

## Abstract

Our unit recognized the importance of adequate growth to help maximize neurodevelopmental outcomes after discharge. The Denver Health NICU implemented a three-year QI project to help track and improve malnutrition. Over the three-year period, growth was tracked before implementing a feeding guideline (2021), after implementation of a standardized feeding guideline (2022), and after implementing more robust tracking guidelines and interventions (2023-2024). The rate of malnutrition in NICU was 47% before any intervention, improved to 33% after the standard feeding guideline and was stable after implementing interventions. Severe malnutrition improved after implementation of interventions to include implementation of a “Growth Garden”.

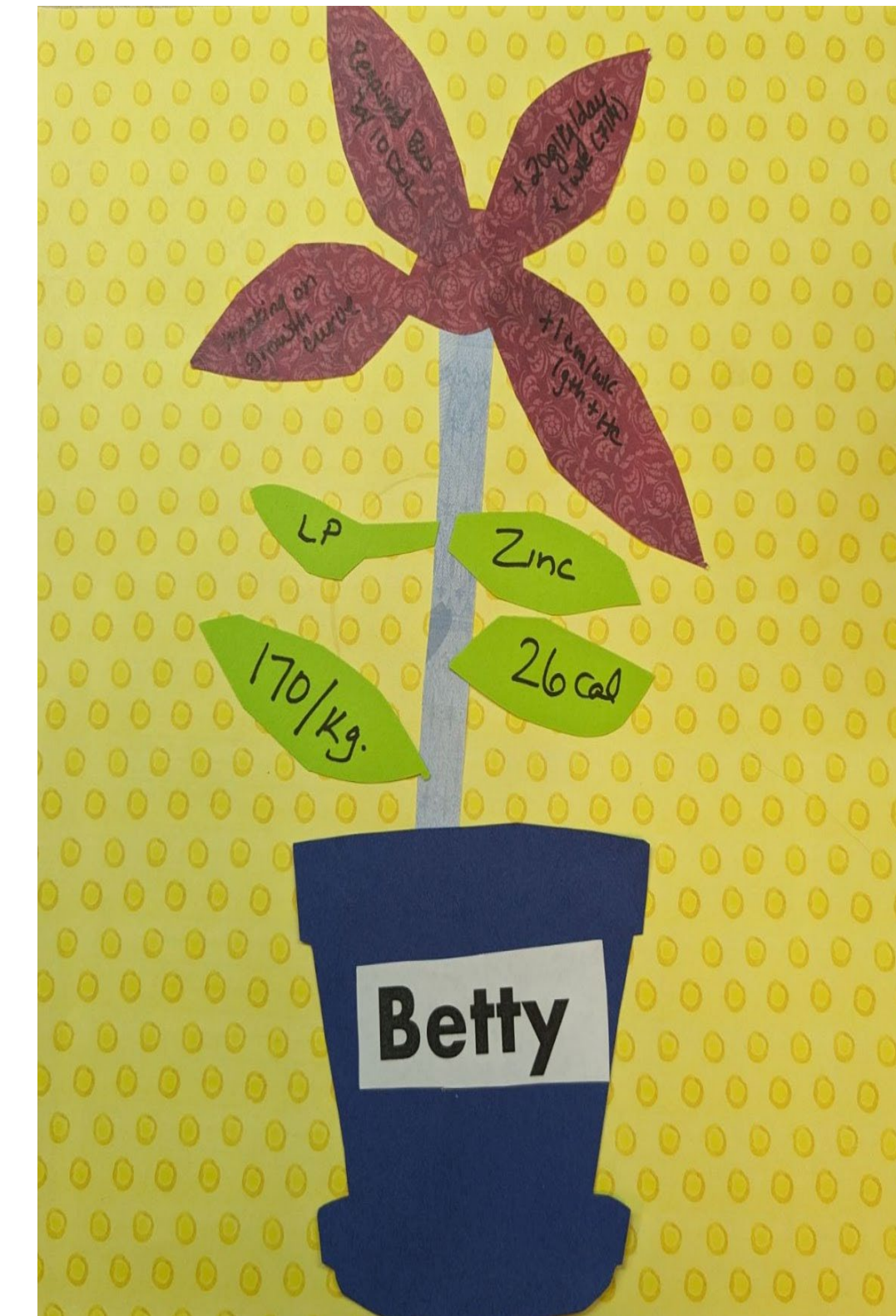
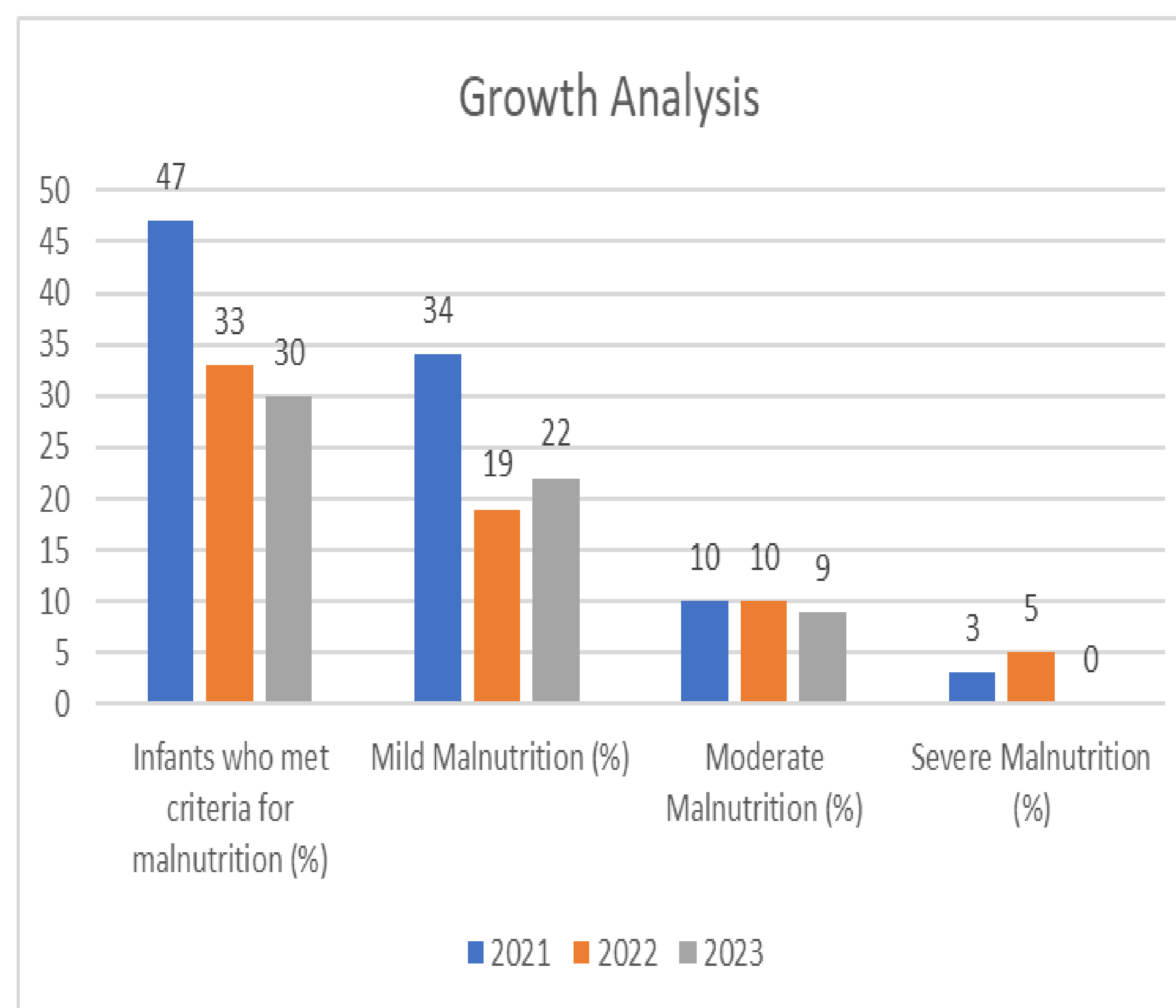
## Introduction

- Premature infants born <32 weeks often face challenges in achieving growth parameters, putting them at risk for neurodevelopmental complications.
- There was a lack of structured assessments and oversight in monitoring growth and tracking malnutrition in our NICU.
- This can lead to a deficiency in achieving growth and developmental outcomes.
- The Denver Health NICU implemented structured interventions to address malnutrition in premature infants with the goal of enhancing growth.

## Methods

- Evaluated the rate of malnutrition before a standardized feeding guideline (2021), after implementing the feeding guideline (2022), and after implementing more robust tracking guidelines (2023-2024).
- Based Malnutrition on ASPEN malnutrition criteria:
  - Difference in weight z-scores from birth.
  - Time to regain birth weight and difference in length z-scores.
- Implemented strategies to improve growth:
  - Growth Garden for all infants at risk for growth failure.
  - Utilize length board for measurements.
  - Remeasure infants if there is a discrepancy
  - Ensure proper fortification of breast milk.
  - Track growth in Epic
  - Adding Liquid Protein and Zinc Sulfate for infants with growth failure.

## Results



## Discussion

- The Rate of malnutrition in the Denver Health NICU was 47% before any interventions.
- Malnutrition improved to 33% after implementing an improved standard feeding guideline and was stable after implementing interventions.
- Severe intervention improved after implementation of an improved feeding guideline and improved interventions
- In 2023, the Denver Health NICU implemented several strategies to better track infants not meeting growth goals.
  - Team implemented a “Growth Garden” where infants were identified to be at risk for growth failure.
  - Interventions tracked closely and growth tracked by whole team
  - Parents and staff were involved with interventions making it a collaborative approach to achieving and celebrating growth goals
- The rates of malnutrition have continued to decrease with the new guidelines and nursing driven interventions. The largest improvements have been with severe malnutrition.

## References

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