HSIB

HEALTHCARE SAFETY INVESTIGATION BRANCH

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Summary

NHS 111's response to callers with Covid-19-related symptoms during the pandemic

Independent report by the
Healthcare Safety Investigation Branch I2020/028

September 2022

Providing feedback and comment on HSIB reports

At the Healthcare Safety Investigation Branch (HSIB) we welcome feedback on our investigation reports. The best way to share your views and comments is to email us at **enquiries@hsib.org.uk** or complete our online feedback form at **www.hsib.org.uk/tell-us-what-you-think**.

We aim to provide a response to all correspondence within five working days.

About HSIB

We conduct independent investigations of patient safety concerns in NHS-funded care across England. Most harm in healthcare results from problems within the systems and processes that determine how care is delivered. Our investigations identify the contributory factors that have led to harm or the potential for harm to patients. The safety recommendations we make aim to improve healthcare systems and processes, to reduce risk and improve safety.

We work closely with patients, families and healthcare staff affected by patient safety incidents, and we never attribute blame or liability.

Considerations in light of coronavirus (Covid-19)

A number of national reports were in progress when the Covid-19 pandemic significantly affected the UK in 2020 and 2021. Much of the work associated with developing the reports necessarily ceased as HSIB's response was redirected.

For this national report, the investigation was initially paused, but then restarted due to its association with Covid-19. The processes HSIB used to engage with staff and families had to be adapted. Changes are described further in this report.

A note of acknowledgement

We would like to thank the Patients and families whose experiences are documented in this report for their ongoing support and involvement. We would also like to thank the healthcare staff who engaged with the investigation for their openness and willingness to support improvements in this area of care.

We would like to thank the subject matter advisors who gave their time to provide information and expertise that contributed towards this report, and the stakeholder organisations and professional bodies that supported the investigation.

About this report

This report is intended for healthcare organisations, policymakers and the public to help improve patient safety in the delivery of NHS 111 telephone services during a national healthcare emergency. For readers less familiar with this area of healthcare, medical terms are explained in **section 1**.

Our investigations

Our investigators and analysts have diverse experience of healthcare and other safety-critical industries and are trained in human factors and safety science. We consult widely in England and internationally to ensure that our work is informed by appropriate clinical and other relevant expertise.

We undertake patient safety investigations through two programmes:

National investigations

Concerns about patient safety in any area of NHS-funded healthcare in England can be referred to us by any person, group or organisation. We review these concerns against our investigation criteria to decide whether to conduct a national investigation. National investigation reports are published on our website and include safety recommendations for specific organisations. These organisations are requested to respond to our safety recommendations within 90 days, and we publish their responses on our **website**.

Maternity investigations

We investigate incidents in NHS maternity services that meet criteria set out within one of the following national maternity healthcare programmes:

- Royal College of Obstetricians and Gynaecologists' 'Each Baby Counts' report
- MBRRACE-UK 'Saving Lives, Improving Mothers' Care' report.

Incidents are referred to us by the NHS trust where the incident took place, and, where an incident meets the criteria, our investigation replaces the trust's own local investigation. Our investigation report is shared with the family and trust, and the trust is responsible for carrying out any safety recommendations made in the report.

In addition, we identify and examine recurring themes that arise from trust-level investigations in order to make safety recommendations to local and national organisations for system-level improvements in maternity services.

For full information on our national and maternity investigations please **visit our website**.

Executive Summary

Background

The purpose of this investigation is to support improvements in the delivery of NHS 111 and other telephone triage services during a national healthcare emergency. The investigation uses real patient safety incidents involving Patients and their families who dialled NHS 111 (and were either managed through NHS 111 or the Covid-19 Response Service [CRS]) for advice during the Covid-19 pandemic. These are referred to as 'reference events' and support examination of the national issues.

The four reference events used in this report occurred in the early months (March–June 2020) of the pandemic, but the report also highlights learnings and developments from later in the pandemic.

The reference events

The investigation held two focus groups with families who wanted to share their experiences of calling NHS 111 for Covid-19 related symptoms. The focus groups identified issues around getting through to NHS 111 and with the advice provided by NHS 111, both of which contributed to delays in their family member receiving treatment.

To explore these concerns in more detail and to identify other common themes, the investigation selected four patient stories ('the reference events') described by participants at the focus groups, and tracked those events from each Patient's first call to NHS 111 with Covid-19-related symptoms until their last contact.

Vincenzo

Vincenzo was a 62-year-old man with diabetes. Vincenzo began to feel unwell with Covid-19 related symptoms in March 2020, and he and his family called NHS 111 on multiple occasions between 17 and 23 March. Some calls were not answered. When calls were answered, Vincenzo was advised to self-care at home. On 26 March, Vincenzo's condition deteriorated and his family called 999. He died in hospital on 1 April 2020.

Ali

Ali was a 66-year-old man with diabetes and hypertension. He had experienced an ongoing cough for 3 weeks, but did not become unwell or display further Covid-19 related symptoms until a few days before his death. Ali and his wife made three calls to NHS 111 between 6 and 9 April 2020. Calls resulted in Ali receiving a clinical

call back to discuss his symptoms and advice to remain at home. Ali's condition deteriorated later in the day of the third call and he collapsed. His wife called 999, and Ali was declared dead by the paramedics on arrival. Records state that Ali died from acute respiratory symptoms, leading to a cardiac arrest, due to Covid-19.

Patrick

Patrick was a 60-year-old deputy ward manager with multiple sclerosis. Patrick was working on a designated Covid-19 ward at his trust, from which he was sent home on 2 April 2020 after developing a cough. He tested positive for Covid-19 on 4 April and isolated at home. Patrick made three calls to NHS 111 between 7 and 10 April, during which he was advised to remain at home and self-care. Patrick's condition deteriorated further, and on 11 April he contacted a nurse colleague for advice. He was told to call an ambulance immediately, which he did. He was taken to hospital and put on a ventilator. He died 8 days later, on 19 April 2020, due to Covid-19.

Dr C

Dr C was a 45-year-old man with type 2 diabetes. He made three calls to NHS 111 between 16 and 17 March 2020 regarding his Covid-19 related symptoms. On one occasion, Dr C received a clinical call back and was prescribed an inhaler and antibiotics for a suspected chest infection. On 18 March, Dr C's partner called 999 as his condition had deteriorated. He was assessed by the paramedics and taken to hospital. He died 16 days later, on 3 April 2020, due to Covid-19.

The national investigation

The Healthcare Safety Investigation Branch (HSIB) first identified a potential safety risk associated with NHS 111's response to callers with Covid-19-related symptoms when concerns were raised through HSIB's Citizens' Partnership (**https://www.hsib.org.uk/who-we-are/citizens-partnership**).

After a preliminary investigation, it was decided that the national investigation would seek to understand:

- the set-up, design and delivery of the Covid-19 telephone triage service accessed by the public by dialling 111 in response to the pandemic
- the context and contributory factors influencing the pathway for patients calling NHS 111 with Covid-19-related symptoms.

The investigation:

- reviewed research and other literature relevant to each of line of enquiry
- engaged with national experts in the field of triage, conversational linguistics and patient safety
- explored the telephone triage systems used for managing patients with Covid-19, and barriers to them being delivered as intended
- engaged with multiple stakeholders and service providers.

National investigation findings

- In March 2020, demand on the NHS 111 system increased. Demand exceeded the system's capacity, and around half of calls were answered at that time.
- Evidence from families indicated that aspects of NHS 111 telephone triage, such as routing all Covid-19-related calls to the CRS, did not function as intended.
- Strong national messaging advised people with suspected Covid-19 to stay at home. This may have impacted on patients' willingness to seek medical advice from elsewhere, even if their condition deteriorated.
- The CRS algorithm did not allow for an assessment of caller's comorbidities to establish whether a clinical assessment would be beneficial. Callers would only be transferred to a clinician/receive a clinical call back if they were "so ill that … [they've] stopped doing all of …[their] usual daily activities".
- The healthcare system specified that patients with Covid-19 related symptoms and underlying conditions (including diabetes) who went through to core NHS 111 (instead of CRS) should be escalated to a clinician for assessment. However, some patients did not receive a clinical assessment.
- The intent was that Covid-19-related calls would be diverted to the CRS, which was operationally independent from NHS 111. Many Covid-19-related calls continued to go through the core NHS 111 service. Once callers had reached the core NHS 111 service, there was no way to route them to the CRS.
- Calls that went via the core NHS 111 service should have been audio-recorded, as per NHS 111 guidance. The CRS contract manager told the investigation that CRS calls were also required to be recorded, and all but one CRS provider were initially set up with a recording function. However, no recordings of CRS calls were made available to the investigation.

- NHS 111 call handlers do not usually have access to a patient's medical history. This increases the importance of appropriate 'safety netting' – that is, telling a patient or their carer what they should do if their condition does not improve or they have further concerns about their health.

- Text messages that told a patient they had a positive polymerase chain reaction (PCR) test result included information about isolating and the legal requirements. It did not include sufficient safety-netting advice regarding symptoms to watch for and when and from where to seek medical advice. While this is not related to NHS 111 services, the investigation considers it important to highlight for the future.

- Ahead of the Covid-19 pandemic, there was limited understanding of the risks of such a novel virus to the healthcare system.

- The decision to redirect the public to call NHS 111 rather than access healthcare advice in other ways (for example, through their GP) shifted the immediate burden of managing patients with Covid-19 in the community. This increased capacity, in the wider healthcare system, but risked disrupting continuity of care for patients with complex health needs.

- Learning and developments throughout the pandemic have led to improvements in how callers to NHS 111 are assessed and managed. These included recognising the importance of pulse oximetry (that is, measuring blood oxygen levels) to identify silent hypoxia (when a patient has low oxygen saturation levels without becoming breathless) in patients with Covid-19.

HSIB makes the following safety recommendations

Safety recommendation R/2022/206:
HSIB recommends that NHS England ensures any Single Service contract or additional services contracts reflects the minimum requirements of the core NHS 111 service for audio-recording calls.

Safety recommendation R/2022/207:
HSIB recommends that NHS England reviews the risks associated with increased use of telephone triage in response to national healthcare emergencies. Consideration should be given to applying any recommendations of this review across telephone triage services within the wider healthcare setting.

HSIB makes the following safety observations

Safety observation O/2022/190:
It may be beneficial to review triage software and safety-netting/worsening advice to ensure the language used by health advisors does not deter seriously unwell people from calling back or seeking medical advice if necessary.

Safety observation O/2022/191:
It may be beneficial, when dealing with a novel virus, for consideration to be given to the benefits of a face-to-face assessment for callers with comorbidities.

Safety observation O/2022/192:
It may be beneficial for strategic stakeholders in the healthcare system to understand and articulate adjustments in risk tolerance and thresholds in critical situations.

During the investigation, HSIB became aware of changes the UK Health Security Agency made to processes in a number of areas. These 'safety actions' are noted below.

HSIB notes the following safety actions

Safety action A/2022/055:
The UK Health Security Agency has taken steps to ensure governance arrangements are in place to assure themselves that contracted services are monitored and delivered as intended.

Safety action A/2022/056:
The UK Health Security Agency has taken steps to assure itself of the safe and effective delivery of telephone triage for future healthcare emergencies. These have been tested through the delivery of services for Monkey Pox and Avian Flu.

Safety action A/2022/057:
The UK Health Security Agency has taken steps to review contractual arrangements to ensure flexibility and the opportunity to implement the most appropriate contract for future public health issue.

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Further information

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@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.

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