

BACKGROUND

- Approximately 1 million people in the US have cerebral palsy (CP), accounting for 2.9 in 1000 births.¹
- Gastrointestinal (GI) intolerance issues such as gastroesophageal reflux, constipation, and delayed gastric emptying, as well as a more compromised nutritional status are common among children with CP.
- Enteral nutrition (EN) is the primary nutritional intervention in children with CP who have a functional GI tract and are unable to meet their needs orally.
- Whey peptide-based formulas may be beneficial for patients with CP experiencing GI intolerance symptoms since whey protein is a fast-acting protein that is emptied quickly by the stomach and absorbed more efficiently in the small intestine.²

OBJECTIVE

- Assess the prevalence of GI intolerance symptoms and healthcare resource utilization (HCRU) in enterally fed children with CP, prescribed a 100% whey, peptide-based EN formula (w-PBF) in the post-acute care setting.

METHODS

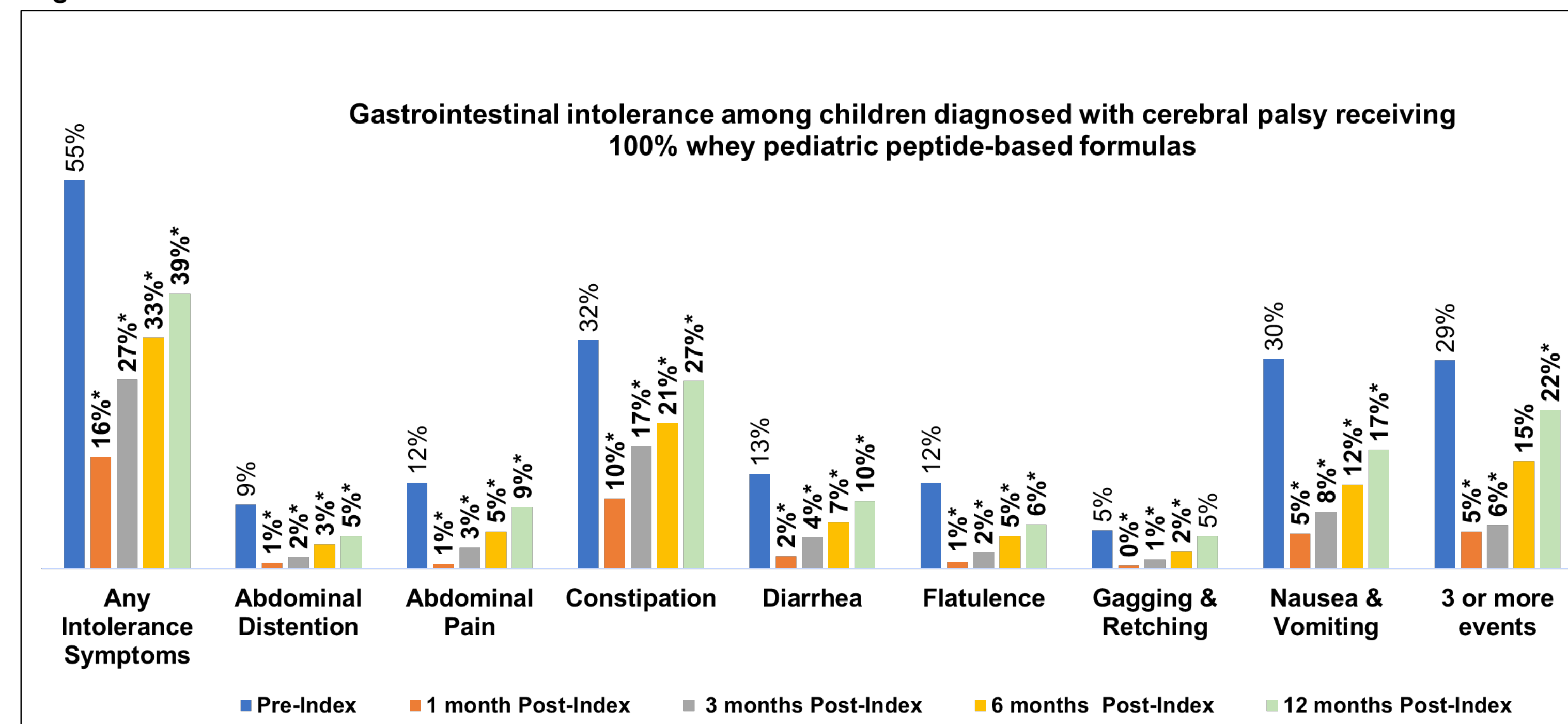
- Retrospective study of deidentified, nationally representative US claims data from the Decision Resources Group Real World Evidence Data Repository between January 2013 – July 2023.
- This repository covers 98% of US health plans and links medical and prescription claims and electronic health records to provide longitudinal patient-level data for >300 million patients.
- Inclusion criteria:
 - Children (≥ 1 and < 18 years old);
 - Prescribed w-PBF (Peptamen Junior® formulas, Nestlé Healthcare Nutrition, US) as sole-source nutrition for ≥ 7 consecutive days in the post-acute care setting, following previous use of an alternate EN formula.
- Data collected:
 - Patient characteristics, medications, GI intolerance symptoms, and HCRU.
- Study definitions:
 - Index date: date of the first w-PBF claim;
 - Pre-index period: 1 year before the first w-PBF claim date;
 - Post-index periods: any record in the study period at 1, 3 and 6 and 12 months (28-, 84-, 168- and 365 days, respectively) after initiating w-PBF.
- Results were presented as mean (SD) or N(%).
- GI intolerance symptoms and HCRU outcomes at pre- and post-index periods were compared using Chi-square test.

REFERENCES

- [1] Guirkin S, et al. *Pediat Perinat Epidemiol.* 2016;30(5):496-510.
- [2] Guimarães da Silva D, et al. *Rev Paul Pediatr.* 20024;42:e2022107.
- [3] Bell K, Samson-Fang L. *European J of Clin Nutr.* 2013;67:S13-S16.
- [4] Scarpato E, et al. *International J of Food Sci and Nutr.* 2017;68(6):763-770.

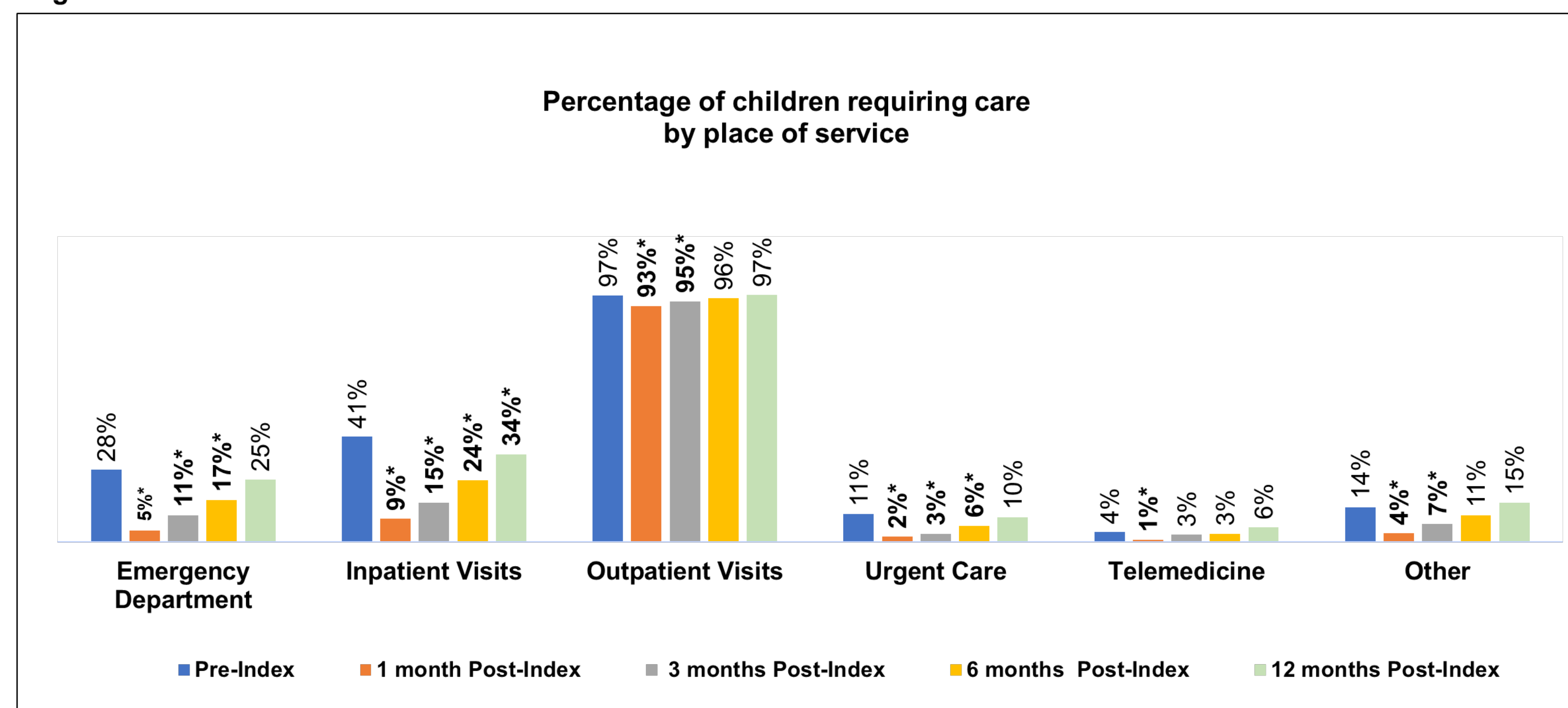
Use of 100% whey peptide-based enteral nutrition was associated with improved GI tolerance and lower health care resource utilization in children with Cerebral Palsy

Figure 1. Gastrointestinal Intolerance



* Chi-square test (pre-index vs post-index); Alpha ≤ 0.05 level of significance. Significance associations are bolded.

Figure 2. Healthcare Resource Utilization



* Chi-square test (pre-index vs post-index); Alpha ≤ 0.05 level of significance. Significance associations are bolded.

RESULTS

- 607 patients included (46% female; mean age at index 8.5 [4.4] years) from all US regions.
- 94% of patients had at least one pediatric pre-index comorbidity.
- The mean [SD] Pediatric Comorbidity Index (PCI) weighted score was 7.6 [4.3] with 76% of patients with PCI ≥ 4 .
- Patients had Medicaid (50%), commercial payer (45%) and other coverage (5%).

MEDICATIONS

- Most common concomitant medications prescribed pre-index were CNS agents (44%) and GI drugs (39%).

GASTROINTESTINAL INTOLERANCE SYMPTOMS (FIGURE 1)

- After initiating w-PBF and compared to pre-index:
 - Significantly fewer patients experienced ≥ 3 GI intolerance symptoms at all post-index time points (all $p < 0.001$).
 - Significant reductions observed in individual GI symptoms such as abdominal distention, abdominal pain, constipation, diarrhea, flatulence and nausea & vomiting at all post-index times (all $p \leq 0.05$).

HEALTHCARE RESOURCE UTILIZATION (FIGURE 2)

- Significant reductions were noted in inpatient visits ($p \leq 0.05$) during the 1- year post-index period following initiation of w-PBF.
- Significant reductions in emergency department and urgent care visits ($p \leq 0.05$) were noted through 6 months post-index.

CONCLUSIONS

- Use of 100% whey peptide-based pediatric formulas in children with cerebral palsy was:
 - Well-tolerated and associated with significant reductions in GI intolerance symptoms over 12 months post-index following formula initiation;
 - Associated with significant reductions in both inpatient visits over 12 months post-index and emergency department and urgent care visits over 6 months post-index.
- Both the clinical and HCRU benefits support the use of 100% whey peptide-based formulas in pediatric patients with cerebral palsy who require enteral nutrition in the post-acute care setting.

Characteristic	N (%)
Age (years)	
1-3	119 (20)
4-8	209 (34)
9-13	201 (33)
14-17	78 (13)
Female	278 (46)
Region	
Midwest	122 (20)
West	195 (32)
South	178 (29)
Northeast	112 (18)
Comorbidities	
Congenital Malformations	342 (56)
GI Conditions	331 (55)
Developmental Delays	350 (58)
Epilepsy	351 (58)
Nausea and Vomiting	181 (30)