



BACKGROUND

- Providing adequate calories via enteral feeding in a critical care setting can be challenging.
- Enteral feedings are often disrupted for procedures, tests, pressure support trials to facilitate ventilator weaning, and/or high gastric residuals.

OBJECTIVE

The purpose of this continuous quality improvement project was to explore the extent to which such disruptions compromised delivery of nutrition formula, and therefore, adequate calories and nutrients.

METHODS

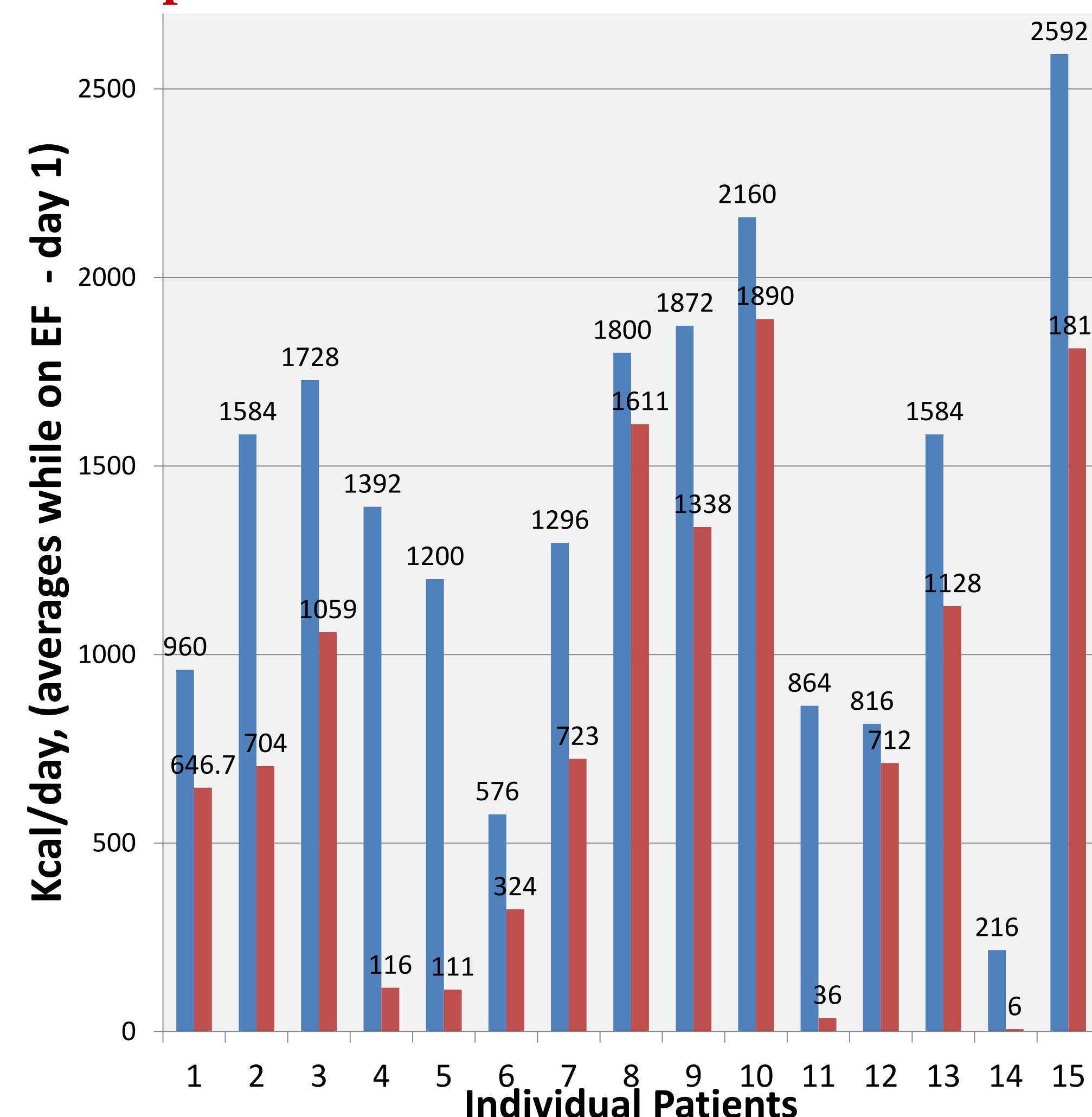
- Charts of patients being enterally fed on the medical intensive care unit of a major university hospital from the end of February through March 2012 were considered for review.
- Convenience sample, n=20; 5 charts were excluded as patient on unit or tube fed < 1 day

METHODS, *continued*

For each patient, the following information was collected daily:

- standing diet order
- number of times feeding held, duration and reason for each hold
- number of times residuals checked and volume of residuals
- total volume of formula delivered

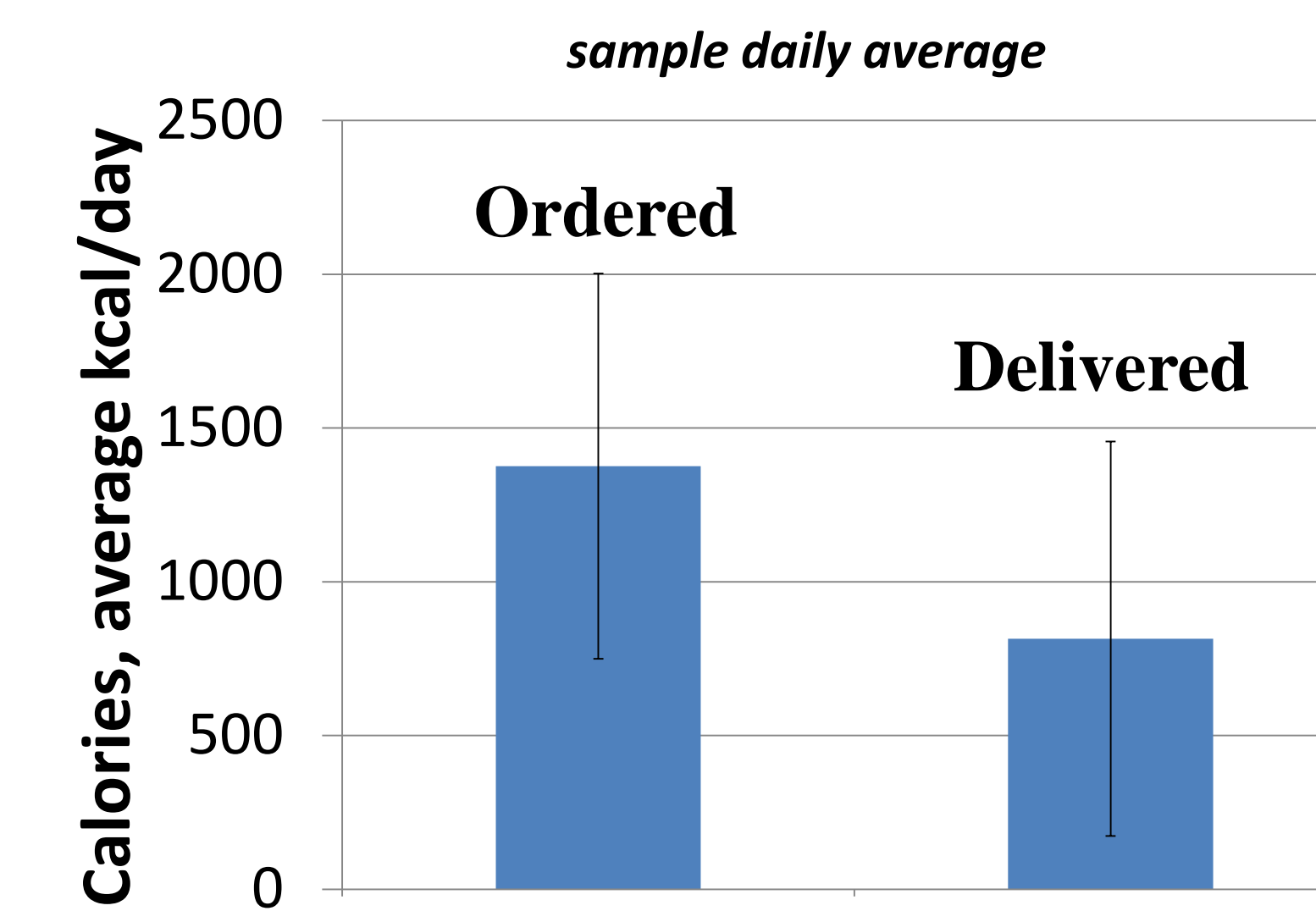
Comparison of Calories Ordered & Delivered



RESULTS

- Data collected an average of 5.1 days per patient, range of 2 to 7 days
- Admitting diagnoses varied widely, i.e. pneumonia, sepsis, acute renal failure, and esophageal cancer
- Types of tubes: NG tubes (n=9); OG tubes (n=5); unknown (n=1)
- Formulas delivered: Osmolite (n=1); Jevity 1.2 (n=2); Glucerna 1.2 (n=3); Vital 1.5 (n=4); and Nepro 1.8 (n=5)
- Residuals
 - Average times residuals checked per day = 3.4 ± 1.6
 - Daily average residual volume by patients = 14 ± 17 ml (median = 7 ml); highest daily average for a patient of 92.5 ml + 55 ml
 - Average times feedings held per day = 1.2 ± 1 time; with average duration of a hold = 5.2 ± 3.0 hours
 - Reasons for holding feedings: pressure support trials (n= 7 times); tests (n=7 times); high residuals (n=3 times); vomiting (n=1 time); extubation (n=1 time); unknown reason (n=1 time)
- Difference between calories ordered and calories delivered (- day one) averaged 561 kcal/day \pm 353.2, 40.8% fewer calories delivered

Calories Ordered vs. Delivered



CONCLUSION

The following practical applications should be considered when implementing enteral feedings:

- 1) writing enteral feeding orders to be delivered over 18 to 20 hour cycles;
- 2) including directions for catch-up feeding to ensure volume of feeding ordered is delivered each day, with maximum infusion rate specified; and
- 3) consider feeding through pressure support trials.

ACKNOWLEDGEMENTS

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