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Our reference: LT02134

18<sup>th</sup> June 2019

Dear Leila

### **Inquest into the death of Alexander James Davidson**

I am writing in response to a Regulation 28 report received from HM Senior Coroner, dated 2<sup>nd</sup> May 2019. This follows the death of Alexander James Davidson who sadly passed away on 26<sup>th</sup> February 2018. This was followed by an investigation and inquest which concluded on 5<sup>th</sup> March 2019. NHS Pathways is the clinical decision support software used by all 111 service providers, and some 999 ambulance service providers including Derbyshire Health United. I am [REDACTED], RGN, RSCN, BSc, SPQ and am writing in my capacity as Deputy Clinical Director, NHS Pathways, NHS Digital.

HM Coroner has raised the following matters of concern with regards to NHS Pathways:

1. The NHS 111 telephone triage service uses the NHS Pathways computer system to triage patients via pre-determined question/answer-based algorithms. The pre-determined questions are the same whether the caller is an adult or a child. Alex struggled to comprehend some of the medical terminology used during these calls. Call handlers are not permitted to deviate from the prescribed wording of the pre-determined questions, and this created confusion and inconsistency in the patient's answers. Consideration should be given as to how young and/or vulnerable patients can be assisted to provide accurate information about their symptoms: and
2. The NHS Pathways algorithm for triaging vomiting and diarrhoea symptoms is unclear as patients may fail to understand what is meant by 'soil' or 'coffee ground' vomit. Consideration should be given to how this important diagnostic feature can be explored during telephone triage, especially when the patient is young and/or vulnerable.

## NHS DIGITAL'S RESPONSE

For information, I have provided below a short summary of the functions that NHS Pathways performs and the governance that underpins it. I have also attached to this letter a Coroner's Information Pack which provides further details and may be useful for your future reference.

### Function of NHS Pathways

NHS Pathways is a programme providing the Clinical Decision Support System (CDSS) used in NHS 111 and half of English ambulance services. This triage system supports the remote assessment of over 16.5 million calls per annum. These calls are managed by non-clinical specially trained call handlers who refer the patient into suitable services based on the patient's health needs at the time of the call. These call handlers are supported by clinicians who are able to provide advice and guidance or who can take over the call if the situation requires it. The system is built around a clinical hierarchy, meaning that life-threatening problems assessed at the start of the call trigger ambulance responses, progressing through to less urgent conditions which require a less urgent response (or disposition) in other settings.

### Governance of NHS Pathways

The safety of the clinical triage process endpoints resulting from a 111 or 999 assessment using NHS Pathways, is overseen by the National Clinical Governance Group, hosted by the Royal College of General Practitioners. This group is made up of representatives from the relevant Medical Royal Colleges. Senior clinicians from the Colleges provide independent oversight and scrutiny of the NHS Pathways clinical content.

Alongside this independent oversight, NHS Pathways ensures its clinical content and assessment protocols are consistent with the latest advice from respected bodies that provide evidence and guidance for medical practice in the UK. In particular, we are consistent with the latest guidelines from

- NICE (National Institute for Health and Clinical Excellence)
- The UK Resuscitation Council
- The UK Sepsis Trust

To specifically answer the concerns raised:

**The NHS 111 telephone triage service uses the NHS Pathways computer system to triage patients via pre-determined question/answer-based algorithms. The pre-determined questions are the same whether the caller is an adult or a child. Alex struggled to comprehend some of the medical terminology used during these calls. Call handlers are not permitted to deviate from the prescribed wording of the pre-determined questions, and this created confusion and inconsistency in the patient's answers. Consideration should be given as to how young and/or vulnerable patients can be assisted to provide accurate information about their symptoms:**

NHS Pathways agree that the predetermined questions within the triage algorithms must elicit accurate information from patients regardless of age and vulnerability. Some questions are the same for all age groups where the question itself doesn't need to be age specific, however there are also many age specific questions throughout the algorithms.

Call handlers are permitted to deviate from the exact wording presented by the system to a certain extent as each question has supplementary text called 'supporting information'; the purpose of which is to guide the call handler to form additional probing questions or alternative ways of phrasing a question if a patient/caller might not understand what's being asked.

Call handlers receive communication skills training to equip them with the skills to be able to adapt their questioning style according to the different needs of different patient groups. Adapting the approach is an important part of a call handler's role. However, age is not the only reason for a lack of comprehension and therefore, irrespective of a patient's age, call handlers are trained to avoid jargon and to be alert for signs that a patient/caller hasn't understood what's being asked.

To this end, call handlers receive significant training in questioning and listening skills during initial core training and through ongoing training updates. This is supported and monitored through monthly call audit. This training and on-going monthly call audit are all mapped to the NHS Pathways Competencies. An excerpt of the relevant competency (competency 3.1) in relation to 'listening' is shown below:

### ***'3.1 Listens carefully throughout the call and retains this information***

*This means picking up everything that the caller says. It also means picking up on everything else that is communicated by the caller, aside from the actual words they use. This includes the caller's demeanour, for example do they sound breathless, confused, disorientated, in pain, weak etc. It also means picking up on things like speech patterns and pauses or vague responses. It means picking up feelings such as fear, frustration, anger and anxiety.'*

Although call handlers are permitted to re-word questions, it is important that they don't change the clinical essence of what's being asked. The supporting information provides additional guidance about the clinical intention of a question and the different ways this might be described. An excerpt from the relevant competency (competency 2.1) which guides training and audit in this area, is shown here:

### ***'2.1 Conveys questions skilfully***

*Whilst retaining the clinical meaning, it is essential to phrase questions in a way that callers can understand. It would be entirely possible to convey the clinical meaning of a question accurately but have a situation where the caller does not understand what is being asked, which clearly renders the question useless. Therefore, skill is needed in phrasing questions so that they are easily understood. This means that the call handler needs to be adaptable according to the needs of the situation and should use the supporting information to guide them in forming alternative ways of asking the same question.*

*Jargon should be avoided. Jargon is terminology that relates to a specific activity, profession or group. In the context of telephone triage, it means avoiding the use of medical jargon or terminology which is service or system specific.'*

Furthermore, call handlers receive significant training in telephone-based communication skills, as well as monthly audit against communication focused competencies. An excerpt of the relevant competency (5.3) is shown here:

### **'5.3 Adapts approach according to the needs of the situation**

*This means recognising when the situation demands a different type of communication and changing the approach accordingly. For example, if a person is hard of hearing it may be necessary to speak more slowly, use shorter sentences or increase the volume. It may also involve utilising translation services where required.'*

In addition to the competencies and skills training listed above, which if met should allow a call handler to communicate successfully with the majority of callers of all ages and vulnerabilities, there is an option to Early Exit triage and transfer to a clinician to provide assistance to vulnerable adults and children.

The following are examples of when triage exit routes are used to transfer calls to a clinician:

- The contact is a child and unable to answer questions.
- There is difficulty obtaining adequate information (e.g. a caller who seems very vague or unable to focus on the questions being asked or a caller who is incoherent or extremely difficult to communicate with).
- The caller has difficulty deciding which symptom is troubling them the most.
- A diagnosed condition or medical language complicates the situation.

**The NHS Pathways algorithm for triaging vomiting and diarrhoea symptoms is unclear as patients may fail to understand what is meant by 'soil' or 'coffee ground' vomit. Consideration should be given to how this important diagnostic feature can be explored during telephone triage, especially when the patient is young and/or vulnerable.**

The question (see example below) currently asks whether there has been '*dark brown or black vomit, like coffee-grounds*'.

Supporting information is available to assist call handlers when extra probing or rephrasing of the question is required. The supporting text states '*This means the individual has brought up or vomited dark brown or black material that looks like soil or coffee-grounds. Blood that has been in the stomach often looks like this*'.

Diarrhoea and Vomiting <b>Has he vomited any of the following?</b> To find out if there are features suggestive of serious illness.
<input type="checkbox"/> red blood This means any blood visible in the vomit. This also means any blood in or near the mouth. The blood may have been forcefully vomited up or just be oozing or welling from the mouth.
<input type="checkbox"/> dark brown or black vomit, like coffee-grounds This means the individual has brought up or vomited dark brown or black material that looks like soil or coffee-grounds. Blood that has been in the stomach often looks like this.
<input type="checkbox"/> faeces This means vomit that looks and smells strongly of faeces (poo).
<input type="checkbox"/> not sure
<input type="checkbox"/> no


In 2018 NHS Pathways reviewed the question that asks about dark brown or black vomit in view of the concern that callers may not be familiar with the term 'coffee-grounds'. Removing the 'coffee-grounds' description could result in over referral as dark/black fluid alone without texture ('bits') could be drinks (e.g. cola, coffee, Guinness) or other dietary intake that has been vomited. The reference to coffee-grounds is a texture that is reasonably specific to haematemesis and this is commonly used in health-related literature, whereas cola is not. NHS.uk also refer to coffee-ground appearance only.

In 2016 NHS Pathways added reference to 'soil' in the 'supporting information' of the question asking about vomiting blood.

NHS Pathways are, as part of routine review and governance procedures, conducting a review of the gastrointestinal suite of pathways (including the diarrhoea and vomiting pathways), with changes planned for Release 19 (which will be deployed May 2020). As part of this review, the clinical evidence related to haematemesis will be reviewed with consideration also given as to whether user research will be helpful in improving triage questions and the identification of haematemesis.

I am happy to answer any further enquiries from HM Coroner.

Yours sincerely

  
Deputy Clinical Director  
NHS Pathways