Understanding and Clearing Immunisation Backlogs in the Wake of the COVID-19 Pandemic

Prepared by: EPI Team
Location: Vietnam

Sri Lanka, 6–7/12/2022
General Information

- Population: 99.2 millions
- Size of 2021 Birth Cohort: 1,501,510
- Fertility Rate, total (births per woman): 2.09
- Distribution of population (% rural/urban): 66%/34%
- GDP average annual growth rate: 2.6% (2021)
- Number of Counties/Provinces/Districts with Populations: 4 regions/63 provinces/702 districts
- Number of Public Facilities/Private Facilities: ~11,000/~2,000
- Year of transition from Gavi support: 2018
- Number of antigens on the national vaccination schedule: 10
EPI System

MoH (GDPM) -> National EPI (NIHE) ->
Northern EPI (NIHE) ->
28 Provincial EPI (PMC) ->
332 districts EPI units ->
6407 CHC Immunization Posts

Central EPI (Pasteur Institute Nha Trang) ->
11 Provincial EPI (PMC) ->
111 districts EPI units ->
1536 CHC Immunization Posts

Highland EPI (TIHE) ->
4 Provincial EPI (PMC) ->
49 districts EPI units ->
586 CHC Immunization Posts

Southern EPI (Pasteur Institute HCMC) ->
20 Provincial EPI (PMC) ->
210 districts EPI units ->
2642 CHC Immunization Posts

6407 CHC Immunization Posts

1536 CHC Immunization Posts

586 CHC Immunization Posts

2642 CHC Immunization Posts
Vaccine introduction into National EPI

1985: 6 traditional vaccines (BCG, OPV, DPT, measles)

1997: HepB, JE, Cholera and Typhoid

2007: MCV2

2007: DPT-HepB-Hib

2010: MR

2010: IPV1

2014: IPV1

2019: Td

2018: IPV1

2018: MR

2018: IPV1

2014: IPV1

2010: DPT-HepB-Hib

2007: MCV2

1997: HepB, JE, Cholera and Typhoid

1985: 6 traditional vaccines (BCG, OPV, DPT, measles)
EPI vaccine schedule

At birth
- HepB

Within 1 month
- BCG

2 months
- DPT–HepB–Hib 1
- bOPV 1

3 months
- DPT–HepB–Hib 2
- bOPV 2

4 months
- DPT–HepB–Hib 3
- bOPV 3

5 months
- IPV 1

9 months
- IPV 2
- Measles

12 months
- JE

18 months
- DPT
- Measles & Rubella

7 yrs
- Td
Main achievements in EPI

1. Millions of children and women are free vaccinated every year.

2. The fully immunized child (FIC) coverage for children aged under 1 yo has been over 90% for many years.


5. Control of measles, rubella, diphtheria and pertussis.
Status of Routine Immunisation Coverage
Status of Coverage

- Coverage rates for DPT1 & DPT3 (Penta vaccine) from 2018 to Oct 2022

Sources: Annual reports of National EPI
## COVID-19 Pandemic in Vietnam

<table>
<thead>
<tr>
<th>Period</th>
<th>Cases</th>
<th>Deaths</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) 23/1/2020 – 24/7/2020</td>
<td>415 cases (internal: 106, imported: 309)</td>
<td>0</td>
<td>Identifying cases, tracing, isolation, social distancing by area</td>
</tr>
<tr>
<td>(2) 25/7/2020 – 27/1/2021</td>
<td>1,136 cases (internal: 554, imported: 582)</td>
<td>35</td>
<td>Identifying cases, tracing, isolation, social distancing by area</td>
</tr>
<tr>
<td>(3) 28/1–26/4/2021</td>
<td>1,031 cases (internal: 901, imported: 391)</td>
<td>0</td>
<td>Identifying cases, tracing, zoning, medical isolation at home, social distancing by area</td>
</tr>
<tr>
<td>(4) 27/4/2021–present</td>
<td>Over 11.5m cases (internal: 11.5m, imported: 4,000)</td>
<td>43,000</td>
<td>Outbreak and spread throughout the country, Medical isolation at home, social distancing by area, COVID-19 vaccine rolling out</td>
</tr>
</tbody>
</table>
**COVID-19 vaccine implementation campaign (as of 4/12/2022)**

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Target population</th>
<th>Primary series</th>
<th>1st booster dose</th>
<th>2nd booster dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult (18+)</td>
<td>64,673,733</td>
<td>~100%</td>
<td>79.8%</td>
<td>87.8%*</td>
</tr>
<tr>
<td>Adolescent (12-17 yrs)</td>
<td>8,484,490</td>
<td>~100%</td>
<td>67.8%</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Children (5-11 yrs)</td>
<td>11,045,860</td>
<td>- Dose 1: 91.9%  - Dose 2: 69.1% (on going)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

* Only for high-risk groups with a total of about 20 millions.
Overview of Coverage

- Routine immunisation coverage was impacted during the pandemic:
  - People could not go out due to social distancing
  - People did not want to bring their children to immunization posts to receive vaccines as they worried that they may get COVID-19 infection
  - Health workers focused on the control of COVID-19 pandemic
  - Vaccine procurement procedure took more long time
Overview of Coverage

❖ How was the coverage monitored at both the national and sub-national levels?

➢ We have developed an electronic database for EPI since 2017. All immunization facilities are provided an account to import information when they implement vaccination and make monthly reports.

➢ There is a person who is responsible for immunization data and statistics at each level.

➢ Routine vaccination coverage is collected, aggregated and analyzed every month.
Disruption & Mitigation Strategies
Understanding Disruptions

**2020**
- Scale: Few provinces
- No. of cases: Few (thousands)
- Social distancing: small scale & short time
- Covid vaccine: Not yet
- Routine immunization: Almost normal

**2021**
- Scale: nationwide
- No. of cases: Many (millions)
- Social distancing: Large scale & long time
- Covid vaccine: Yes but limited
- Routine immunization: disruptions in few months

**2022**
- Scale: nationwide
- No. of cases: Many (millions)
- Social distancing: No
- Covid vaccine: Yes with high coverage
- Routine immunization: No but lack of vaccines
Disproportionate Impact of Disruptions

- Were certain populations disproportionately impacted by these disruptions? If so, who were they, and why were they disproportionately impacted?

  - Urban vs. Rural Populations: COVID-19 pandemic mainly happened in urban areas, therefore children in these areas were likely to be impacted than rural areas.

  - Across income strata: We don’t have full evidence; however high income group may have less impact as they can bring their children to receive vaccines in private sector.
## Mitigating Disruptions

- What was done to mitigate disruptions to RI coverage during pandemic peaks? What worked, what didn’t, and why?

<table>
<thead>
<tr>
<th>What was done</th>
<th>What worked</th>
<th>What didn’t</th>
<th>Why</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines on organizing</td>
<td>Yes</td>
<td></td>
<td>o Sustained routine immunization at hospitals for births</td>
</tr>
<tr>
<td>immunization sessions</td>
<td></td>
<td></td>
<td>o Prevented COVID-19 infection</td>
</tr>
<tr>
<td>Guidelines on management of</td>
<td>Yes</td>
<td></td>
<td>o Prepare for mop-up immunization later on</td>
</tr>
<tr>
<td>target population</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routine immunization</td>
<td>No</td>
<td>Yes</td>
<td>o Social distancing</td>
</tr>
<tr>
<td>maintenance</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scale of Backlog
## Scale of Backlogs

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Measles (%)</td>
<td>97,4</td>
<td>97,2</td>
<td>95,4</td>
<td>97,3</td>
<td>89,0</td>
<td>66,9</td>
</tr>
<tr>
<td>Fully Immunized Coverage (%)</td>
<td>96,8</td>
<td>94,8</td>
<td>94,3</td>
<td>96,8</td>
<td>87,1</td>
<td>67,4</td>
</tr>
</tbody>
</table>

**Notes:**
- In 2020, routine immunization was not impacted.
- In 2021, routine immunization was significantly impacted by COVID-19. About 193,000 children <1 yr was not fully immunized.
- In 2022, coverage rates are low and it is difficult to meet the targets due to COVID-19 and shortage of vaccines.
Disproportionate Impact of Backlogs

- Did you find any pockets of partly immunized and unimmunized children?
  - Under Immunized Children: DPT3 Coverage (%): (DTP3 – DTP1)
  - Zero Dose Children: DPT1 Coverage (%): (100%– DPT1%)
- Please describe these pockets. What do these children look like? What are the key barriers to immunisation?

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Immunized Children (%)</td>
<td>3.5</td>
<td>7.0</td>
<td>2.1</td>
<td>4.0</td>
</tr>
<tr>
<td>Zero Dose Children (%)</td>
<td>21.5</td>
<td>4.0</td>
<td>3.7</td>
<td>12.8</td>
</tr>
<tr>
<td>Which children?</td>
<td>In EPI (not private sector)</td>
<td>All</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Key barriers?             | AEFI with DPT–HepB–Hib vaccine | o Disruptions of routine immunization  
o Scare of COVID-19 infection |
Addressing Backlogs

- Who coordinated the clearing of backlog? Was it through existing clinics/additional immunization sessions, outreach activities, and/or supplementary immunization campaigns?
- What did regional and national co-ordination look like?
- What were the roles of the public, private, and independent sectors in clearing the backlog?
- What incentives, if any, were provided for staff for additional work?

- National EPI:
  - Developed SIAs and mop-up immunization activities
  - Guided lower levels to implement immunization activities
- Regional EPI: Co-ordinated with National EPI to deploy activities
- Provincial CDC: Co-ordinated with higher levels as well as guided lower levels to deploy activities
- Immunization facilities:
  - Implemented immunization activities
  - Some staff may receive little incentives from local governments or international support for additional work.
- Private sector: Provided fee-based vaccines that partly contributed to the FIC.
# Current Status of Backlogs

Results of SIAs and mop-up immunization activities

<table>
<thead>
<tr>
<th>Region</th>
<th>BCG</th>
<th>DPT-HepB-Hib1</th>
<th>DPT-HepB-Hib2</th>
<th>DPT-HepB-Hib3</th>
<th>OPV1</th>
<th>OPV2</th>
<th>OPV3</th>
<th>IPV</th>
<th>Measles</th>
<th>FIC</th>
<th>MR</th>
<th>DPT4</th>
<th>JE1</th>
<th>JE2</th>
<th>JE3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern</td>
<td>1,328</td>
<td>1,906</td>
<td>2,125</td>
<td>2,325</td>
<td>2,206</td>
<td>2,092</td>
<td>3,181</td>
<td>2,362</td>
<td>2,606</td>
<td>2,304</td>
<td>5,447</td>
<td>4,473</td>
<td>3,440</td>
<td>5,141</td>
<td>6,751</td>
</tr>
<tr>
<td>Central</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Highland</td>
<td>948</td>
<td>1,650</td>
<td>2,065</td>
<td>2,526</td>
<td>1,537</td>
<td>1,936</td>
<td>2,370</td>
<td>4,005</td>
<td>3,036</td>
<td>349</td>
<td>9,166</td>
<td>4,965</td>
<td>3,793</td>
<td>3,772</td>
<td>4,899</td>
</tr>
<tr>
<td>Total</td>
<td>22,462</td>
<td>29,355</td>
<td>34,322</td>
<td>47,412</td>
<td>39,290</td>
<td>36,929</td>
<td>61,926</td>
<td>48,841</td>
<td>42,265</td>
<td>38,755</td>
<td>45,688</td>
<td>40,896</td>
<td>29,473</td>
<td>34,194</td>
<td>34,468</td>
</tr>
</tbody>
</table>
Best Practices

What strategies and approaches did the country use to address the backlog? What worked, what didn’t, and what will you employ going forward?

During pandemic peaks:

➢ Sustained routine immunization at hospitals
➢ Requested immunization facilities to manage target population

After pandemic peaks:

➢ Resumed routine immunization activities as soon as possible
➢ Extended more time of routine immunization sessions.
➢ Conducted SIAs and mop-up immunization activities.
Lessons Learned

❖ Commitment of government, relevant ministries and stake holders
❖ Directions of Ministry of Health
❖ Active response and well preparation of National EPI
❖ Participation of all levels, especially immunization staff
❖ Sustain routine immunization even during pandemic peaks
❖ Implement SIAs and mop-up immunization activities
❖ Mass media communication
❖ Court international organizations’ support
Propose

- Strong commitment and investment of Government for routine EPI
- Directions and support from MoH and relevant Ministries
- COVID-19 preparedness and response
- Increase salary and incentives as well improve working environment
- Facilitate policies on vaccine procurement procedure
- Conduct training and re-training for immunization staff
- Continues to mobilize support of international organizations and share experiences in improving immunization coverage during COVID-19 pandemic
Thank you for your attention!