The impact of preventative services on quality of life – ‘The Partnership for Older People’s Projects’.

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Introduction
The last decade has seen a reinvigorated policy focus on ‘prevention and early intervention’ within health and social care (e.g., see DH, 2006, 2005, 1998, HMG 2007). Interventions or services that promote ‘prevention’ and deliver independence, well-being and autonomy for older people across primary, secondary and tertiary prevention, are now perceived as essential in delivering the wider agenda of healthy communities, ‘localism’ and, (perhaps more importantly), efficiencies across the health and social care economy. The development of preventative interventions or resources carried out by the Labour Government (e.g., Health Action Zones, LinkAge Plus, and Partnerships for Older People Projects) is seemingly to be continued within the policy direction of the new Coalition Government (DH 2010, 2010a). Local authorities will have a ‘place-shaping’ role in promoting holistic health through broad health or well-being partnership boards and primary prevention (up-stream or low-level services) is to be delivered through a range of community interventions.

Nevertheless, as the extent and depth of the real reduction in social care spend begins to bite, the focus of local authority and GP cluster commissioning may be concentrated on preventing admission of older people to higher intensity services. To support the on-going commissioning and implementation of preventative and early-intervention services and ensure that these cover the range of available interventions, (improving well-being to meeting emerging and critical need), there is a need to develop the evidence base. Commissioners and providers need to be able to identify those services that provide the best outcomes (as measured through changes in service use and cost-effectiveness) and which individuals (or populations) report improved outcomes.

The partnerships for older people projects
As part of the Labour Government’s drive to develop appropriate preventative services and to add to the evidence base around what works for whom, the “Partnership for Older People’s Project” (POPP) programme was initiated and funded through the Department of Health (DH). The overarching aim was to create a sustainable shift from institutional and hospital based crisis care for older people, toward earlier and better targeted interventions within community third sector, social and health care settings. The programme ran from May 2006 to March 2009, with a total of £60 million available to 29 pilot sites. These implemented a diverse spectrum of activity to meet varying levels of need; developing a programme of innovative projects. In total, 146 core local projects and 530 well-being or upstream projects were implemented, their type, focus and extent determined by local priorities: no one model of delivery was prescribed (or proscribed) and tested.

The POPP interventions were expected to deliver three objectives: to provide person-centred and integrated responses to the needs of older people; encourage investment in approaches that promoted health, well-being and independence for older people and: prevent or delay the need for high intensity or institutional care. Each pilot site put in place a local evaluation, whilst a national

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evaluation was commissioned by the DH and provides the evidence base for this paper. In evaluating the objectives, seven core research questions were developed covering processes and outcomes.

This presentation looks at exploring respondents reported changes in their health-related quality of life (HRQoL), as measured by EQ-5D, compared with ‘usual care’. We discuss the study design, the type and extent of data analysis and the quasi-comparison sample. We then explain how the disparate projects were categorised before drawing out findings to demonstrate the changes in HRQoL and the structure and processes of those projects that seemingly had the greatest impact. Finally, we consider the implications of our findings for policy and practice.

Study design
The National Evaluation adopted a multi-method approach consisting of three phases, grounded within a case study methodology (Yin, 1993, 1994). The first phase was ‘exploratory’ involving all 29 sites and used seven qualitative and quantitative methods: documentary analysis, analyses of the older persons and long term conditions public service agreements, local performance indicators, project cost data, quarterly activity data, a standardised user questionnaire and an on-line structured questionnaire administered to key informants. Phase two, an explanatory case study model, focused on five pilot sites; their selection based on demonstrable differences in demographics, service delivery models and programme focus. Methods included: semi-structured telephone interviews; focus groups and interviews with two samples of older users (users of POPP projects and a matched sample with similar needs, but yet to receive a POPP service). Within the final phase, ‘exit’ interviews were conducted across the 29 sites with programme and senior managers within the local authority and their health and voluntary partners.

Measurement of Health-Related Quality of Life (HRQoL)
The measurement of HRQoL was undertaken through the standardised user questionnaire administered to 1,529 respondents prior to the POPP intervention and between three and six months following the service. The questionnaire incorporated four sections. The second section asked users to rate their quality of life as a whole using a seven-point Likert-type scale (Bowling, 1995), the third captured participants’ use of health and social care services before and after the intervention (Beecham and Knapp, 1992), whilst the final section recorded demographic data. It was in the first section that users recorded their HRQoL through completing the EQ-5D (http://www.euroqol.org/). We report on the first part of the EQ-5D that assesses five key domains: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Within each, respondents are asked to indicate their level of difficulty they find in carrying out the particular task. For example, within the domain of self-care, users are asked to state: ‘I have no problems with self-care’, or; ‘I have some problems washing and dressing myself’, or; ‘I am unable to wash or dress myself’. Users’ responses are then scored and the changes between pre- and post-intervention assessed. The scores theoretically range from 0 (death) to 1 (perfect health) and are calculated using the usual tariff (Dolan et al., 1995).

Numbers and analysis
Due to the necessary evaluation process – some of the sites asked the National evaluation team to directly manage questionnaire administration whilst in others the local evaluation teams took on administration – there were differences in research practice. These included confidentiality arrangements, type of administration (face-to-face, telephone and self-completion) and extent of follow-up (i.e., no reminders being sent in some pilot sites). As such, some individuals only submitted their first questionnaire, the base-line data. Fewer older individuals and fewer frailer individuals (assessed by the EQ-5D score) completed questionnaires at both time points. As usual, any conclusions drawn from the analysis should be considered in the light of the potential effect of the drop-out group. Specifically any improvements found should not be solely due to the withdrawal from the study of those individuals who were older and frailer (regression to the mean). To ensure
this was not the case, the reported outcomes are based only on those individuals who participated in data collection before and after the POPP intervention. It is therefore impossible that any changes are due to the exclusion of the drop-out group as this group was excluded from the analysis at both time points. This leaves use with one question; what do the data look like when all participants are analysed pre-intervention?

The overall change in EQ-5D for those individuals who participated at both time points (aged 60 and over) was a small and non-significant decrease of 0.006 (see below). If all individuals who only completed the base-line questionnaire are included, the EQ-5D increases by 0.03. In a regression analysis predicting the EQ-5D scores at time 1 from the demographic information that was available for each person in the survey (eg., age, gender, smoking, marital status, ethnicity), the effect of removing the drop out group was for the EQ-5D to increase by 0.011. In other words, removing the drop-out group accounts for approximately 30% of the EQ-5D increase observed. In this report, we opt instead to detail the very reliable but conservative reduction in EQ-5D that was found for those individuals who participated at both time points.

Overall, the analyses presented are cautious and conservative. Instead of suffering from a drop-out effect, our data may be conservative by nature of the ‘stay-in’ effect. Participants who were unhappy with their situation, quality of life or health were motivated to participate in both data collections, causing this group to be potentially over-represented.

**Quasi-comparison sample**

Without a specifically constructed control group for all 62 projects, (preferably with randomised allocation between intervention and control group), the attribution of affect was necessarily limited. What we needed to be able to assess was the counter-factual: how the POPP sample fared in relation to the general population within the same age group. We therefore developed a quasi-comparison sample drawing on the longitudinal questionnaire, the British Household Panel Survey (BHPS). We first developed a common quality of life indicator and as the BHPS does not use the EQ-5D, the necessary scores were imputed from the available BHPS covariates and used weights estimated from a third survey: the Health Survey for England. The final component of this analysis was to compare the yearly change in EQ-5D from the POPP sample with the same change in imputed EQ-5D in the BHPS for the comparable population. A number of approaches were taken to standardise the EQ-5D scores within our sample, including using a double sigmoid function and regression. The method finally used was that of a hierarchical linear model (HLM) using ‘duration of treatment’ as the predictor. Thus, the observed change in the EQ-5D scores is ‘controlled’ or ‘weighted’ by the number of treatment weeks: the number of weeks between the base-line questionnaire administration and the second (post-intervention) administration.

It was found that for the general population, (of the same age group represented by the BHPS sub-sample); there would be a year-on-year average *reduction* of EQ-5D scores of 3.12%. Thus, if the EQ-5D scores of our POPP sample were maintained or improved, (rather than demonstrating deterioration), we could infer that the differences could be due to the POPP interventions. Care has to be taken in such an inference: without a properly conducted trial for each POPP intervention, any changes in quality of life cannot be directly attributed to the POPP programme. Nevertheless, it is possible to demonstrate how the experience of POPP users compared with the BHPS sample.
Categorisation of Projects

Owing to the very different range and focus of projects, presenting outcomes from the overarching sample would not provide an appropriate indication of the impact of the POPP programme. Projects were therefore grouped according to their specific focus (see Table 1 below).

Table 1: Project categories, number of projects and responses received

<table>
<thead>
<tr>
<th>Project focus</th>
<th>Number of projects included within the category</th>
<th>Number of responses (Time 1 and Time 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-Being – Practical</td>
<td>9</td>
<td>119</td>
</tr>
<tr>
<td>Well-Being - Emotional/Social Isolation</td>
<td>16</td>
<td>244</td>
</tr>
<tr>
<td>Well-Being – Physical Health</td>
<td>4</td>
<td>53</td>
</tr>
<tr>
<td>Well-Being – Community</td>
<td>6</td>
<td>216</td>
</tr>
<tr>
<td>Information, Sign-posting and Access</td>
<td>5</td>
<td>91</td>
</tr>
<tr>
<td>Specialist Falls</td>
<td>5</td>
<td>115</td>
</tr>
<tr>
<td>Proactive Case Co-ordination</td>
<td>8</td>
<td>444</td>
</tr>
<tr>
<td>Long-term Conditions – Complex Care</td>
<td>4</td>
<td>154</td>
</tr>
<tr>
<td>Long-Term Conditions – Hospital Discharge</td>
<td>2</td>
<td>37</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>59</strong></td>
<td><strong>1,473</strong></td>
</tr>
</tbody>
</table>

The first four categories encompass lower-level, ‘upstream’ initiatives focused on improving well-being, either through providing a direct service (e.g. handyman scheme) or through employing outreach workers to work with local communities to identify, implement and develop locally based support services. Well-being itself is a multi-factorial concept and is therefore further broken down into four sub-areas. Well-Being-Practical consists of 10 projects that include small housing repairs, gardening, limited assistive technology and shopping. Well-Being – Emotional/Social, incorporates lunch-clubs, ‘hobby’ or ‘educational based’ classes (e.g. photography or computer classes), specific BME-focused social centres and those services providing lower level ‘talking therapies’. Well-Being – Physical Health, involves time-limited (e.g. eight to ten weeks) exercise classes, focused either toward improving overall health or with a rehabilitation focus (e.g. stroke association classes). Well-Being – Community comprises a mixture of projects: direct interventions to specific localities as well as projects that set up neighbourhood schemes, strengthening and taking forward inclusive communities. The fifth category, Information and Signposting, includes four projects that range from a single access point for information on social care and health to peripatetic information workers carrying out face-to-face home-based contacts with users, exploring their needs and building action plans users could then put in place. Within the three categories Proactive Case Co-ordination, Complex Care and Hospital Discharge, the 14 projects are all focused on those users with higher level needs. Projects range from the identification of those at risk of admission/re-admission (PARR tool); clinical nursing staff supporting and treating users within their own home; on-going home based (residential and private) medication reviews; supported hospital discharge arrangements; and integrated social, health and voluntary care teams. Those projects within the POPP programme providing rehabilitative interventions within Specialist Falls prevention programmes were grouped together.
Findings

Base-line sample

In comparing the POPP sample against population norms, it was found that the POPP respondents reported substantially lower EQ-5D scores (Kind et al., 1999). Those for a ‘normal’ population ranged from 0.80 (80% of perfect health) for those aged 55-64, to 0.73 (73% of perfect health) at age 75 and over (see Table 2).

Table 2: Normal Population EQ-5D scores compared with the POPP sample

<table>
<thead>
<tr>
<th>Age range of participant</th>
<th>Overall population</th>
<th>POPP sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aged 55 – 64</td>
<td>0.80</td>
<td>0.54</td>
</tr>
<tr>
<td>Aged 65 – 74</td>
<td>0.78</td>
<td>0.58</td>
</tr>
<tr>
<td>Aged 75+</td>
<td>0.73</td>
<td>0.54</td>
</tr>
</tbody>
</table>

In contrast, the POPP sample reported between one fifth (20%) and over a quarter (26%) lower HRQoL. Those aged 55-64 who used POPP services, reported 54% of perfect health (0.54), the same as those aged 75 and over, whilst those aged 65-74 reported 58% of perfect health. It is not surprising that the younger age group reported lower levels of HRQoL: individuals in contact with health or social care services at an earlier age are likely to have long-term or chronic illness. As discussed above, the mean age of those using tertiary prevention focused services were younger than those using secondary preventative services.

The level of HRQoL reported by the POPP sample was low. Within the ‘normal population’, such levels would only be reached among those aged 75 or over and smoking more than 20 cigarettes per day: 54% of perfect health or 0.54 (Kind et al., 1999). This finding suggested that simply maintaining levels of HRQoL would be a successful outcome for projects, given that individual levels of health were low at base-line and very likely to decline. Indeed, improving HRQoL could be a better outcome than could reasonably be expected.

Changes in quality of life by Project Category.

It can be seen from Table 3 and Chart 1 (below) that positive changes in HRQoL were reported for the majority of interventions and all reported better outcomes than our quasi-comparison group.

Table 3: EQ-5D base-line and standardised post-intervention scores by intervention category

<table>
<thead>
<tr>
<th>Category</th>
<th>EQ-5D Score Pre-Intervention</th>
<th>Standardised EQ-5D Score Post-Intervention</th>
<th>% Variation</th>
<th>% between overarching variation and BHPS quasi-comparison sample (-3.12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well-Being – Practical</td>
<td>0.55</td>
<td>0.62</td>
<td>12.74</td>
<td>15.86</td>
</tr>
<tr>
<td>Well-Being - Emotional/ Social Isolation</td>
<td>0.64</td>
<td>0.63</td>
<td>-1.85</td>
<td>1.27</td>
</tr>
<tr>
<td>Well-Being - Physical Health</td>
<td>0.51</td>
<td>0.57</td>
<td>12.67</td>
<td>15.79</td>
</tr>
<tr>
<td>Well-Being – Community</td>
<td>0.68</td>
<td>0.73</td>
<td>6.99</td>
<td>10.11</td>
</tr>
<tr>
<td>Information, Signposting and Access</td>
<td>0.58</td>
<td>0.58</td>
<td>0.20</td>
<td>3.32</td>
</tr>
<tr>
<td>Specialist Falls</td>
<td>0.54</td>
<td>0.56</td>
<td>3.15</td>
<td>6.27</td>
</tr>
<tr>
<td>Proactive Case Coordination</td>
<td>0.46</td>
<td>0.48</td>
<td>4.35</td>
<td>7.47</td>
</tr>
</tbody>
</table>
The reported outcomes varied across the categories. Those receiving practical help appeared to report a notable improvement (12% increase), as simple aids and services can affect well-being. For example, providing a gardening or home adaptation service reduces anxiety and risk of falls. Similarly, fixing a grab-rail can make washing easier. An equivalent improvement (12% increase) was also reported following interventions providing exercise, presumably due to increased strength and flexibility and a positive effect on mood. Smaller improvements were found in those involved with projects offering community support, proactive case coordination and specialist falls programmes (3%–4%). A very slight deterioration was found in those people in projects offering hospital discharge and complex care (lower than 2% decline), but these individuals still fared better than the comparative sample. Moreover, when these latter categories were further analysed, it was found that some types of intervention ‘bucked the trend’; if an intervention was multi-disciplinary and co-located, better outcomes were recorded.

Conclusion.

The POPP programme, set up to test preventive approaches, demonstrated that prevention and early intervention can ‘work’ for older people. Local authority-led partnerships, working within context of the Local Strategic Partnership and Local Area Agreements, can help to reduce demand on secondary services, providing they are appropriately funded and performance managed. Moreover, it has shown that small services providing practical help and emotional support to older people can significantly affect their health and well-being, alongside more sizeable services expressly directed to avoiding their need for hospital. Most of the older people using POPP services had
relatively high levels of need, but they nonetheless experienced improved outcomes and reported greater satisfaction than the comparison group, as a result of using these services.

Indeed, it is possible that the evaluation results underestimate the benefits which can potentially be derived from such a programme. The POPP projects were, by definition, largely untested and some were necessarily more effective than others. If those seeking to introduce similar programmes were to focus on those projects found to be most effective and those older people found most likely to benefit from them, the returns from similar levels of investment are likely to be greater. Moreover, the POPP projects took time both to bed in and to become embedded within local health and social care systems. It is possible that even greater value could be secured over the longer term, as new projects learn from their experience, and general expertise and confidence grow.

These gains were secured by pump-priming prevention and early intervention projects. Their cost-effectiveness gains cannot be fully realised unless cashable savings can be released and re-invested in such projects. Initially, only marginal savings may be identified. The majority of sites reported that any direct transfer of monies from secondary to primary health and social care had not been a possibility. Some degree of financial systems reform is likely to be necessary to support the decommissioning of services in one part of the health and local government system alongside the reinvestment of resources elsewhere.

From the results of this evaluation, it can be argued that the approach piloted by the POPP programme should be sustained, using the programme’s learning to target investment to maximise individual and systems benefits. The realisation of the cost-effectiveness gains will depend, however, on the introduction of systems to support decommissioning and reinvestment.

References


7 The full report of the National Evaluation of the POPP programme, (Windle et al 2009), can be found at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_111240