

Lot Quality Assurance Sampling for Field Monitoring of New Vaccine Introduction

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INTRODUCTION

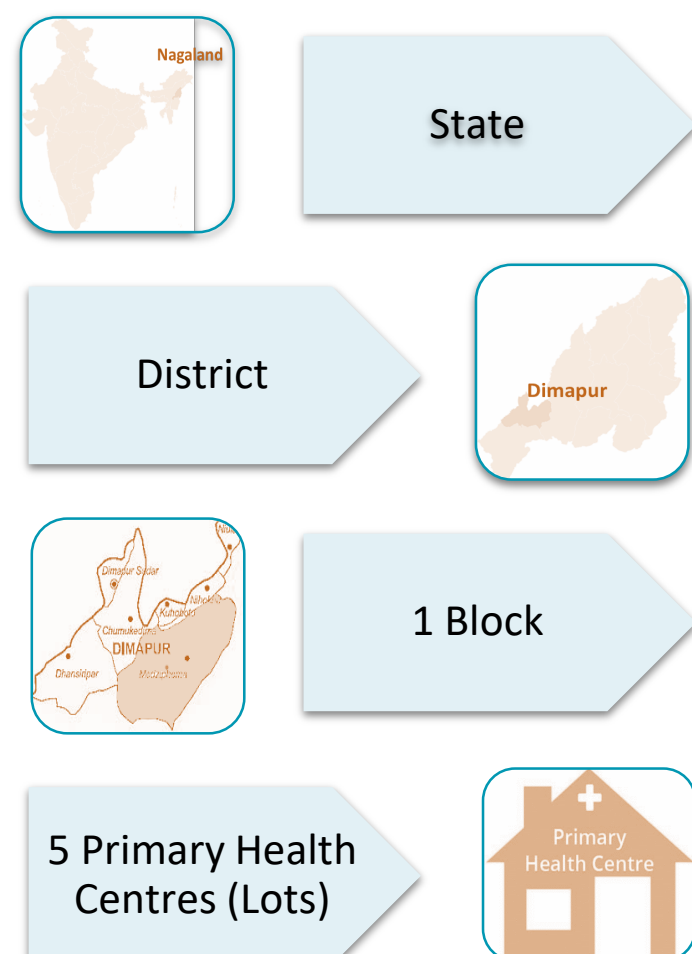
- PCV introduction happened in 2017 in a phased manner with a nationwide expansion in 2021.¹
- However, introduction of any new vaccine put forth a challenge of achieving high vaccination coverage.
- Rapidly identifying areas that fail to reach expected coverage becomes cumbersome.
- Globally, lot quality assurance sampling (LQAS) is being widely used in immunization coverage evaluation, so utilizing LQAS for PCV coverage assessment has been considered.²

AIM

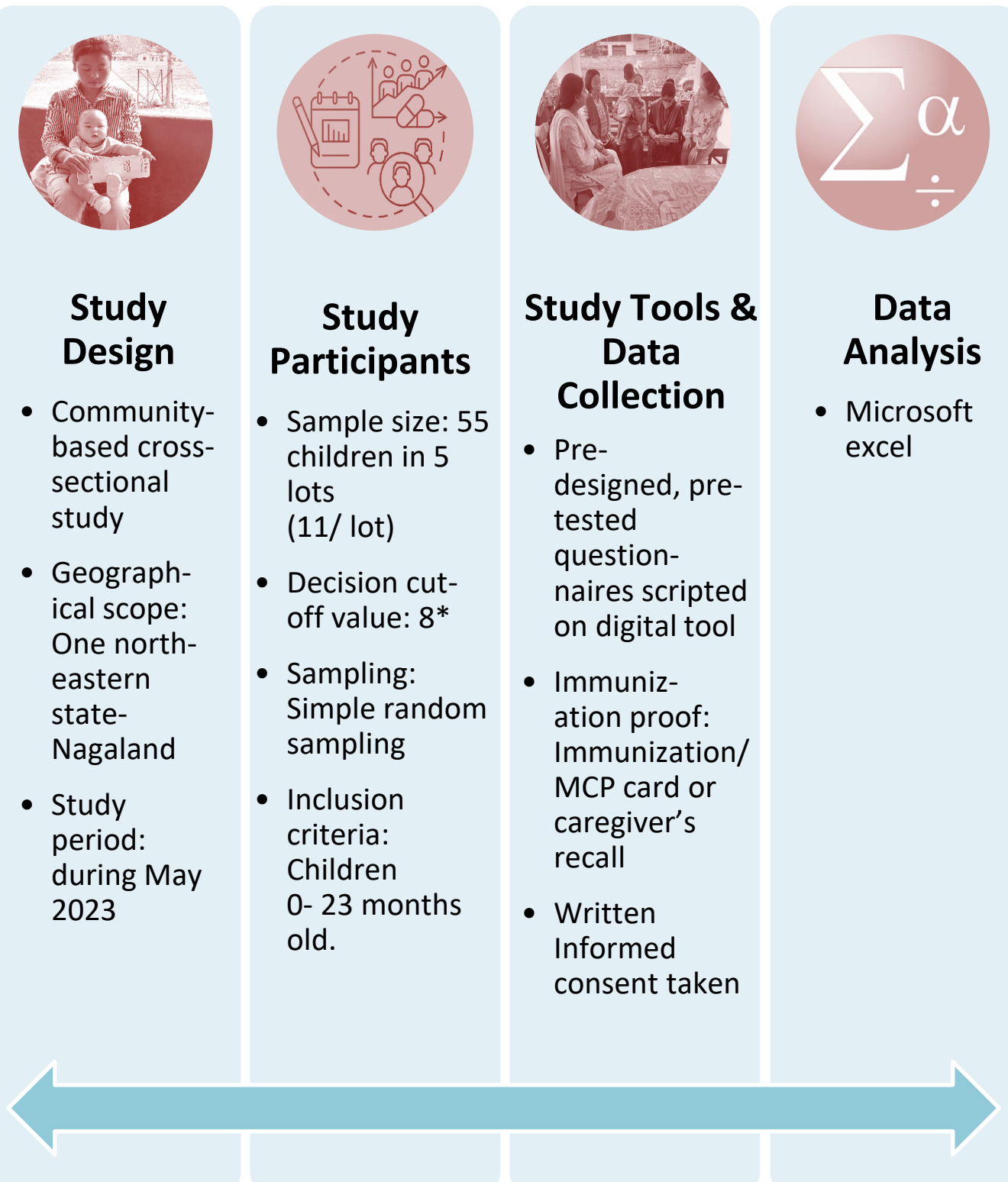
To pilot LQAS approach for field monitoring of a new vaccine (PCV) introduction in a northeastern state (Nagaland) of India.

METHODOLOGY

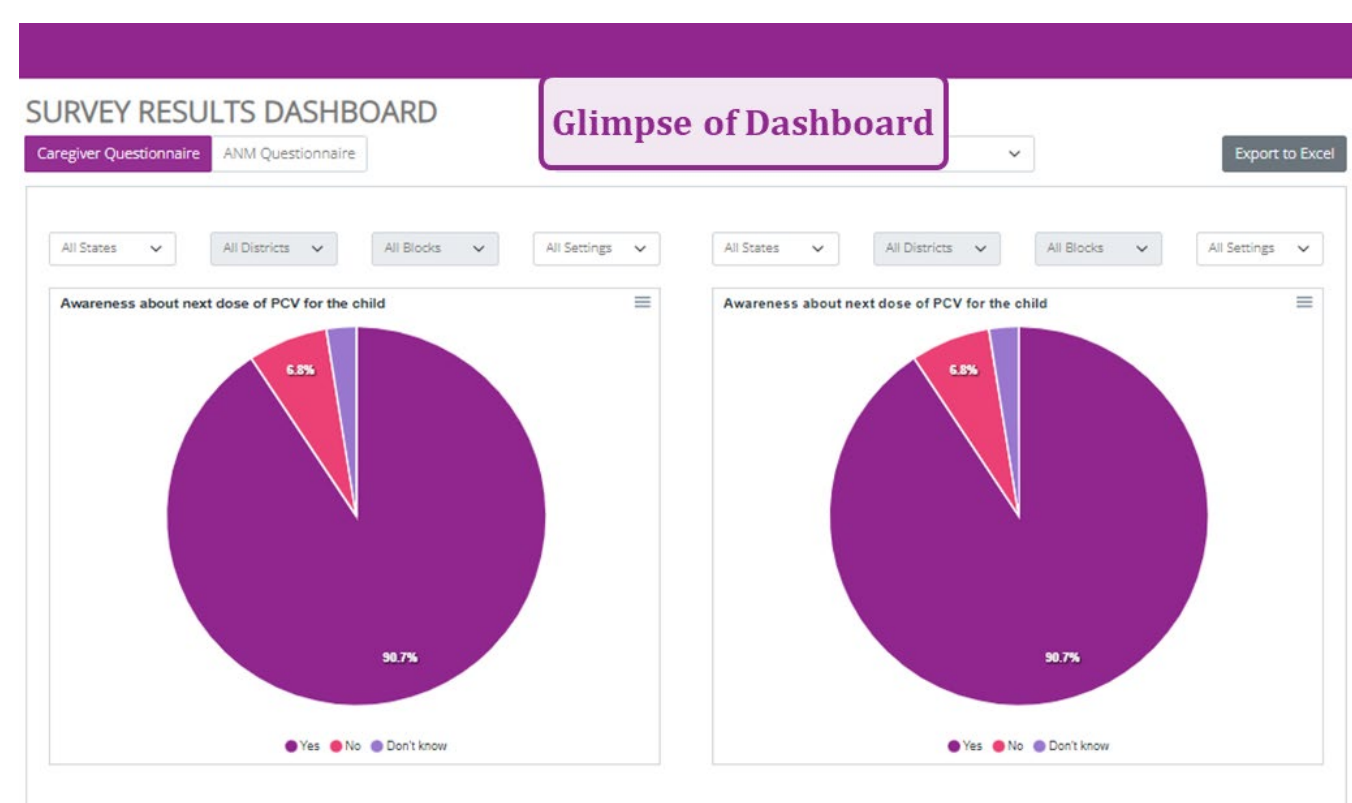
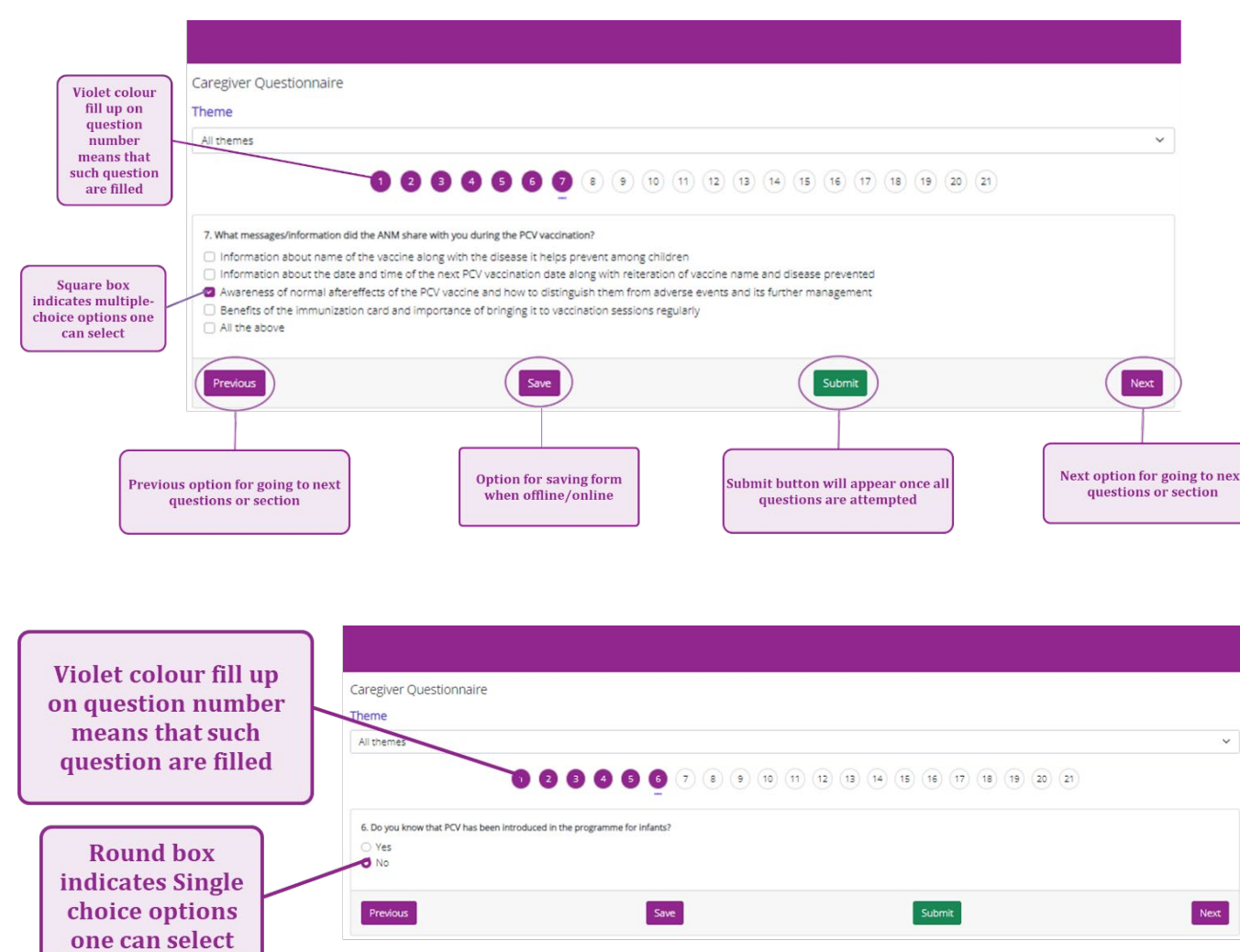
- Full immunization coverage (FIC) in India has reached 76.4% as per NFHS- 5 data.
- Full immunization coverage (FIC) of Nagaland is the lowest: 57.9% (NFHS-5)*
- Sampling framework:



Study Flow:



FEATURES OF DIGITAL TOOL



RESULTS

- Table below shows timely vaccination status of PCV (all doses as per the schedule) against each selected lot.

Lot	Lot sample size	Timely vaccination coverage for PCV	
		Frequency	%age
Piphema	11	11	100.0%
Pherima	11	9	81.8%
Molvom	11	10	90.9%
Zhuikhu	11	10	90.9%
Ruzaphema	11	10	90.9%

- Overall PCV coverage as per the schedule in LQAS was 90.9%
- Immunization status of the study area as per the LQAS was above the acceptable level of immunization (i.e. above 73%) in all the Lots.

REFERENCES

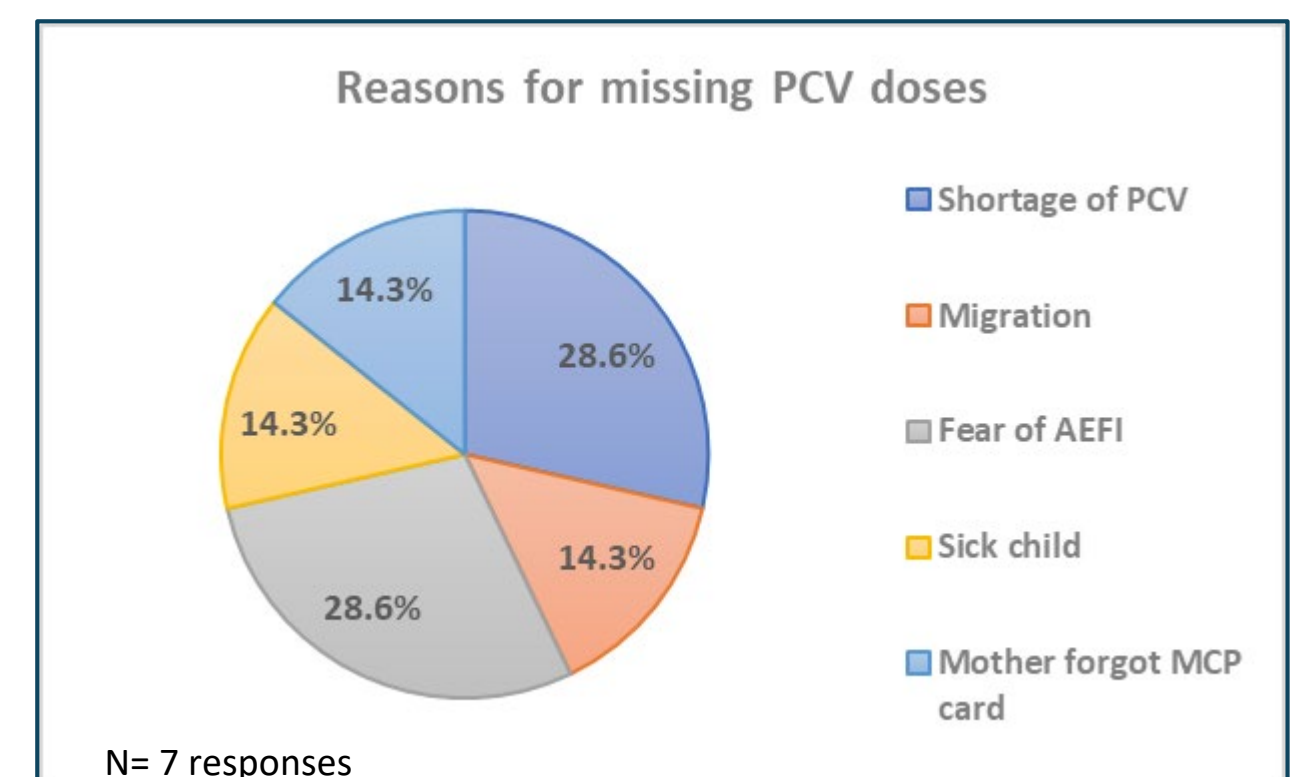
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*Based on $\alpha=5$, $\beta=90$ using Lemeshow & Taber table. Target level of immunization defined as 90% (Full Immunization Coverage (FIC), India- Universal Immunization Programme) while the lower limit was set to 55% (based on FIC, Nagaland- NFHS-5)

[#]Timely Vaccinated with PCV: The child who has been administered with PCV (all doses) applicable within one month of the recommended time

RESULTS

Of the 9.1% children who missed PCV dose, major reason highlighted was the shortage of vaccine followed by migration, fear of AEFI, etc.



CONCLUSION

- As per the study, overall 90.9% of children were timely vaccinated[#] with PCV (all doses as per the schedule).
- All lots showed a coverage more than the acceptable level.
- The study established that immunization coverage in the study area is quite higher than the overall State coverage reported in the NFHS-5 coverage.

RECOMMENDATIONS

- LQAS approach can best determine the immunization coverage of the selected geographical region and help identify areas with a low/poor coverage of a new vaccine.
- Further studies are needed to establish the suitability of the approach for coverage evaluation following the introduction of any new vaccine.

GLIMPSES OF DATA COLLECTION

