Helping care teams identify pediatric growth failure

In partnership with health system leaders, the ACT Center is working to develop a reliable way to alert clinicians when children aren't meeting growth targets

The objective

Kaiser Permanente Washington's Pediatric Growth Curve Project aims to optimize an electronic health record (EHR) function that alerts clinicians when infants, children, and adolescents are not meeting growth targets. The project envisions an accurate and timely "best practice advisory" (BPA) prompt for clinicians to intervene when EHR data indicates a child may not be meeting targets.

Project snapshot

Health system partners	Mike Alston, Associate Medical Director of Pediatrics Lauren McDonough, Program Manager for Clinical Informatics Heidi Langer, Epic Analyst for Clinical Informatics
ACT Center contributions	Advanced analytics Implementation science & practice Research & evaluation
Project lead:	Paula Lozano, ACT Center Director
Project years:	2024 – 2025

The work

ACT Center researchers and health system leaders are partnering to explore the feasibility of using the Z score of the slope in weight-for-age to trigger alerts. (The Z score is a numerical value indicating deviation from the expected value.) This involves learning how weights are collected and how Z scores are calculated and reported in the EHR. The team has worked to define a set of growth failure diagnoses to validate the alert, as well as a set of diagnosis codes that are associated with acute weight loss. Either type of abnormal growth pattern could warrant medical intervention.

What we're learning

The team is assessing how different metrics vary when different Z score thresholds are used. This allows them to test how steep a weight loss (or how marked a decrease in weight gain) needs to be to ensure that the BPA identifies the children who warrant intervention for growth failure. By evaluating a range of thresholds, we hope to miss as few growth failure cases as possible while avoiding falsely activating the alert for children who don't have growth failure.

What we're hoping to achieve

The team is working on determining a reasonable threshold for the Z score change to test and ultimately implement as a BPA to help identify children as soon as possible who may not be meeting growth targets — while also avoiding alert fatigue among clinicians.