

Cost-effectiveness of prevention and early intervention for older people: the evidence

This is an interim summary of the findings from a rapid review of the evidence prepared for the Total Place project in Dorset, Bournemouth and Poole.

The focus of the review is to find out what evidence exists that supports or otherwise the hypothesis that prevention and early intervention for older people is cost-effective compared to acute intervention and care.

We looked at three different areas: the ongoing evaluation of the Partnership for Older People Projects (POPP) Programme (on national and local level), the collected evidence from falls prevention programmes, cost-effectiveness of personalised care and good practice examples from English local authorities.

What follows is a summary of the key research messages we have found so far.

1. Evaluation of the POPP programme

The Personal Social Service Research Unit (PSSRU) have been commissioned with the national evaluation of the POPP programme. The final report from the evaluation is not available yet but the interim findings from their October 2008 report (<http://www.pssru.ac.uk/pdf/dp2612.pdf>) suggest that

"...pilot sites continue to have a demonstrable effect on reducing **hospital emergency bed-day use** when compared with non-POPP sites. The results show that for every £1 spent on POPP, an average of £0.73 will be saved on the per month cost of emergency hospital bed-days, assuming the cost of a bed-day to be £120."

This is consistent with the evidence emerging from a number of local evaluations of individual POPP pilots.

The main services of the *INVOKE* POPP Programme in Kent (<http://www.pssru.ac.uk/pdf/rs052.pdf>) comprised of

"... Community Matron Support Worker (CMSW), Care Navigator (CN) and Community Information and Liaison Assistant (CILA). These services were designed to work as an overarching 'programme of support' addressing the spectrum of population needs highlighted through the 'Kaiser Permanente' triangle."

Here are the cost implications in Kent

- "...A statistically significant difference in the use of in-patient services was found, moving from a mean (average) of 7.5 days (overnight stays) prior to the INVOKE projects compared to 3.7 days afterwards. In costing the secondary care resources, a mean **cost reduction of £161 per person** was demonstrated for this sample.
- Service use within the local health centre or surgery was explored, separated into GP appointments, phone calls to the surgery, and contact with practice nurses. There were very slight increases seen in service use after the INVOKE projects, leading to a **small increase in cost of £2 per person**.
- In measuring service use in the individuals' own homes, it was found that there was a reduction in home care, and community nurse contact, with a rise in social worker time. The increase in social work visits was found to be statistically significant. That is a promising finding because such an increase may indicate that the INVOKE programme has ensured appropriate assessments. In 'costing' such service use, it was found that there was a **decrease in cost of £21 per person**.
- For those users across the INVOKE programme who completed the QoL tool, there was a change in the health and social care economy, with a **total cost-reduction of £180 per person**. Such a cost reduction could be cost-saving if funds could be extracted and moved from the secondary care system."

The Knowsley POPP

(http://www.ljmu.ac.uk/BLW/BLW_Facultytopleveldocs/Exec_SummaryPOPDec08.pdf) comprised of four projects organised in two streams

IKAN Workstream:

- **IKAN team**; A team of workers conducting holistic assessments of low-level need with older people (55+) in Knowsley and providing information to, or signposting individuals to appropriate services.
- **Age Concern Advice & Information and Befriending projects**; The advice and information service provides information to older people in Knowsley in order to help them access preventative services. The Befriending project is a short-term outcome based service designed to empower individuals and facilitate home stays.

Mental Health Workstream:

- **Personal Services Society Adult Placement Scheme**; Older people (55+) with mental health issues are placed with a carer in the carers own home to help develop independence skills and prevent admittance to long term care.
- **Flexicare service**; Intermediate care service providing in-reach to hospital and residential care settings to promote discharge, and providing a flexible care service to prevent admittances.

In terms of cost implications, the local evaluation found out that

"...a reduction in costs of £476,193 associated with selected HRGs which the preventative approach used by the IKAN team could be expected to impact upon. This demonstrates the ability of preventative projects to generate savings which can then be moved upstream to prevent acute service use."

In Gloucestershire POPP included

(http://www.gloucestershire.gov.uk/utilities/action/act_download.cfm?mediaid=30822)

- Providing training and hands on support to care home staff from our care home support team of general and mental health nurses, pharmacists and therapy staff
- Developing and providing training for care home staff
- Providing care homes with small grants and advice to set up new services in the community

- Recruiting older volunteers to work with care homes in a number of ways, including providing services or supporting care homes to work in the community

“The economic appraisal also includes an assessment of the **cost effectiveness of the POPP funded pharmacy medicines management review that was carried out as part of the work of the Care Home Support Team**. Data analysis suggests that this led to resource savings of £148,000. There are also indications that significant further savings are possible by extending this work across more care homes and taking into account the impact of reductions in medication side effects on, for example, the incidence of falls.”

However, **not all local POPP cost-effectiveness findings are so straightforward**. For example, this is the case in Southwark. Southwark POPP consists of two elements (<http://www.researchdevelopmentcentre.nhs.uk/downloads/POPP-Evaluation-Report-Executive-Summary-2008.pdf>): community pathway and hospital discharge pathway.

Community Pathway

“POPP funding enabled the hiring of a project manager, community geriatrician, community matrons, a voluntary sector coordinator, physiotherapy and occupational therapy services and pharmacy and medicines management services. These funded professionals worked alongside social workers, district nurses, day hospital staff and mental health professionals.”

Here is what the authors say about the cost implications of the Community Pathway:

“The evaluation indicates that the **savings are outweighed by the costs**.

Net estimated savings from reduced placement	£172,536
Total savings due to reduced hospital usage	£170,064
Costs of additional home care (1 hour per client per week)	- £219856
Total staff costs	- £491,000
Net savings from	-£368,256 ”

However, the authors add that

“...three factors should be taken into account when assessing cost effectiveness of the Community Pathway. Firstly, **the gap between costs and savings needs to be placed beside the gains in quality of life for clients due to reduced hospital admission and A&E attendance**. Secondly, **the clients targeted by the Community Pathway had high levels of morbidity and particularly complex health and social care needs**, limiting reductions that can be made in acute care usage and residential placement compared to less complex groups. Thirdly, this was a new and complex initiative to integrate health and social care with teething problems typical of such initiatives. With the improvement of procedures to address some of these challenges (identified below), cost effectiveness may increase.”

Southwark Hospital discharge pathway

“The hospital discharge team... developed an Early Intervention Worker (EIW) post employed in both acute trusts to work on the care of the elderly wards of both hospitals. A Further Assessment Process was established for clients at risk of going into permanent residential placement. Additional mental health and therapy assistance were provided to improve outcomes and, where possible, avoid unnecessary placement. POPP funding helped the Mental Health Intermediate Care (MHIC) team become an integral part of the discharge process.”

The Southwark hospital discharged pathway was described as

"...cost effective as a result of reduced average length of stay in hospital. Reductions in length of stay saved an estimated 2231 bed days in one acute trust and 1513 days in another. **However, the efficiencies generated accrue to the acute trusts and not to Southwark Health & Social Care.** In fact by creating more capacity for the acute trust, increased admissions may raise costs for the Primary Care Trust under Payment by Results. As the majority of placements in residential and nursing care are organised through the Hospital Discharge Teams it is likely that this reduction created savings to offset against POPP funding."

The above comes to show that not always the POPP Programmes can be described as 'cost-effective' and it depends on how cost-effectiveness is measured

- What is included in the costs / savings balance
- Where the savings are attributed to
- Whether the set up costs are calculated
- Whether there is a cost-utility evaluation of the improved quality of life.

Some of these dilemmas become apparent in the next section where the cost-effectiveness of falls prevention is discussed.

2. Cost-effectiveness of falls prevention

There is an ample amount of evidence reviews on the outcomes of falls prevention initiatives. Many of the interventions include a combination of medicine adjustment, environmental modifications, exercise and education/training (Cumming and others, 2000). However, only a few of those are focused on establishing cost-effectiveness of the interventions. Therefore, in addition to UK, we include research here that was carried out in Australia and New Zealand.

The cost-effectiveness on an educational prevention programme in the West Midlands was evaluated by Kenkre and others (2002).

“The educational training package included a staff video, community video, trainer’s guide, trainer’s cards and transparencies. Training topics included introduction to the problem, accident prevention advice, after effects, assessing the individual, assessing the home, assessing external factors, teamwork and the development of practical protocols...” (Kenkre and others 2002)

The authors conclude that **educational programmes alone do not show a difference (including in terms of cost-effectiveness) and offer a tentative explanation that the practitioners have not changed their practices from reactive care to prevention.**

Another study of the cost effectiveness of a “home hazard” reduction programme was carried out in Australia (Salkeld and others 2000). The findings show “**reduced falls related costs but not necessarily overall health care costs**”. It also tends to be most effective with people with a history of falls (i.e. with those incurring higher health care costs in general).

Yet another study from New Zealand looks at an exercise programme as a prevention to falls. Similarly, the authors (Robertson and others 2001) summarise that “Despite a reduction in falls as a result home exercise programme there was no significant reduction in (total) healthcare costs.” They also comment, “Whether or not to include **total healthcare costs** in the cost effectiveness ratios remains a point of contention”.

Further down the text though the authors comment that “the results reported will provide information for those making decisions on falls prevention strategies” based on the findings regarding the absolute costs of the different interventions.

Some possible answers to the above inconclusive findings regarding the cost-effectiveness of the falls prevention initiatives could be found in Moller’s article: *Current cost models: are they suitable for allocating health resources? The example of fall injury prevention in Australia* (2004). The author suggests that

- Comprehensive review of funding streams – **in accordance with demographic trends and based on population rather than patients’ outcomes** – is needed to prove cost effectiveness; the current practice he describes as evaluation of marginal/pilot funding

- There are highly stable and resistant to change health systems
- The overall prevention in this area needs to move **to population level prevention**. He gives the example of the Australian policy to motor vehicle crash-related injuries where population level interventions yielded large scale changes within 30 years (Moller 2004).

In conclusion, the evaluation of cost-effectiveness of the falls prevention initiatives shows that it depends a lot on how it is measured, whether overall health costs are calculated-in, whether population outcomes / quality of life variables are considered, etc.

3. Cost-effectiveness and personalised services

Jamie Bartlett from Demos (Getting more for less: efficiency in the public sector 2009 http://www.demos.co.uk/files/Getting_more_for_less.pdf) looks at the cost implication of the transformation of adult social services and in personalisation and self-directed support in particular. Although this is not a representative quantitative research he provides a number of case studies to put forward an argument that “there are three new types of reform that can transform service delivery and sets out how and why they can save money”:

- Personalisation through personal budgets. Hew draws on the market argument that “By giving people personal budgets and the opportunity to choose their own services, it encourages greater competition among providers, and can stimulate entry into the market by new, more efficient service providers”.
- Prevention
- Collaboration. “Working together to solve complex social problems can generate significant efficiency gains by focusing previously disparate resources on outcomes for whole communities that agencies individually can’t realise...” (Bartlett 2009)

Although not isolated strictly to older people services, his argument is an interesting one to consider in a future remodelling design of services. On the other hand, these – particularly the first and the last – are theoretical claims that are yet to be evidenced in practice and might constitute an element of a future evaluation design.

4. Further considerations

Two more areas will be covered in the final version of this report.

Mental health prevention and early intervention – to look mainly at dementia care

General health (accidents) prevention – might give insight on the methods of approaching and measuring costs and also in changing funding streams.

Tuesday 8 Dec 2009 / Todor Proykov