



Providing human-derived HMF to infants in the NICU at Seattle Children's Hospital

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PURPOSE

Should human-derived human milk fortifier be provided in the NICU for preterm infants instead of bovine-derived human milk fortifier? Increasing evidence points to the importance of exclusively providing breast milk to premature infants.

WHAT ARE HUMAN MILK FORTIFIERS?

Human Milk Fortifiers (or HMF) are used to *increase the caloric density* of breast milk. Fortifiers can be bovine-or human-derived.

- Energy needs range between 110 – 150 kcals / kg for infants under 1800 grams
- Breast milk provides ~20kcal/ounce
 - Premature infants often have fluid restrictions that limit the amount of total fluid they can receive, thus making it necessary to concentrate breast milk.

HMF adds 4-10 kcal/fluid ounce to breast milk, thus increasing final caloric density of breast milk to 24 – 30 kcal/fluid ounce.

- Human-derived HMF is made from donor breast milk.
- Why is it needed? It allows for low birth weight, premature infants to receive exclusively human milk while meeting their high nutrient and energy needs.

COMPARISON BETWEEN BOVINE AND HUMAN HMF



Bovine-derived
+2-4kcal/oz
2.13 g protein*
\$0.04/mL
Brands: Enfamil, Similac
*both concentrated to 24kcal/oz.

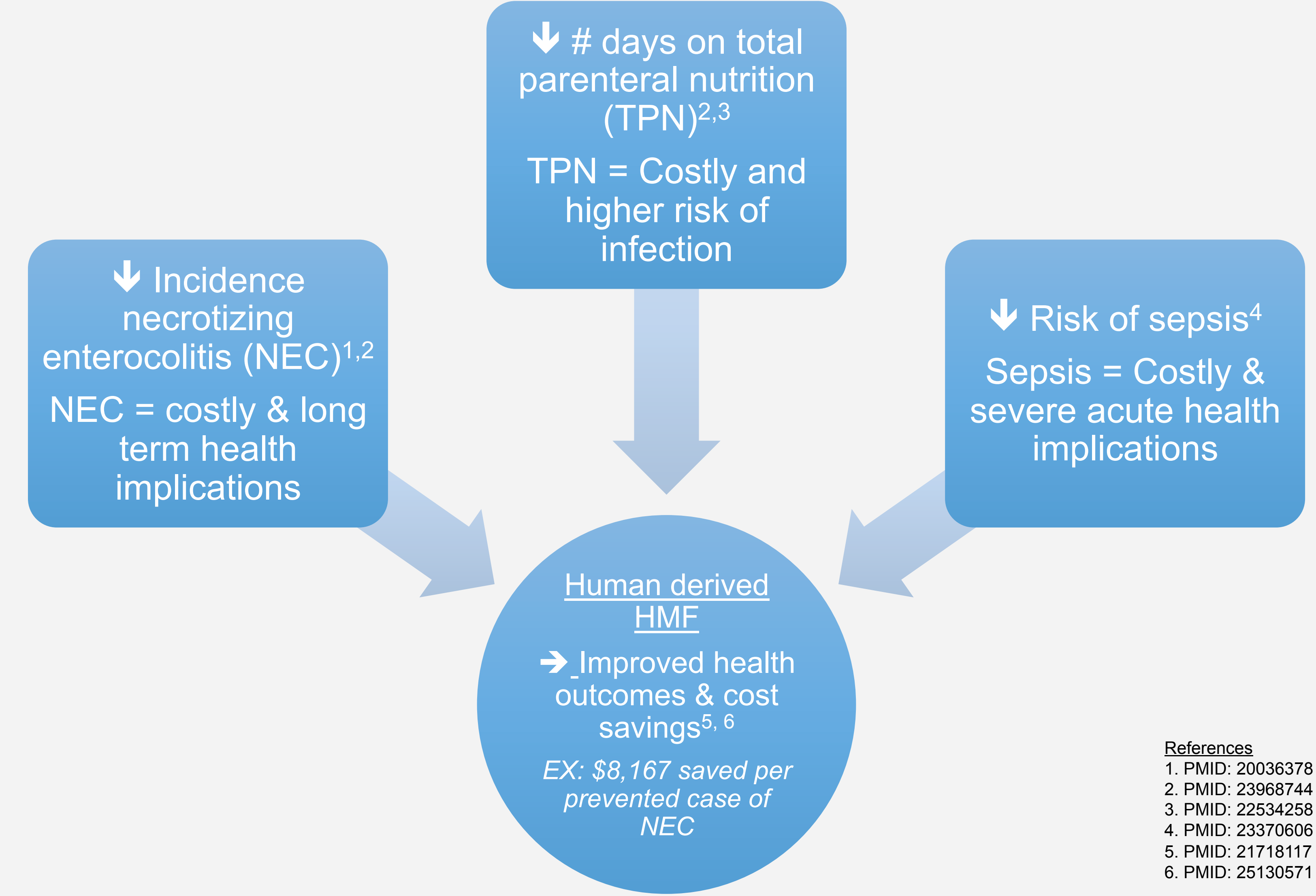
vs.

Human-derived
+4-10kcal/oz
2.3g protein*
\$6.25/mL
Brand: ProLacta Bioscience



THE EVIDENCE

When comparing an exclusive human milk diet to a diet including bovine-derived products for premature infants, researchers have seen:



References
1. PMID: 20036378
2. PMID: 23968744
3. PMID: 22534258
4. PMID: 23370606
5. PMID: 21718117
6. PMID: 25130571

RECOMMENDATION

Due to the strong health outcomes associated with exclusive breast milk use for premature infants, human-derived HMF should be provided to very low-birth weight premature infants, infants at high risk of NEC, or infants with NEC in the NICU at Seattle Children's Hospital

CURRENT POLICY

- Bovine-derived HMF (Similac HMF) is added to donor breast milk or a mother's breast milk in the NICU
- HMF is indicated when infants weigh <1800 grams at birth
- Preterm infants typically receive a maximum concentration of of 24 kcals/ounce

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