Productive collaboration of national institutes

Largest pediatric hospital in Bangladesh
State of the art laboratory
Combination of services to the patient and research
Generating evidence on Vaccine Preventable Diseases (VPD) using limited resources.
Impact of pneumococcal meningitis

Human Face of Pneumococcal Meningitis

Contrasted quadriplegic child with vision and hearing impairment due to Pneumococcal meningitis with his active twin sister.

Diverse pneumococcal serotype:
Possible challenge for vaccine introduction

Awareness and Advocacy

World Pneumonia Day

BBC documentary on Hib diseases

Working with the policy makers
Appropriate use of diagnostics: Quality surveillance with minimal heterogeneity

Duration 2000-2010

- PCR
- ICT
- LAT
- Culture

Tackling the challenge of prior antibiotic

Serotype information from culture negative 2007-2011

Change of aetiological scenarios with the use of diagnostics

Culture (N=438)
- S. pneumoniae 38%
- H. influenzae B 46%
- N. meningitidis 7%
- Others 8%

Culture+LAT (N=813)
- S. pneumoniae 46%
- H. influenzae B 41%
- N. meningitidis 8%
- Others 5%

Cul+LAT+ICT+PCR (N=1090)
- S. pneumoniae 58%
- H. influenzae B 31%
- N. meningitidis 7%
- Others 4%
Multiple surveillance modalities

Network of four hospitals
Rural and urban population based sites

Hospitals
Total number of Pediatric beds: ~ 975
Total admission of <5 children per year: 40,592
Total Number of OPD per year: 513,201

Field sites (Rural)
Total Population: 129,715
Total <5 children: 12,003
Birth cohort: 2,985

Field sites (Urban)
Total Population: ~2,533,500
Total <5 children: 180,500
Birth cohort: 27,000
History of surveillance

During 80's: Minimal or No evidence on Vaccine Preventable Diseases (VPD)

At the same time enormous evidences on Diarrhoeal diseases generated by ICDDR,B

VPD overshadowed

Hospital Management

Clinician

Laboratory

Extended collaboration

Generation Of Data

Initiation of Surveillance on VPD

Rational use of limited resources

Proactive national institutes

In addition to ICDDR,B & others

DSH CHRF

Created awareness among the professional bodies

Advocacy

Presentation at British Parliament
Observing World Pneumonia Day
BBC Documentary on Hib Diseases

Preparedness for vaccine impact measurement in the post vaccine era

Hib Vaccine Introduction
Application for Pneumo-Vaccine

Working with Policy makers

Serotype 7F

Serotype 2

1994-2009
DHAKA SHISHU HOSPITAL
Sentinel site

Admitted patient at DSH from Apr-Sept’11

Total Admission 9,309

Disease burden of eligible children at DSH
- Severe Pneumonia: 832
- Meningitis: 780
- Pneumonia: 577
- Very Severe Disease: 340
- Enteric Fever: 242

Prevalence of Vaccine preventable aetiological agents at DSH
- Spn: 500
- Hib: 400
- N. men: 100
- S. typhi: 50