

The impact of the POPP programme on changes in individual service use

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Introduction

The 'Partnership for Older People's Project' (POPP) programme was funded by the Department of Health (DH) to create a sustainable shift in the care of older people, moving away from a focus on institutional and hospital based crisis care, toward earlier and better targeted interventions within community third sector, social and health care settings. The programme began in May 2006 and completed in March 2009, with a total of £60 million available to 29 pilot sites. The pilot sites covered a diverse spectrum of activity to meet varying levels of need. Each pilot site put forward a programme of innovative projects designed to improve the health, well-being and independence of older people. In total, the 29 pilot sites implemented 146 core local projects and 530 lower-level or upstream projects, their type, focus and extent determined by local priorities. Each pilot site put in place a local evaluation to measure their outcomes, whilst a national evaluation of the programme as a whole was commissioned by the DH and provides the evidence base for this article.

The individual POPP projects were expected to deliver three objectives: to provide a person-centred and integrated response to the needs of older people, encourage investment in approaches that promoted health, well-being and independence for older people and prevented or delayed the need for high intensity or institutional care. Over the time-frame of the POPP programme, it was the later objective that came to dominate the national evaluation. In particular, one underlying question was drawn out: Did the projects reduce participants' use of the more intensive and thus, expensive services?

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This article concentrates on exploring whether change in service use was found across the POPP programme. It first discusses how such service change was identified, details that cost assigned to service provision and explains how the disparate projects were grouped or categorised. We then provide the findings, demonstrating the changes in service use and thus costs that the different projects were able to achieve. Finally, a brief discussion section considers the implications of such outcomes for the national health and social care economy.

Methods

The tool to measure the change in individual service use was that of a standardised questionnaire used across 23 of the 29 POPP pilot sites and within 62 of the 146 core projects. The questionnaire was administered at two time points, at initial contact with the POPP intervention and either three or six months afterwards to allow changes in outcomes to be measured. The challenges of ensuring adoption of this questionnaire across the pilot sites and selected projects have been described elsewhere and are not intended to be repeated here (see Windle et al., 2009).

The questionnaire incorporated four sections. The first was a measure of health-related quality of life (Dolan, 1995), the second asked users to rate their quality of life as a whole using a seven-point Likert-type scale (Bowling, 1995), whilst the fourth and final section recorded the necessary demographic data. It was the third section of the questionnaire that allowed participants' use of health and social care services to be captured. Using the client services receipt inventory (Beecham & Knapp, 1992), respondents recorded the type and total usage of: secondary care, or hospital, services, interventions received within their local surgery or health centre and those services delivered within their own home, e.g, home care, meals on wheels. Thus, respondents were asked to first record whether they had used a particular service and secondly the number of times they may have received this over a three month time-period.

Identifying and setting service costs

The type of services and the extent of such use were then costed. Unit costs were drawn from a number of sources and inflators added to ensure parity with 2008/2009 costs (see Curtis, 2008; Curtis & Netten, 2006; King et al., 2000; NHS Health & Social Care Information Centre, 2004/5). Nevertheless, the lack of detail about the exact type of service used meant a number of assumptions had to be made. The example given here to explain such assumptions is the process of costing hospital bed-days. Further information on the development of unit costs for services can be found in the full national evaluation report and appendices (see Windle et al., 2009)

To ensure that the questionnaire was as simple as possible to complete, respondents were only asked to indicate whether they had stayed in hospital overnight. No detail was requested around service specialty. We did not know whether their hospital overnight stay was in a psycho-geriatric, medical, rehabilitation or general surgery ward and thus could not easily assign costs. To estimate a unit cost for a bed-day, we first drew on the Hospital Episode Statistics data to explore the number of bed-days used within each specialty, by those aged 60 and over (see www.hesonline.nhs.uk). Unit costs were then listed for each and a weighted average applied to provide the composite unit cost, a sum of £158 per hospital bed-day (see Table 1).

Table 1 Breakdown of inpatient attendance: per bed-day

Area of specialty	Cost (National Average) £	Cost with inflator (3.4%) £	Number of bed-days aged 60 and over (2008 HES data)
Mental health - elderly	217	224	2,397,360
Geriatric	187	193	6,735,143
General surgery	93	96	1,756,671
General medicine	119	123	6,878,110
Cardiology	101	104	920,024
Rehabilitation	149	154	510,965
Total average	144.33	149.24	
Weighted average	152.65	157.94	

This was not the final sum used in costing this service provision. The literature on hospital admission showed that a high proportion of older individuals arrive at hospital via emergency ambulance transport (see Bentley & Meyer, 2004; Richardson, 1992). Over two-thirds of those aged 65 and over (67 per cent) attend secondary care via emergency ambulance, rising to 84 per cent for those aged 85 and over (Cove et al., 2006). The cost of a single emergency ambulance journey, a further £246, was therefore included. Thus the first bed-day cost was set at £404 falling to £158 for subsequent recorded bed-days.

The categorisation of the projects

The POPP programme was not designed to implement a single service model. The 62 projects that used the standardised questionnaire to measure outcomes ranged from third-sector led well-being services, (e.g., gardening, small housing repairs, shopping and social centres), through to multi-disciplinary health and social care interventions (e.g, rapid response teams, medicines management, falls prevention, intensive case management). The structure and process of each project was very different, even where projects within different sites shared titles. For example, one 'Falls Prevention' project employed a multi-disciplinary health and social care team based in secondary care, whilst another sharing the same name, was that of a time-limited exercise programme run by volunteers within village halls. To mitigate this diversity and ensure a robust analysis could be undertaken, we categorised these 62 projects in a number of ways. The grouping reported within this article links to the stratification adopted in the Kaiser Permanente Triangle: primary, secondary and tertiary prevention.

The first category of primary prevention targeted older people in general and included 32 (58 per cent) lower-level, community interventions: gardening, handyperson schemes, information and signposting, learning and leisure opportunities. Secondary prevention encompassed 22 projects (35 per cent) that provided support to those older people 'at risk' of hospital admission: medicines management, falls prevention services, follow-up falls services and holistic assessments. The final tier, tertiary prevention, included four projects (7 per cent) that were targeted to support older people at serious risk of imminent hospital admission: rapid response teams, hospital at home and case management.

Findings

The data were analysed to identify any changes in rates of service use and levels of cost within these three categories of prevention. No changes were found in those projects focused toward well-being or primary prevention. Within those interventions focused at

older people at risk of admission, secondary prevention, a 50 per cent reduction was seen in the number of hospital overnight stays and visits to accident and emergency following the POPP intervention. A reduction of almost half (46 per cent) was found in hospital based physiotherapy attendances, with GP appointments showing a small reduction (15 per cent). Assigning costs to these changes, a mean per person cost reduction of £277 was found, measured over a three month period (see Table 2).

Table 2 Mean self-reported service usage and costs before and after those POPP projects focused toward secondary prevention

Service	Time 1 (pre-intervention) mean usage	Time 1 (pre-intervention) mean cost £	Time 2 (post-intervention) mean usage	Time 2 (post-intervention) mean cost £	Mean cost change £
Hospital bed-day*	2.74	422.55	1.22	226.87	-195.69
Accident & Emergency*	0.38	138.28	0.19	71.77	-66.52
Physiotherapy*	0.89	26.78	0.57	17.83	-8.94
GP appointments*	1.76	42.90	1.50	36.57	-6.33
				Total	-277.48

* $p < 0.01$ (Marginal Homogeneity Test)

Services in the third category of tertiary prevention seemingly achieved their objective of preventing hospital admissions. Adjusting for base-line characteristics, a six-fold reduction in the original bed-day usage was demonstrated (see Table 3). No statistically significant increase or reductions in use were found across any other services in the case of this third category of prevention.

Table 3 Mean self-reported service usage and costs before and after those POPP projects focused toward tertiary prevention

Service	Time 1 (pre-intervention) mean usage	Time 1 (pre-intervention) mean cost £	Time 2 (post-intervention) mean usage	Time 2 (post-intervention) mean cost £	Mean cost change £
Hospital bed-day*	6.77	1,329.28	0.90	186.65	-1,142.58

* $p < 0.04$ (Marginal Homogeneity Test)

Discussion

From these findings it would seem that the POPP projects did indeed reduce the use of intensive and more expensive services. Nevertheless, three discussion areas are raised by these findings.

The first concerns reliability: how valid are such findings given that the extent of service use was self-reported? From analysis of missing data within the questionnaire, it was found that respondents were generally able to identify the service(s) that they had used. Far fewer were able to identify the number of times that they had used any specific resource. For example, within the full sample ($n=1,529$) a total of 1,267 respondents reported visiting their GP, a mean frequency of 1.6. The average number of GP consultations for older individuals, (aged 65 and over), is seven per annum (Peckham & Exworthy, 2003). Even adjusting for the reporting period, there would seem to be an underestimation, particularly given that the POPP sample reported far poorer health states when compared to the UK older people population. Such under-reporting was mitigated to a certain extent by simply costing a

single resource use rather than omitting all such costs, given that we knew the respondent had used the service at least once. Nevertheless, it is likely that the reported service use and thus change, is a conservative estimate of actual usage.

The second area encompasses net cost savings: were the cost reductions found through changes in service use, negated by the cost of providing the POPP service? Exploring the per person cost of the POPP projects, it would seem that savings accrue from secondary and tertiary level projects, although there are, as yet, no demonstrable significant savings within those lower-level, well-being focused projects (see Table 4).

Table 4 Per person cost of the POPP projects and mean cost change in service use by project categorisation

Categorisation level	Median per person cost of POPP projects (3 months)	Mean cost change in service use (3 months)	Cost difference
	£	£	£
Primary prevention (Well-being)	0	0	+50
Secondary prevention (At risk of hospital admission)	56	277	-221
Tertiary prevention (At imminent risk of hospital admission)	177	1,148	-971

That there is an increased cost to providing well-being services should not be used as an argument for decommissioning or negating such service provision. It was found that those lower-level services, (gardening, shopping, limited assistive technology and small housing repairs), increased health related quality of life -as measured through EQ-5D - by 13 per cent. Such a positive outcome is likely to affect take-up of services in the long-term, providing future efficiency savings.

The POPP programme, set up to test different preventative approaches, demonstrated that prevention and early intervention can ‘work’ for older people. As has been detailed, preventative projects can help to reduce demand on secondary care services. However, their cost-effectiveness gains cannot be fully realised unless cashable savings can be released and re-invested. No POPP pilot site reported being able to release monies from secondary care trusts. Primary care trusts (PCT) did recognise that the availability of such projects affected the take-up of health services and they contributed to the sustainability of POPP projects within all pilot sites, entirely sustaining a fifth (20 per cent) of all POPP projects. Nevertheless, some degree of national financial systems reform is likely to be necessary to support the decommissioning of services in one part of the health system alongside the re-investment of resources elsewhere.

Acknowledgements

We are very grateful to Jennifer Beecham for her assistance with this article.

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