Welfare rights services for people disabled with arthritis integrated in primary care and hospital settings: set-up costs and monetary benefits

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Objective. To quantify the set-up costs and monetary benefits of a welfare rights service integrated within an NHS service provider, that selects eligible patients using the Health Assessment Questionnaire (HAQ) and offers welfare rights advice to assist in application for Disability Living Allowance and Attendance Allowance.

Method. (1) Design: a cost evaluation of a social intervention, screening with the HAQ and welfare rights advice in primary care and hospital settings. (2) Setting: Eight general practices and four hospital rheumatology out-patient departments were selected from four localities in the southwest of England. (3) Participants: Two hundred and sixty-eight eligible patients with arthritis accepted an interview with a welfare rights officer (WRO) from a sample of 1989 service users identified from GPs’ records and hospital out-patient lists. Two hundred and forty two service users expressed an interest in take up of the social intervention. (4) Service users with a HAQ score ≥1.5 were contacted by telephone and offered an appointment with an experienced WRO to help them complete a welfare benefit application form. A ‘micro-costing’ study was undertaken with assessment of monetary benefits received.

Results. The indicative set-up costs of similar welfare rights services are £8125 in a GP setting and £9307 per annum in a hospital setting at 2002 prices. Total annual unclaimed Disability Living Allowance/Attendance Allowance granted to successful claimants was £184,382 in the GP setting (n = 84 from 137) and £169,309 in the hospital setting (n = 79 from 131).

Conclusions. Welfare rights advice received during a visit to a GP practice or a hospital out-patient department can substantially reduce the level of unclaimed benefit in arthritic populations including the elderly; with mobility and care difficulties. A welfare rights service integrated within a GP practice or hospital that screens people with arthritis using HAQ scores and encourages those with scores ≥1.5 to see a WRO for help with welfare benefit confers monetary benefits for service users that substantially outweigh set-up costs.

Keywords: Modernisation, Cost, Arthritis, Monetary benefits, Social intervention.
major barrier to take-up. For example, the design and length of claim forms reflects numerous changes to core benefits over the years and this can leave potential applicants disinclined to make an application. Those potential applicants that are inclined to seek welfare advice before applying for benefit could access a Citizens Advice Bureau (CAB), but these organizations do not have ready access to the medical records that should be consulted in order to complete the forms satisfactorily. Other disincentives to take-up exist at a macro-level. One study found that the likelihood of benefit being awarded depended in part on geographical variations in claim centre administrative locations [4], suggesting that the process of benefit claims is something of a lottery [18].

The main aim of the cost evaluation outlined in this paper is to provide an indication of the main costs that might be incurred in creating welfare rights services attached to hospital and primary care NHS organizations. These settings were chosen because previous studies had demonstrated that targeting advice to patients with high levels of physical disability, as identified by a simple screening questionnaire, in these settings is highly successful in obtaining awards [19, 20]. The ‘effectiveness’ of this type of service delivery intervention is gauged with reference to the direct money value of welfare benefits received in (UK pounds). A ‘do-nothing’ or stay the same scenario is not considered in this evaluation as the intervention executed in this setting is new. A full economic evaluation is not attempted because our perspective is service-centred rather than societal.

**Methods**

**The Health Assessment Questionnaire (HAQ)**

The HAQ disability index is a widely used and validated instrument to assess functional disability from arthritis [12] and its application has been advocated previously in primary care [22, 23]. The HAQ contains 20 questions about activities of daily living, focusing upon the previous week and asking whether these could be completed, ‘without any difficulty’, ‘with some difficulty’, ‘with much difficulty’ or ‘unable to do’. It is self-completed within 4 to 5 min. The HAQ gives a score of between 0 and 3 in steps of 0.125 (where 3 means complete dependency upon others in eight areas of daily living).

**Sample participants**

Following research ethics committee approval, general practice patient records and hospital out-patient lists were accessed at the 12 study centres. In general practices participants were identified from computerized practice records having either rheumatoid arthritis or osteoarthritis of the hip or knee and a current regular repeat prescription for painkillers or non-steroidal anti-inflammatory drugs (NSAIDs). Hospital participants were identified over a 2-month period by clinical staff during attendance at out-patients clinics. Patients were sent an invitation letter from their GP or consultant, a patient information sheet and a reply slip that included an enquiry about current patient receipt of DLA/AA. All participants were aged over 16 yr. Interested respondents who were not already in receipt of DLA/AA were sent a HAQ and a consent form. Participants scoring $\geq 1.5$ were contacted by phone and offered an appointment with a welfare rights officer (Fig. 1).

**Sample procedure**

**Completion of benefit claim forms.** Consenting study participants were contacted by telephone and offered an appointment with an experienced welfare rights officer. This call presented an opportunity for participants to ask any further questions and for researchers to briefly reiterate the purpose of the study and confirm that participants had given informed consent. The contact details of those selected as eligible and willing to participate in the study were passed to the welfare rights officers for that locality. At interview clients received advice and completed and submitted the benefit forms.

**Ascertain outcome of claim.** The outcomes of the application process for the study sample are reported elsewhere [24]. After allowing approximately 3 months for processing the applications, welfare rights officers contacted participants to ascertain the outcome of their claim.

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**Fig. 1. Study profile.**
Costing study design

Bottom-up and top-down costing approaches were adopted that prioritized the key items of a welfare advice service for this sample population [25]. Bottom-up (or micro-costing) detailed and quantified all time elements of service input. Inputs included staff input to advice sessions for interviews, administration, travel time and follow-up time. A bottom-up approach was taken in order to build up an accurate picture of staff inputs to inform future service development. Other component parts of ‘costing’ (for example, building, equipment, heating and lighting costs) were estimated using top-down unit cost estimates for each setting [26].

Recording the use of resources. Staff time input was recorded on a data record sheet. The welfare rights officers recorded time inputs contemporaneously in the following categories: administration, arranging interviews, interviewing potential benefit recipients, travel and follow-up work.

Micro-costing staff input. It was important to demonstrate the ‘real’ cost of specialist welfare advice workers, as they were integral to the overall approach towards disability allowance take-up. Time inputs in minutes from the diary record sheets were converted into hourly inputs and multiplied by the gross hourly rate for a welfare rights worker (some are volunteers), of £1 per ordinary hour and £1.3 per hour of client contact in hospital settings [26]. The equivalent cost per hour in the GP settings was £0.9 per hour and £1.1 per hour respectively [26]. The difference in ordinary (day-to-day) cost and client contact cost reflects the fact that the opportunity cost of client contact work requires specialist, trained input and is therefore higher than day-to-day work per hour [26]. Gross hourly rates include salary, salary on-costs, qualifications and overheads of an organization relating to welfare rights advice work. Overhead costs include heating, lighting and equipment costs, as well as the cost of other staff with time impeded, but not linked directly with individual casework.

Capital and overhead costs. The cost of a building can be estimated by its capital valuation. The latter depends upon a building’s location, size, area, cost of equipment, furniture and fittings and these costs for each welfare advice worker are likely to vary for a hospital and GP setting. Table 1 contains capital cost comparisons for each advice worker per annum in each treatment setting [26]. Primary Care Trust overheads are a probable over-estimate based upon known hospital overhead costs, as actual costs are not yet available for these new organizations.

Calculating monetary benefits received. The effectiveness of GP and hospital welfare rights services was measured with direct welfare award payments gained by each participant. Weekly totals in pounds sterling at 2001–2002 prices were calculated to produce a per annum figure for each participant and the entire sample in each treatment setting. It was assumed that disability benefit lasts for 1 yr, a restrictive assumption as most benefit payment periods are for life.

Discounting and sensitivity analysis. A primary aim was to signal the level of set-up costs that might be incurred by potential providers of the services described in this study. Discounting was not applied as the costs and benefits of set up apply to 1 yr and do not extend into the future. The level of uncertainty around direct cost estimates in this study was not large, so sensitivity analysis was not conducted at this stage to gauge initial set-up costs and monetary benefits within the cost evaluation framework. However, more elaborate economic evaluation study designs to evaluate comparative interventions, including screening with the HAQ and welfare benefit advice in NHS settings, would require sensitivity to be tested more thoroughly.

Results

Participants

The characteristics of eligible and eventual participants in this study are reported in detail elsewhere [24]. The response rate to the initial contact was 71.6%. Just over 70% of respondents were female and the overall mean age was 66.3 yr. With respect to gender and age there were no statistically significant differences between responders and non-responders. Fifty-three per cent of the initial sample was contacted through general practice and 59% of responders came from that source. The distribution of scores of the 552 completed HAQs is shown in Fig. 2. Fifty per cent scored 1.5 or more and were offered appointments with welfare rights officers.

Letters inviting participation and offering an interview were sent to 1989 service users in both settings that satisfied the entry criteria and were willing to make a claim for benefit. Two hundred and sixty-eight service users elected to receive the welfare rights advice enquiry and 26 of these service users decided not to proceed at this stage. One hundred and thirty-seven service users were contacted through general practice and 131 through hospital outpatient clinics. However, time inputs for 268 service users were included in this cost evaluation. Small time inputs were expended on 26 service users who failed to attend their welfare rights interview, but these costs are included in this cost evaluation as some opportunity cost was incurred in that these resources were not then available for other uses.

Cost

Table 2 summarizes the bottom-up costs estimated from staff records and capital costs of providing welfare advice taken from estimates of the Personal Social Services Unit at the University of Kent upgraded in line with inflation to reflect 2002 prices [26].

The data in Table 2 indicate that a primary care setting is less expensive than a hospital setting in terms of overall capital and overhead costs. Most hospital trusts are housed in bigger buildings than GP practices and have much higher overhead/running costs apportioned across their medical specialities. In economic terms capital cost reflects the interest that would accrue over time on the lump sum capital value of buildings. Thus the capital cost of a hospital is much larger than a GP practice and this makes a large difference to the overall annual cost per participant in the two settings. However, the overall staff input costs from staff diary records (for work giving welfare advice to arthritis patients only) are similar in both primary care and hospital settings.

<table>
<thead>
<tr>
<th>Table 1. Capital cost estimates per annum by NHS setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP practice (2000/1 price)</td>
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<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>Overheads:</td>
</tr>
<tr>
<td>Direct</td>
</tr>
<tr>
<td>Indirect</td>
</tr>
<tr>
<td>Capital overheads</td>
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<tr>
<td>Total capital cost</td>
</tr>
</tbody>
</table>
Monetary benefits received

Effectiveness per participant measured in pounds sterling in 2002 prices outweighed cost by some margin. This finding suggests that screening using the HAQ in primary care and hospital settings is conducive to successful outcome in application for DLA/AA in people with arthritis.

Discussion

Policy implications

Two key agenda items for modernization in the National Health Service are improved links between health and social care [29] and the need to recognize the role determinants of health play in creating inequalities in health [30]. The findings of this study suggest relatively inexpensive take-up services provided through the health-care system are of low cost and confer relatively large monetary benefits, as well as engaging fully with both public health agendas for modernization in the provision of services. General practices or hospital out-patient departments are ideal sites at which welfare rights officers can offer advice sessions as they facilitate benefit applications by patients with care and mobility needs. The use of a simple screening device such as the HAQ can maximize the effectiveness of welfare rights officers through the creation of an appointment system of convenience to both patients and staff.

A recent National Audit Office report [3] examined sole agency and partnership action taken by the Department for Work and Pensions to tackle barriers to take-up of entitlements by pensioners. A key finding of this examination was that: ‘many take-up activities are inexpensive and appear to have significant effects. However, limited evidence is available on their overall effectiveness and better data is needed to allow The Pension Service and other agencies to decide where to concentrate their efforts to encourage take-up.’

![Figure 2. HAQ score distribution (per cent) (n = 552).](image)

### Table 2. Cost and monetary effect of welfare rights advice for patients with arthritis by setting

<table>
<thead>
<tr>
<th>Bottom-up time inputs</th>
<th>GP setting (n = 137)</th>
<th>Hospital setting (n = 131)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arrange interviews</td>
<td>£254(^a)</td>
<td>£254(^c)</td>
</tr>
<tr>
<td>Interviews</td>
<td>£1914(^b)</td>
<td>£1888(^d)</td>
</tr>
<tr>
<td>Travel</td>
<td>£783(^e)</td>
<td>£547(^c)</td>
</tr>
<tr>
<td>Administration</td>
<td>£274(^e)</td>
<td>£186(^c)</td>
</tr>
<tr>
<td>Follow-up</td>
<td>£215(^b)</td>
<td>£187(^d)</td>
</tr>
<tr>
<td>Overall staff input cost</td>
<td>£3440</td>
<td>£3062</td>
</tr>
<tr>
<td>Overall capital and overhead cost per annum (2001 prices) up-rated for inflation</td>
<td>£4685(^e)</td>
<td>£6245(^e)</td>
</tr>
<tr>
<td>Total cost per annum (at 2002 prices)</td>
<td>£8125(^f)</td>
<td>£9307</td>
</tr>
<tr>
<td>Cost per participant</td>
<td>£59(^f)</td>
<td>£71(^f)</td>
</tr>
<tr>
<td>Average monetary benefit per annum per successful claimant (n = 84)</td>
<td>£2195(^g)</td>
<td>£2143(^f)</td>
</tr>
<tr>
<td>Total monetary benefit per annum per successful claimant (at 2002 prices)</td>
<td>£184,382</td>
<td>£169,309</td>
</tr>
</tbody>
</table>

\(^a\)Bottom-up time input. £9 per hour non-contact work (adjusted from Netten et al. [26, p.129]).

\(^b\)Bottom-up time input. £11 per hour contact (adjusted from Netten et al. [26, p.129]).

\(^c\)Bottom-up time input. £11 per hour non-contact work (from Netten et al. [26, p.138]).

\(^d\)Bottom-up time input. £13 per hour contact work (from Netten et al. [26, p.138]).

\(^e\)Top down cost up-rated to 2002 prices in line with inflation (adapted from Netten et al. [26, pp.129, 138]).

\(^f\)Number in GP sample (n = 137)

\(^g\)Number in hospital sample (n = 131)

\(^h\)Number successful in GP sample (n = 84).

\(^i\)Number successful in hospital sample (n = 79).

It appears from this study that provision of take-up services by health-care organizations is inexpensive compared with the monetary benefits that might be realized in disabled and low-income groups in the community [31]. Hoskins and Smith [32]
estimated that a welfare rights service for the elderly (n = 41) with care needs in primary care released £112,892 in monetary benefit from successful claims. The findings in this study provide evidence for the Pension Service and other agencies to decide location of take-up services for arthritis patients in primary care and hospital settings.

**Limitations and future research**

One shortcoming of this study is the lack of information on the benefit receipt rate without dedicated activity of welfare rights officers because this affects all effectiveness data in this paper. Research evidence from studies by Memel and Kirwan [14] and Memel et al. [15] support the assumption that this rate is low, but this study has not attempted to estimate this important aspect of benefit application. In addition, this study has not attempted to estimate the health effects of welfare rights advice as a social intervention in health-care settings. However, despite these shortcomings and omissions this study attempts to plug an evidence gap regarding the cost and monetary benefits of take-up services for arthritic elderly populations that could arise from the modernization of health-care delivery. In particular there is a dearth of evidence regarding the health effects of welfare benefits advice as a social intervention and consequently evidence of effectiveness and cost-effectiveness is completely lacking. In addition, as Thomson et al. [31] argue, recognized evidence for social interventions such as welfare rights advice from randomized or controlled studies is difficult to obtain due to ethical difficulties of withholding advice. Use of delay to approximate control has its ethical downside and is difficult to justify.

**Welfare rights advice in a modernized NHS**

This economic costing study is both timely and novel. It provides some evidence from an uncontrolled study of the use of the HAQ as a screening tool to identify likely welfare benefit recipients, and the costs and monetary benefits for successful benefit claimants following welfare rights advice in NHS organizations. The National Audit Office in its comprehensive review demonstrated that agencies undertaking active take-up work do not generally record information concerning the ‘full costs’ and monetary benefits of their activities in a way that makes it possible to compare cost and effectiveness. Given the link between an ageing population, arthritis incidence, increased mobility and care difficulties and low income much more data on effectiveness and cost-effectiveness of take-up services is required to facilitate partnership working in agencies such as the Pension Service and other agencies [33]. Future provision of this nature depends upon development of an evidence base in this area to assist implementation of these public health services. Rheumatology services that do not have a dedicated welfare rights advice service as yet may wish to institute a brief screen of people’s need for DLA/AA using the HAQ to increase referrals to welfare rights officers working in local benefit agencies, as part of the care they provide.

**Conclusion**

A relatively inexpensive welfare rights service that screens arthritic service users with the HAQ and encourages those with scores $\geq 1.5$ to see a welfare rights officer could be integrated within an established NHS provider of services for people disabled by arthritis to confer marked monetary benefits for successful claimants in both primary care and hospital settings. Welfare rights advice received during a visit to a GP practice and hospital out-patient department can substantially reduce the level of unclaimed benefit amongst elderly populations with high incidence of mobility and care problems and may increase the chance of improving health and quality of life.

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**References**