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An Epidemic of Road Deaths Will Kill Fifty Million People: Can India Deliver the Vaccines to Stop this Perfect Plague?

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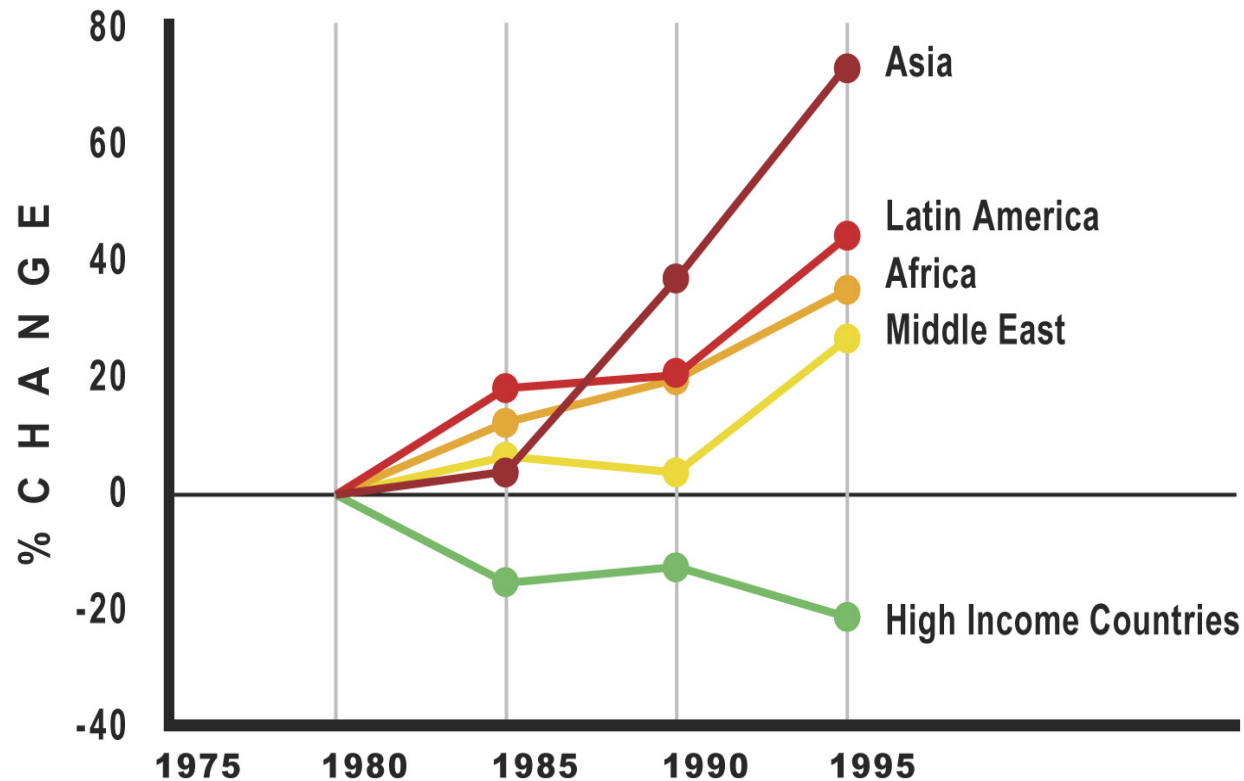


An extraordinary challenge for an extraordinary country

- We are in the midst of a global epidemic as bad as any we in public health have seen.
- But while India has access to the proven-effective tools and the resources that are required to stop this epidemic, this country still faces the challenge of using these resources to deliver on the promise of **safety**. The failure to deliver is not unique for this problem and not unique for this country. We have seen the same problem in Kenya and many other countries.
- **Therefore we need to make a really big push on delivery to implement the things that we know will work.** Turning this epidemic around will require the sort of extraordinary capacity-building that India mobilized to stop a similarly devastating epidemic 34 years ago, and as in smallpox eradication, public health has a very important role to play. Public health can sound the alarm, count the cases and make the patterns clear, and help to address both prevention and care of injured persons.

Road Traffic Injuries are exploding in developing countries

- Road Traffic Injuries (RTIs) take approximately 1.2 million lives per year and seriously injure 20-50 million people each year. Rates are accelerating rapidly in developing countries, and are expected to rise 87% by 2020.



Source: World Health Report 2004.

Chart reproduced from Jacobs G, Aeron-Thomas A, Astrop A. Estimating global road fatalities. Crowthorne, Transport Research Laboratory, 2000 (TRL Report 445).

Fatality rates are markedly higher in developing countries

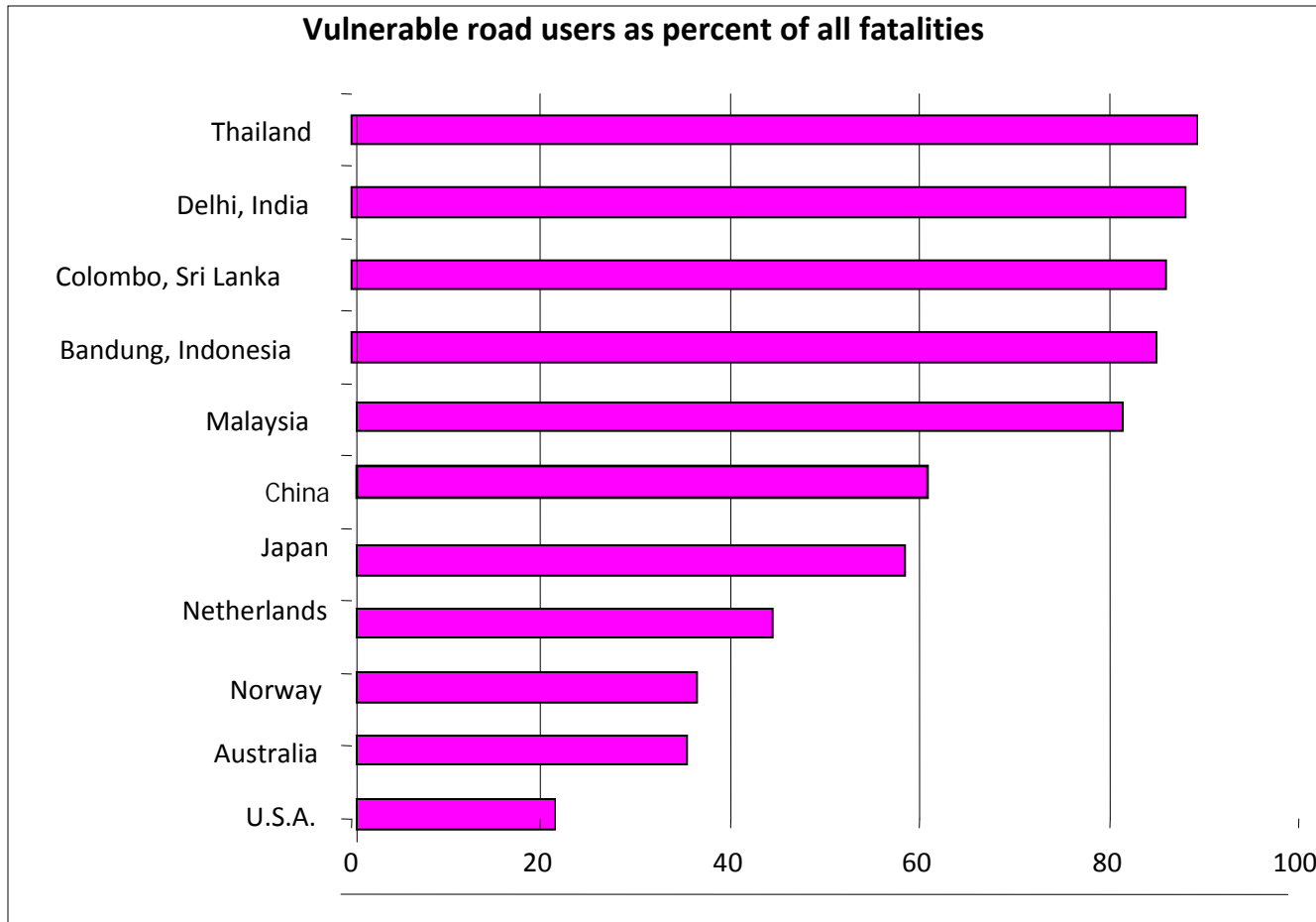
Fatalities per 10,000 Crashes



Source: Reich MR, Nantulya V. Road Traffic Injuries in Developing Countries: Strategies for Prevention and Control. Presented at the Road Traffic Injuries and Health Equity Conference, Harvard University, Cambridge, MA, April 10-12, 2002.



Vulnerable road users constitute a larger proportion of fatalities in developing countries



Source: Adapted from *The World Report on Road Traffic Injury Prevention*; “Vulnerable road users” are combined totals for pedestrians, bicyclists, and motorcyclists. China data from Jonathon Passmore, average figures for 1995-2002.

Road Traffic Injuries are the Perfect Plague

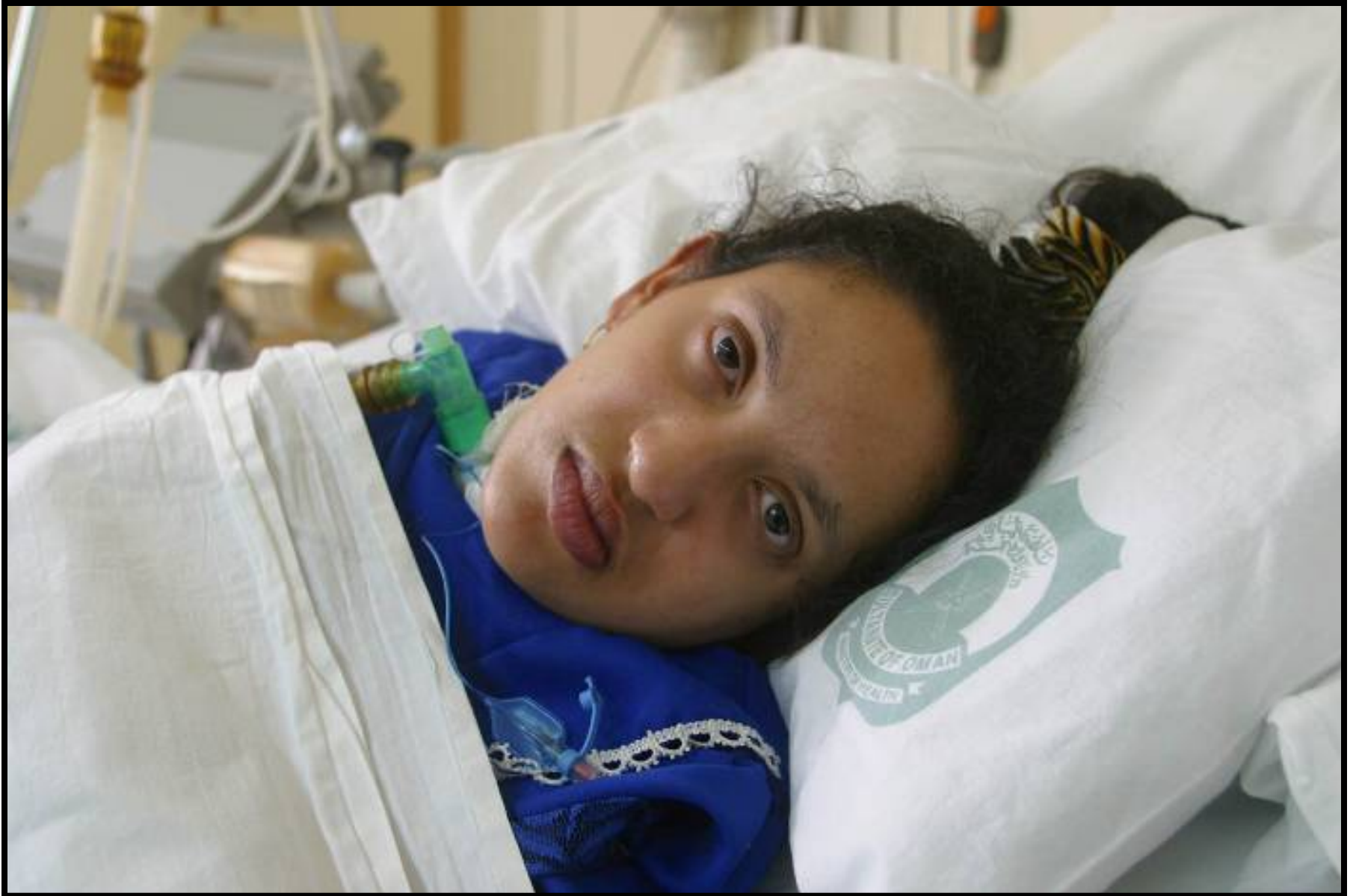
- Adding more and more vehicles to an inadequate infrastructure with new drivers and inadequate enforcement leaves vulnerable road users to suffer the consequences.
- We are manufacturing the “Perfect Plague,”
 - Perfectly predictable
 - Perfectly preventable

Road traffic injuries share a comparable burden of deaths when compared with Malaria or TB

Twelve leading causes of mortality, 2002

Rank Deaths	Cause	Proportion of total (%)
1	Ischaemic heart disease	12.6
2	Cerebrovascular disease	9.7
3	Lower respiratory infections	6.9
4	HIV/AIDS	4.8
5	Chronic obstructive pulmonary disease	4.8
6	Perinatal conditions	4.3
7	Diarrhoeal diseases	3.3
8	Tuberculosis	2.7
9	Trachea, bronchus, lung cancers	2.2
10	Road traffic injuries	2.1
11	Diabetes mellitus	1.7
12	Malaria	1.6





When injuries are added to fatalities, the scale of the problem surpasses malaria and tuberculosis

Disease or injury	DALYs ranking 2002	DALYs 2030	Optimistic 2030	Male 2030
Perinatal conditions	1	5	7	5
Lower respiratory conditions	2	9		9
HIV/AIDS	3	1	1	1
Unipolar depressive disorders	4	2	2	6
Diarrhoeal diseases	5	13		
Ischaemic heart disease	6	3	3	3
Cerebrovascular disease	7	6	5	7
Road traffic crashes	8	7	4	2
Malaria	9	15		
Tuberculosis	10	10		8

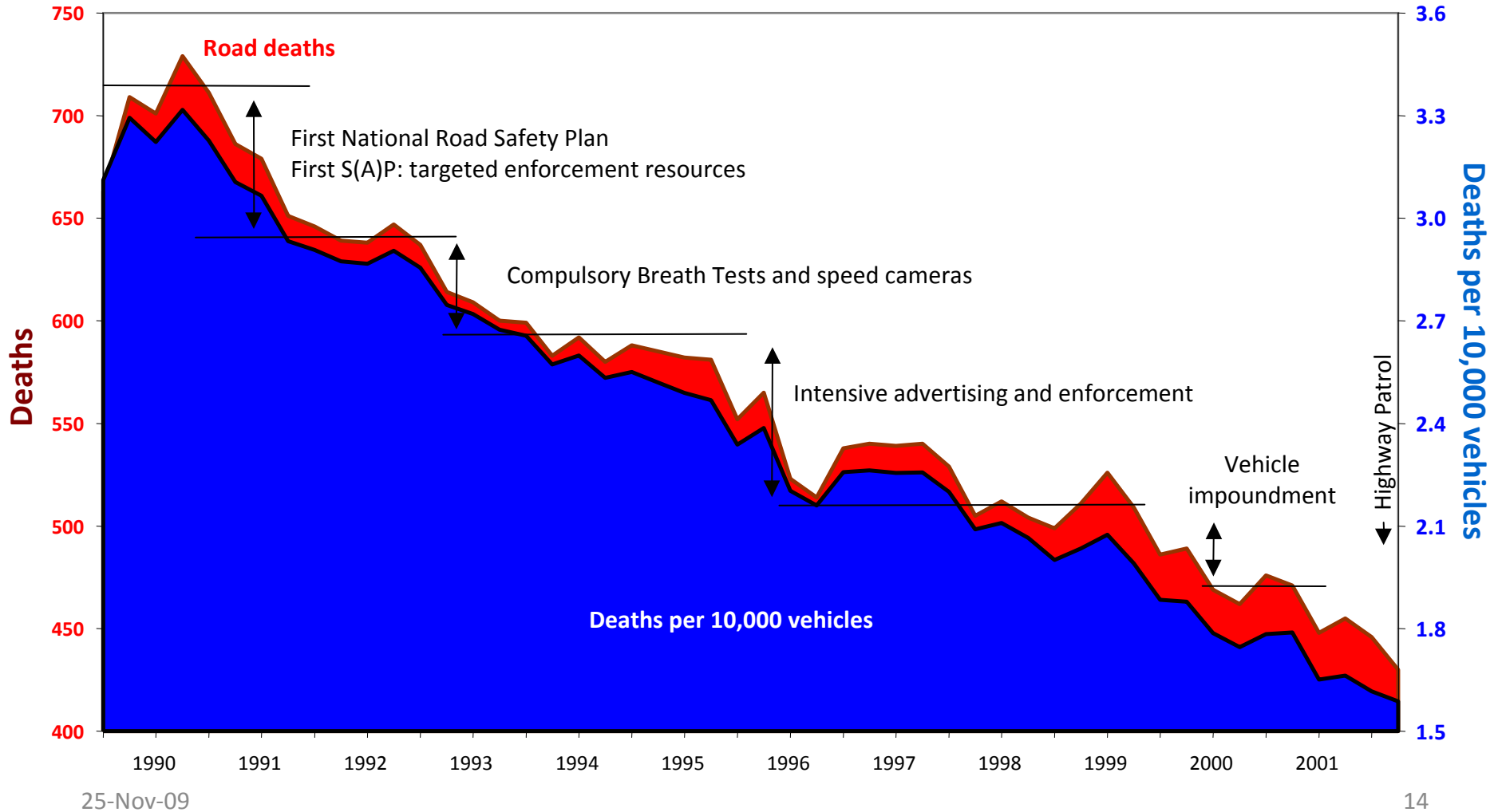
**There are proven-effective
tools that can stop this
epidemic**



We have an intervention package that works

- speed
- impaired driving
- seatbelts
- helmets
- **roadway design**

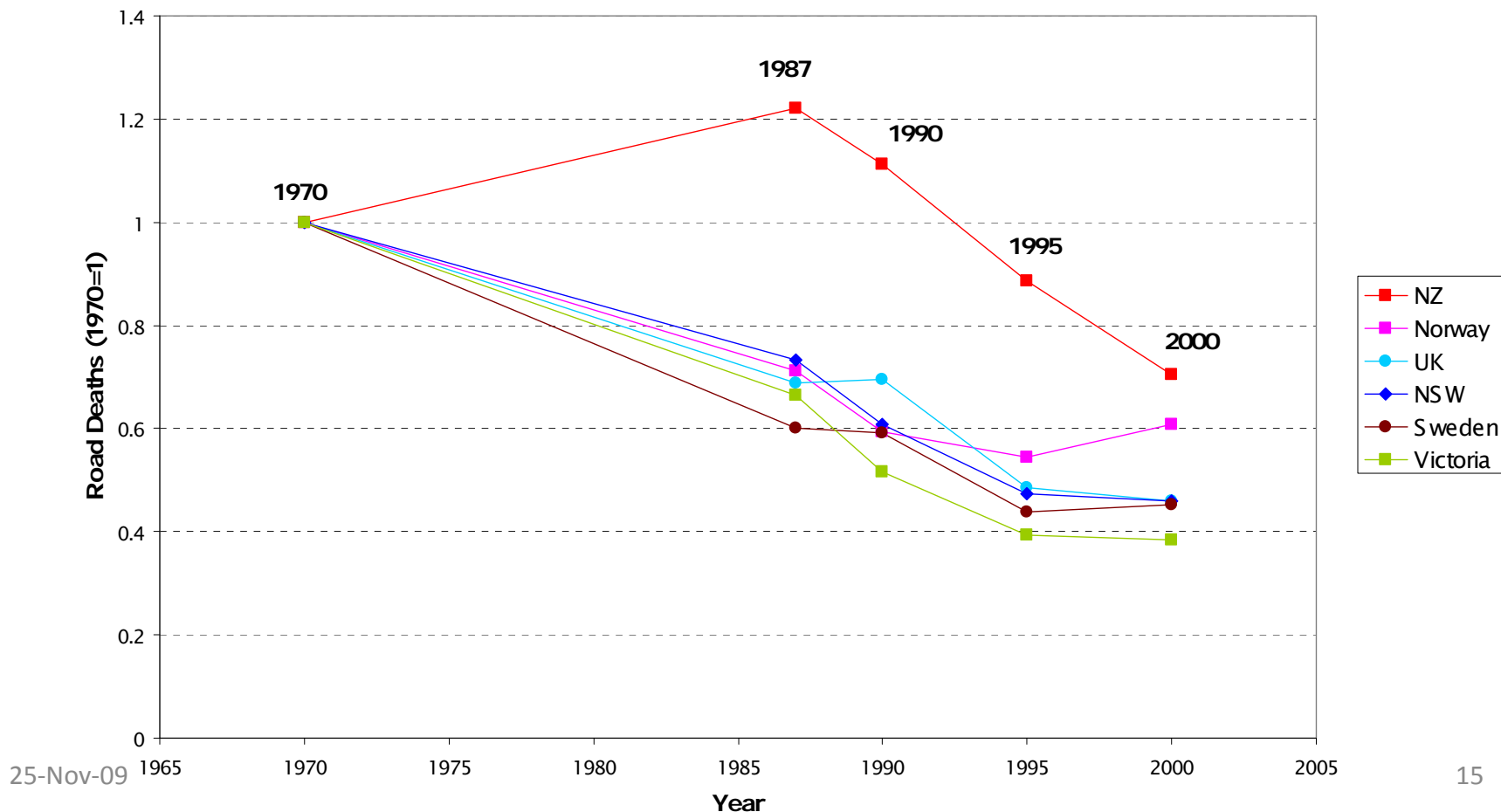
NZ's effective new measures and multiple initiatives kept reducing the death toll





Road traffic death rates have been dramatically reduced in developed countries

- New Zealand started later than other countries but achieved a rapid decrease in road traffic death rates





Roundabouts Save Lives

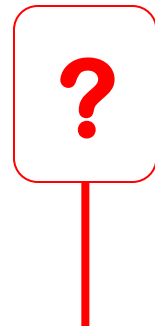
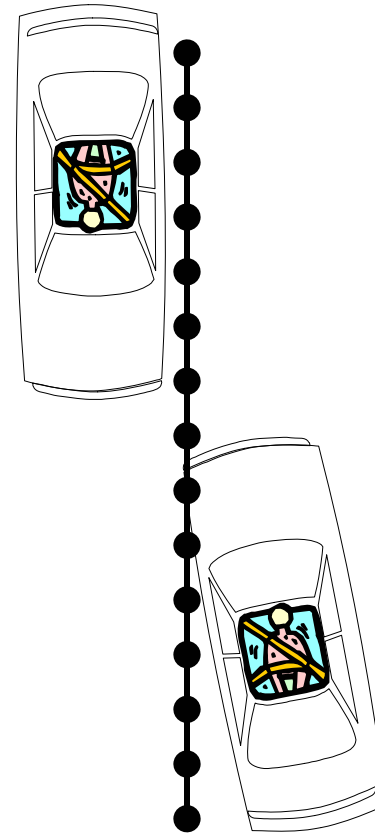
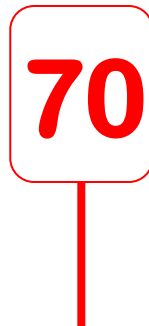
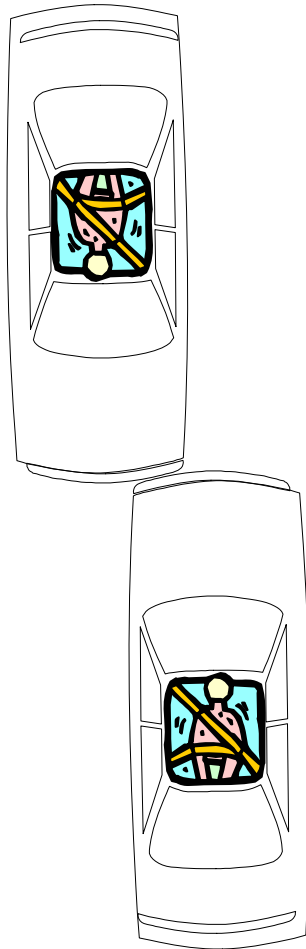


Focus on crashes results in signals
Focus on injuries results in roundabouts

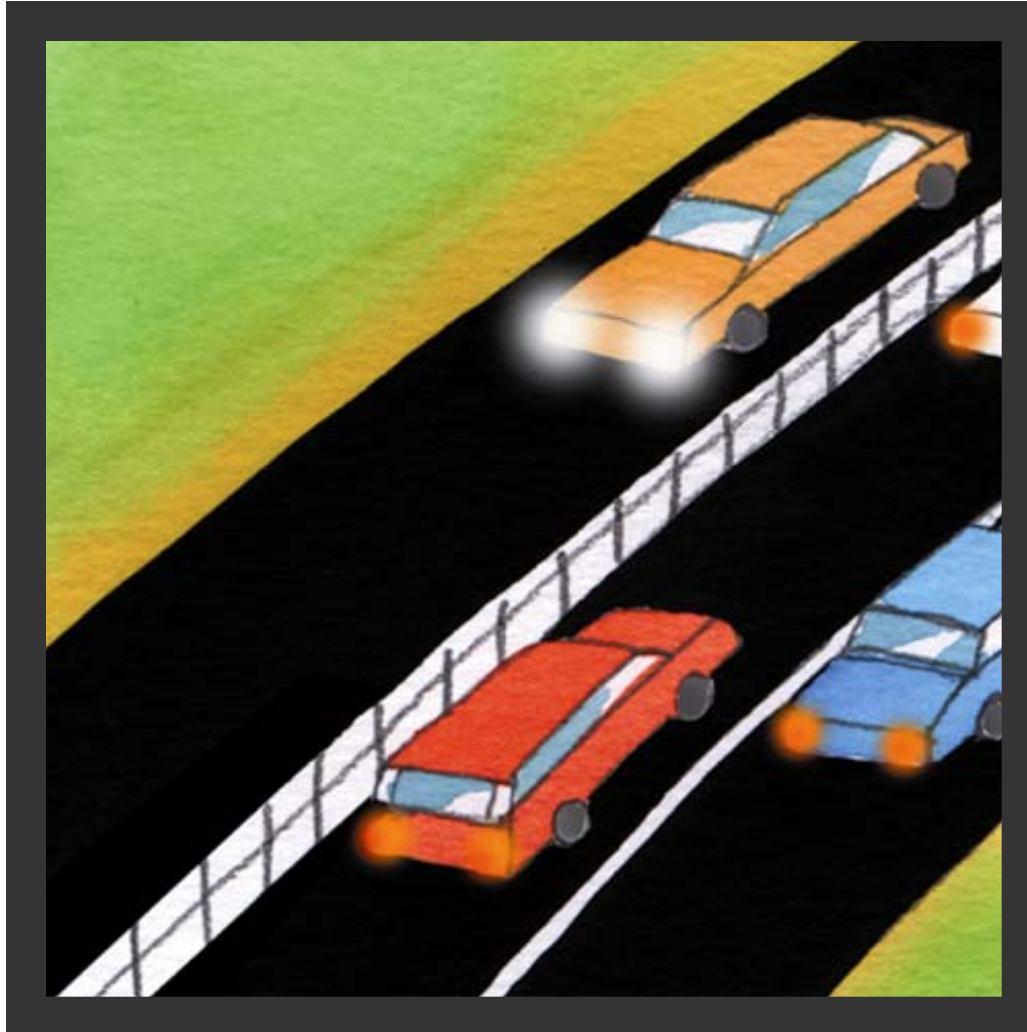
Roundabouts are one of the new “vaccines for road safety”

- 80-90% reduction of fatal injuries compared to traditional intersections in Sweden
- As effective as our best vaccines
- Generally well accepted by citizens

The Crashworthy System



Another Road Safety Vaccine: CENTER GUARD RAILS

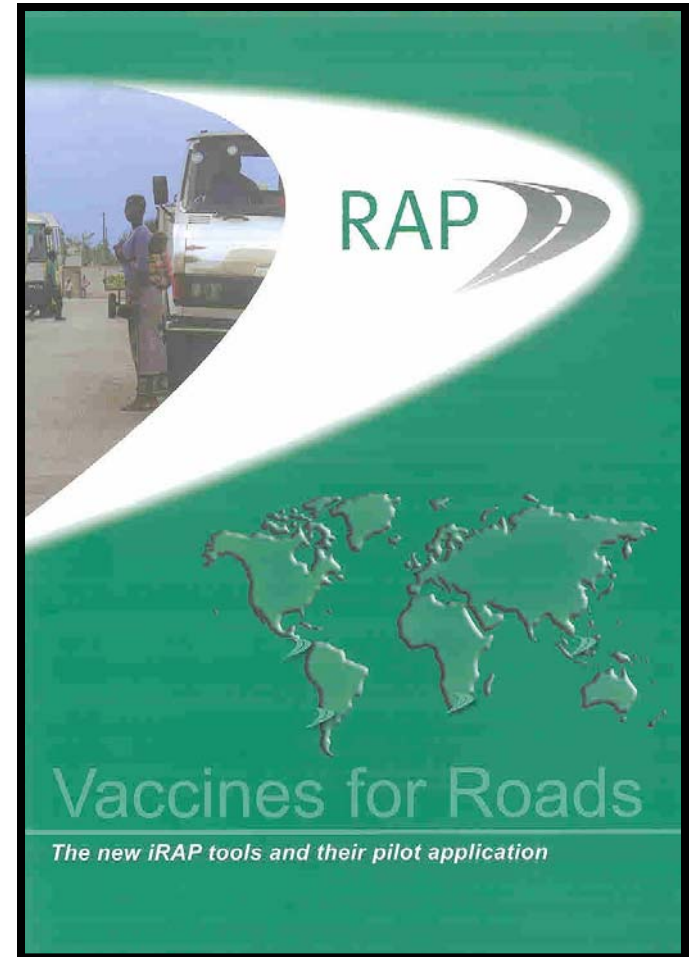


Results of mid barrier programme

- 70-80% reduction in deaths
- 10-20 times more cost effective than earlier, in fact a marginal decrease of the cost of saving lives.

There are now “Vaccines for Roads” but the challenge lies in how to use them

- speed
- impaired driving
- seatbelts
- helmets
- roadway design



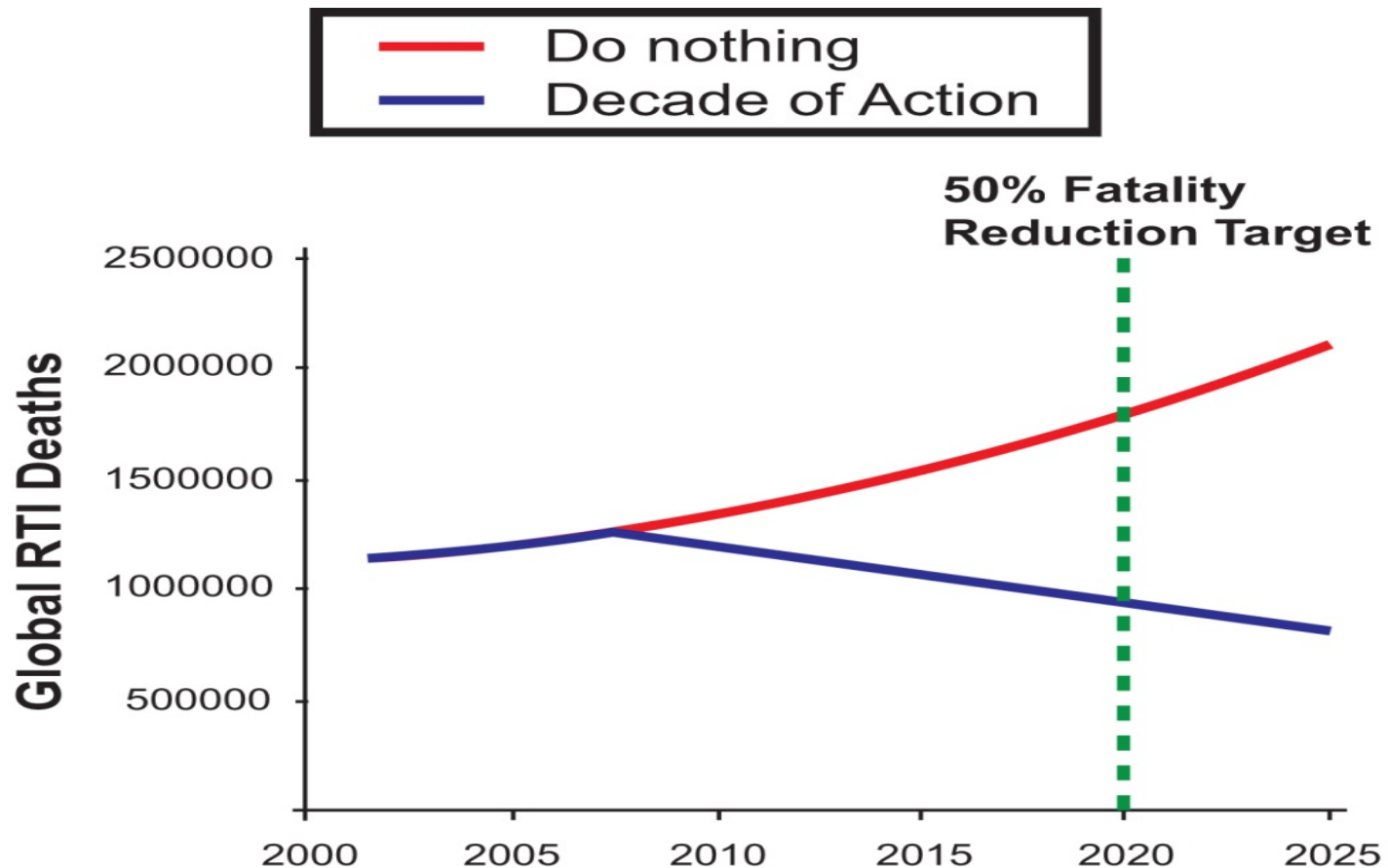
**The real bottleneck is at the
delivery or implementation stage**

“Knowing is not enough; we must
apply.

Willing is not enough; we must
do.”

Goethe

The Moscow Global Ministerial Conference will recommend a 50% reduction in projected fatalities



Green line shows possible road fatality savings by 2020 if a Decade of Action for Road Safety results in sustained governmental action for road injury prevention

India had to show the world the right way to use smallpox vaccine and deliver it

- **1959**—WHO published a report that estimated global eradication could be achieved in 4-5 years through a massive effort but administrative problems at WHO sapped the momentum.
- **1966**—In northern Nigeria in 1966 they had several hundred outbreaks of smallpox. They had been trying to immunize everyone, but they were running short of vaccine so the decision was made to use the vaccine only in those villages where there were active cases of smallpox.
- **1973**—India had 87,000 cases of smallpox and they were using mass immunization but finding the situation quite hopeless. A decision was made to applied the containment strategy. Within two years the number of cases fell to no cases at all in the spring of 1975.

Smallpox is not quite the same as Road Traffic Injuries

- Infectious disease vs man-made injury problem
- No single magic bullet for RTIs—a combination of multiple interventions based on information about

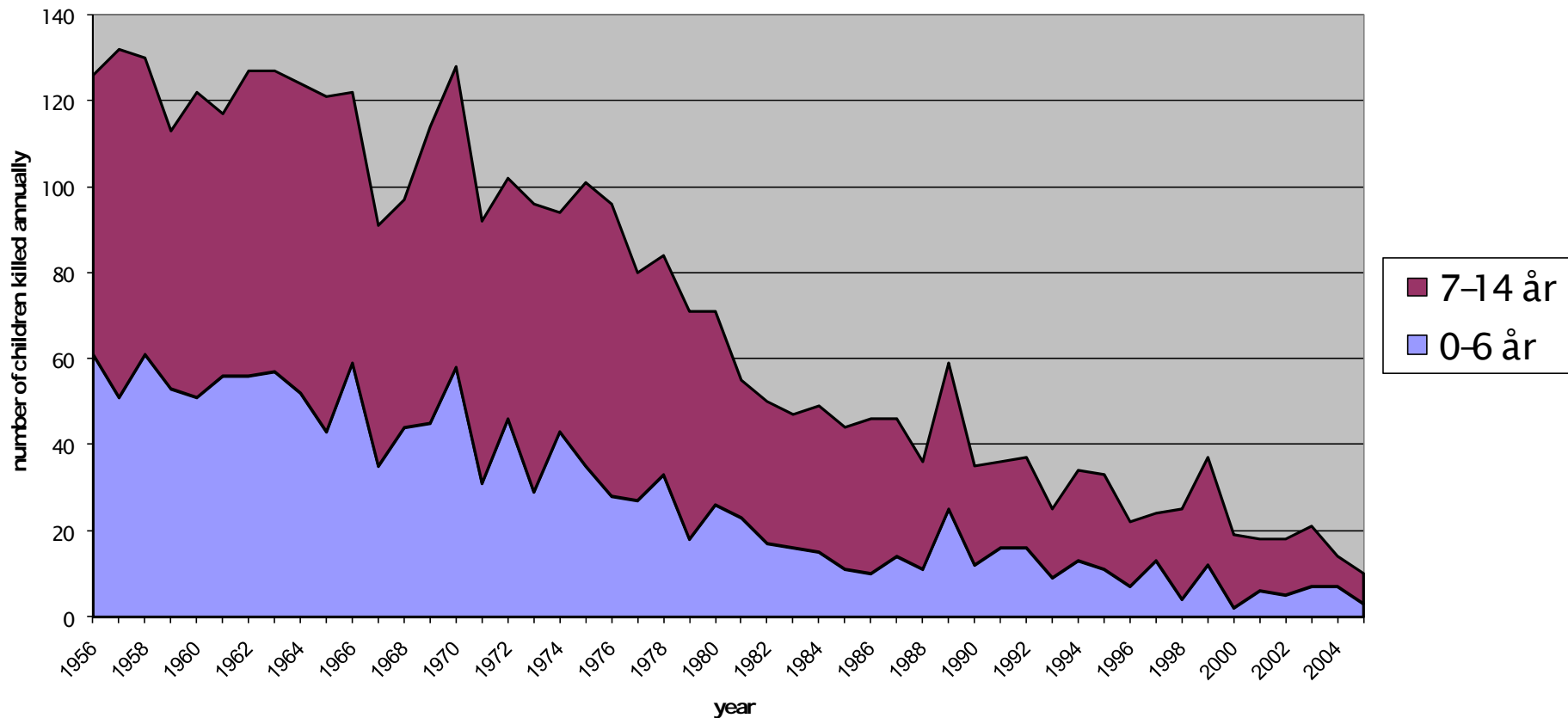


The strategy required a massive capacity building effort

- More than a quarter of a million workers were trained and mobilized
- The campaign came so close to being undone when improved surveillance actually raised the number of cases being reported
- Less than 3 years later the World Health Organization declared the world free of naturally occurring smallpox.
- In two days, the world will celebrate the 30th anniversary of smallpox eradication, the first time that a devastating disease has ever been eradicated from the face of the earth.

The Eradication of Smallpox inspired Sweden's Vision Zero

Children killed in traffic in Sweden 1956-2005



The National Road Safety Councils and the Health Sector Must be Important Partners in Global Road Safety

- India's National and State Road Safety Councils or Boards have a very, very important role to play in building capacity.
- The health sector has resources in:
 - information systems/data for action
 - Prevention (Public health approach, biological risk factors)
 - care and rehabilitation of injured victims
- The health sector sees the hospital beds filled with road traffic injury victims
- The health sector can and must be a driver for change: this is a matter of life and death!

India is an extraordinary country

- Extraordinary resources, extraordinary people, an extraordinary democracy, and an extraordinary challenge
- The timing is right with the upcoming Decade of Action to develop the Road Safety Councils at national and state levels into truly effective bodies that start working and producing safety right now.
- India achieved the greatest public health victory of all time: in eradicating smallpox, India showed the world what was possible. It is time for India to lead the way again.