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ACTION ON
ARMED VIOLENCE

AOAV

BLOOD ON THE STREETS OF BOSTON

Reviewing the response to the April 2013 Marathon bombings



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Cover illustration

A bystander rushes to help Sydney Corcoran, who was
severely injured in the Boston bombing (Courtesy Boston
Globe staff photo by John Tlumacki)

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INTRODUCTION

Improvised Explosive Devices (IEDs) cause severe human suffering across the globe. The use of these homemade bombs results in death, life-affecting injuries, and harm to infrastructure.

In 2013, AOVAV recorded that at least 22,829 civilians in 41 countries were killed or injured by IEDs, a 35% increase compared to 2012. But casualty figures alone do not begin to convey the real horror of these bombings. The depressing reality is that the media and researchers often only provide a superficial overview of the harm these attacks cause, or the support their victims require.

Often too little consideration is paid to the long-term care needed by those affected by such attacks. Cases of good practice in how best to respond to such attacks in terms of victim assistance are few and far between.

THE BOSTON MARATHON

In 2013, two IEDs were detonated at the finish line of the Boston Marathon. The attacks killed three individuals and physically injured 264. This report, **Blood on the Streets of Boston**, considers the impact of the bombings both on the survivors and on the Boston community at large, specifically assessing the support provided to those most affected by the lethal attack.

The actions of those who provided short and long term assistance to the Boston bombing survivors can be seen, broadly, as examples of good practice when responding to an IED attack. While AOVAV recognises that the response was shaped by the fact that there are significant resources available for support in a country such as the US, we believe that concrete lessons can be learnt from it from a global perspective.

The actions of state institutions, charitable organisations and other bodies in the wake of the bombings demonstrate both the myriad needs of those impacted by IED attacks, and the benefit of a quick and coordinated response. From



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Ron Brassard receiving help moments after the bombings.

immediate health care to financial and mental health responses, those injured in the bombings were largely supported and provided with high levels of care.

And so, while lessons can always be learned from the assistance provided to victims of the attacks, the US response to the Boston marathon tragedy must be largely applauded. We hope this report highlights the good and provides a pathway for city officials and emergency responders whose role it might be to prepare for the worst.

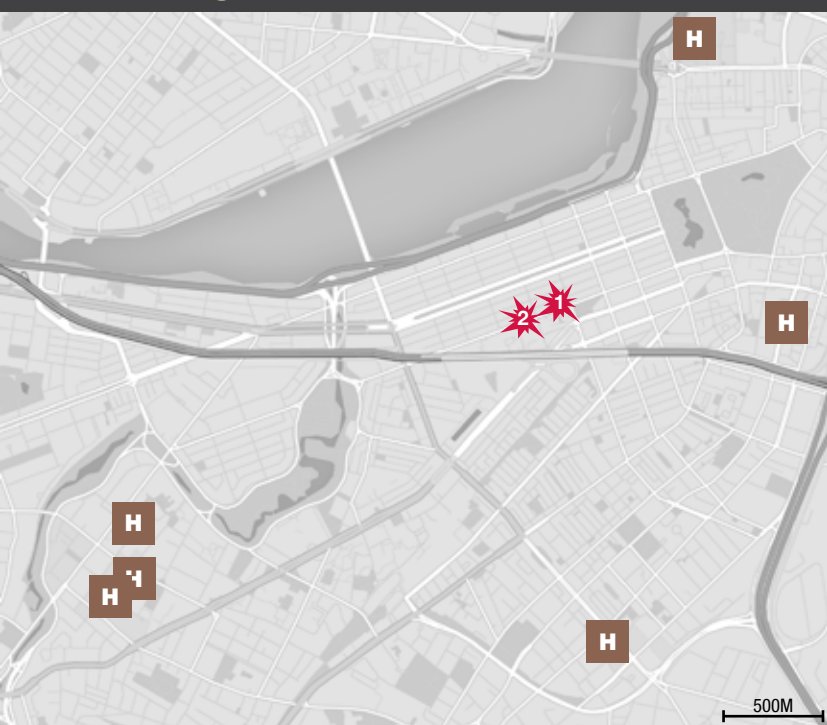
Research for this report was carried out through publicly-available open-source material. Additionally, interviews were undertaken in Boston in September 2014 with academics, the first responders, health care professionals, mental health workers, service providers, State officials, survivors and witnesses.

THE BOSTON BOMBINGS

REVIEWING THE RESPONSE TO THE APRIL 2013 MARATHON BOMBINGS



THE ATTACK



BOSTON, MASSACHUSETTS 15 APRIL 2013, 2.49PM

3

DEATHS



264

PHYSICAL INJURIES



15

SINGLE AMPUTEES



2

DOUBLE AMPUTEES



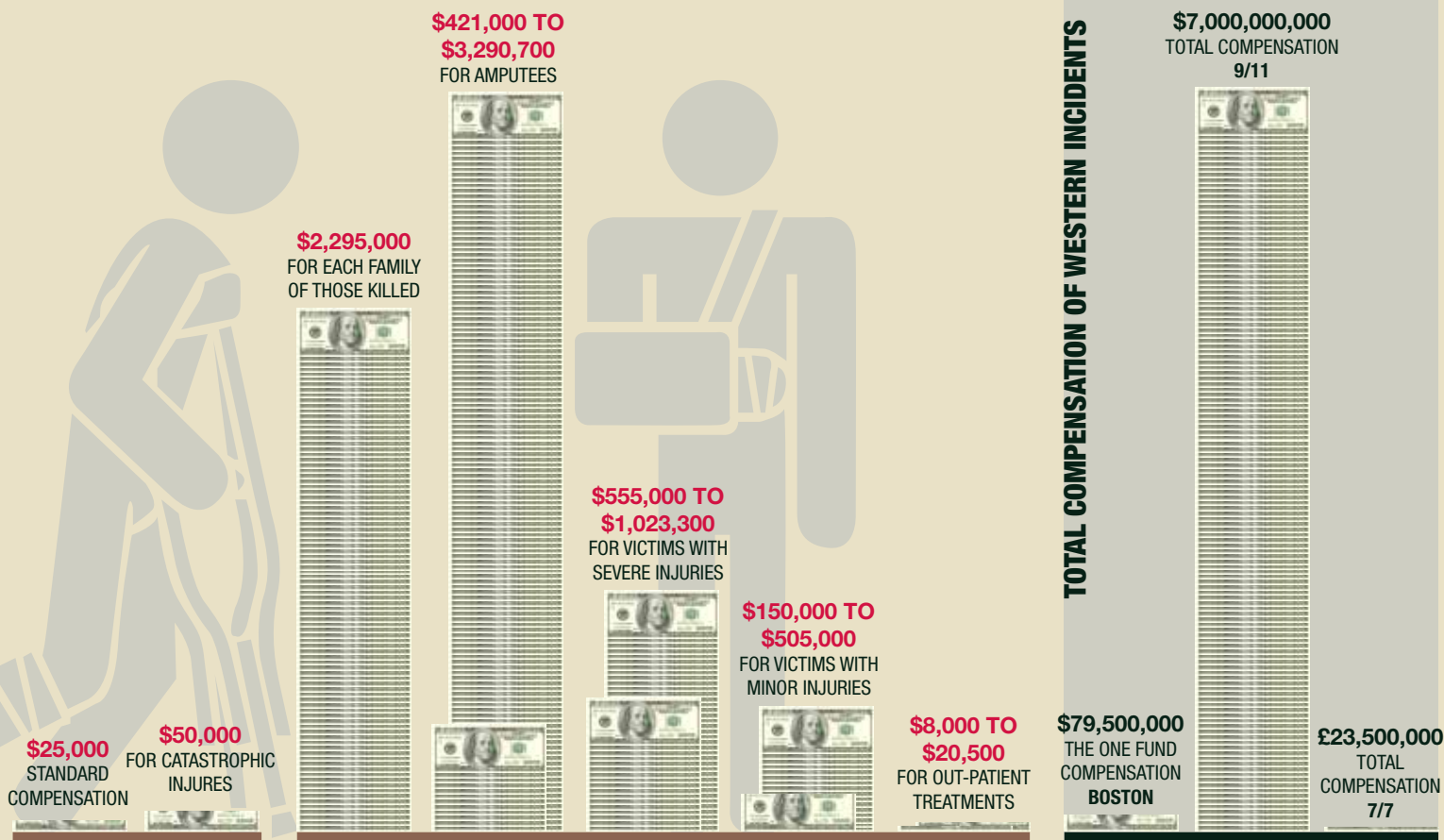
\$10 MILLION

BUSINESS LOSSES WITHIN THE CRIME SCENE (EST.)

\$333 MILLION

ECONOMIC COST OF CITYWIDE SHUT DOWN OF BOSTON ON 19 APRIL 2013, DURING MANHUNT FOR SUSPECT (EST.)

VICTIM COMPENSATION



STATE

MONEY THROUGH THE VICTIMS OF CRIME COMPENSATION FUND

THE ONE FUND

CHARITY SET UP FOR PRIVATE DONATIONS, GIVING CASH GIFTS TO THOSE MOST INJURED

THE ATTACK AND ITS AFTERMATH

THE BLASTS

At 2.49pm on 15 April 2013 two improvised explosive devices (IEDs) were remotely- detonated near the crowded finish line of the Boston Marathon. The bombs exploded 13 seconds and a city block apart, transforming an annual celebration into a scene of devastation and destruction.

Three people were killed and at least 264 were physically injured. Hundreds more witnessed the bombings and the aftermath. A Massachusetts Institute of Technology (MIT) police officer was also shot and killed by the suspected bombers on 18 April 2013.

The Boston Marathon is one of the biggest sporting events in America. It falls on Patriot's Day, and is usually a day of celebration. The marathon's medical tents are ordinarily there for minor

medical care such as dehydration, stress fractures and exhaustion. On 15 April 2013 however, the medics were stretched to their limit.

“ I didn't know where to run. I was screaming, I was freaking out. I was totally out of control.”

Ellen Sexton-Rogers, blast victim

Two backpacks, each containing an IED, had been left unattended on Boylston Street, near the Marathon finish line. The bombs were made from pressure cookers filled with metal pieces, explosives, and ball bearings. They had fuses made from Christmas lights and remote-control detonators from model car parts; “relatively



Boylston Street moments after the first bomb exploded.

sophisticated” according to federal prosecutors, and difficult to make “without training or assistance from others.”¹ Both bombs were detonated remotely, with those allegedly behind them walking away from Boylston Street without suspicion, having sustained no injuries.

Boylston Street was instantly filled with grey smoke. The barriers that had previously separated spectators from the race were flattened, trapping some who had been injured. Nearby shop windows were blown in, although there was no major structural damage.

Two brothers, Dzhokhar (19) and Tamerlan (26) Tsarnaev, were strongly suspected of committing the attacks. Tamerlan was killed during a manhunt for the suspects in the days immediately following the attacks, and Dzhokhar is currently awaiting trial, charged with crimes including the use of a weapon of mass destruction and the malicious destruction of property resulting in death.² If he is found guilty he could face the death penalty.³

DEATHS AND INJURIES

Fatalities

- **Kryslle Marie Campbell**, 29, from Medford, Massachusetts.
- **Lu Lingzi**, 23, a graduate student studying at Boston University, originally from China.
- **Martin William Richard**, an eight-year-old boy from Boston, Massachusetts.

The three individuals who were killed,⁴ two women and an eight-year-old boy, died almost instantly.⁵

The physical traumas sustained by some of the 264 physically injured were catastrophic. Since the bombs were left on the street, the trajectory of the blasts was low, and the majority of injuries occurred below victims’ waists. Many of the injuries were to people’s limbs, especially legs, and there were relatively few torso injuries.



© John Tlumacki, Boston Globe

Boylston Street moments after the first bomb exploded.

Life-threatening injuries were largely down to severe blood loss. Some arrived at hospitals flat-lining, having lost huge quantities of blood.

The explosions caused traumatic amputations, the blasts instantly severing bone and muscle.⁶ Sixteen people suffered from amputations, either traumatic or in surgery. Two of those were double amputees.⁷

“The blood loss was just extraordinary.”

Dr. Paul Biddinger Director of Emergency Preparedness at Massachusetts General Hospital

Others had severe soft tissue injuries to their legs and feet; wounds caused by the metal pieces and ball bearings packed into the homemade bombs.

Shrapnel, jagged metal fragments and debris flew upwards, injuring victims’ abdomens and faces, and resulting in eye injuries. Pieces of the bags holding the bombs were embedded into skin and muscle.

Victims lost extensive amounts of blood and suffered from 2nd and 3rd degree burns, open fractures and open wounds, as well as head injuries. There were concussive injuries, ear injuries such as inner ear ruptures, and some smoke inhalation.

Some of the survivors will have life-long health implications due to the injuries they sustained.

KAREN BRASSARD TOLD AOAV ABOUT THE INJURIES SUSTAINED BY HER FAMILY:



© Karen Brassard

The leg injury sustained by Ron Brassard.

Ron Brassard

- Physical injuries: A torn artery, muscle injuries and loss of blood. A large section of his calf muscle is gone, and he was described by doctors to be very lucky not to lose his leg.
- Time spent in hospital: Two and a half weeks.
- Surgeries: Three. To take out debris and shrapnel from his leg. To repair his artery. To do a skin graft to try to close up the open wound.

Karen Brassard

- Physical injuries: Shrapnel in both legs, a torn tendon in her left ankle, a bone infection in her left ankle and compartment syndrome in her right leg. She still has no feeling on the right side of her lower leg. She was also diagnosed with concussive brain injury and PTSD.

- Time spent in hospital: One week.
- Surgeries: Three. To remove shrapnel. To repair the tendon. To do the compartment syndrome surgery.

Krystara Brassard

- Physical injuries: Over 200 shrapnel injuries in both of her legs, from her hips to her toes.
- Time spent in hospital: Outpatient, by choice. She refused to be admitted due to the fact that her parents were being treated in two different hospitals.
- Surgeries: None so far, but a minor surgery is planned to remove a piece of shrapnel that has just come to the surface.



© Karen Brassard

Krystara Brassard sustained 200 wounds from her hips to her toes on both legs.

Those who became amputees may require further surgery as their bodies change, and will require new prosthetics every few years for the rest of their lives. Nineteen people with severe extremity injuries were categorized as having ‘limb salvage,’ and may require amputations in the future, or more surgeries to treat their existing injuries.⁸ Rebekah DiMartino, a 27-year-old who was injured in the bombings, had her left leg amputated in November 2014, a year and a half after the attacks, following 15 previous surgeries.⁹ Maureen Fagan, Executive Director, Centre for Patients and Families at Brigham and Women’s Hospital in Boston, told AOA V that a survivor being treated at their hospital was due to undergo her 28th surgery in late September, 17 months after the attacks.

A notable aspect of the Boston Marathon bombings was that a number of those who were injured were hurt alongside family members or friends. Two brothers, Paul and J.P. Norden, both lost a leg in the blasts, as did their friend Marc Fucarile.¹⁰ A newly-married couple, Jessica and Patrick Downes, each lost a leg.¹¹

One of the survivors, Karen Brassard, went to watch the marathon with her husband, daughter, and some family friends. Every member of that group sustained injuries ranging from shrapnel wounds requiring outpatient care, to catastrophic extremity injuries. One member of the group, Celeste Corcoran, lost both of her legs.

“ We’re incredibly lucky we’re walking... we have long-term injuries that we’ll be dealing with forever.”

Karen Brassard, blast victim

Many of the survivors continue to require physical rehabilitative care. The vast majority of this care has been provided by Spaulding Rehabilitation Center, a state-of-the-art rehabilitative centre, which cared for all but one of the amputees after they were discharged from hospital.¹²

PSYCHOLOGICAL HARM AND TRAUMATIC BRAIN INJURY

Other injuries are less visible but have had devastating effects. Witnessing horrific violence and seeing its bloody aftermath can lead to psychological trauma and impact upon psychosocial well-being. Conditions such as Post Traumatic Stress Disorder (PTSD) have been associated with soldiers in conflict zones but can equally impact civilians suddenly faced with appalling tragedy.¹³

“ We are a big trauma center that sees big, bad things all of the time, and this was totally different.”

Dr. Paul Biddinger Director
of Emergency Preparedness at
Massachusetts General Hospital

Symptoms of PTSD, and of more minor psychological harms, can begin immediately after a traumatic event or can become evident months later. Traumatic Brain Injury (TBI) can affect survivors for life, impacting their ability to work, their intellectual faculties, and their mental health.¹⁴

Every physically-injured survivor AOA V interviewed spoke of the psychological impact of the bombing: all were impacted to a greater or lesser extent.

Karen Brassard, who sustained significant physical injuries, later realized she was having psychological problems. “I knew something was wrong. I knew that I was not who I was before,” she told AOA V. She was diagnosed with concussive brain injury and PTSD. She found herself forgetting words, having difficulties in conversation, and being unable to focus properly.

Her husband, who was in hospital for two and a half weeks after the bombings, was also impacted. He was unable to return to work for a year due to physical and emotional problems, and still finds it difficult to handle stress. Their daughter, who was injured in the attack, attends counselling at a rehabilitation center in Boston, but has taken more of a



© John Tlumacki, Boston Globe

Ron and Krystara Brassard receiving help moments after the bombings.

reclaiming attitude: *“she loves this city, has always loved the city, and I think she has kind of an attitude that they’re not going to take that from her.”*

One survivor, who underwent surgery to remove shrapnel from her abdomen, and had an eye injury, is from Minnesota. She remained in Boston until the 20th of April, five days after the bombing and then returned to Minnesota with her husband, where she continued to visit a doctor to treat her eye. She was unable to travel for work for six weeks after the bombing because of anxiety. She was also depressed for months. She was ultimately given a prescription for anxiety medication. Her job suffered due to her emotional issues, and she said she was *“not a high performer that year.”*

But one of the hardest aspects was the distance She felt from other survivors and the networks of care that were established following the tragedy; *“I just needed to talk to someone from Boston, who was experiencing the same thing or at least exposed to what other people are experiencing.”* The survivor community within Boston was extremely strong, but She felt like *“an outsider”*.

This made her *“very angry and bitter, which is not who I am or who I want to be.”*

“80% of the time I feel great, it’s 20% of the time I just, I can’t get a whole grip, I can’t stop crying... I feel like I’m having a heart attack.”

Blast victim

Others have also suffered terribly from the mental impact of the bombings.

Ellen Sexton-Rogers was watching the marathon with her husband and daughter when the first bomb was detonated. Her husband was thrown seven feet, and she was thrown towards him. Her daughter was not physically injured, but ran around the corner away from the explosion and was separated from her parents.

None of the Rogers family required immediate hospitalisation, but Ellen later had surgery on an injury on her shoulder and has since been diagnosed with a TBI. Her life has significantly changed following the bombing, largely due to mental health and psychological harm. Ellen felt the psychological impacts immediately, *“I was completely panic stricken. My head felt like it was going to explode... four days after I was completely hysterical.”*

“ There’s nothing you can put on my brain to put it back the way it was so that I can go back to work.”

Ellen Sexton-Rogers, blast victim

She has twice since been admitted into hospital as an inpatient for depression, the second time after an attempted suicide. Someone from the Massachusetts Office of Victim Assistance (MOVA) came to see her and recognized that she was suffering from PTSD, and likely something more severe, which is when she was diagnosed with a TBI.

She continues to be treated by a number of doctors and therapists. She undergoes physical, occupational and speech therapy, as well as seeing a psychologist and a brain doctor.

Her psychological and brain injuries have had a massive impact on her life. Before the bombings Ellen owned and ran a cleaning company which she has been unable to sustain.

“ I lost my job, my business, my marriage, my financial stability.”

Ellen Sexton-Rogers, blast victim

She separated from her husband in January 2014, and is currently supporting her family on \$854 per month disability allowance. Her speech has been affected, as has her ability to concentrate and

follow a conversation. She gets confused easily, regularly forgetting where she parked her car, and is paranoid that people see her and notice her confusion. None of these symptoms were manifest before the bomb went off.

AOAV heard from survivors that emotional and psychological harm were often treated as a lesser priority than physical injuries, and often months after the incident has taken place, which makes issues harder to treat.

Rebecca Rosenblum, a clinical psychologist with over 25 years experience, told AOA that *“people who were severely physically injured are so overwhelmed with addressing the physical injuries and the changes to their lives that they haven’t the bandwidth to think about what’s going on emotionally.”* Those who were physically injured said similar. Karen Brassard reported that for months she and her husband did not have the energy to pursue trying to fix their psychological health issues once they had been discharged from hospital.

“ We were so focused on our physical issues that the emotional and mental stuff kind of got pushed to the back.”

Karen Brassard, blast victim

People who worked with those who had been physically injured in the immediate aftermath of the bombing, such as health workers and the police, were also affected. Members of the Boston Police Department, particularly those who were at the finish line and had immediate contact with those who were killed and injured, had emotional and psychological problems.

The same is true for medical personnel who attended to those who were injured. Those who cared for the victims at Massachusetts General Hospital needed psychological help for a long time after the incident, especially around the anniversary of the bombings. Hospital staff were still emotional when they talked about what happened

nearly 18 months after the incident. At Brigham and Women’s Hospital every provider who worked on the day of the bombing got a one-on-one call with a counselling physician to ensure that those who felt psychologically affected had support from within the hospital.

“ The psychological impact was huge. You cannot underestimate it.”

Dr. Paul Biddinger Director of Emergency Preparedness at Massachusetts General Hospital

ECONOMIC IMPACT

The total economic impact of the bombing is hard to quantify. The businesses in the vicinity of the blasts were adversely affected due to forced closures and external damage.

Once everyone had been cleared from the site, the police went into crime scene preservation mode and began collecting evidence. The crime scene spanned 15 city blocks, making it the biggest in the history of the Boston Police.¹⁵ Access to areas around Boylston Street was restricted to everyone,

including business owners, for at least nine days.

Many of the businesses located in the crime scene were restaurants and cafes, and therefore felt the economic impact both from being closed for nearly two weeks and from the loss of perishable goods. It is estimated that the total cost of business losses within the crime scene was \$10 million.¹⁶ There were ancillary economic losses due to the aftermath of the bombing, such as the decision to cancel a Boston Symphony Orchestra concert.¹⁷ The single day closure of the Massachusetts Bay Transportation Authority cost an estimated \$1.56 million in lost fares.¹⁸

“ Businesses basically had to start from ground zero.”

Sergeant Mike McCarthy, Boston Police Department

The economic impact of the immediate aftermath of the bombing however, pales in comparison to the impact of the manhunt for the two suspects, and the subsequent citywide shutdown, which occurred on 19 April.¹⁹ The economic cost of the citywide shutdown has been placed at \$333 million.²⁰



The Boston Athletic Association Boston Marathon symbol on Boylston Street.

IMPROVISED EXPLOSIVE DEVICES

+70%

INCREASE IN CIVILIANS KILLED & INJURED

2011



2013



2011 17,499 KILLED & INJURED BY IEDS



76% OF THESE CASUALTIES WERE CIVILIANS.

2012 20,917 KILLED & INJURED BY IEDS



81% OF THESE CASUALTIES WERE CIVILIANS.

2013 26,887 KILLED & INJURED BY IEDS



85% OF THESE CASUALTIES WERE CIVILIANS.

A GLOBAL PROBLEM

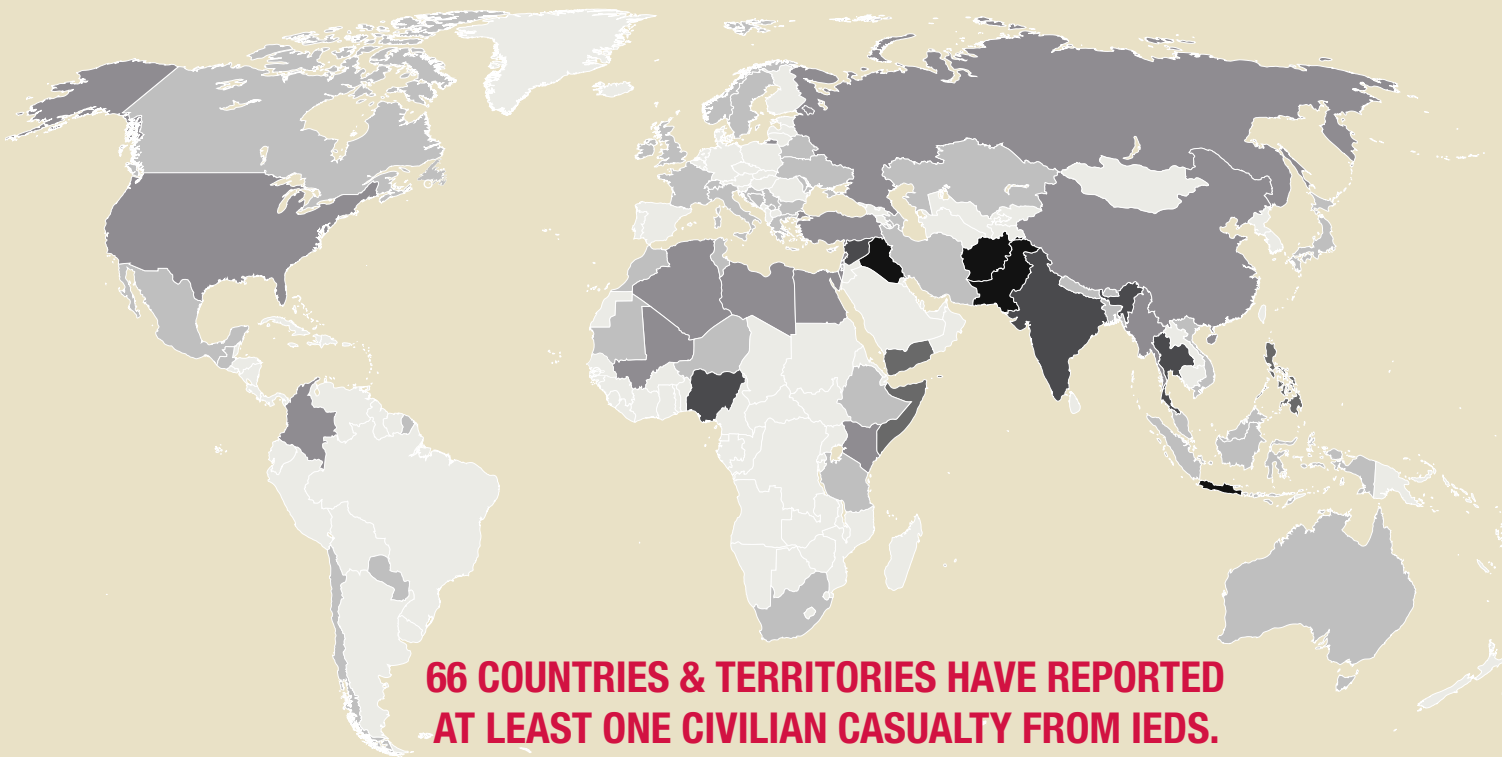
0-10 INCIDENTS

11-50 INCIDENTS

51-100 INCIDENTS

101-500 INCIDENTS

501+ INCIDENTS



IED ATTACKS IN POPULATED AREAS



91% OF CASUALTIES IN POPULATED AREAS WERE CIVILIANS



42% OF CASUALTIES IN OTHER AREAS WERE CIVILIANS



RESPONSE

IMMEDIATE MEDICAL CARE

Police, the Emergency Medical Services (EMS), and civilian bystanders rushed to help those who had been injured.

The medical care given at the scene was minimal. Those who first attended to the injured could instantly see that many needed to be taken to hospital. The 'scoop and run' method employed by the emergency services was supplemented with hemorrhage control. Tourniquets, formal and informal, were used, as were methods such as applying direct pressure and elevating bleeding injuries.²¹ The rapid extrication of victims resulted in very few medical interventions between the scene and hospitals. The scene was cleared of critical victims within 18 minutes of the bombings; all other victims were transported within 45 minutes. In total, 25 hospitals in and around Boston treated individuals suffering from injuries sustained in the bombings. The first injured victim

arrived at Brigham and Women's Hospital, Dr. Eric Goralnick told AOA, at 3.06pm, 17 minutes after the bombings. The first patient went into the operating room 28 minutes after that. Brigham and Women's Hospital treated 40 victims of the bombing, nine of whom underwent surgery that day.

Hospitals in Boston prepare extensively for mass casualty incidents. The disaster plan employed by Brigham and Women's Hospital worked extremely quickly in order to identify and build capacity within the emergency and operating rooms. Existing surgeries were finished and all future surgeries were delayed or cancelled. Residents, physicians, psychiatrists and internal medicine personnel signed patients out of the emergency department, moving them to other areas of the hospital and creating space for bombing victims.

The medical care given to victims once they reached the hospital was, by all accounts, exceptional.



Badges worn by the Boston Police Department, the '415' badge remembering the events of the 15 April 2013.

Nobody who arrived alive at any of the hospitals subsequently died. Medical caregivers were fortunate in a number of factors:

- There were six level 1 trauma centers within two miles of the blast;²²
- The bombings occurred in an area almost equidistant between these hospitals, and no one hospital was overwhelmed since patients were distributed evenly;
- The bombings occurred at 2.49pm, and shift change at each of the main hospitals was scheduled for 3pm. Each hospital therefore had double the number of staff they would ordinarily have;
- The bombings occurred at the Marathon:
 - Emergency services, medical personnel and medical equipment were on site already;
 - Roads were already closed, allowing rapid extrication of those who were injured.
- Hospitals had members of staff with experience treating victims of IED explosions in conflict zones, and had extensive experience treating the types of injuries caused by bombs. Due to the recent US involvement in conflicts involving IED use, there is an increased awareness of how to treat such injuries. Surgeons had previously treated these injuries in active conflict zones;
- The bombs detonated outdoors, causing no structural collapse. The injured were not trapped under debris and rubble, meaning that rapid evacuation of casualties was possible and roads were not blocked.

There had also been a number of emergency incidents in the months prior to the bombing where the hospitals' emergency plans were tested, due principally to the high levels of snow fall during the winter. The hospitals had been well tested in a number of their emergency procedures prior to the bombing.



As part of the Joining Project, over 100 people crocheted and knitted pieces to hang on Harvard Bridge in response to the bombing.

The rapid extrication of those injured and the subsequent medical care saved lives. The preparation done by the Boston hospitals, as demonstrated in the below case study, can be seen as an example of best practice in emergency preparedness for such an attack. The actions of first responders and care providers in Boston demonstrate the need for cities to extensively prepare for mass casualty incidents, and the key role such preparation plays in saving lives.

A SPOTLIGHT ON MASSACHUSETTS GENERAL HOSPITAL

THE EMERGENCY DEPARTMENT

- At 2.49pm, 97 patients, not linked to the bombings, were in the 49-bed Emergency Department. Within 90 minutes this was reduced to 39 patients.
- The 17-bed acute area had 25 patients, not linked to the bombings, all of whom were cleared within 20 minutes.
- The first bombing victim arrived at 3.04pm, 15 minutes after the explosions.
- The hospital treated 38 victims of the bombing, 12 of whom were critical.
- Five victims were sent to the operating room within eight minutes of each other.

THE IMPORTANCE OF PREPARATION

- Massachusetts General had done 150 trainings and exercises in the five years prior to the 2013 Marathon;
- Approximately three times per year the hospital does a full-scale mass casualty exercise, usually involving hazardous materials;
- In 2005 a group from Israel visited Boston to share their experience and lessons in responding to mass casualty incidents and injuries caused by explosive weapons;
- A citywide seminar called Tale of Our Cities was held with experts from Israel, London, Mumbai and Madrid, in order for those involved in responding to explosive weapon incidents to share their experiences and their lessons learned. This involved the police, the EMS, hospitals and international experts.

- At least once a year the entire city, including the ambulance service and the hospitals, does a training exercise collectively.

WHAT COULD BE IMPROVED?

- Communications between the scene and hospital could have been better. It was difficult to get information from the scene, particularly about whether the bombs contained a chemical or biological component.

“ We were fortunate that we made the right decision, but it wasn’t fully based on information, it was based on a best assessment.”

Dr. Paul Biddinger, Director
of Emergency Preparedness at
Massachusetts General Hospital

-
- The relationship and communication between law enforcement and hospital staff was strained at times, as their priorities were different.
 - The decision regarding hospital security was difficult as rumours about threats evolved throughout the day. The presence of armed personnel in hospitals made some people feel more secure, while making others feel less safe.

SECURITY RESPONSE²³

The Marathon route winds through seven different communities, so police forces from multiple jurisdictions are responsible for ensuring it runs smoothly. In Boston itself, the Boston Police Department (BPD) is responsible for crowd control, road closures, and coordinating access to businesses along the route, as well as providing ordinary police services in the city. Extensive preparations are made each year for the policing of the Marathon.

Sergeant Mike McCarthy of the BPD told AOA that as soon as the bombs were detonated, the police immediately responded to victims, helping those who were injured. The police administered emergency health care, taking some of those most injured to hospital in the back of police vans.²⁴ They then transformed into crime scene preservation mode, clearing the area, securing the streets, and beginning the collection of evidence. All materials salvaged and removed from survivors' bodies once they arrived at hospital were preserved as evidence.

WIDER SECURITY IMPACT

Security at the 2014 Marathon was notably heightened as a result of the bombings. Staffing levels were increased, and the BPD changed how they policed the event as a whole.

There were “*significantly*” more officers on patrol, although many were undercover, Sergeant McCarthy told AOA. Technology was more fully utilized, with the entire route being surveyed by remote cameras. More explosive ordnance disposal (EOD) assets were used, including an increase in staffing in the bomb unit, the purchasing of EOD equipment, and the use of bomb dogs. On Boylston Street itself crowd control was thought out more thoroughly, with a series of checkpoints and bag checks being established to limit the number of people permitted into each section of the street. This allowed police officers to move



© John Tlumacki, Boston Globe

Police run to help those injured in the bombings.

freely along the street, and decreased crowding on the sidewalk. The BPD told AOA that the cost of policing the 2014 Marathon was \$1,145,541.01.

The increase in security both helped and hindered survivors who had chosen to attend the 2014 marathon. An area was cordoned off for survivors who wanted to watch the race, however some survivors could not reach the safe area because of checkpoints further away. Lori van Dam, Executive Director of the One Fund, said: “*Did that make anyone safer? Probably not. But I think it made people feel better that it was out there and the police department were completely justified in doing all of those things...it’s a human natural response.*”

Stringent security measures have been implemented at other events such as the 4th July fireworks. Chris Strang, a lawyer AOA spoke with about his role in assisting survivors of the bombings, said that the security at the 4th July 2013 fireworks was extensive. No bottles or backpacks were permitted, and security was carrying out bag checks.

FINANCIAL ASSISTANCE

THE VICTIM COMPENSATION FUND

Neither the Federal government nor the State created a victim compensation fund for those affected by the bombings. However, Massachusetts has a Victims of Crime Compensation Fund (VCF),²⁵ which is administered through the Attorney General's Office (AGO). Through the VCF, the State can provide financial assistance to eligible victims of violent crime, which includes those who were affected by the Marathon bombings.

Through the AGO, the State can provide financial assistance to eligible victims for costs such as medical care, mental health counselling, and lost wages. This Fund can assist with expenses of up to \$25,000 per victim per crime, or up to \$50,000 for victims suffering from 'catastrophic injuries.'

Lisa Solecki, former Chief of the Victim/Witness Services for the AGO, told AOA that many victims of the bombings qualified for the upper cap of \$50,000.²⁶

The definition of a victim for these purposes is broad: Individuals who suffer personal physical or psychological injury or death as a direct result of a crime committed against them, are able to apply for compensation from the VCF. AOA spoke to Manya Chylinski, who suffered from emotional problems after witnessing the attacks. She was unable to work in the immediate aftermath of the bombings, and the VCF paid her compensation for lost wages.

The VCF has also been used to supplement the financial support provided by charities to those who were physically injured. The One Fund, which was set up in the aftermath of the bombings, gave Ellen Sexton-Rogers, who was initially treated as an outpatient, \$20,500. She told AOA that the nature of her injuries, which have prevented her from returning to work since the bombings, are categorized as 'catastrophic' by the VCF. She is therefore able to apply for up to \$50,000 in financial support. The VCF is currently reimbursing Ellen for the cost of her lost wages, supplementing the relatively small amount of money she was given by the One Fund.

When Ellen spoke to AOA she had claimed \$28,000 from the VCF, and it is likely that she will continue to claim reimbursement for lost wages until she hits the cap of \$50,000. She told AOA that she has no idea how she will survive once her expenses reach \$50,000, as she will be unable then to pay for her mortgage, bills and other expenses.

THE ONE FUND²⁷

There was an almost instant outpouring of generosity from the general public towards those who had been injured in the bombings. Hours after the attack, Boston's Mayor Menino and State Governor Patrick decided to establish the One Fund, a charity to which donations could be made to help those affected by the bombings.

The One Fund was established as a separate s. 501(c)(3) organisation, and by 7pm the day after the bombings there was a place where donations could be made.

Nearly \$61 million was donated to the One Fund in 75 days. (\$60,952,000)

John Hancock, a financial corporation in Boston, made the first major donation of \$1 million. Lori van Dam, Executive Director of the One Fund, told AOA that its success was partly due to this first donation. The One Fund received at least eight additional \$1 million donations within the first couple of weeks of its establishment.

Kenneth Feinberg, a lawyer who had previously administered the 9/11 Compensation Fund, was brought in to determine how to divide the donations. It was decided the One Fund would only be available to the four families of those killed in the bombings and the subsequent manhunt, and those physically injured in the bombings.

Two public meetings were held to discuss the distribution of the money, and ultimately it was decided by the One Fund that the funds would be split based on the categorization of victims and their injuries into four groups. The awards were not means tested. Survivors were not informed of their awards until the distribution was actually made.

The first distribution money was provided to survivors in June 2013, two months after the bombings:

The One Fund distribution 1

Category A: \$2,195,000

For each of the families of those killed in the blasts, the family of the MIT police officer killed, and the two individuals who lost multiple limbs. Six awards.

Category B: \$1,195,000

For each of the 14 people who lost a single limb.

Category C: varied depending on length of hospital stay.

\$948,300 – 32 or more overnights

\$735,000 – 24 to 31 overnights

\$580,000 – 16 to 23 overnights

\$480,000 – 8 to 15 overnights

\$275,000 – 3 to 7 overnights

\$125,000 – 1 to 2 overnights

Category D: \$8,000

For those victims who were treated as an emergency outpatient, and did not require a hospital overnight stay beginning on April 15.

Some who did not realise the severity of their injuries went home on the night of the 15th, only to realise that they needed hospital treatment in the days after the bombings. These individuals only received \$8,000, regardless of the nature of their injuries and their subsequent hospital treatment.

Lori van Dam spoke of the frustration felt by these people, “some of them should have been admitted to hospital but went home for one reason or another – kids at home who were terrified or something

like that. I’m a 19 year old and my parents are out of state and I just wanted to go home – that was a \$117,000 decision.”

It could be argued that the One Fund should have taken more account of individual injuries, as opposed to hospital overnights. However, the One Fund was keen to distribute money as quickly as possible, and considering individuals’ circumstances and injuries would have delayed their payment.

The survivor community was not wholly satisfied with their categorization in the first distribution. Some were frustrated with how clean cut the categories had been. Particularly amongst those who had undergone amputations, survivors felt that the long-term implications of their injuries would vary massively and that the distribution of funds should have taken this into account. This was due to the difference in lifetime care whether an above or below the knee amputation had been performed,²⁸ and the cost of lifetime care depending on age.

It was thought that the One Fund would close after the first distribution, however it has remained active. A needs assessment was done in order to determine how best to spend donations after the first distribution. A panel of medical experts was also convened to provide advice to the One Fund about the longer-term nature of the injuries sustained. The second distribution took into account things such as whether the amputation was above



A message of support at the location of the second bomb.

or below the knee, the nature of limb injuries, the age of the amputee, and the number of surgeries the applicant had undergone since 15 June 2013.

On 2 September 2014, the One Fund announced they were distributing a further \$18,459,327 to survivors and victims' families, and \$1.5million to establish the One Fund Center.²⁹ This money was provided to survivors in September 2014, and is intended to be the last cash payment they receive from the One Fund.

The One Fund distribution 2

Loss of Life:

\$100,000 was given to each of the four families of those who were killed.

Extremity Injury:

Between \$150,000 and \$1.095 million was given to each amputee and to those who may become amputees in the future.

Thirty-five applicants received these funds.

Extremity injury resulting in a hospital stay of 12 or more nights:

\$75,000 each was given to six individuals.

Injury resulting in a hospital stay of between 1 and 11 nights:

\$25,000 each was given to 37 individuals.

Out-patient injury:

\$12,500 each was given to 125 individuals, including 10 people who were not given any money in the first distribution.

It was decided that any money donated subsequent to the second distribution would go to the provision of services. The One Fund learned lessons as time went on, adapting its objectives to the different stages of support required. It was recognized that future funds would be best spent on services, as they will support larger numbers of survivors more comprehensively than lump monetary funds. This willingness to adapt should be viewed as a positive aspect of the assistance provided by the One Fund.

THE ONE FUND'S DEFINITION OF SURVIVOR

The principal criticism of the One Fund was with its definition of 'survivor.' This definition was narrow and only covered those who were physically injured in the attacks. *"If you were just suffering from PTSD and no physical injuries, we couldn't include you in the One Fund,"* Lori told AOA. This was the case in the initial distribution, and remained so in the second distribution; *"we did not add anyone to the group for purely mental health issues."* Survivors and those in the wider community felt that this was an important gap.³⁰

The same is true for those who suffered from a Traumatic Brain Injury (TBI), such as Ellen Sexton-Rogers and Joanna Leigh, both of whom were diagnosed with such after the Marathon bombings.³¹ Ellen was given a total of \$20,500 from the One Fund as an outpatient survivor of the bombing, a figure she is unhappy with.

When AOA spoke to Joanna, she had been given \$8,000 in the initial distribution, but was still waiting for money from the second distribution, and had not been informed of how much money she would receive. Both of these survivors felt that they should have been included in Category A in the initial distribution, as individuals who had suffered permanent brain damage. They were not and both are now facing significant financial difficulty due to their injuries. Ellen is living on disability allowance, and Joanna Leigh is thousands of dollars in debt, which they told AOA is due to an inability to work because of their TBIs.

The Massachusetts Bar Association represented those who suffered from a TBI and were unhappy with their treatment by the One Fund. Advocates Paul White and Susan Baronoff told AOA that the award given to those with *"traumatic brain type"* injuries were given a *"completely inadequate award for someone with that serious an injury."* It meant that they were left with limited means to receive financial support, a gap which was not remedied or filled by a public health system response.

Lori van Dam is intensely aware of the feelings of people such as Ellen and Joanna, and the



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EMT workers rush to transport an injured individual away from the scene.

opinions of people who think that the way in which the One Fund distributed the money was unfair.

Providing the context for the decisions for the approach of the One Fund, van Dam said, reporting the comments of a medical ethicist; *“you have to take fair off the table because these people have experienced the most unfair thing that will ever happen to them and to try to rebalance that is impossible. We can talk about objective, we can talk about explainable, we can talk about understandable - and that is what we have tried to do.”* She also emphasized the fact that the One Fund is not an insurance company, and that they had to find some kind of objective criteria in determining how to split the money.

From the perspective of the One Fund, the most appropriate way to assist those with mental health and psychological harms, and those with traumatic brain injuries, is through the provision of services. Any further donations will go to services to help the One Fund community, and the wider Boston community, and a research study on tinnitus.

The vast majority of financial support available to survivors of the bombing was not provided by the State or the government, but by the One Fund. Without the One Fund, those significantly injured could have faced significant financial hardship. The \$25,000, or \$50,000, available through the State would not have covered the costs faced by those with severe physical injuries and amputations. The State, although not explicitly, relied on the One Fund to provide such support. Reliance on charitable organisations is not sustainable. The State and government should have provisions in place to more securely financially support victims of such attacks.

Two of the four physically injured victims AOA spoke with thought that the state should have provided more financial support for them instead of relying on charitable donations.³²

THE PROVISION OF SERVICES

Overall the services available to survivors and the wider community can be applauded. While few new services were established specifically in response to the bombings, existing services were utilised largely successfully to provide support to survivors, their families and the wider community.

IMMEDIATE SUPPORT³³

Federal and State organisations came together to provide support for the families of those who had been killed and injured in the attacks. Immediate support needs included reunification with family members, emergency financial assistance, mental health support, and being made aware of existing services which were available.

AOAV spoke to the Boston Public Health Commission (BPHC), Office of Public Health Preparedness, which is funded through federal grants to the State. The BPHC, through its Medical Intelligence Center (MIC), coordinated the immediate response from the American Red Cross, the Boston Athletic Association, the Massachusetts Departments of Mental Health and Public Health, as well as federal departments and other services.

Atyia Martin, Director of the Office of Public Health Preparedness, told AOA that a family reception center was set up by 7pm on the day of the bombing to serve as a 'one-stop-shop' for the families of those who had been physically injured. A multitude of Federal and State departments, as well as victim support organisations, based themselves there in the days following the bombings.³⁴

FAMILY ASSISTANCE CENTER

It was decided by the Office of Public Health Preparedness that a longer term Family Assistance Center was needed in order to support those who had been injured and their families. At this Center, which was established in the days after the bombing, Federal, State and City representatives were all under one roof, including the Red Cross, the Salvation Army, the BPHC, Attorney General's

Office, the FBI, the Police Department, the Massachusetts Office for Victim Assistance (MOVA), and mental health workers.

The Center was intended to assist only those physically injured and the family members of those in hospital. It was a confidential center, the location of which was kept secret from the public and the media. Family members could talk to the FBI, find out about mental health services, and receive emergency vouchers for things like transportation and food from the Red Cross. Other problems were identified and dealt with at the Family Assistance Center, such as tax deferment and housing needs.

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“ People who needed prosthetics and house ramps... things that they never thought they would ever need. We knew that victim compensation could play a small role in helping with some of that.”

Lisa Solecki, former Chief of the Victim/Witness Services for the AGO

.....
Immediate financial assistance was available at the Center, as was information about longer-term financial support. The Red Cross provided financial grants to 41 families³⁵ to cover costs such as clothing, food, hotel stays, travel and health co-pays. Lisa Solecki, from the AGO told AOA that they were instantly aware that the Office would play a role in providing such assistance to survivors and their families through the VCF. The AGO was present at the Family Assistance Center, both to assist family members with filling out victim compensation forms, and to identify the scale of assistance that would likely be required.

It was quickly recognized that those who had been physically injured and their family members would likely face mental health and psychological

issues. Mental health workers were present at the Family Assistance Center, as were resources to help family members identify mental health services they could utilise. The US Department of Health and Services sent 24 mental health workers who were specially trained in mental health counselling for disasters and incidents such as the Newton mass shootings. The BPHC ensured that individuals were assigned a mental health worker to walk them through the process at the Center so that they had constant support.

The Family Assistance Center was open for 10 days, and during that time helped 80 families.

Donna Ruscavage, Director of the Family Assistance Center as of June 2013, put together a Resource and Recovery Guide³⁶ that consolidated all the information survivors would need about the services to which they could be connected through the BPHC.³⁷

Karen Brassard, who was injured alongside six family members and friends, talked to AOA V about her experience with the services provided. She said that the Center made her aware of all of the available services. *“From the beginning,”* victims knew that any lawyers, doctors and nurses they might need were available at no cost. Healthcare, mental health and trade professionals were at the Center, and they had a process whereby survivors had access to all the information needed in one place. Karen was *“incredibly pleased”* with what was made available; *“I don’t know how much more they can do...everything that the State has been doing, I see it as a gift, something that they didn’t have to do.”* She told AOA V that she feels very supported by the State, and that if she needs anything she can just pick up the phone. *“I really feel like they are there. If I need anything, they’re there.”*

THE BOSTON SURVIVOR ACCESSIBILITY ALLIANCE

Some survivors, such as those with single or double amputations, were going to have a huge amount of difficulty living in their own homes. Thomas G. Gatzunis, Commissioner of the Massachusetts Department of Public Safety, had the idea of bringing together architects, engineers, contractors and trade organisations to help the

survivors. The architectural community in Boston had the same idea and reached out to the Department. Together they created the Boston Survivors Accessibility Alliance, an alliance which provides voluntary home improvement services to survivors.

Commissioner Gatzunis told AOA V that the Alliance was given \$250,000 funding through the legislature, but those carrying out the work have provided all other services voluntarily. There was also a single one off private donation of \$100,000. The Alliance offers services to any survivor who was physically injured in the attacks, whose injury necessitates a modification to their home. Once an application form is filled out an architect is assigned to the project and ultimately it becomes a construction project based on the needs of the survivor. The Alliance was able to get the various building permit fees waived for these home modifications. As well as those involved in the construction industry, members of the Boston Bar Association have donated their time and services to assist with services such as drawing up contracts.

The work that the BSAA can do ranges from installing visual smoke detectors for those who are hearing impaired, to complete remodels for those who suffered amputations. The Alliance has worked on homes that survivors will only be staying in temporarily while they look for permanent, more accessible, accommodation. One survivor was unable to access her second floor bedroom, leading her dining room to be converted to a substitute bedroom. Her husband had to carry her on his back when she needed to go upstairs. The Alliance installed a stairlift in her house, so that her family could return to some kind of normalcy while they waited to move into their new house. Ten of the 17 who suffered amputations have been directly helped by the Alliance. While help is available to those who have suffered from less severe injuries, only amputees have so far requested assistance from the BSAA.

JUDICIAL ASSISTANCE³⁸

Those in the legal profession recognized that those who were physically injured, and those otherwise impacted by the bombings, were potentially going to need help with legal matters. Both the Boston Bar Association (BBA) and the

Massachusetts Bar Association (MBA) reached out to attorneys in their Associations, asking for volunteers to work on specific issues such as property damage and privacy issues. Around 70 lawyers volunteered with the MBA and a similar number volunteered with the BBA. The services they provided to survivors and those impacted by the bombings were provided voluntarily, at no cost to the survivors. Lawyers were matched with clients on the basis of their knowledge and expertise.

“ In the immediate aftermath of the bombings there was a really extraordinary ground-swell of sympathy, support and anger, but a determination to respond to it by helping people who had been injured.”

Paul White, Massachusetts Bar Association member

Initially, it was anticipated that survivors might need assistance due to unemployment, problems with debt, housing problems, property damage issues and personal injuries. The BBA began by focusing on the businesses in the vicinity of the bombing which were damaged, resulting in a loss of business or damaged property, although they ultimately represented individuals as well as businesses.

AOAV spoke to Chris Strang, a lawyer who volunteered through the BBA and assisted five different survivors who wanted advice about privacy issues. Due to the attorney-client privileged relationship he was limited in what he could discuss, but he told AOAV that some survivors were very uneasy about the extent of publicity they were inadvertently faced with. The bombings gained a huge amount of media attention. Survivors' photos, names, and personal details were splashed across front pages worldwide, potentially elevating traumatic response risks. They were put in all sorts of publications, sometimes with information including their addresses. Chris said that they were nervous about so much personal

information being available online, primarily due to security concerns. He gave them advice regarding preventing their further distribution.

The BBA provided other means of legal assistance. Lawyers helped people with employment issues, such as businesses that were physically or economically damaged by the blasts, and people being unable to work due to their injuries. Some people needed help with applying for and receiving disability benefits, with insurance claims, and with filling out applications to the One Fund.

Members of the MBA also assisted those impacted by the bombings. They helped victims in similar situations to the assistance provided by the BBA, as well as playing a key role in assisting victims who suffered from TBI with their claims for support from the One Fund.

AEAP GRANT³⁹

The US Department of Justice, Office for Victims of Crime (OVC), administers an Antiterrorism Emergency Assistance Program Grant (AEAP). This Grant was established by Congress after the Oklahoma City bombing in 1995, and can provide \$50 million annually to assist victims in extraordinary circumstances. State departments can apply to this grant to cover costs for organisations providing crisis intervention, trauma-informed counselling, physical and vocational rehabilitation services, services for the deaf and hard of hearing, and other services essential to victim recovery and healing.

MOVA was given a grant of \$8,355,648 to “*support direct services and supports for victims, witnesses, first responders, and others impacted by the Boston Marathon bombings.*” These funds will not be given to victims as cash payments, but will be spent on services such as crisis response, web-based services portals, resiliency forums, behavioural health support services, hearing support and Traumatic Brain Injury support services will be funded through this grant.

The services provided by this grant will be available for those who were not physically injured by the bombings, such as witnesses and first responders. Much of the services to be provided will focus on mental health, and Attorney General



Spaulding Rehabilitation Center, where all but one of those who underwent an amputation received rehabilitative support.

Martha Coakley has said that the grant *“will help ensure that effort reaches all victims suffering from physical or emotional trauma.”* The specifics of many of the services to be funded by this grant have not yet been announced, but no-one AOA spoke with was unhappy with this.

ONE FUND⁴⁰

The One Fund, while initially set up to provide cash payments directly to those who had been injured by the bombings, and the families of those who were killed, will also now fund the provision of services. Any money donated to the One Fund since the Second Distribution in September 2014, and any future donations, will be used to provide services. These services will not only be available to the ‘One Fund community,’ but to the wider community of those impacted by the Boston bombing.

This decision was largely made due to the realization that more support should have been provided to those with mental health and psychological issues, and those who are suffering from TBIs. The One Fund, in their second distribution, funded a \$1.5 million medication collaborative with Massachusetts Eye and Massachusetts General Hospital. They will fund research into hearing problems such as tinnitus⁴¹, which will affect a much wider population than even those who were impacted by the

bombings, as it is hoped that this will help people who suffer from tinnitus from other causes.

The One Fund is funding a tablet based research study, which is *“essentially a video game that will help re-train your brain.”* Microsoft donated tablets and Bose donated headphones for this research. The idea is that tinnitus is caused by a brain problem, so the hope is that this therapy will help people tune out the noises that they don’t want to hear from the ones that they do. If this therapy works, it is something that could positively impact a much wider community.

RESILIENCY CENTER⁴²

In July 2014 it was announced that a Resiliency Center would be opened to provide support for anyone affected by the bombings. The Center was approved by the Attorney General’s Office and will be overseen by the Massachusetts Office of Victim Assistance (MOVA). It will be managed by Boston Medical Center, and funded with up to \$1.9million of federal grant money administered by the US Department of Justice’s Office for Victims of Crime.⁴³ This money comes from the AEAP Grant, which was secured by the Massachusetts Office of Victim Assistance.

It will be a centralized resource center, which can connect victims with any services they might need, including trauma, mental health and rehabilitation support. It will also be a gathering place for survivors, and others who were affected by the bombings and their aftermath, and will use online forums and things such as video links so that survivors who are physically distant from Boston can access support services.

Many of the people who have previously provided support to survivors, such as the One Fund and the Boston Public Health Commission, told AOA that they have now transitioned, or will be transitioning their services to the Resiliency Center. It will therefore be a ‘one-stop-shop’ for all services and support. Those creating the Resiliency Center were careful to ensure that the views of survivors were taken into account in its establishment. The needs and opinions of the survivors have consistently been at the forefront of all services provided for their support.

MENTAL HEALTH SERVICES

MENTAL HEALTH SUPPORT FOR THOSE PHYSICALLY INJURED

Care provided at medical centers

Medical care givers were aware that the survivors and their families would likely have mental health needs to a greater or lesser extent. Maureen Fagan, the Executive Director for the Center for Patients and Families at Brigham and Women's Hospital, was responsible for the team coordinating patient and family care in the aftermath of the bombing. The hospital's Employee's Assistance Program provided mental health support to patients, families, staff, and staff family members.

.....

“ Very early on there was a recognition that there was going to be psychological and psychiatric needs.”

Dr. Paul Biddinger, Director of Emergency Preparedness at Massachusetts General Hospital

.....

The hospital cared for 40 patients, and 40 families. These families were basically living in the hospital for up to a month, and were being supported by the Center for Patients and Families. The Center provided services such as talk therapy, medication therapy, physical therapy, spiritual care and religion-based therapy. The mental health needs of patients and their families were reviewed multiple times per day in order to ensure they were being supported as required. Maureen showed AOA V the Center, explaining that each family was supported in a way that was unique to their harm and needs.

Massachusetts General Hospital has a whole team dedicated to psychological and psychiatric needs for patients. The hospital mobilised social workers and psychological support for those who were critically injured, as well as clergy where appropriate.

Karen Brassard was treated at Boston Medical Center. She told AOA V that a mental health worker checked up on her at least once per day for the duration of her hospital stay. The same happened at Tufts Medical Center, where her husband spent two and a half weeks. She said that, while her own priority was with their physical injuries, the mental health services would have been available immediately had they wanted them.

Care provided by State bodies

In the immediate aftermath of the bombings the Family Assistance Center provided information to the families of those who had been injured regarding the mental health services available to them. Atyia Martin, Director of the Office of Public Health Preparedness, told AOA V *“the whole spirit was to make it easier for survivors.”* The BPHC referred families to mental health care providers, enabling them to identify support services and groups very quickly. Some mental health counselling was also available at the Family Assistance Center.

The BPHC, through the Office of Public Health Preparedness, also offered support groups to the survivors and their families, beginning in May 2013. One of the groups, for amputees and the families of those who had been killed, was quickly disbanded. Donna Ruscavage told AOA V that these individuals already had a network of support, and that they were not ready to join such a group.

The second group, for those who had been injured but are not amputees, continued until May 2014, and was funded by MOVA. Almost 50 survivors joined the support group, Donna told AOA V, with an average of 15 to 20 attending each meeting. They worked with the Justice Research Institute in Boston, and had experts come to the groups to do things like art therapy and a trauma and yoga workshop. A mental health clinician who had special training in trauma ran the group, working with people to inform them of the signs of PTSD, how trauma might affect their lives, and how to deal with this trauma. The support group received

a no-cost extension from MOVA until December 2014, after which the activities will be transitioned to the Resiliency Center.

“ People felt alienated and isolated from family members and co-workers...[who] didn't really understand how horrific and horrible it was.”

Donna Ruscavage, Director of the Family Assistance Center

It was recognized that peer-support was extremely important. One way in which this support was encouraged was through the online program Yammer. Microsoft donated to the BPHC a three year licence to Yammer, a private, password protected social media site, to which the injured survivors all have access. Donna Ruscavage told AOVAV that this program has been a great source of support for survivors, both in Boston and

further afield. The group is monitored in order to identify significant problems, but largely functions as a peer-support mechanism.

From the hospitals, to the BPHC, to MOVA, mental health support was available to those who were injured and their families. Many survivors, however, had such severe injuries that their mental health needs were not tackled until months after the bombings. In addition, some support was provided not by trained trauma counsellors, but by other therapists, such as marriage counsellors. Ellen Sexton-Rogers received counselling from a specialized trauma counsellor.

Those who were physically distant from Boston were not able to benefit from mental health services to the same extent as those within the city. Many of the services available are in Boston, and much of the support has ultimately been peer-based. One survivor, who lives in Minnesota, told AOVAV that much more should have been done to emotionally support such victims. She spent months trying to reach out to the survivor community in Boston with little success. A mental health worker from the One Fund reached out to



Karen Brassard wears a bracelet reminding her to be 'Boston strong'.

her months after the attacks, but by that point it was too late. She was able to virtually communicate with the survivor community, but joining such a close group so long after the bombings made her feel much worse. She said that Boston was very protective of its survivors, and not keen to let outsiders in to talk to them, but *“since I’m already an outsider, I can talk.”*

MENTAL HEALTH SUPPORT FOR FIRST RESPONDERS AND HOSPITAL STAFF

Most of those who had close contact with survivors and their families had never experienced anything like the damage and destruction caused by the bombings. Dr. Paul Biddinger from Massachusetts General Hospital told AOA V that the psychological impact on the staff there had been huge. *“People needed help for a long time. People needed different kinds of help. Some people wanted group therapy, some people want personal therapy, some people want to talk right away, and some people want to talk later.”*

Massachusetts General has a team dedicated to providing psychological support for their staff. A debriefing was held for the staff within days of the bombings, providing information about this support. There was constant outreach to employees, and they were encouraged to ask for help if they needed it.

The same was true at Brigham and Women’s Hospital. The Employee Assistance Program, alongside psychiatrists, trained social workers and counsellors dedicated to staff provided assistance to staff members who were affected by the bombings. Eric Goralnick, the Medical Director of Emergency Preparedness, told AOA V that, as well as specialist services, a peer-to-peer counselling group was established.

The blasts had a huge impact on members of the police who were at the finish line, and those who saw the aftermath of the explosions, Sergeant Mike McCarthy from the Boston Police Department told AOA V. The Police Department required everyone to go to counselling, including the Police Commissioner. The Police Department has a support unit providing lecturing and mental

health counselling, and were very proactive in providing mental health services to anyone who needed it or asked for it. Other first response teams, such as the Fire Department, had their own psychological support systems in place.

The Office of Public Health Preparedness also made sure that their employees received support. Dr. Robert Macy, who is well known in trauma response and post-traumatic stress management, provided services to the staff of the Office of Preparedness of the BPHC. This response was also provided to other employees of the BPHC.

‘BOSTON STRONG’

Over and again AOA V was told that *“they messed with the wrong city.”* In the aftermath of the bombings, this rhetoric led to ‘Boston Strong,’ a message that the city, the community, and the survivors would not let the attacks destroy them. It was unquestionably a phrase symbolizing hope, resiliency and strength.

Some survivors have taken ‘Boston Strong’ to heart, and it has provided them with an added feeling of support and strength. However, it had a destructive effect on some of those who were struggling to deal with what had happened. Manya Chylinski said that in the aftermath of the bombing it felt like *“you’re supposed to be Boston Strong, suck it up. And if you’re having trouble, you’re not Boston Strong and then you’re not part of the team.”*

Manya thinks that Boston Strong, and some aspects of the One Fund, *“have deepened the divides between the types of victims and...helped people feel more isolated.”* The continued emphasis on those with physical injuries, combined with ‘Boston Strong,’ had the effect of discouraging some from asking for help. Those with mental and emotional problems particularly felt the pressure to be ‘Boston Strong,’ which had a negative impact in the long term.

However, the vast majority of individuals AOA V spoke with identified with ‘Boston Strong,’ and felt that it aided in both their personal recovery and the recovery of the city.

CONCLUSIONS

This research demonstrates the devastating effects the use of IEDs in populated areas have, and that they have an impact far beyond the headline casualty figures.

Alongside those directly killed and injured are the countless more who suffer physically, emotionally and financially. Even in Boston, which has good medical and financial resources, individuals will suffer from lifelong effects due to their physical injuries and the psychological impact of the bombings.

The response to the Boston bombings can largely be used as an example of good practice in how to respond to an IED attack, and how to support the victims. Firstly, a huge amount of preparation and training had been done in the years prior to the bombings. This preparation crucially included meeting with those who had responded to IED attacks previously, and incorporating their lessons learned into emergency plans. Those responsible for responding to the attacks were aware of the difficulties responders had had previously, and made plans to avoid such problems. Critically, all involved in responding to the attacks had trained with each other. Police, other first responders, and health care professionals knew and trusted each other to do their jobs, primarily because of advanced planning. The extensive training undertaken by the city of Boston undeniably saved lives.

There was a high level of coordination between agencies in responding to the attacks and the victims. The Boston Public Health Commission, through its Medical Intelligence Center, coordinated the initial response, meaning that all responders had a central point of contact. The same is true of the assistance to victims. The Family Assistance Center served as a central support mechanism for victims and their families in the weeks after the bombings. This centralised mechanism streamlined processes for victims and their families, simplifying their initial access to support services.

The speed of the victim assistance response can be applauded. A center was established for family members to receive support within hours of the bombings. A more permanent center was established within two days. The One Fund was created and donations could be made less than 36 hours after the attacks. The speed of response meant that victims and their families had access to services almost immediately.

The creation of a singular charity can also be seen as a positive aspect of the response. The transparent nature of the One Fund shows exactly how much was donated and how funds were distributed. The One Fund demonstrated the need to learn from experience and a willingness to adapt. Between the first and the second distribution the One Fund realized that it was important to consider the severity of individuals' injuries, not merely their length of hospital stay. The One Fund also responded to criticism of its handling of those with psychological injuries and traumatic brain injuries by determining that future donations will go to the provision of services, not to cash payments to individuals. This willingness to adapt should be seen as a positive aspect of the charitable response.

However, it must be noted that luck played a significant role in the fact that a small number of people were killed in relation to the number of those injured. Those with severe injuries required hospital treatment within minutes of the attack. This treatment was able to be provided because ambulances and police vans were at the scene when the bombs detonated, and roads were closed due to the marathon. The rapid extraction of victims happened at least partially due to good luck.

Not all aspects of the response to the attacks can be applauded however. Many facets of the response came from charitable action. The One Fund was entirely voluntary, raising \$80million from private donations. Lawyers, mental health workers, architects and builders donated their services and time at no cost. This is an entirely

unsustainable response. In a country such as the US a charitable response can be seen as a positive response since there are thankfully very few attacks. However, should attacks take place with any sort of regularity, this response would likely tail off quickly. The State should not rely on charitable organisations and voluntary services to support the victims of explosive weapon attacks, no matter how rare they may be. Without the support provided by the likes of the One Fund, many survivors would be facing financial difficulties with little recourse to support from the State.

While the State itself has an inclusive definition of 'victim,' other aspects of the treatment of victims in the aftermath of the bombings created layers of victims. The choice of the One Fund to support only those with physical injuries had a knock on effect for those suffering from psychological injuries. Public officials and media outlets spoke of the victims only as those who were killed or

physically injured, there was little mention of those with psychological issues.

When speaking of those affected by such attacks, the media and public officials should recognise that individuals can suffer from psychological as well as physical injuries as a result of IED attacks.



Messages of support for those affected by the bombings are now hung on the walls of the One Fund Boston offices.

RECOMMENDATIONS

PREVENT FUTURE ATTACKS

- States, the international community and local leaders should work together to stigmatise the use of explosive weapons in populated areas.

PREPARATION

- States should prepare for mass casualty incidents, including IED attacks.
- States should share experiences and best practice to learn how best to respond to IED attacks.
- Those who responded to the bombings in Boston should share their lessons learned.

TREATMENT OF VICTIMS OF IED ATTACKS

- Those treating IED victims should be aware of the deep psychological impact of these incidents.
- Hospitals should train staff to spot symptoms of trauma and mental distress, assess victims' risk factors and provide referrals to mental health and counselling services.

COMMUNICATIONS

- The rapid setting up of a central coordination centre in response to an major IED attack reduces confusion or duplication of efforts.
- A central information centre for survivors and families should be established, providing help on accessing support services in an accessible location.

AOAV's policies on reducing the harm caused by IEDs

IED attacks which cause civilian casualties need to be considered an unacceptable form of violence and must be condemned as such. Practical policies to disrupt access to IED materials and bomb-making knowledge need to be implemented nationally and internationally. Victims of this form of violence should receive a full range of support including treatment for psychological harm.

CATEGORISATION OF VICTIMS

- Victims should not be categorized in a narrow manner; not only those who are physically injured suffer harm in IED attacks.
- Victims are not just those killed and physically injured - those suffering from psychological harm should also be considered by both officials and the media.
- The Convention on Cluster Munitions provides a useful definition of 'victim' as "all persons who have been killed or suffered physical or psychological injury, economic loss, social marginalization or substantial impairment or the realization of their rights...they include those persons directly impacted by cluster munitions as well as their affected families and communities."⁴⁴

FINANCIAL ASSISTANCE

- Financial assistance schemes should be transparent and consistent, and disbursed in a discrete and sensitive manner.
- A wide range of support should be offered to ensure the rights of victims are fully realized. Financial compensation is an element of support rather than an end.

IMPROVE UNDERSTANDING OF THE LONG TERM AND INDIRECT IMPACTS OF IED ATTACKS

- More research is needed to explore the long-term and indirect harm of IED attacks in populated areas. In particular studies on the mental health impacts of IED attacks would be important, as would more research on responses to IED attacks globally.



The Marathon finish line is permanently in place on Boylston Street.

ENDNOTES

- 1 United States of America v. Dzhokhar A. Tsarnaev, Government's opposition to Defendant's motion to suppress statements. Crim. No. 13-10200-GAO. United States District Court, District of Massachusetts. http://thebostonmarathonbombings.weebly.com/uploads/2/4/2/6/24264849/d.mass._null_null_0_28.pdf (accessed 24 November 2014).
- 2 United States of America v. Dzhokhar A. Tsarnaev, general allegations. Crim. No. 13-10200-GAO. United States District Court, District of Massachusetts. http://www.deathpenaltyinfo.org/documents/Tsarnaev_Indictment.pdf (accessed 24 November 2014).
- 3 United States of America v. Dzhokhar A. Tsarnaev, notice of intent to seek the death penalty. Crim. No. 13-10200-GAO. United States District Court, District of Massachusetts. <http://www.justice.gov/usao/ma/news/2014/January/Death%20Penalty%20Notice%20of%20intent%201-29-13.pdf> (accessed 24 November 2014).
- 4 *Ibid.*
- 5 One of the fatalities was misidentified, a mistake only realized when the family of the deceased arrived at a Boston hospital expecting to see their daughter, and instead encountered her friend.
- 6 A traumatic amputation occurs at the scene of an incident, usually during the incident itself.
- 7 The youngest amputee was seven years old and is the sister of the eight-year-old boy who was killed. Their parents were also injured in the attack. <http://richardfamilyboston.tumblr.com/post/49044666183/the-facts-about-the-richard-family-injuries-from-the> (accessed 24 November 2014).
- 8 "One Fund Boston Announces Final Cash Gifts to Individuals, and Establishes the One Fund Center to Provide Continued Support and Services." https://s3.amazonaws.com/b.3cdn.net/oneboston/d070ce906cb4599141_zym6iv4sg.pdf (accessed 24 November 2014).
- 9 Eric Moskowitz, "Long after Marathon blasts, survivor loses leg," *The Boston Globe*, 11 September 2014, <http://www.bostonglobe.com/metro/2014/11/11/long-after-marathon-bombings-survivor-loses-leg/urutUL05K3H33jIOGoLiNI/story.html> (accessed 24 November 2014).
- 10 Patricia Wen, "Injured brothers reunited at rehabilitation hospital," *The Boston Globe*, 13 May 2013, <http://www.bostonglobe.com/metro/2013/05/13/norden-brothers-injured-marathon-bombings-are-back-together-spaulding-rehab/0PWHxWQDozMg4Kj2hVuleN/story.html> (accessed 24 November 2014).
- 11 Eric Moskowitz, "From Marathon calamity, newlyweds' bond deepens," *The Boston Globe*, 20 April 2014, <http://www.bostonglobe.com/metro/2014/04/19/jess-and-patrick-one-year-later/njPh2G4baWRzmkC0lyh7CJ/story.html> (accessed 24 November 2014).
- 12 Spaulding is governed by Partners, the organisation governing many of the principal hospitals in Boston. It is a state-of-the-art rehabilitative center, which was refurbished and re-opened in a new location less than two weeks after the Marathon bombings. As well as providing rehabilitative care to those with amputations and extremity injuries, it provides counselling support groups for those impacted by the bombings.
- 13 "The impact of explosive violence on mental health and psycho-social well-being," Article 36, September 2013, <http://www.article36.org/wp-content/uploads/2013/09/MENTALHEALTH.pdf>
- 14 "What is Traumatic Brain Injury (TBI?)" [Traumaticbraininjury.com](http://www.traumaticbraininjury.com), <http://www.traumaticbraininjury.com> (accessed 24 November 2014).
- 15 Richard McGregor, Geoff Dyer and Robert Wright, "US Senate building alerts over envelopes," *The Financial Times*, 17 April 2013, <http://www.ft.com/cms/s/0/e7b7fe24-a6a3-11e2-885b-00144feabdc0.html#axzz3J3cYI0WH> (accessed 24 November 2014).
- 16 Bill Dedman and John Schoen, "Adding Up the Financial Cost of the Boston Bombings," *NBC News*, 01 May 2013, <http://www.cnbc.com/id/100690046/page/5> (accessed 24 November 2014).
- 17 At a loss of \$175,000. Bill Dedman and John Schoen, "Adding Up the Financial Cost of the Boston Bombings," *NBC News*, 01 May 2013, <http://www.cnbc.com/id/100690046/page/7> (accessed 24 November 2014).
- 18 Bill Dedman and John Schoen, "Adding Up the Financial Cost of the Boston Bombings," *NBC News*, 01 May 2013, <http://www.cnbc.com/id/100690046/page/10> (accessed 24 November 2014).
- 19 After the suspects allegedly shot and killed an MIT police officer, the Governor of Boston requested the city 'shelter in place.' This order lasted for 24-hours, during which the entire city was shut down. Public transport did not operate; shops, restaurants and businesses were closed; hospitals were unable to discharge patients.
- 20 Chris McGuire, "Terrorism, The Costs to an Economy," *Our Marathon, the Boston bombing digital archive and WBUR oral history project*, <http://marathon.neu.edu/exhibits/show/terrorism--the-costs-to-an-eco/terrorism--the-costs-to-an-eco> (accessed 24 November 2014).
- 21 There is some disagreement about whether informal tourniquets helped or hindered. Dr. Paul Biddinger, Director of Emergency Preparedness at Massachusetts General Hospital and for Partners, the overarching corporate structure for the network of hospitals in Boston, told AOA that the use of belts or neckties as tourniquets can increase bleeding if used even slightly wrongly. The ambulance service carried formal tourniquets that were used to staunch some of the victims' bleeding. These "military tourniquets most assuredly helped," as did other methods of haemorrhage control, such as the application of pressure.
- 22 Beth Israel Deaconess Medical Center, Boston Children's Hospital, Boston Medical Center, Brigham and Women's Hospital, Massachusetts General Hospital, and Tufts Medical Center.
- 23 This information was provided by Sergeant Mike McCarthy.
- 24 Dr. Paul Biddinger from Massachusetts General Hospital told AOA that some of their first patients were brought in in the back of police vans, not in ambulances.
- 25 Massachusetts Victims of Violent Crime Compensation, [Mass.gov](http://www.mass.gov/ago/public-safety/resources-for-victims/victims-of-violent-crime/victim-compensation.html), <http://www.mass.gov/ago/public-safety/resources-for-victims/victims-of-violent-crime/victim-compensation.html> (accessed 24 November 2014).

- 26 The upper cap for ‘catastrophic injuries’ covers injuries that create a permanent impairment, such as amputations, severe brain injury, and total or functional loss of vision or hearing, as well as other severe injuries.
- 27 Most of this information was provided by Lori van Dam, the Executive Director of the One Fund.
- 28 Prosthetics for above-the-knee amputations are more expensive than below-the-knee amputations.
- 29 “One Fund Boston Announces Final Cash Gifts to Individuals, and Establishes the One Fund Center to Provide Continued Support and Services.” https://s3.amazonaws.com/b.3cdn.net/oneboston/d070cce906cb4599141_zym6iv4sg.pdf (accessed 24 November 2014).
- 30 Lenny Bernstein, “Brain-injured woman and others seek more money from fund for Boston Marathon victims,” *The Washington Post*, 2 October 2013, http://www.washingtonpost.com/national/health-science/brain-injured-woman-and-others-seek-more-money-from-fund-for-boston-marathon-victims/2013/10/02/84ebaa22-2531-11e3-b75d-5b7f66349852_story.html (accessed 24 November 2014); David Abel, “Marathon bombings survivors seek more aid,” *The Boston Globe*, 21 June 2014, <http://www.bostonglobe.com/metro/2014/06/20/marathon-bombing-survivors-question-one-fund/mbSvBh251ZrlgoG6F8YVaP/story.html> (accessed 24 November 2014).
- 31 Paul White and Susan Baronoff, lawyers who represented some survivors suffering from a TBI, both thought that the money had been distributed much too quickly, “*the very nature of that injury is that you don’t realize that your mental faculties have been injured or impaired, and frequently those symptoms don’t manifest themselves immediately.*”
- 32 In the London bombings of 7 July 2005, 56 were killed (including 4 suicide bombers) and over 700 injured. The Criminal Injuries Compensation Authority paid £11.5million to 648 victims of the bombings. The ‘most injured’ survivor of the bombings, Danny Biddle, who lost both legs, one eye and his spleen, received £118,332 from the CICA. There were massive delays in payments. The London Bombing Relief Charitable Fund was established, raising £12million, £2.5million of which came from the Government. Bereaved families with two dependent children received £150,000. A bereaved spouse or partner received £75,000 while a bereaved relative who was not a spouse or partner received £50,000. Those most severely injured received between £74,000 and £200,000. Kiran Randhawa, “Seven years on: Victims of 7/7 London bombings are still waiting for payout,” *London Evening Standard*, 21 May 2012, <http://www.standard.co.uk/news/london/seven-years-on-victims-of-77-london-bombings-are-still-waiting-for-payouts-7770676.html> (accessed 24 November 2014); Catherine Bennett, “Why have the 7/7 victims received such pitiful compensation? Where are the celebrity charity fundraisers for them?” *The Guardian*, 6 July 2006, <http://www.theguardian.com/commentisfree/2006/jul/06/comment.july7> (accessed 24 November 2014).
- 33 Most of this information was provided by Atyia Martin, Director of the Office of Public Health Preparedness for the Boston Public Health Commission.
- 34 Much of the initial work done was the co-ordination of service providers and an attempt to identify the types and volume of assistance needed.
- 35 “Red Cross Support Ongoing for Boston Marathon Victims,” [Redcross.org](http://www.redcross.org/news/article/Red-Cross-Support-Ongoing-for-Boston-Marathon-Victims-), <http://www.redcross.org/news/article/Red-Cross-Support-Ongoing-for-Boston-Marathon-Victims-> (accessed 24 November 2014).
- 36 Resource and Recovery Guide, Boston Marathon, *Boston Public Health Commission*, <http://www.bphc.org/whatwedo/mental-emotional-health/trauma-response-and-recovery/Documents/Resource%20and%20Recovery%20Guide%20Boson%20Marathon%20April%202014.pdf> (accessed 24 November 2014).
- 37 This document details financial support services, mental health care providers, as well as miscellaneous support such as who to contact regarding judicial assistance and home modifications. This document was widely shared and distributed.
- 38 This information was provided by Maureen Fagan, Paul White, and Chris Strang, members of the Boston Bar Association and the Massachusetts Bar Association.
- 39 Massachusetts Office for Victim Assistance (MOVA) Obtains \$8.3 Million to Support Victims of the Boston Marathon Bombings, *Mass.gov*, 14 January 2014, <http://www.mass.gov/mova/news-and-events/press-releases/mova-obtains-8-3-million-for-victims-of-bombing.html> (accessed 24 November 2014).
- 40 This information was provided by Lori van Dam, Executive Director of the One Fund.
- 41 Tinnitus results in a sometimes constant ringing or buzzing in the ears. It can have a significant impact on day-to-day life.
- 42 The Massachusetts Resiliency Center, FAQ Sheet, *Mass.gov*, <http://www.mass.gov/mova/docs/aeap/resiliency-center-faq.pdf> (accessed 24 November 2014).
- 43 MOVA, Boston Medical Center to Launch Resiliency Center for Boston Marathon Bombing Victims, *Mass.gov*, 09 July 2014, <http://www.mass.gov/mova/news-and-events/press-releases/mova-and-bmc-launches-resiliency-center.html> (accessed 24 November 2014).
- 44 The Convention on Cluster Munitions 2008, Article 2.

ACTION ON ARMED VIOLENCE

Action on Armed Violence (AOAV) is a London, based charity that has a central mission: to reduce harm and to rebuild lives affected by armed violence.

We do this by carrying out field work, research and advocacy to reduce the incidence and impact of global armed violence.

The number of fatalities from armed violence is estimated to be over half a million people killed every year. Around two thirds of these violent deaths are estimated to occur outside conflict situations. Poorer countries are particularly badly affected.

We seek to remove the threat of weapons, monitor the impact of explosive weapons around the world and investigate what causes armed violence – from guns to suicide bombings. We aim to clear land of explosive weapons and work with governments to regulate guns.

We work with victims of armed violence, offering psychosocial assistance, providing opportunities to help them earn a living and to try to reduce conflict at local levels.

We work to build communities affected by armed violence, working with governments and measuring and monitoring the incidences and impacts of armed violence around the world.

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