arlier this year, in the space of just 24 days, more than 100 people died and almost 400 were injured. The deaths and casualties came from attacks at Manchester Arena and London Bridge, followed by a fire that tore through the 24 stories of Grenfell Tower in North Kensington.

With the UK official terror threat teetering between "severe" and "critical", and 190 high-rise buildings across 51 local authority areas in England failing fire safety test, an oppressive sense of insecurity has since hung heavily over the nation.

The run of tragedies came as the country was still trying to make sense of the attack on Parliament, in which 52-year-old Khalid Masood ploughed through pedestrians on Westminster Bridge, before abandoning his car and fatally stabbing unarmed police officer PC Keith Palmer.

These events have dominated the headlines. Firemen, police, paramedics, doctors and nurses have been praised and labelled as heroes across newspapers, television, radio and social media.

However, one profession intrinsic to the response to these atrocious events has been absent from the discussion – biomedical science. Pathology has been involved in and vital to the case of so many of those who were hospitalised or died. But, as the work is often carried out behind closed doors, biomedical scientists rarely enter the national conversation.

Here we share the stories of three people who were involved in major incidents.
We hear of their experiences, their feelings and how pathology responded to national disaster.

AFTER THE DISASTER PATHOLOGY RESPONDS

"I was stressed, tired and exhausted. I felt tearful, but I didn't cry until I got home"



MANCHESTER ARENA ATTACK

Deborah Seddon, Haematology and Blood Transfusion Manager, Pathology at Wigan and Salford

was at home when the phone rang. It was my sister who was parked outside the arena waiting for my niece who was at a concert, she had heard a loud bang and saw people running. Lydia was unharmed and I was in work by 11pm.

I started to carry out the actions we have as part of our MAJAX response and additional staff started to arrive by 11.3 opm. We ordered additional blood very early and had the stock on site before midnight. We followed policy, but from that point I made a decision to change our response in line with an idea I had while attending the Socrates MAJAX drill.

I could see that communication was an issue and this gave me the idea that if we were in the Emergency Department it would help the communication between departments. I instructed staff to prepare additional emergency blood components. Eva Loutraris and myself took these to A&E where we remained until the call to stand down at 4.30am.

We had two critically ill patients shortly after we arrived, took one patient each and ensured that there were no delays in the provision of blood components. We delivered emergency components to the bedside and completed the paper work required, we implemented a system where a copy of the patient's wrist band was attached to a bag where all empty blood components were disposed; the time of the transfusion was recorded on each component.

In addition, we took over the role of communicating with blood bank and ordering non-emergency products, so staff could stay by the patients. The system streamlined the transfusion processes and these actions have been



recognised to have saved at least two lives.

How do I feel post-bomb? Immensely proud to be part of the Salford response. The staff in A&E were so calm and focused. I feel emotional every time I think of how my team back in haematology performed. They were flawless and worked as one tightly-woven unit, knowing exactly what to do and the best person to do it. There's been a perceptible change in my team and the pride they feel in the work they do – they were tested and delivered. We have also learned from this and will be even better, if we are ever called on to do this again.

LONDON BRIDGE ATTACK

Shazia Akhtar, Specialist Biomedical Scientist, Viapath Blood Transfusion Laboratory, St Thomas' Hospital

he call came through the switchboard at about 10 O'Clock, when it was Saidat Turawa and myself in the lab. Straightaway, we went into major incident protocol. We decided that Saidat would stay upstairs, while I prepared a trolley with blood to go down to A&E. At that point, we didn't know a lot about what had happened. I grabbed a porter and got him to help me go down with the trolley. When I got to

A&E resus, it looked organised, but felt chaotic, there was a lot of activity and so many people, I felt taken aback.

I positioned my trolley by the nursing station, which meant I could see all the patients coming in covered in blood, which felt quite traumatic. I was working with the Haematology Registrar and making sure that we were getting enough blood and ordering blood products for the patients coming in. It was initially a bit strange and being in A&E felt very stressful. I think we had about six or seven people who were involved in the attack, but they were coming in and then being wheeled out, then going for x-rays... so I'm not exactly sure.

I felt shaken, but something just kicks in, you get a boost of adrenalin, focus on your job and what you've got to do. I don't get upset by blood, but this was different because of what was happening and the way it had happened.

I was down there until about 2.30am, and then came back up to the lab. Saidat said that she will never forget the look of horror that was on my face when I walked back through the doors. I was stressed, tired and exhausted, but we had a lot to do to catch up with the work that had built up while we were dealing with the major incident. I felt tearful, but I didn't cry until I got home.

We've since been inundated with emails

from people in other departments, praising us, saying what a good job we did and that they were really glad I was down in A&E.

It took a while for what had happened to sink in. It was awful seeing the news coverage, but I went to a trust trauma counselling session and I'm proud of the fact we got through it and that while I felt panicked, I managed to stay calm.

GRENFELL TOWER AND WESTMINSTER ATTACK

Princess Diana Salazar, Senior Biomedical Scientist, Blood Transfusion Laboratory, Viapath, King's College Hospital

was doing the nightshift when we received a speech about a major incident. I asked my colleague to inform Haematology while I checked all the blood stock and ensured everything was ready. We were on standby and fully prepared in case the situation escalated.

We were told it was a fire and that we were one of the hospitals that was going to receive patients. One of my colleagues checked the internet and it was on the news already – the Grenfell Tower fire.

Aside from blood stock, we ensured that we had adequate levels of albumin. We had a few patients that came into A&E, as cascaded by the Patient Blood Manager. Fortunately, for this incident, the patients didn't require anything from us.

During the Westminster attack, I was also on duty. It was around 3pm when we received a speech.

When we were informed about the incident, we followed the same protocol – we checked all our stock and made sure we were ready. It was a team effort and everyone got involved.

There were not many casualties when I was on duty, but, nonetheless, emotionally and psychologically, it takes a toll. Even if we are not on the front line, we are still very much involved in all the effort to save patients' lives.

MAJOR INCIDENTS IN NUMBERS

WESTMINSTER ATTACK



49
injured

police officer died

attacker

MANCHESTER ARENA ATTACK

23
adults and children killed

59
taken to
hospital



LONDON BRIDGE ATTACK



48 unarmed police officers injured

3 attackers

GRENFELL TOWER FIRE



74
people injured

60 hours to extinguish fire

250
firefighters
involved

I feel that you are obliged to help as best as you possibly can – you are in the position where you can save lives. I feel scared and we are dreading the possibility of more major incidents, because you don't know what the risk is, or how many lives may be lost. For Westminster, my colleagues were phoning in to see if they could help and if they could come to the

hospital, while a colleague who had finished her shift turned around and came back during the London Bridge attack.

I feel proud of what we do. In spite of the stress, every patient saved makes all the hardship worth the struggle. In a world where incidents are happening left and right, biomedical scientists need to be constantly equipped and prepared.