Health Services Safety Investigations Body

Investigation report

Nutrition management of acutely unwell patients in acute medical units

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Theme:
Acute,Hospital care,Continuity of care

Contents

A note of acknowledgement

We would like to thank Mike's family. His experience is documented in this report. 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.

About this report

This report is intended for healthcare organisations, policymakers and the public to help improve patient safety in relation to the provision of nutrition in acute medical units.

This is a legacy investigation completed by the Health Services Safety Investigations Body (HSSIB) under the NHS England (Healthcare Safety Investigation Branch) Directions 2022.

Executive summary

Background

The purpose of this investigation was to support improvements in the identification of malnutrition and management of nutritional needs for patients within acute medical units (AMUs). AMUs are the first point of entry for patients referred to hospital as an acute medical emergency by their GP and those requiring admission from the emergency department (ED).

The investigation uses, as an example, a real patient safety incident in which a man’s nutritional needs were not met for 19 days stay in hospital, of which 13 days were in AMU resulting in him losing up to 26% of his body weight within a six-week period. This is referred to as ‘the reference event’ and was used to examine wider national issues.

The reference event occurred during the COVID-19 pandemic but the investigation identified that the findings are still relevant to the healthcare system.

The reference event

Mike was a 61-year-old male who was taken to his local emergency department (ED) by ambulance having been found at home by his son having a suspected seizure. After a day in the ED he was transferred to the AMU.

When he first arrived on AMU, a nutrition screening was carried out using the Malnutrition Universal Screening Tool (MUST). However, the scoring did not reflect his actual risk of malnutrition.

During his stay on AMU, there were attempts to feed him via a feeding tube. These attempts were unsuccessful and Mike did not receive sufficient nutritional support.

Mike’s weight had been documented six weeks earlier, during a previous admission, to be 80.2kg. However, by day 33 in hospital, nursing staff recorded his weight to be 57.8kg. This was a loss of approximately 26% of his body weight.

Findings

- Increased length of stays have resulted in a change to the role of AMUs with additional tasks required to meet the ongoing needs of patients. This includes increased needs for nutritional screening but may also be relevant to other areas of clinical care.
- The change in the role of AMUs has also required a change in the type of care delivered by staff working in AMUs who may not have previously been familiar with, or required, to provide nutritional care or interact with dietetics or speech and language therapy.
- Where AMUs are short-staffed or rely heavily on agency workers who may be unfamiliar with the environment or process, there is a risk that screening for malnutrition may not always happen in a timely way.
- Recruitment challenges created conditions where the national staffing guidance could not be followed.
- There are digital systems available that have the functionality to support staff in managing initial and ongoing nutrition assessments. However, these may not be widely available or consistently used.

HSSIB suggests the following safety prompts for local organisations (local-level learning) to help improve the identification of malnutrition and management of nutritional needs in AMUs:

- NHS trusts can improve patient safety by supporting staff in acute medical units to complete and review MUST screening, identifying where a subjective assessment has been completed, and when further MUST screenings should take place.
- NHS trusts can improve patient safety in acute medical units by identifying and planning for the increased need for routine periodic and ongoing nutritional screening and monitoring to account for increased length of patient stays.
- NHS trusts can improve patient safety by ensuring that both permanent and temporary staff in acute medical units are supported in accessing training, achieving competence, and seeking support in completing MUST screening in line with trust processes.

- NHS trusts can improve patient safety in acute medical units by implementing, and if already implemented then appropriately using, digital systems to monitor and highlight nutritional screening requirements
- NHS trusts can improve patient safety by reviewing policies, processes, and procedures in acute medical units to ensure they provide clear and easily accessible pathways to refer patients to dietetics or speech and language services.

1. Background and context

1.1 Enteral nutrition

1.1.1 Patients who either are unable to take any nutrition orally or who are unable to take sufficient nutrition orally, but in whom the gastrointestinal tract is functioning. This is where a patient is fed directly into the gastrointestinal tract using a tube (nutrition that is delivered into the digestive system as a liquid). This is the preferred method of artificial nutrition.

1.2 Malnutrition Universal Screening Tool (MUST)

1.2.1 A patient should have nutrition screening on admission (National Institute for Health and Care Excellence, 2017).

1.2.2 ‘MUST’ is the most widely used nutritional screening tool in the UK. It is also commonly used in other countries worldwide.’ MUST is recommended by the British Association for Parenteral and Enteral Nutrition (BAPEN) and the European Society for Clinical Nutrition and Metabolism. It is a ‘five-step screening tool to identify adults, who are malnourished, at risk of malnutrition (undernutrition), or obese. It also includes management guidelines which can be used to develop a care plan. It is for use in hospitals, community and other care settings and can be used by all care workers.’ (Malnutrition Advisory Group, A Standing Committee of BAPEN)

1.3 Dietitians and nutritionists

1.3.1 Dietitians are health professionals who assess, diagnose, and treat individuals with dietary and nutritional issues. The title ‘dietitian’ is protected by law and registered through the Health and Care Professions Council (HCPC). They are regulated by The British Dietetic Association (BDA), which is the professional body and trade union.

1.3.2 ‘Dietitians use the most up to date public health and scientific research on food, health and disease, which they translate into practical guidance to enable people to make appropriate lifestyle and food choices.’ (NHS England, 2017)

1.3.3 Nutritionists are qualified to provide information about food and healthy eating. Their registration is held with the UK Voluntary Register of Nutritionists (UKVRN).

1.4 Speech and language therapists (SLTs)

1.4.1 ‘Speech and language therapists (SLTs) play an important role in supporting adults who have eating, drinking and swallowing difficulties (dysphagia) to eat and drink safely. They do this by working directly with individuals or indirectly by training others, including families and the wider health and care workforce, to identify and manage problems.’ (NHS England, 2017)

1.4.2 ‘Early identification and management of dysphagia by speech and language therapists improves quality of life, and reduces the possibility of further medical complications and death. Improved nutrition and hydration have an impact on physical and mental wellbeing. In addition, speech and language therapy for those with dysphagia also produces economic benefits and savings for the wider health economy, including through avoided hospital admissions.’ (NHS England, 2017)

1.5 Acute medical unit

1.5.1 The acute medical unit (AMU) (also often called the acute assessment unit (AAU) or medical admissions unit (MAU)) is the first point of entry for patients referred to hospital as an acute medical emergency by their GP and those requiring admission from the Emergency Department. Its primary role is to provide rapid definitive assessment, investigation and treatment for patients.’ (National Institute for Health and Care Excellence, 2018)

2. The reference event

This investigation used the following patient safety incident, referred to as ‘the reference event’, to examine the issue of nutrition management in acutely unwell patients in hospital.

Mike was a 61-year-old male who was a retired postman. He lived with his son, who helped to provide his nutritional and medication needs. Mike’s son told the investigation that his dad had type 2 diabetes mellitus (where the body does not produce enough insulin, or the body's cells do not react to insulin properly) and had some ongoing health care needs as a result of previous illnesses.

Mike was admitted to an AMU on Day 1 and was transferred to a ward on Day 13. On Day 33, he was weighed for the first time in this admission. This showed that he may have lost up to 26% of his body weight from the point he was admitted to the AMU (this was based on Mike’s weight at a previous admission approximately two weeks earlier).

The reference event occurred during the COVID-19 pandemic but the investigation findings are still relevant to the healthcare system.

Day 1

2.1 In February 2022, Mike’s son found him at home having a “seizure”. His son called 999 and Mike was transported by ambulance to his local emergency department (ED). The ambulance crew handed over his care to the ED at 15:18 hours. On arrival at hospital, Mike was noted to be febrile and tachycardic (have symptoms of a fever and a high heart rate) and was experiencing rigors (where temperature rises quickly whilst having severe shivering and chills). Mike was administered IV antibiotics for a suspected infection.

Day 2

2.2 At 18:12 hours, Mike was admitted to the AMU with a working diagnosis of meningitis/encephalitis (inflammatory diseases of the membranes that surround the brain and spinal cord caused by bacterial or viral infections). He was reviewed by an acute medicine doctor who documented that his care should be escalated to a consultant if his condition deteriorated.

Day 3

2.3 In the early hours of the day, a nurse carried out a nutritional screening for Mike using an electronic Malnutrition Universal Screening Tool (MUST). Mike was unable to be weighed for the screening, so an alternative mid upper arm circumference (MUAC) measurement was completed to estimate his body mass index (BMI). BMI is a measure that uses height and weight to work out if a person is a healthy weight.

The MUST score assessed his risk to be ‘0’, meaning he was suitable for routine nutritional care with no further action required other than to repeat nutritional screening weekly.

2.4 On the same day, a pharmacist documented that a review of Mike’s weight was required due to ongoing medications which required weight to determine dosage. During a previous admission, two weeks earlier, they noted that his weight was documented as 80.2kg.

Day 4

2.5 Mike’s medical notes describe him as having poor oral nutrition and the AMU doctor documented the need for him to be fed through a nasogastric (NG) tube. An attempt was made to insert an NG tube to help him feed. However, this was noted as being unsuccessful due to Mike being agitated and moving around.

Day 6

2.6 Mike’s poor nutritional intake was documented and a plan was made to reattempt to place an NG tube.

Day 7

2.7 Mike successfully underwent the placement of an NG tube. He was documented as being significantly agitated and six people were required to restrain him during the NG placement procedure. It appears that some nutritional support was briefly commenced through the NG tube.

Day 8

2.8 Shortly after 04:00 hours, it was documented that he had pulled out the NG tube whilst awaiting a chest X-ray. It was documented that he should be considered for an NG tube with a nasal bridle the next day. A nasal bridle is a securement method used to discourage patients from pulling on their feeding tube.

2.9 During a diabetic team review it was documented that ‘nutrition and oral medication are still a problem’. There was also a plan noted to discuss Mike’s poor oral intake with the ‘team’.

Day 9

2.10 During a ‘theatre care plan and preoperative checklist’ for a lumbar puncture, Mike’s weight was documented as 60kg.

Day 10

2.11 During a ward round, it was noted that he had poor oral intake.

Day 13

2.12 Mike was moved to a general medical ward, where a medical review documented that his nutrition required review. He was referred by nursing staff on the ward to speech and language therapy (SLT).

2.13 SLT identified the need for an urgent dietetic referral as it was noted that Mike had nil oral nutritional intake for more than 14 days and was a refeeding risk (refeeding syndrome is a metabolic disturbance which occurs as a result of reinstitution of nutrition in people who are severely malnourished, or metabolically stressed because of severe illness).

Day 14 to Day 33

2.14 On Day 14, a diabetes nurse review documented that he had no oral intake for 14 days, and there were no food charts. A dietitian reviewed Mike and identified that he had not had a weight recorded and had received no nutrition for 14 days. She provided an NG feeding plan and raised her concerns on an incident reporting system.

2.15 There were challenges in placing Mike’s NG tube owing to the need to wait on a COVID-19 test result and some confusion about rebooking his procedure. On Day 18, he had a further NG tube placed but subsequently appeared to have pulled this out on Day 19.

2.16 Following this, Mike was noted to have begun taking on some nutrition and on Day 33 he was weighed. At this time, nursing staff recorded his weight to be 57.8kg. Mike’s weight was documented six weeks earlier, during a previous admission, to be 80.2kg and three and a half weeks earlier as 60kg. This represented up to a 26% weight loss in six weeks. On Day 44, a second MUST was then completed.

3. Analysis and findings – the reference event

This section sets out the investigation's findings in relation to Mike's care and treatment during his stay on the AMU. It focuses specifically on the factors that may have contributed to the patient safety incident occurring, including the guidance, policies and procedures used at the Trust, and factors that influenced staff decisions and actions.

3.1 Completion and scoring of the Malnutrition Universal Screening Tool (MUST)

3.1.1 When Mike had been in AMU for just over six hours staff attempted to complete a MUST. The National Institute for Health and Care Excellence (NICE, 2017) recommend screening for malnutrition and risk of malnutrition across all healthcare settings. Patients should be screened on admission to hospital and weekly thereafter. The local policy recommended the first MUST is completed within 6 hours of admission to hospital, therefore Mike's initial MUST was completed in line with local guidance.

3.1.2 On admission, Mike was agitated and therefore could not be weighed, this meant that his initial MUST could not be completed using his recorded weight. Due to not having a weight, an overall risk category using 'Subjective criteria' was used in line with 'The 'MUST' Explanatory Booklet' (BAPEN, 2011).

3.1.3 To use the subjective criteria, a mid upper arm circumference (MUAC) was used to support the 'overall impression of the subject's nutritional risk.' (See figures 1 and 2).

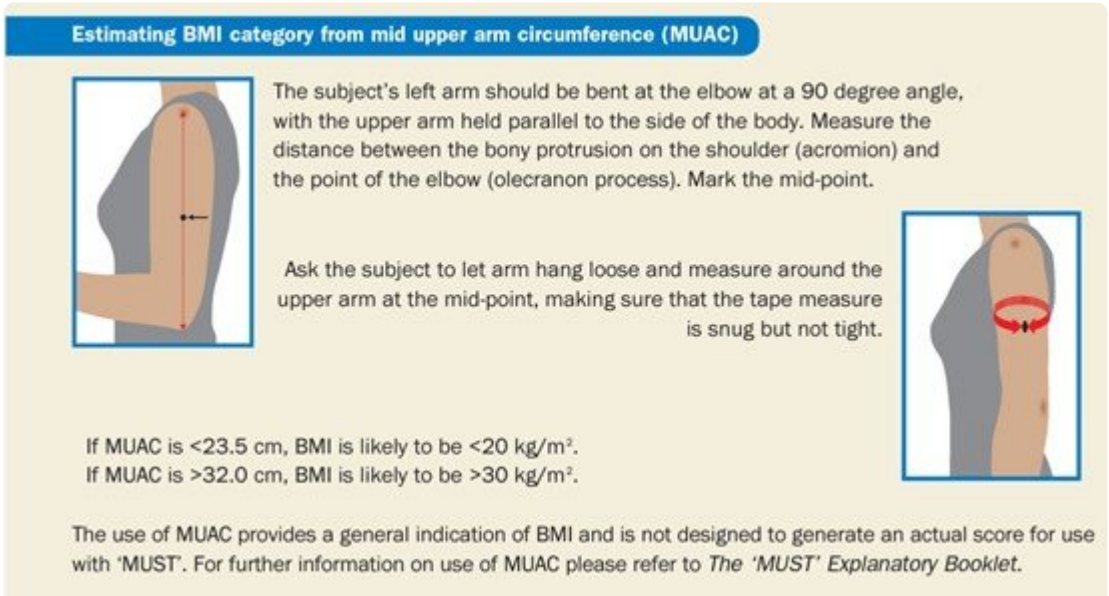

Figure 1: Mid upper arm circumference (MUAC) check (BAPEN, 2011)

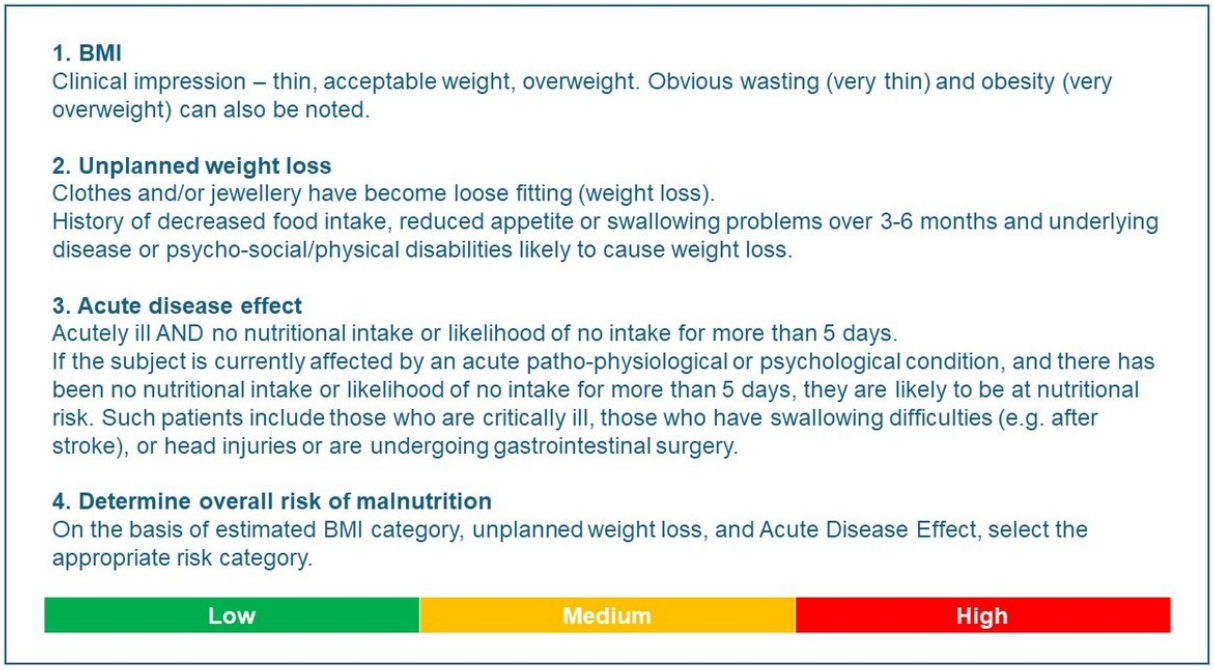

Figure 2: Subjective criteria

3.1.4 Mike's MUAC value was recorded as 26cm, meaning his BMI was likely to be between 20 kg/m2 and 30 kg/m2 (see figure 1). The investigation was unable to determine, through interview, the clinician's recollection of their 'subjective screening' for Mike. However, this was subjectively assessed as a 'low' malnutrition risk category; therefore, a nutrition care plan was not required or started (see figure 3).

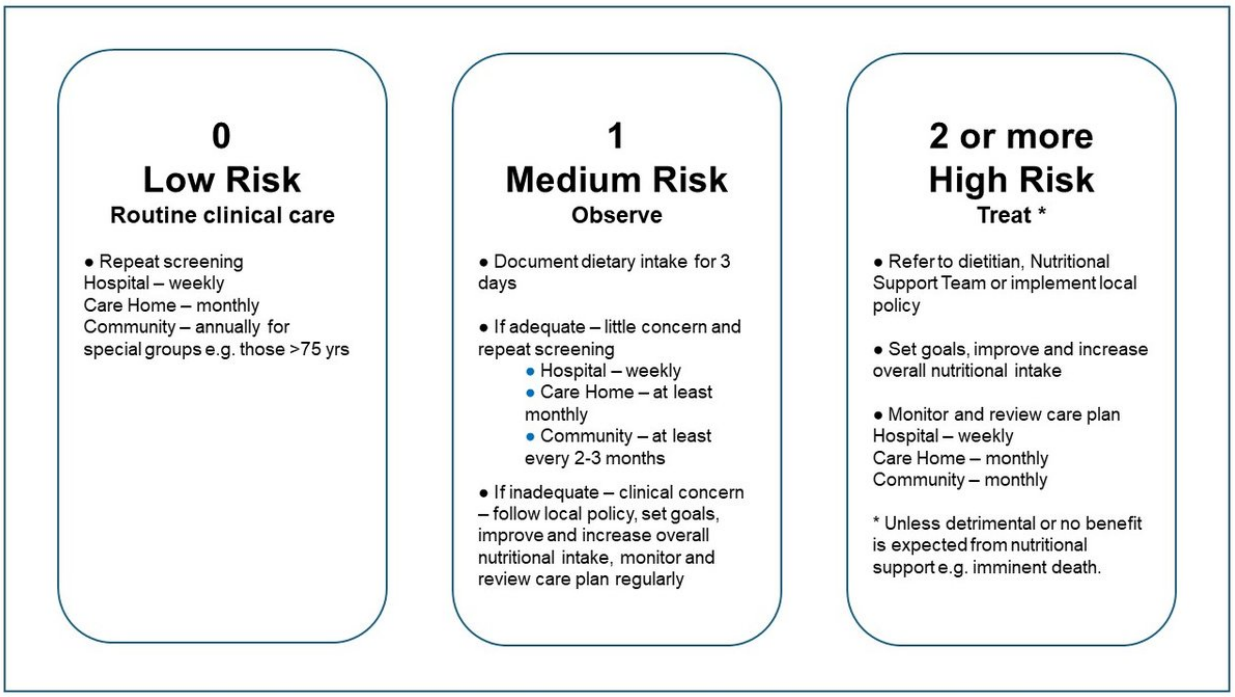

Figure 3: MUST management guidelines

3.1.5 The ‘subjective screening’ was informed by an ‘estimated’ BMI using a MUAC. A more acute risk factor for malnutrition than using a BMI is ‘unplanned weight loss over 3-6 months’, however without being able to record a weight on admission this was not possible to determine.

3.1.6 The need to refer Mike for nutritional support was not initially recognised because the MUST screening did not highlight the risk of malnutrition, contributed to by not being able to obtain his weight. The need to use a subjective screening, supported by an estimation of a BMI, had the potential to present a challenge to the clinician in carrying out an accurate and effective nutritional screening.

3.2 Ongoing assessment of Mike’s nutritional needs in the AMU

3.2.1 National and local policy states that MUST rescreening should take place weekly and then every week after. The initial MUST was carried out on Day 1, the second MUST was not carried out until Day 34. There was nothing in the medical records to explain why regular MUST screening were not carried out and staff interviewed were not able to provide an explanation.

3.2.2 Nursing staff told the Trust’s local investigation that because most patients previously left AMU in under seven days they would not usually need to repeat weekly MUST screening.

3.2.3 There was no facility that supported staff at the reference Trust AMU to alert them that ongoing weekly MUSTs were due or that they had not been carried out. The only way that staff would have been able to identify that Mike was due to be rescreened would have been by reading back through medical notes and manually looking for previous MUSTs.

3.2.4 During interview and observations, the investigation learnt that there were high numbers of agency staff, and nursing staff were caring for a high number of acutely unwell patients at any one time. This would have limited the opportunity to manually and proactively review patient medical records for recurring risk assessments.

3.3 Design and usability of the digital MUST

3.3.1 The Trust used a digital MUST scoring tool. The investigation heard from staff that this electronic format of MUST tool has the potential to cause confusion. From a design perspective, there were potentially issues with the form, for example, some questions provided a box for the assessor to select yes or no and some had the option of tick/cross.

3.3.2 The investigation found it difficult to identify whether a cross in a box meant the answer was yes or no to that question. Additionally, the question of ‘Does this person require a MUST or MUAC care plan?’ the option of non-applicable was selected, where a yes/no answer may ensure the assessor has reached a clear judgement.

3.3.3 Staff also told the investigation that completing the MUST electronically had caused difficulty, particularly with logins for agency staff and time to access to a computer when they were busy clinically managing a high number of patients with a high level of acuity.

3.4 Referral to dietetics, nutrition, speech and language therapy (SLT) services

3.4.1 Mike was in AMU for 16 days and his nutritional needs were not met during this time. Referrals for supporting services, such as to the dietitian/nutritional team and SLT, were not sought. The investigation was unable to establish why this was the case.

3.4.2 During his stay on AMU, there were three attempts to place an NG tube. Local and national policy states that when planning for NG feeding a referral should be made to the dietitian to plan the feeding regime. Wards have access to an emergency protocol to enable NG feeding to commence out of hours and whilst awaiting a response from the dietitians.

3.4.3 Each NG placement attempt for Mike occurred without an accompanying referral; the investigation was unable to determine a reason for this. Additionally, there were four days between the first and second attempt to place the NG tube and Mike did not receive nutrition during this time.

3.4.4 Once the requirement for feeding via an NG tube had been identified, there was no clear ownership documented in the medical records for the associated referral to the dietitian. During interview, staff were unable to understand how this could happen. However, the investigation acknowledges the pressures the AMU staff were working within, with high caseloads of high acuity patients and longer stays than expected for an AMU.

3.4.5 Since this incident, the investigation learned that the Trust had put new systems in place, to ensure that any referrals determined at a ward round are captured and actioned appropriately. Members of the AMU clinical team now meet for a daily board round where each patient is discussed, a plan for their care agreed and everyone is clear about who is responsible for taking forward actions such as referrals and ordering tests.

3.5 Extended stay in the AMU

3.5.1 As mentioned, Mike stayed in the AMU for 16 days. The staff providing AMU care were familiar with managing short stay patients, but less experienced in managing ongoing care needs, such as nutrition management.

3.5.2 In the AMU staff described, to the investigation, how they were caring for patients that remained in this setting for longer than expected. The average length of stay on the AMU at the reference site had doubled over the preceding year due to patient flow issues during and following the COVID-19 pandemic.

3.5.3 In addition, the investigation was told by staff that patients in AMU were experiencing more acute and complex healthcare needs. This often required patients to be transferred to speciality hospitals, however there were reported delays because of limited bed availability at other sites meaning AMU staff were often responsible for providing this care.

3.5.4 Staff told the investigation that the AMU in the reference event was ‘set up for short stay patients’. Staff had ‘limited awareness’ that ‘assessments may need to be repeated’ if patients stayed on AMU for longer than a week, as they were used to a high turnover of patients. Longer stays on the AMU had resulted in staff needing to carry out tasks they usually would not need to complete.

4. Analysis and findings – the wider investigation

This section sets out the findings of the investigation’s analysis of safety risks associated with nutrition management of acutely unwell patients in the acute medical unit in the context of the wider healthcare system.

4.1 Completing the Malnutrition Universal Screening Tool (MUST)

4.1.1 In 2020, the Department of Health and Social Care published an Independent Review of Hospital Food (Department of Health and Social Care, 2020). This shared findings that 30% of patients admitted to hospital are at risk of malnutrition and the number of hospital admissions for malnutrition is rising rapidly.

4.1.2 The report also highlighted that an audit of MUST had been undertaken and shown no concerns in 89% of hospital sites. However, the report expressed concerns that current monitoring processes may have become a ‘tick box exercise' that did not reflect what was happening in practice. This is likely to have been further compounded by challenges faced during the COVID-19 pandemic (see section 3).

4.1.3 During observational visits to organisations the investigation noted circumstances where MUST was unable to be completed on an AMU in-line with national guidance. Examples included where:

- It was identified that a MUST had not been carried out, nor had the patient been weighed, within three days following their admission. The investigation was told this was likely because the patient was not stable enough and would be weighed when they were.
- The investigation noted the recorded weight may have been inaccurate as the patient appeared to be significantly frailer. Staff agreed and informed the investigation that the patient would be reweighed.

- A MUST was completed on a patient, the weight determined in the emergency department was 50.8kg. However, when the patient was reweighed their weight was recorded to be 39kg.

4.1.4 Several studies (Doyle, Abbott, & Chopra, 2014) (NCBI, 2022) (Wong, Bhavesh, Fangyue, & Robert, 2022) support that the completion of MUSTs was not to target levels and, when they were completed, they were not always accurate.

4.1.5 A further paper highlighted a lack of consistency in the completion of nutritional screening. A key factor identified was that patients may be too unwell, or unable to be weighed, leading to a reliance on other methods of considering patient nutritional needs. (Frost & Baldwin, 2021).

4.1.6 These studies reflect broader challenges in completing MUST in the hospital environment. However, in 2022 a study specific to AMUs acknowledged that ‘in clinical practice, the implementation of MUST in assessing the risk of malnutrition can be challenging. The varying levels of education and training in using the tool, competing priorities in a time-pressured environment and a preference for individual judgement have been cited… as barriers to the effective clinical implementation of MUST.’ (Wong, Bhavesh, Fangyue, & Robert, 2022).

4.1.7 A subjectively completed MUST screening can support staff in identifying a patient’s nutritional needs where there may be challenges in weighing a patient on admission. For example, as in the reference case, when the patient was agitated.

4.1.8 However, if findings from subjective scoring are inaccurate this may lead to issues in patient care. The ability to identify where a subjective screening occurred, and recognise the need for an objective screening at the earliest opportunity, can help to ensure this risk is managed.

Local-level learning

NHS trusts can improve patient safety by supporting staff in acute medical units to complete and review MUST screenings, identifying where a subjective screening has been completed and when further MUST screenings should take place.

4.2 Challenges in the provision of nutrition in acute medical units

4.2.1 The investigation acknowledges that challenges with patient flow across the health and social care system were contributed to by the COVID-19 pandemic. This included additional restrictions being placed upon the location and movements of patients in hospitals due to enhanced infection control measures at the same time as an increase in demand.

4.2.2 The difficulties with patient flow leads to challenges in hospital departments/ wards. During observational visits, the investigation heard that the average length of stay on AMUs increased during the COVID-19 pandemic and continued to be a challenge during COVID-19 recovery. During these visits, the investigation was informed by staff at AMU's that they were "doing their best to balance risk across the hospital by taking patients from ED, to help flow".

4.2.3 However, many of these challenges still exist owing to current demand on the healthcare system. Some of these challenges have been explored in the Healthcare Safety Investigation Branch (HSIB) investigation focusing on 'Harm caused by delays in transferring people to the right place of care' (HSSIB, 2023a).

4.2.4 Although national data is not available to help understand how lengths of stay specifically on AMUs has changed, the investigation was informed across several AMUs that there have been improvements. However, many patients are still being cared for in AMUs for periods that are longer than would be historically expected. The investigation was told by staff at several AMUs that prior to the pandemic, stays in AMU would "usually be up to 48 hours".

4.2.5 During one observational visit the investigation was informed that the recent average length of stay on the AMU was 2.6 days, with some patients currently there for over 7 days, staff also commented that stays can be up to two weeks due to enhanced care supervision.

4.2.6 The investigation heard that staff were having to provide care that they would previously not have provided on an AMU, whilst at the same time dealing with the challenges of increased demand and higher acuity of patients' clinical conditions. The investigation focused on understanding the risks linked to nutritional support, but these increased lengths of stay may also impact on other elements of care that AMUs may not typically expect to keep under constant review, such as pressure damage or falls risks.

4.2.7 During observational visits, the investigation spoke with AMU nursing staff who told the investigation about similar challenges as those encountered during the reference event. These included not being used to carrying out repeated weekly nutrition screenings, however this had recently become a more frequent requirement. The investigation heard that staff were not alerted to the fact that a patient was due to have a repeated MUST screening (see 4.1.8).

4.2.8 An extended AMU stay, results in a shift in the requirements of the care provision. Ongoing needs such as nutritional management are required to be managed for longer periods and more closely, with staff needing to be more aware of the necessity for supporting referrals (for example, to a dietitian), compared to when AMU stays are shorter, and those ongoing needs are usually catered for when a patient has been transferred to a specialist ward. The investigation noted during observational visits that most trusts had processes in place for referrals to dietitians or speech and language therapy, but these had been created to support patients for short stays. As the duration of stay had extended, these processes did not reflect this.

Local-level learning

NHS trusts can improve patient safety in acute medical units by identifying and planning for the increased need for routine periodic and ongoing nutritional screening and monitoring to account for increased length of patient stays.

4.2.9 Clear processes and supporting systems employed within an AMU enable effective and accurate nutritional screening, alongside several other risk assessments. This, however, needs to be underpinned by an appropriate level of trained staff with the capacity to undertake the assessments effectively.

4.2.10 Guidance states that ‘Patients on the AMU are often unstable and/or have a higher acuity of illness/disease than ward areas, requiring a higher concentration of dedicated and skilled nursing care. Staffing levels should be protected to ensure safe, timely care and hospital flow.’ (NHS England and Improvement, 2022)

4.2.11 The ‘Six To Help Fix - Acute medicine’s tips to improve in-hospital flow’ (NHS England and NHS Improvement, 2022) recommends that unless an evidence based decision tool has been used to determine nursing establishments, then a minimum registered nurse to patient ratio on an AMU is one to six.

4.2.12 During one observational visit to an AMU, the investigation learned that one acute ward had four registered nurses for 28 beds. A similar ratio was noted on another AMU where there were two registered nurses for 14 beds. Staff told the investigation that it can be challenging to provide the level of care they felt they should, due to the number and acuity of the patients they were caring for. They felt their time and attention was spread quite thinly, which in turn, affected their capacity to carry out nutritional screening.

4.2.13 Several of the AMUs visited by the investigation had a ratio of one registered nurse to seven patients, which was outside of the guidance. The understaffing was primarily due to recruitment difficulties.

4.2.14 Owing to ongoing workforce challenges within the NHS, there has been an increasing reliance on temporary or agency staffing to provide care. These staff may be less familiar with the environment than staff who work there on a permanent basis and may not receive support in accessing or using local systems. HSSIB is currently undertaking a separate investigation into patient safety challenges faced in temporary staffing groups (HSSIB, 2023b).

Local-level learning

NHS trusts can improve patient safety by ensuring that both permanent and temporary staff in acute medical units are supported in accessing training, achieving competence, and seeking support in completing MUST screening in line with trust processes.

4.3 Digital and paper based MUST scoring systems

4.3.1 The investigation encountered several methods for recording risk screening assessments across different providers, including nutrition. Some trusts used paper-based systems, and others a variety of digital systems. Once the assessments had been carried out, any subsequent referrals could either be paper-based, or via a digital system.

4.3.2 Staff described moving between paper-based and digital systems, for the process of screening and referring, as “at best, inefficient”. Staff also described risks associated with the hybrid recording and storing of information, with the mix of paper and electronic recording providing an opportunity for information to be lost.

4.3.3 The investigation also sighted a variety of methods and systems to make staff aware that risk assessments were required to be completed, including the MUST screening. Systems had varying capabilities to support staff to identify and understand where assessments were required or had become overdue.

4.3.4 At one trust the investigation visited, the only way for staff to understand if assessments had been carried out, or if any had become overdue, was by physically looking through patients' paper records. This requires a proactive approach, which becomes increasingly challenging when capacity is stretched. Having to look through each patient's paper records also poses challenges for effective managerial oversight, and a shared understanding of what essential tasks had, or had not, been completed. It was described that too many processes, such as numerous risk/ screening assessments, can become overwhelming.

4.3.5 At other sites where digital systems were in use, there was an improved opportunity to capture and alert staff to where screening was required and/or overdue, however these were not always utilised to their full potential.

4.3.6 The investigation observed digital systems displaying patients and their plans of care on large screens, used for ward-rounds. These systems had specific columns for several risk assessments and screening requirements, including nutrition, however many were not used and had been left incomplete (see figure 4).

Figure 4: Digital system in use on an AMU

4.3.7 A digital system may provide the opportunity to not only capture when initial assessments are required and have been carried out, but also when recurring assessments are due and/or overdue. For example, when a weekly MUST is

required. Additionally, having important risk-related information being captured and presented in such a visual way enables staff to easily identify any potential gaps in care and arising risks.

4.3.8 Digital systems can present significant benefits in comparison with sites where digital systems are not in use, and each patient’s paper records need to be proactively reviewed. However, the benefits can only be realised if the digital systems are used to their full potential, with additional functionality designed and implemented as required, to support the needs of the staff that use them.

4.3.9 Digital systems can support staff in understanding the completion of initial assessments and then to provide alerts and warnings for required ongoing and/or overdue assessments.

Local-level learning

NHS trusts can improve patient safety in acute medical units by implementing, and if already implemented then appropriate use of, digital systems to monitor and highlight nutritional screening requirements.

4.4 Access to specialist nutritional support staff

4.4.1 Guidance states that all acute hospital trusts should employ at least one specialist nutrition support nurse (BAPEN, 2007; NICE, 2017). Trusts should also have a steering group consisting of senior managers from multiple disciplines across the trust including nursing, catering, dietetics, pharmacy, medicine, and surgery to oversee and advise the hospital on all aspects of nutrition, including screening and assessment, catering and food, supplements, enteral and parenteral nutrition – for inpatients and outpatients. (BAPEN, 2024).

4.4.2 Stakeholders told the investigation that most trusts have dietitians in place but may not have a doctor and nurse responsible for nutrition. Stakeholders also told the investigation that not all trusts may have nutrition steering groups in line with NICE Clinical Guidance (CG) 32 Recommendation 1.1.5 (NICE, 2017).

4.4.3 National guidance also states (Society for Acute Medicine, 2023) that an AMU must have staff available from a variety of allied health professionals including speech and language therapy (SLT) 7 days a week.

4.4.4 Site visits for this investigation found that many organisations did not have 7 day a week access to SLT. Staff told the investigation that SLT referrals made at the weekend would be reviewed by the SLT team on the Monday and then would be graded by urgency, while referrals received Monday to Friday may also need to be assessed for urgency to determine the speed of response.

4.4.5 Whilst in different environments to AMU, HSSIB has identified other services that have only been available Monday to Friday, for example mental health liaison within the emergency department (HSSIB, 2018) or learning disability specialists (HSSIB, 2023c). Rationale for this restricted availability was cited as workforce resourcing issues. HSSIB is currently undertaking a separate investigation into skill mix and staff integration – considering how existing and new roles are implemented as part of the wider multi-disciplinary team to support safe and compassionate patient care (HSSIB, 2023b).

4.4.6 The investigation sighted local trusts advice and information on starting the administration of nutrition via an enteral feeding tube (commonly known as a nasogastric tube) in adult inpatient settings out of hours (i.e. evenings, weekends and bank holidays) or when there is no dietitian available to undertake an individual nutritional assessment. This guidance is not a replacement for an individual dietetic assessment and a referral to a dietitian should be triggered to allow for specialist assessment and ongoing monitoring.

4.4.7 The investigation observed during site visits that dietitians were not always aware that the out of hours protocol had been initiated for a patient. By not making an accompanying dietetic referral, specialist teams are not aware of the requirement to provide oversight and appropriate nutritional input and management.

Local-level learning

NHS trusts can improve patient safety by reviewing policies, processes, and procedures in acute medical units to ensure they provide clear and easily accessible pathways to refer patients to dietetics or speech and language services.

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5. Appendix

Investigation approach

The Healthcare Safety Investigation Branch (HSIB) became aware of the reference event through its intelligence unit. After completion of the reference event investigation the HSIB's Chief Investigator authorised a national investigation based on HSIB's patient safety risk criteria, as described below.

Outcome impact – what was, or is, the impact of the safety issue on people and services across the healthcare system?

Malnutrition is a common condition in hospitalised patients that is often underdiagnosed and undertreated. Hospital malnutrition has multifactorial causes and is associated with negative clinical and economic outcomes (Reber, 2019). Individual factors such as patients' symptoms, disease severity (e.g., causing dysphagia and loss of appetite), mood and orientation, cognitive status and social environment (e.g., isolation, loneliness, lack of family support) may all significantly reduce the food (and nutrient) intake of hospitalised patients and contribute to the deterioration of their nutritional status (Reber, 2019). Around 1 in 3 patients admitted to hospital or who are in care homes are malnourished or at risk of becoming so. Poor nutrition and hydration not only harms patients' health and wellbeing, but it can also reduce their ability to recover and leads to increased admissions to hospitals and care homes (NHS England, 2015).

The MUST was developed to help identify those at risk of being malnourished and is applicable in all healthcare environments. Malnutrition affects over three million people in the UK with associated health costs exceeding £13 billion annually (BAPEN, 2018). If relevant, the MUST prompts referrals to nutrition teams, amongst others who would come and assess the patient.

Systemic risk – how widespread and how common a safety issue is this across the healthcare system?

A number of different professional groups can be involved with inpatient nutrition. This includes dietitians, nutritionists, speech and language therapists, radiologists, as well as other specialities treating the original cause of the patient's admission.

A review of the NHS serious incident reporting system between 1 January 2021 and 31 March 2022 found incidents across the country where patients were reported to have been without nutrition for several days. A review of Prevention of Future Death reports (PFDs) that are issued by coroners across England, highlighted 31 reports where some aspect of the patient's nutritional care or management was identified as a cause for concern.

Learning potential – what is the potential for an HSIB investigation to lead to positive changes and improvements to patient safety across the healthcare system?

An understanding of the importance of good nutrition and hydration seems to be well known but there are still incidents and Coroner's PFD's being reported where a patient's nutritional needs are not prioritised and services are not effective.

A national safety investigation can provide insight into persistent safety risks and make recommendations that stimulate change. In addition, HSIB investigations provide an opportunity to share learning from stakeholders and/or healthcare providers who have made improvements to processes and practices.

Evidence gathering

The investigation was completed between September 2022 and September 2023.

The investigation interviewed staff within the relevant departments at the reference event, however was unable to interview staff directly involved in the care of Mike. This is because they were agency staff and were no longer working at the Trust at the time of the investigation. Additional staff from the wider organisation were also interviewed.

The investigation visited the Trust where the reference event took place and observed the systems and processes used in assessing nutritional needs and delivering nutritional care.

During the national investigation, observational visits were made to five further hospital sites across three NHS Trusts to observe nutritional assessment and delivery in acute medical units (AMUs). The investigation spoke with staff who work within the AMU and allied health professionals involved in assessing and delivering nutritional support including speech and language therapists, dietitians and nutrition nurses.

The investigation also engaged with national healthcare bodies in the areas being explored (see below). Further evidence was gathered from national policy and guidance, and research literature.

The investigation also considered previous HSIB investigations relevant to themes identified in this investigation. The most relevant investigation related to providing care to patients in the right environment: https://www.hssib.org.uk/patient-safety-investigations/harm-caused-by-delays-in-transferring-patients-to-the-right-place-of-care/investigation-report/.

Analysis of the evidence

The investigation used several methods to consider the evidence gathered during the reference event stage of the investigation. This included the Systems Engineering Initiative for Patient Safety (SEIPS) (Carayon et al, 2006) to explore the wider national picture. This tool was used as a guide during site visits for collecting evidence and in analysing the data gathered. SEIPS provides a human factors framework for understanding structures, processes and outcomes, and the relationships between these.

Stakeholder engagement and consultation

The investigation engaged with stakeholders (see table A1) to gather evidence during the investigation. This also enabled checking for factual accuracy and overall sense-checking. The stakeholders contributed to the development of the safety recommendations and safety observations based on the evidence gathered.

Table A1: Stakeholders engaged during the investigation

Reference organisations	**National organisations**	**Subject matter advisors**
The Trust – an NHS foundation trust with multiple sites	NHS England	Allied Health Professionals representative

Reference organisations	National organisations	Subject matter advisors
Comparison site Trusts – five AMUs across three Trusts	British Association for Parenteral and Enteral Nutrition	
	Care Quality Commission	