems. The Sentinel Report (2004) showed that although carers are legally entitled to request a needs assessment less than half do so. In addition, it is known that carers psychological wellbeing is improved if they receive some

[61] Strand T Asplund K Eriksson S Hagg E Lithner F Wester P (1985) A non-intensive stroke unit reduced functional disability and the need for long term hospitalisation. Stroke 16:29-34

[62] Royal College of Physicians (2007) National Sentinel Stroke Audit

[63] Stroke Unit Trialists Collaboration (1997) How do stroke units improve patient outcomes? A collaborative review of the randomised controlled trials Stroke 28:2139-44

[64] Kaste M Skyhoj Olsen T Orgogozo JM Bogousslavsky J Hacke W (2000)Organisation of stroke care: Education, Stroke units and Rehabilitation Cerebrovascular Diseases 2000;10(suppl3):1-11

[65] Johansson BB (2000) Brain Plasticity and stroke rehabilitation American Heart Association special report

[66] Hopman WA Verner J (2003) Quality of Life During and After Inpatient Stroke Rehabilitation Stroke 34:801

[67] Dietrichs E (2007) Brain plasticity after stroke – implications for post stroke rehabilitation Tidsskr Nor Laegeforen May 3;127(9):1228-31

training[68]. Smith et al (2007)[69] in a study exploring the experience of caring identified the need to facilitate carers in learning how to care.

Evidence that poor stroke recovery contributes to care home admission

A fast efficient response following the onset of a stroke will lead to less time in hospital and a decreased incidence of disability[70]. Indeed a metanalysis based on the Stroke Unit Trialist's Collaboration[71] showed a 25% reduction in death or the need for long term institutionalisation of patients treated in a stroke unit in comparison to those who are admitted to a medical ward. This finding has been supported by Jørgensen[72] who also found that mortality and the requirement for care in a nursing home was reduced for patients treated in stroke units. Furthermore, a randomised controlled trial compared patients treated and rehabilitated systematically by a stroke team with patients treated in a less systematic stroke programme. It reported that older patients treated by a stroke team were able to leave hospital on average 16 days earlier, went directly home more often and were more fully independent one year after the onset of the stroke[73]. This finding supported those that Strand[74] identified some years earlier. Bagg[75] reported from a prospective study looking at the effect of age on functional outcomes after stroke rehabilitation concluded that age is not relevant in determining the potential to recover from a stroke.

Kaste[76] in a review of the literature found that the length of time the rehabilitation should continue is dependent on the severity of the stroke and the local availability of services, usually it is for 6-12 weeks and rarely more than 24 weeks. Continuing rehabilitation once the patient has been discharged is recognised as being important but only 27% hospitals have community specialist teams. Indeed there is a lack of coordination of support services following discharge from hospital which can leave the patient feeling abandoned[77]. Therefore, it may be expedient to consider the development of generic acute/community professionals. This could be effective at many levels. Transition from the acute sector to the community can be traumatic for people who have undergone such a life threatening episode and the familiar face in the home situation may reduce anxiety for users and their carers. It is important to recognise the significant role played by the voluntary sector in supporting and encouraging both the service user and carer at this point and anecdotally, the sector is struggling to cope with the demand for their services.

In a follow up survey of 875 patients who had had a stroke the Healthcare Commission[78] identified a need for; greater emotional support for stroke patients, more information, and continued rehabilitation. In addition a need for help with benefits, personal care and home help was identified along with more information about stroke, in particular risk of further strokes.

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[68] Department of Health (2005) Reducing Brain damage: faster access to better stroke care

[69] Smith LN Lawrence M Kerr SM Langhorne P Lees KR (2007) Informal carers' experience of caring for stroke survivors Disabil Rehab Mar 15;29(5):389-94

[70] Department of Health (2006) Improving Stroke Services: a guide for commissioners Department of Health

[71] Stroke Unit Trialists Collaboration (1997) How do stroke units improve patient outcomes? A collaborative review of the randomised controlled trials Stroke 28:2139-44

[72] Jørgensen H Nakayama H Raaschou H Larsen K Hubbe P Olsen T (1995)The effect of a stroke unit: Reductions in mortality , discharge rate to nursing home, length of hospital stay and cost Stroke 26:1176-1182

[73] Kaste M Palomaki H Sarna S (1995) Where and how should elderly stroke patients be treated? A randomised trial Stroke 26:249-253

[74] Strand T Asplund K Eriksson S Hagg E Lithner F Wester P (1985) A non-intensive stroke unit reduced functional disability and the need for long term hospitalisation. Stroke 16:29-34

[75] Bagg S Paris Pombo A Hopman MA (2002) Effect of Age on Functional Outcomes After Stroke Rehabilitation Stroke 33:179

[76] Kaste M Skyhoj Olsen T Orgogozo JM Bogousslavsky J Hacke W (2000)Organisation of stroke care: Education, Stroke units and Rehabilitation Cerebrovascular Diseases 2000;10(suppl3):1-11

[77] Department of Health (2005) Reducing Brain damage: faster access to better stroke care

[78] Healthcare Commission (2006) Caring for patients after they have had a stroke. A follow up survey of patients.

Whilst it can be seen that rehabilitation is an important component in maximising recovery from stroke it appears astonishing that very little is known about the relationship between severity and type of stroke, the volume and type of rehabilitative input an individual receives and the outcome in terms of long term impairment.

Hypotheses

1. **That older people who have strokes and who have a high level of input from rehabilitative services are able to make a fuller recovery than those who have a limited input.**

Possible Indicators

- Identify the type and severity of stroke amongst a sample of older people.

- Identify type of programme and length of rehabilitative input, post stroke and after leaving hospital[79].

- Identify where discharged to and where resident after six months.

- Identify if there are differential levels of recovery one year post stroke.

2. **That if specific support and training is given to carers then stroke survivors improve their recovery and carers are able to manage for a longer period.**

Possible Indicators

- Numbers of older people post stroke who are admitted to care homes who previously had a regular carer.

- That carer groups can specifically identify a range of uniform factors that contribute to carer breakdown.

- Comparison of carers who are given an intensive programme of carer support prior to hospital discharge of stroke survivor and continued into the community have fewer admissions of the stroke survivor.

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[79] In the absence of any intensive programmes it may be necessary to develop such a scheme in order to test the hypotheses, although some evidence may be available from anecdotal accounts of stroke survivors.