



July 21st, 2025

What are the costs of immunizing zero-dose children in Nigeria through outreach?

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This work is supported by the Gates Foundation



[IMAGE]

Outline

- Introduction and objective
- Design and methods
- Findings
- Key takeaways



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Introduction and objective

- With an estimated 2.1 million children who have never received a vaccine, Nigeria is the country with the highest number of *zero-dose children* in the world
- To address this, Nigeria developed the Zero-Dose Immunization Recovery Plan 2023-2028, and kicked off its **Zero-Dose Reduction Plan** (Z-DROP) in 100 priority local government areas (LGAs)
- Outreach is key element of this strategy

Zero dose children

- Children missing Penta1 between the ages of 12-23 months

This study estimated the **cost** and effectiveness of several **outreach strategies** at reaching zero-dose and under-immunized children



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Design and methods

Scope

Estimating the **economic** and **financial** delivery cost of routine immunization delivery strategies

Perspective

Gov. entity responsible for implementation, and implementing partners (**payer**) (facility level costs included in these findings)

Design

Bottom-up retrospective costing

Sampling strategy

Purposive sampling of priority LGAs in collaboration with state MOH

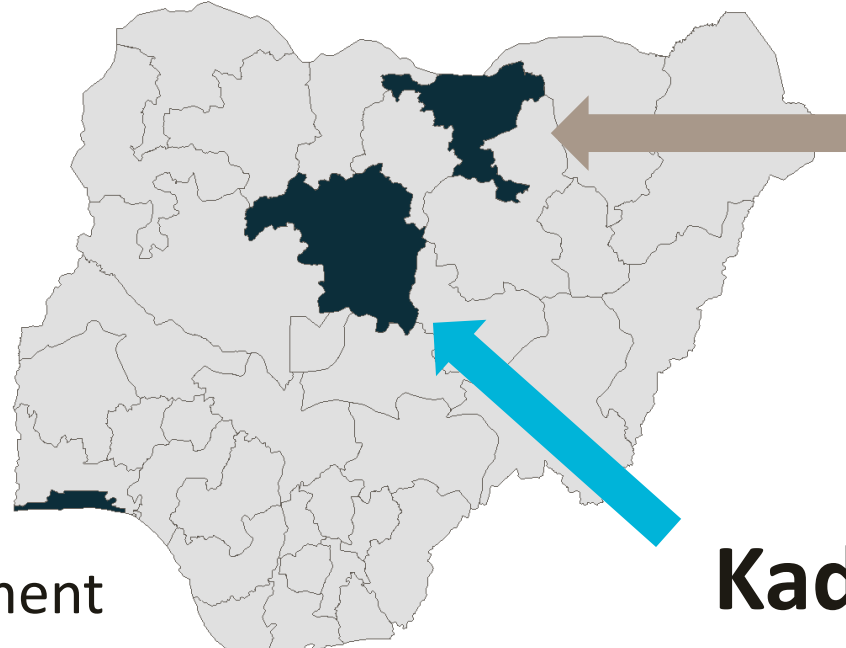
Time horizon

Costs incurred during a typical month at point of data collection (December 2024-February 2025)

Main output

Average **cost per dose delivered** (weighted by volume delivered, USD 2024)

Our study included 61 facilities from 8 LGAs



Lagos

- 2 LGAs
- 2 local council development areas (LCDAs)
- 15 facilities
 - 9 part of ZDROP initiatives
- Urban setting

Jigawa

(not included in this presentation)

- 2 LGAs
- 13 facilities
- Rural setting

Kaduna

- 4 LGAs
- 33 facilities
 - 26 part of ZDROP initiatives
- Rural setting



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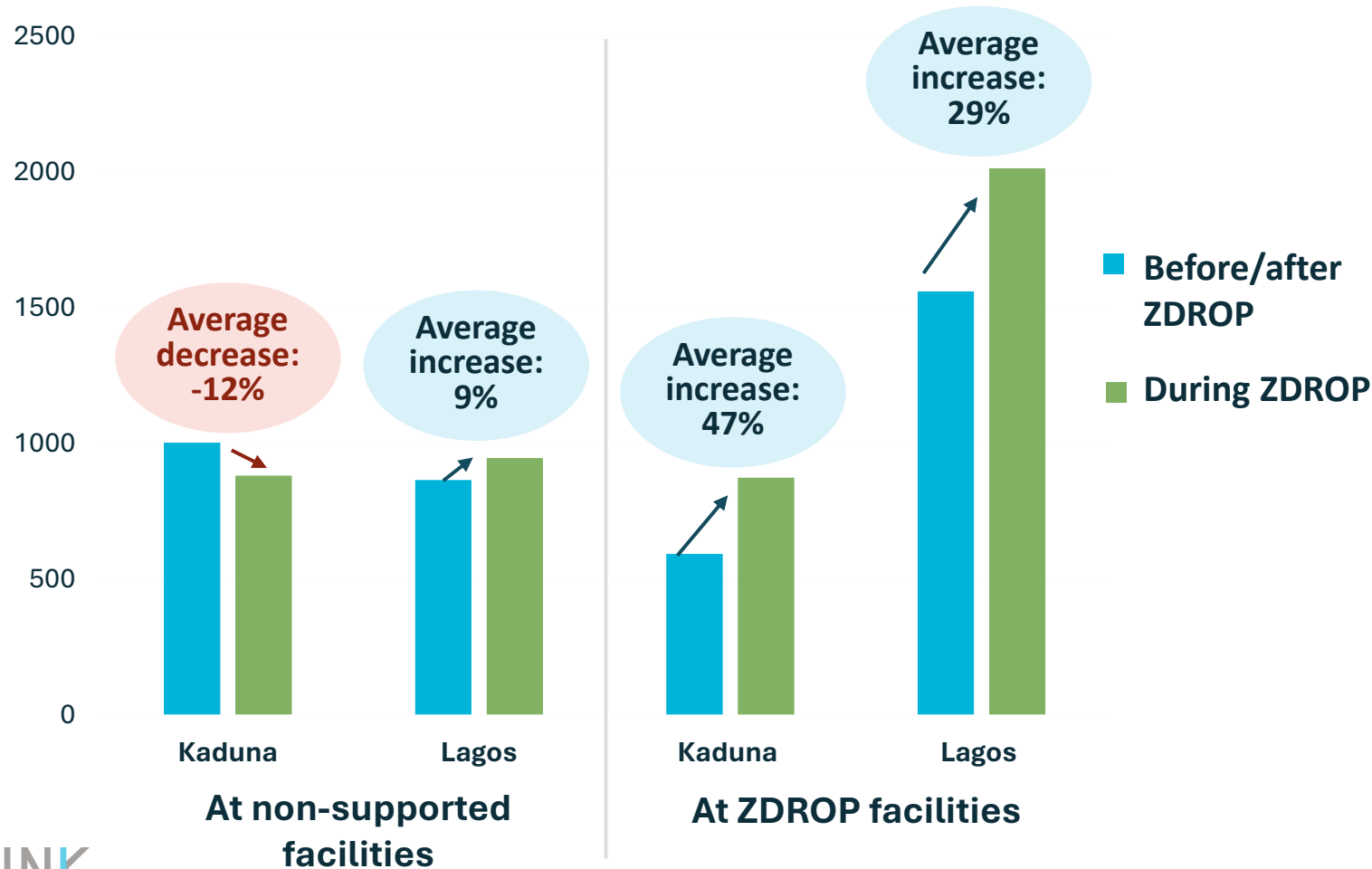


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When implementing ZDROP, facilities delivered more vaccine doses

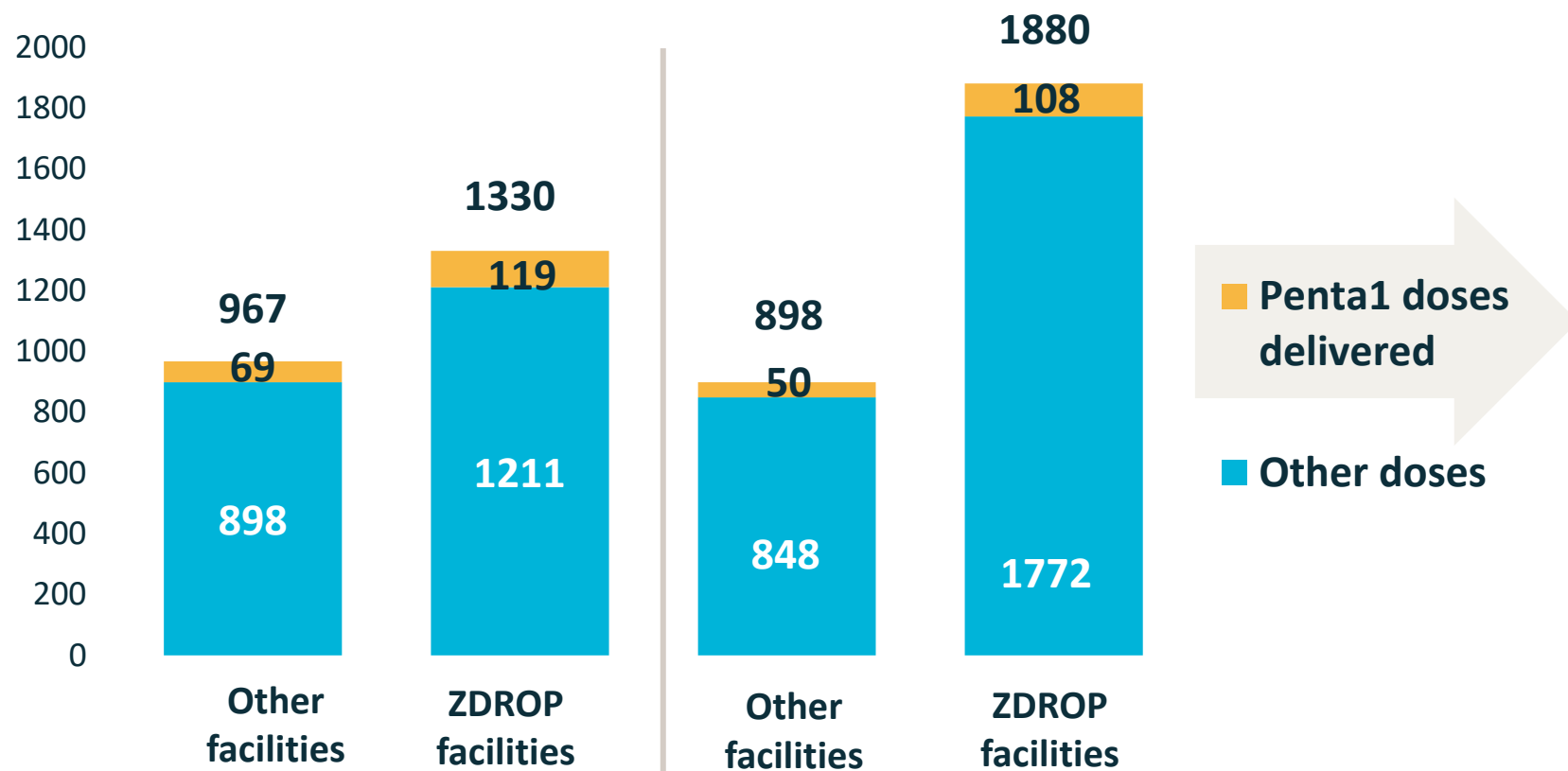
Monthly vaccine volume delivered



- ZDROP start: in Lagos, started in Q2 2024, in Kaduna commenced between Q3 2023-Q4 2024,
- Implementation in our sample lasted for 2 to 12+ months

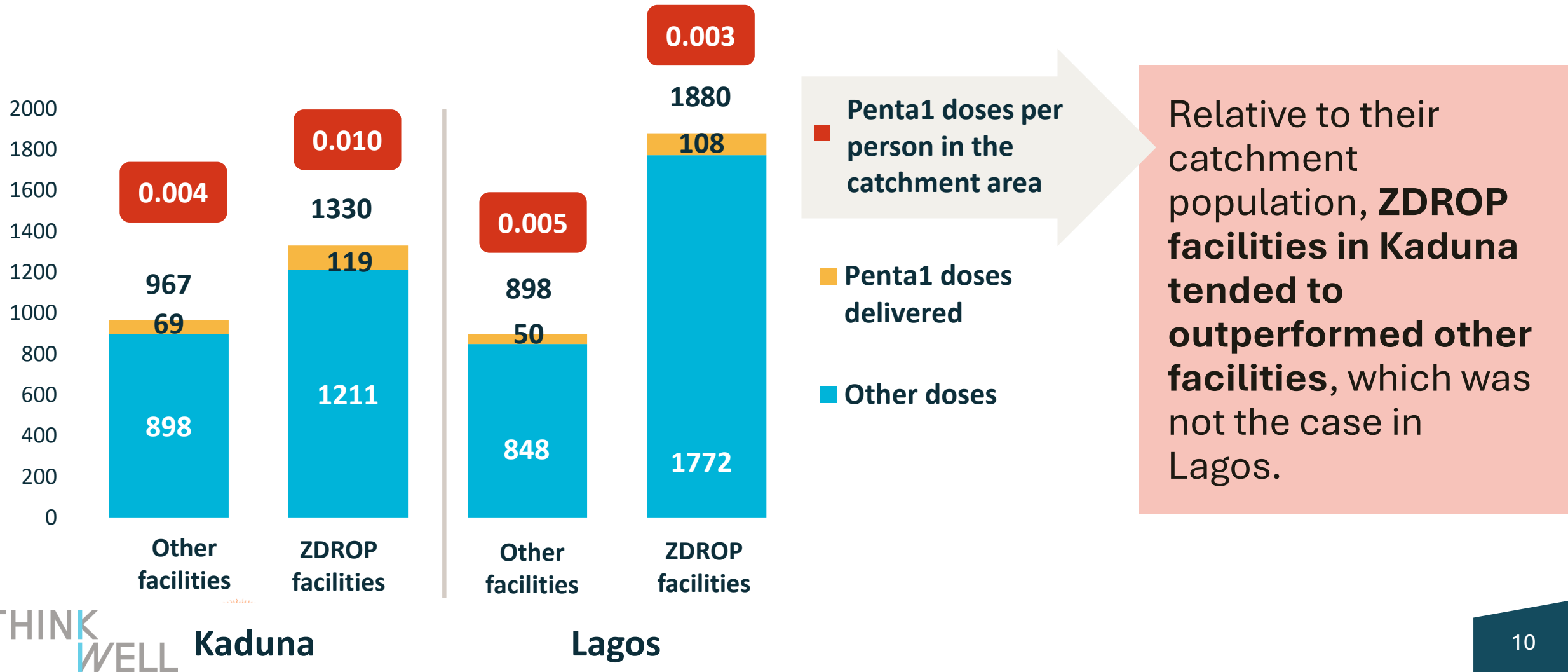
During ZDROP, supported facilities delivered more doses and reached more new children than other facilities

Average number of vaccines delivered per month



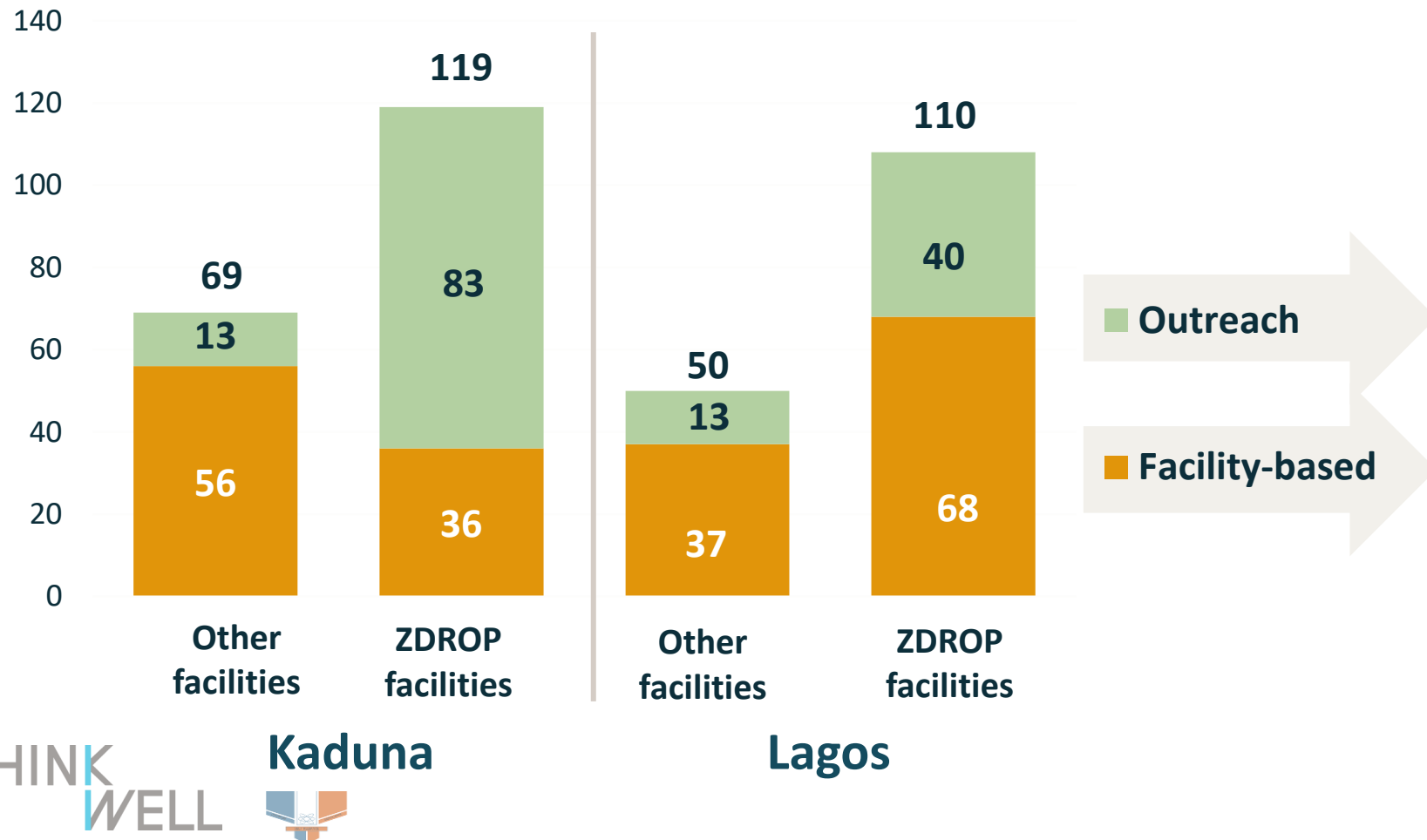
Every **Penta1 dose delivered** indicates an additional child had been reached, and although it includes children being reached on time, it is a **strong indicator of additional zero-dose children reached**

During ZDROP, supported facilities delivered more doses and reached more new children than other facilities



Most of the additional children reached by ZDROP facilities were reached through outreach

Average number of Penta1 delivered per month

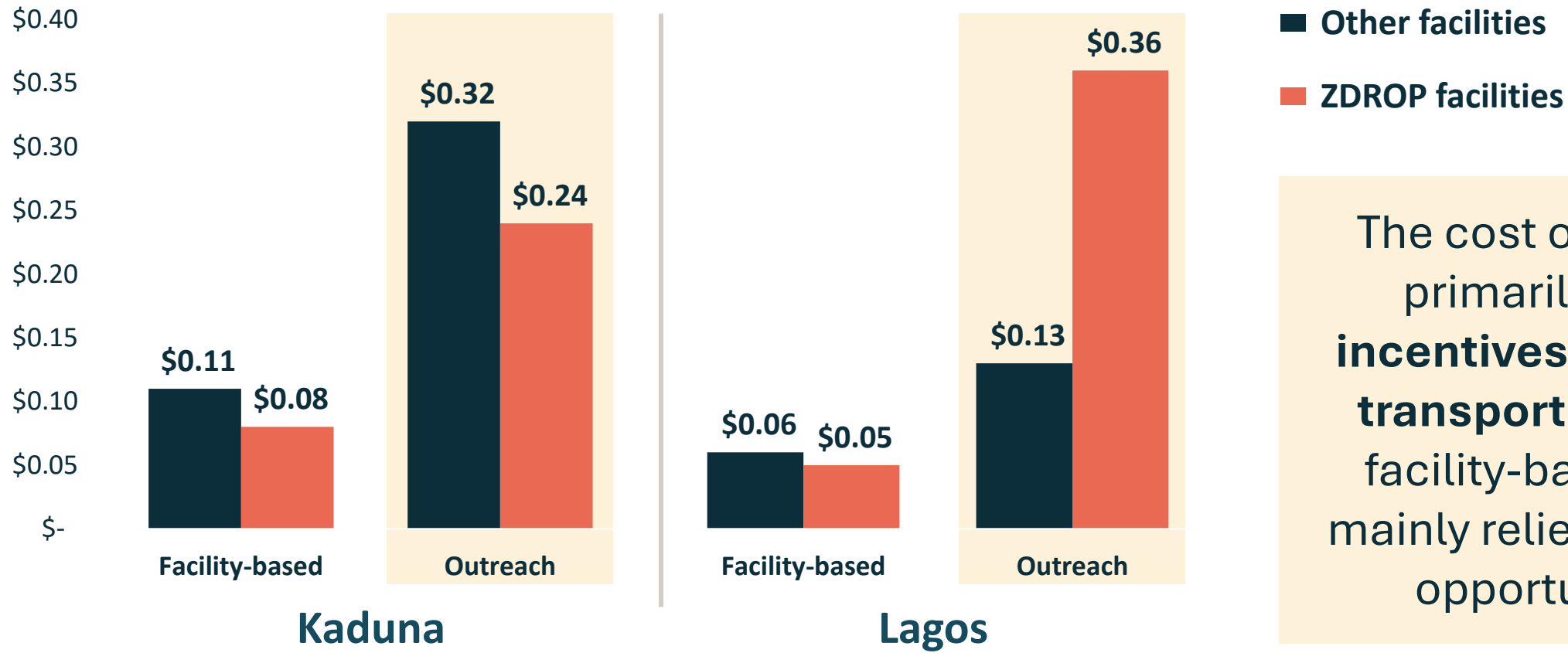


ZDROP facilities reached **more new children** overall, and **more through outreach**

In Kaduna, ZDROP facilities reached fewer children from facilities, while in Lagos, more were reached through both strategies

The cost of delivery was **higher for outreach** than for **facility-based delivery** at all types of facilities in all states

Financial cost per vaccine dose delivered

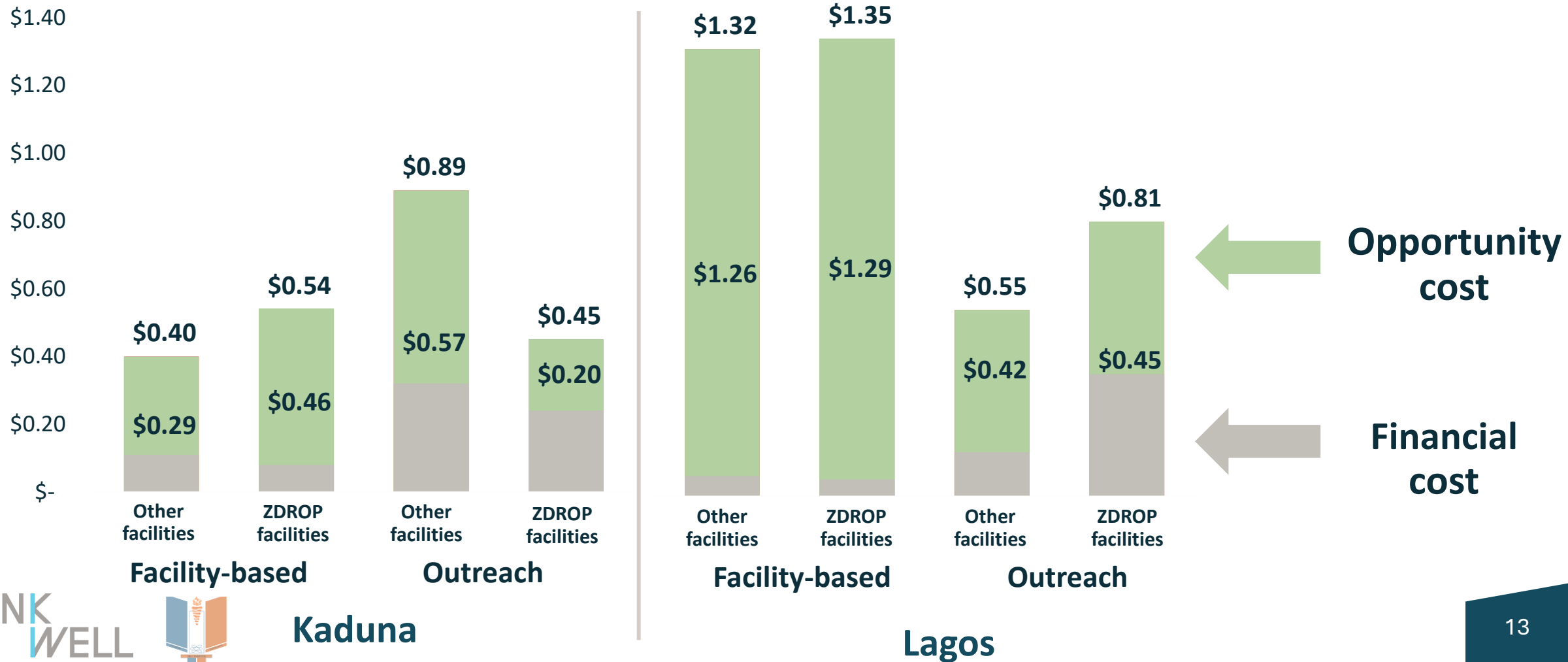


The cost of outreach is primarily driven by **incentives for staff**, and **transport costs**, while facility-based delivery mainly relies on **labor** (an opportunity cost)

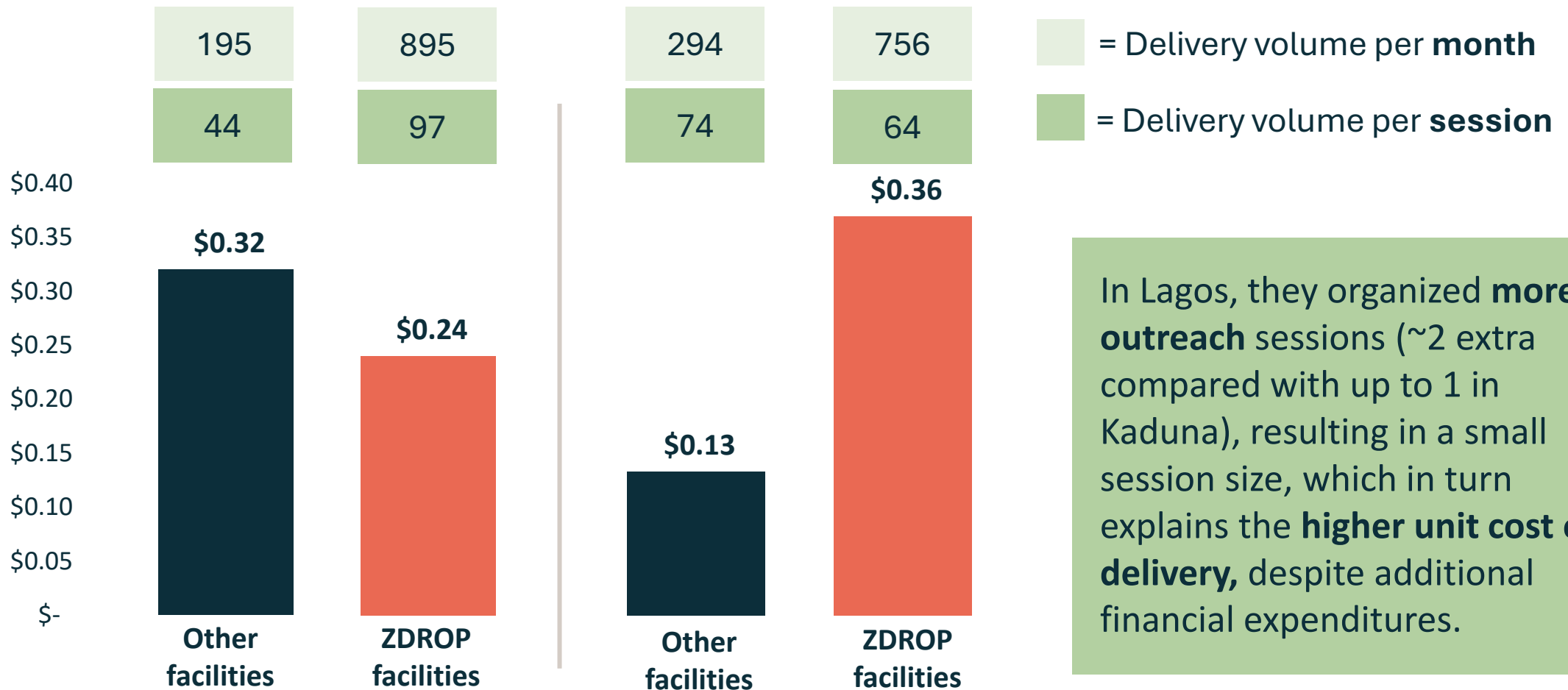


The opportunity cost of delivery was generally higher in Lagos, driven by higher salaries and more personnel

Economic cost per vaccine dose delivered



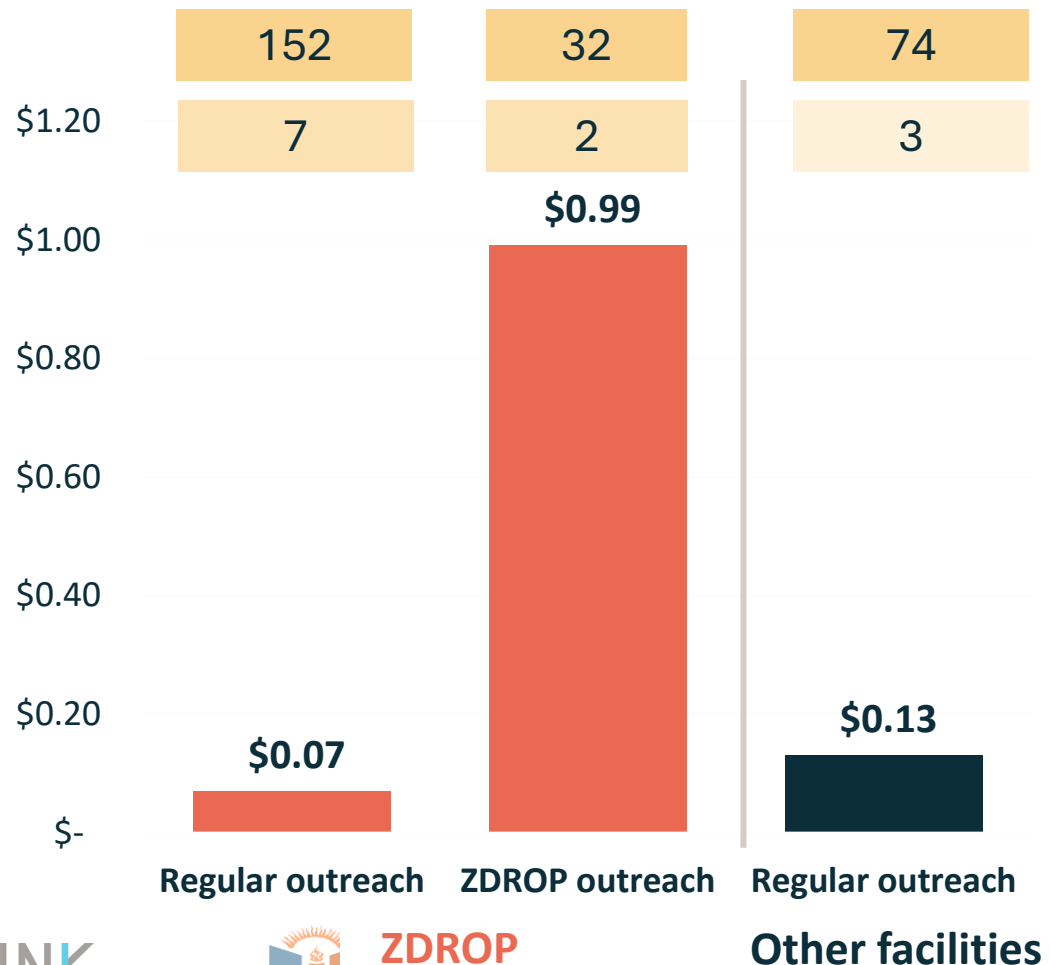
Only when ZDRDP led to larger outreach sessions, this resulted in more cost-efficient outreach



In Lagos, they organized **more outreach** sessions (~2 extra compared with up to 1 in Kaduna), resulting in a small session size, which in turn explains the **higher unit cost of delivery**, despite additional financial expenditures.



ZDROP sessions in Lagos reached only few additional children and at a substantially higher cost



Doses delivered **per session**

Penta1 delivered **per session**

- Facilities generally operated 1 regular outreach session and 2 additional ZDROP sessions per week, sometimes on weekend days
- Additional ZDROP sessions incurred higher costs driven by incentives which were spread over a lower number of doses delivered



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Key takeaways

➔ ZDROP support increased the number of vaccines doses delivered, as well as the number of **additional children reached with Penta1**

➔ If ZDROP facilities organized many more additional outreach sessions, then the smaller session size led to a higher unit cost of delivery, though if facilities managed to reach **more children per session, then cost efficiencies could be achieved, despite additional financial expenditures**

➔ Dedicated ZDROP sessions in Lagos **reached very few children with Penta1** compared to regular outreach **but at a much higher cost** per dose, questioning the suitability of the intervention to address the root cause of zero dose prevalence in these areas





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Thank you!

You will find the study's final report at this link:



Acknowledgements

Dr Muyi Aina and **Dr Garba Ahmed Rufai**, National Primary Health Care Development Agency, Nigeria. **Dr Hamza Ibrahim**, Kaduna State Primary Health Care Board, **Dr Bolanle S. Adelokun**, Lagos State Primary Health Care Board, **Dr Shehu Ibrahim**, Jigawa State Primary Health Care Development Agency