

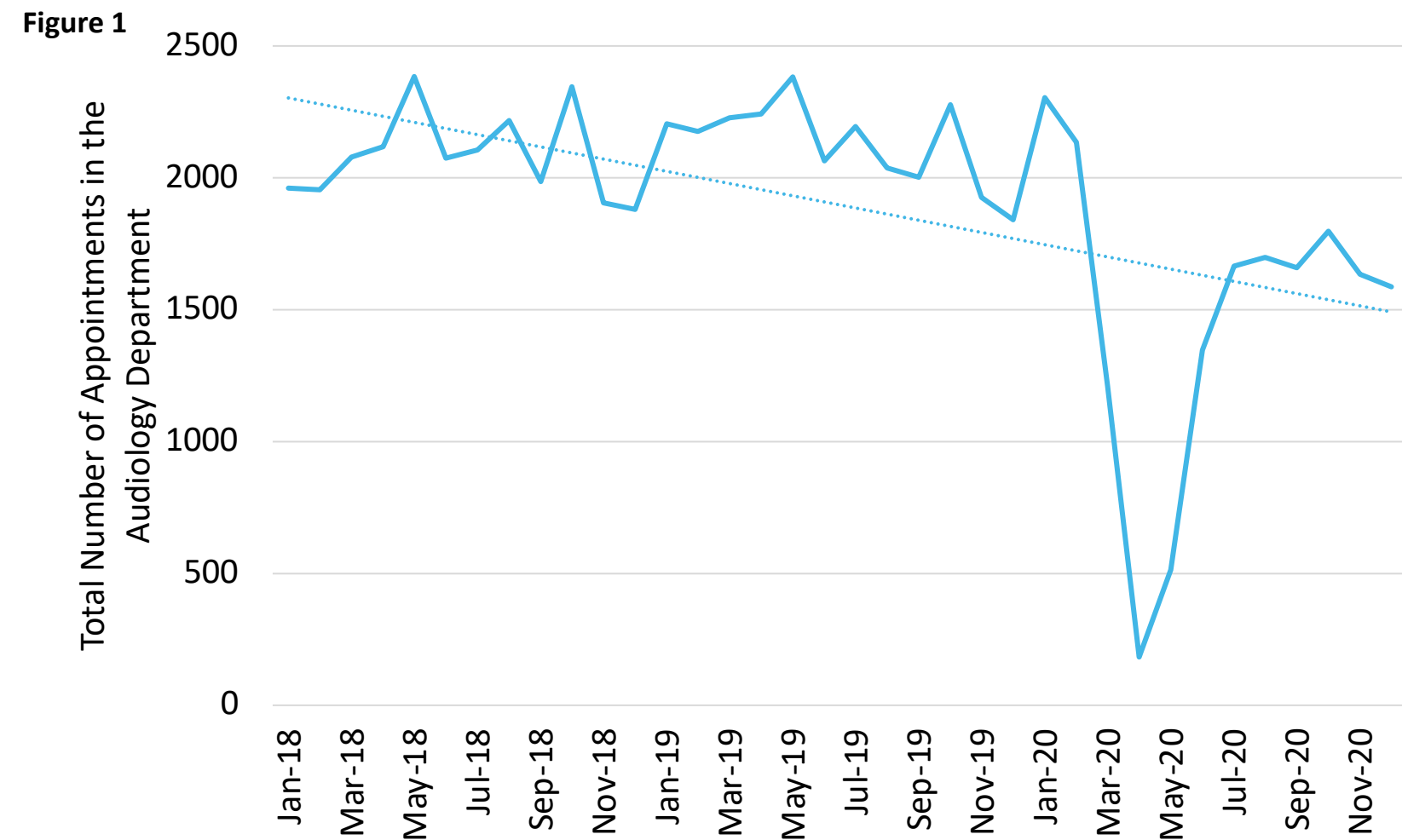
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Introduction

This study assessed Boston Children's ability to meet EHDI's 3-month diagnostic benchmark³ for UNHS referrals given reduced services and closures due to COVID-19 (Fig. 1).

On March 18th, all non-emergent clinic appointments were cancelled. No patients were seen for one week. Boston Children's Waltham and Boston sites reopened on March 25th with reduced services.



Methods

Retrospective database and chart reviews were completed for infants of three separate cohort years (2017-2018, 2018-2019, 2019-2020).

Table 1

| | |
|---------------------------|---|
| Inclusion Criteria | <ul style="list-style-type: none"> Born December-September for each cohort year Born at an in-state hospital and referred on NBHS Seen at Boston Children's for initial follow-up ABR |
| Exclusion Criteria | <ul style="list-style-type: none"> Born at home and did not receive initial NBHS Passed NBHS bilaterally at birth hospital Born outside the state of Massachusetts Seen at an outside facility for evaluation prior to our evaluation Child was deceased prior to confirmation of hearing status |

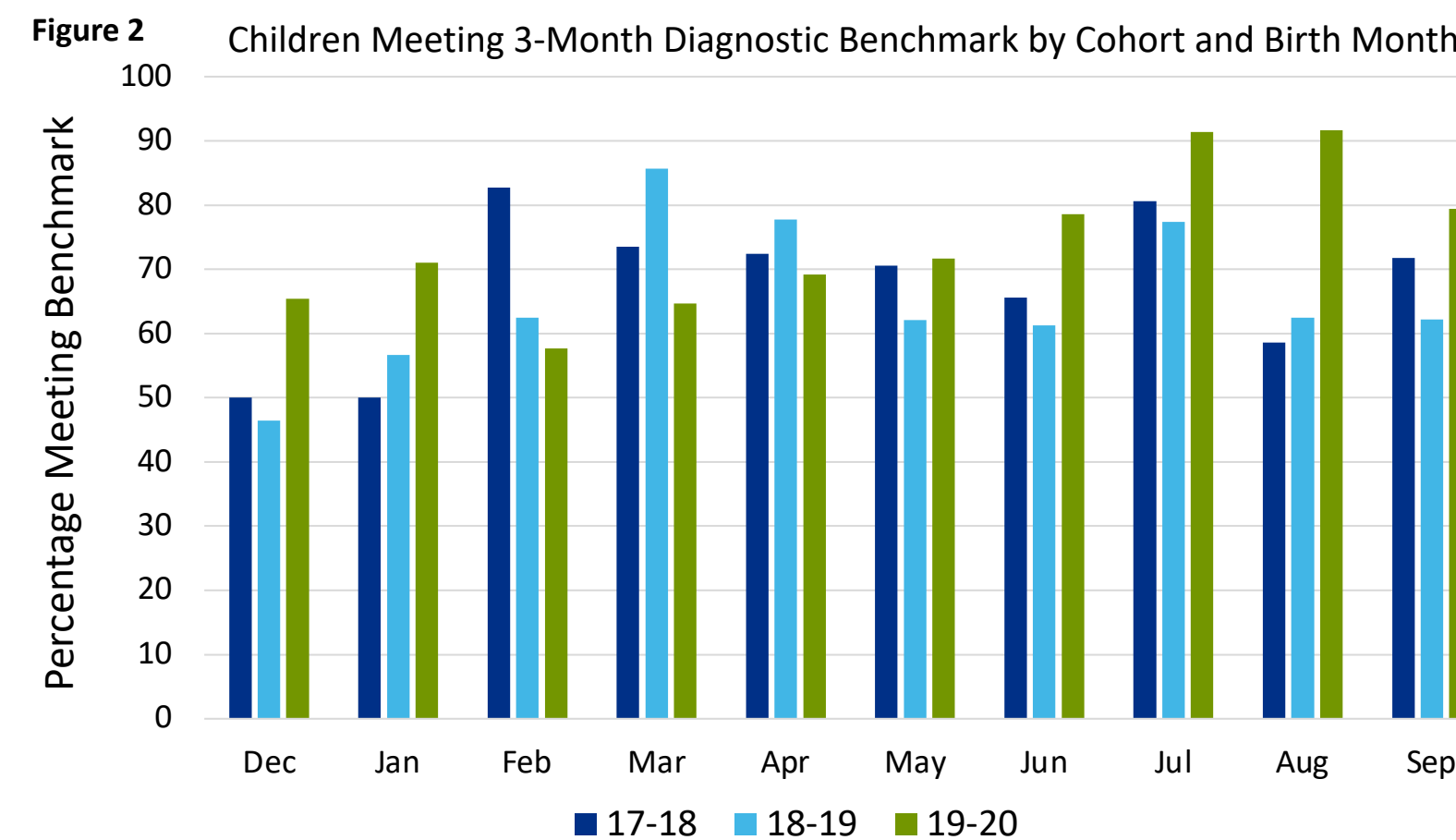
Age at diagnosis was determined by data transmitted to the Massachusetts Department of Public Health and diagnostic codes used by the managing audiologist.

IBM SPSS Software was used to complete statistical analyses including Cochran-Armitage trend tests and Chi-Squared analyses.

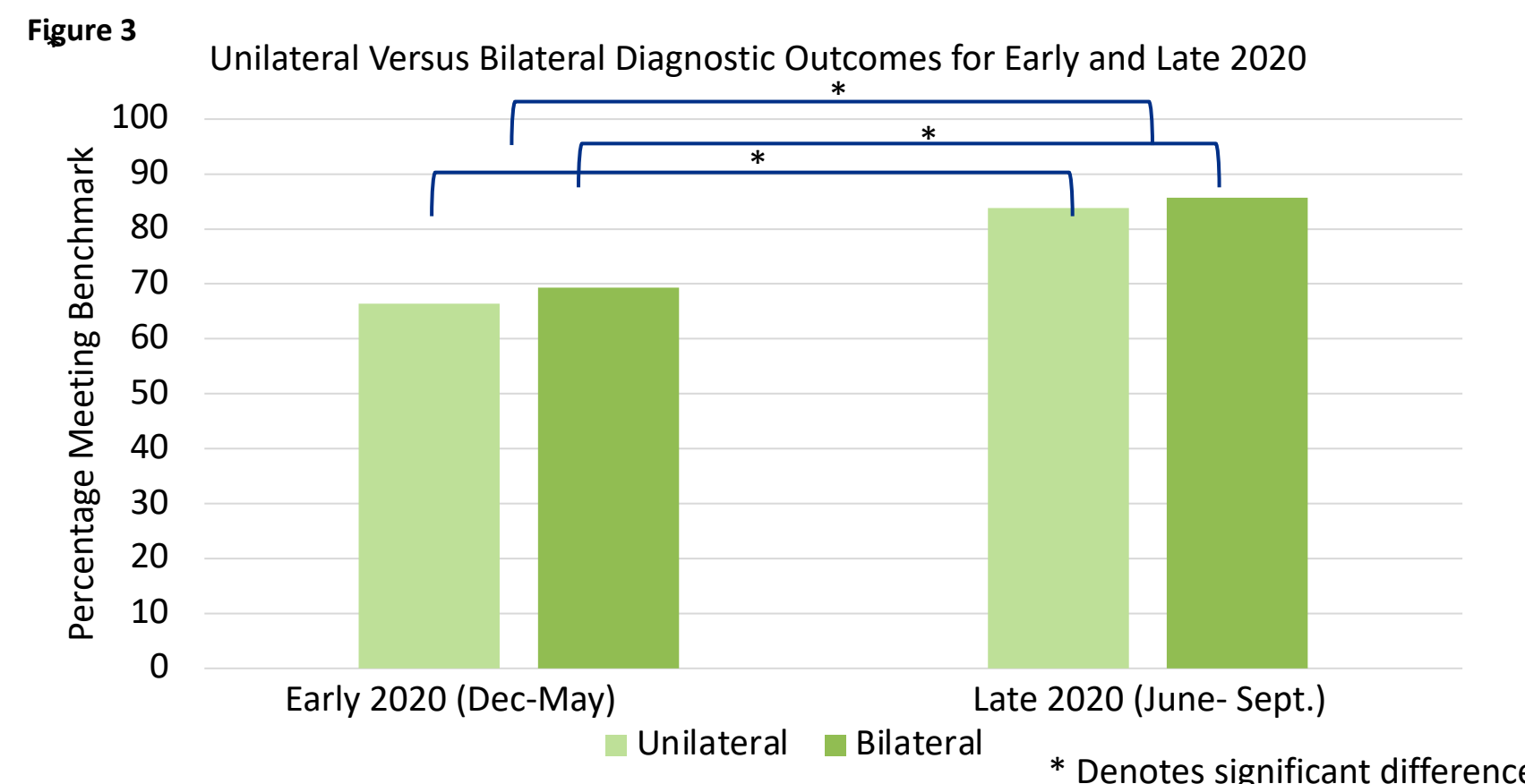
Results

Despite reduced services and closures, there was no significant difference in our ability to meet the 3-month diagnostic benchmark for the 2019-2020 cohort when compared to the two previous cohorts combined ($p = 0.08$).

There was no significant difference in our ability to meet the 3-month diagnostic benchmark based on referral status for the 2019-2020 cohort ($p = 0.66$). However, bilateral referrals meeting the 3-month benchmark increased significantly compared to previous years ($p < 0.05$).



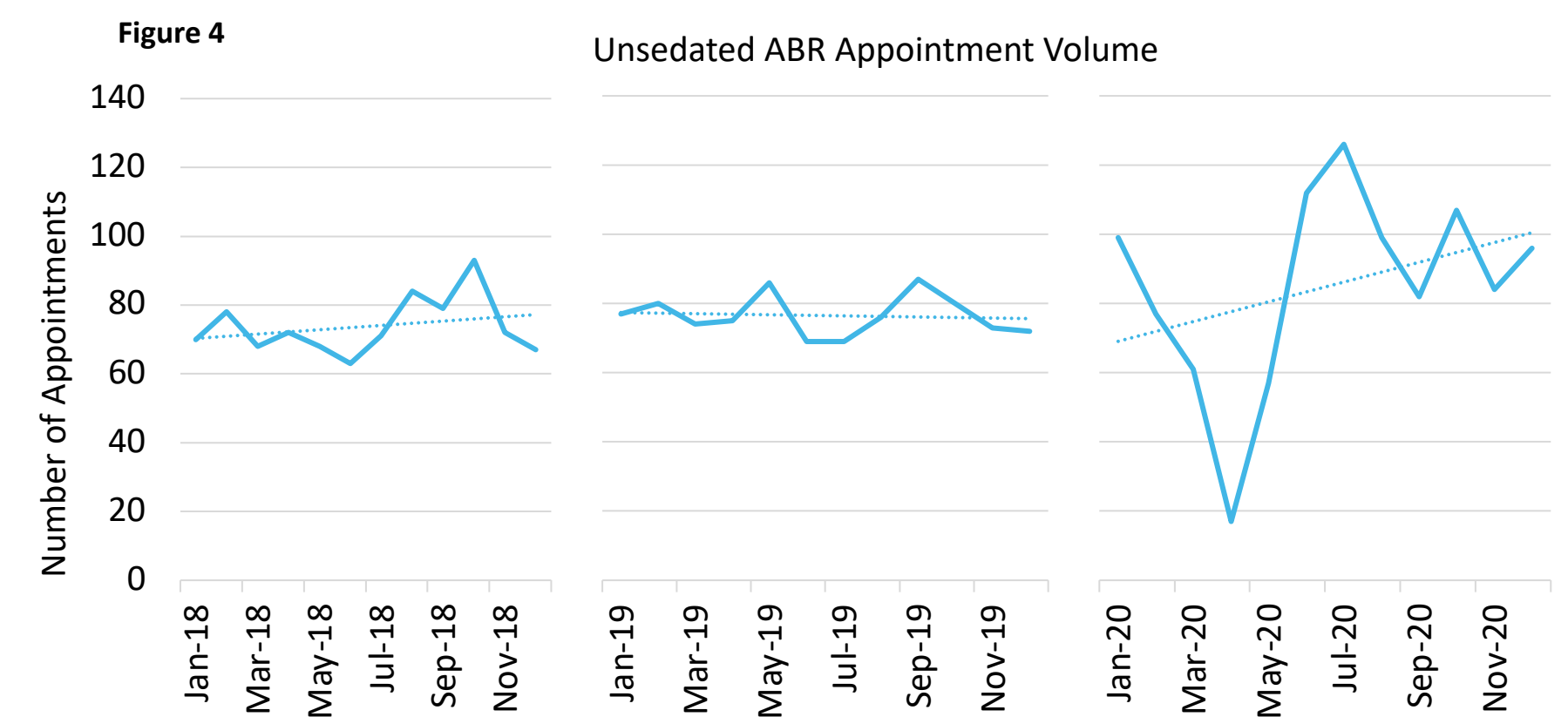
Boston Children's ability to meet the 3-month benchmark was significantly less for earlier birth months of the 2020 cohort (Dec.-May) than for later birth months (June-Sept.; $p < 0.01$). This trend was true for unilateral ($p < 0.01$) and bilateral ($p < 0.05$) referrals (Fig. 3).



Discussion

Possible contributing factors to our ability to meet 3-month benchmark in 2020:

- Prioritization of ABR appointments for infants who referred on newborn hearing screenings, with bilateral referrals prioritized over unilateral referrals
- Expansion of available hours across services and sites following shutdown to help compensate for reduced services during shutdown



Fluctuations in monthly benchmark data (Fig. 2) is reflective of the reduction of services near peak shutdown and subsequent rebound in summer months (Fig. 4).

CDC data¹ indicates that in 2018, an average of 49.5% of children nationwide met the 3-month benchmark following referral on the newborn screening, with a similar national average of 49.2% in 2017². All cohorts outperformed national averages with 67%, 72.6%, and 75% meeting benchmark following referral, respectively.

References

- Center for Disease Control and Prevention. (2020, May). 2018 Summary of Infants Not Passing Hearing Screening Diagnosed Before 3 Months of Age. <https://www.cdc.gov/ncbddd/hearingloss/2018-data/07-diagnosed-by-3-months.html>
- Center for Disease Control and Prevention. (2019, July). 2017 Summary of Infants Not Passing Hearing Screening Diagnosed Before 3 Months of Age. <https://www.cdc.gov/ncbddd/hearingloss/2017-data/07-diagnosed-by-3-months.html>
- Joint Committee on Infant Hearing. (2019) Year 2019 position statement: Principles and Guidelines for Early Hearing Detection and Intervention Programs. *Journal of Early Hearing Detection and Intervention*, 4, 1-44.