

Rota virus
hospitalizations among
children aged <5 years,
2017-21:
findings from the
Global Rota virus
Surveillance Network

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On behalf of the Global Rota virus Surveillance Network

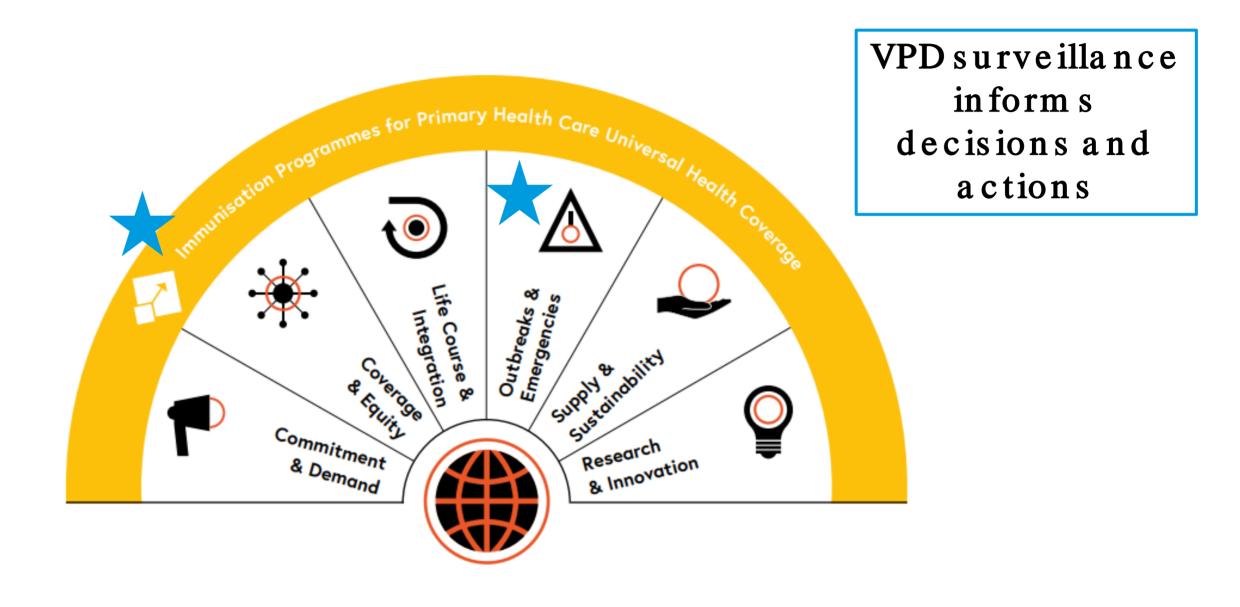
International Rota virus Symposium

14 March 2023





Vaccine-preventable disease (VPD) surveillance is anchored in the Immunization Agenda 2030





People Centred



Country Owned



Partnership Based



Data Guided

Immunization Agenda 2030 (who.int)

## WHO's role in vaccine-preventable disease (VPD) surveillance

- To generate and monitor VPD trends globally
- To lead, coordinate, and advocate for surveillance activities with countries and partners
- To set global norms and standards for surveillance including quality assurance and control systems
  - WHO VPD surveillance standards
  - WHO laboratory manuals
- To support countries with technical assistance and evidence-based policy decisions
- To build on surveillance platforms and inform immunization program monitoring and policy

### COVID-19 impact on surveillance

- Surveillance officers, laboratorians, and health care workers deployed for COVID-19 response
  - Decreased human resources available for ongoing VPD surveillance activities
- Disruptions in health service delivery & changes in health-seeking behavior
- Challenges with specimen transport, procuring/shipping reagents & testing supplies
- Difficulty in interpreting VPD surveillance data during pandemic
  - Hard to disentangle COVID-19 impact vs impact of interventions, such as vaccination
  - True decreases in transmission of many diseases during acute pandemic phase & lock-downs

Global Rota virus Surveillance Network (GRSN)





### Over a decade of rota virus surveillance

Pre-2010 Country and regional rota virus surveillance (not standardized)

2010 WHO-coordinated Global Rota virus Surveillance

Network (GRSN) established: aggregate and unlinked

but standardized

2013 Strategic review of GRSN and SAGE endorsement:

Transition to case-based, laboratory-linked data

2014-today GRSN continue in all 6 WHO Regions

### GRSN surveillance objectives

- In countries that have not yet introduced rota virus vaccine generate data to advocate for vaccine introduction
- In countries that have introduced rota virus vaccine -
  - Evaluate vaccine effectiveness & impact
  - Monitor changes in vaccine product or schedule
- •Globally monitor rota virus burden & circulating rota virus genotypes

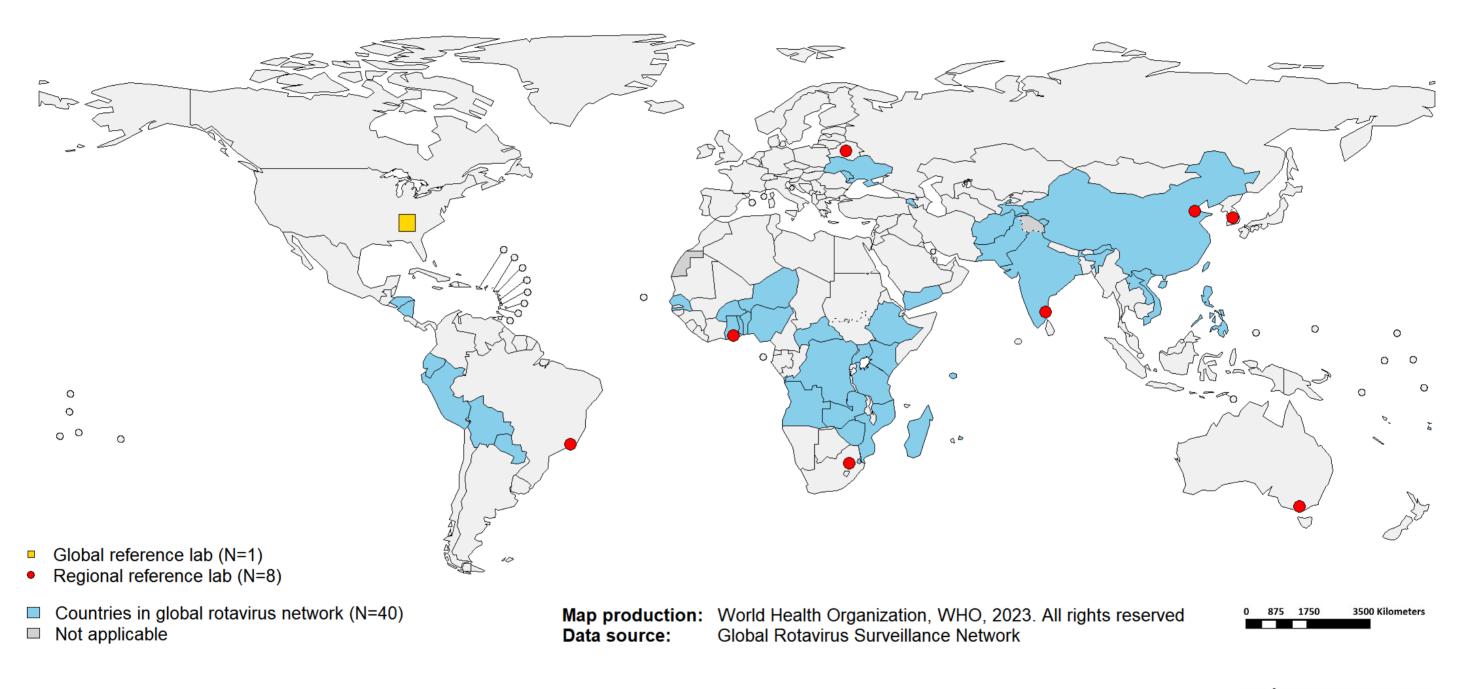
### Rota virus surveillance in GRSN

- Active vs. passive
- Sentinel site vs. national
- Case-based vs. aggregated
- Laboratory-confirmed vs. syndrom ic
- Hospitalized (severe) vs. outpatient or community (mild)

### GRSN surveillance methods

- Active sentinel site surveillance of children <5 years hospitalized for diarrhea
- Acute (<14 days) watery diarrhea
- ≥3 loose or watery stools in a 24-hour period
- Stool specimens collected within 48 hours of admission
- Lab confirm a tion of rota virus
  - Enzyme-linked immunosorbent assay (EUSA) immunoassay or PCR

# Countries reporting data to the Global Rota virus Surveillance Network, 2021



#### Disclaimer:

The boundaries and names shown and the designations used on this map do notimply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

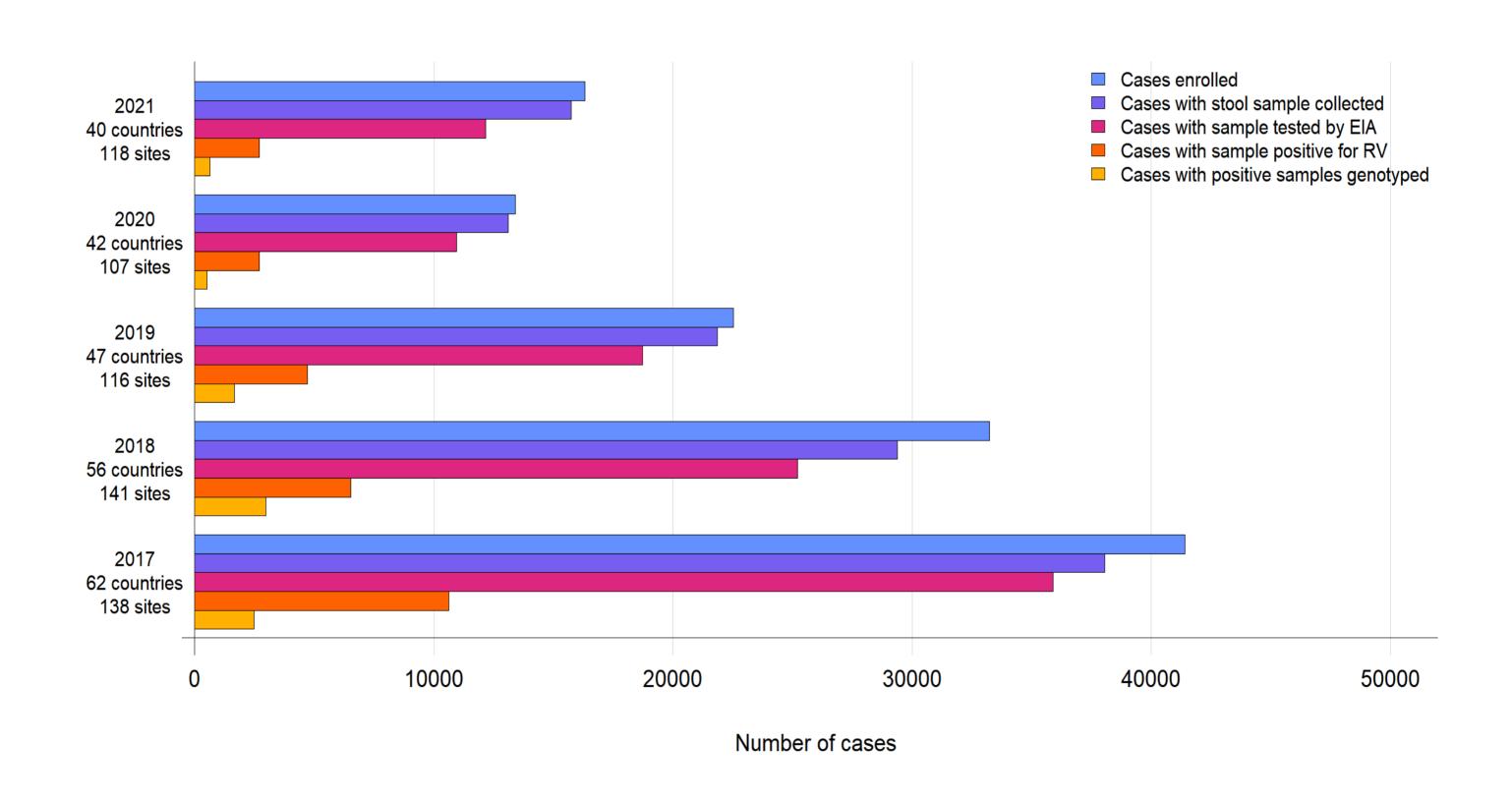


## **GRSN** surveillance

performance







Overall, during this time period...

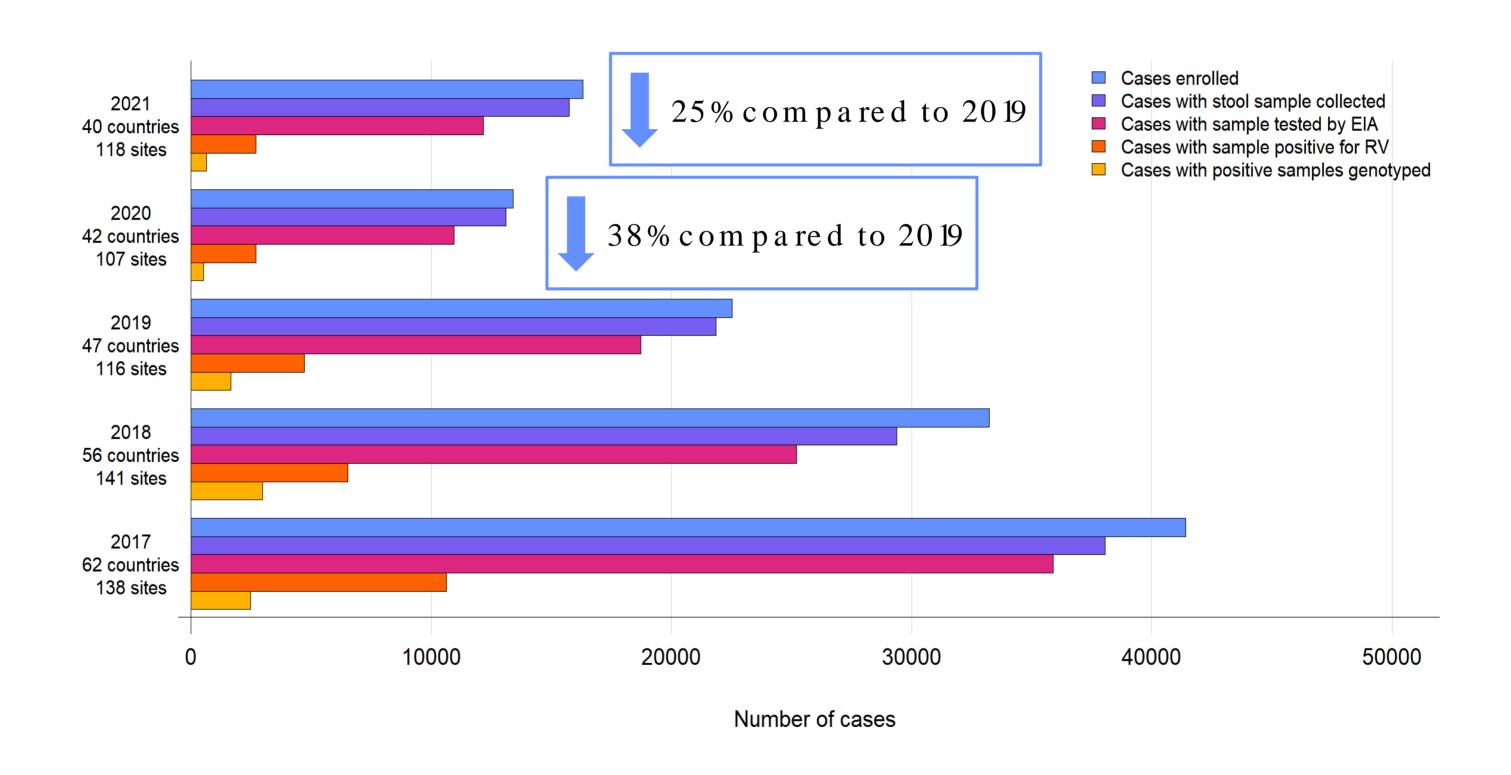
93%

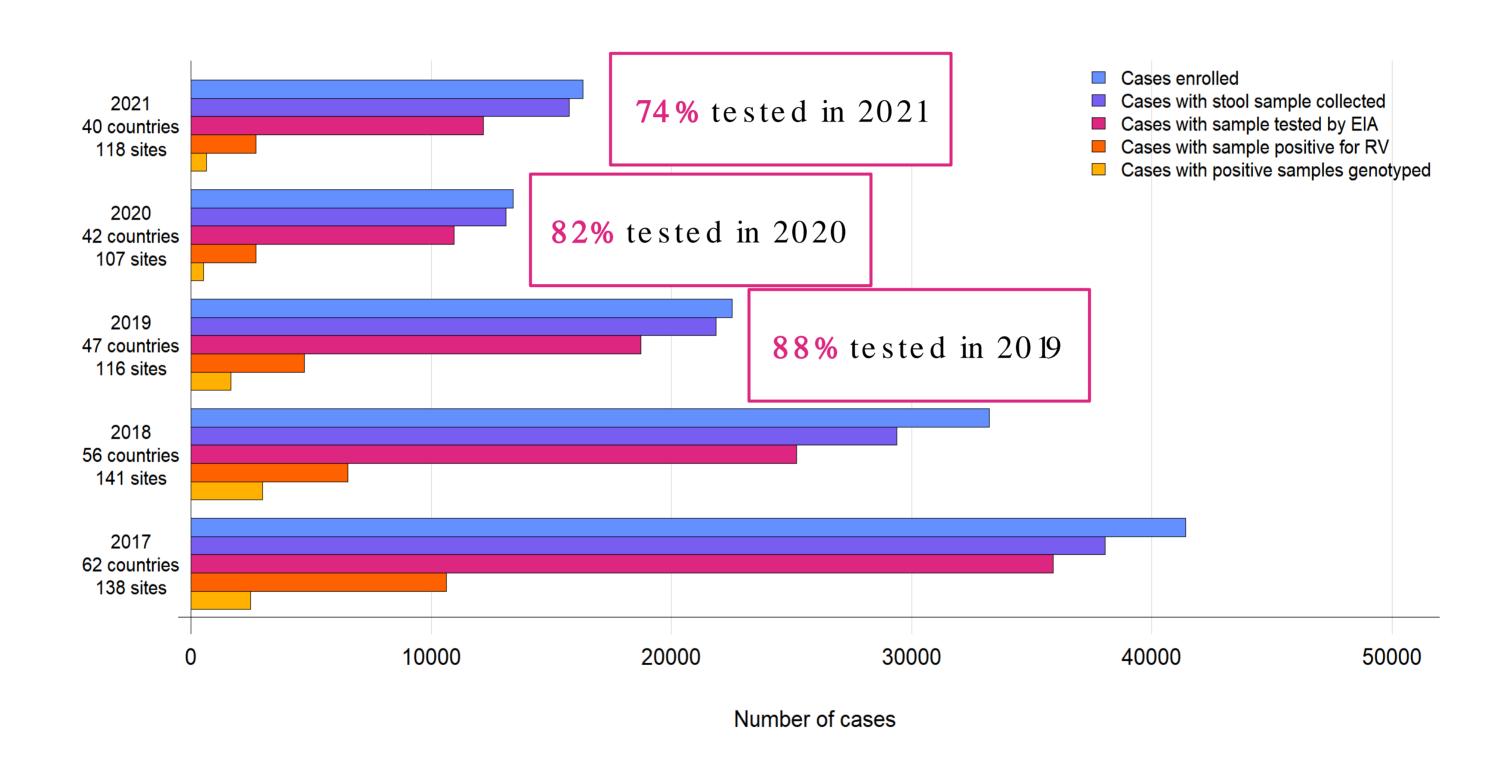
of enrolled children had stool samples collected

85%

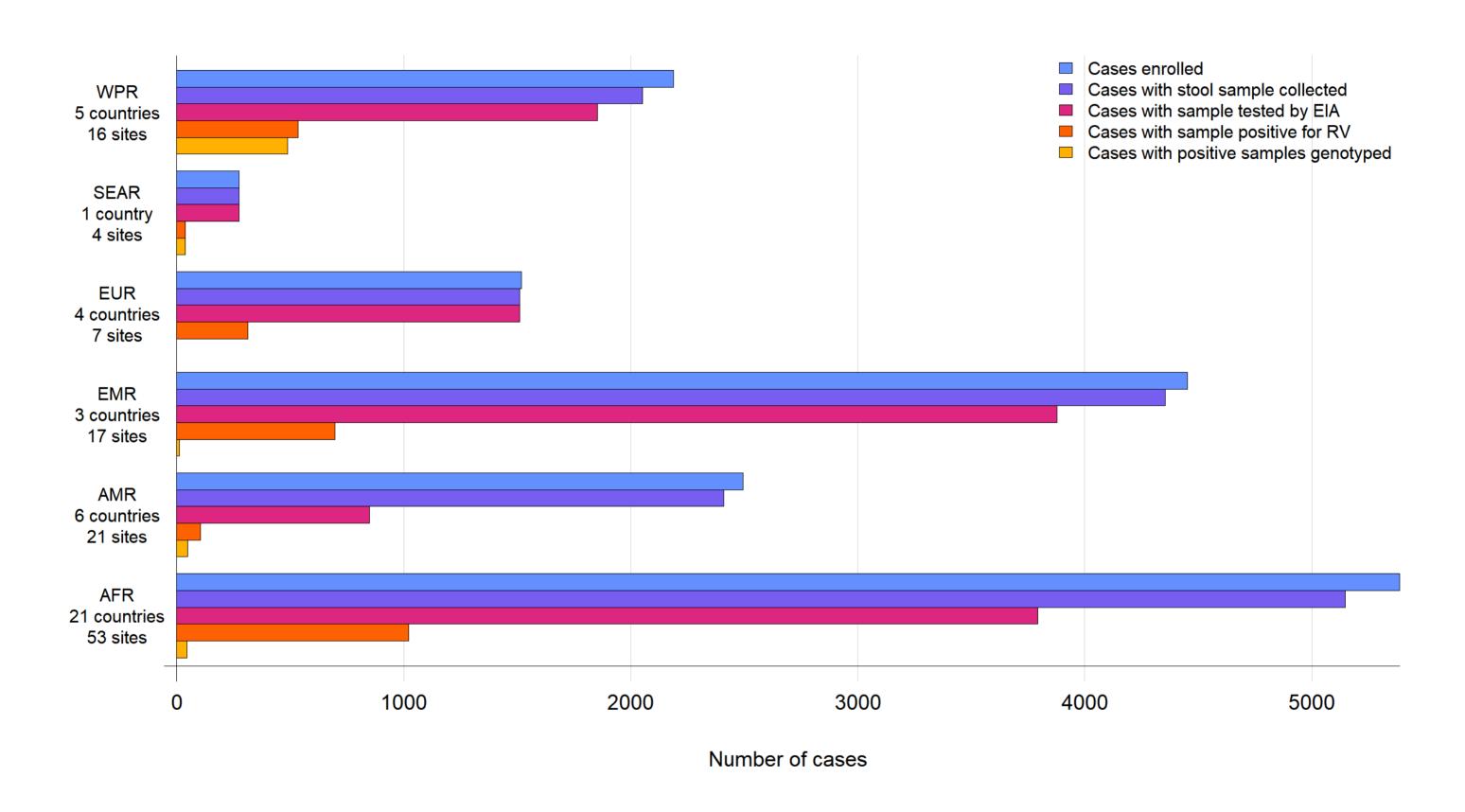
of stool samples were tested by ELISA for rota virus 26%

of the tested cases were positive for rota virus





### Regional GRSN surveillance performance, 2021

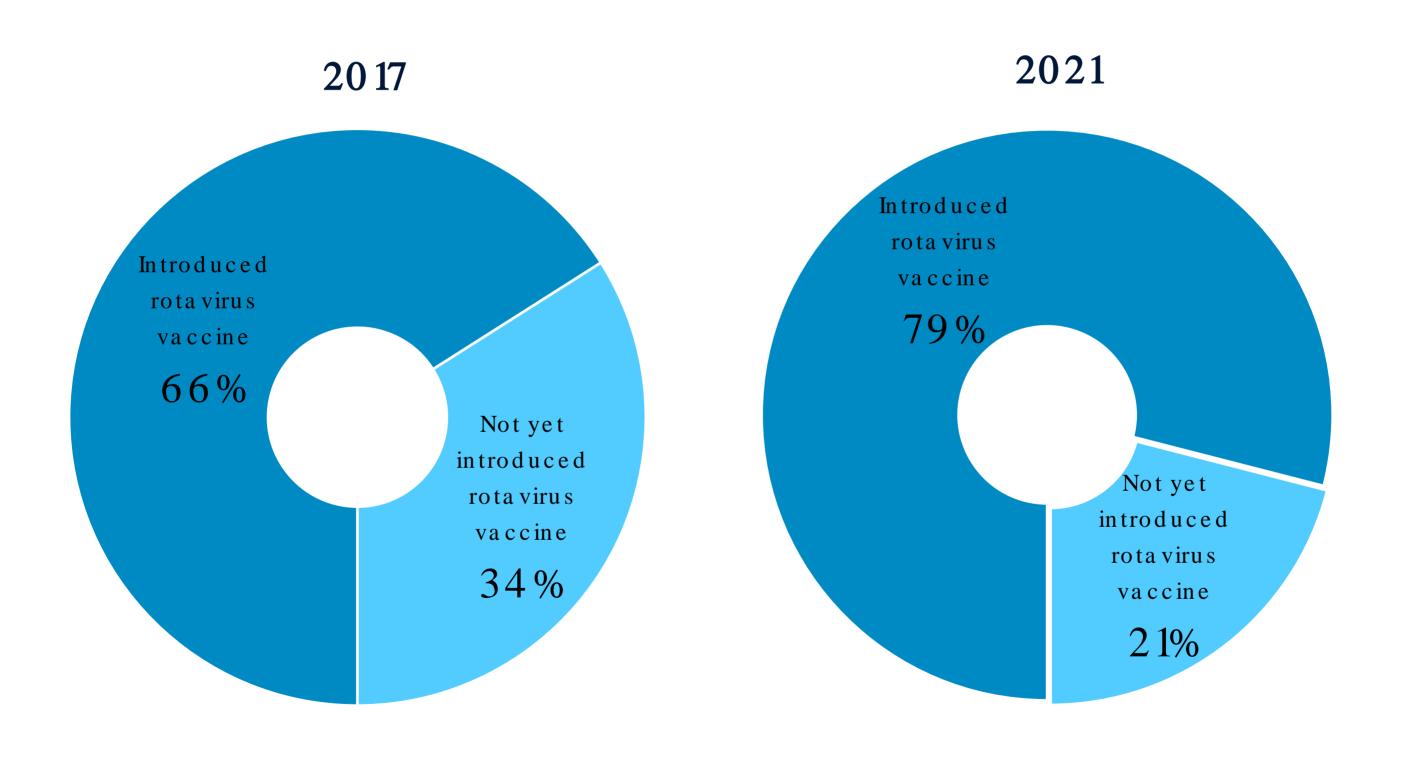


## GRSN rota virus positivity

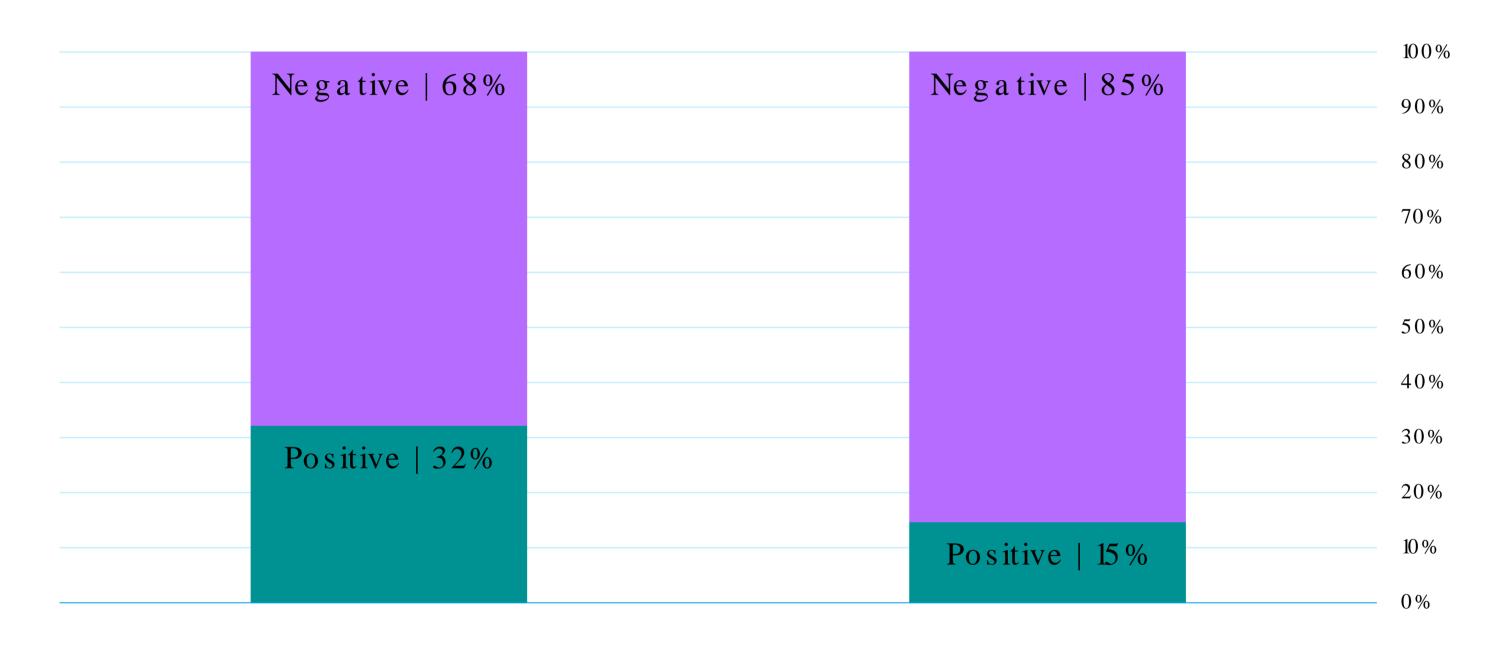




# Proportion of participating countries with rota virus vaccine increased



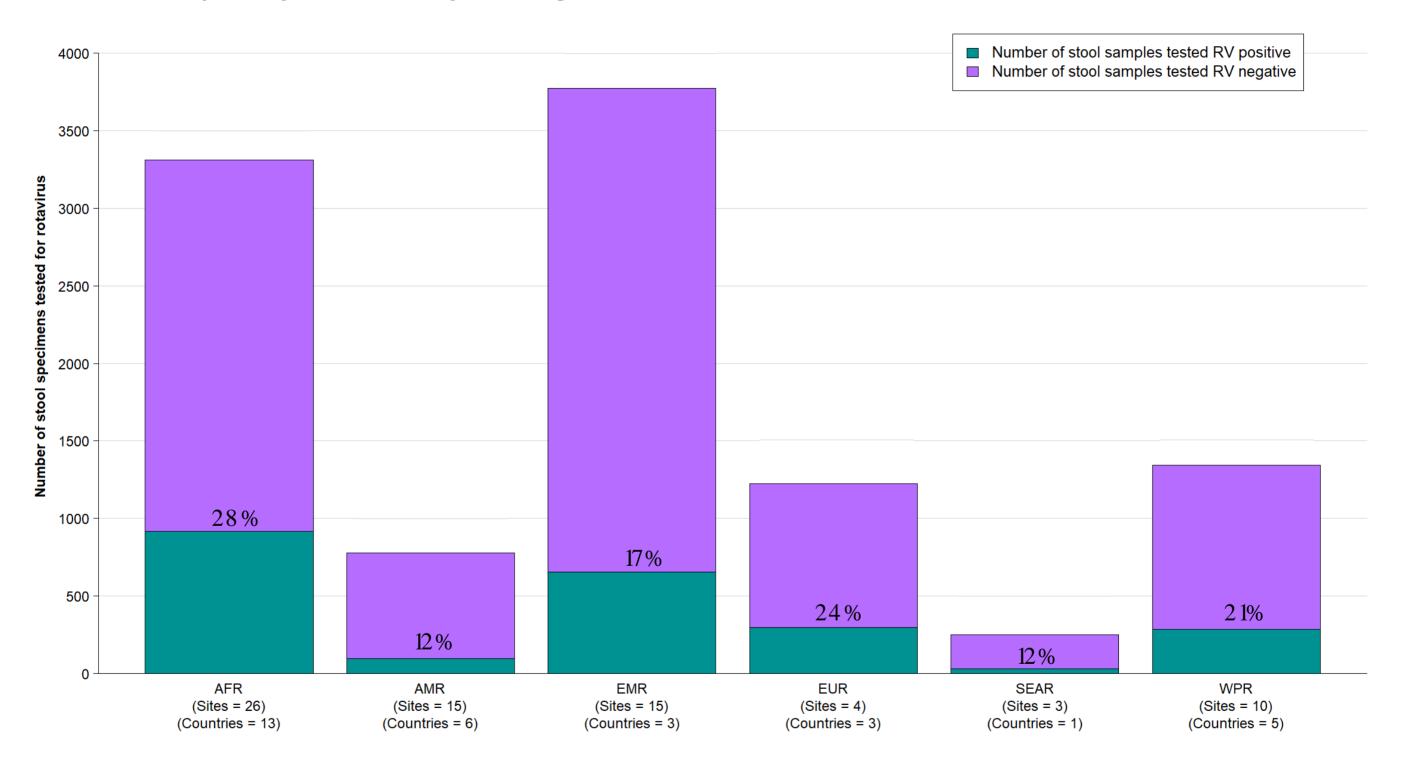
## Rota virus positivity was significantly lower in countries with rota virus vaccine



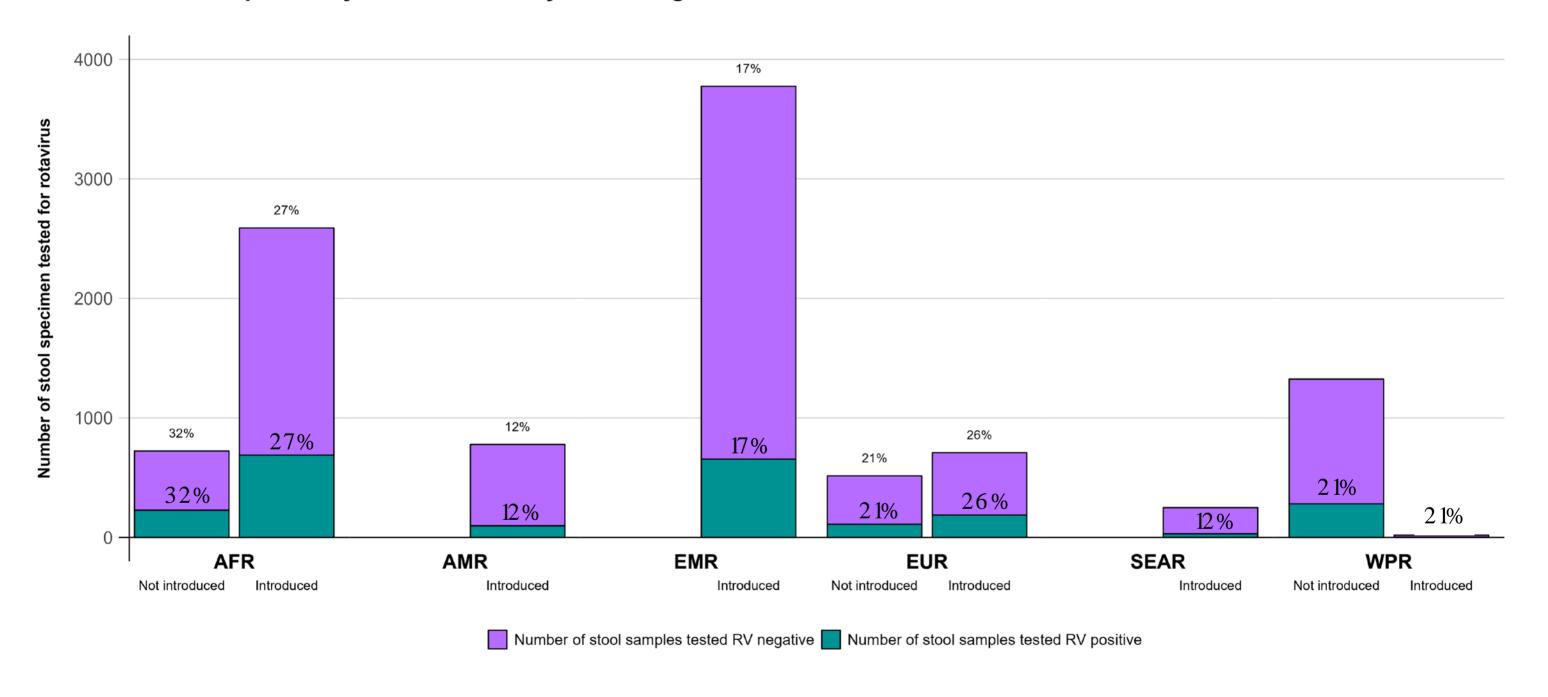
Not yet introduced rota virus vaccine

Introduced rota virus vaccine

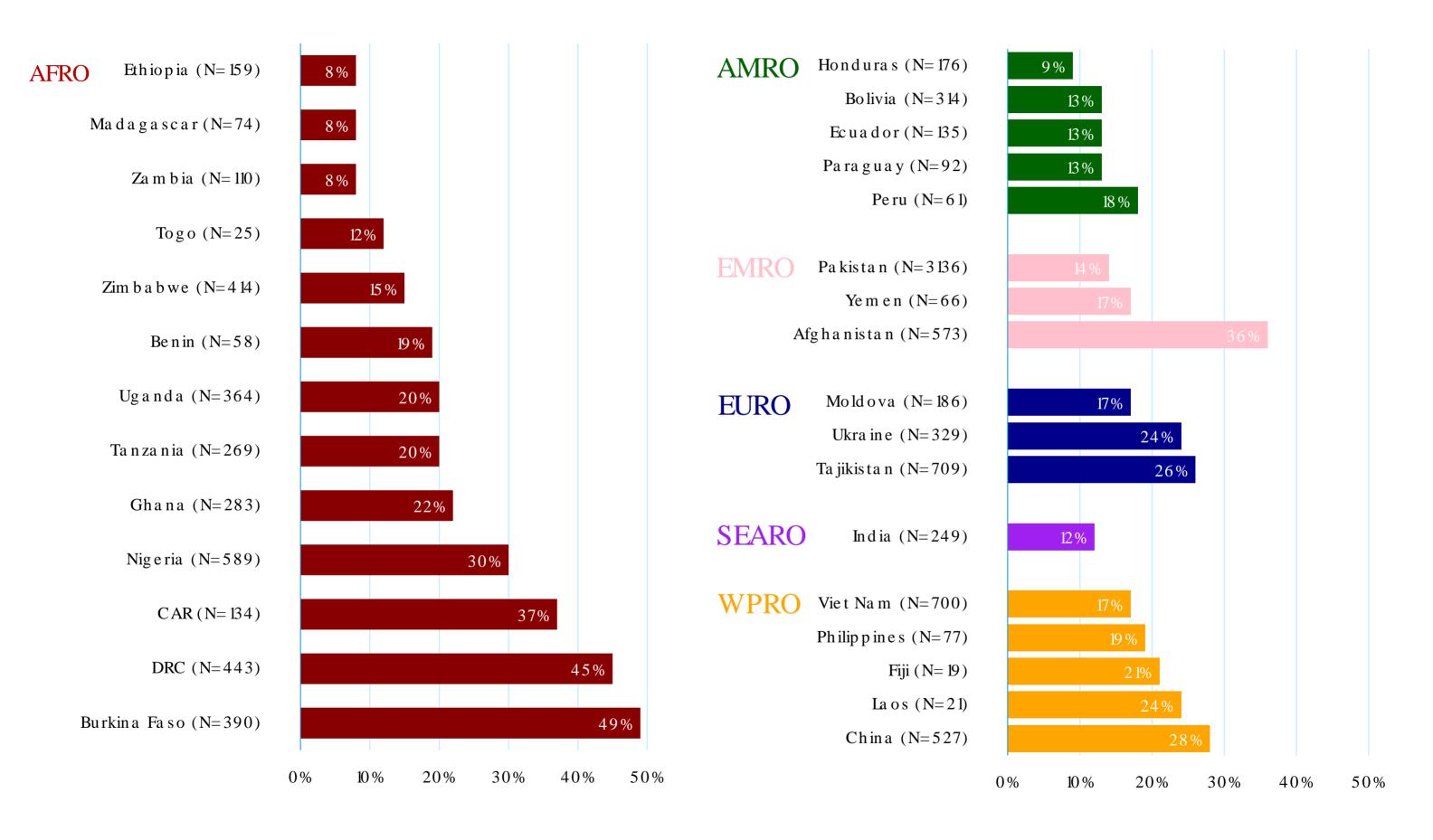
#### Rotavirus positivity rate in GRSN by WHO Region, 2021



#### Rotavirus positivity rate in GRSN by WHO Region and rotavirus vaccine introduction status, 2021



### Rota virus positivity by country, 2021



#### In conclusion...

#### Challenges

- Continuing to recover from COVID-19 impact
- Incomplete genotype data from recent years

#### Sum mary

- GRSN remains a critical global platform for rota virus surveillance
- GRSN contributes to the evidence base to introduce and evaluate impact of rota virus vaccines
- Rota virus surveillance builds surveillance & laboratory capacity
- Long history of sharing surveillance information and collaboration across all WHO regions

#### Teasers

- GRSN has also been leveraged via Global Pediatric Diarrhea
   Surveillance to identify broader set of pathogens causing childhood diarrhea
  - Next presentation!
- Continue to use GRSN data to evaluate & inform rota virus vaccine policy
  - Rota virus a ge distribution:Poster 5 !!

### Acknowledgements

- All collaborators in the Global Rota virus Surveillance Network
- Participating Ministries of Health & sentinelhospitals
- WHO HQ, regional office, and country office colleagues
- Global, regional and national reference laboratories
- Financial support from the Bill & Melinda Gates Foundation, the U.S. Centers for Disease Control and Prevention, and Gavi



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If you would like to learn more about or collaborate with GRSN, or know of countries conducting rota virus surveillance that are not part of GRSN but may be interested to join, please let us know!