HSIB

HEALTHCARE SAFETY INVESTIGATION BRANCH

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SUMMARY REPORT

TRANSFER OF CRITICALLY ILL ADULTS

Healthcare Safety Investigation I2017/002A

January 2019 Edition


HSIB
HEALTHCARE SAFETY
INVESTIGATION BRANCH

PROVIDING FEEDBACK AND COMMENT ON HSIB REPORTS

At HSIB we welcome feedback on our investigation reports. The best way to share your views and comments is to email **enquiries@hsib.org.uk**

When we receive your feedback, we will share it with the most appropriate person to provide a response and you can expect to be contacted within five working days.

The decision to conduct a national investigation is based on specific criteria. More detail about this criteria can be found on our website **www.hsib.org.uk** All information provided to HSIB is collated and may provide inform other investigations.

Thank you for taking the time to read this investigation report and we look forward to receiving your feedback and comments.

ABOUT HSIB

The Healthcare Safety Investigation Branch (HSIB) began operating on 1 April 2017. The HSIB offers an independent service for England, guiding and supporting NHS organisations on investigations and conducting independent safety investigations.

HSIB aims to improve patient safety through effective and independent investigations that do not apportion blame or liability. This is delivered through:

- Learning for improvement – by using findings to deliver practical solutions, address contributory factors and provide support to increase the capability within local NHS systems.
- Diffusing learning – through effective communications and engagement with the wider health and social care system.

HSIB's investigations are conducted by a team of professional investigators from a range of safety-critical backgrounds, including the NHS, transport and the military. The HSIB also draws on additional expertise when required, including Human Factors advisors.

HSIB investigates up to 30 safety incidents each year to provide meaningful safety recommendations and share learning across the whole of the healthcare system for the benefits of everyone who is cared for by it and works in it.

HSIB works with patients and their families and carers, healthcare staff, Trusts, hospitals and other healthcare providers across England.

HOW HSIB DECIDES WHAT TO INVESTIGATE

Safety risks for potential investigations can be shared by individuals, groups or organisations. The decision to start an investigation could relate to a single event, a series of events or a risk discovered through current, ongoing investigations.

An HSIB investigation does not replace the local investigation of a patient safety incident. Instead, the aim is to identify national learning from these events to consider the wider systems and processes involved.

The following three criteria are used to determine whether the HSIB will commence an investigation:

OUTCOME IMPACT

Assessing the impact, or potential impact, on people is a crucial part of the process. It helps identify the most serious risks as these usually involve significant physical and emotional harm.

HSIB also considers the impact on services, and whether the safety risk(s) have, for example, reduced the ability to deliver safe and reliable care. In addition, the HSIB also looks at whether an incident has caused a loss of confidence in the healthcare system.

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SYSTEMIC RISK

The systemic risk is reviewed; that is, how common or widespread is the risk? Does it occur in different areas of healthcare and/or across multiple sites?

LEARNING POTENTIAL

HSIB will consider whether an investigation has the potential to reduce risk through meaningful, influential and effective safety recommendations.

INVESTIGATION APPROACH

Investigations conducted by the HSIB do not attribute blame or liability; their purpose is to provide lessons for future safety and identify wider opportunities for systemic learning.

Although funded by the Department of Health and hosted by NHS Improvement, the HSIB is operationally independent. The HSIB is also independent from regulatory bodies like the Care Quality Commission (CQC).

HSIB's independent status ensures that its investigations are not conducted on behalf of the families, staff, organisations or regulators. Following an investigation, Safety Recommendations, Safety Observations and Safety Actions taken may be identified.

Safety Recommendations are directed to a specific individual or organisation for action. They are based on information derived from the investigation or other sources such as safety studies, and are made with the intention of preventing future, similar events.

Safety Observations are made for wider learning within the NHS and may be directed to a specific individual or organisation for consideration. They are made when there is insufficient or incomplete information on which to make a definite recommendation for action, but where findings are deemed to warrant attention.

Safety Actions are actions taken during the investigation as a response to the issue under investigation.

A NOTE OF ACKNOWLEDGMENT

HSIB would like to thank Richard's partner, who was present throughout Richard's care, for her time in sharing her recollection of events and experiences which are central to this report. Her continued engagement and support has enabled a much richer perspective of the incident through the eyes of the family.

EXECUTIVE SUMMARY

The reference event

Richard was a fit 54-year-old man who regularly attended a gym. He had a history of paroxysmal atrial fibrillation (a type of irregular heart rate) but had not been on any treatment.

Richard was lifting weights in the gym at around 18:00 hours when he experienced sudden chest pain accompanied by pain in his left arm, which was severe enough to cause him to stop exercising. After phoning his partner to inform her that he was feeling unwell, he drove himself home, arriving around 15 minutes later. Shortly afterwards, at 18:40 hours, he made a call to the NHS 111 helpline and described his symptoms. He confirmed he had experienced chest pain and light headedness that had caused him to sit down. He reported that the chest pain had dissipated, and he was left with a *"strange sensation in his throat, as though it had been strained"*. He was left with a pain between his back and chest; Richard confirmed, when questioned, that the pain felt like a crushing feeling or a band being tightened around his chest.

Following an assessment using the NHS Pathways triage system, the call was passed to the ambulance service and an emergency ambulance was dispatched. It arrived at Richard's home at 19:05 hours with a two-person crew comprising a paramedic and a year one student paramedic.

The student paramedic performed an examination of Richard that included routine examinations designed to assist in the detection of abdominal aortic aneurysm (AAA)[1]. The examinations were normal. An electrocardiogram (ECG) did not show evidence of any specific problem. The crew also measured bi-lateral blood pressure readings, which may be an indicator of aortic dissection[2] if there is a disparity between them, but they were considered normal. Richard's medical history was documented. The ambulance crew concluded that Richard was suffering from muscular pain but, as a precaution, decided that he should be taken to hospital for further tests.

Richard was taken to the emergency department (ED) of a nearby acute Trust, where he was triaged and underwent blood tests and a chest X-ray. He arrived at 20:04 hours. Whilst waiting for the test results Richard began to experience vomiting and had diarrhoea. Once the results of Richard's blood tests were available, further tests were conducted including a computerised tomography (CT) scan. The CT scan showed that he had suffered an acute aortic dissection. The diagnosis was discussed with a cardiothoracic surgeon at the tertiary specialist cardiothoracic centre. It was decided that Richard should be transferred to the tertiary centre for emergency surgery.

Following a 999 call at 01:26 hours by the acute Trust an ambulance crew collected Richard and commenced an emergency transfer to the tertiary centre at 01.57 hours. There were no specialist hospital staff accompanying Richard even though some consideration had been given to providing an intensive care specialist for the journey. About 12 minutes into the journey, Richard suffered a respiratory arrest. He initially recovered but then went into cardiac arrest soon afterwards. The ambulance crew attempted to resuscitate Richard and requested assistance from the ambulance control centre; they were subsequently joined en route by two paramedics.

After further discussion with the control centre it was decided that the ambulance would divert to the ED of a nearby Trust. On arrival at the ED, a message from the tertiary centre was passed to the ambulance crew instructing them to proceed there immediately as emergency surgery was considered to be the only chance Richard had for survival.

The ambulance immediately departed and continued its journey to the tertiary centre, contacting them en route to advise that Richard had been in cardiac arrest for 32 minutes. On receiving this information, a cardiothoracic surgeon confirmed that *"there was nothing else to be done"* and that *"surgery would be futile"*. The crew were advised to stop cardiopulmonary resuscitation (CPR). However, they continued to administer CPR and returned to the nearby Trust's ED. Further efforts to save Richard were unsuccessful and he was pronounced dead at 03:15 hours.

The national investigation

An ambulance Trust contacted the Healthcare Safety Investigation Branch (HSIB) about Richard's case. Following initial information gathering and evaluation of the safety issues against the HSIB criteria for investigation, the Chief Investigator authorised an HSIB safety investigation.

[1] An abdominal aortic aneurysm is a swelling or a bulge in the aorta, the main blood vessel that runs from the heart.
[2] A tear in the inner wall of the aorta.

The investigation reviewed the entire incident from the start of Richard's onset of pain through the pathway of care that he followed to understand the decisions made. The human factors which may influence decision-making at all levels throughout the transfer process were considered.

As the investigation progressed, the complexity of the case became apparent. As a consequence, the investigation was split into two separate investigations; part one dealing with the transfer of critically ill adults; part two dealing with the recognition of acute aortic dissection.

This investigation focuses primarily on the transfer of critically ill patients, the governance of the networks that support those providers involved in transfers, the preparation of patients for transfer and communication between clinicians in different environments and locations. The investigation identified opportunities and systemic remedies to reduce the risk to critically ill adult patients during transfer.

This investigation also identified contributory factors relating to Richard's case that have implications for the wider healthcare system.

Findings

- There was a lack of national guidance to assist clinicians during time-critical transfers of level two and three patients (the most critically ill).
- There are no consistent guidelines for the transfer of critically ill patients for both emergency and planned situations.
- There was variation in how Critical Care Operational Delivery Networks, whose role is to coordinate patient pathways between healthcare providers, are set up and governed, with a lack of consistent oversight.
- Ambulance pre-alerts have evolved from their original intent and become mini-handovers with a lack of consistent structure and guidance.

HSIB MAKES THE FOLLOWING SAFETY RECOMMENDATIONS

Recommendation 2019/025:
The Department of Health and Social Care should co-ordinate the development of national guidance, with the arm's length bodies, for the transfer of critically ill adults, both in planned and emergency situations.

Recommendation 2019/026:
The Association of Ambulance Chief Executives should work with partners to define best practice standards for the criteria, format, delivery and receipt of ambulance service pre-alerts.

HSIB MAKES THE FOLLOWING SAFETY OBSERVATIONS

Observation:
It would be beneficial for formal governance arrangements to be established to oversee the transfers of critically ill patients.

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FURTHER INFORMATION

More information about HSIB – including its team, investigations and history – is available at **www.hsib.org.uk**

If you would like to request an investigation then please read our **guidance** before submitting a safety awareness form.

@hsib_org is our Twitter handle. We use this feed to raise awareness of our work and to direct followers to our publications, news and events.

CONTACT US

If you would like a response to a query or concern please contact us via email using **enquiries@hsib.org.uk**

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