**Cost-effectiveness of screening and referral to an alcohol health worker in alcohol misusing patients attending an accident and emergency department: a decision-making approach**

Short title: Cost-effectiveness of referral for alcohol misuse

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We present the cost and cost-effectiveness of referral to an alcohol health worker (AHW) and information only control in alcohol misusing patients. The study was a pragmatic randomised controlled trial conducted from April 2001 to March 2003 in an accident and emergency department (AED) in general hospital in London, England. A total of 599 adults identified as drinking hazardously according to the Paddington Alcohol Test were randomised to referral to an alcohol health worker who delivers a brief intervention (n=287) or to an information only control (n=312). Total societal costs, including health and social care costs, criminal justice costs, accommodation costs and productivity losses, and clinical measures of alcohol consumption were measured. Levels of drinking were observably lower in those referred to an AHW at twelve months follow-up and statistically significantly lower at six months follow-up. Total costs were not significantly different at either follow-up. Referral to AHWs in an AED produces favourable clinical outcomes and does not generate a significant increase in cost. A decision-making approach revealed that there is at least a 70% probability that referral to an AHW is more cost-effective than the information only control in reducing alcohol consumption among AED attendees with a hazardous level of drinking.

## 1 Introduction

Alcohol misuse is implicated in up to 30% of adult Accident and Emergency Department (AED) attendances at a massive cost to both individuals and society (Cabinet Office, 2004). A recent report by the British Prime Minister's Strategy Unit estimated that the annual financial burden of alcohol misuse on society was between £18 and £20 billion, including £510 million in AEDs (Cabinet Office, 2003).

Descriptive cohort studies of people offered brief intervention for alcohol misuse suggest they may be beneficial (Wright et al., 1998). To date, the literature has mainly focussed on the clinical rather than the economic benefits of brief interventions. Studies dedicated to understanding the economic benefits of addiction interventions are rare (McCollister & French, 2003), but are of increasing importance since financial constraints and scarce health care resources dictate that we should consider the cost-effectiveness of health care interventions as well as their clinical effectiveness. There are a few published economic evaluations of brief interventions for alcohol misuse. Fleming et al (2000, 2002) compared monetary reductions in adverse drinking outcomes with the cost of treating alcohol misuse with brief intervention in a primary care setting. The per-patient benefit of the programme was estimated at $1,151 over 12 months and $7,985 over 48 months. One study has evaluated screening and brief intervention in the AED setting: Kunz et al (2004) randomised 294 individuals to brief intervention or control treatment in an AED in a poor, multi-ethnic inner city area. Evidence from this pilot study indicated that screening and brief intervention is relatively low in cost and potentially cost-effective.

Attempts to conduct a randomised trial of brief intervention in an AED have proved difficult (Peters et al., 1998), although evidence is accumulating that brief intervention for alcohol misuse in AEDs may have clinical benefit (Longabaugh et al., 2001; Monti et al., 1999;

Wright et al., 1998). In a recent study, opportunistic identification and referral to an alcohol health worker (AHW) in an AED was demonstrated to be feasible and associated with lower levels of alcohol consumption over the following year (Crawford et al., 2004). This paper examines data from this most recent study, reporting a cost-effectiveness analysis of referral to an AHW delivering a brief intervention versus an information only control, in people attending an AED with a hazardous level of drinking.

## 2 Methods

### *2.1 Economic evaluation*

A cost-effectiveness analysis was undertaken, involving the identification, measurement and valuation of both the costs and outcomes of an intervention and a comparator (Drummond et al., 1997). Costs included all services used, criminal justice resources, accommodation and lost productivity. Outcomes were measured in terms of units of alcohol consumed per week.

### *2.2 Hypothesis*

The primary economic hypothesis was that opportunistic identification and referral to an AHW is a more cost-effective approach to reducing alcohol consumption compared with opportunistic identification and an information only control.

### *2.3 Experimental design and sample*

We conducted a single-blind pragmatic randomised controlled trial among patients attending the AED at St. Mary's hospital, London between March 2001 and April 2002. St. Mary's is an inner-London hospital serving a population of around 450,000 residents that are younger, more ethnically diverse and more mobile than other parts of Britain (Office for National Statistics, 2003).

Adults attending the AED were selectively screened for alcohol misuse as part of clinical practice using the Paddington Alcohol Test (PAT) (Patton et al., 2004). Any man drinking more than eight units of alcohol in any one session at least once a week, any woman drinking more than six units of alcohol in any one session at least once a week and any person who believed their attendance in the AED could be related to alcohol are PAT positive and judged to be misusing alcohol (Smith et al., 1996). Study participants had to be alert and orientated, aged 18 or over, able to speak English sufficiently well to complete study questionnaires and be resident within Greater London. Individuals already in contact with alcohol services, those already included in the study and those who specifically requested help with alcohol problems were excluded. PAT positive patients were told they were drinking alcohol at a level that might be detrimental to their health and asked if they would be willing to receive brief intervention. Patients who accepted the offer were asked to give consent and were randomised by means of sequential sealed envelopes.

Patients randomised to the experimental treatment received the information leaflet "Think About Drink" (Health Education Authority, 1999) with contact details for local and national alcohol agencies and an appointment card asking the participant to re-attend for an appointment with an AHW. Patients randomised to the control treatment received the information leaflet and a blank card of the same dimensions and weight as the appointment card. Since the patient had been identified as drinking hazardously, receipt of the leaflet was considered the minimum intervention that could be offered.

### *2.4 Intervention*

AHWs have been employed in St Mary's AED since 1994. They deliver a brief intervention lasting between 30 and 50 minutes that establishes the patients' drinking history, establishes

their current level of alcohol consumption and determines what further help may be appropriate, including onward referral to alcohol treatment services.

### *2.5 Outcome measures*

Outcomes data have been reported previously (Crawford et al., 2004). Baseline data was limited to demographic and clinical data collected as part of routine pragmatic clinical practice because recruitment had to take place without impeding the work of clinicians in the AED. Follow-up assessments were carried out at six and 12 months following randomisation either in person or by telephone by a researcher blind to allocation status. The primary outcome measure was units of alcohol consumed per week, which was self-reported in interview using FORM90AQ (Miller, 1996) and the Steady Pattern Grid (Sobell & Sobell, 1979).

### *2.6 Costs*

For the purpose of the economic evaluation, a broad cost perspective was taken to assess the impact of the intervention on each individual's use of all possible services and each individual's contribution to the economy in terms of their ability to be in productive employment.

Data on contacts with AHWs by participants in the trial were collected by the AHW team. The cost per contact with an AHW was estimated employing methods developed and recommended by the Personal Social Services Research Unit at the University of Kent (Netten et al., 1998), and using information collected by the researchers on staff salaries and working patterns.

Information on domestic and service provided accommodation, hospital and community health and social services, medication, contacts with the police and the courts were collected at six and 12 months follow-up using a questionnaire designed for the study, but based on previous work carried out by the Health Promotion and Addiction group of the Centre for Health Economics, University of York (Parrott, 2001). Self-report service utilisation by patients misusing alcohol is considered a good measure of actual service use. Killeen et al (2004) assessed the accuracy of self-report utilisation of services compared to service record extraction and found that the level of agreement between the two was good for most services, although there was less agreement for AED visits. Information collected in the service use questionnaire on re-attendance to St Mary's AED was corroborated with data from electronic patient records held at the hospital.

In order to calculate total costs, unit costs were applied to each service. Costs were taken from local and national sources for the financial year 2001/02 and published costs were inflated to 2001/02 where necessary using the Hospital and Community Services index (Netten & Curtis, 2002). Hospital costs were taken from Trust Financial Returns (CIPFA, 2002) and NHS Reference Costs (Department of Health, 2003). Contacts with the police were costed using the Metropolitan Police Ready Reckoner (Metropolitan Police, 2000) and time spent in prison using cost data contained in the Prison Service Annual Report (HM Prison Service, 2002). It was not possible to calculate other costs and accommodation on a local basis; instead national unit costs were used (BCIS, 2002; British Medical Association & Royal Pharmaceutical Society of Great Britain, 2002; Finn et al., 2000; Harries, 1999; National Statistics, 2003; Netten & Curtis, 2002; Weiner, 2001). These costs were weighted where possible to take into consideration the higher costs associated with services in London. Discounting was unnecessary as neither costs nor benefits were recorded beyond 12 months.

To measure the impact of the intervention on patients working patterns, productivity and the economy we collected information on the number of days taken off work that the individual attributed to alcohol misuse. Productivity costs were calculated using the human capital approach, which involves multiplying the number of days taken off work due to alcohol consumption by the individual's gross daily salary. The human capital approach is criticised because of its inability to consider characteristics of the labour market that are acknowledged by the friction cost approach. Specifically, that workers can be replaced from the pool of unemployed labour, colleagues may cover for those off work and individuals may catch up on work missed on their return to work (Koopmanschap & van Ineveld, 1992). Thus, the human capital approach will tend to overestimate productivity losses. For this reason, the impact of productivity losses on the main results of the study was examined in a sensitivity analysis by varying productivity losses from the maximum level as calculated by the human capital approach to a minimum of zero.

### *2.7 Statistical methods*

Sample sizes were calculated on the basis of the power required to demonstrate differences in clinical outcomes (Crawford et al., 2004). There was no power calculation for costs. All analyses were carried out on an intention-to-treat basis using a statistical plan drawn up prior to the collection of follow-up data. Initially, traditional statistical tests for differences in costs were undertaken. Despite the skewed distribution of the cost data, parametric tests were used on untransformed costs, because this method enables inferences to be made about the arithmetic mean (Thompson & Barber, 2000). Non-parametric bootstrapping was used to assess the robustness of confidence intervals to non-normality of the cost distribution (Barber & Thompson, 2000). The primary analysis was of total cost over 12 months, but results are also reported for six months.

A number of study participants did not complete the service use questionnaire. Complete case analysis was used in the first instance and was based on subjects with full data available for both six and 12 months follow-up. However some commentators have suggested that this approach reduces the potential power of analysis and could bias results if the complete cases differ significantly from the original sample (Briggs et al., 2003). Consequently, in a sensitivity analysis we explored the impact of including data on participants for whom only six-month follow-up was available in order to increase the follow-up rate and sample size. Their 12-month follow-up data was estimated using the last value carried forward (LVCF) technique, which assumes that costs in the second six-month period were equal to costs in the first six months (Briggs et al., 2003).

### *2.8 Cost-effectiveness*

Issues of statistical significance were then put to one side in order to explore the relative cost-effectiveness of the intervention in a decision-making context. Cost-effectiveness is concerned with the joint difference in costs and effects between interventions and was assessed over the 12-month period through the calculation of incremental cost effectiveness ratios (ICER) (Van Hout et al., 1994, Briggs, 2001). The ICER is the ratio of differential average costs of the two interventions to the differential average effects. Once an ICER has been calculated, one treatment can be defined as more cost-effective than its comparator if: (a) it is less costly and more effective (dominance); (b) it is more costly and more effective, and the additional cost per extra unit of effectiveness is considered worth paying by decision-makers; or (c) it is less costly and less effective and the additional cost per extra unit of effectiveness for the alternative intervention is not considered worth paying. The primary cost-effectiveness analysis used the primary outcome measure to explore the relative impact of the interventions on the level of alcohol consumed per week.

Cost-effectiveness acceptability curves are a relatively new method of representing the uncertainty surrounding the summary measure of cost-effectiveness, the ICER. They also incorporate the uncertainty regarding the maximum amount that a decision-maker would consider acceptable to pay for a unit improvement in outcomes. The curves are calculated by repeat resampling of the costs and effectiveness data (bootstrapping) to generate a distribution of mean costs and effects for the two treatments (Efron & Tibshirani, 1993). These distributions are then used to calculate the probability that each of the treatments is the optimal choice, subject to a range of possible maximum values (ceiling ratio) that a decision-maker might be willing to pay for a unit improvement in outcome. A cost-effectiveness acceptability curve is presented showing the probability that the brief AHW intervention is more cost-effective than the information only control for a range of possible values of the ceiling ratio (Van Hout et al., 1994; Fenwick et al., 2001).

# 3 Results

## *3.1 Patients*

Five hundred and ninety nine patients were randomised to the experimental treatment (n=287) or the control treatment (n=312). Full service use data for both six and 12 months follow-up were available for 131 of the experimental treatment group and 159 of the control treatment group (48% of the total). Comparison of available baseline characteristics in table 1 reveals that there were no significant differences in clinical characteristics between patients for which there is full service use information and patients for which service use information is missing. Analysis of demographic details revealed that women were more likely to have full service use information than men.

### *3.2 Outcomes*

At six months follow-up, for participants with full service use information, the difference in the mean number of alcohol units consumed per week was statistically significantly lower in the experimental group (experimental treatment=59.7, control treatment=83.1; p=0.02). By twelve months follow-up the number of units consumed per week remained lower in the experimental group, but the difference was no longer significant (experimental treatment=56.20, control treatment=67.20; p=0.09).

### *3.3 Resource utilisation*

Table 2 details the resources used by study participants in the experimental and control groups over the 12 month follow-up period, alongside the unit costs applied to each service. Among those referred to an AHW, only 41 of 131 (33%) attended a session. Thirty three percent of the experimental group and 31% of the control group used other alcohol treatment services during follow-up, these included community treatment and support services and hospital-based detoxification as an inpatient, day patient or outpatient. Study participants in both treatment groups used a wide range of health, social and voluntary sector services. In each group 30% had had some contact with the police or the criminal justice system over the follow-up period.

### *3.4 Treatment cost*

The cost of a one-to-one 45-minute session with an AHW, plus 10 minutes for paperwork and onward referral was estimated to be £19.

### *3.5 Cost of visits to accident and emergency departments*

The average cost of visits made by study participants to AEDs over the twelve month follow-up was £132 in the experimental group and £152 in the control group. The difference in cost of £20 was not statistically significant (p=0.49).

### *3.6 Total cost of all resources*

The average total cost of all resources incurred by individuals in the trial over the twelve month follow-up was £21,015 in the experimental group and £19,659 in the control group. The difference in cost (£1,356) was not statistically significant (p=0.47). Table 3 details the average total costs by service providing sector. Unsurprisingly, domestic and service provided accommodation accounted for the greatest proportion of total costs (over 80% in both groups). The second biggest proportion of total costs was borne by the health sector (13% and 14% of total costs in the experimental and control groups, respectively). Productivity losses were small in both groups and not significantly different (experimental group £119, control group £94; p=0.56). Total costs at six months were similar in the two groups and not significantly different (experimental group £10,964, control group £10,489; p=0.67).

### *3.7 Cost-effectiveness*

The observed data suggests that the experimental treatment generated slightly higher costs alongside improved effectiveness, with an ICER of £123 per unit reduction in the amount of alcohol consumed per week (experimental treatment minus control treatment, incremental mean cost £1,356, incremental mean effect 11 units of alcohol). The cost-effectiveness acceptability curve (Figure 1) illustrates the uncertainty associated with the costs and effects of the interventions and demonstrates that the brief AHW intervention dominates the control treatment for the full range of potential values of the ceiling ratio. The curve shows that there is a greater than 70% probability that the brief AHW intervention is more effective than the

control treatment for all values a decision-maker may be willing to pay for a unit reduction in alcohol consumption.

### *3.8 Sensitivity analyses*

A number of assumptions were tested in sensitivity analysis and are detailed in table 4. Varying productivity losses to zero did not change the results. Costs specific to London were replaced with national UK unit costs to test the generalisability of the results, but the difference in cost remained insignificant. Using the LVCF technique to impute missing data increased the number of cases included in the cost analysis, but still the difference between the two groups remained similar. Exploring the costs borne by public services alone (excluding domestic accommodation costs and productivity losses) revealed total 12-month costs of £5,451 in the experimental group and £5,177 in the control group (p=0.83). These sensitivity analyses suggest that the primary cost result, that differences in total cost between the experimental and control groups are small and statistically insignificant, is robust to the underlying assumptions made.

## 4 Discussion

Despite the well-documented burden of alcohol misuse on AED workloads (Cabinet Office, 2004), there has been very little research into the cost-effectiveness of interventions whose aim is to reduce levels of drinking among those attending an AED.

The study participants in both treatment groups used a wide range of health, social and voluntary sector services, as well as having a substantial level of contact with the criminal justice system. Although total costs were slightly higher in the experimental group, the small cost difference was not statistically significant.

Statistically insignificant differences in costs and effects would traditionally result in the rejection of the hypothesis that referral to an AHW is more cost-effective than providing the information-only control. However, the development of more sophisticated tools to measure and represent cost-effectiveness has led to criticisms of decision-making based purely on statistical inference (Claxton, 1999). Such judgements could result in the selection of the intervention with the lowest probability of being cost-effective. Instead a decision-making approach is advocated where, in the absence of the collection of further costly data, decisions are made on the basis of the best available evidence of cost and effects. In this case, the available evidence on the cost and effects of referral to an alcohol health worker was used to plot the cost-effectiveness acceptability curve in Figure 1, which establishes the dominance of the experimental treatment over the control treatment for all values of a decision-maker's willingness to pay for a unit reduction in alcohol consumption. There is at least a 70% probability that referral to an AHW is the most cost-effective intervention, and thus less than a 30% probability that the control treatment is the most cost-effective option.

There were a number of limitations to the study. Trial recruitment took place in a busy AED, using clinical staff to recruit participants pragmatically, so that the collection of baseline data was limited. The lack of baseline data meant that we were unable to adjust for any baseline differences in cost that may have existed between the two groups. However, there were no statistically significant differences between group characteristics at baseline and randomisation was considered successful (Crawford et al., 2004). There was a lower level of economic follow-up data than clinical outcomes data, probably because the service-use questionnaire was last in a fairly long interview schedule. Lower levels of follow-up reduced the power of the economic analysis and may therefore have been inadequate to detect meaningful differences in cost at follow-up. In terms of study validity however, comparison of available baseline characteristics of patients with available economic data and those with

missing data demonstrated that the groups were fairly similar, except that women were more likely to have full economic data than men. Low levels of follow-up are not unique to this study and are often found in patients misusing alcohol. A pilot study of brief intervention among attenders at an inner city AED managed only a 66% follow-up at three months (Kunz, et al., 2004) compared to 48% over 12 months in this study.

Since excessive alcohol consumption impacts upon not only the individual but many facets of the economy (Cabinet Office, 2004), a strength of this study is the broad cost perspective taken, where costs to all service providing sectors were included as well as productivity losses. An important omission was the personal costs incurred by study participants when attending an AHW session, which may have included travel and childcare costs. However, these costs are likely to be small given the brevity of the intervention and thus unlikely to greatly impact upon the cost differences observed. A second strength of the study was the robustness of the results to sensitivity analysis. For example, the trial took place in the clinical area of a busy London AED and the results, particularly the cost estimates of the intervention, should be viewed in this light. To aid generalisability, unit costs were adjusted to national UK costs in sensitivity analysis but this did not alter the results. Thus, the cost and cost-effectiveness data presented should prove valuable to UK decision-makers outside, as well as within, London.

The recently published Alcohol Harm Reduction Strategy for England (Cabinet Office, 2004) asserts the need for information on programmes to establish whether earlier identification and treatment of those with alcohol problems can lead to long-term savings. In this pragmatic randomised controlled trial of referral to brief intervention for alcohol misuse in those attending an AED, there were no significant differences in costs or effects at 12-months follow-up. However, a decision-making approach to the analysis of relative costs and effects

of the intervention, revealed that there is at least a 70% probability that referral to an AHW is the more cost-effective strategy in reducing the consumption of alcohol among AED attendees with a hazardous level of drinking. In addition, the brevity of the treatment, its low cost and short-term efficacy adds to its case for selection.

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Figure 1**: Cost-effectiveness acceptability curve referral to AHW v usual treatment**

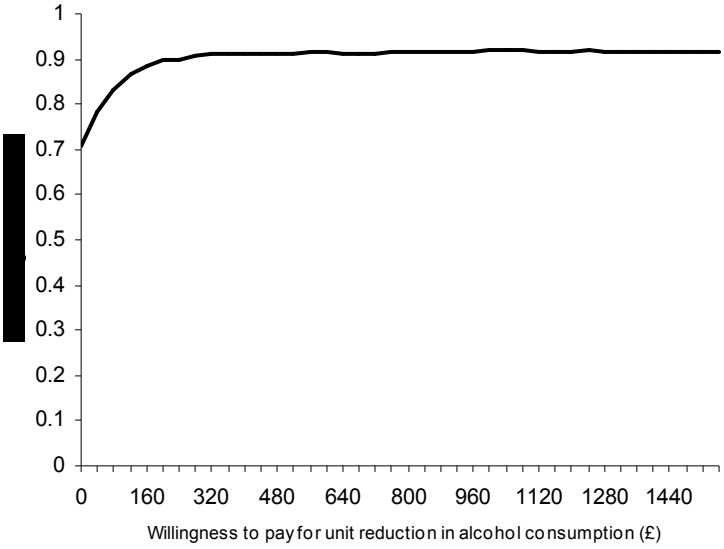

Table 1: **Comparison of baseline characteristics for patients with missing and available economic data over twelve months**

| Baseline variable | Available (n=290) | Missing (n=309) |
|---|---|---|
| Gender* | | |
| Male % | 74 | 84 |
| Age | | |
| Mean | 43.41 | 44.17 |
| Repeat attendee | | |
| Yes % | 25 | 30 |
| PAT units at baseline | | |
| Mean | 21.07 | 21.35 |
| PAT drinking frequency at baseline | | |
| Once a week or more % | 94 | 94 |
| PAT trigger attendance related to alcohol | | |
| Yes % | 74 | 63 |

* $p<0.05$

Table 2: **Use of resources during the 12-month follow-up period**

| Service (unit) | Use of resources, mean (SD) Experimental treatment (n=131) | Control treatment (n=159) | Unit cost or range |
|---|---|---|---|
| Alcohol Services | | | |
| Inpatient (day) | 3.74(19.36) | 3.79(23.76) | 179 |
| Outpatient (attendance) | 0.79(8.74) | 0.01(0.11) | 67 |
| Day patient (attendance) | 0.00(0.00) | 0.35(3.86) | 67 |
| Other alcohol support (contacts) | 8.46(28.87) | 5.81(23.52) | 5-30 |
| Hospital Services | | | |
| Accident and emergency (attendance) | 0.90(1.84) | 0.97(1.91) | 75 |
| Emergency ambulance (call outs) | 0.56(1.49) | 0.54(1.28) | 263 |
| Inpatient (day) | 2.96(7.25) | 3.79(14.15) | 186-1,206 |
| Outpatient (attendance) | 1.72(3.40) | 1.66(8.87) | 27-231 |
| Day patient (attendance) | 0.05(0.38) | 0.04(0.27) | 86 |
| Primary care | | | |
| GP (contact) | 6.47(10.40) | 4.65(6.56) | 14-44 |
| Practice nurse (contact) | 0.43(1.21) | 0.98(3.03) | 9 |
| District nurse (contact) | 0.79(6.16) | 0.96(7.31) | 19 |
| Community psychiatric nurse (contact) | 0.24(2.37) | 0.35(1.83) | 26 |
| Psychiatrist (contact) | 0.50(2.03) | 0.30(1.34) | 103 |
| Psychologist (contact) | 0.52(2.99) | 0.13(0.71) | 31 |
| Occupational therapist (contact) | 0.07(0.56) | 0.04(0.34) | 44 |
| Counsellor (contact) | 1.27(7.44) | 0.88(5.13) | 30 |
| Other social and non-statutory services | | | |
| Social worker (contact) | 0.89(3.87) | 0.65(2.80) | 30 |
| Social work assistant (contact) | 0.40(3.76) | 2.96(19.60) | 21 |
| Home help (contact) | 6.38(33.90) | 3.70(29.00) | 9 |
| Advice service (contact) | 1.74(4.99) | 1.52(4.98) | 22 |

| | | | |
|---|---|---|---|
| Solicitor (contact) | 0.91(2.93) | 0.42(1.78) | 44 |
| Fire service (call out) | 0.05(0.31) | 0.04(0.19) | 3,561 |
| Other community service (contact) | 1.37(6.38) | 0.60(3.81) | 2-40 |
| Criminal Justice | | | |
| Police (contact) | 0.79(2.83) | 7.34(79.71) | 23-46 |
| Probation officer (contact) | 0.78(4.97) | 0.41(3.37) | 30 |
| Prison (nights) | 0.34(2.88) | 0.70(7.32) | 52-69 |
| Court (days) | 0.25(1.15) | 0.17(0.73) | 605-9,457 |

Table 3: **Total cost of all resources used over 12 months follow-up (£)**

| | Experimental treatment (n=131) | | Control treatment (n=159) | | Mean Difference (95% CI) | | *P* |
|---|---|---|---|---|---|---|---|
| | Mean (SD) | % | Mean (SD) | % | | | |
| Health Services | 2,641 (5,603) | 13 | 2,774 (7,692) | 14 | -133 | (-1,719 to 1,453) | 0.87 |
| Hospital | 2,385 (5,478) | 11 | 2,576 (7,635) | 13 | -192 | (-1,758 to 1,375) | 0.81 |
| Primary care | 257 (482) | 1 | 198 (370) | 1 | 59 | (-40 to 157) | 0.24 |
| Social services | 71 (322) | 0 | 117 (662) | 1 | -46 | (-170 to 79) | 0.47 |
| Voluntary svs | 106 (265) | 1 | 54 (148) | 0 | 52 | (1 to 103) | 0.05 |
| Fire services | 190 (1,110) | 1 | 134 (681) | 1 | 56 | (-153 to 265) | 0.60 |
| Criminal justice | 310 (1,524) | 1 | 274 (1,324) | 1 | 36 | (-294 to 365) | 0.83 |
| Accommodation | 17,573 (13,174) | 84 | 16,211 (13,129) | 83 | 1,361 | (-1,693 to 4,415) | 0.38 |
| Service provided | 2,010 (7803) | 10 | 1,759 (7146) | 9 | 251 | (-1479 to 1981) | 0.775 |
| Domestic | 15,562 (12,094) | 74 | 14,452 (12,108) | 74 | 1,110 | (-1,701 to 3,921) | 0.438 |
| Productivity losses | 119 (401) | 1 | 94 (345) | 0 | 25 | (-61 to 111) | 0.56 |
| Total | 21,015 (15,458) | 100 | 19,659 (16,076) | 100 | 1,356 | (-2,314 to 5,025) | 0.47 |

Table 4**: Sensitivity analysis of total cost of all resources used over 12 months follow-up (£)**

| Sensitivity analysis | Experimental treatment | Control treatment | P-value | ICER |
|---|---|---|---|---|
| Productivity losses to zero (n=290) | 20,896 | 19,565 | 0.48 | 121 |
| National unit costs (n=290) | 20,695 | 19,013 | 0.35 | 153 |
| LVCF missing data (n=359) | 21,730 | 20,966 | 0.38 | 69 |
| Publicly funded service costs only (n=290) | 5,451 | 5,177 | 0.83 | 25 |