



## Oral cholera vaccine (OCV) work being carried out by icddr,b



# icddr,b has been involved with cholera vaccine development since 1985



- From 2011 onwards icddr,b has conducted studies with the affordable OCVs
- Over 7 million doses of OCV have been used in different studies and campaigns in both urban and rural settings in the country
- All carried out in close collaboration with the Government of Bangladesh and the national immunization system
- The EPI has been directly involved in these studies; International partners have played key roles
- The target has been to vaccinate children and adults focusing on both men and women in the community and institution based programs



# Summary of OCV vaccination experience

- Vaccination with a 2 dose regimen of OCV through EPI program in urban area is **feasible, acceptable** and **impactful**. Protection by OCV was evident in all age groups and sustained for 2 years. (*Qadri et al. The Lancet and Lancet ID*)
- 29,134 people vaccinated with 1<sup>st</sup> dose OCV (85%) and 26,740 people vaccinated with 2<sup>nd</sup> dose OCV (78%)- Feasible in rural slums using EPI program (*Khan et al. GHA*)
- Single dose Phase III trial using OCV in 205,000 participants; Single dose OCV was efficacious among children age > 5 yrs and in adults. Two dose regimen needed for control of endemic cholera. Single dose also gives protection after 2 years in > 5 years and adults . (*Qadri et al. NEJM, The Lancet ID*)
- Thermal stability of cholera vaccine- Vaccine is stable up to 42°C and remains safe & immunogenic in Bangladeshi recipients (*Saha et al. Vaccine*)
- Evaluate the feasibility, efficiency and impact of a two-dose regimen of the oral cholera vaccine (OCV) Shanchol™ delivered to children aged 1-14 years residing in urban slums (~75,000 children received OCV)
- Two oral cholera vaccine technology has been transferred by the: International Vaccine Institute 2. Wellcome Trust Hilleman Laboratories to Incepta Vaccine Ltd in Bangladesh (*Chowdhury et al. Vaccine*)

## Following NCCP: Demonstration of 1<sup>st</sup> Dose OCV Campaign in Selected urban areas of Dhaka City: 19 – 25 February, 2020

Thana	< 5yrs Male	<5yrs Female	>5 yrs Male	>5yrs Female	Grand Total
Adabor	13131	12781	84772	71378	182062
Darus Salam	2489	2412	17296	13506	35703
Hazaribagh	20895	19584	89257	82912	212648
KamrangirChar	25626	25295	101447	101157	253525
Lalbagh	9533	9180	58280	57561	134554
Mohammadpur	30067	28150	178686	143741	380644
<b>Total</b>	<b>101741</b>	<b>97402</b>	<b>529738</b>	<b>470255</b>	<b>1199136</b>

***Covid-19 pandemic halted the second dose and the NCCP plans have not gone forward***

- Among FDMNs ~ 4.1 million OCV doses have been delivered between 2017 and 2021 through seven campaigns
- Most recently in the COVID-19 pandemic 750,000 FDMNs were vaccinated with Euvichol Plus and Shanchol between November-December 2021

## OCV needs- projection for Bangladesh

### OCV stockpile

Requested doses since 2013: 178 million requested since 2013 and 132 million approved

In 2021: 35 million doses were requested and 30 million approved

**Bangladesh requirement**-173 million doses needed for the next six years as per NCCP

### OCV Production

**Sanofi**- will stop Shanchol production from 2023

**Eubiologics**- is stepping up OCV production 2021

**Bharat Biotech**- Phase III studies on Hillchol to be initiated in India

**Incepta vaccines**- Cholvax: About 100,000 ml- bulk is available at present for making finished product. If there is a plan for use of Cholvax by GoB, it can be provided within 1-2 months in high volumes (Capacity ~8 million doses per year)  
Also have experience with Hillchol production



# Acknowledgement



Government of Bangladesh



Ministry of Health and family Welfare



National Immunization program (EPI)



IEDCR



Dhaka North City Corporation



Dhaka South City Corporation

• Non-government organizations

• International Partners-



Bill & Melinda Gates Foundation



International Vaccine Institute



Gavi, the Vaccine Alliance



World Health Organization



UNICEF

