

The Controversy: Control or Eradication?

We cannot refrain altogether from examining the roots of this controversy if only because the extreme views for and against eradication have exerted and are still exerting a ... highly detrimental influence on public health practice.

- P. Yekutieli (1980), *Eradiation of Infectious Diseases: A critical Study*

Definition: Polio Eradication

The elimination of the indigenous transmission of wild poliomyelitis viruses (WHA Resolution 41.28, 1988)

VS

The permanent reduction to zero of the worldwide incidence of infection caused by a specific agent as a result of deliberate efforts (Dahlem Workshop, 1997)

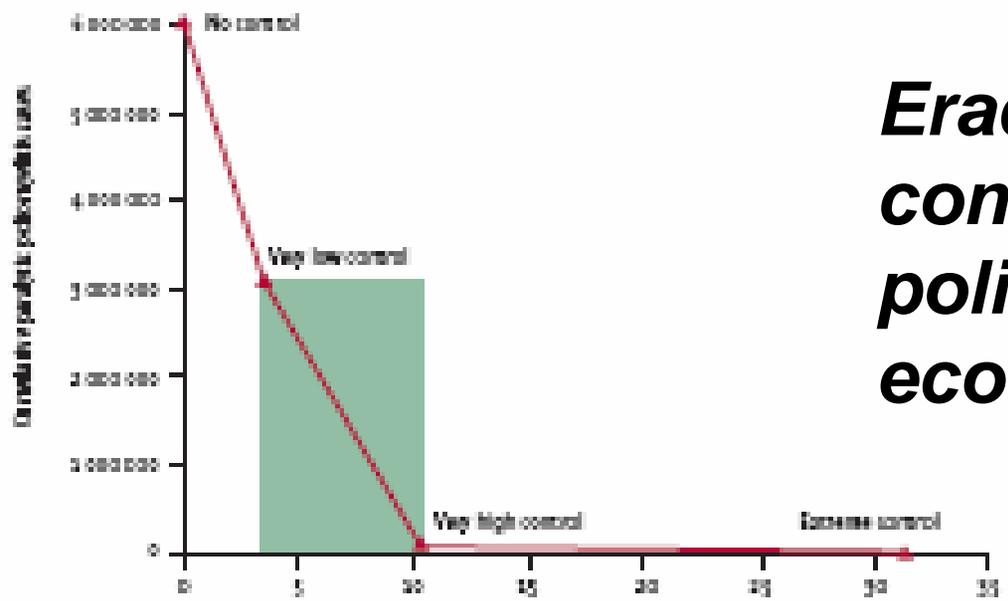
Eradication requires

1. Population immunity
2. Total control of all viruses (WT and OPV revertants)

Options available

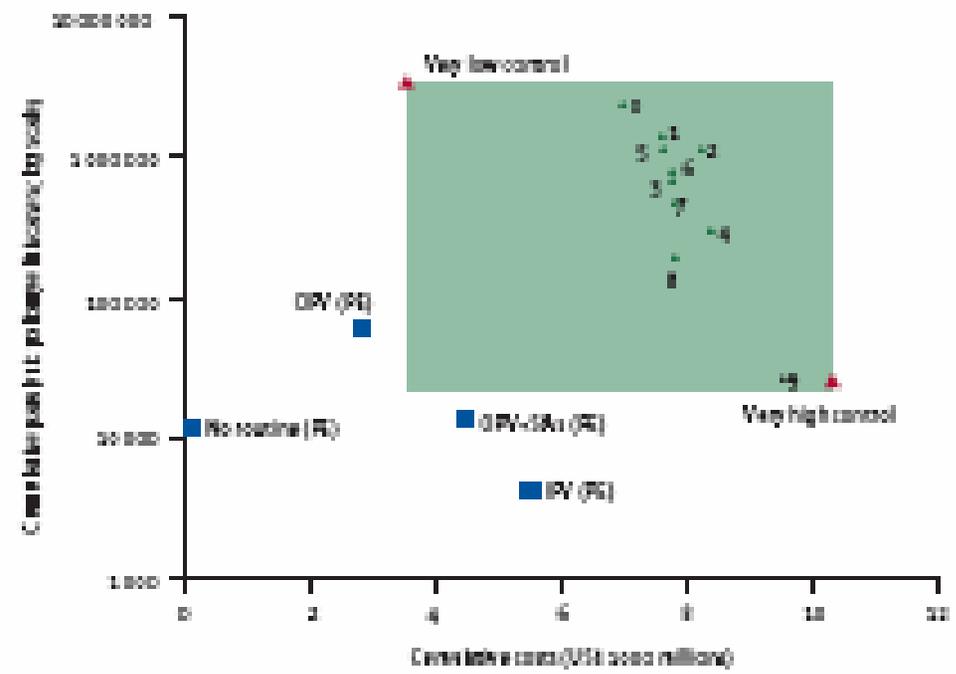
1. Continue OPV
 2. Stop OPV → Switch to IPV → Continue indefinitely
 3. Stop OPV → Hope for the best
- 

A



Eradication versus control for poliomyelitis: an economic analysis

B



IPV scenario ~\$6 Billion for low income countries

Is eradication half way there?

Estimated Costs: Post Polio Eradication

Table 62.4 Postpolio Eradication Costs
(Millions of U.S. dollars)

	Continue OPV	Stop OPV	Universal IPV
Low-income countries	1,364	487	4,418
Middle-income countries	12,196	12,196	12,196
High-income countries	6,409	6,409	6,409
Subtotal	19,969	19,092	23,023
Global response capacity	1,120	1,320	1,120
Total	21,089	20,412	24,143

Source: Sangrujee, Cáceres, and Cochi 2004.

Note: Costs are expressed in present value terms, calculated over the period 2005 to 2020, and discounted at 3 percent.

Should do no harm

- Outbreak response with OPV is fighting fire with fire
 - Each successive year, increased danger from accumulation of susceptible persons
 - Increased age of infection, increased pathology?

Conclusion

- Appreciate the danger of cessation of immunization in countries
 - Use of OPV for outbreaks would pose great harm to susceptible populations
 - Models 50-100% certainty of return
- Recognize utility of IPV
- Need to account for long-term costs of polio control/ “sustained eradication” beyond a political definition