

# The Screen and Treat programme: a response to the London bombings

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## Introduction

The London bombing was the largest mass casualty event in the UK since World War Two with 56 deaths and 775 casualties among the approximately 4000 individuals involved. The sequel of events, from 7th July to 23rd July 2005, included detonated bombs on three underground trains (Edgware Road, Kings Cross, and Aldgate) and on a bus in Tavistock Square, as well as unsuccessful bomb attempts and the shooting of an innocent passenger in the days following the bombings.

The NHS mental health response programme was set up within a month of the London bombings incident. Within the first two weeks the Psychosocial Steering Group was convened by Camden & Islington Foundation NHS Trust and the London Development Centre for Mental Health (part of the national Care Services Improvement Partnership), with representation from specialist psychological trauma centres, health commissioners, primary care physicians, the emergency services, first response agencies, the Health Protection Agency, and survivor groups.

Using the available evidence, the Steering Group established that around 30 per cent of the 4000 individuals affected by the incident would need psychological treatment. Existing services could not meet that need so the Department of Health (DH) funded an evidence-based programme which consisted of a central screening and assessment team and additional psychological treatment resources based in existing trauma centres. The Steering Group retained responsibility for the overall management of the Screen and Treat programme over the two-year funding period.

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## The Screen and Treat programme

### *Screening and assessment*

The aim of the Screen and Treat programme was to contact and follow-up as many survivors and affected individuals as possible, to provide them with information about post-traumatic responses and immediate sources of help, to screen them at regular intervals using validated instruments to identify those who still had symptoms of PTSD, and to deliver appropriate therapy to that subset of people. The screening team was set up within the one of the treatment clinics and consisted of a psychiatrist, two psychological assistants and an administrator. It ran for two years, from September 2005 until September 2007.

The screening team collated information about individuals involved in the bombings, identified those with bombing-related mental disorders, provided advice to professionals and the public on demand, and coordinated the outreach and screening services. Subjects were contacted by telephone or letter and sent a brief socio-demographic and screening questionnaire which included 10 items from the Trauma Screening Questionnaire (Brewin et al., 2002), and additional questions on depression (2 questions), travel phobia (1) and levels of distress within the last two weeks (2). Figure 1 shows that a total of 910 people were recruited to the Screen and Treat programme, of whom 596 (65 per cent) were screened.

Those who 'screened positive' on the TSQ or who responded positively to any two of the additional items received a more detailed clinical assessment with Screening Team members; there were 334 such people, or 56 per cent of those screened. This assessment would establish whether individuals met criteria for a DSM-IV or ICD-10 disorder that was related to being exposed to the bombings and that the disorder was not resolving of its own accord.<sup>5</sup> These cases were either referred to treatment at one of the three clinics, re-assessed 3, 6, and 9 months later, or referred to appropriate treatment if they were suffering from pre-existing mental health problems. Individuals who did not seem to be in a need of treatment were followed-up at 3-monthly intervals and, if they showed no symptoms after a year, were discharged from the Screen and Treat programme.

### *Treatment*

The treatment offered within the programme was delivered at three specialist, multidisciplinary psychological trauma centres in London by qualified clinical psychologists. It consisted of cognitive behavioural therapy (CBT) or eye movement desensitization and reprocessing (EMDR) as advised by NICE guidelines.

Most individuals received trauma-focused CBT (80 per cent of patients treated), while the rest received EMDR (10 per cent) or a combination of two therapies (10 per cent). The level of treatment provided was recorded by clinicians on a monthly basis in two separate data collection systems; as the total number of hours of direct and indirect time spent for the DH, and in a clinics' own systems that monitored each client's progress and included data on the start and end date of treatment, the type of treatment, the total number of sessions attended and missed, as well as depression and PTSD assessments at the start and

<sup>5</sup> The assessment included the Structured Clinical Interview for DSM-IV (SCID: First et al., 1997), the CAGE alcohol abuse screening instrument (Mayfield et al., 1974), the SF-12 Health Survey (Ware et al., 1996) and, where appropriate, the Short McGill Pain Questionnaire (Melzack, 1987) and the Inventory of Complicated Grief – Revised (Prigerson & Jacobs, 2001).

end of treatment. At the end of the Screen and Treat funding, patients still receiving treatment were referred to usual NHS psychological services.

## Costs

Table 1 shows the costs for the 2-year Screen and Treat programme, identifying the start-up costs, administrative costs incurred for managing the project, the costs of the centralised screening team and the treatment costs. The total cost was just under £1.4 million, of which 7 per cent went on administration, 33 per cent on screening and assessment, and the remaining 60 per cent on direct (therapist time) and indirect (management, supervision, overheads) treatment costs.

If we assume that start-up costs and half of the management costs should be allocated to the screen/assessment part of the programme, these activities absorbed £523,125.5 at 2007-08 prices. Figure 1 shows that 596 people were screened, there were 363 detailed assessments, and that 304 (276 identified by the programme and 28 referred from other places) of them were considered to be in need of treatment. Unfortunately the data are not sufficiently detailed to allow us to estimate the costs of screening and assessment separately. Screening, for example, included collecting participant's details through negotiation with organisations involved in the London bombings response such as the Metropolitan Police or NHS, setting-up the contacts database, contacting individuals, sending out screening questionnaires at several time points (up to 5 screeners per person) and referral management. Assessment activities included contacting participants, a clinical interview which could last up to 1.5 hours and liaising with treatment centres. We can however, estimate two unit costs from these data:

- The cost of finding, screening (up to five times) and assessing a person for PTSD following a traumatic event in 2007/08 prices is £877.70 ( $£523,125.5 / 596$ )
- The cost of identifying a person who requires treatment following a traumatic event in 2007/08 prices is £1895.40 ( $£523,125.5 / 276$ ).

It is important to point out that the cost of identifying a person who needed treatment included identifying, screening and managing their referral, which could be difficult if they lived elsewhere in UK.

Better data on time use are available for the treatment component of the Screen and Treat programme. Clinicians spent 68 per cent of their time in direct contact with individuals in treatment, while 32 per cent of their time was accounted for by indirect activities such as preparation, supervision, travelling to the sites and in vivo therapy that included gradual exposure to the feared stimuli. Thus, on average for each hour of therapist direct contact time, there was a further half-hour of indirect time. Both direct and indirect time were recorded in half-hour units, and the duration of the treatment sessions varied from one to 12 half-hour units, depending on the stage and type of treatment offered. Although the range of direct-time half-hour units is very wide, on average there were 2.94 direct half-hour units per session per client.

As Table 2 shows, a total of 9658.5 half-hours of direct time and 4627 half-hours of indirect contact time were administered throughout the programme across all three clinics, which corresponds to 7143 hours of therapy. Clinic 1 treated more clients with a higher number of direct and indirect hours than the other two clinics, and there was some variation between the clinics in the balance of direct and indirect time. Table 2 also shows that in total, 3277 therapy sessions were provided through the Screen and Treat programme, an average 13

sessions per client, although this varied slightly between the clinics, as did the number of clients. Clients made decisions on the treatment location based on their personal preferences, perhaps location or transportation convenience. Treatment cost involved the costs of getting to and from treatment and parking facilities for individuals living out of London.

These data on time use, client numbers and costs can again be combined to allow estimation of unit costs. Using the assumption that half the management costs accrue to the treatment arm of the programme, the total costs of treatment are £857,283.60 at 2007-08 prices, the following unit costs can be calculated.

- Costs per half-hour of direct or indirect time £60.01
- Cost per hour £120.02 (£857,283.60 / 7142.75)
- Cost per hour of treatment £180.03 (an hour of direct time, plus 30 minutes indirect activities)
- Average cost per session £261.60 (£857,283.6 / 3277)
- Average treatment cost per person £3,453.20 (av. cost per session \* 13.2)

## Conclusion

When analysing the costs of the Screen and Treat programme one must bear in mind the context and novelty of the approach, as well as the difficulties involved in setting-up and running the programme. This was the first time a mass mental health response had been set-up; there was no previous experience on which to build, yet the situation demanded an urgent response. Nor was this programme set-up as a research activity, its main focus was to deliver a mental health intervention.

Thus caution is advised in interpreting the costs outside of the context of this programme. In the first place the services, and therefore the associated costs, are not representative or comparable to routine clinical services. Second, a real challenge for the programme was the numerous difficulties associated with the identifying those people affected by the bombings. This took about five months; cases were widely dispersed, there was no central register of affected persons, and the task was hampered by the Data Protection Act. Were such a programme set-up again, these costs could be reduced by allocating this task to a particular organisation and/or pre-agreeing the data collection mechanisms.

Another lesson is that the programme efficiency decreased in the second year of running as the number of referrals to the programme dropped significantly. Although this was reflected in the treatment costs (which were paid retrospectively for work undertaken) the screening and assessment costs remained fixed throughout the programme. Therefore, were such a programme required again, the screening and assessment component could be made more responsive to this reduced service demand. However, it is important to highlight that although the number of referrals to the programme reduced over time, the rate of referral to the treatment increased, that is, as time went by more of those who were assessed required and entered treatment.

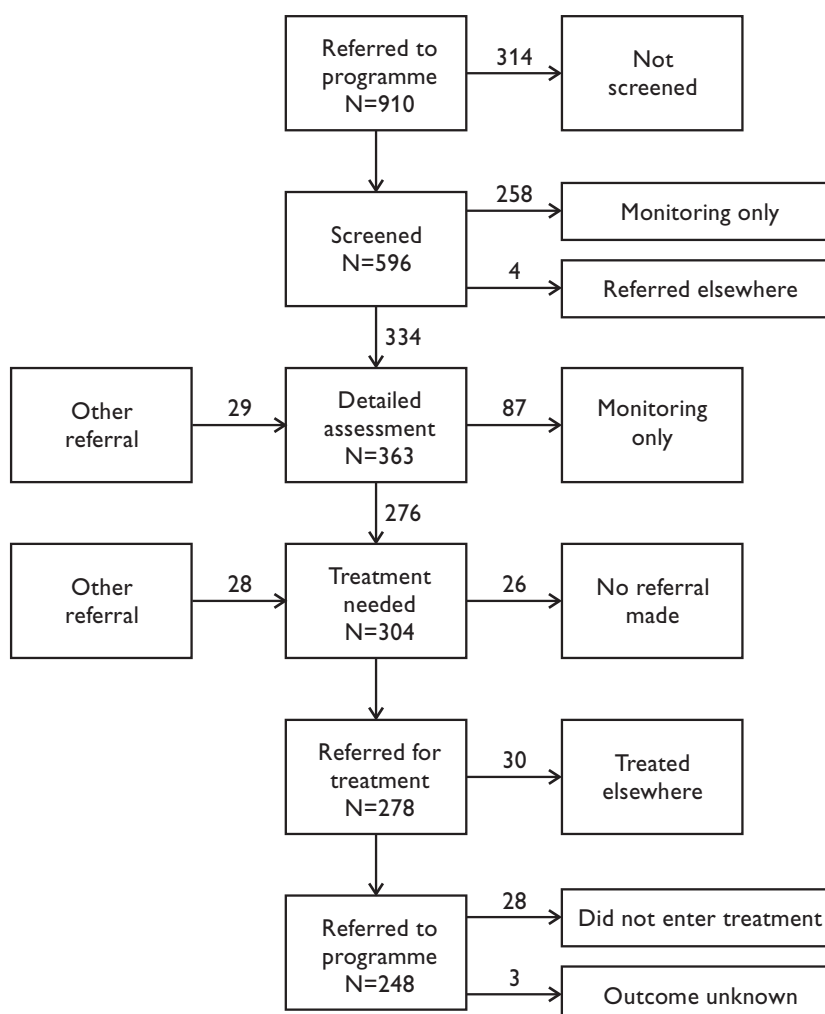
Finally, there is no doubt that the Screen and Treat programme represents a unique learning experience in applied clinical research approaches, and, perhaps more importantly represents a bench-mark in mental health response programmes following terrorist attacks, both UK and worldwide.

**Table 1 Total costs break-down for the Screen and Treat programme**

	2005/2006	2006/2007	2007/2008	Total
Start-up costs	32,400	0	0	<b>32,400</b>
Management	70,498	0	0	<b>70,498</b>
Screening and Assessment	116,577	227,177.38	101,377.74	<b>445,132.12</b>
<b>Treatment</b>				
Clinic 1	131,810	267,720.71	107,095.11	506,625.82
Clinic 2	38,436	64,485.07	15,434.46	118,355.53
Clinic 3	60,204	83,078.30	38,623.54	181,905.84
<b>Treatment total</b>	230,450	415,284.08	161,153.11	<b>806,887.19</b>
<b>Total</b>	449,925	974,667.24	262,530.86	<b>1,354,917.31</b>

**Table 2 Total number of therapy sessions, hours and direct and indirect half-hours**

	Direct 1/2 hours	Indirect 1/2 hours	Total 1/2 hours	Total hours per programme	Sessions used	No. of patients	No. of sessions
All clinics	9,658.5	4,627	14,285.5	7,142.75	3,277	248	13.2
Clinic 1	6,134	2,649	8,783	4,391.5	2091	160	13.1
Clinic 2	1516	978	2494	1,247	456	38	12.0
Clinic 3	2,008.5	1,000	3,008.5	1,504.3	730	50	14.6

**Figure 1 Screen and Treat programme users' flow chart**

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