Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
The Trust declared a climate emergency in 2019, recognising the impact of climate change and the need for urgent action towards the aim of achieving carbon neutrality before 2050. The Trust has targeted several areas, with the reduction of waste as a key goal. The Home Enteral Feeding Team (HEFT) cares for over 450 people living in their own home with a feeding tube. Providing care to enterally fed patients requires a range of ancillary items which need to be thoroughly cleaned for administration of feed, medications and fluids. The HEFT has received feedback from patients and families that high volumes of waste are generated from ancillary items, some of which are single-use; and that the storage and disposal can pose significant logistical problems with financial implications.

In response to patient feedback and in line with the Trust's sustainability targets, the HEFT are partnering with a feed company, who have set a sustainability target to become zero net carbon by 2050. The feed company have identified their containers as one of the largest contributors to plastic waste in their portfolio and have commenced a trial of alternative reusable containers, which have been shown to reduce use of single-use containers by 75%.

The HEFT have partnered with the feed company to trial the use of reusable containers with patients, and will be conducting additional surveys to gather data on waste reduction and patient experience in line with the Trust's sustainability pledge. The aims of the project are to:

- Reduce waste generated by single-use containers
- Reduce carbon emission from delivery vans by reducing the size and frequency of deliveries required
- Improve patient experience of using containers

Guidelines to identify clinically suitable patients have been created and communicated. Eligible and interested patients have been given the choice to trial reusable containers and are being contacted by the HEFT to receive instructions on the use of them. Baseline data will be collected through mixed method questionnaires to capture patient motivation to trial reusable containers, alongside their experience using single-use containers, waste disposal and delivery and storage of equipment.

Approximately 2 months after the transition, a second questionnaire with quantitative and qualitative elements will be conducted to gather further information. Results are expected early 2022.

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EARLY NUTRITIONAL SCREENING, APPROPRIATE FIRST LINE ADVICE AND PRESCRIBED ORAL NUTRITION SUPPORT ACROSS ORGANISATIONAL BOUNDARIES. NEW ORAL NUTRITION SUPPORT PATHWAY STRIVING FOR SEAMLESS DELIVERY OF CARE FROM HOSPITAL INTO COMMUNITY CARE

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In the UK, approximately 3 million people are malnourished or at risk of malnutrition. Malnutrition is a major public health issue with costs the NHS over £19 billion per year in England alone. We know 93% of malnutrition happens in peoples own homes, 5% in care homes and 2% in hospital. It is also understood that 30% of inpatients are at higher risk of becoming malnourished in hospital.

As many departments, demand for dietetic services has outweighed capacity, in part due to improved rates of nutritional risk screening across the organisation. The Trust uses an internal validated nutritional screening tool but community partners largely use MUST (Malnutrition Universal Screening Tool). Within our Dietetic team, we identified a number of treatment strategies needed to ensure timely care, patient empowerment and patient safety with a focus on improved nutrition to help recovery across organisational boundaries from the acute admission and into primary care. Patients who are identified as malnourished or at very high risk of malnutrition, have specialist requirements should have immediate referral to a dietitian. Oral nutritional supplements are now prescribed appropriately whilst in hospital and post discharge in line with national and local guidelines.

Communication between different healthcare professionals and settings is essential for the seamless delivery of care and hospital teams discharging patients with an identified risk of malnutrition should communicate this in writing to primary care teams. As a team, we decided to encompass nutrition and dysphagia scores as an inpatient on discharge letters. This was be achieved by working closely with the pharmacy, Speech and Language, catering, nursing and medical teams to develop and implement a clear process for all adult inpatients to improve ward based nutritional care and appropriate prescribing, based on their individual risk of malnutrition. We have developed and implemented a discharge process that provides patients with a nutrition pack (malnutrition pathway leaflet, cover letter +/- Care Homes information) +/- nutritional supplements on discharge. The process was developed with local CCGs, GPs, PCN Pharmacists and community dietetic services. Outcomes measured include: appropriate prescribing, access to snacks and supplements, clinical outcomes including length of stay (LOS), readmission rates and timely access to first line advice. Baseline audit information revealed only 8% of inpatients received the a first line nutrition leaflet, this has increased to 13% just 6 weeks post implementation, patient first line snacks has increased to 5 different categories as choice available has increased. Oral nutritional support (ONS) is now solely prescribed using the agreed ONS pathway. Early indications suggest a direct improvement in patient care and choice.

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SUPPORTING THE NHS DURING THE COVID-19 PANDEMIC TO REDUCE HOSPITAL ADMISSIONS AND REDUCING THE RISK OF COVID-19 INFECTIONS BETWEEN NURSES AND PATIENTS

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As a national nursing service providing community nursing support for patients receiving enteral, parenteral nutrition and other intravenous therapies employing over 300 nurses, it was important to support the NHS during the Covid-19 pandemic. An NHS support campaign was launched which began by implementing a guiding principle across our service in relation to sending patients to hospital. The guiding principle was ‘why hospital, why today’. This was communicated out across our nursing service and our standard operating procedures were updated to reflect this. To help raise awareness to this initiative we also launched a logo. This was added to the email footers of the nursing team and shared with our NHS partner hospitals. We increased the nursing service offering to further support admission prevention, to include the following:

- Blood taking visits
We offer a 24-hour nurse Advise Line to support our patients and nurses in reducing the risk through contact:

- Patients were offered training for themselves or a carer
- Where clinically safe and in agreements with the referring centres and our patients, we reduced patient’s visits to once a day from twice per day by administering 24-hour infusions, thus reducing contact and exposure to nurses and patients

We reduced the number of nursing visits our patients were having to half their contact with nurses.

63 patients initiated 24-hour parenteral nutrition infusions, patients had amendments to their prescription regime to reduce number of nurse visits, 63 patients initiated 24-hour parenteral nutrition infusions, halving their contact with nurses.

ENHANCING THE NUTRITION SERVICE IN AN ACUTE HOSPITAL TRUST

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Nutrition is a fundamental aspect of care, is a basic human right and there is an expectation that all patients receive optimal nutritional care. The Nutrition Steering Group identified that there were safety concerns and patient experience issues relating to the all aspects of nutritional care that an acute hospital provides. In order to understand this further, a decision was made to benchmark the service provision against national and local standards to enable a gap analysis to be undertaken and the development of an options appraisal.

National guidance was reviewed. NICE Guidance states that ‘all acute hospital trusts should have a multidisciplinary nutrition support team which may include…..and a nutrition steering committee working within the clinical governance framework…..all acute hospital trusts should employ at least one specialist nutrition support nurse’. The advice in NICE guidance is not specific.

The review of the organisation of nutrition services within a number of hospital trusts was undertaken to enable benchmarking. Within the majority of Acute Hospital Trusts, nutrition services appear to have been developed in a piecemeal way, developing individual professional groups, such as Dietetics, Gastroenterology and Speech & Language Therapy, in isolation from the perspective of the wider nutrition multidisciplinary service. A Gold Standard Nutrition Service appears to be implemented by those Trusts with designated Intestinal Failure Units and Home Parenteral Nutrition Services. The result is that there are a variety of options for organising Nutrition Services across the country making benchmarking difficult and identification of an excellent service within an acute hospital subjective.

The nutrition steering group drafted a Nutrition Strategy based around clinical inputs, services and outcomes. A comprehensive Nutrition Risk Register was developed. A business case and options paper was developed including the risks and safety concerns, the benchmarking summary and the potential costs to the organisation. A solution of replication of the triumvirate model already implemented across each care group and review of all clinical staff within nutrition in a staged approach to implementation was provided. This was presented to multiple Board Level groups for discussion.

The outcome of the submission is that the first stage of the business case was approved, which has enabled the appointment of a Trustwide clinical and service lead, a lead nutrition practitioner, 3 Nutrition specialist practitioners and 3 nutrition support workers. This group of staff are currently being recruited and improvements and outcomes are already apparent. The Five Year Nutrition Strategy has been approved and a review of the non nursing aspects of the service is being undertaken. The aim has been to develop a Gold Standard Nutrition Service in an Acute General Hospital, to enable benchmarking nationally. It is important to share this work and enable the benchmarking to start at the Bapen conference.

THE CHALLENGE OF MEETING PROTEIN REQUIREMENTS IN CRITICALLY ILL PATIENTS IN THE COVID ERA

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Critically ill patients often face progressive and rapid losses of body and muscle mass due to hypermetabolism and increased protein catabolism. Certain population groups (such as obese patients or those requiring Continuous Renal Replacement Therapy (CRRT)) require a higher protein provision as advised by both ASPEN1 and ESPEN2. Furthermore, critically ill patients often receive significant energy provision from non-nutritional sources such as propofol. As a consequence, calorie provision via enteral feed is commonly restricted to avoid overfeeding, and protein provision to the patient is further compromised.

Retrospective data was collected for 58 patients who were either confirmed or suspected of COVID-19 and admitted to the Intensive Care Unit (ICU) during April 2020. 31% (n=18) of patients were unable to meet their protein requirements from the feed formula alone, based on initial dietician assessment. Recommended protein requirements were not achieved in any patients who were obese (n=10; defined as BMI ≥30 kg/m²) or receiving CRRT (n=6). The maximum protein provision for obese patients was 1.5g/kg IBW and 1.6g/kg for patients receiving CRRT. The situation was exacerbated for patients receiving high dose propofol (defined as >10 ml/hr), where protein provision decreased to 0.8 – 1.2g/kg and 1.1 – 1.3g/kg respectively.

In the non-obese, non-CRRT ICU population, the available enteral feeding regimes were appropriate to meet the majority of patients’ protein requirements (as shown in Figure 1). However the review almost certainly overestimates protein provision, as percentage feed delivery was not assessed and the results assume 100% feed delivery. We know from

![Figure 1 Protein provision in non-obese, non-CRRT patients in ICU](image-url)