What are the measles vaccination coverage gaps?

New Technologies to Support Measles Elimination

GVIRF, Johannesburg, South Africa

**15-17 March 2016**

Peter Strebel, WHO, IVB/EPI

World Health Organization

Main Points

- High level measles control has been achieved

- However, progress has slowed and we are off track with respect to achieving GVAP goals

- The immediate problem is gaps in vaccination coverage

- The solution must include stronger programme management and accountability combined with new tools and tactics

- Simpler vaccine delivery method for use by volunteers in house-to-house vaccination would be a "*game changer*"

High level measles control has been achieved

Annual reported cases and MCV1* and MCV2** coverage, 1980-2014
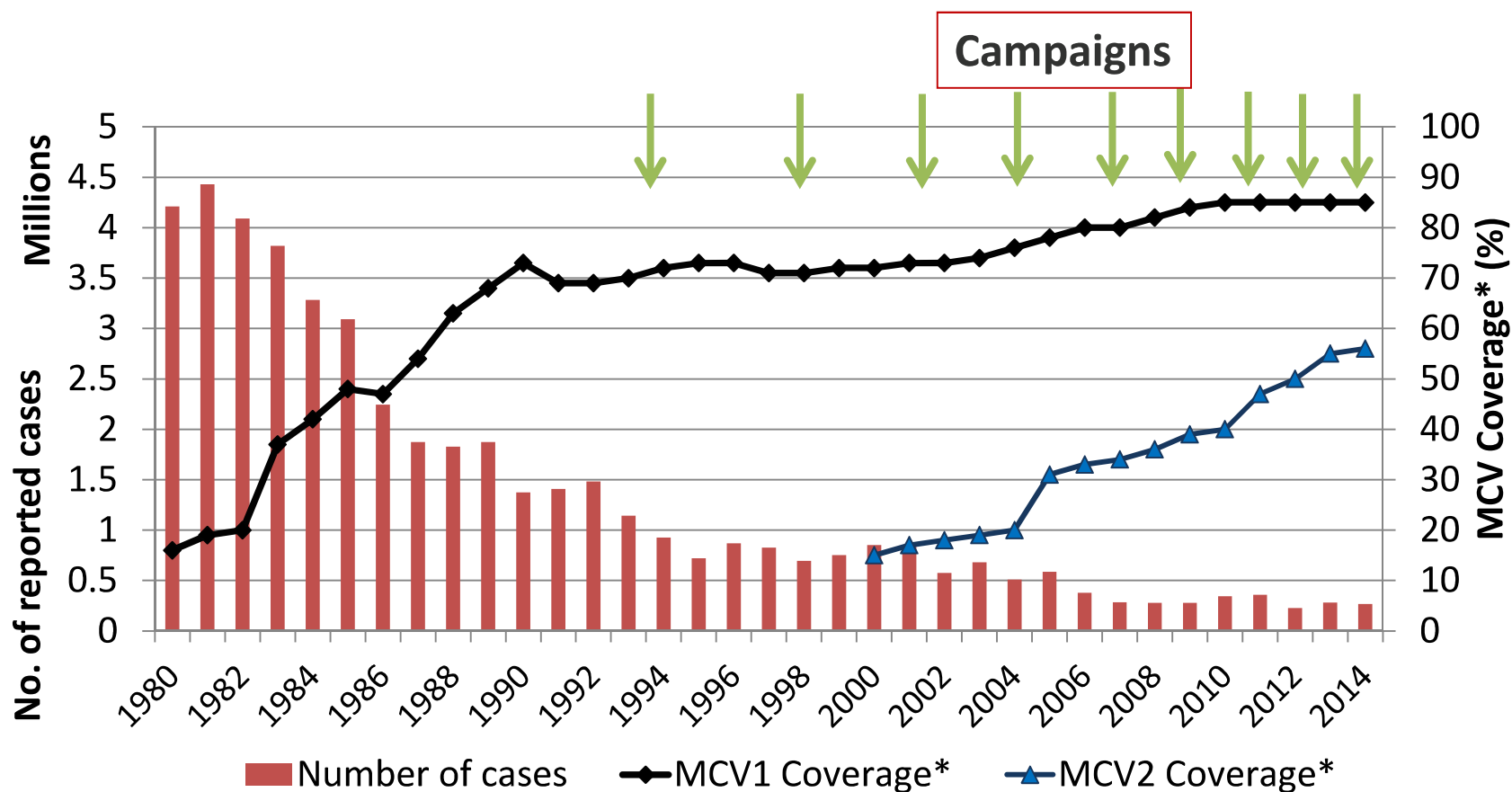
* MCV1 coverage: coverage with first dose of measles-containing vaccine as estimated by WHO and UNICEF.
**MCV2 estimates is only available from 2000 when global data collection started, however some countries have introduced the vaccine earlier.

Source: WHO/IVB database, 2015
194 WHO Member States.
Updated on 15 July 2015

3

The Region of the Americas has eliminated measles and rubella
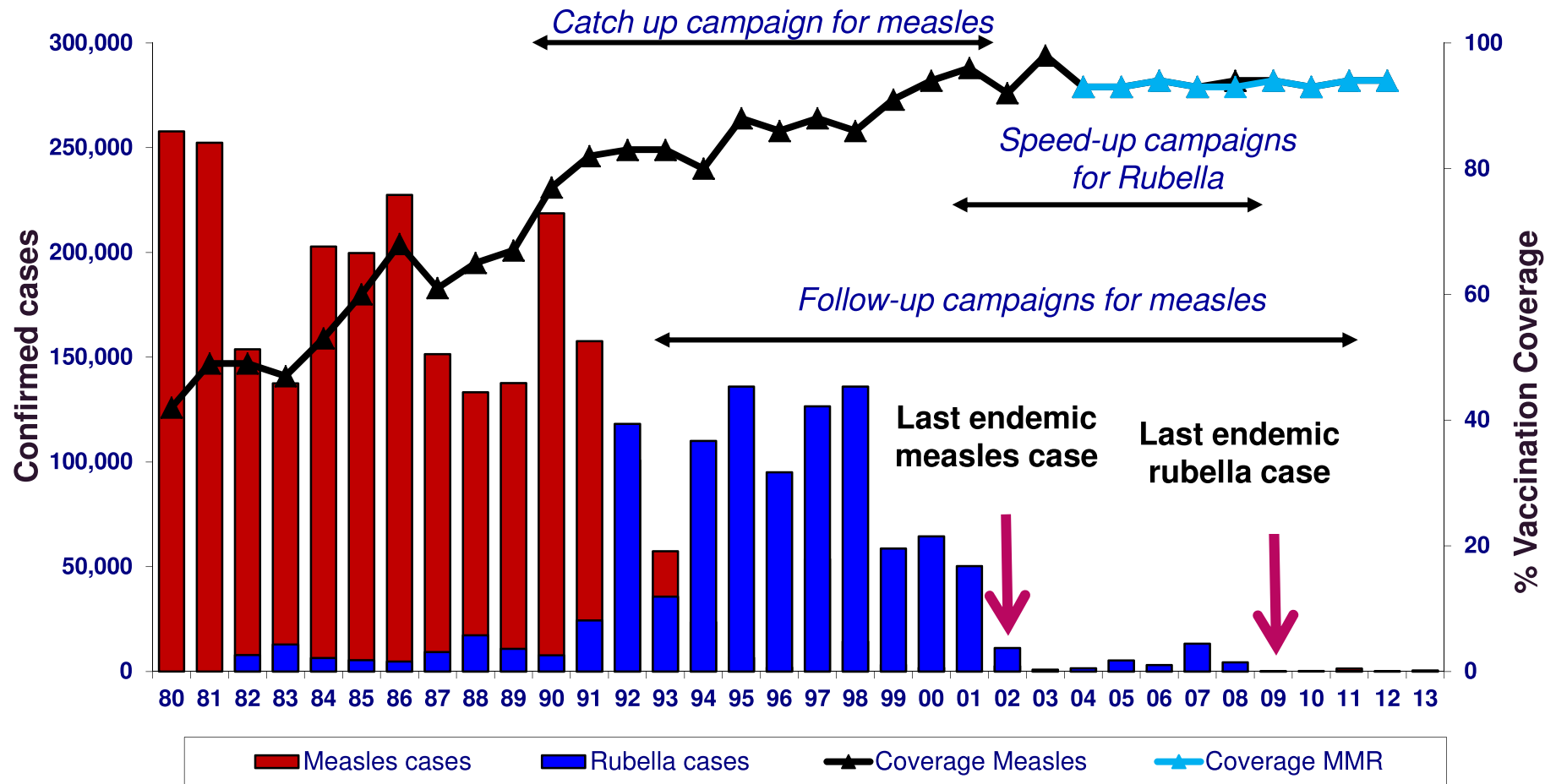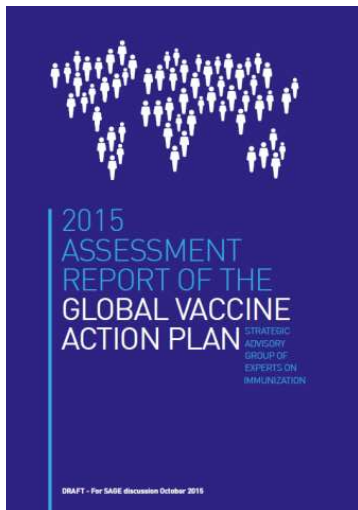
The Report Card
Global Vaccine Action Plan mid-point targets

- **DTP3**: All countries >90% national coverage, and >80% in every district by end 2015

  OFF TRACK

- **Polio**: transmission stopped by end 2014

  OFF TRACK

- **Maternal and neonatal tetanus**: eliminated by 2015

  OFF TRACK

- **Measles**: eliminated in 4 regions by end-2015

  OFF TRACK

- **Rubella**: eliminated in 2 regions by end-2015

  OFF TRACK

- **Introduction of under-utilized vaccines:** At least 90 low or middle income countries to have introduced one or more such vaccines by 2015

  ON TRACK

63% of countries have reached >90% coverage

Immunization coverage with 1st dose of measles containing vaccines in infants, 2014

■ (brown)	<50% (4 countries or 2%)
■ (red)	50-79% (33 countries or 17%)
■ (pink)	80-89% (35 countries or 18%)
■ (light blue)	90-94% (46 countries or 24%)
■ (blue)	>=95% (76 countries or 39%)
□	Not available
□	Not applicable
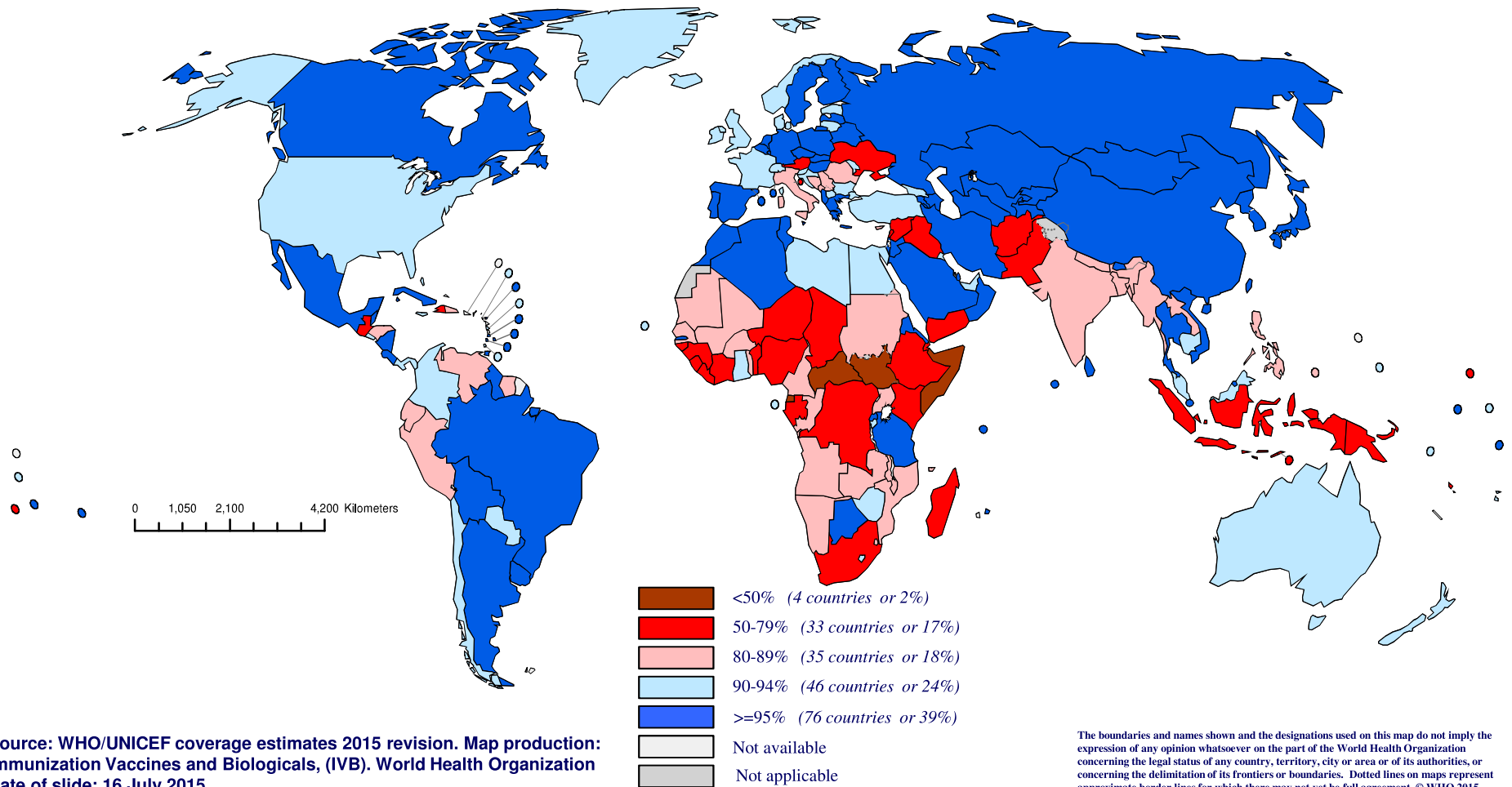
Routine coverage has plateaued in Africa
Regional MCV1 coverage (WUENIC) and number of countries achieving 90% MCV1 coverage. 2000 – 2014
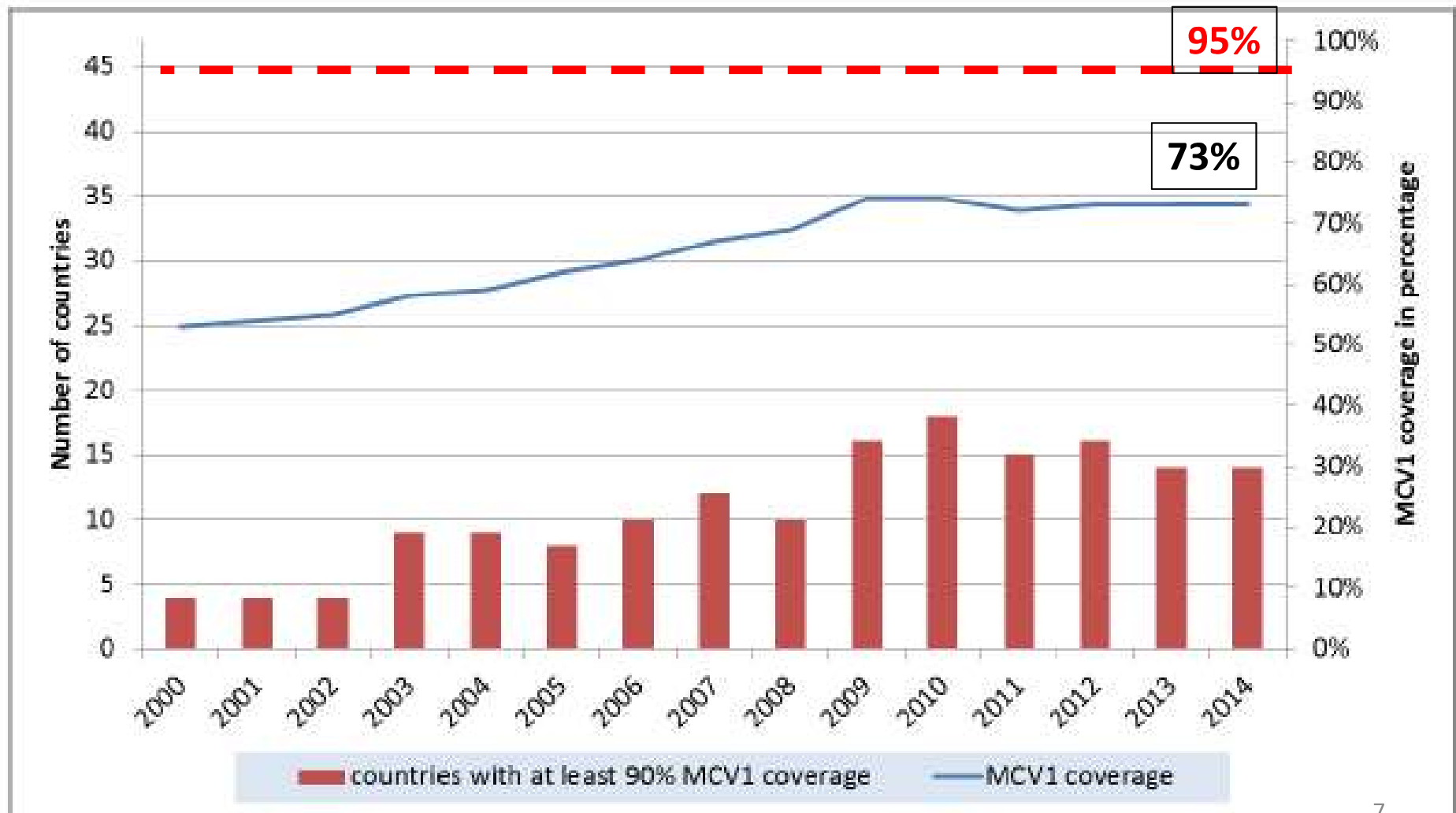
Children are also being missed in campaigns

Post-campaign coverage survey by zone and
national level, Nigeria 2013

Target 95%

% Coverage

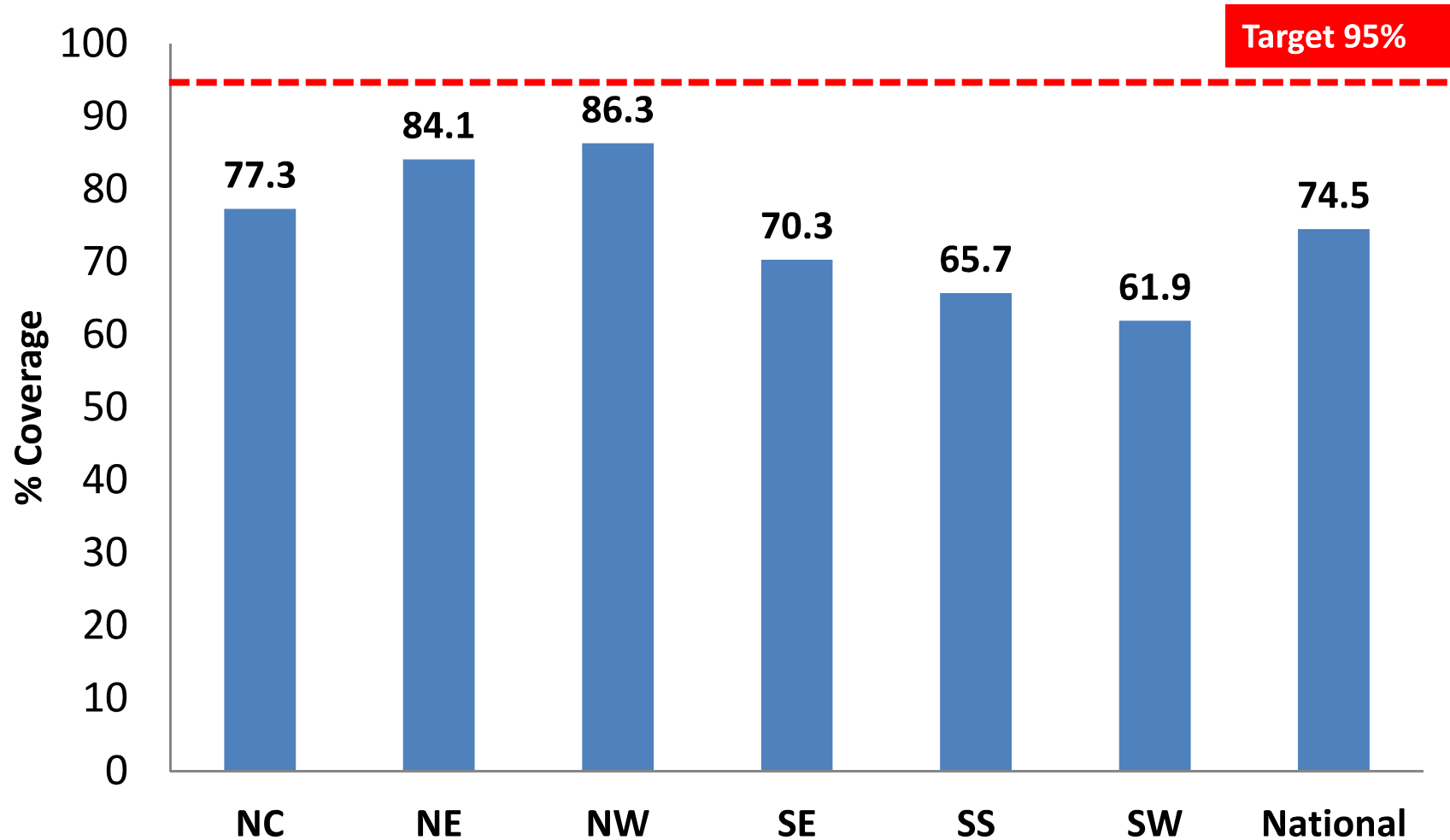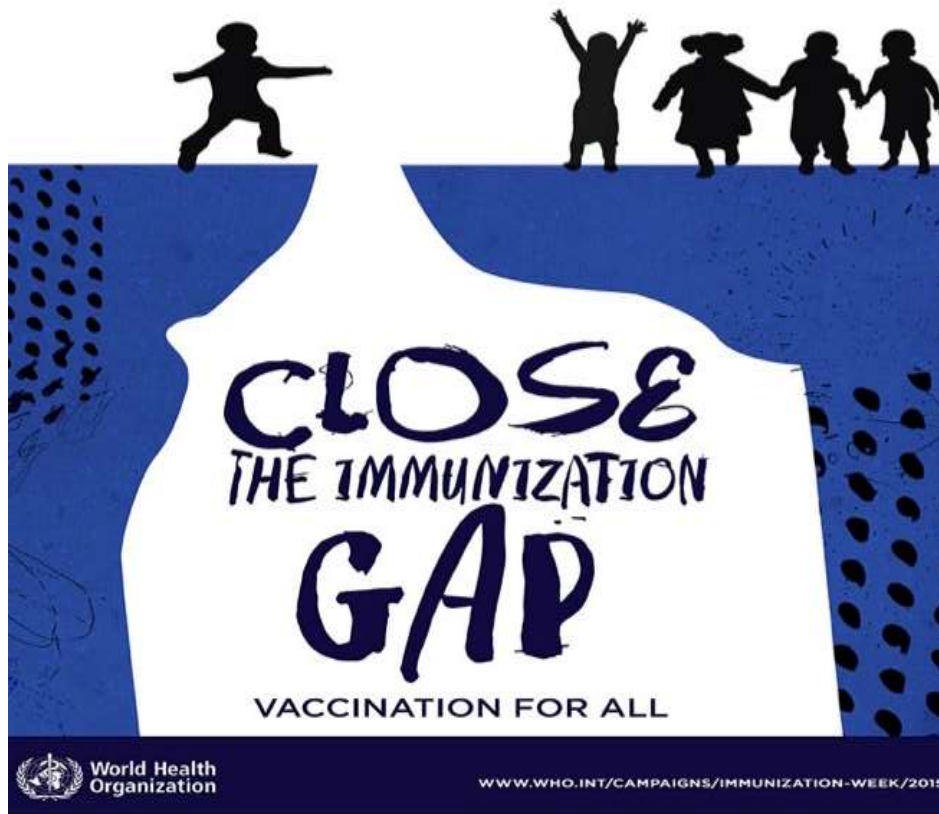| Zone	Coverage
NC	77.3
NE	84.1
NW	86.3
SE	70.3
SS	65.7
SW	61.9
National	74.5

Widening coverage gap in conflict-affected countries
% of District achieving <50%, 50-79% and >=80% MCV1 coverage, 2000-2014, Iraq
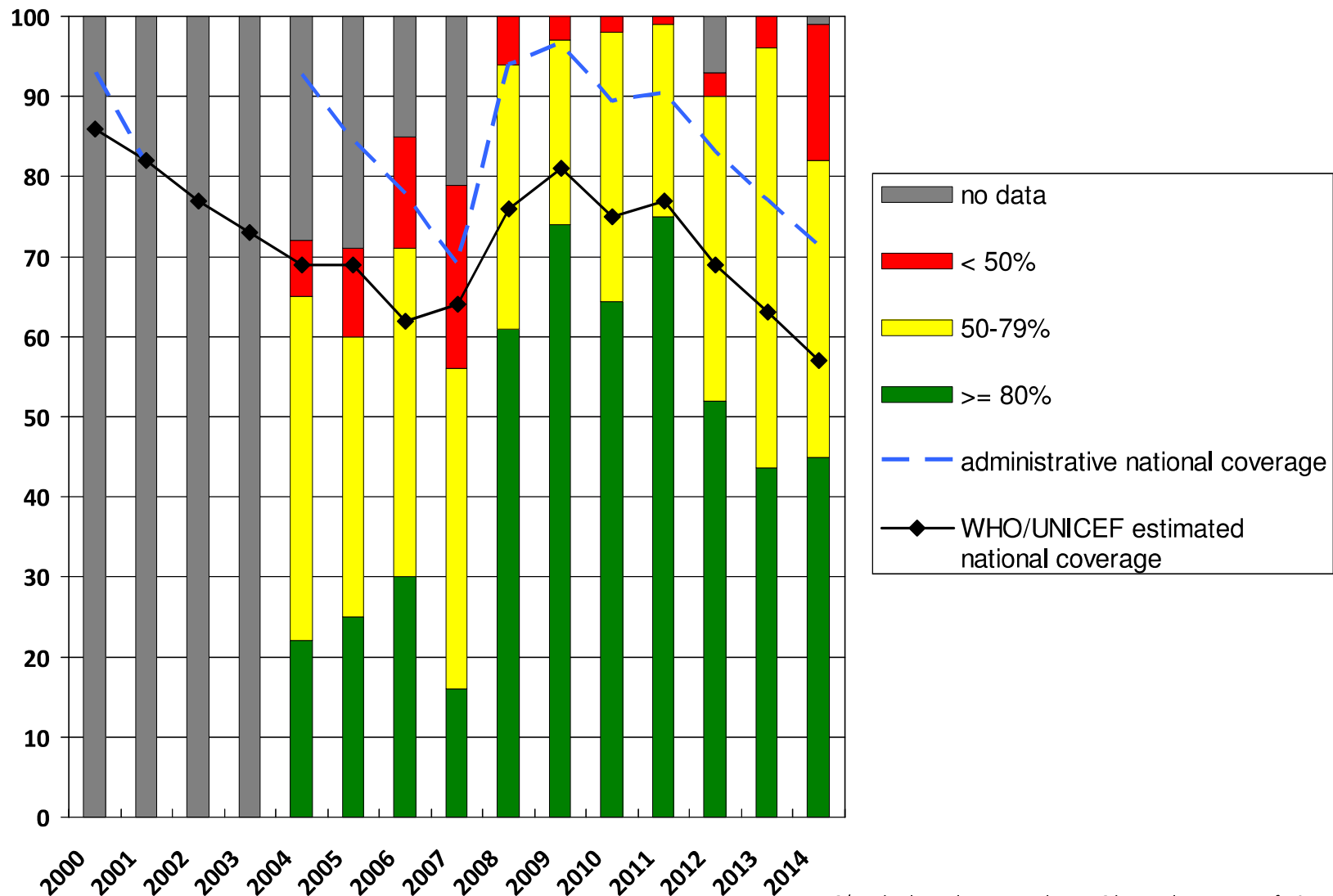
Legend:
- no data (grey)
- < 50% (red)
- 50-79% (yellow)
- >= 80% (green)
- administrative national coverage (blue dashed)
- WHO/UNICEF estimated national coverage (black line with diamonds)

CLOSE THE IMMUNIZATION GAP

VACCINATION FOR ALL

World Health Organization

WWW.WHO.INT/CAMPAIGNS/IMMUNIZATION-WEEK/2015

This graphic highlights the problem that underlies the failure to reach GVAP goals

- Current strategies are reaching 4 of 5 children
- *The 5th child is harder to reach due to:*
  - *Geographically remote*
  - *Living in urban slums*
  - *Civil war*
  - *Migrants, refugees*
  - *Vaccine hesitancy*

10

Research / Recherche

Evaluation of house-to-house versus fixed-site oral poliovirus vaccine delivery strategies in a mass immunization campaign in Egypt

R.W. Linkins,[1] E. Mansour,[2] O. Wassif,[3] M.H. Hassan,[3] & P.A. Patriarca[4]

Among poliomyelitis eradication activities recommended by WHO are national immunization days. Most campaigns have delivered oral poliovirus vaccine (OPV) from fixed sites, reaching 80–90% of target populations. Although house-to-house vaccination provides nearly universal coverage, countries have been reluctant to use this approach because it is considered more costly and logistically difficult. To quantify the cost-effectiveness of both these strategies, we compared the vaccine coverage and vaccination costs per child for house-to-house and fixed-site delivery in a mass campaign in Egypt. While personnel and total costs were higher in house-to-house delivery (38% and 13% higher, respectively), the costs per child vaccinated were similar. This was due primarily to the high coverage levels achieved in house-to-house delivery (100% versus 86%) and the reduced vaccine wastage. Vaccinating children at highest risk of infection was only 25–50% as expensive on a per child basis using house-to-house delivery, since such children were less likely to visit fixed sites. These findings may not be generalizable to other countries where labour costs are higher and the population density lower; however, house-to-house delivery may prove to be the most cost-effective eradication strategy by ensuring universal access to immunization.

Innovation is needed

1. Adapt polio **tactics for reaching zero dose children**

   - Use of mobile phones, GIS mapping

2. **Simpler vaccine delivery method** for use by volunteers and in house to house vaccination

3. Rapid **field diagnostic test**

4. Rapid **assessment of immunity**

   - Individual susceptibility

   - Population immunity gaps


Collecting coverage data on a mobile phone

Collecting oral fluid specimen for acute diagnosis

Summary

- While high level measles control has been achieved, progress has plateaued
- The immediate problem is gaps in vaccination coverage
- The solution must include **stronger programme management and accountability** combined with **new tools and tactics**
- More investment in research that is programmatically oriented is urgently needed

Easy to use tools make a difference
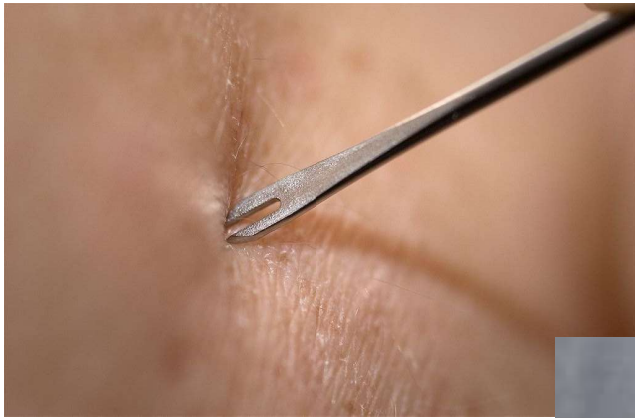
Bifurcated needle

Oral administration of polio vaccine

?