

Boosting Pediatric Lead Screening

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Background

Lead exposure can cause long term effects including behavioral issues, learning difficulties and developmental delays in children. The American Academy of Pediatrics (AAP) recommends screening / testing for lead exposure as no lead level is considered safe. In 2021, the Centers for Disease Control and Prevention (CDC) reduced the blood lead reference value from 5.0 to 3.5 micrograms per deciliter. The state requires all children be assessed for risk of lead exposure for enrollment into daycare or school. Part of that assessment requires testing within high-risk zip codes. Pediatric primary care practices within the health system serve high risk populations. Barriers to consistent lead testing were noted. Organizational lab processes required extended wait times or return visits for lab draws. An accurate, accessible, pediatric-friendly method was needed.

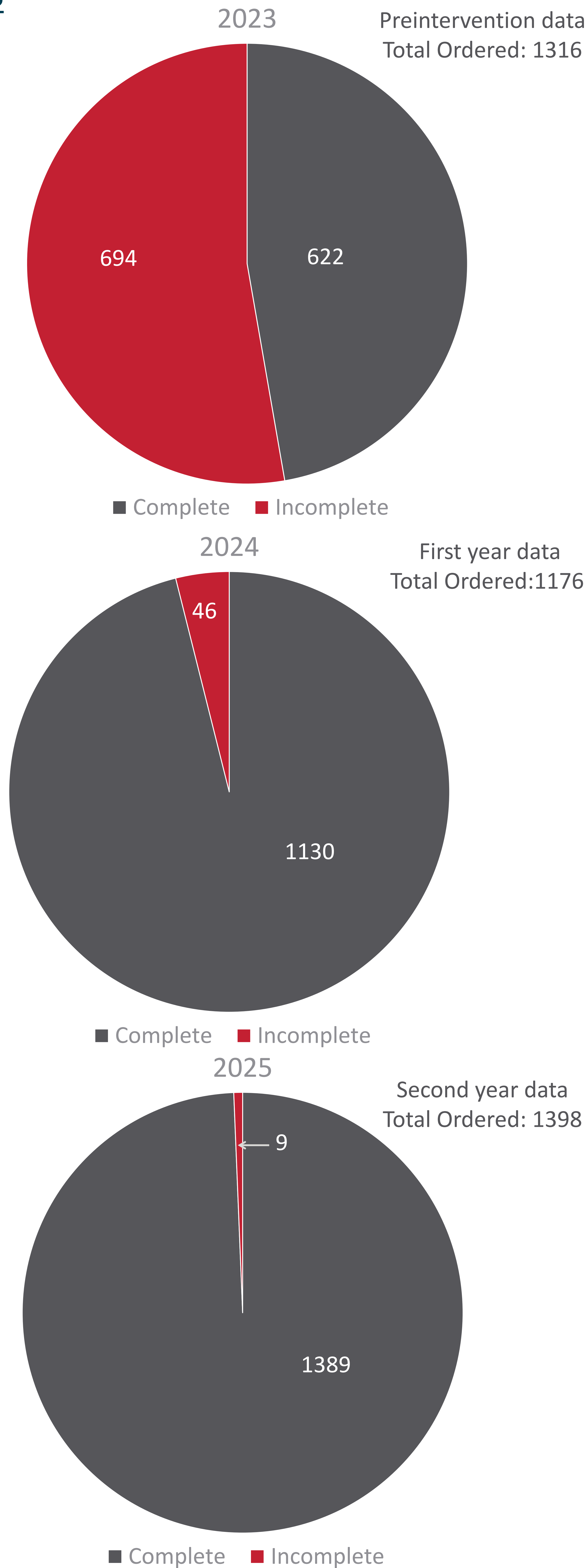
Setting

This project was implemented in 2 pediatric primary care practices that are part of an integrated health system serving central Illinois. The two sites are the primary care location for approximately 26,000 children. In 2023, the state had 6.7% of lead testing reported as above the reference value.

Methods

A literature review found a point of care (POC) testing option with a high level of documented accuracy. The POC device allowed results to be obtained within 3 minutes rather than waiting days for the venous test to return. The device and testing materials were a small capital expense and required minimal staff training to implement. Charges for lab or POC testing were equal, offsetting expense of the new equipment.

Results



Implementation

A staggered go-live approach was implemented to ensure on-site support at each location during the first week of rollout. Point-of-care (POC) tests with results ≥ 3.5 required confirmatory venous testing within 1 month or less. Monthly audits were conducted to verify that patients with elevated POC results received the appropriate confirmatory testing. This process led to improved compliance with testing.

Conclusion

Implementing point-of-care lead testing in pediatric primary care improved access, reduced incomplete testing from 53% to 4%, within the first year. The following year it reduced further to 1%. It also increased patient comfort. This highlights how a low-cost, accurate, and child-friendly solution overcame systemic barriers, boosted screening rates, and supported early intervention for children in high-risk communities.

References

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