

# **Evaluation of the NHS Trauma Response to the London Bombings**

**Final report to the Department of Health**

**Forensic Mental Health R & D Programme**

**Project no. MRD 12/98**

**Chris R. Brewin, Nika Fuchkan, and Zoe Huntley**  
**Clinical, Educational and Health Psychology,**  
**University College London**

**February 2009**

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>4</b>
<b>RECOMMENDATIONS.....</b>	<b>8</b>
<b>INTRODUCTION / BACKGROUND.....</b>	<b>10</b>
Psychosocial Responses to Emergencies in the UK .....	10
Mental Health Outcomes of Disasters .....	13
Psychosocial Responses to the 2005 London Bombings .....	15
The NHS Trauma Response to the London Bombings .....	18
<b>AIMS OF THE EVALUATION .....</b>	<b>23</b>
<b>METHODS .....</b>	<b>24</b>
SECTION A: Data Collected During the Programme .....	24
SECTION B: Survey of the Users and Potential Users of the Trauma Response Programme ...	24
SECTION C: Interviews with Key Stakeholders .....	25
<b>RESULTS .....</b>	<b>28</b>
SECTION A: Data Collected During the Programme .....	28
SECTION B: Survey of the Users and Potential Users of the Trauma Response Programme ...	43
SECTION C: Interviews with Key Stakeholders .....	55
<b>DISCUSSION.....</b>	<b>66</b>
Need for the NHS Trauma Response Programme .....	66
Acceptability of the Programme .....	68
Did the Programme Successfully Identify People Affected by the Bombings? .....	69
Did the Programme Successfully Treat People Affected by the Bombings? .....	70
What Problems did the Programme Face that may have Affected its Performance? .....	72
<b>CONCLUSIONS.....</b>	<b>77</b>
<b>REFERENCES.....</b>	<b>78</b>
<b>ACKNOWLEDGEMENTS.....</b>	<b>84</b>
<b>APPENDIX I: EVALUATION SCIENTIFIC ADVISORY BOARD MEMBERS.....</b>	<b>85</b>

<b>APPENDIX II: PSYCHOSOCIAL STEERING GROUP MEMBERS, NHS TRAUMA RESPONSE PROGRAMME .....</b>	<b>86</b>
<b>APPENDIX III: ADULT SCREENING INSTRUMENT USED BY THE TRAUMA RESPONSE PROGRAMME .....</b>	<b>88</b>
<b>APPENDIX IV: SURVEY QUESTIONS USED IN PART II OF THE EVALUATION</b>	<b>90</b>
<b>APPENDIX V: INTERVIEW QUESTIONS USED WITH STAKEHOLDERS.....</b>	<b>96</b>
<b>APPENDIX VI: INTERNATIONAL EXPERTS CONSULTED .....</b>	<b>98</b>

# **Evaluation of the NHS Trauma Response to the London Bombings**

Final report to the Department of Health

## **Executive Summary**

1. A systematic screen and treat programme following a disaster or terrorist incident had never been formally implemented until the London bombings of July 2005. A unique collaboration between specialist NHS posttraumatic stress services led to an integrated pan-London response. The NHS Trauma Response Programme consisted of a central screening team who were charged with contacting and screening survivors of the bombings, and where appropriate assessing and referring them to specialist psychological trauma services for evidence-based treatment. The Programme ran from September 2005 to September 2007.

2. This evaluation assessed evidence about the need for this Programme, about its acceptability, effectiveness, and cost, and documented the lessons learned.

Information was obtained from data collected in the course of the Programme itself, from interviews with users and potential users of the Programme, from interviews with key stakeholders, and from consultation with international experts.

3. Details of the Programme were sent to people treated in hospital or on a police witness list, and it was widely advertised through the NHS, occupational health services, survivors' organisations, and the mass media. The contact details of 910 individuals were obtained, relatively few being referred by their G.P. Over 65% of this group completed a screening questionnaire, and 278 (30.5%) were referred for treatment following a detailed assessment. The most common primary diagnosis

was posttraumatic stress disorder (PTSD). Qualitative data attested to the impact the bombings had on many aspects of respondents' lives.

4. Of those referred within the Programme, 76.2% completed treatment. The usual treatment was trauma-focussed cognitive behaviour therapy, with some patients receiving eye movement desensitisation and reprocessing. Both treatments are recommended by guidelines published by the National Institute for Clinical Excellence. Therapists were all qualified clinical psychologists. The clinical outcomes of this group were above average for trials of cognitive behaviour therapy, with 78% of those with PTSD achieving clinically significant change in their posttraumatic symptoms, and these improvements were well maintained among those followed up after one year.

5. The total cost of the Programme was just over £1.33 million, of which about one third was attributable to the central screening and assessment team.

6. Over-cautious and erroneous interpretations of the Data Protection Act were an important barrier to identifying those affected by the bombings who might have benefited from the Programme. However, there was no evidence of any adverse consequences or distress caused by the offer of screening, even amongst those who did not want to take up the offer. The absence of detriment from the offer of screening needs to be borne in mind for future events, and considered alongside the possible detriment to those the Programme was never able to contact because of data restrictions.

7. Levels of awareness of the Trauma Response Programme were relatively low where respondents had been written to by a third party such as the Metropolitan

Police. There was evidence of persistent bombings-related traumatic stress symptoms in a substantial minority of this group, who were likely to attribute their failure to use the Programme to lack of knowledge of its existence.

8. The Programme was shown to be viable and acceptable to users. The central screening team was an effective way of contacting affected individuals and ensuring their access to treatment. Given the failure of normal care pathways that we observed, particularly that involving general practitioners, an outreach programme carrying out repeated screening is likely to be an essential aspect of the psychosocial response to future disasters and mass casualty events. There is evidence that some affected persons remained unaware of the Programme and are still suffering mental health effects of the bombings.

9. The requirement to provide equal access to treatment for a population of geographically dispersed individuals was in conflict with most established care pathways and funding mechanisms. The Programme succeeded in providing access to persons from any part of London, but this was administratively complex to achieve. There was less success in providing access to treatment to persons from outside London. [RECOMMENDATIONS 1 and 2]

10. Despite a high level of support from the NHS locally, from Government, and from the Department of Health, funding for the Programme remained uncertain throughout its life, leading to additional stress for staff and patients. In large part this was due to the absence of established guidelines for setting up additional mental health services in response to unforeseen emergencies. [RECOMMENDATION 3]

11. In future mental health needs will be more likely to be met if an established NHS body, such as the Health Protection Agency, sets up a register of affected persons immediately following an emergency. This can form the basis of an outreach programme. [RECOMMENDATION 4]

12. Our results support the public mental health strategy adopted in London - namely to assume that the majority of the population not directly involved are resilient and will cope with adversity using their own social and professional networks. Instead, we opted to concentrate screening and specialist intervention on those directly involved in the bombings. Screen and treat programmes, ideally supported by a comprehensive register, appear to be a potentially effective vehicle for ensuring that as many persons likely to be affected by a disaster as possible are assessed for psychological difficulties. They can also help to ensure that a similar quality of treatment is provided regardless of geographical location and proximity to specialist traumatic stress services. Their use should be routinely considered in similar future disasters, terrorist attacks, and other mass casualty events. [RECOMMENDATION 5]

## **Recommendations**

1. The Department of Health should issue guidance to Trust Chief Executives and SHAs concerning the practical problems likely to be encountered when mounting a mental health response to disasters. This guidance should include recognition of the need following a disaster for a body to be speedily designated as being responsible for assessing mental health needs, for coordinating and funding an appropriate response, and for ensuring equality of access regardless of the geographical location of the person affected.
2. Department of Health guidance should recognise that normal financial and geographic arrangements governing access to mental health services are likely to greatly impede the delivery of services to those affected by a disaster. Considerable administrative efforts are likely to have to be devoted to setting up and ensuring the effectiveness of new care pathways. These activities will themselves need to be budgeted for.
3. Department of Health guidance should specify the appropriate financial procedures to follow when expenditure on mental health is necessary for emergencies that have not been budgeted for. This guidance should be discussed with the independent regulator of NHS Foundation Trusts, Monitor, and other relevant bodies, to make sure that it does not conflict with their rules concerning financial accountability.
4. Following a disaster a register of affected persons, with their exposure and contact details, should be compiled. With proper protection of individuals' right to privacy, this should be made available to approved authorities charged with ensuring the



medical, social, and financial welfare of all those involved. The Department of Health should liaise with the Health Protection Agency and seek if possible to have this included in the Agency's statutory responsibilities.

5. Following a disaster consideration should be given to the setting up of a centralised screening service with expertise in psychological trauma. This service should work closely with any related humanitarian assistance centre to ensure integrated emergency management. One function of the service would be to act as a single point of advice and support concerning mental health issues for those directly affected by disaster, as well as health providers such as hospital doctors and G.P.s, schools, and community organisations. The second function of the service would be to be responsible for equality of access to care, involving outreach attempts, screening, referral to appropriate mental health providers, and training in evidence-based interventions. Arrangements for access to care also need to be planned for after the formal termination of such a programme.

## Introduction / Background

### Psychosocial Responses to Emergencies in the UK

Terrorist attacks such as the 2005 London bombings are “emergencies” covered by the Civil Contingencies Act (2004). The Act defines an “emergency” as: an event or situation which threatens serious damage to human welfare in a place in the UK; an event or situation which threatens serious damage to the environment of a place in the UK; war, or terrorism, which threatens serious damage to the security of the UK. The psychosocial response to such emergencies can be divided into three phases, which are often carried out by different organisations.

*Immediate phase.* At Central Government level the immediate response is directed by the ministers and civil servants from the Cabinet Office Briefing Rooms (COBR). At local level a multi-agency Strategic Coordinating Group (“Gold Coordinating Group”), usually police-led, takes responsibility for planning the response. The police Gold commander is at the top of a hierarchical structure involving a Silver commander who decides on tactics and a Bronze commander who leads operations in the field. Among the aims of the Gold Coordinating Group is effective joint working between the emergency services, local authorities, and hospitals to attend to medical needs and provide survivors with safety from immediate danger, reassurance, information, and basic necessities such as food, shelter, and sanitation.

Determining the response to immediate medical needs involves cooperation between health bodies such as local hospitals, NHS Trusts, and Strategic Health Authorities, the Health Protection Agency, and the Emergency Preparedness Division Coordinating Centre at the Department of Health. The individuals who are actually present at an emergency and involved in rescue and recovery work may be members of the emergency services, members of voluntary organisations, or

members of the public. They are sometimes called 'first responders'. Some may have extensive training for this role and some may be completely untrained.

*Medium-term phase.* The medium-term phase typically begins within one or two days after the incident has resolved. The focus on survivors that is the primary concern of the immediate phase now has to be complemented with an appreciation of the needs of other groups such as witnesses, bereaved friends and relatives, and the first responders themselves. In some disasters that do not resolve quickly this and the emergency phase may overlap or merge into one another. In the medium-term phase there may be a requirement for the emotional support of traumatised or grieving people, the identification of bodies and belongings, the restoration of losses such as housing and employment, the repair of damaged infrastructure, the support of affected communities, and the design and implementation of vehicles for the public acknowledgment of the disaster.

Since 2005 an important mechanism for meeting the various needs of survivors, bereaved families, and other affected persons for information, advice, and support has been the "humanitarian assistance centre". This concept has been developed by the Association of Chief Police Officers and the Department for Culture, Media and Sport (DCMS, 2006). When deemed appropriate by the Gold Coordinating Group, centres are to be set up by local councils to properly and sensitively administer the interaction between affected persons and relevant authorities such as social services, housing departments, the police, the coroner's office, and the courts. Facilities for a variety of supportive interventions such as counselling are to be provided to help with the extreme distress many survivors and family members will experience as the disaster and its consequences gradually unfold. Practical assistance and signposting to other services are of equal importance. Operation of the centre needs to be highly flexible to maximise access, for example by allowing individuals to drop in without prior appointments, and to

adapt to a changing pattern of need over time. Governmental oversight is provided by the Humanitarian Assistance Unit based in the Department for Culture, Media, and Sport.

*Longer-term phase.* A minority of individuals may require longer-term support and experience ongoing impact on their lives (Disaster Action, 2008). These difficulties, which include enduring mental health problems as a result of the event, are not adequately addressed within phases one and two. It is often difficult to establish who has enduring psychological difficulties when there has been recent injury or bereavement, and when loss of resources such as housing and employment is yet to be resolved. In these circumstances individuals may need to be followed up until physical recovery and restoration of immediate needs has been achieved. If these complicating factors are not present it may be possible to detect a failure of normal recovery within the first month after the emergency (McNally, Bryant, & Ehlers, 2003). In the past the expectation has generally been that any longer-term difficulties will be dealt with by existing NHS mental health services. Provision for identifying and treating the longer-term mental health outcomes has not traditionally been incorporated into policies for responding to emergencies, but following the London bombings the need to bring emergency planners and mental health providers together has been increasingly recognised.

To date several reports have been published dealing with the first two phases of the psychosocial response to the 2005 London Bombings (e.g. Department for Culture, Media and Sport, 2007; Home Office, 2006; London Assembly, 2006; London Regional Resilience Forum, 2006). This report is the first to address the third phase, and describes the National Health Service's response to the longer-term mental health needs of affected persons.

## **Mental Health Outcomes of Disasters**

Those directly affected by terrorist attacks such as the London bombings, as well as the wider population, typically experience a surge in anxiety and distress that in most cases begins to decline naturally after a few weeks (Rubin et al., 2005, 2007; Whalley & Brewin, 2007), especially among those least affected. In areas where there is considerable loss of life, loss of employment, damage to infrastructure, and relocation, however, levels of posttraumatic symptoms remain high for an extended time (Institute of Medicine, 2003). This may reflect the fact that there is a continued exposure to hardship, privation, uncertainty, and danger after the event. Such elevated symptoms levels have been seen, for example, in residents of Lower Manhattan after the September 11, 2001, attacks (World Trade Center Medical Working Group of New York City, 2008), and among survivors of Hurricane Katrina (Galea et al., 2007). There is general agreement among trauma clinicians that these symptoms are likely to be a product of fear and distress rather than psychological disorder, and that the most urgent interventions are practical ones aimed at restoring physical and financial security.

A recurrent theme of previous disasters, however, is that even in the absence of significant social and financial stressors a minority of individuals develop persisting mental health problems that require specialist treatment (e.g., World Trade Center Medical Working Group of New York City, 2008; Call & Pfefferbaum, 1999). These conditions include posttraumatic stress disorder (PTSD), depression, substance abuse disorders, and various anxiety disorders. Following terrorist attacks probable posttraumatic stress disorder is not short-lived in those most directly affected, and 30-40% continue to have significant problems two years later (Whalley & Brewin, 2007). The impairment associated with PTSD in U.S. samples, where the majority of research on these consequences has been carried out, is comparable to, or greater than, that of other seriously impairing mental disorders, with a particularly

high risk of suicide attempts (Kessler, 2000). Only a minority of people with PTSD obtain treatment (Wang et al., 2005), and it has therefore been proposed that early and proactive outreach to treat people with PTSD could help reduce the enormous societal costs of this disorder (Kessler, 2000).

These longer-term consequences have not always been fully allowed for in the initial planning for the effects of disasters. In the U.S., states can apply for funding of humanitarian assistance programmes following disaster to the Federal Emergency Management Agency (FEMA). The FEMA model, informed primarily by experience with natural disasters, assumes that large numbers of the population will be affected and that their responses likely indicate normal reactions to abnormal circumstances. The mental health aspects of its provisions emphasise crisis counselling and support services, along with outreach and public education for affected individuals. This medium-term response is likely to be of particular value in dealing with the psychological effects of damage to a community's infrastructure with consequent loss of housing, services, and jobs, but the funding model excludes established mental health treatments. Evaluation of Project Heartland following the 1995 Oklahoma City bombing suggested that direct victims with more serious disorders may have been underserved in terms of screening, triage, referral to specialist services for established treatments, and subsequent monitoring. At the same time mental health professionals may not have appreciated the need for outreach to detect individuals with established disorders (Pfefferbaum et al., 2002).

Similar issues were identified in the FEMA-funded Project Liberty that was instituted following the September 11, 2001, attacks and that provided crisis counselling to over 690,000 individuals affected by the attack on the World Trade Center. A survey conducted six months after the attacks concluded that there was substantial unmet need for treatment for posttraumatic stress disorder (PTSD) or depression, and that this was particularly marked in individuals with no previous

contact with mental health services (Stuber et al., 2006). After approximately two years an enhanced services programme was approved for individuals with severe and persistent symptoms (Donahue et al., 2006a). This consisted of longer evidence-based brief counselling interventions, and training and technical assistance for selected clinicians. Interviews conducted seven weeks apart with recipients of enhanced services found a reduction in depression and grief symptoms and some aspects of impairment, but no significant fall in PTSD symptoms (Donahue et al., 2006b).

In addition to this initiative of Project Liberty, mental health treatment in New York was provided at different times by various other programmes funded by the Federal Government, the Red Cross, charitable donations, the City of New York, and mental health providers themselves. Eligibility criteria varied widely between the programmes. In 2003/04 the World Trade Center Registry was set up and has now enrolled over 71,000 individuals. Its latest report documents high rates of continuing mental health needs (World Trade Center Medical Working Group of New York City, 2008).

### **Psychosocial Responses to the 2005 London Bombings**

The London bombings consisted of a series of linked incidents involving the public that stretched over 17 days. At around 8.50am on 7<sup>th</sup> July 2005, a team of four bombers attacked the London transport system. Although there were fewer deaths than in the bombing of Pan Am 103 over Lockerbie in 1988, the 7<sup>th</sup> July attack was the largest mass casualty event in the UK since World War Two, resulting in 775 casualties and 52 deaths from among the more than 4,000 passengers involved, as well as the deaths of the four bombers. In a series of linked attacks bombs were set off on three Underground trains (at Edgware Road, Kings Cross, and Aldgate), and a further bomb was set off on a bus in Tavistock Square. Subsequently there were

further attempted bomb attacks on 21<sup>st</sup> July, with a series of small explosions not resulting in injury. On 22<sup>nd</sup> July the police shot dead Jean Charles de Menezes on a tube train at Stockwell station after having mistakenly identified him as a bomber. On 23<sup>rd</sup> July another bomb was discovered in West London and made harmless.

The first phase of the emergency response on 7<sup>th</sup> July is described in the Home Office's (2006) report. It began with members of London Underground staff and the emergency services arriving and assisting passengers within minutes. At 9.15am London Underground Network Operations Centre declared a network emergency and began to evacuate the entire London Underground network. At 10am meetings of the Cabinet Office Briefing Rooms and the Gold Coordinating Group took place. Altogether, as well as a large number of police officers and various specialist teams, over 240 London Fire Brigade members and over 400 members of the London Ambulance Service were deployed. The London Strategic Health Authorities and the voluntary sector were also closely involved in this phase of the response.

In the second phase of the response to the bombings, a humanitarian assistance centre, later renamed the 7th July Assistance Centre, was set up by Westminster City Council, the Metropolitan Police, and the London Resilience Team. This centre provided immediate support for those affected by the bombings, and continued to be a focal point for longer-term support and counselling as well as a conduit for information about related events such as memorial occasions and trials of those accused of involvement in the bombings (London Assembly, 2006).

On 8<sup>th</sup> July a meeting of London NHS mental health trust chief executives met to consider the third phase of the response, and assigned responsibility to Camden & Islington Mental Health and Social Care Trust (now the Camden & Islington Foundation NHS Trust). Two weeks later a Psychosocial Steering Group was convened by the Trust and by another NHS body, 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. The Steering Group considered proposals for the mental health response, formulated primarily by the London psychological trauma centres. As the London bombings had not resulted in widespread loss of employment or infrastructure, no particular difficulty was envisaged in accurately assessing who was at risk of developing enduring psychological difficulties.

The proposals were informed by the recently published NICE guidelines for the management of PTSD (National Institute for Clinical Excellence, 2005), which recommended that the first-line treatment for PTSD should be one of two psychological interventions, and by three crucial pieces of evidence: first, that most psychological responses to trauma are short-term and resolve naturally; second, that mass interventions such as psychological debriefing for trauma-exposed individuals were unlikely to be effective; and third, that persistent adverse effects of trauma often remain undetected and untreated. Following previous suggestions concerning the need for screening and outreach (Brewin, 2001; Kessler, 1999), and their use following the 1987 Kings Cross fire (Rosser et al., 1991; Turner et al., 1989) and the 1998 Omagh bombing (Gillespie et al., 2002), the proposals focussed on identifying and screening all trauma-exposed individuals to detect persistent symptoms of psychopathology, and then providing them with evidence-based treatment.

The Steering Group estimated that there were likely to be 4,000 directly affected individuals and that, on the basis of the existing literature, around one third of these would be in need of specialist help. A survey of capacity in existing psychological trauma centres in London indicated that most had waiting lists, some for as long as 12 months, and that there was no capacity to treat a large number of new patients. The Steering Group accordingly sought funding from the Department

of Health for a programme consisting of two response elements, a central screening and assessment team and additional psychological treatment resources based in existing trauma centres. This Programme is detailed in the next section.

## **The NHS Trauma Response to the London Bombings**

### **Screening and Assessment Team**

A dedicated screening and assessment team, consisting of one experienced clinical psychologist, two psychology assistants, and one administrator, was charged with collating information about individuals involved in the bombings and identifying those with bombing-related mental disorders, as well as providing advice to professionals and the public on demand. They began work in September 2005. The service was widely and repeatedly advertised to health professionals, through information sent directly by the Department of Health to London general practitioners, trusts, and strategic health authorities, and to the general public via the national and London print and broadcast media. A dedicated helpline hosted by NHS Direct, a 24-hour telephone-based consultation service that provides medical advice to the general population, was also set up with aim of referring appropriate callers to the screening team. In addition to self-referrals and referrals from medical practitioners, the service was advertised to users of the 7 July Assistance Centre and to self-help groups set up after the bombings. Lists of names of those affected by the bombings were sought from hospitals who had treated them, from the London Bombings Charitable Relief Fund, and from the Health Protection Agency. Information about the team was also widely disseminated via the Metropolitan Police witness list, and via the occupational health departments serving members of the emergency services attending the incident. Affected members of the emergency services could opt to be seen within their own organisation or to attend the Trauma Response Programme.

## *Screening*

All individuals identified in this way received a letter or telephone call and a brief two-page questionnaire (see Appendix III) that requested their contact details, basic demographic facts including the age and gender of any children living with them, the extent of their involvement in the bombings. The questionnaire also contained screening questions to detect any current symptoms of psychopathology. If they had any children living with them they were sent additional materials in order that the children could be screened for symptoms as well. The Child Traumatic Stress Clinics at the Maudsley Hospital and Great Ormond Street Hospital collaborated to develop the children's screening items and respond to any child referrals. In the event only seven children were referred to the Trauma Response Programme and this report focuses on adults using the service.

Among the screening questions were the ten items of the Trauma Screening Questionnaire (TSQ: Brewin et al., 2002), used to screen for the presence of posttraumatic stress disorder. The TSQ has a yes/no response scale enquiring about the presence of each symptom at least twice in the past week. Previous research has demonstrated that it has excellent performance relative to other instruments and that endorsement of 6 or more symptoms yields high levels of sensitivity and specificity (Brewin, 2005; Walters et al., 2007). This was supplemented by a 2-item depression screener which anchored previously validated items (Kroenke et al., 2003) to observed changes since the bombings. There were also a 1-item travel phobia screener and three more general items designed to detect alternative signs of increased distress (e.g. through increased smoking or drinking).

Each person received feedback on the results of the screening and an opportunity to ask questions about their reactions to the bombings. Individuals screening negative were told they appeared to be doing well but the team would like

to contact them at 3-monthly intervals to make sure this was still the case (monitoring only group).

### *Assessment*

Individuals screening positive on the TSQ or endorsing any of the additional screening items were invited to attend for a more detailed assessment that 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).

This longer clinical assessment had a number of aims. The first was to identify individuals with pre-existing mental health problems, such as psychosis or substance abuse, and to either refer them back to their treating clinicians or arrange for appropriate treatment for these problems. The second was to determine suitability for trauma-focussed treatment. Suitability was primarily defined in terms of meeting criteria for a DSM-IV or ICD-10 disorder that was related to being exposed to the bombings and that was not resolving of its own accord. Conditions not meeting full diagnostic criteria were also eligible if they were persistent and were associated with significant distress or impairment. Based on the self-reported trajectory of symptoms, a clinical decision was made whether to refer for immediate treatment or to continue monitoring in the expectation that recovery would occur naturally. In the latter case individuals were followed up at 3-, 6-, and 9-monthly intervals to determine that symptoms had indeed resolved satisfactorily. With their permission, repeated screening was routinely employed with all individuals contacting the screening team and not referred for treatment, regardless of their diagnostic status, to guard against delayed-onset PTSD and PTSD that gradually worsened over time or was

exacerbated by subsequent events. A recent review has indicated that approximately 15% of cases of civilian PTSD fall into the delayed-onset category (Andrews et al., 2007).

### *Psychological Treatment*

The treatment resources represented an extension of existing NHS services offered by qualified clinical psychologists working and being supervised within three specialist, multidisciplinary psychological trauma centres in London (the Traumatic Stress Clinic, Camden & Islington Mental Health and Social Care Trust; the Centre for Anxiety Disorders and Trauma, South London and Maudsley NHS Trust; and the Institute for Psychotrauma, East London and City Mental Health Trust). In addition the screening team attempted to arrange comparable treatment locally for a small number of affected persons living outside London. Patients were referred directly to therapists supported by the Programme. The primary focus of treatment was expected to be post-traumatic stress disorder (PTSD), and consistent with the recently published NICE guidelines (National Institute for Clinical Excellence, 2005), two treatments were considered acceptable, trauma-focussed cognitive-behaviour therapy (CBT) and eye movement desensitisation and reprocessing (EMDR). All lead clinicians of the participating treatment centres met monthly to ensure treatments were provided with uniform quality and in strict adherence to NICE guidelines.

Trauma-focussed CBT comprises a group of treatment programmes that have in common that they involve imaginal and in vivo exposure to the memory and reminders of the bombings coupled with cognitive therapy. Rather than working from specific treatment manuals, clinicians were required to implement the individual trauma-focussed CBT or EMDR programmes used in their respective trauma specialist centre and received ongoing supervision from experienced trauma

clinicians within their centre. The most commonly used approach was trauma-focussed CBT (> 80% of patients treated). A minority of patients received either a combination of CBT and EMDR (approx. 10%), or EMDR only (< 10%). There were no restrictions on number of sessions. Evidence-based cognitive-behaviour therapy was also used for other disorders where necessary. Patients in each of the three centres completed the symptom items from the Posttraumatic Diagnostic Scale (Foa et al., 1997) and the Beck Depression Inventory (Beck et al., 1961) before treatment started and at each subsequent session until treatment was finished.

Funding for the Programme finished after two years in September 2007. Prior to this point arrangements were made to refer existing patients needing additional sessions and new patients requiring treatment to standard NHS psychological services, including specialist psychological trauma units where these were available.

### *Management of the Programme*

Overall management was determined by a smaller Psychosocial Steering Group, now with representation from relevant occupational health services (e.g. London Transport Police, Metropolitan Police) and from the 7<sup>th</sup> July Assistance Centre, that met at least monthly. A subgroup consisting of individuals directly involved in screening and treatment met with the same frequency. Budgets were prepared by the London Development Centre for Mental Health, who continued to host meetings and assigned members of its staff to help with the administration of the Programme and with media relations. The London Development Centre for Mental Health collated data on service usage and on staff and other costs, and reported these to relevant Government Departments and to a small Project Board comprising senior NHS managers and commissioners who oversaw the Programme's finances.

## Aims of the Evaluation

The aims were to establish whether the Trauma Response Programme was necessary, whether it was acceptable to users, whether it achieved its goals in terms of the identification and treatment of bombings-related psychological disorders, and whether it could be implemented more effectively in response to future terrorist attacks or major disasters. The evaluation consisted of three parts:

**Section A:** A summary of service usage, demographic, clinical, and costing data collected during the operation of the Trauma Response Programme. We report the take-up of the screening programme, the performance of the screening instruments, the numbers referred for and completing treatment, and the effectiveness of treatment. We also report the cost of using the Trauma Response Programme in relation to the outcomes achieved.

**Section B:** A survey of the users and potential users of the Trauma Response Programme, including a follow-up of those treated within the Programme. We report on the acceptability of the outreach process, satisfaction with the process and outcome of screening, the extent of survivors' involvement with pre-existing services, and the nature of the health, social, and economic impacts of exposure to the London bombings.

**Section C:** In-depth interviews with key stakeholders involved with the Programme and consultation with relevant international experts on the mental health response to terrorist events. We report the process of establishing the screen and treat programme, any barriers to its effective and efficient implementation, and lessons to be learned from the UK and elsewhere concerning alternative approaches.

# **Methods**

## **SECTION A: Data Collected During the Programme**

Routine data collected, including patient throughput and screening performance, were taken from the Programme database maintained by the screening and assessment team at the Traumatic Stress Clinic. All data were checked and re-entered to ensure their accuracy. Treatment outcome data were reported by the individual specialist treatment centres. Clinical activity and actual invoiced service costs were audited by the London Development Centre for Mental Health for transmission to the Project Board.

## **SECTION B: Survey of the Users and Potential Users of the Trauma Response Programme**

We sought to survey users who could comment on different aspects of the Programme's functioning and potential users who may not have been aware of the Programme. Sample sizes were mainly determined by the feasibility of identifying, contacting, and persuading these groups to participate after a considerable period of time had elapsed since the bombings, and as such samples should be regarded as indicative rather than representative. Participants were contacted by letter informing them about the aim of the study and inviting them to take part in face to face or telephone interviews depending on their preferences. Interviews lasted around 30 minutes. Around 7% of respondents opted to return their answers by questionnaire.

A total of 238 interviews were achieved with the following categories of user:

- individuals who used the dedicated NHS Direct helpline service
- individuals who were screened or assessed within the Programme but not treated
- individuals who were referred for treatment within the Programme



- individuals who had requested at some point no further contact with the Programme
- individuals on the Metropolitan Police witness list whose details were not known to the Programme
- individuals who contacted us through word of mouth

A summary of the survey topics covered with the different groups (and questionnaires completed, if relevant) is given in Table 1. Full details of the survey questions are presented in Appendix IV.

## **SECTION C: Interviews with Key Stakeholders**

Stakeholders involved in the Trauma Response Programme were interviewed to document perceptions of the organisational, clinical, and financial aspects of the Programme that facilitated or hindered the project. The following stakeholders were interviewed: Julie Dent, NHS Gold lead on 7 July 2005 and member of the Programme's Project Board; Alison Armstrong, Director for London-Wide Mental Health Programmes and member of the Project Board overseeing the Programme; Alison Dunn, head of treatment services, Transport for London; Erville Millar, Chief Executive of Camden & Islington Mental Health and Social Care Trust at the time of the bombings and Chair of the Psychosocial Steering Group convened to oversee the Trauma Response Programme; Wendy Wallace, successor to Erville Millar as Chief Executive of Camden & Islington Mental Health and Social Care Trust at the time of the bombings and Chair of the Psychosocial Steering Group; Ali Davies, PTSD Lead, London Development Centre for Mental Health; Jo Best,

Table 1. Summary of the survey topics

<p><u>The core survey questions for <b>all sub-samples</b> included questions on:</u></p> <ul style="list-style-type: none"> <li>• how respondents heard about the NHS Trauma Response Programme</li> <li>• familiarity with other services provided after the London Bombings</li> <li>• whether or not they would have contacted their G.P or mental health services if they had not heard about the Programme</li> <li>• any objections to being contacted by the NHS after the London Bombings</li> <li>• preference for the time at which to be contacted by the NHS</li> <li>• the extent of the health, social, and economic impact of their exposure to the bombings</li> <li>• changes in personal identity and other impacts of the bombings</li> </ul>
<p><u>Subsidiary questions for the group who had <b>psychological treatment</b>:</u></p> <ul style="list-style-type: none"> <li>• how they came to be referred to the screening and assessment team</li> <li>• satisfaction with the screening and assessment team procedures</li> <li>• satisfaction with the treatment centre</li> <li>• current symptom levels</li> <li>• questions on post-treatment flashbacks</li> <li>• post-treatment follow-up symptom measures (Posttraumatic Diagnostic Scale, Beck Depression Inventory)</li> <li>• current Quality of Life measures: SF-12 and EQ 5D</li> </ul>
<p><u>Subsidiary questions for the group who were <b>screened or assessed only</b>:</u></p> <ul style="list-style-type: none"> <li>• satisfaction with the screening team procedures</li> <li>• current symptoms (Trauma Screening Questionnaire)</li> </ul>
<p><u>Subsidiary questions for the group who had <b>no contact with the Programme</b>:</u></p> <ul style="list-style-type: none"> <li>• reason for not using services, if any</li> <li>• current symptoms (Trauma Screening Questionnaire)</li> </ul>

Manager, 7<sup>th</sup> July Assistance Centre; Anke Ehlers, Consultant Clinical Psychologist, Centre for Anxiety Disorders and Trauma; Monica Thompson, Consultant Clinical Psychologist, Traumatic Stress Clinic; Bill Yule, Consultant Clinical Psychologist, Maudsley Hospital Child Traumatic Stress Service; Peter Scragg, Clinical Psychologist and lead clinician of the Screening and Assessment Team; Pamela Dix, Disaster Action; Frances McLeod, head of the Humanitarian Assistance Unit, Department for Culture, Media and Sport; Muriel McClenahan, London Resilience Team Faith Section Panel.

Semi-structured interviews lasting approximately one hour were carried out, consisting of appropriate subsets of the questions identified in Appendix V. NF coded and analysed the data using the software package QSR N6. The main topics included in the interviews were used as the basis of the coding frame which was expanded and modified to include further codes as new themes and sub-themes emerged in the course of interviews and analysis.

International experts were consulted as part of the evaluation to ensure that our conclusions were informed by the most recent knowledge obtained from the mental health response to terrorist incidents overseas, particularly in Madrid, Jerusalem, and New York. Interviews did not follow a pre-set structure but focussed on the local organisation and funding of mental health responses, on perceived aids and hindrances to their effective implementation, and on lessons learned. Experts interviewed are identified in Appendix VI.

# Results

## SECTION A: Data Collected During the Programme

### A1. Referral to the Screening and Assessment Team

Figure 1 provides a flow diagram that illustrates how individuals involved in the bombings whose identity became known to the Programme progressed through screening, assessment, and treatment. The Programme obtained contact information and sent screening materials to 910 adults (and a further 7 children whose details are not reported here). Details of the Programme were distributed more widely than this (e.g. through the media and the Metropolitan Police witness list) but many of these individuals did not come to the attention of the Programme. Of the 910 adults, 65.5% returned at least one screening questionnaire and, of these, 56.7% screened positive at some stage. A majority of those receiving a more detailed clinical assessment (76%) were judged to require psychological treatment and most were referred, 248 within the Programme and 30 outside the Programme. Of those treated within the Programme, 189 completed a course of therapy. Thus, just under one third of those who were originally screened entered and completed treatment.

The number of referrals to the screening and assessment team per month are shown in Figure 2. The majority of referrals were received in the six months following the 7<sup>th</sup> July 2005. Peaks correspond to the team receiving a new list of affected individuals from a hospital or other source. The source of referrals is shown in Table 2. Of interest is the large number of referral pathways and the fact that very few were received from the expected channel, i.e. the person's general practitioner.

Figure 1. Referrals to screening team diagram

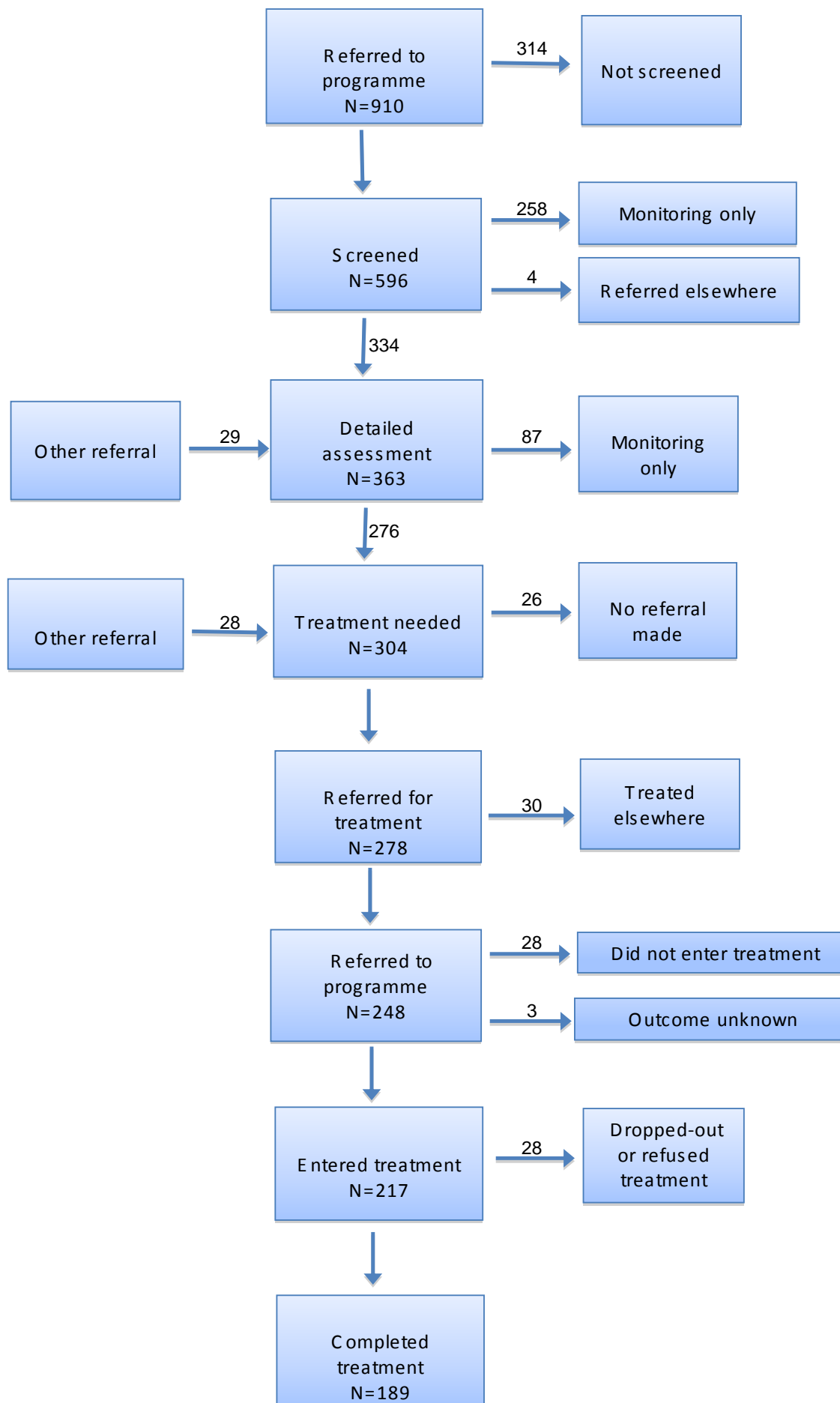


Figure 2. Number of referrals to the Programme per month (July 2005-August 2007)

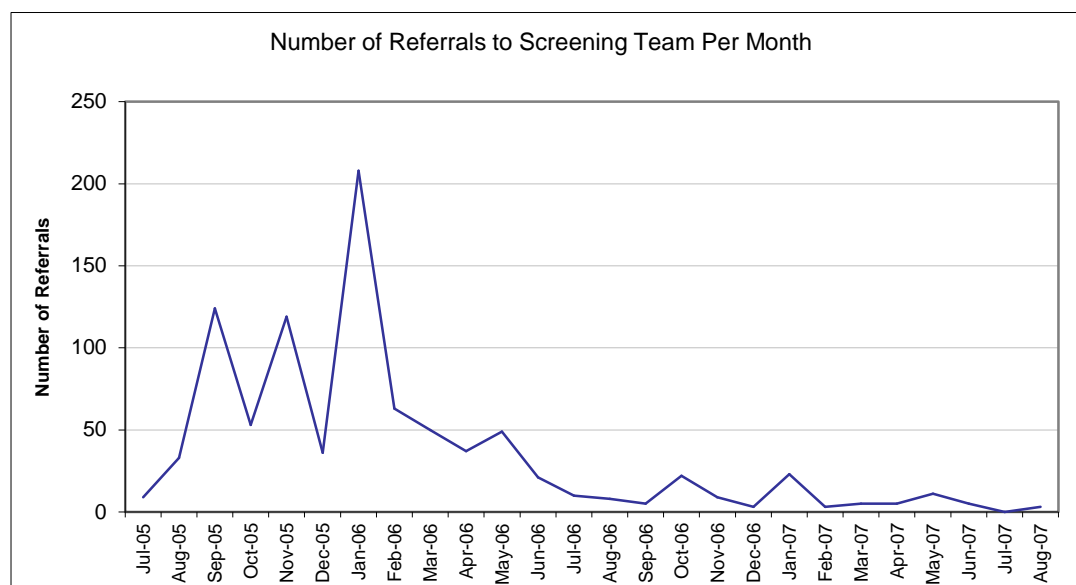


Table 2. Source of referrals

Referral Source	N	%
Metropolitan Police Witness List	109	12.0
NHS Hospitals*	301	33.1
7th July Assistance Centre	59	6.5
Health Protection Agency	55	6.0
Self-referral	53	5.8
NHS Direct	46	5.1
GP referral	39	4.3
London Mayor's Fund	52	5.7
Red Cross	23	2.5
British Transport Police Occupational Health Dept.	30	3.3
Friend/Relative	30	3.3
Other NHS**	78	8.6
Metropolitan Police Occupational Health Dept.	14	1.5
Other***	12	1.3
Data missing	9	1.0
<b>Total</b>	<b>910</b>	<b>100</b>

\*NHS Hospitals: Accident & Emergency lists and individual referrals from Whittington, Royal Free, Royal London Hospital, UCH, King's College Hospital, North Middlesex Hospital

\*\*Other NHS: London mental health trusts and ambulance services

\*\*\*Other: Victim Support, Welfare Unit City of London, family liaison officers, Kings Cross United, Criminal Injuries Compensation Authority

## A2. Characteristics of the Screened Sample

The average age of the screened sample was 41.6 years (s.d. 12.2 years). 45% of the sample were male. Table 3 shows on which day or days individuals had been involved with the bombings and their location at the time. Although most had been involved on 7<sup>th</sup> July, some had been affected by the other key events in the period stretching up until 23<sup>rd</sup> July. Table 4 indicates the nature of their involvement with the bombings. Almost one third of the sample had been injured, and almost two thirds had felt that they might be injured or killed. Three-quarters of the sample had personally witnessed the effect of one of the bombings.

Table 3. Day and location of involvement

<b>Event day</b>	<b>N</b>	<b>%</b>
7 <sup>th</sup> July	541	90.8
21 <sup>st</sup> July	17	2.9
Both	30	5
Other	2	0.3
Missing	6	1
Total	596	100
<b>Event location</b>	<b>N</b>	<b>%</b>
Kings Cross	195	32.7
Edgware Road	81	13.6
Aldgate	100	16.8
Tavistock / Russell Sq	80	13.4
Shepherd's Bush	4	0.7
Oval	7	1.2
Shoreditch	1	0.2
Other	18	3
Not directly involved	82	13.8
Missing	28	4.6
Total	596	100

Table 4. Nature of involvement

<b>Were you injured?</b>		
No	376	63.2
Yes	196	32.8
Missing	24	4
Total	596	100
<b>You felt that you might be injured or killed?</b>		
No	211	35.4
Yes	345	57.9
Missing	40	6.7
Total	596	100
<b>A family member or close friend was killed?</b>		
No	491	82.4
Yes	68	11.4
Missing	37	6.2
Total	596	100
<b>A family member or a close friend was killed?</b>		
No	517	86.7
Yes	39	6.4
Missing	40	6.7
Total	596	100
<b>You saw someone who has been injured or killed?</b>		
No	167	28.2
Yes	392	65.8
Missing	38	6
Total	596	100
<b>You personally witnessed the effects of the bombings?</b>		
No	119	19.9
Yes	440	73.8
Missing	38	6.3
Total	596	100

Table 5 indicates the number of individuals screening positive on the various sections of the questionnaire. On the first occasion of screening around 50% of respondents indicated probable PTSD (measured by the Trauma Screening Questionnaire), travel phobia, and depression. One sixth of the sample reported they were smoking more, and one fifth that they were drinking more. The likelihood of screening positive was highest when individuals were first screened and declined



systematically thereafter, with depression being least likely to remit over time. It is notable, however, that substantial numbers did screen positive on the second and subsequent occasions, even though they had not been judged to need treatment as a result of their initial screen. This is evidence for the importance of continued rather than single occasion screening after disaster.

Table 5. Number of participants screening positive over time

	<b>N (%) of people screening positive</b>				
	<b>1<sup>st</sup> screen</b>	<b>2<sup>nd</sup> screen</b>	<b>3<sup>rd</sup> screen</b>	<b>4<sup>th</sup> screen</b>	<b>5<sup>th</sup> screen</b>
<b>Trauma Screening Questionnaire</b>	303 (50.8)	57 (29.1)	13 (17.3)	2 (9.1)	0
<b>Travel phobia</b>	284 (47.6)	51 (26.0)	14 (18.7)	3 (13.6)	0
<b>Depression</b>	398 (66.8)	83 (42.3)	26 (34.7)	6 (27.3)	1 (50.0)
<b>Smoking more</b>	97 (16.3)	19 (9.7)	7 (9.3)	1 (4.5)	0
<b>Drinking more</b>	126 (21.1)	27 (13.8)	7 (9.3)	1 (4.5)	0
<b>N of people screened</b>	596	196	75	22	2

Table 6 shows the change in the sensitivity and specificity of the Trauma Screening Questionnaire for detecting DSM-IV or ICD-10 PTSD, expressed as a function of the delay in months between the bombing and taking part in screening. The standard cut-off score of 6 was used. Analyses were based on a sample of 231 individuals who received a detailed diagnostic assessment within 30 days of completing their first screening questionnaire. The table shows that the TSQ was highly sensitive and with one brief exception remained so over the two years of the Programme. Specificity started low, but gradually increased to 80% by the end of the Programme with no corresponding reduction in sensitivity. This indicates that in the first year after the bombings scores on the TSQ tended to be elevated regardless of whether individuals met diagnostic criteria for PTSD.

As the second year progressed, however, scores tended to decline and the instrument was better able to detect those who were not suffering from PTSD. The high levels of sensitivity initially suggest that relatively few cases of PTSD are likely to have been missed by the screening process.

Table 6. Trauma Screening Questionnaire performance over time

<b>Months between bombing &amp; screening</b>	<b>Sensitivity</b>	<b>Specificity</b>	<b>Sample Size</b>
<b>0-3</b>	97.22%	34.29%	70
<b>4-6</b>	92.31%	14.29%	48
<b>7-9</b>	85.71%	17.65%	38
<b>10-12</b>	94.12%	50.00%	29
<b>13-15</b>	71.43%	40.00%	12
<b>16-18</b>	100.00%	58.33%	17
<b>19-21</b>	33.33%	75.00%	7
<b>&gt;21</b>	80.00%	80.00%	10

### **A3. Clinical Characteristics of the Sample Receiving Detailed Assessment**

Table 7 shows the primary diagnoses assigned by the detailed clinical assessments. Those meeting criteria for PTSD and another disorder are classified under PTSD. The official diagnostic criteria used in the UK are those of the International Classification of Diseases (ICD-10), but these are less stringent than those of the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-IV), which are used most often in the PTSD research literature. Some individuals, as indicated in Table 7, met ICD-10 criteria for PTSD but not DSM-IV criteria. The majority of those assessed had a primary diagnosis of either DSM-IV or ICD-10 PTSD, with relatively few meeting criteria for depression or other disorders without simultaneously meeting criteria for PTSD.

Table 7. Primary diagnoses of those assessed

Primary Diagnosis	N	%
PTSD DSM-IV	149	41.0
PTSD ICD-10	40	11.0
Travel phobia	28	7.7
Depression	17	4.7
Adjustment disorder	15	4.1
Complicated grief	11	3.0
Generalised anxiety disorder	6	1.7
Other diagnosis	7	1.7
No diagnosis	87	24.0
Missing	3	0.8
<b>Total</b>	<b>363</b>	<b>100</b>

Figure 3 indicates that the percentage of those assessed who were judged to require treatment increased steadily throughout the Programme. Early in the Programme the number is about half, but by the end most of those being referred required treatment. This probably reflects the fact that many of those referred early were already showing signs of spontaneous recovery, and it was therefore not judged appropriate to refer them for treatment.

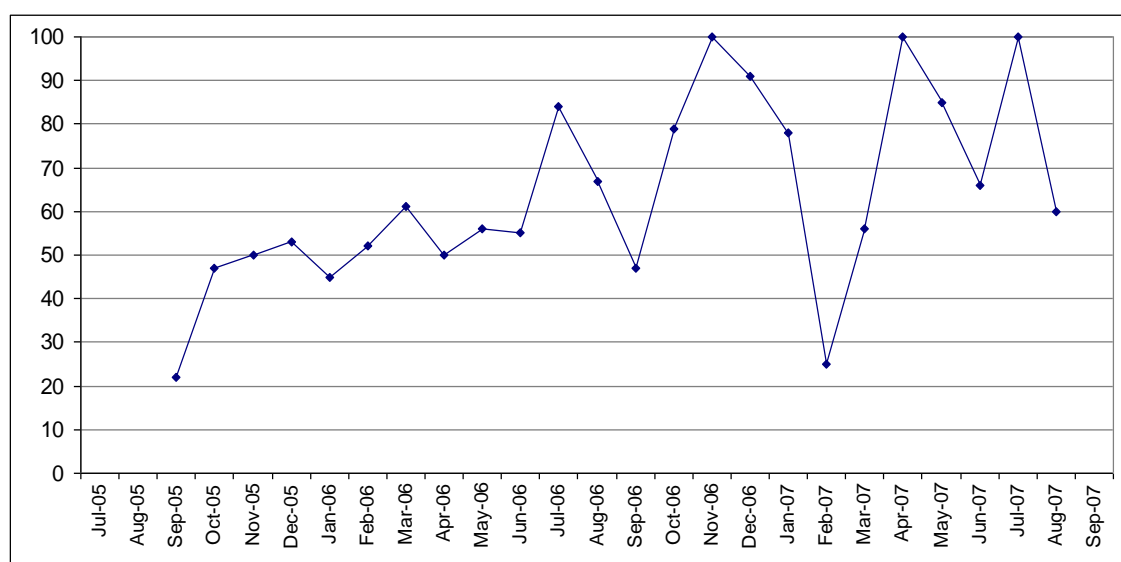


Figure 3. Percentage of assessed cases requiring treatment

#### A4. Treated Sample

In total 304 people were known to the Programme to be in need of treatment for psychological problems related to the London Bombings. 26 were not referred, mainly because they did not want treatment at that time. Out of the 278 people who were referred for psychological therapy, 30 were treated elsewhere (nearer to where they lived) and 248 were referred to the Programme (160 at the Traumatic Stress Clinic, 38 at the Centre for Anxiety Disorders and Trauma, and 50 at the Institute for Psychotrauma). Of these 248, contact was lost prior to treatment with 31 patients, leaving 217 patients who entered treatment. Of these 217, 101 were men and 116 were women. Their average age was 40.6 years (range 22-71, s.d. 10.1 years), and they were mainly of White British origin (Table 8). 156 had a primary diagnosis of DSM-IV or ICD-10 PTSD.

8 people who relapsed and 7 people who refused/dropped out of treatment have received a second set of treatment sessions. Of these 8 were male and 7 were female, their average age was 37.4 years (range 25-58, s.d. 9.3 years), and they

Table 8. Ethnic origin of 217 people treated by the Programme

<b>Ethnic origin – treated group</b>	<b>N</b>	<b>%</b>
Asian Indian	6	2.8
Black African	2	0.9
Black Caribbean	7	3.2
Black other	1	0.5
Chinese	3	1.4
Mixed White and Asian	2	0.9
White British	121	55.8
White Irish	6	2.8
White other	24	11.1
Other	16	7.5
Not stated	28	13.0
Total	217	100

were mainly of White British origin. Twelve had a primary diagnosis of DSM-IV PTSD.

The sample as a whole attended an average of 11.9 sessions (range 1-59, s.d. 9.9 sessions) and missed 1.9 sessions (range 0-15, s.d. 2.6 sessions). 28 patients dropped-out or refused treatment after entering the treatment leaving a sample of 189 who completed treatment. Out of 189 people who finished treatment 56.6% (N=107) were female and the average age of the group was 40.8 years. 134 were diagnosed with DSM-IV or ICD-10 PTSD and majority received CBT (table 9).

Table 9. Interventions received by treatment completers

Type of intervention	N	%
CBT	125	66.5
EMDR	18	9.6
Both	34	18.0
None	10	5.3
Missing	2	1.0
Total	189	100

Data were collected pre-treatment and post-treatment. In addition, a subsample of 66 was followed up as part of the second phase of the evaluation. These follow-up interviews took place on average 396 days / 12.2 months after treatment ended. In order to enable comparisons to be made with the research literature, outcome data are presented separately for the sample as a whole (all diagnoses) and for those specifically meeting DSM-IV criteria for PTSD.

### All diagnoses

Table 10 shows the scores on the Posttraumatic Diagnostic Scale (PDS) and Beck Depression Inventory (BDI) separately for the entire (intention to treat) sample, including those who dropped out, and the (completer) sample who actually received

a course of treatment. In the intention to treat sample, an ANOVA on the PDS scores showed statistically highly significant improvement,  $F(1, 206) = 431.7, p < 0.001$ . The treatment effect size  $d$  (calculated as the difference between the pretreatment and posttreatment means divided by their common standard deviation) was 1.56. There was similar improvement on the BDI scores,  $F(1, 207) = 253.8, p < 0.001$ , with an effect size  $d$  of 1.04.

Table 10. Treatment outcome details for all diagnoses

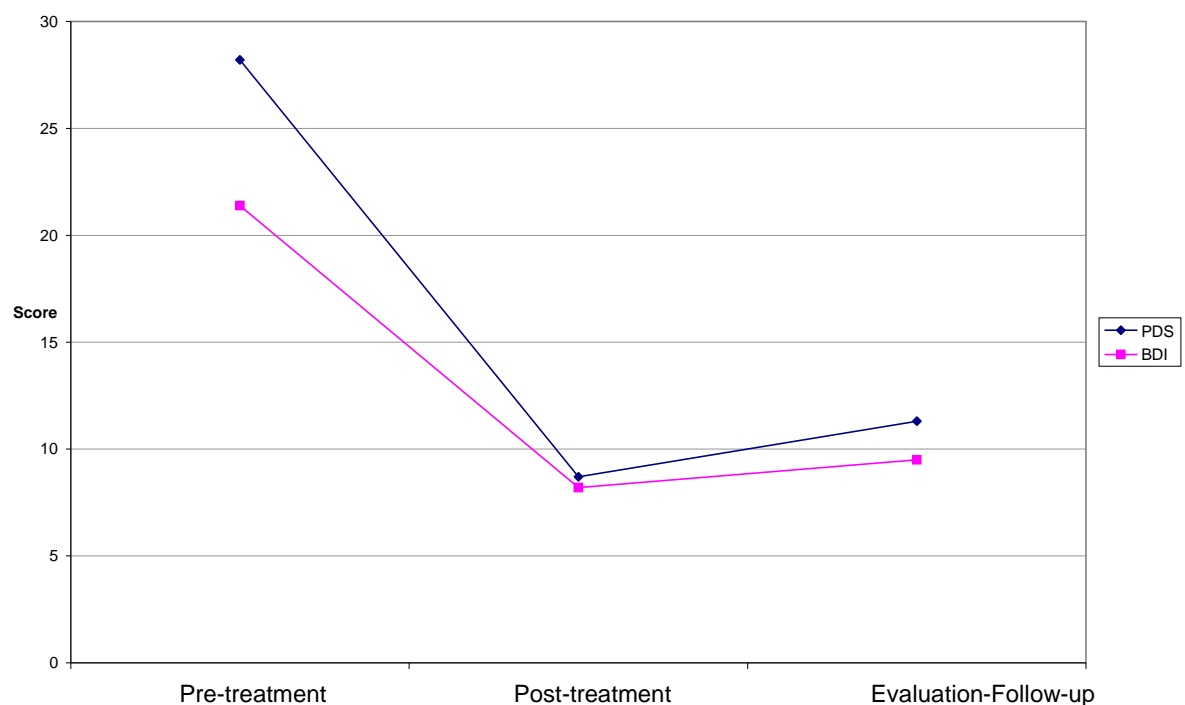
	N	Range	Mean	Std. Deviation
<b>Intention to treat sample (N=217)</b>				
pretreatment BDI	211	0-50	21.5	11.3
posttreatment BDI	209	0-55	10.1	10.5
pretreatment PDS	209	0-57	28.7	11.4
posttreatment PDS	207	0-51	11.3	11.2
<b>Completer sample (N=188)</b>				
pretreatment BDI	184	0-50	21.1	11.5
posttreatment BDI	182	0-55	8.7	9.7
follow-up BDI	66	0-32	9.6	9.7
pretreatment PDS	182	0-57	28.7	11.5
posttreatment PDS	180	0-51	9.6	10.4
follow-up PDS	64	0-49	11.5	11.4

In the completer sample there was statistical evidence for somewhat more improvement on the PDS,  $F(1, 179) = 504.25, p < 0.001$ , with a larger treatment effect size  $d$  of 1.74. There was no statistically significant difference between scores at the end of treatment and at follow-up,  $t(62) = -1.66, p > 0.05$ , indicating that treatment gains had been well maintained at one year. Similar improvement was shown on the BDI,  $F(1, 180) = 296.64, p < 0.001$ , with an effect size  $d$  of 1.17. There was no statistically significant difference between scores at the end of treatment and at follow-up,  $t(64) = -1.54, p > 0.05$ , indicating that treatment gains had been well maintained over time.

Treatment outcome in the completer sample is shown graphically in Figure 4. This indicates that there were very substantial treatment gains with no statistical

evidence of deterioration at one year follow-up. In order to test whether treatment gains were more likely at the beginning of the Programme, when they could have been reflecting a normal recovery process, a correlation was computed between the extent of improvement and the time elapsed since the bombings before receiving treatment. The correlations were small and nonsignificant both for the PDS,  $r(178) = -.04$ , and the BDI,  $r(180) = -.04$ , indicating that treatment was equally effective whether it was delivered early or late in the Programme.

Figure 4. Treatment outcome in the completer sample (all diagnoses)



## DSM-IV PTSD

Outcome data are presented in Table 11. In the intention to treat sample there was a statistically highly significant degree of improvement on the PDS,  $F(1, 122) = 296.9$ ,  $p < 0.001$ . The treatment effect size  $d$  was 1.81. Reliable clinical improvement was shown by 77.7% of patients, and 70.2% showed clinically significant change in that at post-treatment they were also closer to the mean of a functional population than a dysfunctional population (Jacobson & Truax, 1991; data for calculations

abstracted from Foa et al., 1997). There was similar degree of improvement on the BDI scores,  $F(1, 122) = 530.8, p < 0.001$ . The treatment effect size  $d$  was 1.26. Reliable clinical improvement was shown by 69.9% of patients, and 56.9% showed clinically significant change (criteria provided by Seggar et al., 2002).

Table 11. Treatment outcome details for DSM-IV PTSD

	N	Range	Mean	Std. Deviation
<b>Intention to treat sample (N=126)</b>				
pretreatment BDI	124	0-50	25.1	9.9
posttreatment BDI	123	0-55	12.2	11.2
pretreatment PDS	123	0-57	33.9	9.4
posttreatment PDS	123	0-51	13.6	12.7
<b>Completer sample (N=105)</b>				
pretreatment BDI	104	0-50	25.1	10.1
posttreatment BDI	103	0-55	10.6	10.6
follow-up BDI	39	0-32	11.2	10.2
pretreatment PDS	103	0-57	34.4	9.5
posttreatment PDS	103	0-51	11.6	12.2
follow-up PDS	37	0-49	14.9	12.5

In the completer sample there was once again evidence for more pronounced improvement on the PDS,  $F(1, 102) = 359.4, p < 0.001$ . The treatment effect size  $d$  was 2.08. Reliable clinical improvement was shown by 84.2% of patients, and 78.2% showed clinically significant change. There was no statistically significant difference between scores at the end of treatment and at follow-up,  $t(36) = -1.39, p > 0.05$ , indicating that treatment gains had been well maintained over time. There was similarly pronounced improvement on the BDI scores,  $F(1, 102) = 201.8, p < 0.001$ . The treatment effect size was 1.4. Reliable clinical improvement was shown by 78.2% of patients, and 64.3% showed clinically significant change. Once again there was no statistically significant difference between scores at the end of treatment and at follow-up,  $t(38) = -1.01, p > 0.05$ , indicating that treatment gains had been well maintained over time.



## A5. Programme Costs

Table 12 gives the costs of the 2-year programme, broken down into start-up costs, administrative costs incurred by the London Development Centre for Mental Health, the costs of the centralised screening team, and treatment costs. It can be seen that of the total costs of under £1.4 million, 7.7% went on pure administration, 34% on screening and assessment, and the remaining 58.3% on the direct (therapist time) and indirect (management, supervision, overheads) treatment costs.

Table 12. Total cost of NHS response to London Bombings in £.

	<b>2005/2006</b>	<b>2006/2007</b>	<b>2007/2008</b>	<b>Total</b>
<b>Start-up costs</b>	32 400	0	0	<b>32 400</b>
<b>LDC</b>	70 498	0	0	<b>70 498</b>
<b>Screening</b>	116 577	235 468.34	101 377.74	<b>453 423.08</b>
<b>Treatment</b>	200 705	416 993.19	161 153.12	<b>778 851.31</b>
<b>Total</b>	420 180	652 461.53	262 530.86	<b>1 335 172.39</b>

68% of clinicians' time was spent in direct contact with the individuals in treatment while 32% of their time was accounted for by preparation, supervision, and travelling to the sites for in vivo therapy. Treatment sessions were recorded in half hour sessions as the length of sessions varied depending on the stage and type of treatment. In total, 14285.5 half hours of clinician time were accounted for during the Programme out of which 9658.5 half hours were direct contact with clients. The cost per half hour of clinician time was £54.52.

## A6. Summary

The original proposal to set up the Trauma Response Programme was based on an estimate that there would be 4000 eligible people affected by the bombings,

and by the end of the Programme the contact details of 910 individuals had been obtained. Part of the original estimate included members of the emergency services, and although they were eligible to use the Programme they could also opt to receive services from their Occupational Health departments. Most of these contact details were provided within six months after July 2005 although others continued to be referred during the two years of the Programme. The contact details came from a wide variety of sources, relatively few originating with the person's GP. Most of those who entered the Programme had been directly involved with the bombings; either being injured themselves or witnessing others who were dead or injured.

Over 65% of those who came to the attention of the Programme completed a screening questionnaire, and 278 (30.5%) were referred for treatment following a detailed assessment. The screening questionnaire was highly sensitive at the outset, meaning that few of those suffering from disorders were likely to have been missed, but that the proportion being referred for treatment was initially only about half. As time went on the instrument better discriminated those who did not need intervention, with the result that most of those screening positive were referred for treatment. The most common primary diagnosis was PTSD. Of those referred within the Programme, 75.4% completed treatment. The outcomes in the complete sample were excellent, and well maintained among those followed up after one year. The total cost of the Programme was just over £1.33 million, of which about one third was attributable to the central screening and assessment team.

## SECTION B: Survey of the Users and Potential Users of the Trauma Response Programme

### B1. Characteristics of the Surveyed Subsamples

The aim of this phase of the evaluation was to interview subsamples of users of the Programme as well as individuals who for various reasons did not use the Programme. The samples were not intended to be representative and much of the data are qualitative. Table 13 gives the numbers of individuals surveyed. The first column (Total N) gives the number of respondents in each category registered on

Table 13. Subsamples of users surveyed

	<b>Total N</b>	<b>Eligible N</b>	<b>Interviews conducted</b>	<b>Effective response rate (%)</b>
<b>NHS Direct</b>	20	4	2	<b>50</b>
<b>Screened or assessed only</b>	67	42	37	<b>80.9</b>
<b>Referred to treatment</b>	188	161	101	<b>64.6</b>
<b>No further contact with the Programme</b>	57	34	22	<b>64.7</b>
<b>Metropolitan Police witness list</b>	623	611	70	<b>11.4</b>
<b>Word of mouth</b>	8	8	6	<b>75</b>
<b>Total</b>	963	860	238	

our database, and the second column (Eligible N) gives the numbers who were in practice contactable during the period of the evaluation. The third column gives the numbers of interviews conducted, and the effective response rate (column 4) represents the percent of interviews conducted out of those eligible. Particular efforts were made to interview individuals who were referred to treatment within the Programme. In total 238 interviews were conducted, 101 with individuals who were

referred to treatment within the London Bombings Programme. Out of those 101 participants, 10 never entered treatment and 10 never completed treatment. Follow-up outcome measures were collected on 66 out of 81 individuals who completed treatment. Sixty-one percent were conducted by telephone, and 32% face-to-face. The remainder returned questionnaires, 6% by mail and 1% by email. Table 14 indicates that the demographic characteristics of the interviewed samples were approximately equivalent to the characteristics of those screened by and treated within the Programme.

Table 14. Socio-demographic characteristics of users surveyed

	<b>NHS Direct</b>	<b>Screened or assessed only</b>	<b>Referred to treatment</b>	<b>No further contact with the Programme</b>	<b>Metropolitan Police witness list</b>	<b>Word of mouth</b>
<b>N</b>	2	37	101	22	70	6
<b>Age</b>	31.9	40.65	40.39	46.9	42.6	(53.9)
<b>Gender male</b>	1 (50)	16 (43.3)	41 (40.6)	14 (63.6)	43 (61)	4 (66)
<b>Ethnicity</b>	<b>N (%)</b>					
Asian Indian	0 (0)	0 (0)	5 (4.85)	0 (0)	3 (4.2)	0 (0)
Asian Pakistani	0 (0)	1 (2.9)	0 (0)	0 (0)	0 (0)	0 (0)
Black African	0 (0)	0 (0)	3 (2.9)	0 (0)	1 (1.4)	0 (0)
Black Caribbean	0 (0)	0 (0)	3 (2.9)	0 (0)	0 (0)	0 (0)
Chinese	0 (0)	0 (0)	1 (0.9)	1 (4.5)	0 (0)	0 (0)
White British	0 (0)	10 (29)	62 (61.4)	9 (40.9)	53 (75.7)	6 (100.0)
White Irish	0 (0)	2 (5.1)	3 (3.0)	1 (4.5)	0 (0)	0 (0)
White other	1 (50)	3 (8.1)	8 (7.9)	3 (13.6)	4 (5.7)	0 (0)
Other	1 (50)	1 (2.9)	7 (6.85)	1 (4.5)	8 (11.4)	0 (0)
Missing	0 (0)	20 (54.1)	9 (9.6)	6 (27.2)	1 (1.4)	0 (0)

## B2. Effects of the Bombings on Daily Life – Qualitative Data

In the course of the interviews respondents were asked *how the bombings affected their work or leisure activities*. The extracts below give an indication of the varied and wide-ranging impacts on people's lives.

*Effects on work.* 24 participants who finished treatment mentioned that the bombings had affected their work. These effects could be divided into following categories:

- *career effects* – 8 participants reported changes in their career such as abandoning their current career due to injuries, loss of career opportunities such as promotions, missing job interviews or underperformance at job interviews, and loss of job opportunities that required travel to London.
- *stopped working / job loss / income loss* - 9 participants reported issues in this domain. Reasons for stopping work were the stigma of mental health, and health reasons such as depression and headaches. Out of 9 participants 3 were made redundant and 3 decided to quit their jobs.
- *retired early* – One participant reported he retired early due to work overload.
- *diminished work productivity* – 5 participants reported issues with concentration, memory loss, problems with multi tasking and reliance on others to do their job.

*Travel issues* were reported by 15 participants and could be divided into the following categories:

- *stopped or having difficulties using public transport* – 10 participants
- *stopped travelling* – 3 participants

2 respondents reported issues with both travelling and using public transport.

*Effects on social life* were reported by 24 participants. Participants reported that claustrophobia, panic attacks, and intolerance to noise prevented them from going out, enjoying their leisure activities, and seeing their friends, resulting in diminished social activities.

*Effects on educational opportunities* were reported by 2 participants, one negative and one positive.

*Family life effects* - 6 participants reported strain on family life such as ending relationships/divorcing, or being overprotective of their children.

*Health issues* were reported by 13 participants and could be broadly categorised into physical and mental health issues.

- a. *Mental health issues* mentioned were personality change, stress, depression, 'blank moments', the sense things would never be the same again, irritability, jumpiness, irregular sleeping pattern, shopaholic impulses, emotional pain, periods of distress, low confidence, and the sense of guilt.
- b. *Physical health issues* - hearing problems, low energy levels, chronic chest pain, and impaired immune system.

### **B3. Familiarity with and Usage of Special Services set up after the London Bombings**

Table 15 indicates that most of those who had been screened or treated within the Programme tended to be aware of available services. In contrast, only about half of those who at some point had requested no further contact with the Programme were aware of the services available when interviewed during the evaluation. The Metropolitan Police witness list provide the best estimate of service familiarity among those affected by the bombings, as although they had not been in direct contact with the Programme they had been written to twice about it.

Worryingly, although about half were aware of the 7<sup>th</sup> July Assistance Centre, only 20% were aware of the NHS Trauma Response Programme. The Word of Mouth group were similarly unlikely to have heard of the service. “London Rescue” was a non-existent service included as a check that people were not falsely claiming familiarity with these services. The very small numbers that claimed to know about it provide confirmation about the likely validity of responses to these questions.

Table 15. Service familiarity and service usage

	<b>NHS Direct</b>	<b>Screened or Assessed only</b>	<b>Referred to treatment</b>	<b>No further contact with the Programme</b>	<b>Metropolitan Police witness list</b>	<b>Word of mouth</b>
<b>Familiar with the services:</b>	<b>N (%)</b>					
NHS Direct	2 (100)	19 (55)	35 (33)	11 (50)	31 (44)	1 (1)
7 July Assistance Centre	1 (50)	28 (82)	70 (67)	12 (54)	39 (55)	2 (33)
NHS Trauma Response	1 (50)	29 (85)	100 (96)	9 (40)	14 (20)	1 (16)
“London Rescue”	1 (50)	1 (3)	5 (6)	1 (4.5)	8 (11)	0 (0)
<b>Didn't use services:</b>						
NHS Direct	0 (0)	1 (3)	95 (91)	20 (91)	60 (85)	6 (100)
7 July Assistance Centre	1 (50)	15 (44)	55 (52)	17 (78)	58 (82)	4 (66)
NHS Trauma Response	0 (0)	23 (67)	13 (12)	19 (87)	66 (94)	6 (100)
<b>Reason for not using services:</b>						
Didn't need them	2 (100)	18 (52)	23 (22)	11 (50)	46 (65)	5 (83)
Didn't hear about them	0 (0)	13 (38)	63 (60)	13 (60)	30 (42)	4 (66)
No time or opportunity	0 (0)	3 (8)	2 (2)	2 (9)	3 (4)	1 (16)
Other	1 (50)	10 (29)	9 (9)	8 (36)	20 (28)	1 (16)

Table 15 also shows that the respondents from the Metropolitan Police witness list and Word of Mouth groups made relatively little use of services. Although in a majority of cases this was because they were not felt to be needed, a substantial proportion gave as a reason the fact that they had not heard about them. Among the “other” reasons respondents gave for not using services were the following:

*Screened or assessed only group:* Didn't feel entitled or affected (2), not based in London (1), had used other resources or services (2), "wanted to move on" (2), found out about services too late (2), thought service use would bring additional stress (1).

*No further contact with the Programme group:* Didn't feel entitled or affected (3), not based in London (2), had used other resources or services (2), negative initial contact with services (2).

*Metropolitan Police witness list:* Didn't feel entitled or affected (9), negative initial contact with services (3), had used other resources or services (10), not based in London (2), other coping mechanisms: engaged in 'cathartic' activities (1).

#### **B4. Reactions to Being Contacted by the Programme**

Despite the concerns of organisations holding data on individuals affected by the bombings, and the consequent difficulty in accessing contact information, table 16 shows that the vast majority of all respondents interviewed had no objection to being contacted by the Programme. There was a small preference in favour of being initially contacted by letter rather than by telephone. Moreover, 25% of those who finished treatment said it was unlikely that they would have asked for help if they had not been approached by the Programme.



Table 16. Reactions to being contacted by the Programme by group

	N (%)					
	NHS Direct	Screened or Assessed only	Referred to treatment	No further contact with the Programme	Metropolitan Police witness list	Word of mouth
Didn't object to being contacted by letter	2 (100)	35 (94)	98 (97)	22 (100)	68 (97)	6 (100)
Didn't object to being contacted by phone	2 (100)	29 (78)	77 (76)	20 (90)	61 (87)	6 (100)
Didn't object to contact details being passed to NHS services	2 (100)	34 (93)	94 (93)	19 (86)	69 (98)	5 (83)

## B5. Satisfaction with the Programme

Table 17 shows the number of respondents indicating they were satisfied with various aspects of screening or treatment. Of those who were screened or assessed but not offered treatment, the great majority were satisfied. Levels of satisfaction were higher in those who were actually treated within the Programme.

Table 17. Satisfaction with screening and treatment

	N satisfied (%)					
	Screening				Treatment	
	N total	First contact with screening team	Screening team response speed	Overall satisfaction with screening team	Satisfaction with treatment location	Satisfaction with treatment
Screened or assessed only	34	26 (70)	30 (82)	27 (72)	-	-
Referred to treatment	101	90 (89)	88 (87)	89 (89)	82 (80)	83 (82)

Some illustrative comments made by respondents who were screened or assessed but not treated were:

*“Screening became more relevant as time went on. The screening team was very pleasant and polite.”*

*“Satisfied with services, didn’t really expect any services and was relieved to find out that I was ok.”*

*“Disappointed as I wanted to talk and instead went through very long questionnaire.”*

*“The screening team wasn’t good in getting back in touch. Although I have received a call on anniversary which was helpful.”*

*“The screening team letter arrived at right time, made me aware of the services available. Nice to feel that people were thinking of me.”*

*“Was good to receive help and a piece of paper saying that I was doing fine”.*

Turning to treatment satisfaction, 12 respondents reported satisfaction with flexibility in terms of location and treatment hours. However, 3 respondents were not happy about the unavailability of treatment sessions outside working hours. A couple of respondents stated that travelling to the treatment centre was *“remedial”* and *“challenging”*. Ten respondents stated that the location was convenient while 5 respondents had problems with the location as they had issues with travelling to Central London.

Respondents who were satisfied with treatment provided more details of their views that could be summarised in terms of clinician and treatment characteristics. The treatment characteristics respondents reported were: *“distressing but helpful nature of treatment”*, *“helped to lift weight off the head”*, *“helped other problems that were triggered by the bombings”*, *“treatment provided transferable techniques like coping strategies or problem solving”*, *“enlightening and refreshing”*, *“liked the approach as was more active, not just listening and reflecting”*, *“treatment explained in a straightforward way”*, *“enlightening, refreshing and sometimes upsetting”*,

*“helpful to understand why memories have certain impact and how is it linked with therapy”, “sceptical at first but treatment provided ”scaffolding” for dealing with things”.* Therapists’ characteristics reported by respondents satisfied with treatment were the following: very patient, competent and reliable, trusting, professional, and compassionate.

Dissatisfied respondents of whom some dropped out of treatment had the following comments on the reasons for their dissatisfaction. Mainly they included dislike of the some of the characteristics of the therapy such as unpleasant side-effects, not knowing what to expect from treatment, or dislike of the therapist:

*“The counsellor only wanted me to go back to the scene, I didn’t want that. I dropped out of treatment by telling him I am ok although I was not. “*

*“Dropped out because I couldn’t stand talking about it.”*

*“Was happy with the treatment, but I don’t think it was helpful. Still trying to regain myself.”*

*“Never felt comfortable throughout the treatment, felt worse after each session.”*

*“Took two days to recover from each session, got stressed and panicky the day before each session and dropped out.”*

*“The treating clinician was distracted, not helpful.”*

*“Treatment was useless.”*

*“Wasn’t happy about lengthy holidays, was shocked when funding was coming to an end.”*

*“Wasn’t told what to expect.”*

## **B6. Satisfaction with Standard Clinical Services**

In total, 23 interviewed participants expressed dissatisfaction with GP services they used, while only 4 participants reported satisfaction with the service received from the GP.

Problems with medication prescribed were mentioned by two participants:

*“GP didn't help, gave me sleeping pills and anti - depressants.”*

*“GP prescribed fluoxetine.”*

Lack of information on services or available help were reported by 11 participants:

*“Didn't get help needed through GP. Help too slow.”*

*“GP was useless, said there was no help.”*

*“GP didn't have any info on help or support services, he feels he slipped through the cracks.”*

Lack of knowledge and no recognition of PTSD was reported by 10 participants:

*“GP expressed a high level of ignorance about PTSD and treatment, I had to fight to reach services.”*

*“GP said ‘you should pray to God who saved you’.”*

*“GP said ‘Don't talk about awful things, I have to go to London’.”*

*“GP said I needed a ‘stiff upper lip’.”*

*“GP inflexible, counselling provided through GP didn't help as counsellor focused on her childhood.”*

*“GP asked me to pay for a report stating I have been involved in the London bombings.”*

## B7. Outcome of Screening in the Evaluation Sample

Table 18 indicates that there is still bombings-related morbidity more than 2

Table 18. Numbers screening positive by group

	N of people screening positive on each item				
	NHS Direct	Screened or assessed only	No further contact with the Programme	Metropolitan Police witness list	Word of mouth
TSQ	1	3	0	5	1
Travel phobia	1	9	2	17	3
Depression	1	10	5	19	2
Smoking more	0	1	0	4	0
Drinking more	1	2	2	4	1
Other	0	3	4	6	0
Other – reasons		<i>Does not use tube, heightened alertness, does not socialise</i>	<i>Panic in enclosed spaces, anger, distressing dreams</i>	<i>Flashbacks, depression, short-tempered, physical symptoms, overeating</i>	
N of screeners returned	1	33	21	68	6
N screening positive on any item	1	26	11	50	4

years after the attacks in London. This is evident in those who were screened or assessed but not deemed to need treatment at that time, and in the Metropolitan Police witness list (and to a lesser extent among those who opted out of the Programme). Morbidity appears to be higher for depression and travel phobia than for PTSD, but this may be because thresholds were lower. Without a detailed clinical assessment it is not possible to say if those screening positive would have identifiable psychiatric disorders.

## **B8. Summary**

Qualitative data attest to the impact the bombings had on many aspects of our respondents' lives. Although 910 individuals were referred to the Programme, there were many who either did not hear about it or chose not to contact it. Levels of awareness of the NHS Trauma Response Programme were relatively low where respondents had been written to by a third party such as the Metropolitan Police: As shown in section B1, there were a further 623 affected individuals on the Metropolitan Police witness list who were written to but who did not contact the Programme. Others who made contact with the evaluation through word of mouth were also unlikely to have heard of the Programme. Although many of these may not have felt they needed services, there was evidence of persistent bombings-related psychopathology in a substantial minority, who were likely to attribute their failure to use the Programme to lack of knowledge of its existence. It is hard to judge the success of the outreach process as to date the total numbers affected by the bombings have not been definitively established.

Those who were contacted by the NHS Trauma Response Programme generally tended to be very satisfied with their experience, especially if they had received treatment, although a minority described problems with the treatment, with its location, or with their therapist. Importantly, there were minimal levels of objection to being contacted by the NHS following the bombings, even among participants who chose to opt out of the Programme. Consistent with the low rate of referral by G.P.s to the programme, respondents expressed considerable dissatisfaction with their own G.P.s' response to them and with their awareness of available services.

## SECTION C: Interviews with Key Stakeholders

### C1. Screen and Treat Programme

All the interviewed stakeholders from the clinical, financial and organisational sides of the project agreed that the idea behind the screen and treat programme was clear and appropriate.

Interviewed clinicians noted that *“it was sometimes difficult to communicate to others the idea of screening everyone that was exposed to the bombings, not just the people already experiencing problems”*. The clinicians were also very positive about the initial stages of the Programme in terms of the quick set-up of the multi-agency steering group and the screening team, and training the assistant psychologists to conduct screening and assessments. The team had adequate capacity to deal with the high volume of calls in the initial months. The highlighted difficulties with the initial set-up were obtaining contact details of people involved in the bombings and establishing an adequate database to monitor programme delivery.

From the perspective of the stakeholders representing the financial aspects, the screen and treat programme *“seemed like an economic, professional and evidence-based way of dealing with potentially very large numbers (of people needing treatment)”*. Initially there were some concerns about the clarity of the programme, namely around watchful waiting. Another issue that needed clarifying from the financial perspective were the outcomes. *“The proposals were coherent in what they wanted to do, but the outcomes were a bit unclear. (Service) commissioners are keen on having clear and measurable outcomes. That helps both justifying resources and gives a clear focus to clinicians.”*

*“Clear group coordination system, good business case behind it, and the fact it was demand-driven”* were mentioned as the Programme’s strengths. *“Furthermore, the*

*important component of the Programme was the fact it was based on the NICE guidelines. It helped people to keep focus and not try to provide everything immediately after the event”.*

There was a consensus on how normal referral pathways did not function in these circumstances and that it was crucial to have one central screening team to coordinate referrals.

*“I think it was very crucial in terms of being about front door and appearance and a sense of identity of there being a project. It also meant it was critical in terms of coordination.”* However, from a service commissioner point of view, in the future a dual point of entry to the services would be needed, both from a similar screening team and primary care level: *“We need to build that capacity twice, through a screening team and education and training at GP level”. “We need to have a screening team in place but as well activate the primary care sector.”*

There was also agreement among interviewed stakeholders that active outreach was an essential component of the Programme and there were no objections expressed or received towards it.

All the interviewed stakeholders from the organisational side of the programme agreed that the Trauma Response Programme *“made sense in terms of getting the best out of resources and actually making sure people that need to get access to services have as much of an opportunity of getting them as possible.”* However, all those interviewed agreed that in the beginning there was not enough clarity about the operational aspects of the project, which they attributed to the novelty of the approach: *“It took me a while just to get to grips with who was who, what was what, what the purpose of it all was, and I think that’s partly because it was evolving.”*

Questions were raised about the timeline of the project and the associated ethical issues. Some of the stakeholders agreed that two years was appropriate



while others raised questions concerning individuals who were referred at the end of the project and had to be put on waiting lists for regular services. Another point was raised about the ethical issues in setting-up specialised short-term PTSD services for which only people involved in the London bombings were eligible.

## **C2. Stakeholders' Representation**

All clinicians agreed that there were good working relationships with other stakeholders including the Metropolitan Police, Accident and Emergency services, other treatment services, and the 7<sup>th</sup> of July Assistance Centre. *“Fantastic cooperation and goodwill from all the agencies involved in response.”*

As well, they pointed out that it was crucial to have coordination of the financial, organisational, and clinical aspects of the Programme, provided in this case by the London Development Centre for Mental Health.

The clinicians agreed that the following stakeholders were not adequately represented at the steering group: user support groups, Accident and Emergency services, the (now) Department for Children, Schools and Families, liaison psychiatrists for seriously injured people in hospitals, and GPs. The view was expressed that the 7<sup>th</sup> of July Assistance Centre should have been involved in the steering group earlier as well.

From the organisational point of view it was suggested that operational and service managers were not adequately represented, along with additional statutory and voluntary sector organisations which would provide “a broader outlook”. One of the stakeholders did not feel that minority ethnic communities were less likely to receive support after the London bombings. She noted that *“minority groups have a lot of structures in place often within their own cultural groups. And perhaps their family groupings are stronger and closer and I think that definitely would have an*

*input into how people would react.”* Instead, attention was drawn to the potential vulnerability of single professional people to lack of support.

### **C3. Role of the London Development Centre for Mental Health**

Stakeholders from both financial and organisational sides of the project agreed that the London Development Centre played a crucial role in the project to *“mediate top-down and the bottom-up”* by using *“already established networks and links across, not just mental health services, but the police, the health authorities, the primary care services, a wide range of stakeholders plus having accountability within DH as it was directly commissioned by them.”* LDC was chosen for this role *“because they had a role across London, and we needed a mechanism that would bring all the trusts together.”*

*“The London Development Centre was able to navigate, facilitate and steer a route to avoid confrontation and difficulty, and to keep people engaged when times were difficult and when there was a potential for rivalries or disagreements.”*

However, from the perspective of the service commissioners, in future incidents this role may not be required. This was firstly due to the established relationships and collaborations between services and clinicians and secondly due to the re-organisation of the SHAs and introduction of Foundation trusts *“with more flexibility in using resources which results in more collaborative pan-London commissioning.”*

### **C4. Awareness Raising**

Awareness raising through NHS Direct, the mass media, and GPs was not considered satisfactory. All clinicians expressed difficulties in dealing with the media. The media were *“only interested in sensationalist stories”, “interviews would be completely changed and contact details of the services wouldn’t be included”,*

*“a lot of effort went into preparing the press releases and then the crucial bit didn’t get publicised.”* A view was expressed that more emphasis on a presence on the internet would have been desirable.

In terms of Programme awareness-raising a couple of difficulties were highlighted by organisational stakeholders such as *“not being able to access advertising space either in the local papers or underground and public transport, and not really being able to engage very well with responsible professional journalism.”*

Communication was highlighted as a crucial aspect of developing such services: *“communications within organisations and to the public, so people are aware of what’s in place and how that is communicated.”*

*“I guess that that’s one of the important lessons we’ve learned, is that we need to focus, even more, on promoting the work and look at ways of doing that, and I guess using London-wide networks to do that.”*

## **C5. DH Guidelines**

It was suggested from the organisational side of the project that it would be helpful if the DH provides guidelines on commissioning arrangements for similar programmes as after the London bombings there was not a clear understanding about the long-term response.

*“All the focus seemed to go on managing the event or the incident and the first few weeks after the incident, establishing the mortuary and Family Assistance Centre. After that, there wasn’t very clear guidance or understanding on who was responsible for aftercare, and whether this kind of work on PTSD and responding to trauma, whether that fits in with aftercare, or whether that is considered to be part of secondary care services or primary care services.”*

Another stakeholder noted initial communication difficulties with services such as the 7<sup>th</sup> July Assistance Centre *“as there was initially confusion for them and for us how to fit together”*.

From the service commissioners' and managers' perspective a desire for additional DH guidance on emergency response was expressed. They concluded that it would be helpful if the DH ensured that the SHA monitored the activity of participating mental health trusts.

As well as a request for more guidance there was also a strongly-held view that due to the great variability and uncertainty in regard to future emergency situations it would be a waste of resources to attempt to establish detailed best practice guidelines for a standard emergency response. Rather, since any emergency involves a unique set of challenges, more global principles are required that can be applied to the specific scenario. One stakeholder noted that *“You don’t talk about best practice, you talk about good practice, because the point I was making about each response is driven by the nature of each incident. There should be a mechanism where the leadership’s clear but recognising that it’s unlikely that you’re going to have something put in a pot on an if needed basis. But as long as the mechanisms are clear, the leadership is clear, the expectation is that Government departments will do their best then to provide additional funding.”*

*“I think what the London bombings service had was an agreement in principle to work collaboratively and to do whatever you could to break down barriers to enable a pathway, and there was an agreement in principle what the pathway was, everybody signed up to the same process, and I think that’s probably what you can do in advance, and realise that you, in the event of an incident, you have to put in considerable time to unpick lots of detail in order to smooth the pathway forward.”*

*“In an emergency all bets are off. You have to start with where you are.”*

*“I always say about emergency planning: it’s not about a plan. That is not what you train people to do. What you train people to do is how do you get a response to the contextual situation you’re dealing with? So you will not find, anywhere in emergency planning, a thing which says, now you do A, B, and C; it’s not like that. What you have to have is a flexible response.”*

## **C6. Programme Funding**

Another major issue highlighted by all interviewed clinicians was funding. Clinics reported *“operating under risk”* as there was no guaranteed funding to set up the screening and assessment team and hire clinicians. Funding was always received *“retrospectively”* which interfered with planning of services and staff retention. Consequently *“not all chief executives were prepared to operate at risk, so we couldn’t include the range of trauma expertise in terms of different locations of service provision”*. Furthermore, in terms of outreach there were issues in providing treatment for people living outside of London who felt isolated. They were supported by phone or referred to the local services by the screening team.

From the organisational perspective, a *“clear and realistic”* business proposal that the Programme was based on was seen as an advantage in obtaining the funding as well as the fact that Programme was *“following the NICE guidelines’ recommendations”*. However, the original proposal to *“support primary care, and provide supervision to the out of area regions, so that people who were living out of London and wanting to have treatment in their local areas, had to be revised and refocussed to London only”*. Other stakeholders drew attention to the fact that the Programme was only London-based which affected its ability to deliver services to people living outside London.

Stakeholders highlighted the uncertainty of the funding and its impact on the clinicians and their work. Uncertainty about project funding “*has put clinicians in a vulnerable position which resulted in ‘passing vulnerability down to the clients’*”.

However, it was acknowledged that the success of the project relied on the willingness of the clinical staff and chief executives to accept financial uncertainties and risks.

*“I think that the reason that the Programme kept going and eventually succeeded in overcoming the barriers, was because of the drive of the staff who were at the frontline who inspired the whole Programme.”*

It was also agreed that more clarity was needed about funding mechanisms, strategies and responsibilities in terms of the mental health response to the London bombings.

Financial stakeholders concluded that ensuring the funding of the Programme was difficult as there is no contingency fund for emergencies and money needed to be top-sliced from existing services. Chief executives needed to have the support of their Trusts and to argue for resources without any guarantees of the finances being secured. *“If there hadn’t been good relationships within the local health Trust I believe it would have collapsed. And to be frank, if C&I had pulled out everyone else would have pulled out very rapidly because we were the biggest financial risk in all that. It was entirely on the good will of the Trusts and clinicians.”*

The stakeholders agreed that clinicians were exceptionally cooperative which was essential for the project success, but *“It would have helped if there were a loosely faceted contract with the SHA about the timeline of the project.”*

## C7. Programme Exit Strategy

The Programme exit strategy was viewed as a very important part of the project by most organisational stakeholders and there were numerous issues raised and *“lessons to be learned”* around *“handling the end of the services.”*

In the view of one of the stakeholders *“the exit strategy was not planned and managed well”* and *“clarity was needed from the outset of the project about the timeline of the project and the fact that the funding was limited to two years.”*  
*“The mechanism wasn’t robust enough to ensure that people who still needed treatment were able to get the financing that they needed to help them carry on with their treatment with a reasonable degree of continuity.”*

## C8. Barriers to Programme Implementation

The identified barriers to the implementation of the Programme were: getting hold of the names and the addresses of the individuals exposed to the bombings, lack of resources and uncertainties with funding. All clinicians agreed that there was adequate capacity to deal with the individuals affected by the bombings and that the treatment provided was effective. However, if the scale of the event had been different and if all affected individuals had been immediately referred to the screening team, there was concern that not enough therapists, especially with specialist training, would be available. All interviewed clinicians agreed that the Programme was well monitored with regular steering group meetings and clinical activity reports.

In terms of barriers in implementing the Programme, the financial stakeholders interviewed identified a lack of understanding of the mental health domain, especially the ‘watchful waiting’ concept (i.e. not intervening when recovery is likely to occur naturally), and the fact that *“not providing help immediately is a part of the intervention”*. There were also deficits in a wider understanding of the response

stages, and a lack of clarity about responsibility for different stages of the response. It was commented that the political leverage exerted by the Programme created the pressure to provide help too soon without *“having time to reflect about what is best for people who require help and how to commission it”*.

In terms of monitoring, stakeholders stated that after some initial issues in regard to outcome measuring and data sharing, this aspect of the Programme was managed well.

### **C9. Role of the Health Protection Agency**

All the interviewed financial stakeholders agreed that the Health Protection Agency could play a crucial role in overcoming the difficulties faced by the Programme by obtaining contact details of the individuals involved from A&E services, hospitals and the Police. They also agreed that the HPA has an important future role in creating a central database of everybody involved in major incidents. *“One-lane approach in identifying and following-up all individuals involved is crucial.”* *“HPA is well equipped for this role being a public health organisation and having the technology and expertise to follow people up.”*

The organisational stakeholders added the importance of ensuring that this role does not overlap with those of existing services, and that work is not duplicated.

### **C10. Other Issues**

Additional points made by financial stakeholders included the following:

There was a concern expressed whether there was enough done in terms of mental health support offered to staff such as service commissioners or senior police officers.

A view was expressed that the service users should have been better represented at the project steering group. There were ethical issues in involving



people who were themselves part of an emergency, and this was identified as something requiring future consideration and planning.

More effort should have been made in development of on-line accessible information about the Programme. In addition to the local Camden & Islington Trust website, in future signposting will be possible via the DCMS direct.gov website [http://www.culture.gov.uk/what\\_we\\_do/Humanitarian\\_assistance/](http://www.culture.gov.uk/what_we_do/Humanitarian_assistance/).

In order to preserve capacity built throughout the project all the documentation developed such as letter drafts, screening and assessment protocols, and outcome measures should be adequately stored.

In the case of a future emergency the expertise and capacity built in London should be shared with other national centres through training. *“All the regional emergency response contingency plans should include a mental health component and that component should be built on the London Bombings experience”.*

## Discussion

### Need for the NHS Trauma Response Programme

Researchers describing the response to disasters and terrorism worldwide have commented on the level of persistent unmet mental health needs (e.g. Pfefferbaum et al., 2002; Stuber et al., 2006; World Trade Center Medical Working Group of New York City, 2008). In this study 31% of those who came to the Programme's attention, and 47% of those who were screened, were judged to need treatment. These figures are consistent with the finding that 30-40% of those directly exposed to a terrorist attack are likely to suffer from PTSD two years later (Whalley & Brewin, 2007). Interviews conducted during the evaluation emphasised the impact of exposure to the bombings on many areas of day-to-day activity, including work, health, family, and social life. Previous studies have documented that PTSD is associated with a higher rate of general medical complaints, as well as having a considerable negative impact on work and employment (Kessler, 2000; Weisberg et al., 2002).

As was found following the King's Cross fire (Rosser et al., 1991), only a minority of individuals treated initiated contact with services themselves. Crucially, there were relatively few referrals via G.P.s, the traditional gateway for referral of people with mental health problems to receive specialist treatment. The audit data were echoed by the results of the evaluation, which confirmed that few affected individuals had consulted their G.P.s and, where they had, they had rarely received an appropriate response or referral to the Programme. A substantial proportion indicated that had they not been contacted by the Programme they were unlikely to have sought or received treatment.

Despite circulars sent to all London G.P.s by the Department of Health alerting them to the Programme, it seems that this was not an effective channel for

identifying and referring affected individuals. This is consistent with other evidence that PTSD is currently not well understood, identified, or managed at primary care level (Ehlers, 2006; Munro et al., 2004; Duxbury, 2006) It is likely that without the Trauma Response Programme there would have been much greater levels of untreated morbidity. Some sufferers would have found their way to specialist traumatic stress centres but would have been faced with long waiting lists.

The international experts we consulted confirmed that the identification of affected persons is particularly difficult, and that typically there is little communication or coordination between different hospitals or other centres that they may attend. There was further agreement that this constitutes one of the most important barriers to delivering effective mental health care to those who need it. Although mental health care has been made available following other terrorist incidents, there have been only limited attempts to ensure it has been evidence-based, and a dearth of knowledge about equality of access or outcomes. The experience of the Programme was similarly that the identification of affected persons is a large task requiring dedication, imagination, and persistence, not to mention the time to contact multiple organisations and be responsive to multiple enquiries. Realistically this is unlikely to be possible for an individual treatment service operating with their normal complement of staff. Having a dedicated team with a single telephone number responsible for screening affected individuals greatly facilitated this process, and ensured that all received a comparable standard of care. Without such a team the mental health response would certainly have been fragmented, with unacceptable variation in the availability and appropriateness of the response individuals received.

There were numerous aspects of the work for which specialist trauma centres were particularly well-equipped. These included knowledge of evidence-based assessment and treatment protocols, experience at contacting and interacting with traumatised individuals, and awareness of the need to support and supervise front-

line staff (including limiting the amount of hours spent dealing with trauma). In future emergencies some of this work could be undertaken by general psychological treatment services or high intensity therapists working in the Improving Access to Psychological Therapies programme. We would nevertheless recommend that specialist psychological trauma centres be centrally involved to approve protocols, maintain treatment standards, and ensure optimum management of front-line staff.

### **Acceptability of the Programme**

A key question in the mind of the Programme Steering Group initially was whether individuals would be willing for their involvement in the bombings to be made known to NHS mental health services and to be contacted in person by those services. In the event, very few people raised any objection to being contacted then or in the future should a similar incident arise. In the course of the Programme and the evaluation numerous people expressed the expectation that they would and should be contacted, and some wondered why this had not happened earlier. Levels of satisfaction with the screening element of the Programme were high. Importantly, this was also true of individuals who were not offered treatment or who had at some point opted out of being contacted by the Programme. No consistent reasons why individuals felt they should not be contacted were recorded. Another indication that the screening process was acceptable is the fact that 65.5% of people whose details were made available to the Programme completed a screening questionnaire.

These data speak to the concerns of several of the organisations who in 2005 were holding data on bombing survivors. The Data Protection Act (1998) was cited frequently as a reason not to release names and contact details of affected persons to the Trauma Response Programme, even by other parts of the NHS. Many of these concerns have now been dealt with by the 2007 Cabinet Office guidance concerning data-sharing in emergencies, issued in response to lessons learned from

the bombings. This clarifies that personal information identifying individuals may be released under specific circumstances, for example when those individuals might expect information to be shared or when it is for their benefit or in the public interest. Our respondents clearly indicated that there is a general expectation of information-sharing in these circumstances.

The evaluation suggested, however, that respondents had views about how this should be done. There was a preference expressed for this not to happen in the first month, and for communications to be coordinated so that they were not repeatedly being contacted by different organisations who were unaware of each other. There was also a slight preference for communication by letter rather than by telephone.

### **Did the Programme Successfully Identify People Affected by the Bombings?**

The great majority of individuals who came to the attention of the Programme had been directly affected, either by being injured themselves or witnessing others' injuries. Many were convinced they would die. All these experiences are risk factors for developing difficulties such as PTSD (Ozer et al., 2003). Most had been involved in the events of 7<sup>th</sup> July, but there were also some affected by the linked events of 21<sup>st</sup> and 22<sup>nd</sup> July.

Analysis of the screening process indicated that at the beginning of the Programme more than half the sample screened positive, particularly for PTSD or depression. As those screening positive were usually referred for treatment, and only those judged to be doing well received additional screening, it is to be expected that a lower proportion screened positive on the second or subsequent occasion. The Trauma Screening Questionnaire remained a sensitive instrument throughout, detecting people with PTSD well, but was somewhat over-inclusive at the beginning of the Programme. This is likely to be because scores on the TSQ were initially

inflated by general distress. As time went on, however, the TSQ became better at identifying those who were not suffering from PTSD and, as a result, more of those individuals who were assessed were judged to need treatment.

It is harder to assess the success of the Programme in identifying all those who needed treatment. Only 910 people were identified out of an estimated 4,000 people affected. Some individuals, for example those who visited the 7<sup>th</sup> July Assistance Centre, will have been made aware of the Programme but chose not to avail themselves of it. During the evaluation it became evident that there were substantial numbers of people on the Metropolitan Police witness list, and others who were contacted through word of mouth, who had not heard of (or remembered about) the Programme and would probably have used it if they had. Worryingly, there was a considerable amount of untreated morbidity in these groups. This evidence, together with the low number of referrals through G.P.s, suggest that the efforts made to publicise the Programme, although extensive, were only partially effective.

### **Did the Programme Successfully Treat People Affected by the Bombings?**

The outcome data add to previous evidence (Gillespie et al., 2002) that established psychological treatment methods can substantially reduce PTSD following terrorist attacks. Reassuringly in view of uncertainty about the impact on PTSD symptoms of the enhanced counselling delivered within Project Liberty (Donahue et al., 2006b), even our more stringent intention-to-treat analyses indicated that 70% of those with DSM-IV PTSD showed clinically significant change on the measure of traumatic stress and 57% on the measure of depression. Those with travel phobia also had excellent outcomes (Handley et al., 2009).

The easiest way of evaluating our outcomes against other studies is to restrict the comparison to randomised controlled trials of multi-session cognitive–behaviour

therapy for individuals with PTSD following adult trauma (excluding military veterans). Data provided by Cahill, Rothbaum, Resick, and Follette (2009) show that the weighted average of within-group effect sizes for intention-to-treat analyses in previous trials is 1.32, and for completer analyses is 1.73. Our own effect sizes of 1.81 and 2.08 clearly indicate the effectiveness of the therapy provided. Importantly, the gains were maintained at one year follow-up.

At the end of treatment, the mean scores on the PDS were below the clinical range of symptoms, suggesting that the majority of patients recovered. The absence of a waiting list control group, however, makes it difficult to establish with certainty that the good outcome was due to treatment rather than natural recovery. However, a previous randomised controlled trial that used an outreach and screening approach in motor vehicle accident survivors showed that trauma-focussed CBT is superior to a waiting-list control and to self-help (Ehlers et al., 2003). The treatment effect on traumatic stress symptoms of 2.08 observed in the Trauma Response Programme was equivalent to that reported in this trial, and was much larger than the effect size of 0.44 observed in Ehlers et al.'s wait-list condition. We have additionally showed that people treated later in the Programme had as good outcomes as people treated earlier, which is also inconsistent with the idea that improvement could be accounted for by natural recovery.

There is evidence for a low level of persistent mental health difficulties and for continued, albeit sporadic, referrals for some years post-emergency. This has been the experience of the 7<sup>th</sup> July Assistance Centre as well as this evaluation, and has also been documented by the World Trade Center Health Registry (World Trade Center Medical Working Group of New York City, 2008). As noted by several stakeholders, more consideration could therefore have been given to the ending of the Programme, and to the provision of care for existing patients within the Programme as well as to new patients requiring treatment.

## **What Problems did the Programme Face that may have Affected its Performance?**

Evidence pertinent to this section of the report was gleaned from the interviews with users of the Programme and stakeholders, as well as from the trauma literature and consultation with international experts. Three major problems were identified and are dealt with below: Identification of affected individuals, unsuitability of already established care pathways, and lack of clarity in financial procedures.

***Identification of affected individuals.*** Concerns over how to effectively identify those involved is a characteristic not only of this Programme but of almost all mass casualty events worldwide. Without effective identification, accurate estimates of the mental health needs, of the resources needed to treat them, and assurance about equitable delivery of care to those who need it, are almost impossible. The results have been well documented in studies of disaster worldwide: there is extensive unmet need, treatment efforts are unsystematic and of varying quality, and the true costs to the health system and to individuals are unknown.

Problems are exacerbated by larger incidents with greater numbers of dead and injured, and when those individuals come from dispersed geographical locations. Identification is easiest when survivors have been triaged and treated by the same hospital, assuming that there is a mechanism for tagging them as all being involved in the same incident. In practice many hospitals may be involved, and survivors may not present for treatment until they have left the scene of the incident and travelled a considerable distance. Other survivors may not have physical injuries and will not have been processed by accident and emergency departments.



The experience of this Programme, namely that affected individuals are only able to be identified by multiple means and through multiple sources, is therefore likely to be the norm. This immediately raises the issue of how information is to be shared among the many institutions involved, and who is going to accomplish this. Although the Cabinet Office guidelines of 2007 have clarified many of the restrictions on data-sharing, they do not address the role of data-sharing in the medium- and longer-term psychosocial response to disaster and the infrastructure required to carry this out.

Following the September 11<sup>th</sup> 2001 attacks the New York City Department of Health and Mental Hygiene set up the World Trade Center Registry in 2003/04. This has proved and is continuing to prove an invaluable resource, but does not contain comprehensive details of all those affected. The international experts we consulted all believed that a comprehensive register, set up as soon as possible after an emergency, was an essential aspect of a psychosocial response. Commenting on psychosocial provision after the London bombings, the London Assembly (2006) report stated that “the foundation stone (for all this advice and support) is the collection of contact details of survivors at the scene of the incident, and the effective management and sharing of those details among the relevant authorities. And, for those whose details have not been collected, the authorities must make efforts to contact them via the media, internet, and other channels to make them aware of the support that is available. On both these counts, the support to survivors following 7 July was patchy and in some cases non-existent.”

Although there are many practical difficulties involved, we agree with the London Assembly report and the others we have consulted that it is essential to set up a register of affected persons as soon as possible after an emergency, and that this should form an integral part of the medium-term and longer-term phases of the psychosocial response. We do not agree, however, with the report’s suggestion that

this should be undertaken by a humanitarian assistance centre set up after the emergency. In our view such a centre will be overwhelmed with other urgent tasks, and is unlikely to have the experience, resources, and technical ability (knowledge and availability of appropriate data capture systems, experience with databases, familiarity with data protection issues, etc.) to successfully carry this out.

It is our view that the Health Protection Agency is uniquely equipped for this challenging role. As well as being a permanent body able to develop the relevant expertise and methods in advance, and bring this to bear immediately, they already have a similar statutory function in the case of certain events such as epidemics, and this could be relatively easily extended to cover other kinds of emergency. The HPA could have a coordinating function, working closely with the police, humanitarian assistance centre, and NHS organisations, to gather data and ensure its quality.

***Lack of appropriate care pathways.*** Established care pathways for psychological treatment tend to be linked to geographical areas, with strict rules about who can be referred where, by whom, and under what funding mechanism. These care pathways are important in allowing access, and associated costs, to be monitored and controlled under non-emergency conditions. In an emergency, however, these pathways are likely to block access to those who need care. When affected individuals come from numerous different city areas, regions, or parts of the UK, for example, major difficulties arise in ensuring equality of access. The Trauma Response Programme was designed as a pan-London initiative in which individuals could be accepted for treatment in London regardless of their address. Such an arrangement should be easier now that there is a single Strategic Health Authority for London. However, individual Trusts hosting therapists may still need to change computing systems which, for example, will only allow patients with an address in a specific locality to be registered.

In practice the Programme administrator at the London Development Centre for Mental Health spent many hours over the lifetime of the Programme unpicking administrative and financial barriers whereby existing care pathways were preventing individuals from receiving treatment. This required often detailed work with individual Trusts in the London area, and with their administrative and financial staff. Greater problems were encountered when affected individuals lived in other parts of the country and could not readily come to London for treatment. In these areas there were frequently no specialist traumatic stress centres. Even where there was such a centre, no additional staff had been made available and no priority had been given to anyone affected by the London bombings, resulting in unequal access to care based on geographical location.

For future emergencies, therefore, it is important that Trusts and Strategic Health Authorities simulate in their planning exercises the effects on access to longer-term mental health services of having variously distributed and dispersed populations of affected people. Such dispersion is typical of emergencies involving transport, in which passengers may be in the middle of a journey from one part of the country to another, or even from one country to another. The NHS Emergency Planning Guidance could usefully include sections on how to plan for longer-term care provision across geographical regions. Funding for the longer-term psychosocial response to future emergencies needs to allow for considerable administrative costs.

***Lack of clarity in financial procedures.*** In the trauma literature there are many descriptions of lack of funding for the longer-term, mental health response to disasters. In some cases there are restrictions on the use of available funding for mental health treatment, or if treatment is available there are restrictions on who is eligible for it. In many cases governments do make mental health funding available

at some stage, but this is not generally tied to mechanisms that ensure all affected persons receive the same high quality, evidence-based treatment.

After the London bombings funding for the Trauma Response Programme was sought from the Department of Health, but rules on departmental spending do not make it practical to set aside contingency funds for unforeseen emergencies. The Department wished to be, and indeed was, very supportive of the Programme, but could only encourage chief executives of the relevant mental health trusts to hire the staff necessary to carry out screening and treatment “at risk”, that is, without any formal written guarantee that the costs would eventually be underwritten by the Department. Uncertainties about funding, and the mechanisms for agreeing this, persisted throughout the two-year life of the Programme, and resulted in planning difficulties as well as short-term contracts for therapists that did not tend to be renewed in good time. This was not conducive to maintaining morale either among therapists, who were worried about their employment, or their patients, who were worried about their treatment.

All the stakeholders we interviewed felt that this aspect of the Programme could have been handled better and was likely to have an adverse effect on similar future programmes. This is particularly the case because the need to operate “at risk” may conflict with new mechanisms (such as Monitor, the independent regulator of NHS Foundation Trusts) being put in place to ensure financial stability. In future emergencies it would therefore be desirable for the Department of Health to identify a specific body, such as a Strategic Health Authority, as responsible for commissioning and funding such a programme. We would also recommend that there be guidelines for Trusts, their chief executives, and other bodies such as Monitor, concerning the possible need to operate “at risk” in certain well-defined circumstances.

## Conclusions

The experience of the Trauma Response Programme has been that it is feasible to implement an outreach programme following an emergency, and that people whose mental health needs are otherwise likely to remain unmet can be successfully identified, screened, and treated. The model based on a centralised screening team with a coordinating function, linked to specialist clinics delivering treatment, worked well within the London context. In parts of the country without such clinics provision would have to be made for enhanced training and supervision of other mental health workers, for example those used to delivering high-intensity interventions within the Improving Access to Psychological Therapies programme.

There was scope for improvement in a number of areas, particularly the initial identification of affected individuals, the organisation and financing of the programme, and the provision of a more detailed exit strategy. The provision of specific services for children and minority ethnic groups was not a major feature of this emergency but is likely to be so in future, and more consideration needs to be given to how to ensure they also experience equal access to trauma care. Nevertheless, the Programme has provided a potential blueprint for organising services that is likely to be relevant and important, and implementation of the model should be considered again when similar circumstances arise.

## References

- Andrews, B., Brewin, C. R., Philpott, R., & Stewart, L. (2007). Delayed onset posttraumatic stress disorder: A systematic review of the evidence. *American Journal of Psychiatry*, 164, 1319-1326.
- Beck, A. T., Ward, C. H., Mendelson, M., et al. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.
- Brewin, C. R. (2001). Cognitive and emotional reactions to traumatic events: Implications for short-term intervention. *Advances in Mind-Body Medicine*, 17, 163-168.
- Brewin, C. R. (2005). Systematic review of screening instruments for the detection of posttraumatic stress disorder in adults. *Journal of Traumatic Stress*, 18, 53-62.
- Brewin, C. R., Rose, S., Andrews, B., et al. (2002). A brief screening instrument for posttraumatic stress disorder. *British Journal of Psychiatry*, 181, 158-162.
- Brewin, C.R., Scragg, P., Robertson, M., Thompson, M., d'Ardenne, P., & Ehlers, A. (2008). Promoting mental health following the London bombings: A screen and treat approach. *Journal of Traumatic Stress*, 21, 3-8.
- Cabinet Office (2007). Data Protection and Sharing – Guidance for Emergency Planners and Responders. Document downloaded 21.12.08 from <http://www.ukresilience.gov.uk/media/ukresilience/assets/dataprotection.pdf>
- Call, J. A. & Pfefferbaum, B. (1999). Lessons from the first two years of Project Heartland, Oklahoma's mental health response to the 1995 bombing. *Psychiatric Services*, 50, 953-955.
- Department for Culture, Media and Sport (2006). Humanitarian Assistance in Emergencies: Non-statutory guidance on establishing humanitarian assistance centres. London: DCMS

Department for Culture Media and Sport (2007). Summary of the 7<sup>th</sup> July Assistance Centre evaluation. Document downloaded 10.12.08. from <http://www.culture.gov.uk/images/publications/summaryindependentevaluationreportac.pdf>

Disaster Action (2008). Longer-term support: Guidance for responders. Document downloaded 5.2.09 from [http://www.disasteraction.org.uk/leaflets/Guidance\\_for\\_Responders\\_Longer\\_term\\_Support.pdf](http://www.disasteraction.org.uk/leaflets/Guidance_for_Responders_Longer_term_Support.pdf)

Donahue, S. A., Lanzara, C. B., Felton, C. J., et al. (2006a). Project Liberty: New York's crisis counseling program created in the aftermath of September 11, 2001. *Psychiatric Services*, 57, 1253-1258.

Donahue, S. A., Jackson, C. T., Shear, K. M., Felton, C. J., & Essock, S. M (2006b). Outcomes of enhanced counseling services provided to adults through Project Liberty. *Psychiatric Services*, 57, 1298-1303.

Ehlers, A., Clark, D. M., Hackmann, A., McManus, F., Fennell, M., Herbert, C., et al. (2003). A randomized controlled trial of cognitive therapy, self-help booklet, and repeated assessment as early interventions for PTSD. *Archives of General Psychiatry*, 60, 1024-1032.

Ehlers, A. Gene-Cos, N., Perrin, S., Trowell, K., Nairn, C., Buttler, N., & Ramsey, R. (2006). Current treatment of posttraumatic stress disorder in SLAM: A survey of GPs, CMHT managers and consultants. Unpublished Manuscript, Institute of Psychiatry, London.

First, M. B., Spitzer, R. L., Gibbon, M., & Williams, J. B. W. (1997). *Structured Clinical Interview for DSM-IV Axis I Disorders - Patient Edition (SCID-IP. Version 2.0.4. 97 revision)*. New York: Biometrics Research Department, New York State Psychiatric Institute.

Foa, E. B., Cashman, L., Jaycox, L., & Perry, K. (1997). The validation of a self-

- report measure of posttraumatic stress disorder: The Posttraumatic Diagnostic Scale. *Psychological Assessment*, 9, 445-451.
- Galea, S., Brewin, C.R., Gruber, M., Jones, R.T., King, D.W., King, L.A., McNally, R.J., Ursano, R.J., Petukhova, M., & Kessler, R.C. (2007). Exposure to hurricane-related stressors and mental illness after Hurricane Katrina. *Archives of General Psychiatry*, 64, 1427-1434.
- Gillespie, K., Duffy, M., Hackmann, A., & Clark, D. M. (2002). Community based cognitive therapy in the treatment of posttraumatic stress disorder following the Omagh bomb. *Behaviour Research and Therapy*, 40, 345-357.
- Handley, R. V., Salkovskis, P. M., & Ehlers, A. (2009). Treating clinically significant avoidance of public transport following the London bombings. *Behavioural and Cognitive Psychotherapy*, 37, 87-93.
- Home Office (2006). Addressing lessons from the emergency response to the 7 July 2005 London bombings: What we learned and what we are doing about it. Norwich: HMSO.
- Institute of Medicine (2003). Preparing for the psychological consequences of terrorism: A public health strategy. Washington, D.C.: National Academy of Sciences
- Jacobson, N. S., & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 59, 12-19.
- Kessler, R. C. (2000). Posttraumatic stress disorder: The burden to the individual and to society. *Journal of Clinical Psychiatry*, 61, 4-14.
- Kroenke, K., Spitzer, R. L., & Williams, J. B. W. (2003). The Patient Health Questionnaire-2: Validity of a two-item depression screener. *Medical Care*, 41, 1284-1292.
- London Assembly (2006). *Report of the 7 July review committee*. London:



Greater London Authority.

London Regional Resilience Forum (2006). Looking back, moving forward: The multi-agency debrief. London: Government Office for London.

Mayfield, D., McLeod, G., & Hall, P. (1974). The CAGE questionnaire: Validation of a new alcoholism instrument. *American Journal of Psychiatry*, 131, 1121-1123.

McNally, R. J., Bryant, R. A., & Ehlers, A. (2003). Does early psychological intervention promote recovery from posttraumatic stress? *Psychological Science in the Public Interest*, 4, 45-79.

Melzack, R. (1987). The short-form McGill Pain Questionnaire. *Pain*, 30, 191-197.

Munro, C. G., Freeman C. P., & Law, R. (2004). General practitioners' knowledge of posttraumatic stress disorder: a controlled study. *British Journal of General Practice*, 54, 843–847.

National Institute for Clinical Excellence (2005). *Post-traumatic stress disorder: The management of PTSD in adults and children in primary and secondary care*. London: Gaskell.

Ozer, E. J., Best, S. R., Lipsey, T. L., & Weiss, D. S. (2003). Predictors of posttraumatic stress disorder and symptoms in adults: A meta-analysis. *Psychological Bulletin*, 129, 52-73.

Pfefferbaum, B., North, C. S., Flynn, B. W., Norris, F. H., & DeMartino, R. (2002). Disaster mental health services following the 1995 Oklahoma City bombing: Modifying approaches to address terrorism. *CNS Spectrums*, 7, 575-579.

Prigerson, H. G., & Jacobs, S. C. (2001). Traumatic grief as a distinct disorder: a rationale, consensus criteria, and a preliminary empirical test. In M. S. Stroebe, R.O. Hansson, W. Stroebe, & H. Schut (Eds.) *Handbook of bereavement*

- research: Consequences, coping, and care* (pp. 588-613). Washington, D.C.: American Psychological Association.
- Rosser, R., Dewar, S., & Thompson, J. (1991). Psychiatric aspects of disaster: Psychological aftermath of the King's Cross fire. *Journal of the Royal Society of Medicine*, 84, 4-8.
- Rubin, G.J., Brewin, C.R., Greenberg, N., Simpson, J., & Wessely, S. (2005). Psychological and behavioural reactions to the 7 July London bombings: A cross-sectional survey of a representative sample of Londoners. *British Medical Journal*, 331, 606-611.
- Rubin, G.J., Brewin, C.R., Greenberg, N., Hacker Hughes, J., Simpson, J., & Wessely, S. (2007). Predictors of persistent distress following terrorism: A seven month follow-up survey of reactions to the bombings in London on 7 July 2005. *British Journal of Psychiatry*, 190, 350-356.
- Seggar, L. B., Lambert, M. J., & Hansen, N. B. (2002). Assessing clinical significance: Application to the Beck Depression Inventory. *Behavior Therapy*, 33, 253-269.
- Stuber, J., Galea, S., Boscarino, J. A., & Schlesinger, M. (2006). Was there unmet mental health need after the September 11, 2001 terrorist attacks? *Social Psychiatry and Psychiatric Epidemiology*, 41, 230-240.
- Turner, S. W., Thompson, J. A., & Rosser, R. M. (1989). The King's Cross fire: Planning a "phase two" psychosocial response. *Disaster Management*, 2, 31-37.
- Walters, J. T. R., Bisson, J. I., & Shepherd, J. P. (2007). Predicting post-traumatic stress disorder: validation of the Trauma Screening Questionnaire in victims of assault. *Psychological Medicine*, 37, 143-150.
- Wang, P. S., Berglund, P., Olfson, M., Pincus, H. A., Wells, K. B., & Kessler, R. C. (2005). Failure and delay in initial treatment contact after first onset of mental disorders in the National Comorbidity Survey replication. *Archives of General*

*Psychiatry*, 62, 603-613.

Ware, J. Jr., Kosinski, M., & Keller, S. D. (1996). A 12-Item Short-Form Health Survey: construction of scales and preliminary tests of reliability and validity. *Medical Care*, 34, 220-233.

Weisberg, R. B., Bruce, S. E., Machan, J. T., Kessler, R. C., Culpepper, L., & Keller, M. B. (2002). Non-psychiatric illness among primary care patients with trauma histories and post-traumatic stress disorder. *Psychiatric Services*, 53, 848–854.

Whalley, M. G. & Brewin, C. R. (2007). Mental health following terrorist attacks. *British Journal of Psychiatry*, 190, 94-96.

World Trade Center Medical Working Group of New York City (2008). *2008 annual report on 9/11 health*. New York: Author.

## **Acknowledgements**

We would like to thank Sarah Brown from the Metropolitan Police and all the many individuals who contributed to the Trauma Response Programme and to this evaluation.

## **APPENDIX I: EVALUATION SCIENTIFIC ADVISORY BOARD MEMBERS**

Alison Armstrong, NHS Strategic Health Authority for London

Elizabeth Bennett, Newham Primary Care Trust

David M. Clark, Institute of Psychiatry, London

Pamela Dix, Disaster Action

Anke Ehlers, Institute of Psychiatry, London

Paul McCrone, Institute of Psychiatry, London

Steve Pilling, University College London

Stefan Priebe, East London NHS Foundation Trust

Stuart Turner, The Trauma Clinic, London

Simon Wessely, Institute of Psychiatry, London

Sue Balmer, East London and City Mental Health Trust

## **APPENDIX II: PSYCHOSOCIAL STEERING GROUP MEMBERS, NHS TRAUMA RESPONSE PROGRAMME**

Alison Armstrong, North West London Strategic Health Authority

Jo Best, 7<sup>th</sup> July Assistance Centre

Mary Burd, East London and City Mental Health Trust

Chris Brewin, Camden & Islington Mental Health and Social Care Trust and University College London

Mike Catchpole, Health Protection Agency

David Clark, Centre for Anxiety Disorders and Trauma and Institute of Psychiatry, London

Patricia d'Ardenne, East London and City Mental Health Trust

Ali Davies, London Development Centre for Mental Health

Julie Dent, South West London Health Authority

Felicity de Zulueta, South London and Maudsley Mental Health NHS Trust

Pamela Dix, Disaster Action

Alison Dunn, Transport for London

Anke Ehlers, Centre for Anxiety Disorders and Trauma and Institute of Psychiatry, London

Darren George, Central & North West London Mental Health Trust

Dave Grant, Metropolitan Police

Rod Holland, West London Mental Health NHS Trust

Gemma Hughes, London Development Centre for Mental Health

Muriel McLenahan, London Resilience Team

Erville Millar, Camden & Islington Mental Health and Social Care Trust

Joanne Morris-Smith, Great Ormond Street Hospital

Sean Perrin, South London and Maudsley Mental Health NHS Trust and Institute of Psychiatry, London

Stefan Priebe, East London and City Mental Health Trust and Queen Mary University of London

Liz Prosser, 7<sup>th</sup> July Assistance Centre

Ian Robbins, South West London & St George's Mental Health NHS Trust

Mary Robertson, Camden & Islington Mental Health and Social Care Trust

Peter Scragg, Camden & Islington Mental Health and Social Care Trust

Martin Seager, North East London Mental Health Trust

Philip Tata, Central & North West London Mental Health Trust

Brenda Thomas, Health Protection Agency

Jean Thomas, Metropolitan Police

Monica Thompson, Camden & Islington Mental Health and Social Care Trust

Guinevere Tufnell, Great Ormond Street Hospital

Stuart Turner, The Trauma Clinic, London

Wendy Wallace, Camden & Islington Mental Health and Social Care Trust

Ken Wong, Camden & Islington Mental Health and Social Care Trust

Bill Yule, South London and Maudsley Mental Health NHS Trust and Institute of Psychiatry, London

# APPENDIX III: ADULT SCREENING INSTRUMENT USED BY THE TRAUMA RESPONSE PROGRAMME

## NHS Trauma Response (London bombings)

Your name:		
Your address:		
Postcode:		
Your telephone	(home):	(mobile):
	(work):	Email:
Your occupation:		
Your date of birth:		
Your gender:	Are you male?	Are you female?

**Do you have any children living with you? If yes please provide their details:**

	Name	Age	Are they male/female?
child 1			
child 2			
child 3			
child 4			
child 5			

On which day were you involved in the bombings?	7 July	21 July	Both days
Where were you on that day(s)?			
<b>Which, if any, of the following applied to you?</b>	<b>yes</b>	<b>no</b>	
You were injured			
You felt that you might be injured or killed			
You saw someone who had been injured or killed			
A family member or close friend was killed			
A family member or close friend was injured			
You felt that a family member or close friend might be injured or killed			
You personally witnessed the effects of one of the bombings			

With your consent we would also like to let your G.P know of your involvement in the bombings so that you receive the right advice or treatment in the future. Please put a cross in the box if you do **not** wish us to do this ☐.

**Please add your GP name and address here ( even if you do not wish involvement of your G.P)**



**Please consider the following reactions that sometimes occur after a traumatic event. This questionnaire is concerned with your personal reactions to the London bombings that happened in July 2005. Please indicate whether or not you have experienced any of the following AT LEAST TWICE IN THE PAST WEEK:**

	YES, AT LEAST TWICE IN THE PAST WEEK	NO
Upsetting thoughts or memories about the bombings that have come into your mind against your will		
Upsetting dreams about the bombings		
Acting or feeling as though the bombings were happening again		
Feeling upset by reminders of the bombings		
Bodily reactions (such as fast heartbeat, stomach churning, sweateness, dizziness) when reminded of the bombings		
Difficulty falling or staying asleep		
Irritability or outbursts of anger		
Difficulty concentrating		
Heightened awareness of potential dangers to yourself and others		
Being jumpy or being startled at something unexpected		

	Yes	No	
Since the bombings, has your daily life become difficult because you felt unable to use public transport (e.g., not being able to get to work, to get your shopping done, or to get to social events) or because you felt very distressed when using public transport?			
Since the bombings have you noticed that you have been much more bothered than usual by feeling, down, depressed, or hopeless?			
Since the bombings have you noticed that you have been much more bothered than usual by feeling little interest or pleasure in doing things?			
Since the bombings have you noticed that you have been smoking much more?			Non smoker
Since the bombings have you noticed that you have been drinking much more alcohol?			Non drinker
Since the bombings have you noticed any other reaction that is a concern to you?			
Please explain further:			

## APPENDIX IV: SURVEY QUESTIONS USED IN PART II OF THE EVALUATION



### NHS London Bombings Response Evaluation

Client no:

Date:

#### INFORMATION SHEET & CONSENT FORM

Date of Birth (dd/mm/yy):

Gender:

M

F

#### Section A. The first few questions regard your experience with the bombings:

- |                                                    | 7 July | 21 July | Both |
|----------------------------------------------------|--------|---------|------|
| 1. On which day were you involved in the bombings? |        |         |      |
| 2. Where were you on that day(s)?                  |        |         |      |

- |                                                                              |     |    |
|------------------------------------------------------------------------------|-----|----|
| 3. Were you injured?                                                         | YES | NO |
| 4. You felt that you might be injured or killed?                             | YES | NO |
| 5. You saw someone who had been injured or killed?                           | YES | NO |
| 6. A family member or close friend was killed?                               | YES | NO |
| 7. A family member or close friend was injured?                              | YES | NO |
| 8. You felt that a family member or close friend might be injured or killed? | YES | NO |
| 9. You personally witnessed the effects of one of the bombings?              | YES | NO |
| 10. Other involvement                                                        |     |    |

#### Section B(i). This section is about how you're feeling now:

- Since completing your treatment, have you experienced any flashbacks relating to the bombings?  
YES NO – go to B(ii)
- How often do you experience flashbacks?  
☐ More than once a day  
☐ Daily  
☐ A few times a week  
☐ Weekly  
☐ Once every couple of weeks  
☐ Monthly  
☐ Less often
- On a scale of 1-10, how similar or different are these flashbacks to those that you experienced before treatment?  

Extremely similar/ the same							Not at all similar		
1	2	3	4	5	6	7	8	9	10
- In what way(s) are they different?

## Section B(ii).

1. Have you found that you see the world differently since the bombings, or have the bombings made no difference to how you see the world? *For example, have you found that you now have different expectations of other people, or Government? Do you feel that you cannot trust people or that people are out to get you? Do you feel you are part of society?*

**NO** – go to Q5

**A LITTLE**

**A LOT**

2. In what way do you see the world differently?

---



---



---

3. Is this change...

**+VE**

**-VE**

**BOTH +VE & -VE**

4. Is this change something you feel is relevant to you every day or just occasionally?

**Every day**

**Occasionally**

5. Have you found that you feel different as a person since the bombings, or have the bombings made no difference to how you feel as a person? *For example, have you found that you now have different priorities or values?*

**NO** – go to Q8

**A LITTLE**

**A LOT**

6. In what way do you feel different as a person?

---



---

7. Is this change...

**+VE**

**-VE**

**BOTH +VE & -VE**

8. Is this change something you feel is relevant to you every day or just occasionally?

**Every day**

**Occasionally**

<b>Section C. This section refers to special services set up for people affected by the bombings:</b>
-------------------------------------------------------------------------------------------------------

1. Do you remember being sent information or otherwise hearing about any of these special services for people caught up in the bombings?

a) Family Assistance Centre (7 <sup>th</sup> July Assistance Centre)	<b>YES</b>	<b>NO</b>
b) NHS Direct Assistance Line	<b>YES</b>	<b>NO</b>
c) Screening Team/Charlotte St. Clinic	<b>YES</b>	<b>NO</b>
d) London Rescue Programme	<b>YES</b>	<b>NO</b>

2. Did you contact or make use of any of these special services?

a) Family Assistance Centre (7 <sup>th</sup> July Assistance Centre)	<b>YES</b>	<b>NO</b>
b) NHS Direct Assistance Line	<b>YES</b>	<b>NO</b>
c) Screening Team/Charlotte St. Clinic	<b>YES</b>	<b>NO</b>
d) London Rescue Programme	<b>YES</b>	<b>NO</b>

4. If you did not choose to use these services yourself, why was this?

a) Do not remember hearing about them	<b>YES</b>	<b>NO</b>
b) Did not feel I needed them	<b>YES</b>	<b>NO</b>
c) Did not have time or opportunity to respond	<b>YES</b>	<b>NO</b>
d) Other ( <i>specify</i> )		

---

---

---

**Section D. Your experience with the Screening Team/Charlotte St. Clinic**

1. How did you come to hear about the Screening Team/Charlotte St. Clinic?

- |                                 |            |           |
|---------------------------------|------------|-----------|
| a) Friends or family            | <b>YES</b> | <b>NO</b> |
| b) Newspaper or television      | <b>YES</b> | <b>NO</b> |
| c) From NHS Direct              | <b>YES</b> | <b>NO</b> |
| d) From hospital doctor or G.P. | <b>YES</b> | <b>NO</b> |
| e) You were written to about it | <b>YES</b> | <b>NO</b> |
| f) Other _____                  |            |           |

2. If you received a letter about the Screening Team/Charlotte St. Clinic, did this arrive:

- a) Too soon, before you were ready to deal with it?
- b) At about the right time?
- c) Too late, you would have liked to receive it earlier?

3. How satisfied or dissatisfied were you with the information and advice you received from the Screening Team/Charlotte St. Clinic when you were first in contact with them?

- a) Satisfied
- b) Neither satisfied nor dissatisfied
- c) Unsatisfied, felt they could have done more

Details:

---

---

---

4. How satisfied or dissatisfied were you with the speed with which the Screening Team/Charlotte St. Clinic responded to you?

- a) Satisfied
- b) Neither satisfied nor dissatisfied
- c) Unsatisfied, it took too long

Details:

---

---

---

5. Overall, how satisfied or dissatisfied were you with the service you received from them?

- a) Satisfied
- b) Neither satisfied nor dissatisfied
- c) Unsatisfied

Details:

---

---

---

## Section E. Treatment

Treatment clinic:	
Number of sessions:	
Average session duration:	

1) Were your treatment sessions:

- ☐ More than once a week  
☐ Weekly  
☐ Once every two weeks  
☐ Monthly  
☐ Less often  
☐ Erratic - Sessions erratic: ☐ AT YOUR REQUEST  
☐ AT CLINICIAN'S RECOMMENDATION  
☐ COULD NOT MAKE REGULAR SESSIONS

2) How satisfied or dissatisfied were you with the choice of treatment centre offered?

- a) Satisfied  
b) Neither satisfied nor dissatisfied  
c) Unsatisfied

Details:

---

---

---

3) How satisfied or dissatisfied were you with the treatment you received?

- a) Satisfied  
b) Neither satisfied nor dissatisfied  
c) Unsatisfied

Details:

---

---

---

4) Do you think you would have approached your G.P. or NHS mental health services for help if you had not been in touch with the Screening Team/Charlotte St. Clinic?

- a) Unlikely to have asked for help at all  
b) Would have asked eventually  
c) Had already contacted my G.P. or mental health services

**Section F.** If there was a similar event in the future, the NHS would aim to set up services to support those affected. We'd like your opinion on what might be helpful and appropriate:

1. If there was a similar event in the future, would you have any objection to properly qualified NHS professionals:

- a) Writing to you with information about such services **YES NO**  
b) Telephoning you with information about such services **YES NO**  
c) Obtaining your contact details from the Police or other organisations that know you were involved **YES NO**

2. Is there any other form of information, advice or support that was not offered to you after 7<sup>th</sup> July that you think would be useful?

YES NO

Details:

---



---



---

**Section G. This section asks about the impact of the bombings on your work and leisure**

1. What is your current employment status?

- |                                             |                                               |
|---------------------------------------------|-----------------------------------------------|
| <input type="checkbox"/> Employed full-time | <input type="checkbox"/> Retired (ill health) |
| <input type="checkbox"/> Employed part-time | <input type="checkbox"/> Student              |
| <input type="checkbox"/> Unemployed         | <input type="checkbox"/> Housewife/husband    |
| <input type="checkbox"/> Self-employed      | <input type="checkbox"/> Other _____          |
| <input type="checkbox"/> Retired (age)      |                                               |

2. If you are currently employed:

- a) Occupation \_\_\_\_\_
- b) Job title \_\_\_\_\_

3. If you are unemployed/retired:

- a) Do you intend to return to work? YES NO
- b) How long have you been unemployed/retired? \_\_\_\_\_yrs\_\_\_\_\_mths

4. Have you had to reduce your working hours as a result of the bombings? YES NO
5. Have you taken sick leave as a result of the bombings? YES NO
6. Have you become unemployed as a result of the bombings? YES NO

Indicate in box below – 'PH' for time off due to physical effects, 'MH' for mental health effects

	July 05	Aug 05	Sept 05	Oct 05	Nov 05	Dec 05	Jan 06	Feb 06	Mar 06	Apr 06	May 06	Jun 06	July 06	Aug 06	Sept 06
Reduced your working hours?															
Hours per week reduced each month															
Taken sick leave?															
Days missed each month															
Become unemployed?															
Weeks unemployed each month															

7. Did treatment for PTSD or other mental health issues related to the bombings help you to stay in work, or to return to work earlier than you otherwise might have done?

YES NO – go to Q9

8. Indicate which work-treatment relationship is most appropriate to describe your situation:

- ☐ Treatment prevented me from requiring time off work
- ☐ I had time off work, but treatment helped me return to work more quickly
- ☐ Treatment had no effect on time taken off work
- ☐ Treatment caused me to take more time off work, or to return to work less quickly

9. What state benefits (if any) do you **currently** receive?

- |                                                                           |                                                   |
|---------------------------------------------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Income Support                                   | <input type="checkbox"/> Council Tax Benefit      |
| <input type="checkbox"/> Incapacity Benefit                               | <input type="checkbox"/> Housing Benefit          |
| <input type="checkbox"/> Disabled Person's Tax Credit                     | <input type="checkbox"/> Working Tax Credit       |
| <input type="checkbox"/> Severe Disablement Allowance                     | <input type="checkbox"/> Statutory Sick Pay       |
| <input type="checkbox"/> Jobseeker's Allowance                            | <input type="checkbox"/> State Retirement Pension |
| <input type="checkbox"/> Disability Living Allowance – Care Component     |                                                   |
| <input type="checkbox"/> Disability Living Allowance – Mobility Component |                                                   |
| <input type="checkbox"/> Other _____                                      |                                                   |

10. Are there any other ways in which the bombings have affected your ability to engage in work or leisure activities?

11. Is there anything else you would like to add?

**Section H. Further contact:**

3. Your ethnic origin:

- |                                              |                                                          |
|----------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> Arab                | <input type="checkbox"/> Mixed – White & Asian           |
| <input type="checkbox"/> Asian – Bangladeshi | <input type="checkbox"/> Mixed – White & Black African   |
| <input type="checkbox"/> Asian – Indian      | <input type="checkbox"/> Mixed – White & Black Caribbean |
| <input type="checkbox"/> Asian – Pakistani   | <input type="checkbox"/> White - British                 |
| <input type="checkbox"/> Black – African     | <input type="checkbox"/> White - Irish                   |
| <input type="checkbox"/> Black – Caribbean   | <input type="checkbox"/> White - Other                   |
| <input type="checkbox"/> Black – Other       | <input type="checkbox"/> Other ( <i>specify</i> ) _____  |
| <input type="checkbox"/> Chinese             |                                                          |

2. May we contact you if we have any further questions?

**YES NO**

3. Do you know of anybody else who might like to talk to us?

**YES – leave details NO**

4. Would you like us to send you details of our findings when they are published?

**YES NO**

5. Would you be willing to take part in other research relevant to the London bombings?

**YES NO**

**Thank you!**

**Please don't hesitate to get in touch if you have any points you want to make in the future or want to contact us for any other reason.**

## APPENDIX V: INTERVIEW QUESTIONS USED WITH STAKEHOLDERS

### **Part 1**

**Describe the nature of your involvement with the London bombings MH response**

- *Chronology of involvement*
- *Aim of work (occ health, clinical, organisational etc.)*

### **Part 2**

**a) Was the idea behind the screen and treat programme clear and appropriate?**

**b) What are your views on the initial formulation of the Programme?**

- *What did and didn't go well?*
- *What lessons have been learned for the future?*

**c) Were any stakeholders not adequately represented in the project steering group?**

**d) Please comment on the set up of the Programme**

- *What did and didn't go well?*
- *What lessons have been learned for the future?*

**e) Financing the Programme**

- *What did and didn't go well?*
- *What lessons have been learned for the future?*

**f) How was awareness raised about the Programme?**

- *Among the public and other services*
- *What did and didn't go well?*
- *What lessons have been learned for the future?*

**g) Were there any barriers to implementing the Programme?**

- *How were these barriers overcome?*
- *What lessons have been learned for the future?*

**h) What other services did you liaise with?**

- *What did and didn't go well?*
- *Were there services who could/should have worked more closely?*
- *What lessons have been learned for the future?*

**i) How well was the Programme monitored?**

- *How was the Programme monitored?*
- *Were goals of the Programme adequately identified and progress reported?*
- *Was this monitoring appropriate?*

**j) Was there adequate capacity to deal with bombings patients?**

- *If not, how was this problem overcome?*

**k) Was the treatment being offered appropriate?**

- *Were the methods offered appropriate?*
- *Was treatment effective?*



## **Part 3**

**a) In the learning workshop conducted after the Programme ended, these suggestions emerged. Please give your comments.**

- *Do you agree?*
- *How could these be implemented?*
- *Who should be involved?*
- *Are steps being taken to achieve this?*

### **Organisational**

- A dedicated telephone disaster line should be set up, always using one phone number
- A central agency should be created/nominated to deal with emergency and disaster response
- Mechanisms should be introduced to maintain networks and interagency links now established, and to ensure continual communication
- An agreement should be signed regarding information sharing amongst agencies in an emergency
- Regional and international strategies should be established, as well as planning for an incident with no geographical focus (*what should be taken into account if different people are involved?*)
- Guidance should be prepared about dealing with the press
- Best practice guidelines should be established and distributed

### **Clinical Services**

- Templates for services and referral pathways should be pre-agreed for future emergency responses
- Links should be established with trauma services outside of London
- GPs should be more involved, and clinic counsellors educated
- More clarity is needed over the diagnosis of grief, and when these patients should be seen

### **Funding**

- DCMS and DOH should clarify responsibilities of funding
- Funding strategies should be centralised

**b) Is there anything else you'd like to add?**

**c) What are the most important lessons to take forward?**

## **APPENDIX VI: INTERNATIONAL EXPERTS CONSULTED**

Sheila Donahue, Center for Information Technology and Evaluation Research,  
New York State Office of Mental Health

Dr. Spencer Eth, St. Vincent's Hospital, New York

Dr. Sara Freedman, Hadassah University Hospital, Jerusalem

Prof. Sandro Galea, Michigan School of Public Health, Ann Arbor, Michigan

Carol Lanzara, Center for Information Technology and Evaluation Research, New  
York

State Office of Mental Health

Dr. Alberto Fernandez-Liria, coordinator of mental health, Madrid

Trish Marsik, New York City Department of Health and Mental Hygiene

Dr. Randall Marshall, Columbia University, New York

April Naturale, statewide director for Project Liberty, New York

Dr. Fran Norris, National Center for PTSD and Dartmouth University, New  
Hampshire

Dr. Francisco Orengo-García, Unidad Psicosocial, Madrid

Prof. Arie Shalev, Hadassah University Hospital, Jerusalem

Dr. Lorna Thorpe, New York City Department of Health and Mental Hygiene

Prof. Carmelo Vazquez, Universidad Complutense, Madrid

Dr. Maria Luisa Vecina, Colegio Oficial de Psicólogos, Madrid