FOURTEENTH INTERNATIONAL

ROTAVIRUS SYMPOSIUM

MARCH 14–16 **2023** BALI INDONESIA

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Rotavirus genotype distribution after the introduction of rotavirus vaccines in India, 2016-2020

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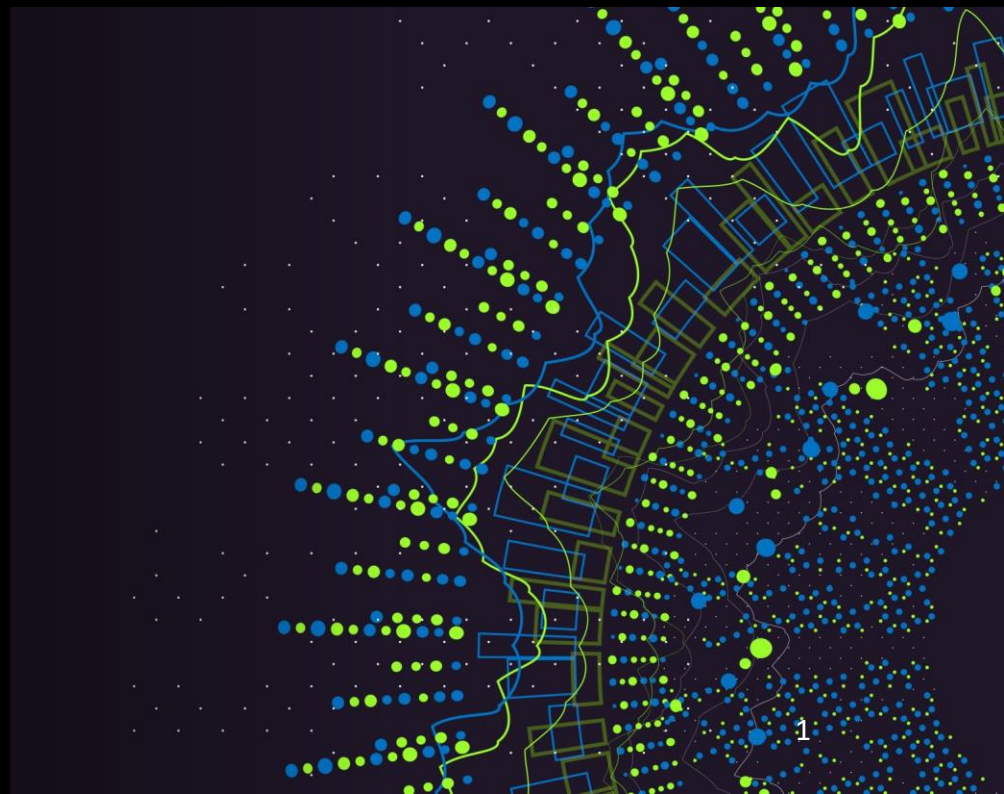

OUTLINE

Introduction

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Need for rotavirus (RV) genotyping data

- To identify dominant RV strains before and after vaccine introduction
    - Monitor changes in strain distribution
    - Determine strain patterns in regions with lower vaccine effectiveness
- To gain a better understanding of rotavirus evolution, the emergence of novel strains including wild-type rotaviruses and potential reassortants between wild and vaccine strains.

Introduction

- Multi-site acute gastroenteritis surveillance in India from **2005-2016** with support of the Indian Council for Medical Research and partners

- Rotavac vaccine introduced in India from 2016 in phases

- Post-introduction surveillance during 2016 to 2020 to estimate the real-world effectiveness and impact of Rotavac vaccine

Rotavac vaccine impact assessment sites [2016-2020]

- 31 hospitals in India collected information & samples from children hospitalized with AGE

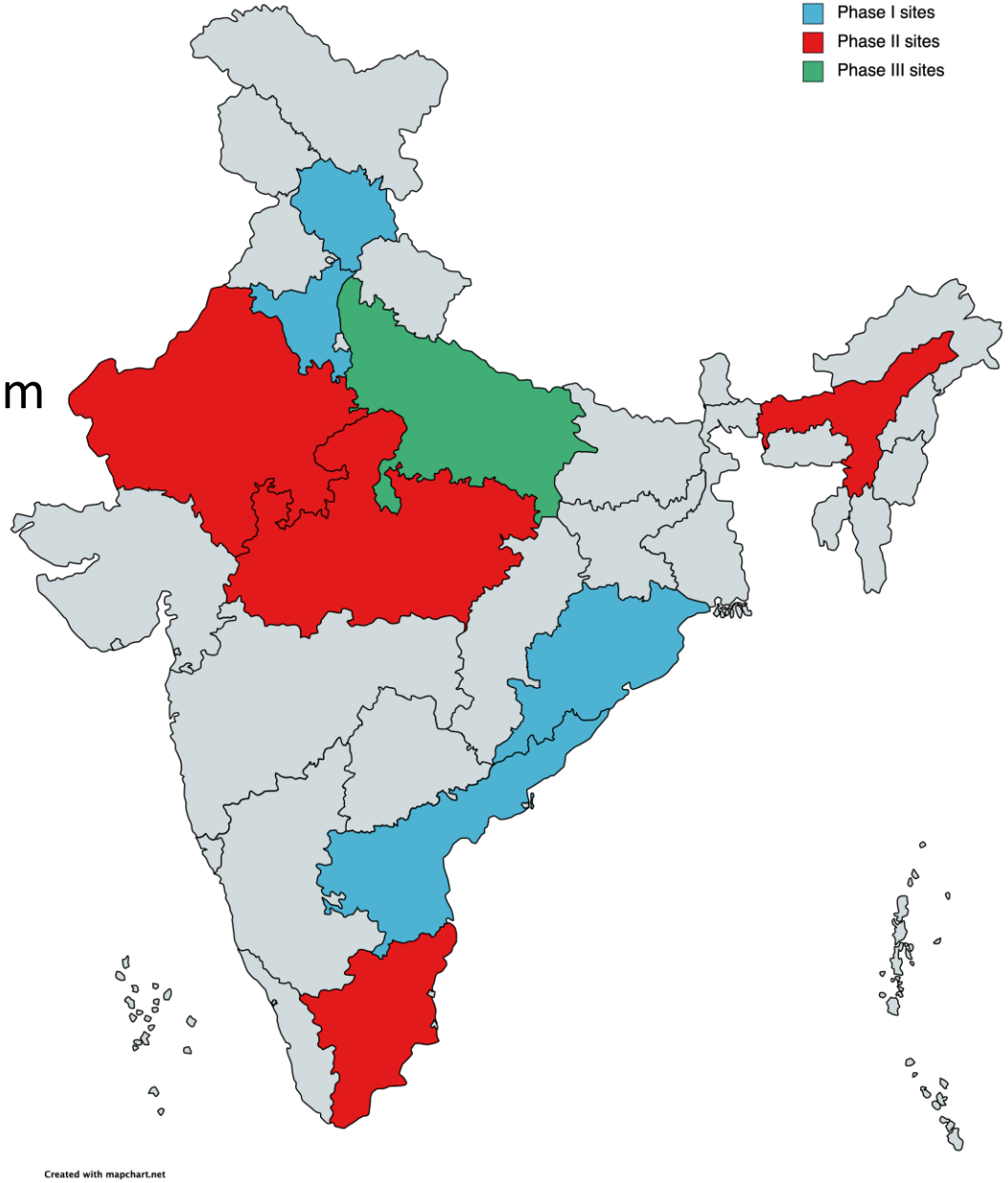
- India introduced the vaccine in phased manner

  phase 1 (9% of birth cohort, 2016)

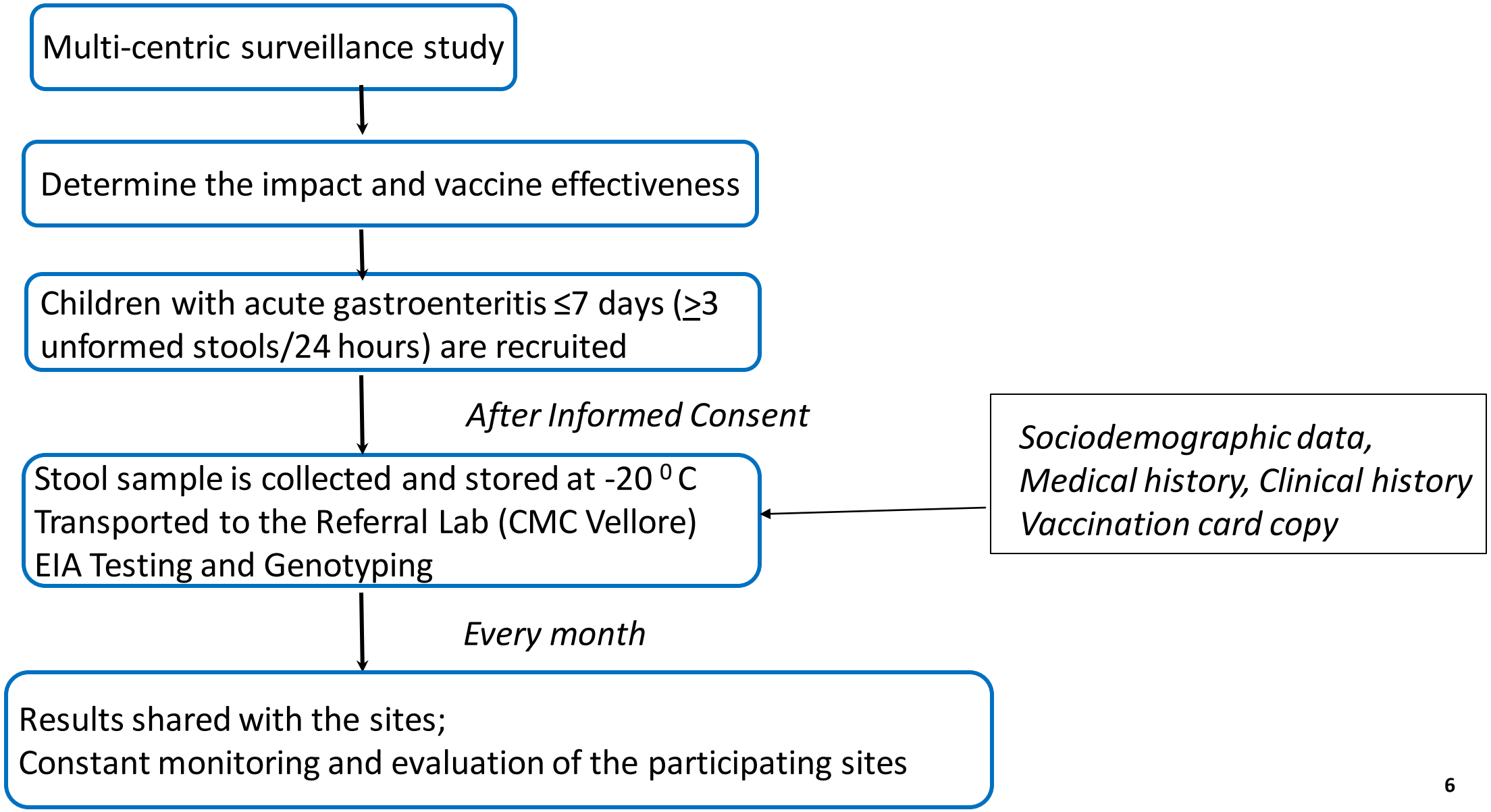
  phase 2 (18% of birth cohort, 2017)

  phase 3 (22% of birth cohort, 2018)

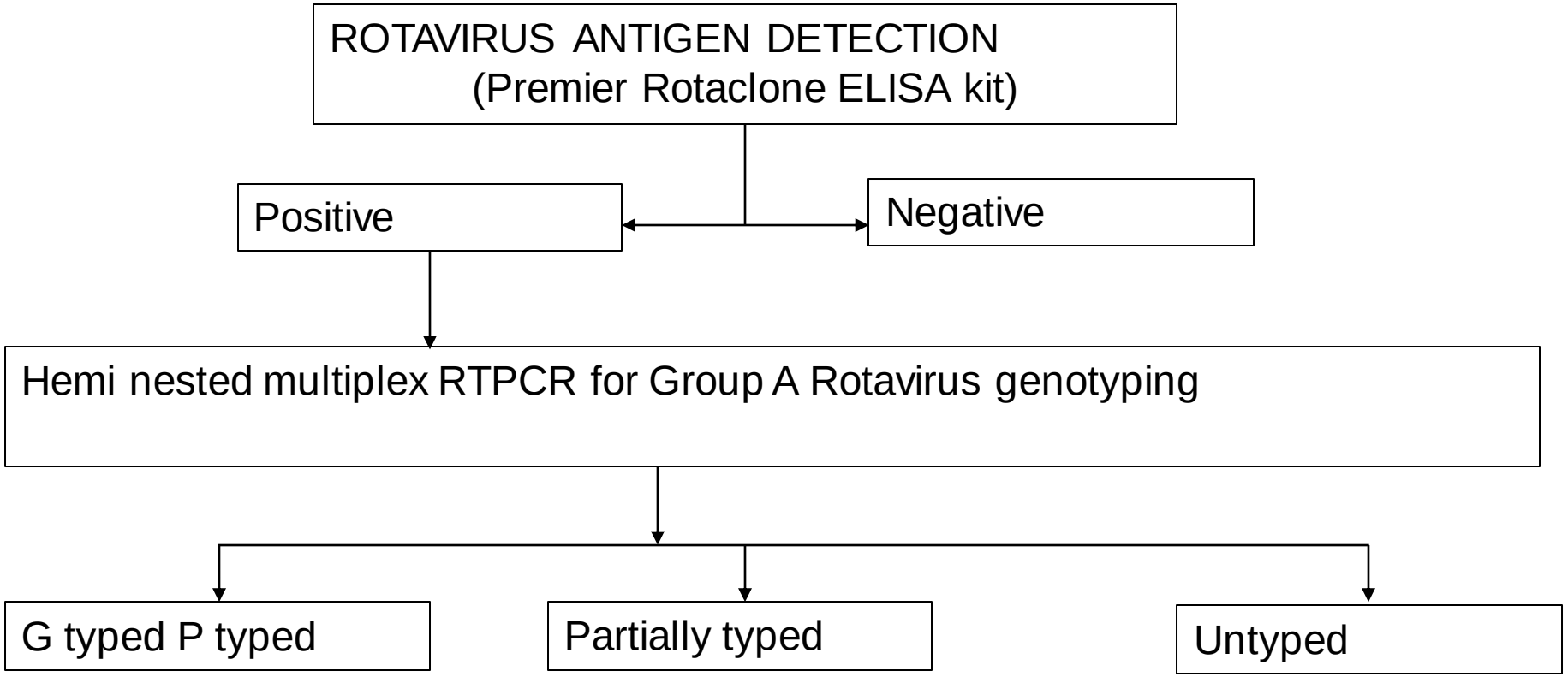
- In 2019 Rotasiil introduced
- 2020 onwards, the whole Indian birth cohort is covered



Methods: Study design



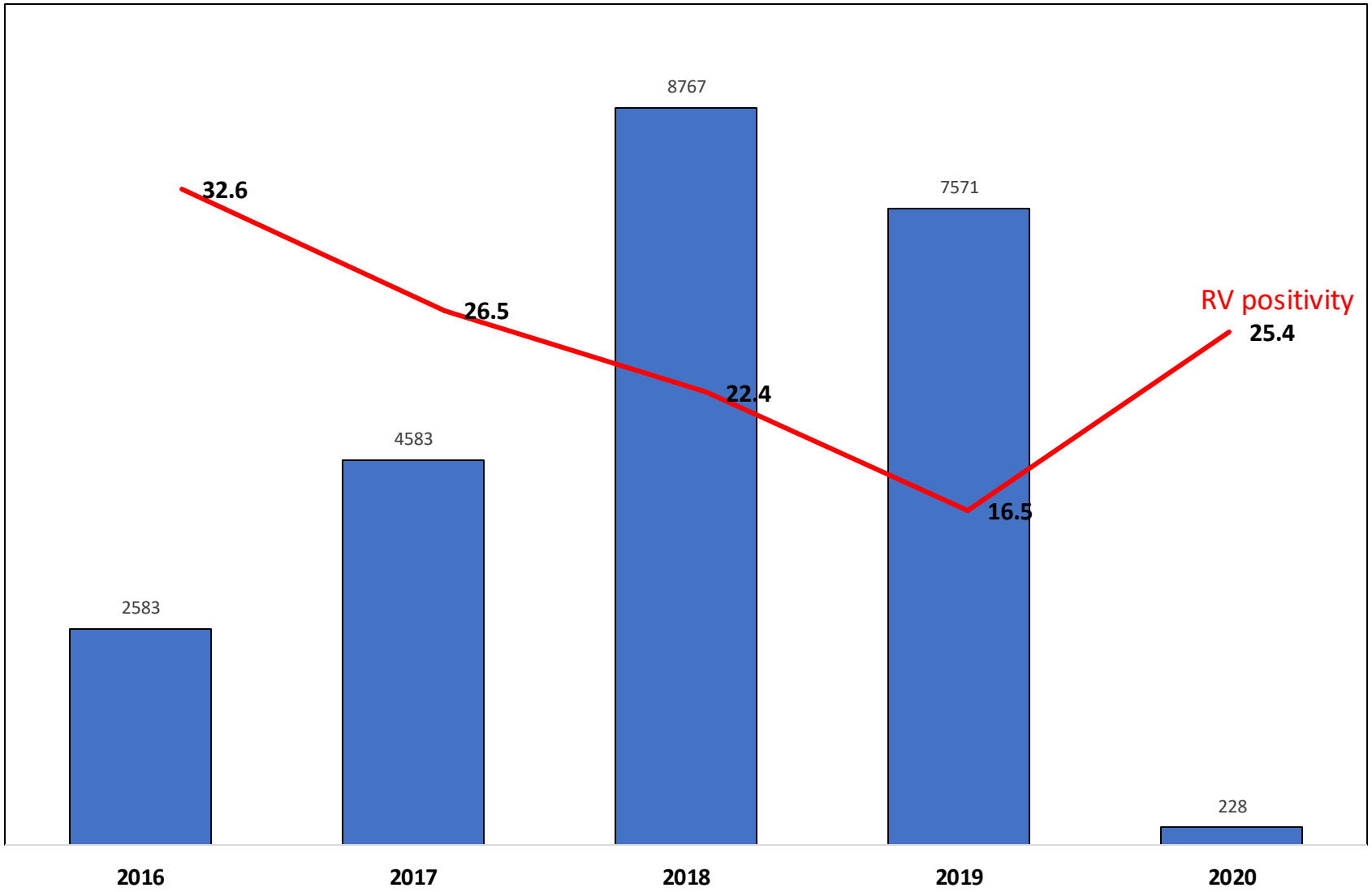
LABORATORY TESTING



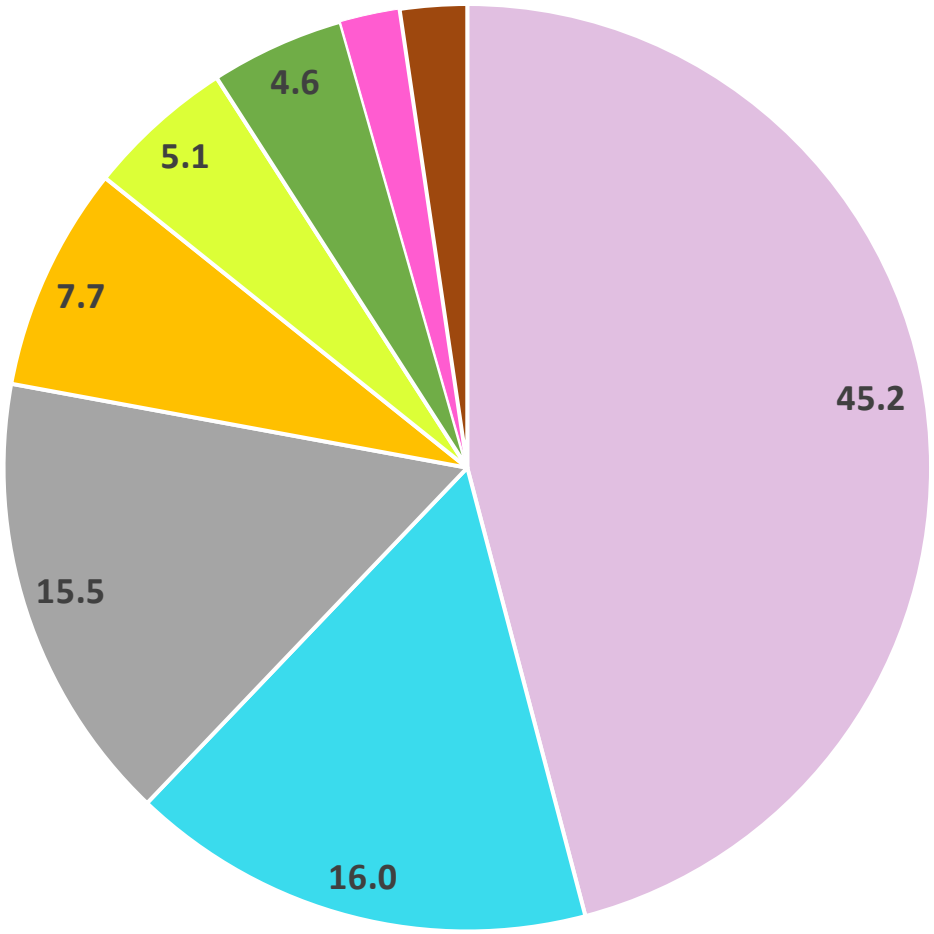
RESULTS

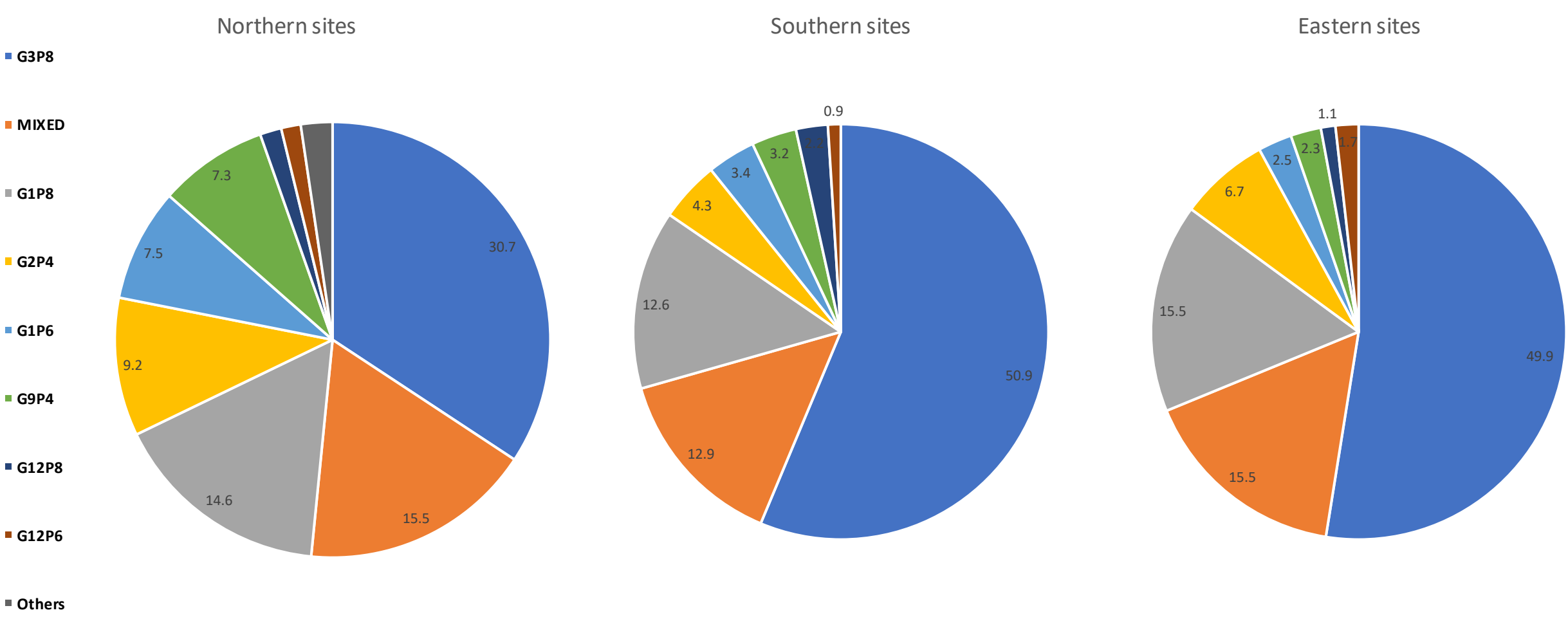

Number of admitted children (N=24,624)
Number of enrolled children (N= 23,732) 96.4%
Number of stool samples tested by EIA (N=22,018) 92.8%
Number of samples positive by EIA (N=5255) 23.9%
Number of samples genotyped (N=5225) 99.4%

AGE case enrolment and Rotavirus positivity [2016-2020]



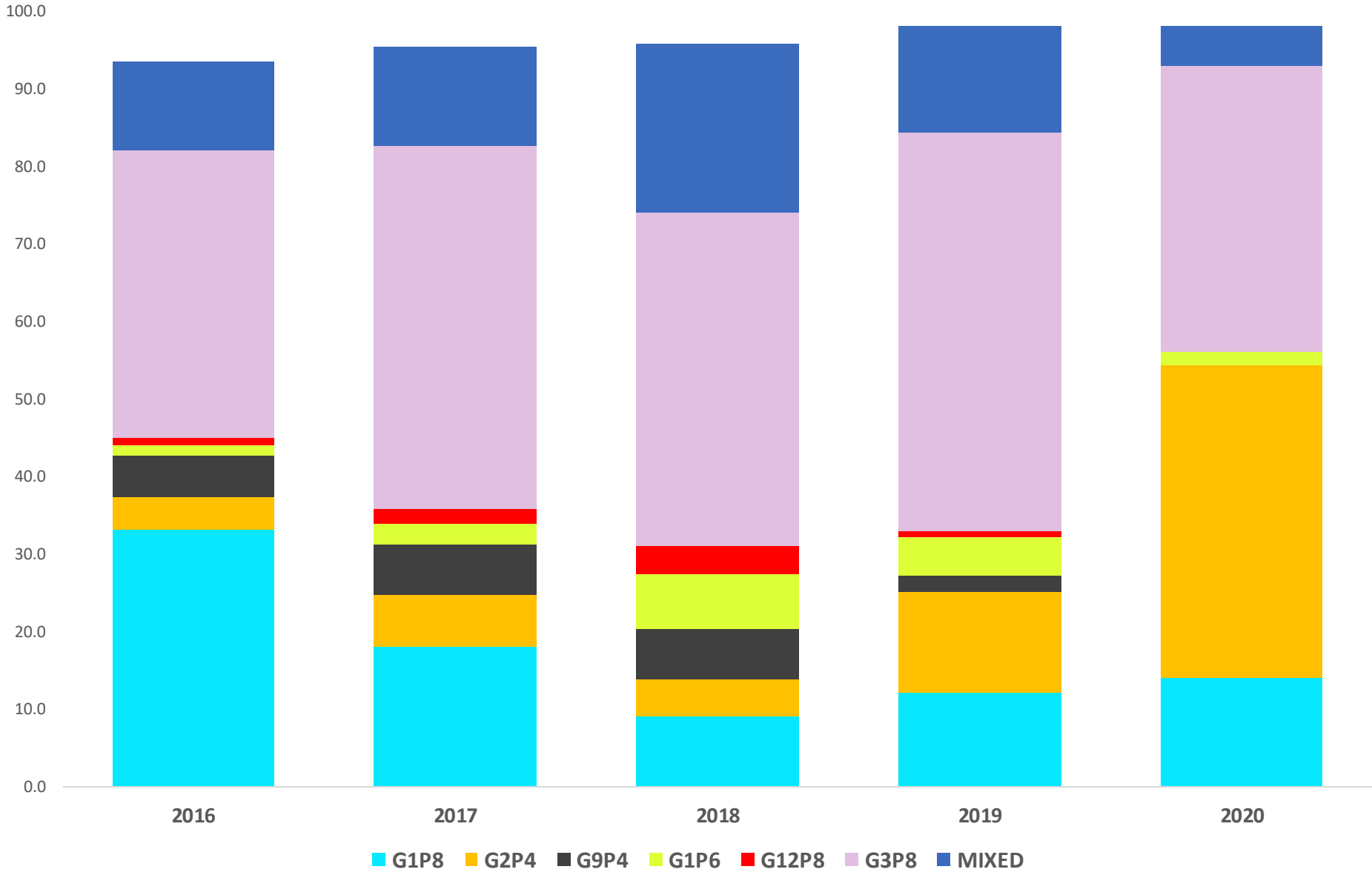
GENOTYPE DISTRIBUTION IN INDIA AFTER THE INTRODUCTION OF ROTAVAC VACCINE

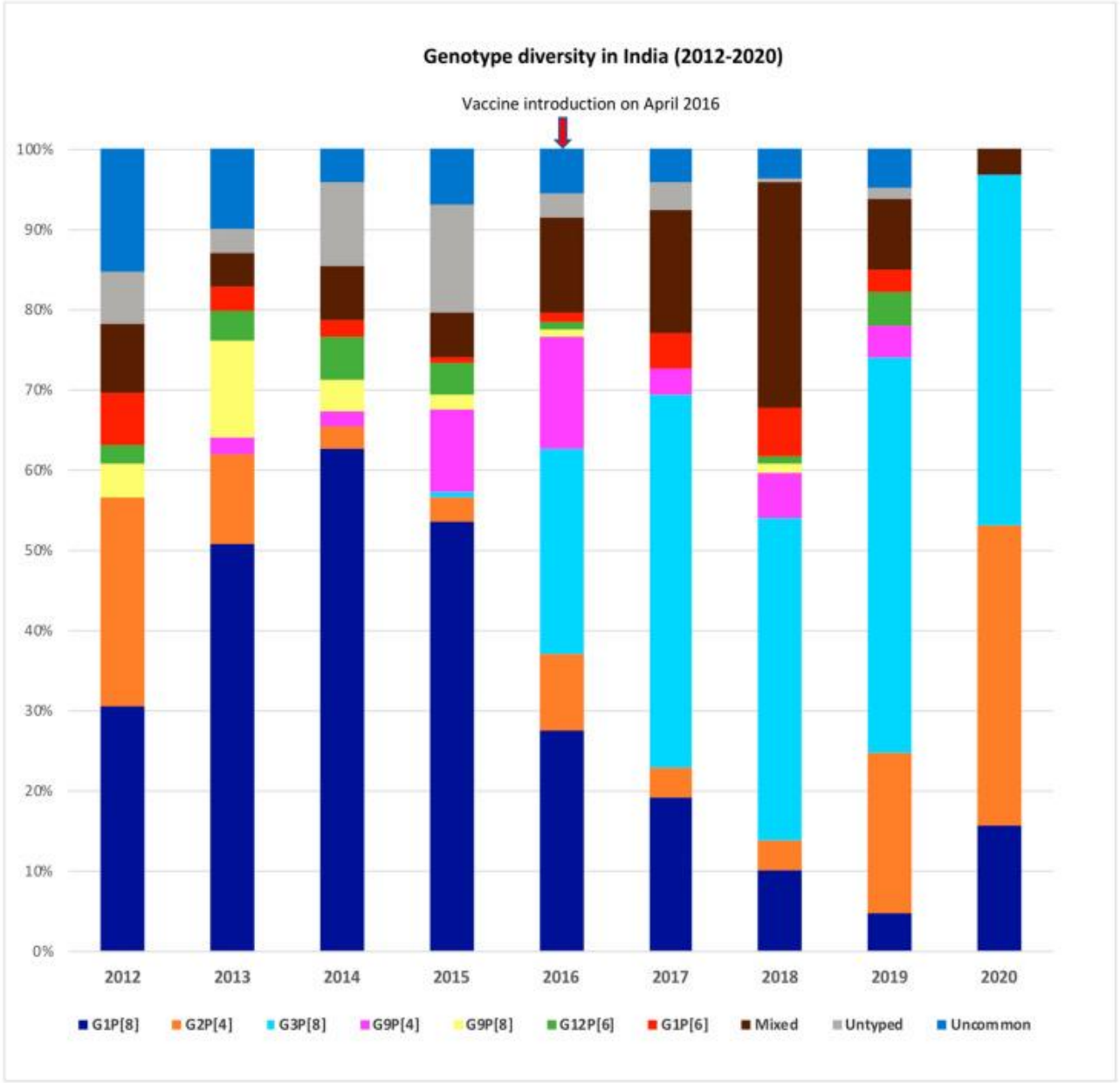




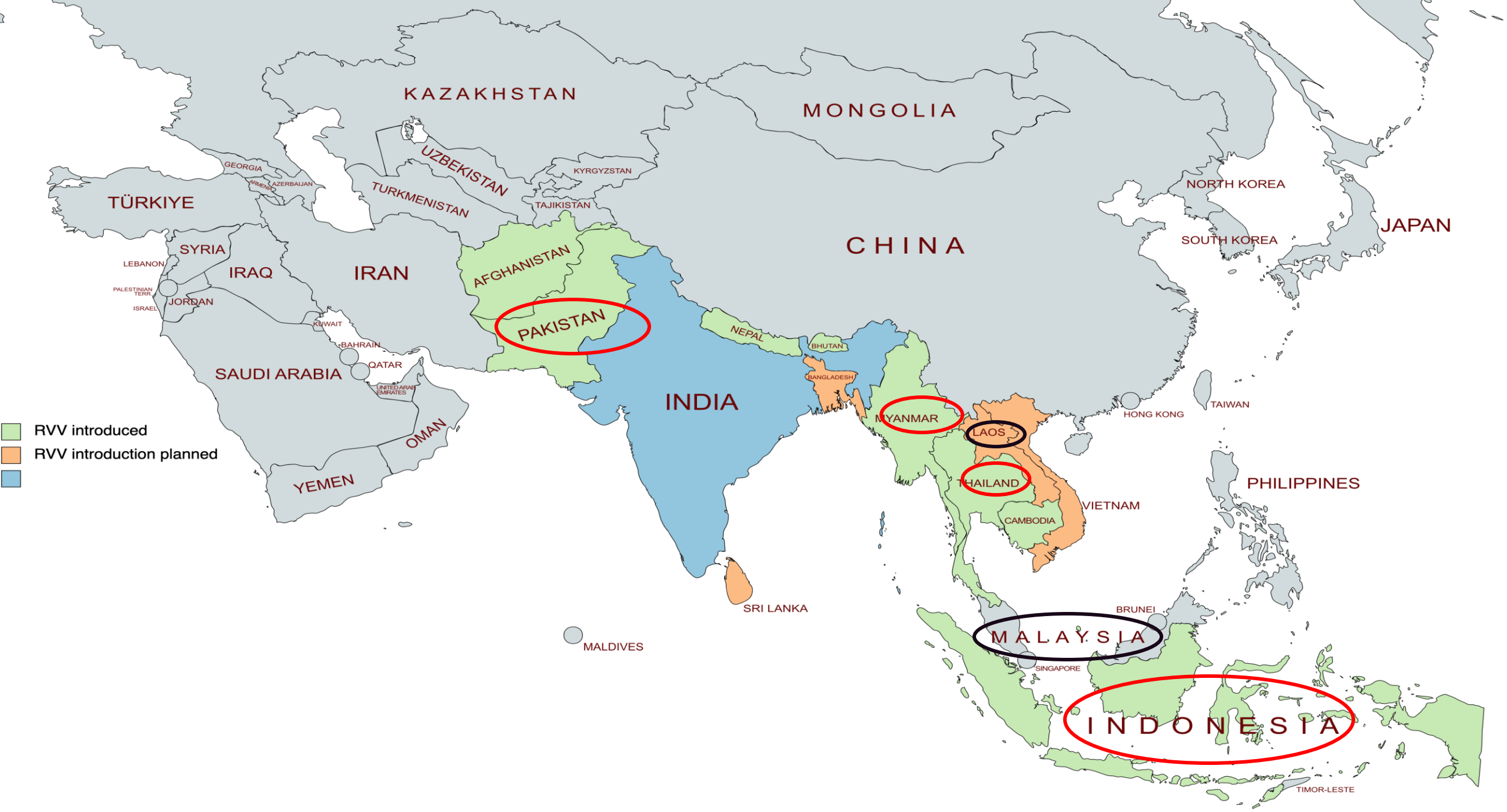
GENOTYPE DISTRIBUTION ACROSS THE VARIOUS SITES IN INDIA

GENOTYPE DISTRIBUTION IN INDIA FROM 2016 - 2020





Rotavirus Strain Distribution before and after Introducing Rotavirus Vaccine in India.
Varghese *et al*, 2021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SRI LANKA
MALDIVES
RVV introduced
RVV introduction planned

Summary

- The rotavirus positivity has steadily declined since introduction of rotavirus vaccines from 32.6% in 2016 to 16.5% in 2020
- The rise in G3P[8] and decline in G1P[8] resemble patterns in neighboring countries, with and without rotavirus vaccines
- No increase in rare strains was seen in the post-vaccination period
- Continuous long-term surveillance and phylogenetic analysis will be essential to understand the diversity and immuno-epidemiological effects of rotavirus vaccination

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