

Advocacy for Vaccine in LMICs: Focusing on typhoid

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11th International Conference on Typhoid and Other Invasive Salmonellosis
March 26-28, 2019 in Hanoi, Vietnam

Slide 1

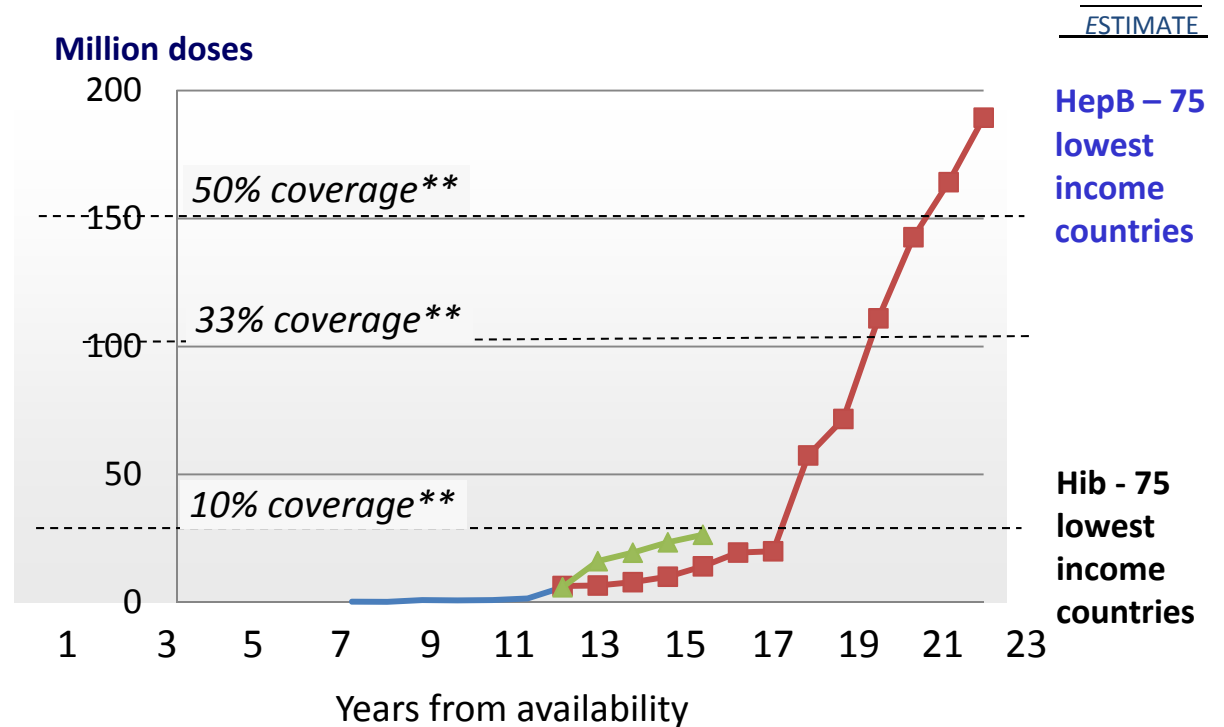
SKS1

Starting editing from here

Samir K Saha, 1/31/2019

Why Advocacy and Why we have a dedicated session for this?

- Features of vaccine prevented/eliminated devastating diseases are forgotten
 - Small Pox, Polio, tetanus, Hib disease, etc
 - Mostly true for developed countries
- We are now ambitious
 - Do not want to wait for 20+ years
 - PCV10/13 came to LMIC with 2 years of being in developed country
- Strategy of advocacy needs to be changed as world is changing



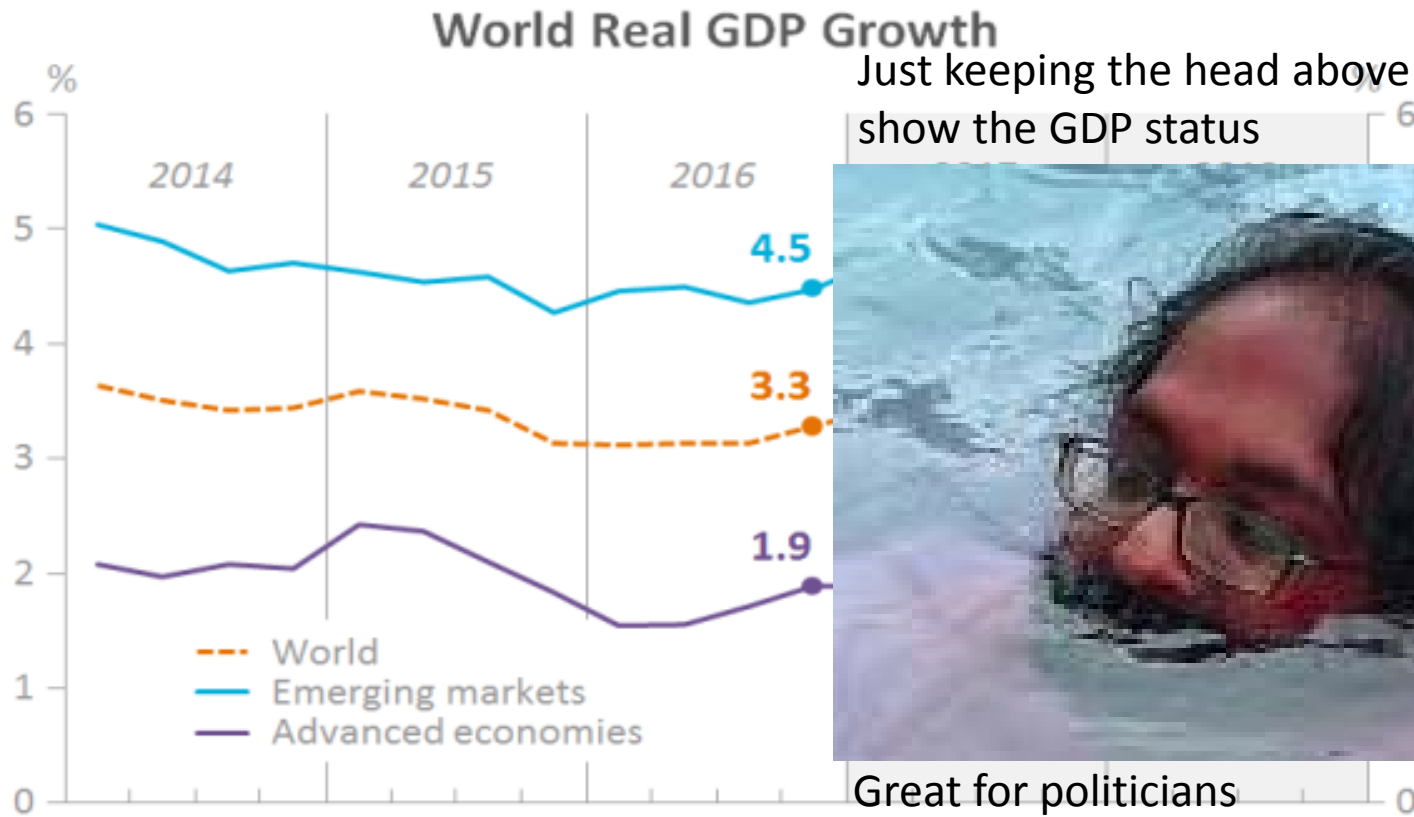
The World is Changing!

WHY LOW MIDDLE INCOME COUNTRIES (LMIC)?

SKS5

SKS6

Growth of the Low Income/Emerging Countries



Great for politicians

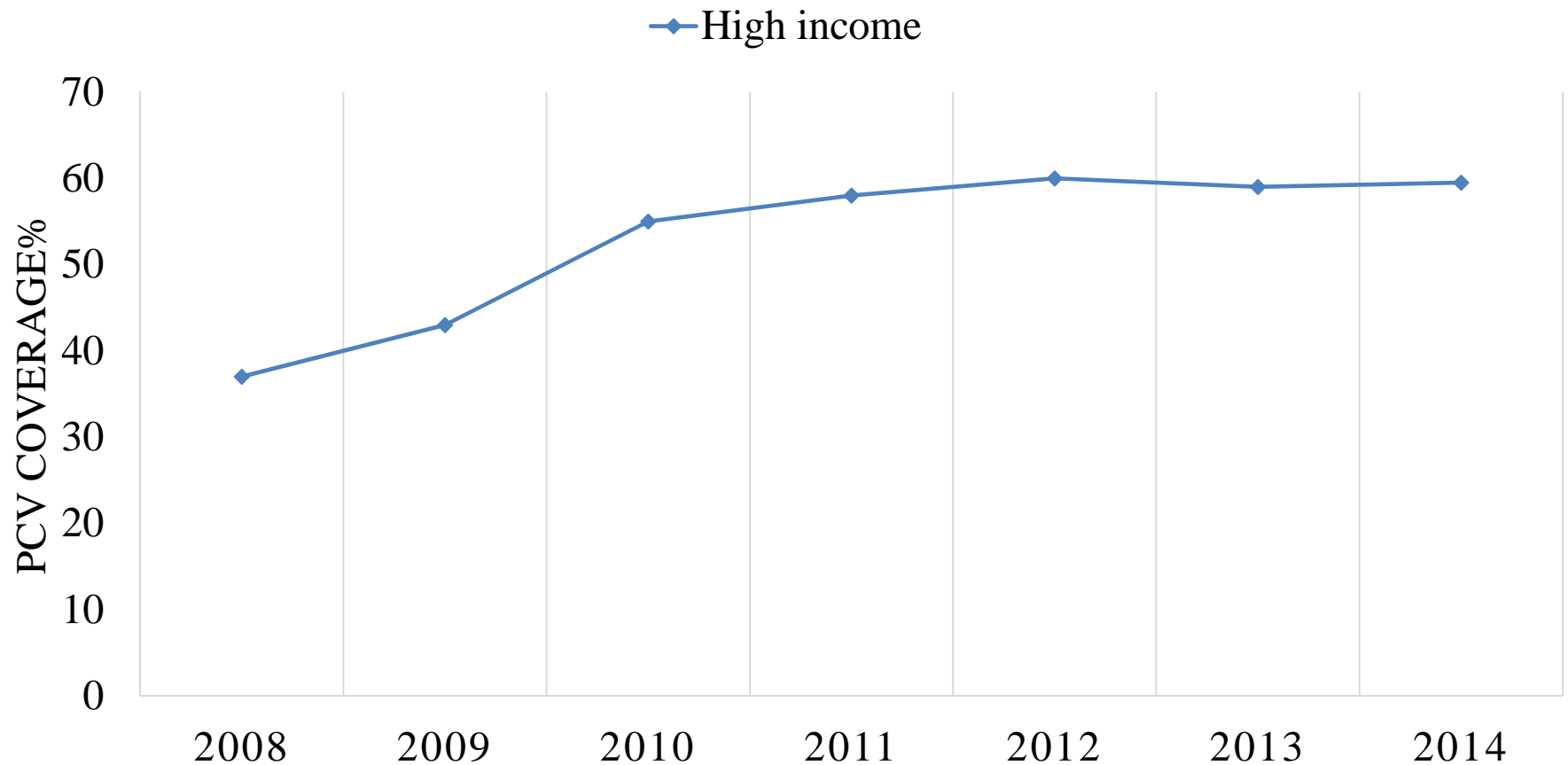
Challenge to get Gavi support for live saving for vaccine

Slide 4

SKS5 Need to remake this slide for animation
Samir K Saha, 2/6/2019

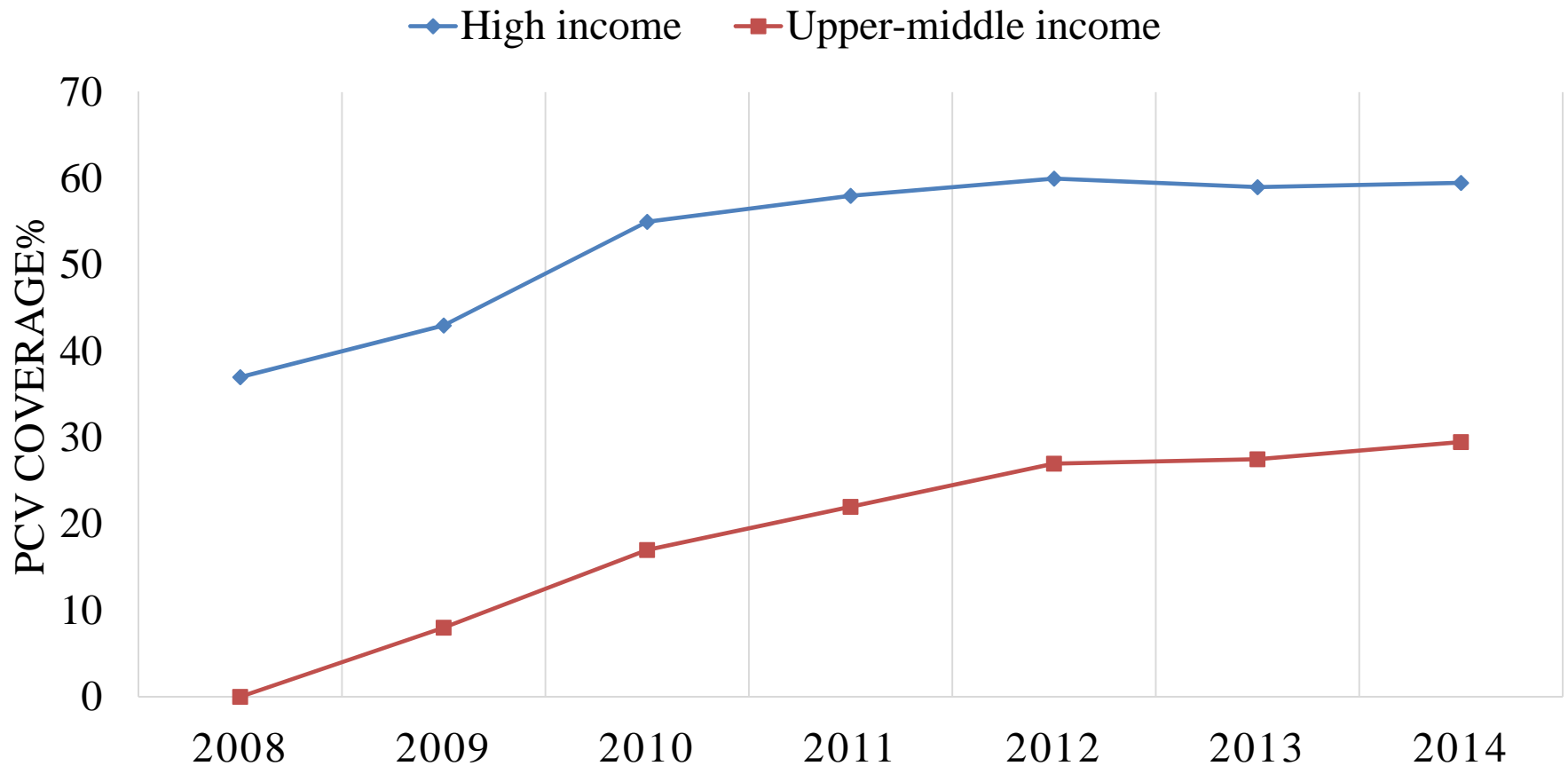
SKS6 Can we find an updates slide on this?
Samir K Saha, 2/6/2019

Impact of GDP on Vaccine Uptake



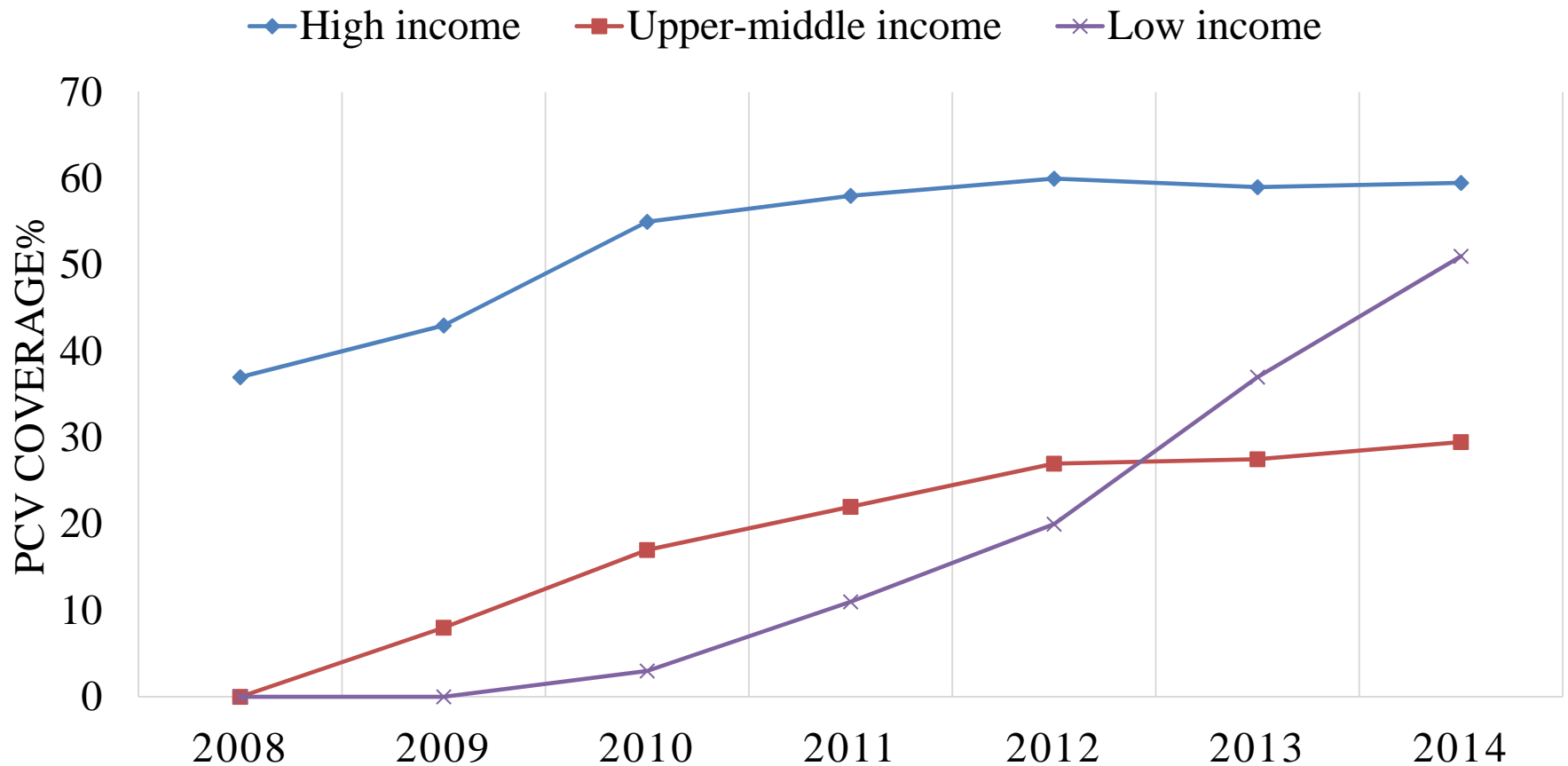
Source: International Vaccine Access Center (IVAC), Johns Hopkins Bloomberg School of Public Health. Vaccine Information Management System (VIMS), data as of Sep 2015. Coverage based on WUENIC data, upd. as of Aug 2015.

Why Low Middle Income Countries (LMIC)?



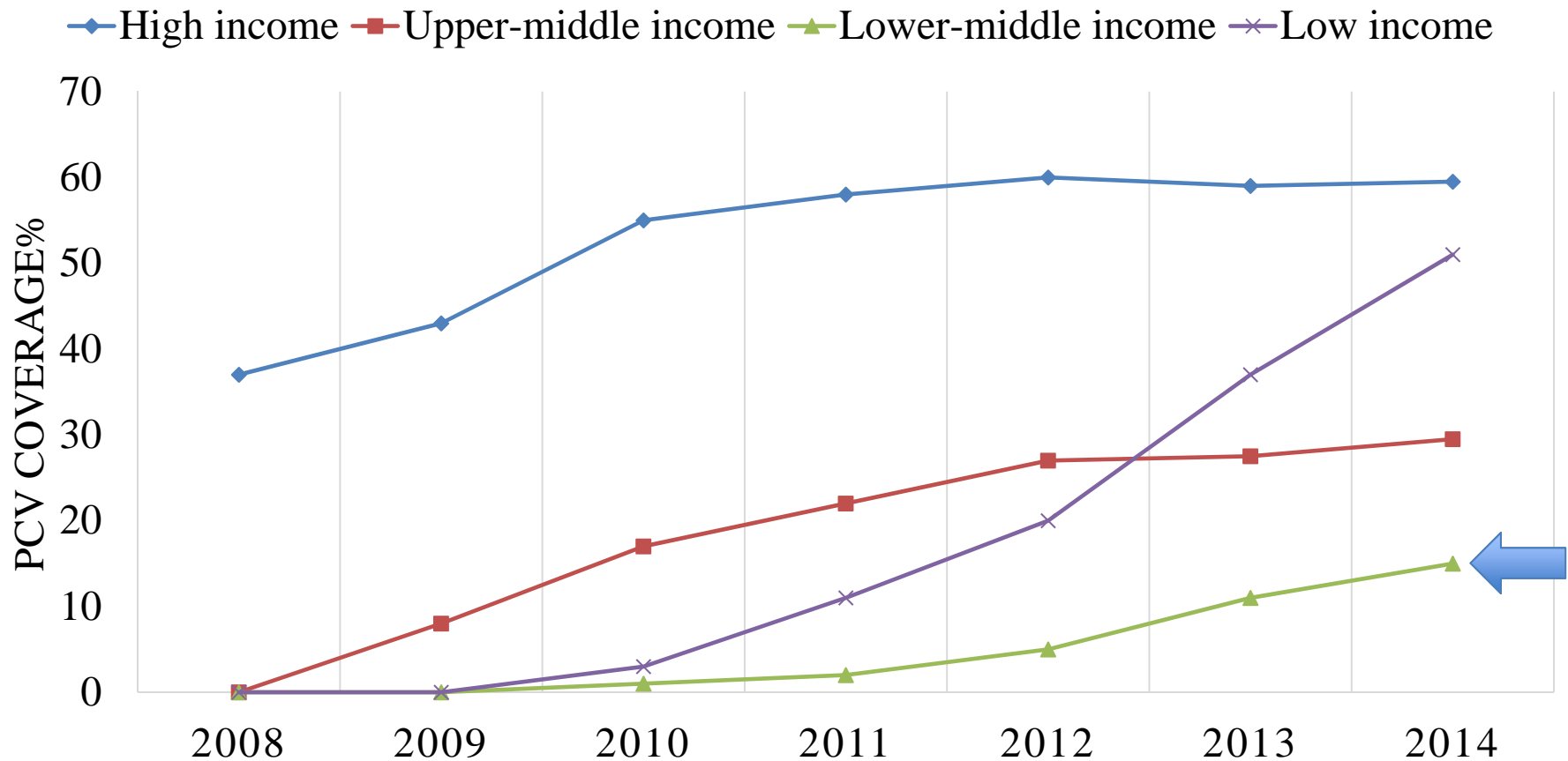
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Advocacy then and now

**LMICS ARE CHANGING DUE TO THE
DECLINE OF CHILD MORTALITY**

Advocacy then and now

**THE MAIN ADVOCACY TOOLS WERE
DEATHS AND DISABILITIES**

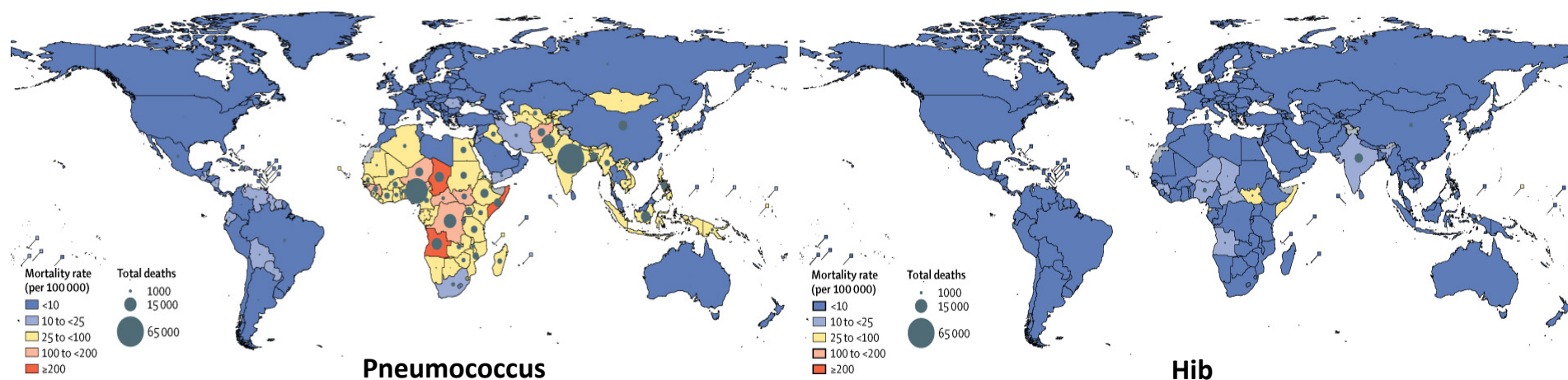
Our Days in the Laboratory in 1980s

- Diphtheria cases everyday
- Tetanus was not uncommon
- Pneumococcus and Hib diseases were many though only few laboratories could detect them

Introduction of vaccines

**SIGNIFICANT DECLINE IN
MORTALITY. MORE SPECIFICALLY**

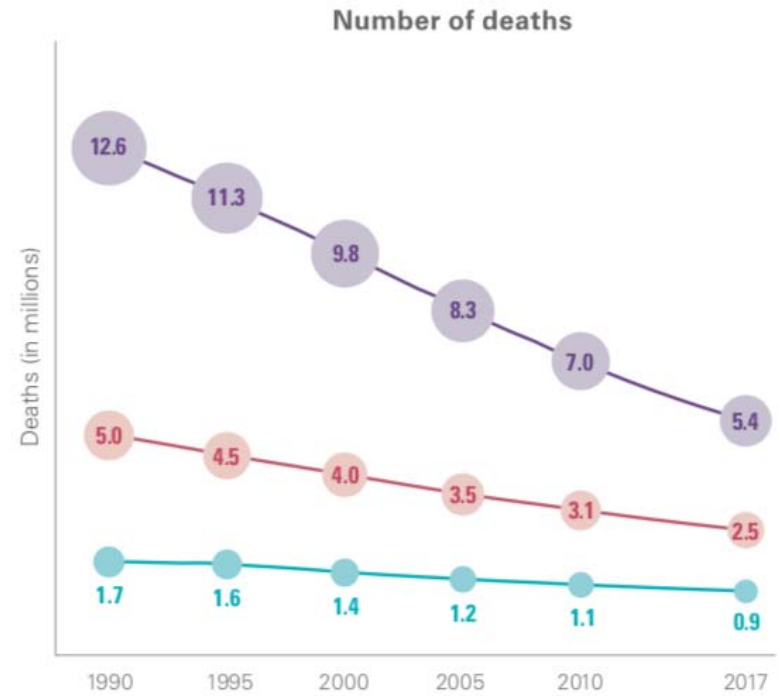
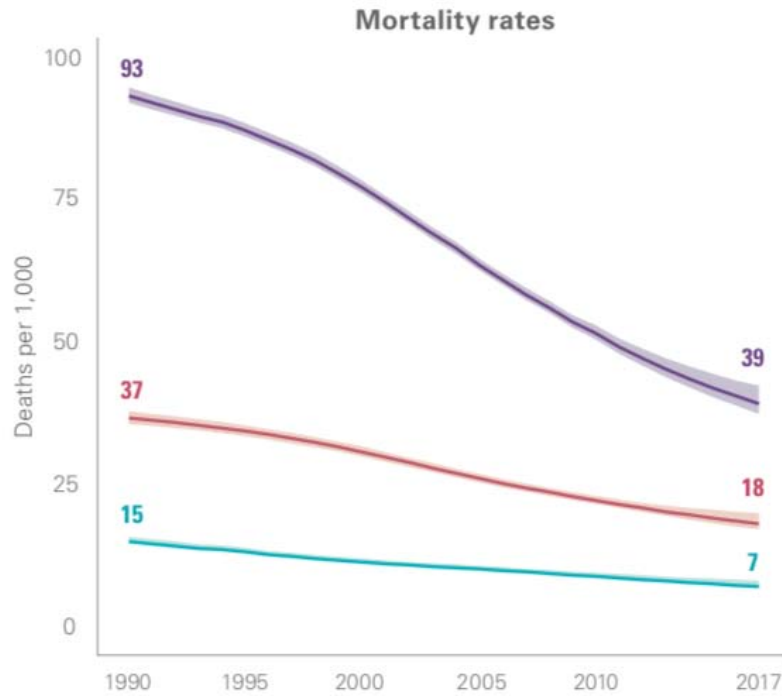
Country-specific mortality rates and deaths attributable to Pneumococcus and Hib in 2015



- **Two vaccines have saved 1.45 million children's lives in the last 15 years**

Wahl et al Lancet Glob Hlth 2018

Over all Decline in Child Mortality



Under-five mortality rate
 Neonatal mortality rate
 Mortality rate among children aged 5-14 years

Under-five deaths
 Neonatal deaths
 Deaths among children aged 5-14 years

What are the barriers to Typhoid Vaccine
Introduction

**WE ARE STILL LOOKING FOR DEATHS,
SEVERITIES AND COMPLICATIONS!!**

THE WORLD IS CHANGING – SPECIFICALLY THE DEVELOPING WORLD

MDG

	1990	2015 (MDG 4)
/year	12.7 million	5.9 million

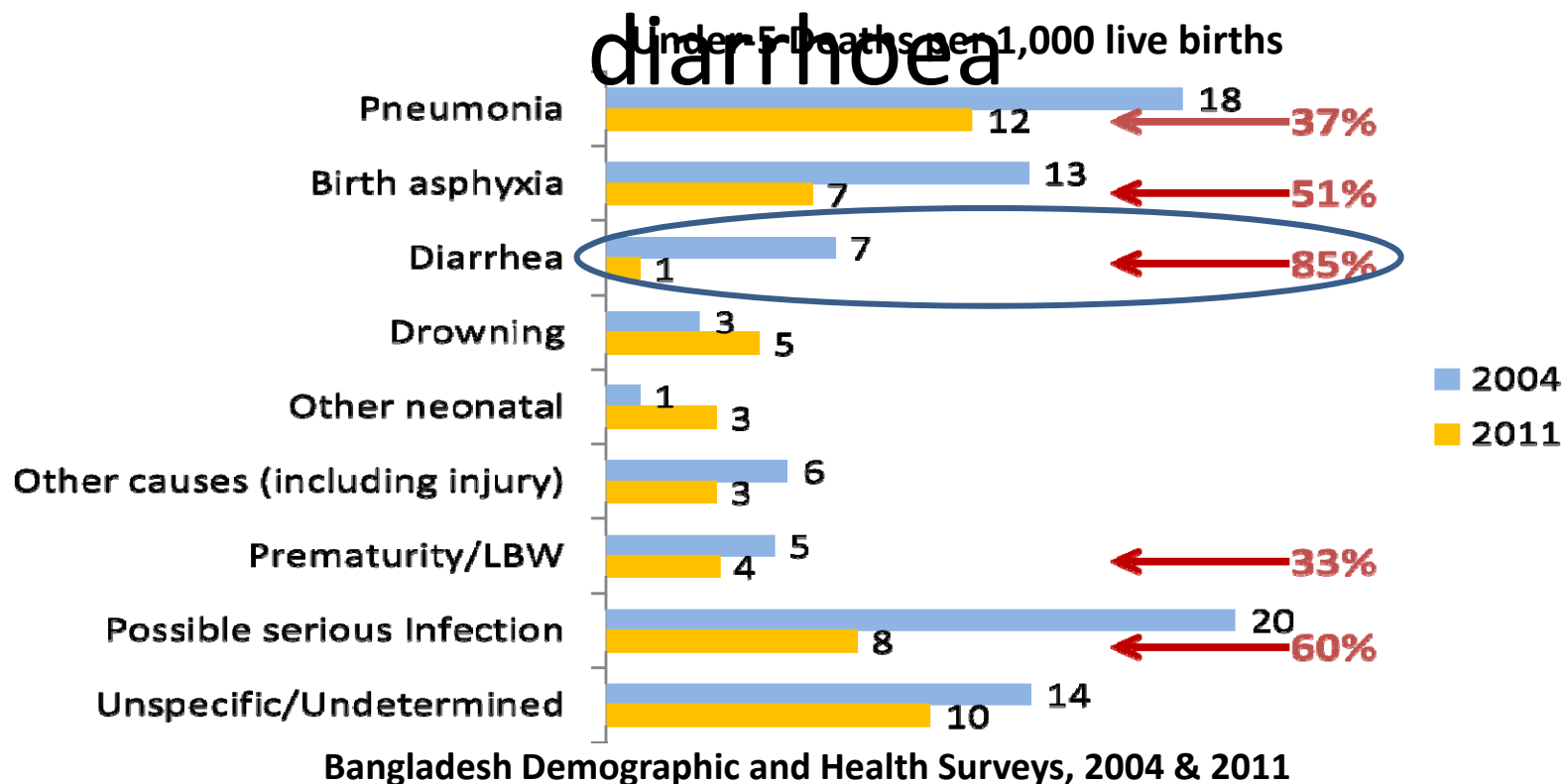
SDG

Aiming to achieve “Good Health and Wellbeing” SDG 3

Typhoid does not with either. It is important we consider the health system implications. Otherwise deaths will be in a Plato, despite the prevention high mortality diseases

DEATHS ARE USED AS THE TOOL AND SOMETIMES DISABILITIES

Bangladesh - Most of the causes of <5 deaths are declining – remarkably



Slide 18

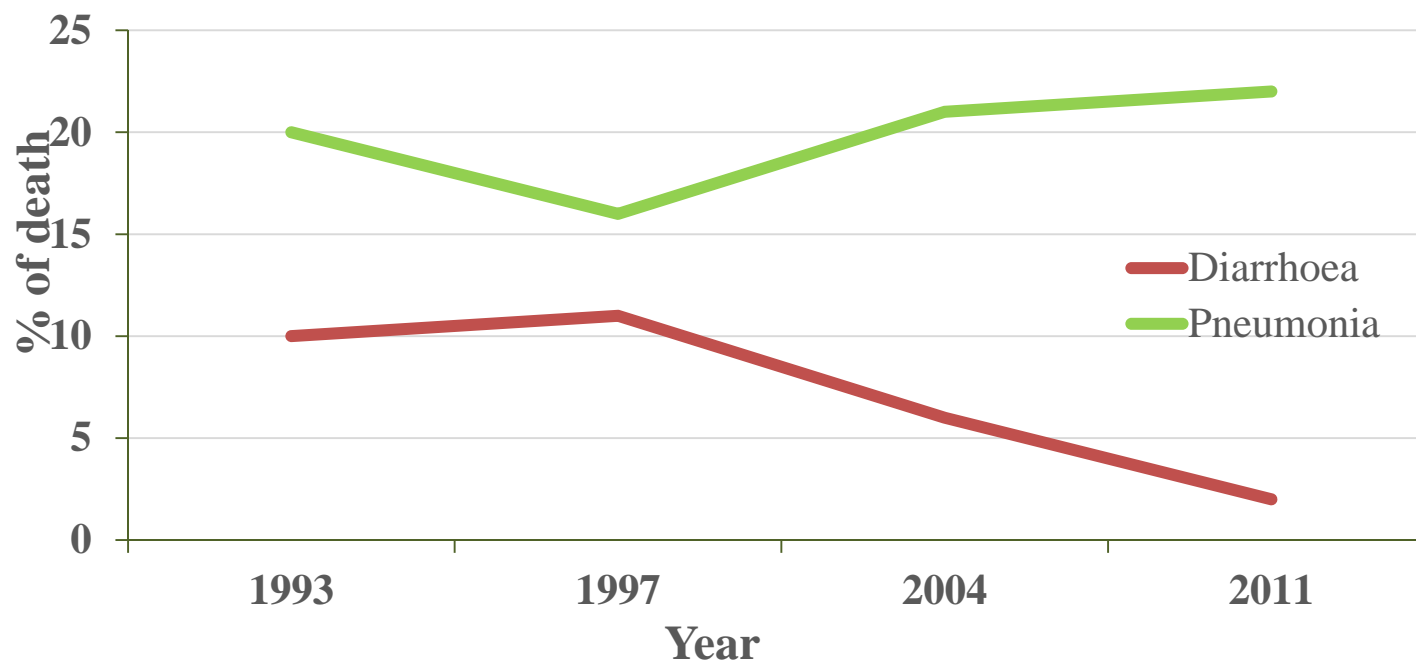
SKS10 Disappointing to see that we are only talking about death not the well beings

Samir K Saha, 2/6/2019

SKS14 We need to calculate the deaths in LMICs

Samir K Saha, 2/8/2019

Proportion of <5 death due to Pneumonia and Diarrhoea in Bangladesh



Source: Liu et al. Population Health Metrics 2011, BDHS 2011

SKS11

May be not required

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Possible hesitancy among the policy makers – Why?

- Minimal or no deaths among the Typhoid cases
 - 0.05% (3/6136)
- Advocates need to find a strategies to convince the policy makers and help them to make the right decision(s)
- All needs to be done with evidences → Data
- It should be simpler than Hib and Pneumococcal diseases
 - Few blood culture positive cases
 - Clinical signs were non-specific
 - Diverse aetiology of Pneumonia
 - We had to have vaccine probe studies and so on

SKS12

Possible challenge of introducing a new vaccine like Typhoid

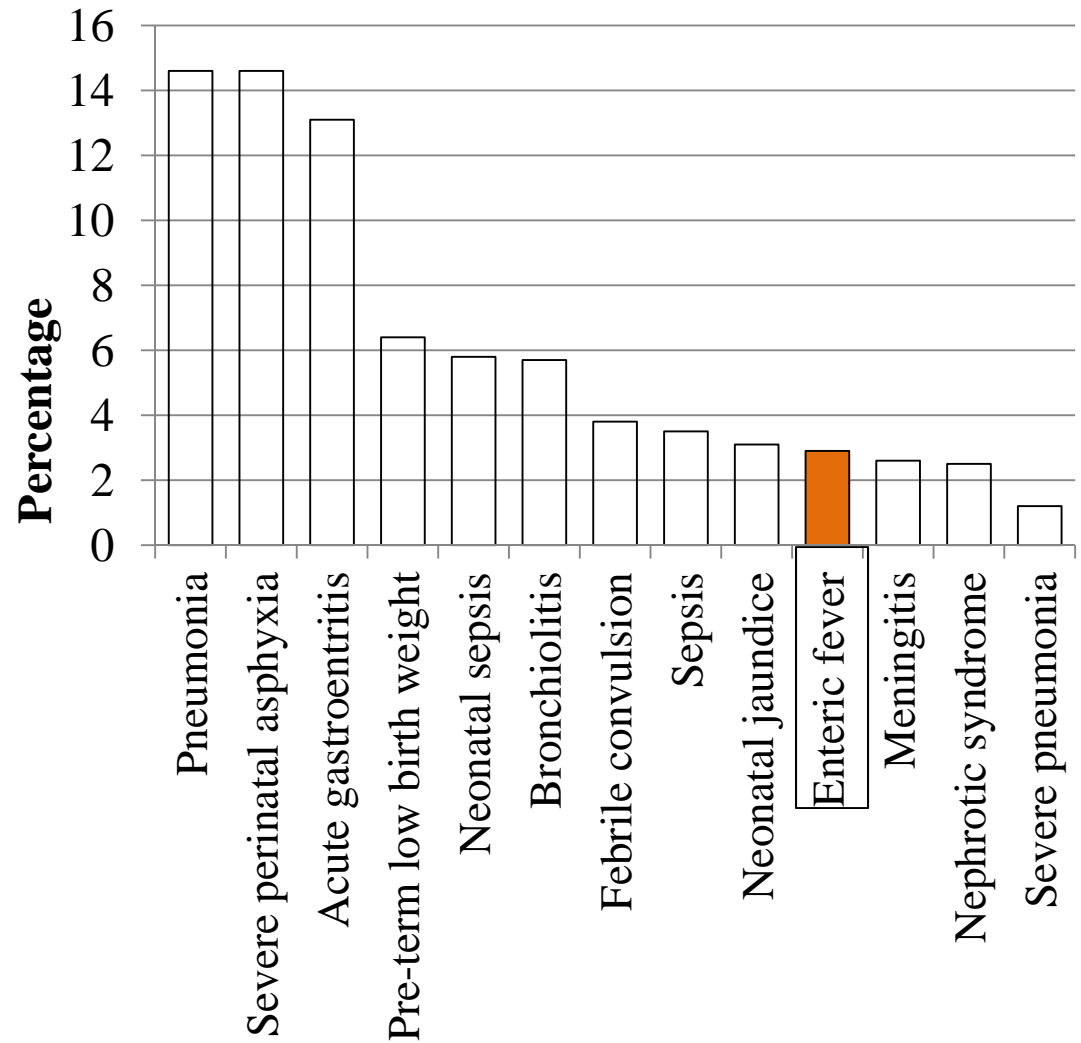
Samir K Saha, 2/6/2019

For policy makers

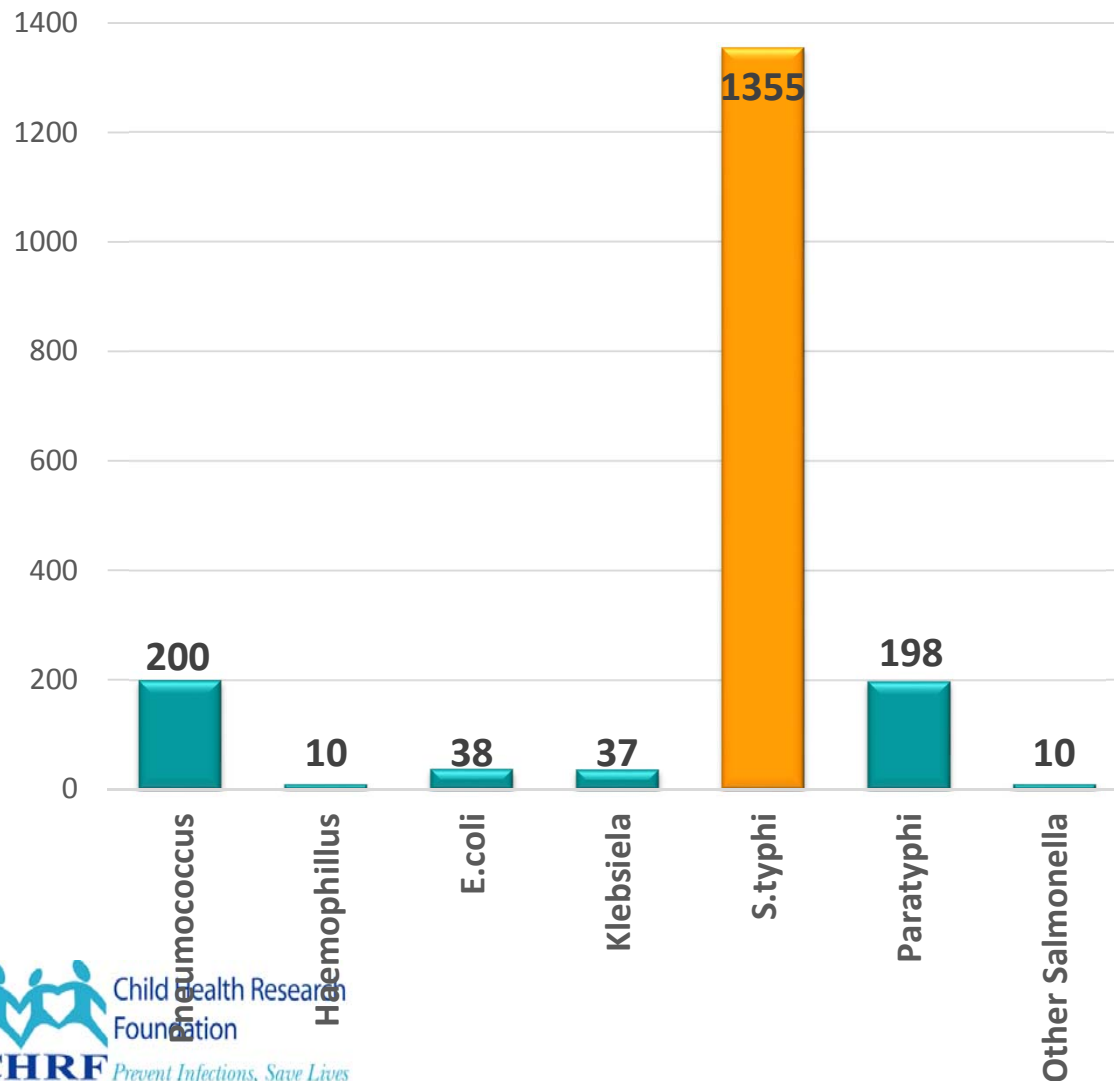
**WE CAN EXPLORE THE BURDEN OF DISEASES
AT HOSPITALS (OPD & IPD) AND POSSIBLE
IMPACT ON “HEALTH SYSTEM”**

Admission at Dhaka Shishu Hospital (N=23,064) – the largest pediatric hospital (2017)

- In 2017 to 23,000 admission, 15% of them are pneumonia
- Typhoid is only 3%
- Based on such data, vaccines against pneumonia and meningitis have rightly been prioritized.
- However,



Typhoid – Microbiologically Strong: Invasive bacterial disease surveillance



Number of blood cultures (17,511) (age >2months)

- 1355 S. Typhi
- 72% of all isolates

Predominance of S. Typhi

- True for other hospitals

Consider Hospital Stay of Typhoid Cases

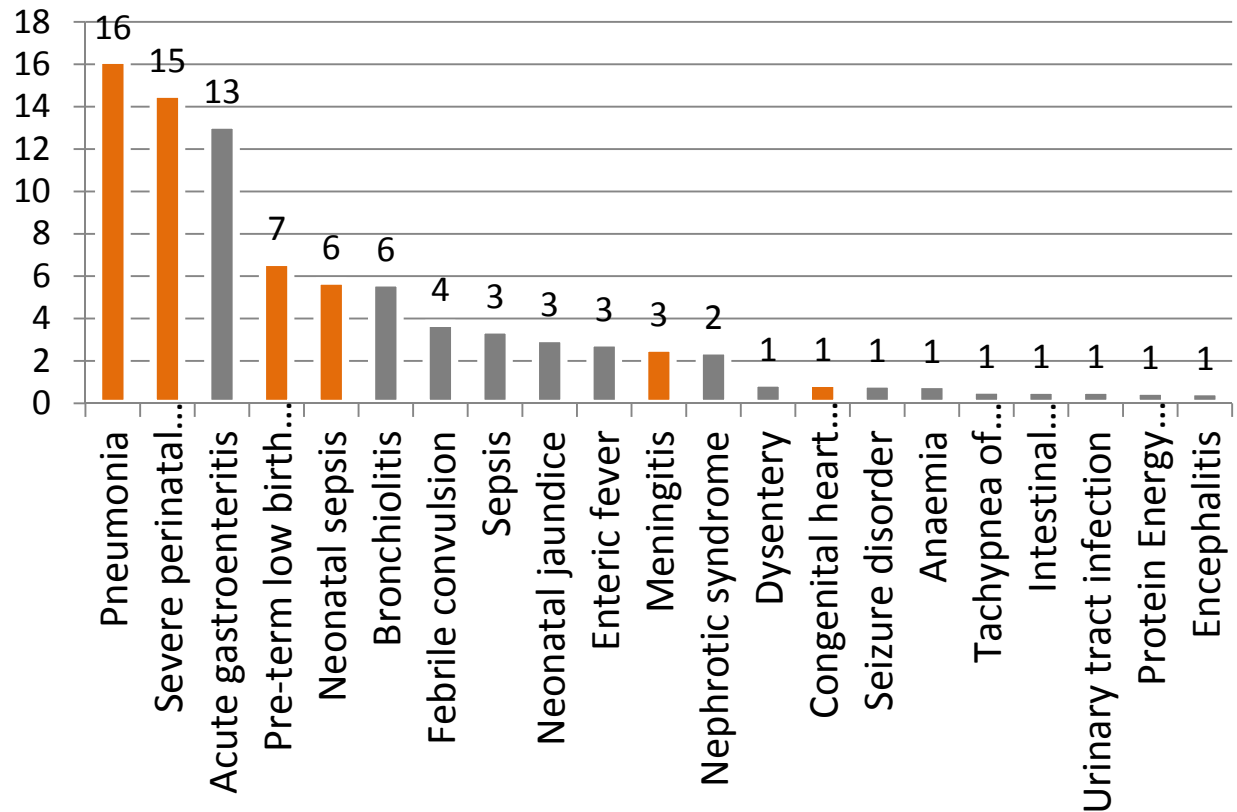
Fierce competition for beds in public hospitals•In Bangladesh we have only 3 beds per 10,000 population, in comparison to 31 in the US•This leads to refusal of cases that require hospitalization11We hypothesize that refused cases are more vulnerable to death and disability

Competition for Bed and Impact on Health System

- Bed Occupancy by Typhoid Cases
 - Average hospital stay – 6 days (3 -7 days)
 - 15 to 30 beds are occupied by enteric fever cases.

Impact of typhoid on the health system- possible impact of vaccine

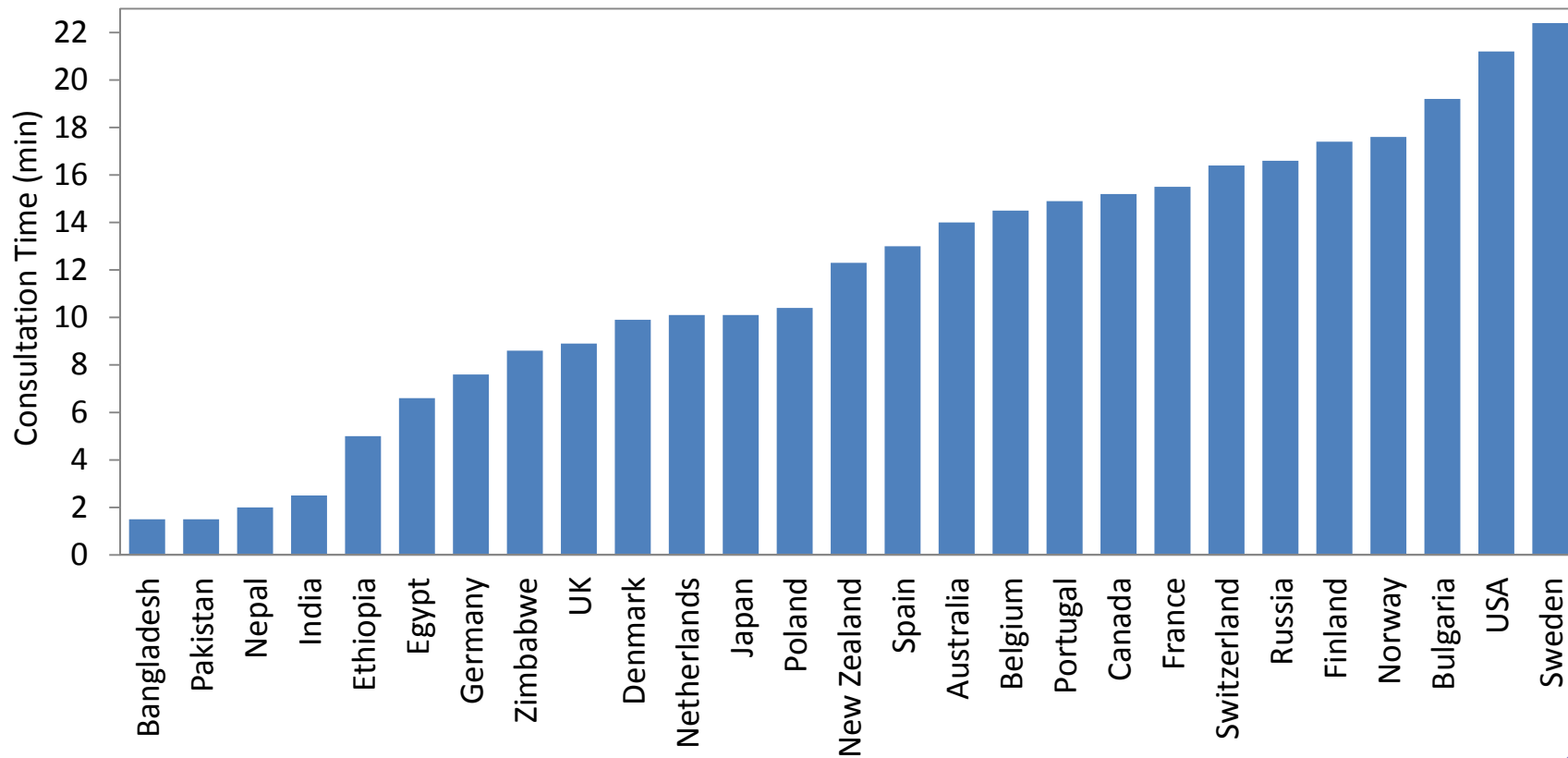
- Fierce competition for beds in public hospitals
- At Resource poor setting, only 3 beds per 10,000 population, in comparison to 31 in the US
- This leading to refusal of cases, just by putting a stamp
 - “BED NOT AVAILABLE”
 - Huge burden on Health System
- In 2017 to 6000 admissible cases were refused
- A huge burden on the “Health System”
- Refused cases are more severe and vulnerable to deaths and disabilities
 - Care seeking issues



Saha et al Am J Trop Med Hyg, 2018

One Step Further

- Consultation time
 - Ranged from 48 sec to 22 mins
 - Typhoid is the most common diagnosis at OPD and private clinics
 - Patients will get more time if we can prevent typhoid

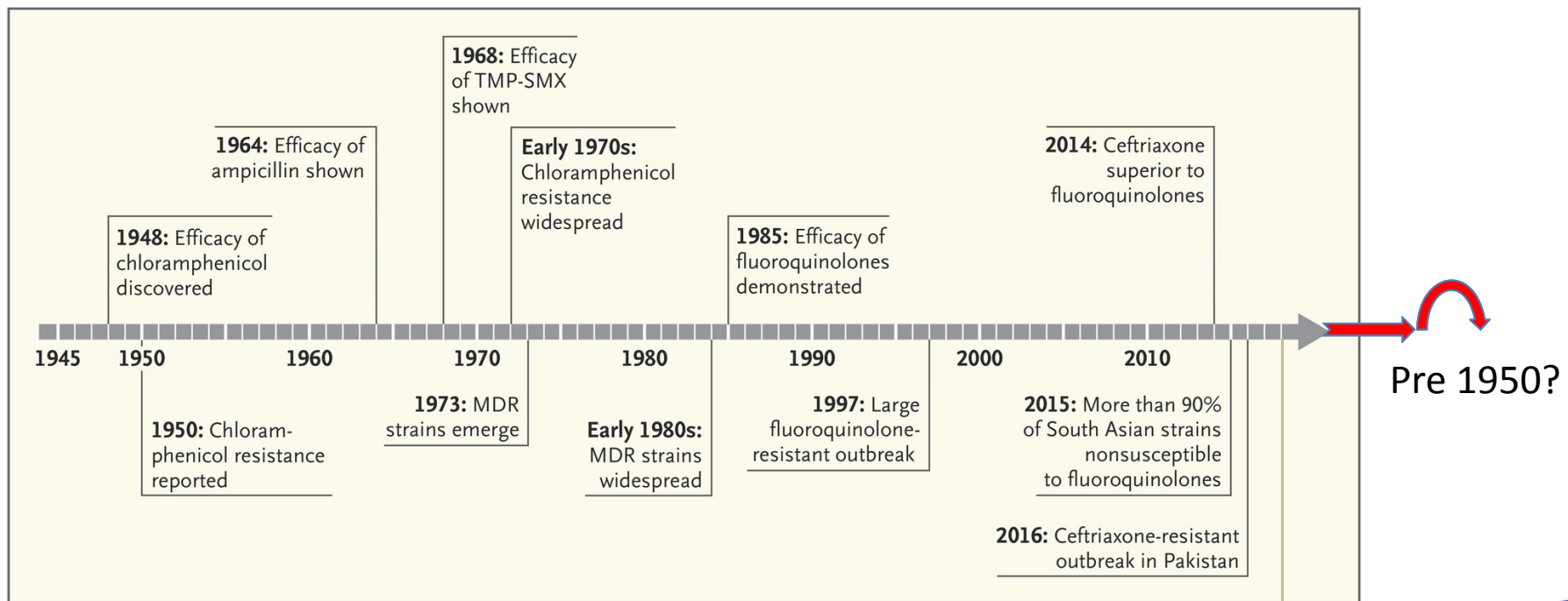


Consider the AMR issues – It can be advocacy tool too!

TCV INTRODUCED IN PAKISTAN TO PREVENT THE SPREAD OF XDR

Rise in Antimicrobial resistance in *Salmonella* Typhi - Are we heading to Pre-antibiotic era?

- Typhoid Deaths in Pre-antibiotic Era
 - 1545 Mexico → more than 7 million
 - 1870 German → 7000
 - 1935 Italy-Ethiopia war → 20000 (Ethiopia)



Advocacy – “Do” and “Do Not”

Do

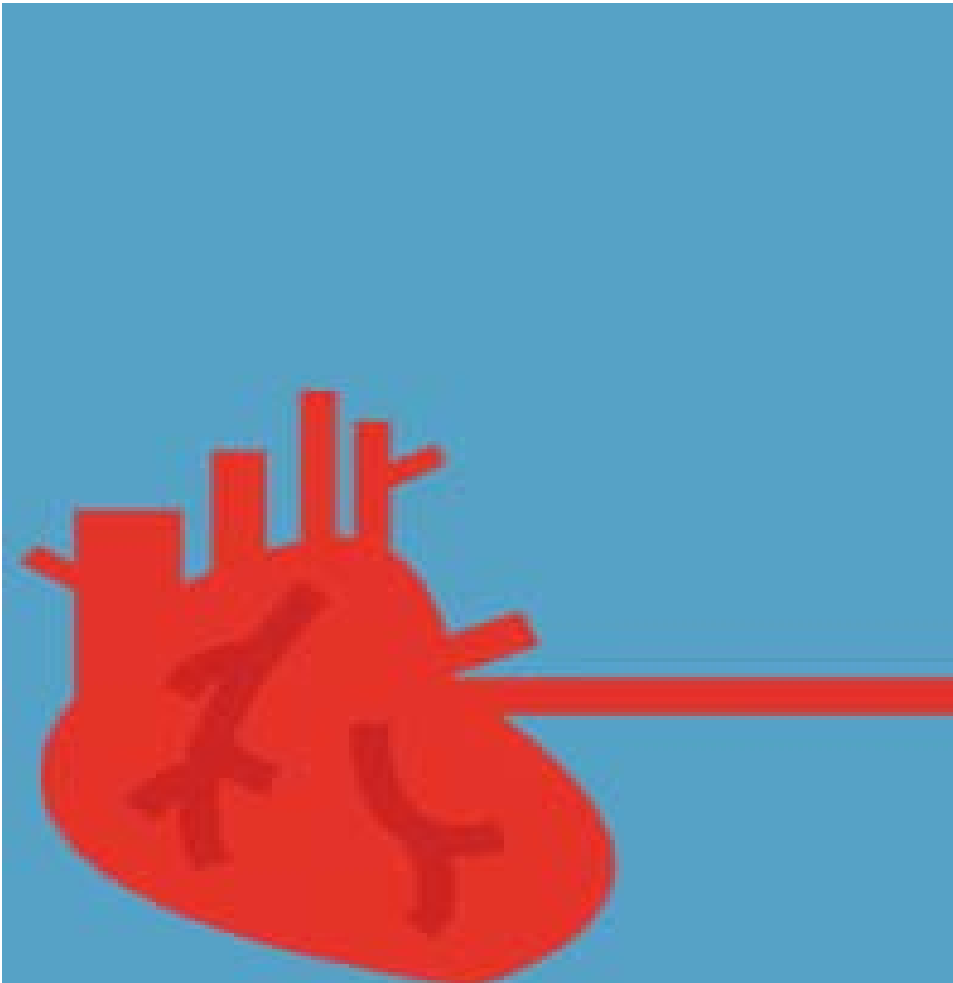
- Generate Data
- Show the data in a simple way
- Bring Human face of Typhoid cases
- Talk about Health System
- Talk from your heart
 - Better if you have local champion who contributed in generating the data

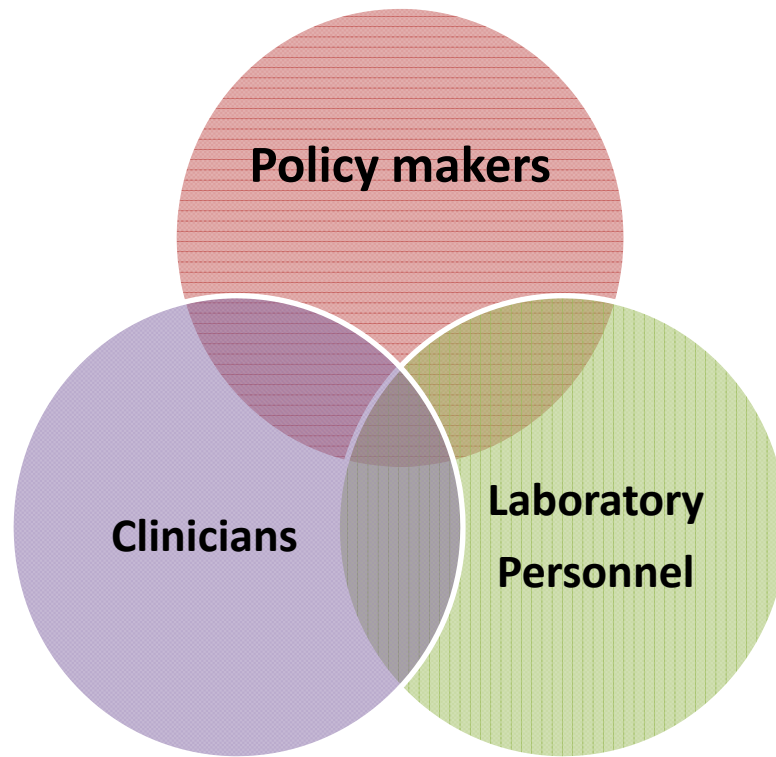
Do Not

- Don't talk about complex adjustments
- Don't try to be a champion for all vaccines
- Don't do advocacy for multiple vaccines at a time
- Do not make any unrealistic commitments

Advocacy amplifies voices – However,
it may counteract too!

Talk From Your Heart





THANK YOU!