

Background

Early childhood oral health is a critical component of overall well-being; however, dental disease is established as one of the most common conditions affecting children across the United States.¹ According to national surveillance data from the Centers for Disease Control and Prevention, tooth decay remains highly prevalent among children, particularly those from low-income households.^{1,2} Evidence from preschool urban children enrolled in a comparative-effectiveness study further demonstrated a high prevalence of dental caries and suboptimal dental care utilization in this population.³ Children who attend Head Start, a federally funded childhood education program for families with low socioeconomic status, are at high risk for dental disease due to a variety of factors.^{4,5} These factors include, but are not limited to, limited access to care, socioeconomic barriers, and inconsistent preventive measures.⁴ The Head Start program emphasizes routine dental examinations and timely completion of recommended treatment modalities.⁶ However, previous literature demonstrates that many of these children do not receive these services on a consistent basis or within recommended timelines.⁵

Understanding these patterns is critical in identifying gaps in dental care among disadvantaged children and informing future public health interventions.^{4,5} Furthermore, monitoring patterns of dental interventions after diagnosis helps evaluate the effectiveness of current programs while highlighting areas where support and improvement are required.^{5,6}

Methods

A retrospective chart review was conducted using electronic dental health records of children enrolled in Head Start programs who received dental screenings or examinations between August 24, 2022 and November 6, 2025 in Nashville, Tennessee. Patient data was de-identified and recorded using unique numerical identifiers. Variables collected included patient date of birth, dates of initial and follow-up screenings or examinations, and clinical findings such as the presence or absence of dental caries and restorations at each visit. Descriptive statistics were applied, and the Friedman test was used to assess follow-up care patterns. This study was approved by the Institutional Review Board (IRB #FWA00003675)

Results

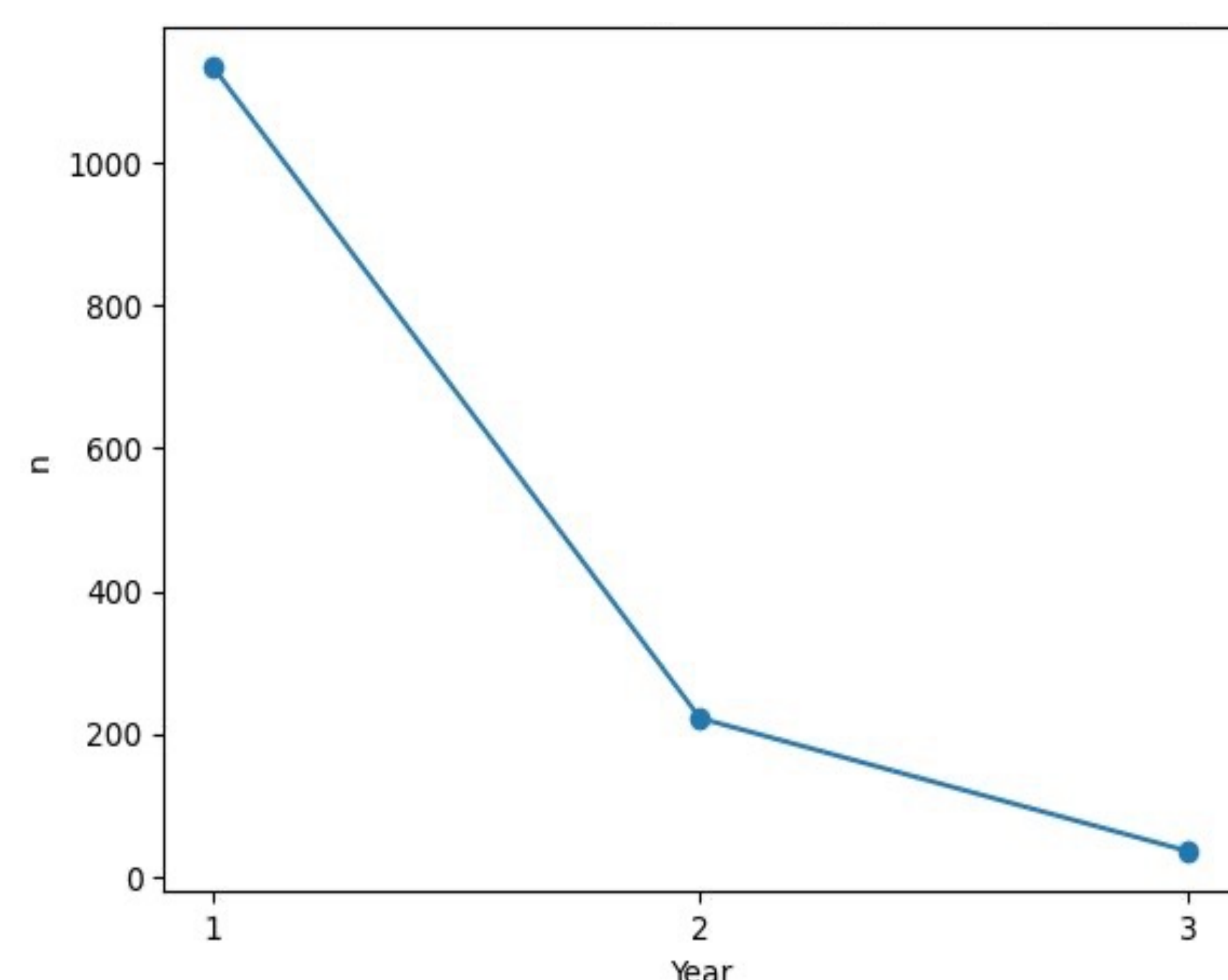


Figure 1: Number of Student Receiving Screenings Year-to-Year

Table 1: Comparison of dmft, Decayed, Missing and Filled Teeth in Years 1, 2 and 3

Variable	Year	Mean	Median	Standard Deviation
dmft	1	1.59	1.00	4.109
	2	3.44	1.50	4.359
	3	4.39	2.50	4.818
Decayed	1	2.19	0.00	3.624
	2	2.75	0.00	3.909
	3	3.03	2.00	3.768
Missing	1	0.06	0.00	0.232
	2	0.03	0.00	0.167
	3	0.06	0.00	0.232
Filled	1	0.58	0.00	2.579
	2	0.67	0.00	2.586
	3	1.31	0.00	3.267

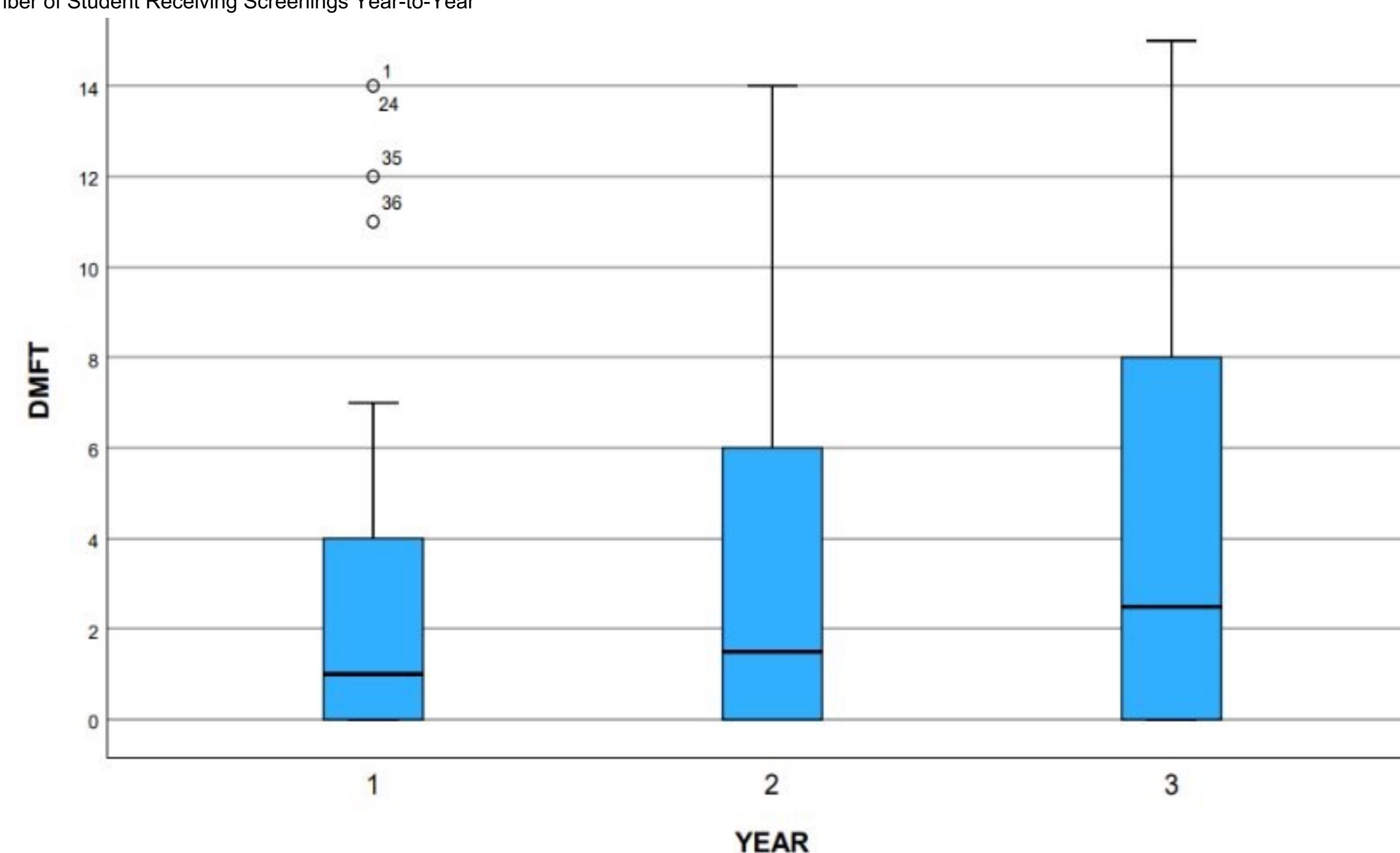


Figure 2: dmft Scores in Year 1, 2, and 3

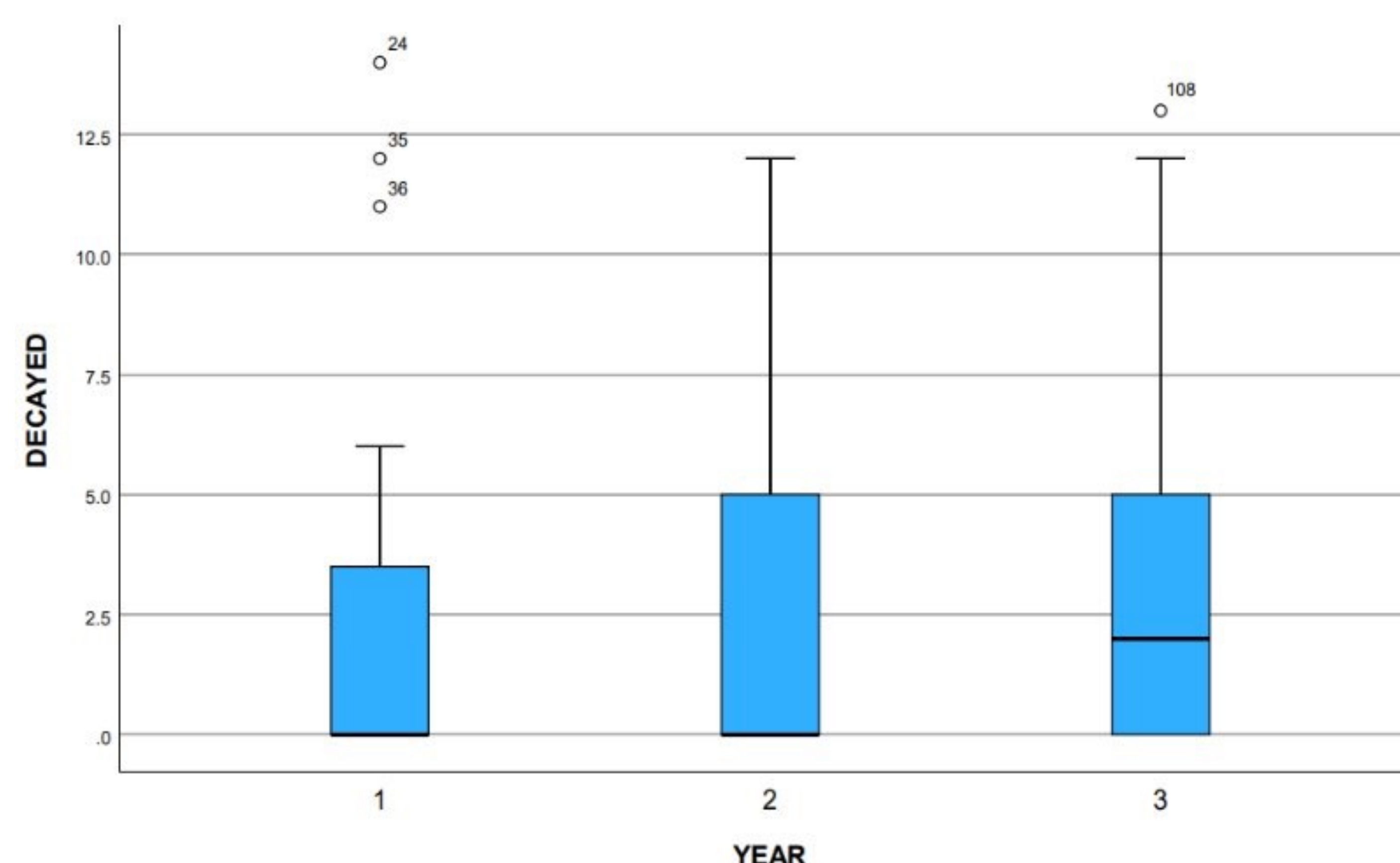


Figure 3: Number of Decayed Teeth in Years 1, 2 and 3

Discussion

Of 1135 patients, 222 received follow-up exam in Year 2 and 36 received follow-up exam in Year 3.

From Year 1 to Year 2, patients had a statistically significant increase in dmft ($\chi^2(1) = 59.52, p < 0.001$).

71.0% (49/69) of children showed no evidence of receiving treatment after one year and 62.5% of children showed no evidence of receiving treatment after two years.

The steep decline in follow-up attendance, from 1,135 patients at baseline to 222 in Year 2 and only 36 in Year 3, suggests transient behaviors or habits of the families attending Head Start, weakening program-based recall efforts. Addressing these challenges requires flexible care strategies that account for family mobility, coordinated referrals across centers, and targeted caregiver education to emphasize the importance of timely dental care.

Conclusion

Of the children receiving dental screenings and exams at Head Start and were identified to have dental caries, the majority do not receive follow up dental treatment and have an increase in caries prevalence over time, suggesting gaps in care delivery and the need for improved follow up in establishing dental homes

Acknowledgements

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References

