Costing multi-site, group-based CBT workshops

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Psychoeducational workshops in the context of IAPT

The purpose of the Increasing Access to Psychological Therapies programme (IAPT, http://www.iapt.nhs.uk/) is to improve access to treatments for depression and other psychological problems, such as cognitive behavioural therapy (CBT). Unfortunately, the roll-out of these services across the country is limited by a lack of trained therapists, so the ambitious goals of IAPT may not be achieved (Centre for Economic Performance's Mental Health Policy Group, 2012).

One possible solution to this problem is being tested in eight London boroughs by a research team based at the Institute of Psychiatry (IoP) and the results so far are encouraging. CBT is being delivered in a workshop format for up to 30 people at a time by a small team of therapists. The workshops have a non-diagnostic label, such as "improving self-confidence" rather than "depression" to attract people who would otherwise be reluctant to seek help. They take place at weekends to allow working people to attend and consist of an introductory talk, the day-long workshops and a booster session several weeks later. In a recent randomised controlled trial (Horrell et al, 2012), comparing workshop participants to a waiting list control group, the workshops produced better results in terms of reducing depression after 3 months than some other primary care interventions or self-help can achieve. The workshop participants experienced an improvement on the Beck Depression (BDI; Beck et al, 1961), over and above the improvement in the control group. Details about the workshops are shown in Box 1.

Box 1: Psychoeducational workshops for improving self-confidence

Psychoeducational workshops for improving self-confidence

- ***Recruitment:*** Self-referral or GP referral
- ***Capacity:*** 30 people
- ***Location:*** Community setting
- ***Duration:*** One full day (weekend)
- ***Methods:*** Didactic sessions, group exercises, role playing
- ***Content:*** CBT techniques – "Overcoming Low Self-Esteem" (Fennel, 1999)
  - *Information:* Development of low-self-confidence and depression
  - *Cognitive components:* Identifying and challenging negative thoughts
  - *Behavioural methods:* Problem solving, assertiveness
  - *Action planning:* Setting personalised goals

Challenges in estimating the cost of the workshop intervention

Alongside the clinical trial, researchers at PSSRU assessed the cost-effectiveness of the workshops, which required an accurate estimate of the cost of the intervention. There are several challenges associated with costing interventions as part of a clinical trial, and the complexity of the costing task necessarily grows with the complexity of the intervention.

The first challenge is disentangling activities carried out as part of the intervention itself and those that are a part of the research exercise; only the cost of the former should be considered. Figure 1 shows the flow of participants from the early stages of recruitment to the follow-up research assessments, alongside the elements of the intervention cost. A detailed description of the intervention and the resources involved at every stage were provided by the clinical research team, differentiated by location where possible. In calculating the intervention cost, we applied the principles of economic costing as used in this volume and included the costs of advertising, overheads, materials, staff time, travel costs and volunteer time. The follow-up assessment was considered research-only and is not included in the intervention cost.

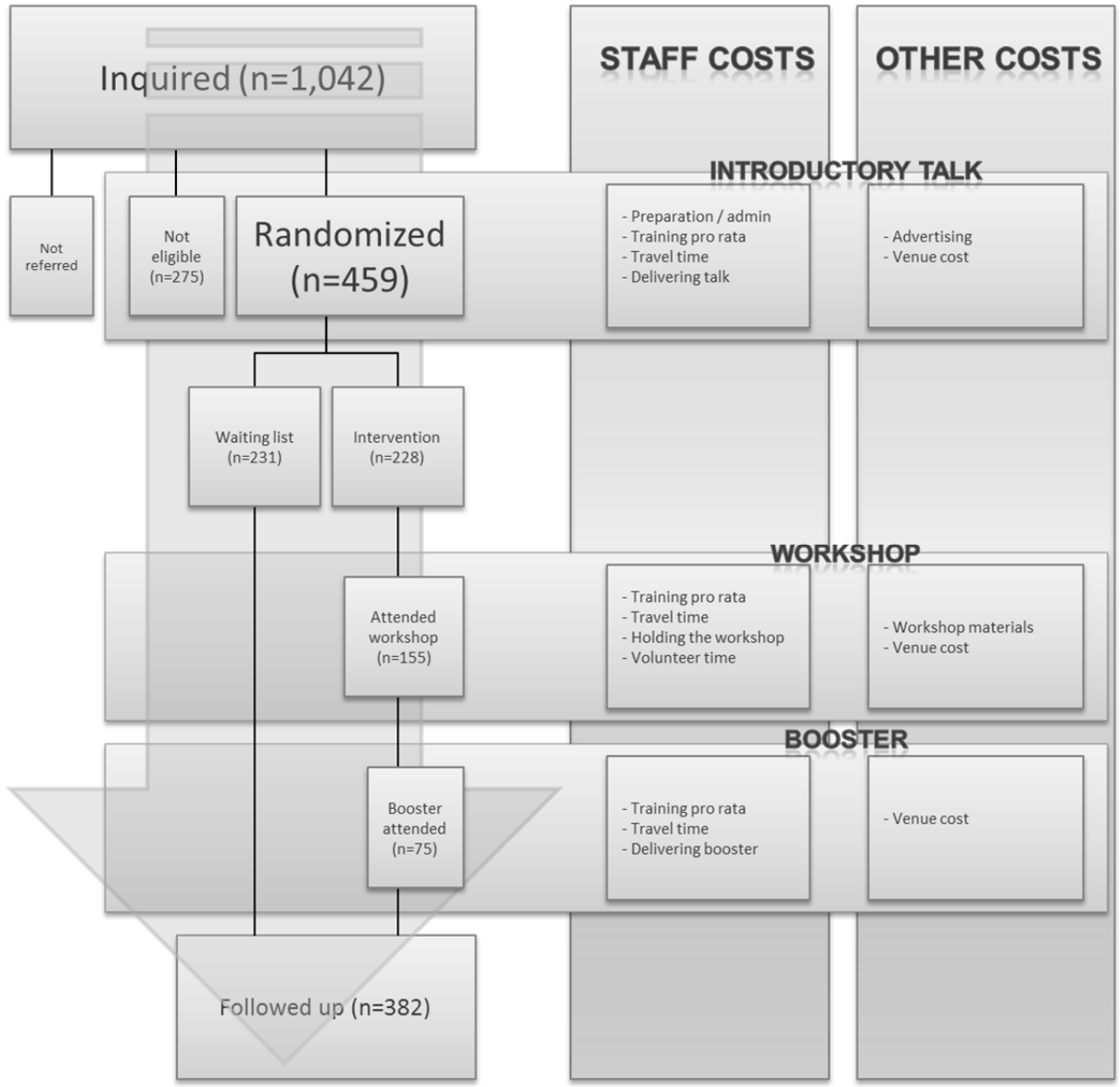


Figure 1: Consort diagram and elements of the intervention cost

Two features of the self-confidence workshops add further complexity to the costing task.

The intervention was delivered in eight different locations, and some costs, such as the fee paid to hire the community venue, varied widely. While the average venue cost per workshop session was £196, it ranged from £120 to £277. Retaining as much between-location variability is desirable because it enables analysis of location-specific cost-effectiveness, i.e. answers the question whether an intervention works better in one place compared to another (Sculpher et al, 2004).

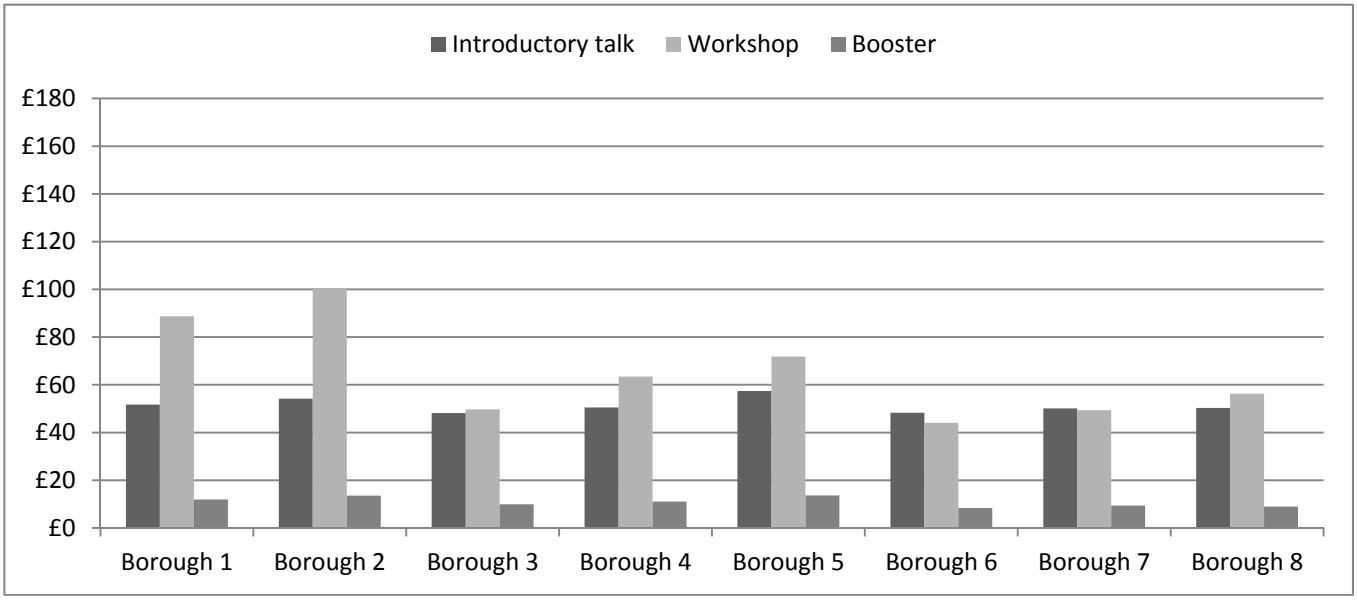
As Barrett and Byford (2008) have discussed in a previous edition of this volume, costs can be allocated based on the number of people *assigned* to a group session or based on the number of people *attending* that group session. In the first case, everyone allocated to the intervention group would be assigned the same intervention cost, regardless of whether they actually attended (Scenario 1). In the second case, those who did not attend would be assigned an intervention cost of zero and those who did attend would be assigned a cost that is larger than in Scenario 1 if attendance levels are below 100% (Scenario 2).

The cost of CBT workshops

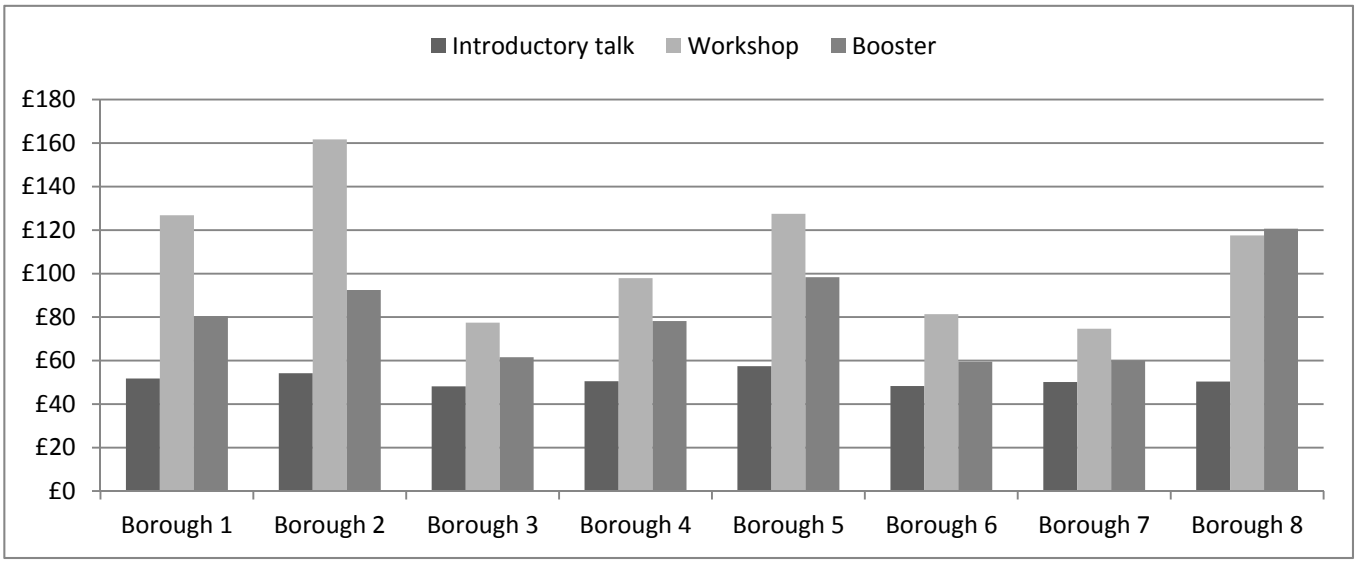
Figure 2 illustrates how this decision affects the resulting unit cost. For our sample, Scenario 1 results in an average intervention cost of £125 per person (s.d. £20) and the intervention cost is the same for each person in any one location, i.e. there are eight different costs for the intervention. In Scenario 2, the intervention cost is calculated based on the number participants actually attending the sessions. The average cost for the sample is higher at £161 and varies more (s.d. £76). This is because now the total cost of running the workshops is distributed among fewer people – only those who attended the workshops (about 68% of those randomised to the intervention group plus those who attended but were not eligible to participate in the trial) – and because costs now vary between people in the same location based on their attendance as well as between locations.

Figure 2: Intervention cost by location, 2 scenarios

Scenario 1: Intervention unit cost based on the number of people allocated to each session



Scenario 2: Intervention unit cost based on the number of people attending each session

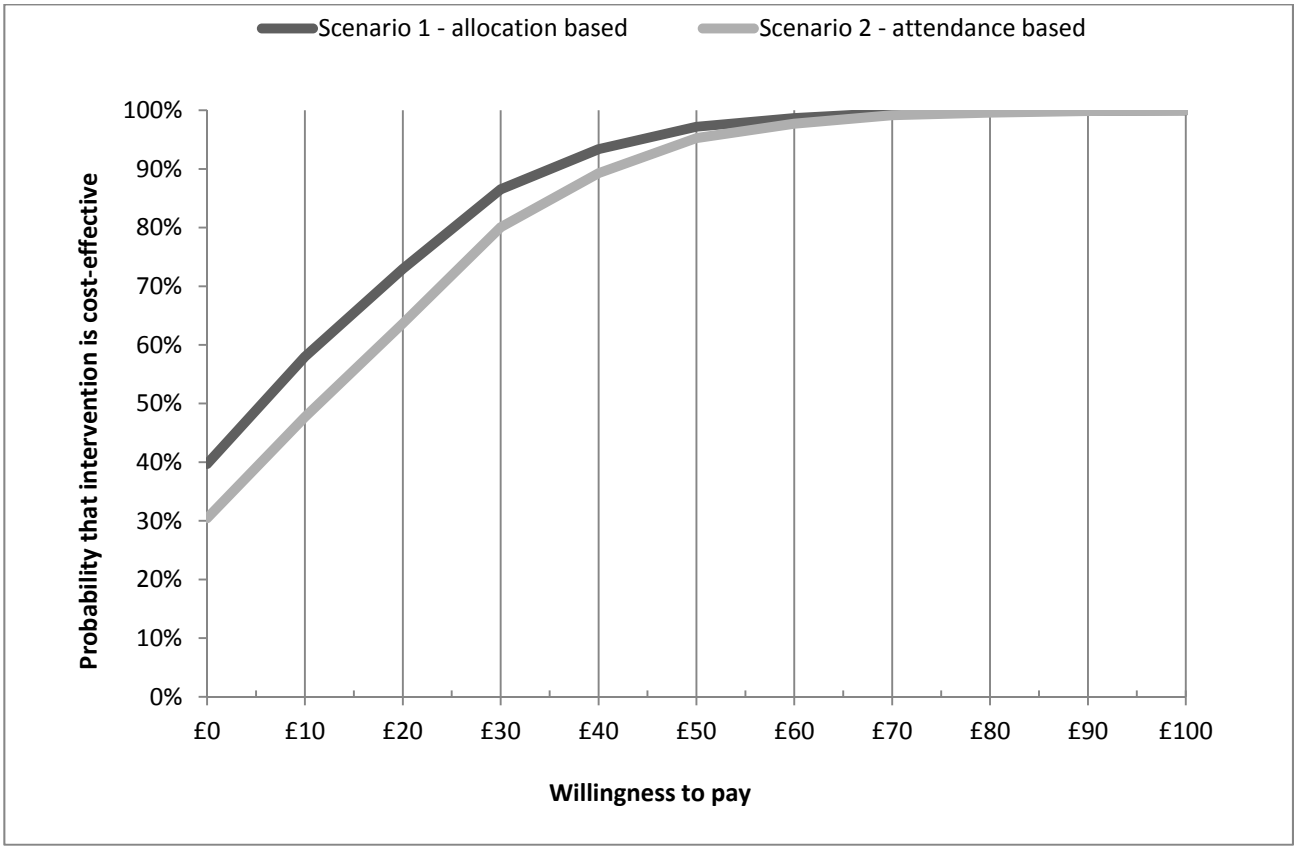


Choice of costing approach affects cost-effectiveness results

But are these distinctions really that important? Apart from affecting the unit cost and its variance, the choice between the two costing approaches also affects the results of the cost-effectiveness analysis. This is illustrated in Figure 3. It shows two cost-effectiveness acceptability curves (CEACs; van Hout et al, 1994) taken from the full economic evaluation of the self-confidence workshops which included the cost of public and voluntary sector services in addition to the intervention cost.

They show the probability that the intervention is considered cost-effective for various levels of willingness to pay (WTP), or, put more simply, set against a value placed on improved outcomes in terms of money. An accessible introduction to CEACs is provided by Fenwick and Byford (2005), but the important point here is that in Scenario 1 (allocation based unit cost), the probability that the intervention is considered cost-effective is higher compared to Scenario 2 (attendance based unit cost) at lower values for WTP. In other words, Scenario 1 generates stronger evidence of cost-effectiveness than Scenario 2.

Figure 3: Cost-effectiveness acceptability curves, 2 scenarios



Concluding thoughts

The costing of complex interventions poses many challenges, and these are (literally) multiplied when it comes to costing multi-site interventions. Best practice prescribes that between-location variability in unit costs should be retained wherever possible, but no such recommendations currently exists for the approach taken in costing group interventions.

While arguments can be presented in support of either an allocation-based or an attendance-based approach, our analysis illustrates that the choice between the two is not trivial. In addition to affecting the "headline number", the average intervention cost, there are implications for cost-effectiveness as well. The allocation-based approach may indicate a stronger case for cost-effectiveness than the attendance-based approach, particularly with high rates of attrition. In this case, the attendance-based approach will provide a more conservative estimate of cost-effectiveness and may more accurately reflect the level of resources received by each participant. And in a group scenario, where the therapeutic effect often depends on the interaction between participants, low levels of attendance may lead to both higher costs per attendee and less improvement in outcomes.

The benefit created by other participants is not usually reflected in the intervention cost because participant time is valued at zero. There are examples in the literature where the time cost of patients has been included in the economic analysis (for example: Reed et al, 2010), and an important step in the development of consistent costing methods for group-based intervention would be to investigate how this affects cost-effectiveness results, and how synergistic effects arising from higher attendance rates can be captured.

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