

Unmet Needs for Vision Care Among Children with Gaps in Health Insurance Coverage

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Introduction

- Routine vision screening can help prevent adverse outcomes such as permanent vision loss and decreased academic performance in children.
- Gaps in coverage may result in unmet needs for vision care within children and prevent children from accessing routine vision screening.

Aims Statement

- This study aims to utilize nationally represented data to analyze whether experiencing a recent gap in health insurance coverage was associated with greater likelihood of unmet needs for vision care among US children when compared to children with year-round private coverage. The secondary aim of this study was to determine whether gaps in coverage were associated with lower likelihood of completing a vision screening within the past 12 months.

Methods

- This study used de-identified data and was not considered human subjects research by the local Institutional Review Board.
- Data were obtained from the 2016-2019 National Survey of Children's Health (NSCH). For this study, we limited the sample to children ages 3-17 years, and excluded children with missing data on study variables.
- The primary outcome was caregiver-reported unmet needs for vision care in the past 12 months.
- The secondary outcome was whether the child had their vision tested within the past 12 months (assessed in 2018 and 2019 only).
- Multivariable analysis of study outcomes was conducted using logistic regression, including all study covariates. All analyses accounted for survey weights and the complex sampling design, as recommended in the survey documentation.

Results

Figure 1. Differences in Unmet Needs for Vision Care According to Four Categories of Insurance Coverage for Children Ages 3-17

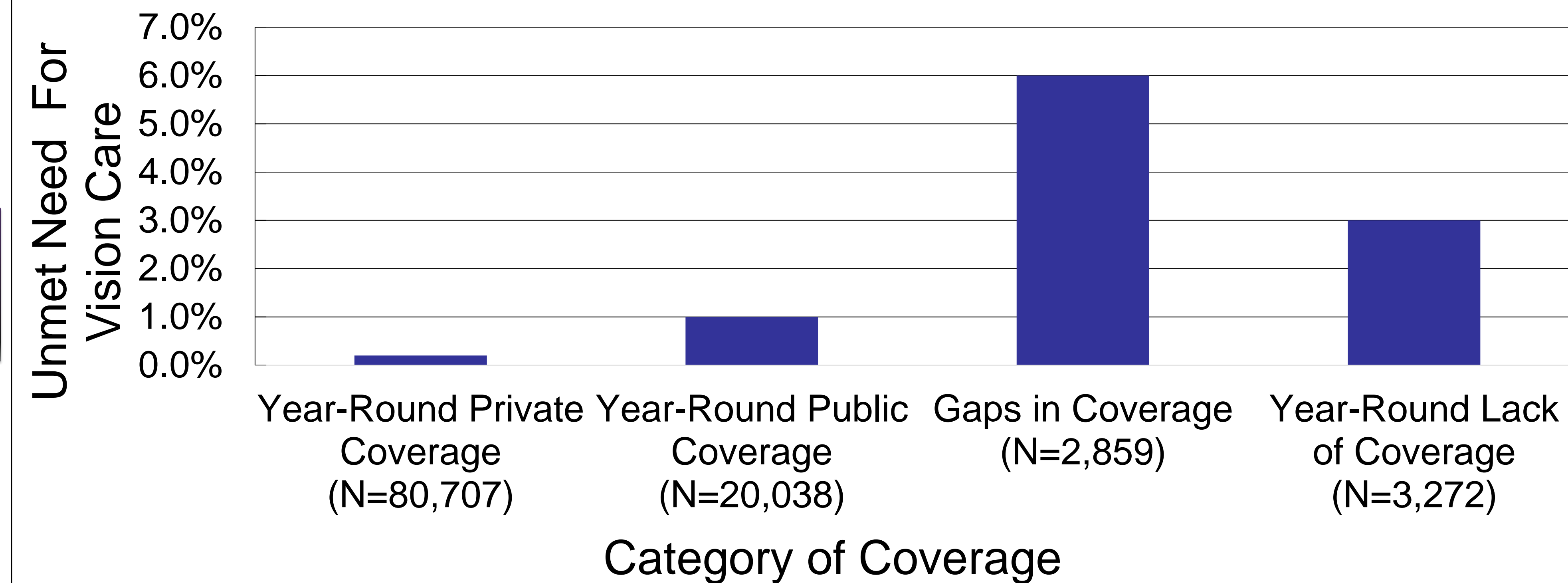


Table 1. Multivariable logistic regression of unmet need for vision care (N=106,876) and completing vision screening in past 12 months (N=49,072).

| Variable | Unmet Need for Vision Care | | | Completing Vision Screening in Past 12 months | | |
|---|----------------------------|------------|--------|---|----------|--------|
| | OR | 95% CI | P | OR | 95% CI | P |
| Health insurance coverage in past 12 months | | | | | | |
| Year-round private | Ref. | | | Ref. | | |
| Year-round public | 1.8 | 1.1, 2.9 | 0.020 | 1.1 | 0.9, 1.2 | 0.244 |
| Gaps in coverage | 18.7 | 11.5, 30.2 | <0.001 | 0.6 | 0.4, 0.7 | <0.001 |
| Year-round lack of coverage | 9.5 | 5.5, 16.4 | <0.001 | 0.5 | 0.4, 0.7 | <0.001 |

- 3.8% of US children had a recent gap in coverage and 5.0% lacked insurance in the entire year leading up to the survey.
- The odds of unmet needs for vision care were almost **19-fold higher** among children with gaps in coverage and were **9-fold higher** among children with year-round lack coverage.
- Children with gaps in coverage had **40% lower odds** of completing vision screening and children with year-round lack of coverage had **50% lower odds** of completing vision screening when compared to children with year-round private coverage.

Discussion

- Both gaps in coverage and lack of insurance tend to contribute to decreased access to vision care.
- Possible causes of gap in coverage may be due to parental socioeconomic/employment status and policy re-enrollment requirements.
- The changing status of employment may result in gap in coverage when some parents are waiting for coverage to begin with the start of a new job.
- The waiting period in which children are not covered may be the reason why children with gaps in coverage have more unmet needs that children with a complete lack of coverage.
- Policy interventions such as expansion of public insurance with a vision care component should be implemented to address disparities in insurance coverage.

Conclusion

- Children with gaps in coverage have a higher likelihood of unmet vision care needs when compared to children with year-round private/year-round lack of coverage.
- Gaps in coverage also decreased the likelihood that a child completed a vision screening within the past 12 months.
- It is recommended that policy interventions are implemented specifically for children with gaps/lack of coverage to minimize unmet vision care needs in children.

References

- Birch EE, Kelly KR. Pediatric ophthalmology and childhood reading difficulties: Amblyopia and slow reading. *J AAPOS*. 2017;21(6):442-444. doi:10.1016/j.jaapos.2017.06.013
- *Pediatric Eye Evaluations PPP - 2017*. American Academy of Ophthalmology. (2018, July 9). <https://www.aao.org/preferred-practice-pattern/pediatric-eye-evaluations-ppp-2017>.
- National Center for Children's Vision and Eye Health at Prevent Blindness. 2020. Children's Vision and Eye Health: A Snapshot of Current National Issues (2nd ed.). Chicago, IL: National Center for Children's Vision and Eye Health at Prevent Blindness.

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