

Enteral feed delivery in patients with COVID-19 admitted to Belfast City Hospital (BCH) Nightingale Intensive Care Unit (ICU)

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Introduction

- ESPEN guidelines suggest optimal calorie delivery is around 80% of predicted energy requirements¹
- Underfeeding critical care patients may cause harm in some long stay patients²
- Calorie delivery can be increased to 80-100% after day 3³

Background

- The Nightingale ICU at BCH was situated on an acute ward which was modified to function as an ICU. This was to facilitate increased admissions of COVID-19.
- The BCH Nightingale Dietetic Team were redeployed from acute and community settings in Belfast Health and Social Care Trust, with various levels of ICU experience.
- The team provided 7 day dietetic cover based on a rota, including bank holidays.

Aims

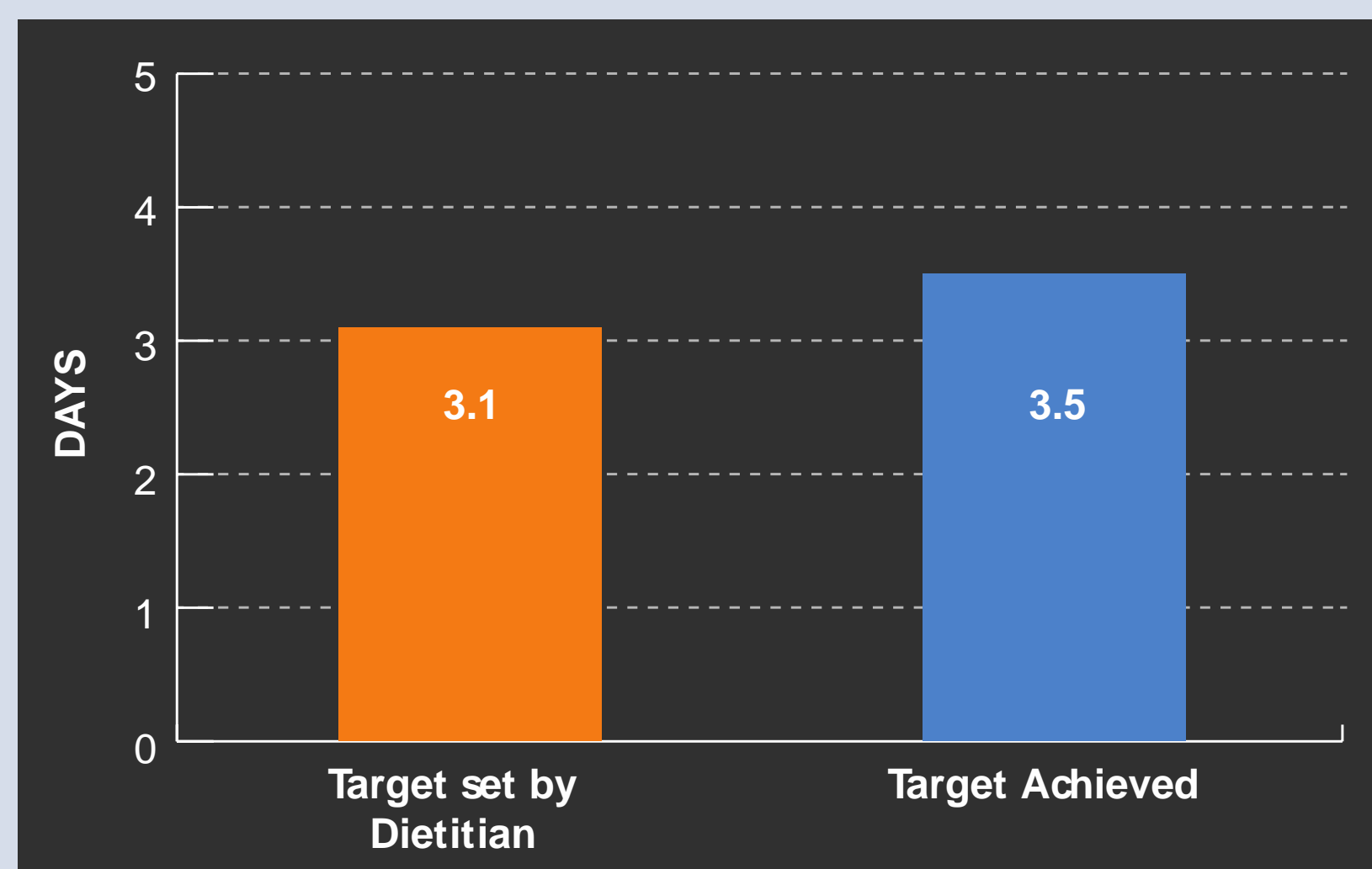
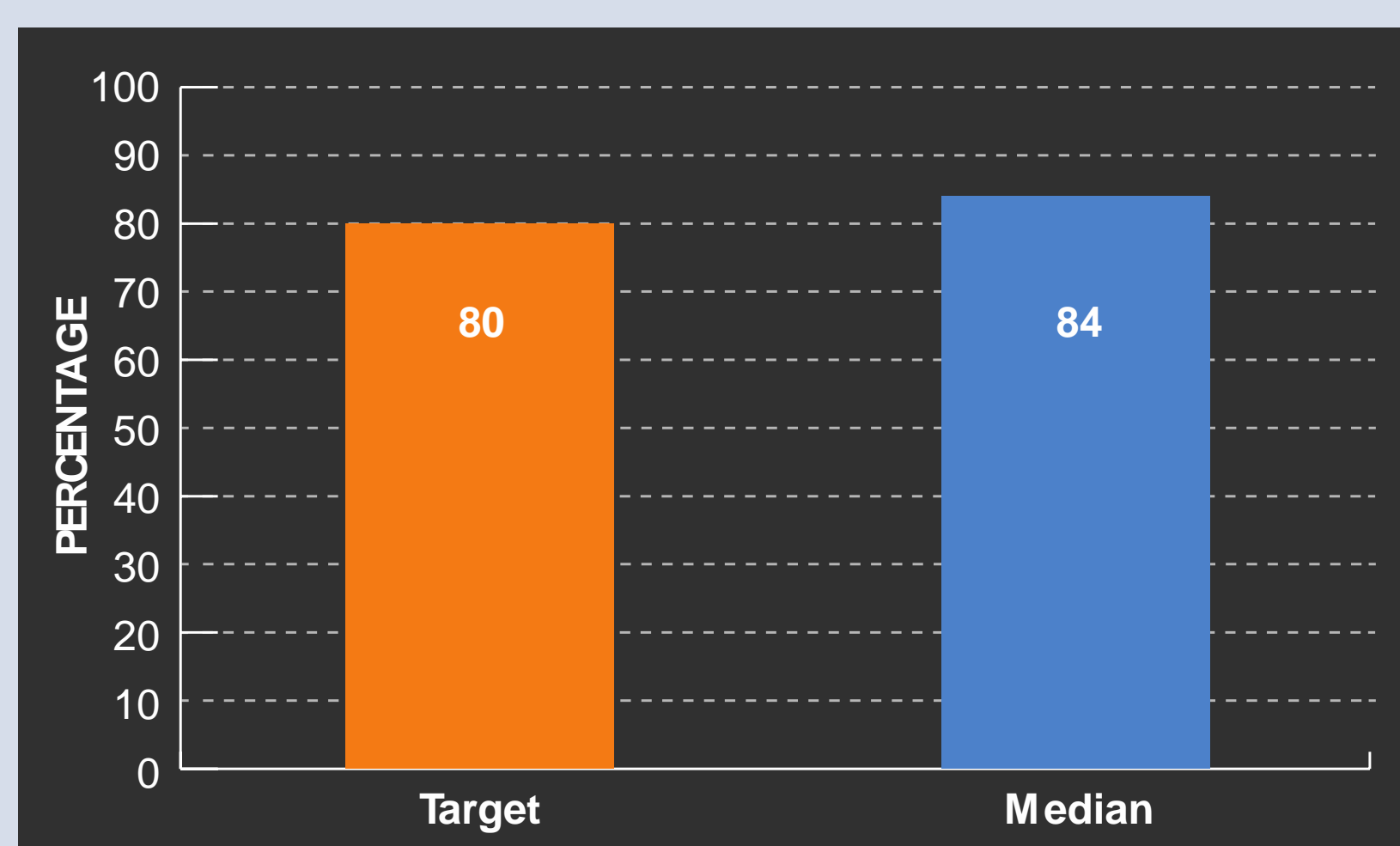
- Evaluate enteral feed delivery and the time taken to reach target rate of feed compared to the regimen set by the dietitian, in patients with COVID-19 admitted to Nightingale ICU at BCH.

Methods

- At each review, dietitians calculated enteral feed delivery over the preceding 24 hours as a percentage of the target regimen.
- Time taken to reach enteral feed delivery targets were calculated relative to dietetic plans.
- All patients who required enteral nutrition from 15/10/2020 until 11/03/2021 were eligible for inclusion
- Days where enteral feed was not required, target rate of enteral feed was not yet due to be achieved, parenteral nutrition was required, following ICU discharge and end of life care were excluded.
- Missing data: days where enteral nutrition delivery information was unavailable.

Results (n=107)

Age - Years (mean ± SD)	63.6 ± 9.4
BMI - kg/m ² (mean ± SD)	32.7 ± 7.4
Number of enteral feed days per patient (median)	11
Optimal enteral feed delivery guidelines	80%
Enteral feed delivered (median)	84%
Days to target rate of feed set by dietitian (mean ± SD)	3.1 ± 1.2
Days to target rate of feed reached (mean ± SD)	3.5 ± 3.0



Conclusions

- Despite suboptimal COVID-19 Nightingale ICU conditions, enteral feed delivery and time taken to reach target rate of feed was in keeping with ESPEN guidelines.
- Results are based on a homogenous COVID-19 ICU cohort
- Dietetic staffing levels were increased and seven day working was provided in response to the COVID-19 pandemic compared to a standard ICU
- Quantifying common reasons for feed interruptions could be explored further

Patients with COVID-19 admitted to BCH Nightingale ICU received a median of 84% of their enteral feeding regimen.

References

1. Heyland DK, Cahill N, Day AG. (2011) Optimal amount of calories for critically ill patients: depends on how you slice the cake. Crit Care Med 39, 2619-26.
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3. Singer P, Reintam Blaser A, Berger MM et al. (2019) ESPEN guideline on clinical nutrition in the intensive care unit. Clin Nutr (38), 48-79.

