

# Deployment lessons learned: Intra-agency response to a wild poliovirus outbreak in southern Africa

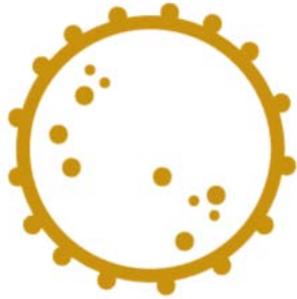


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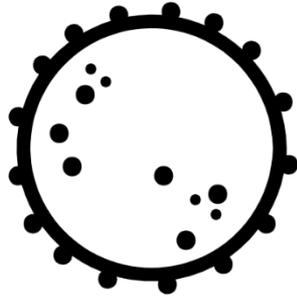


**Background**

# Polio disease is caused by 3 serotypes of human enterovirus



**Poliovirus 1**

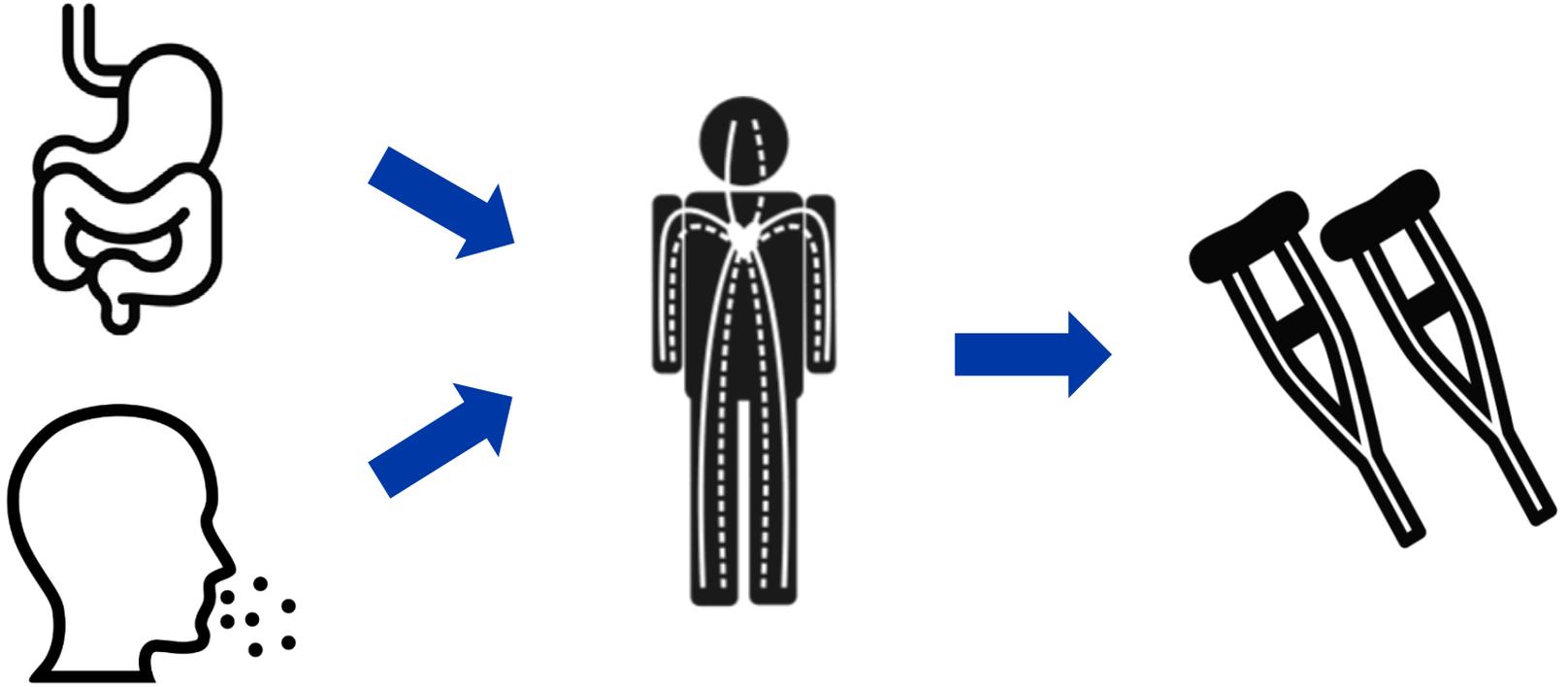


**Poliovirus 2**



**Poliovirus 3**

# Polio is transmitted via the fecal-oral route or respiratory droplets



**Children < 5 years old are at increased risk of infection**



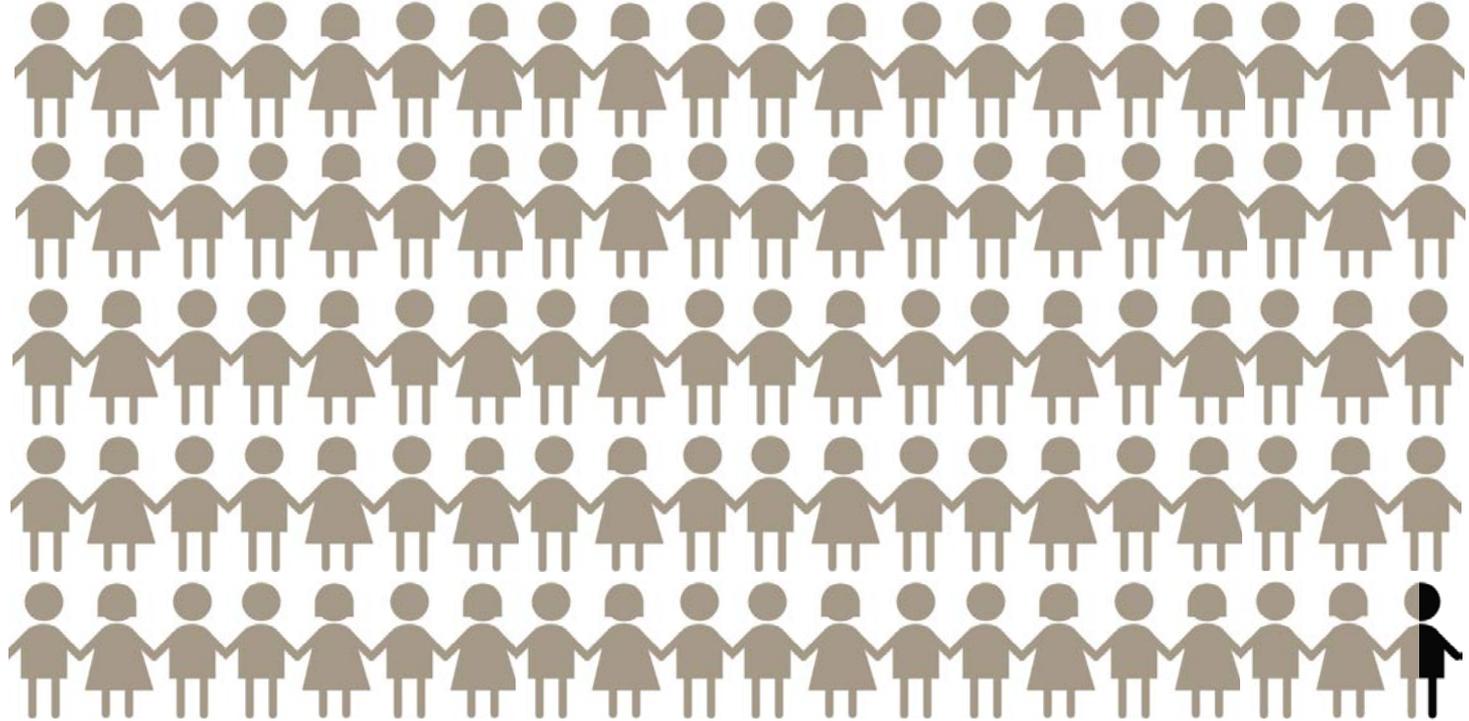
**Most poliovirus infections are asymptomatic**



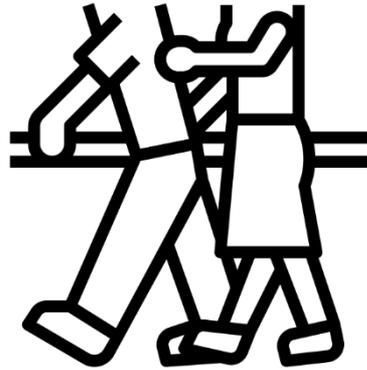
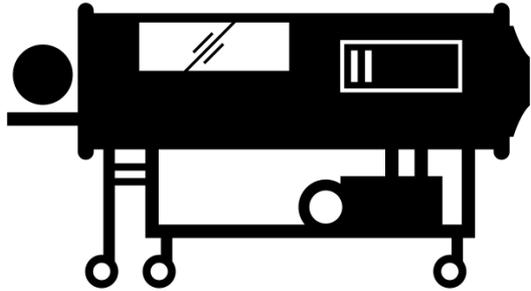
**One in four experience flu-like symptoms**



Less than 1% of all polio infections result in paralysis



# Paralytic polio is irreversible; treatment is supportive



# Vaccine development facilitated disease control

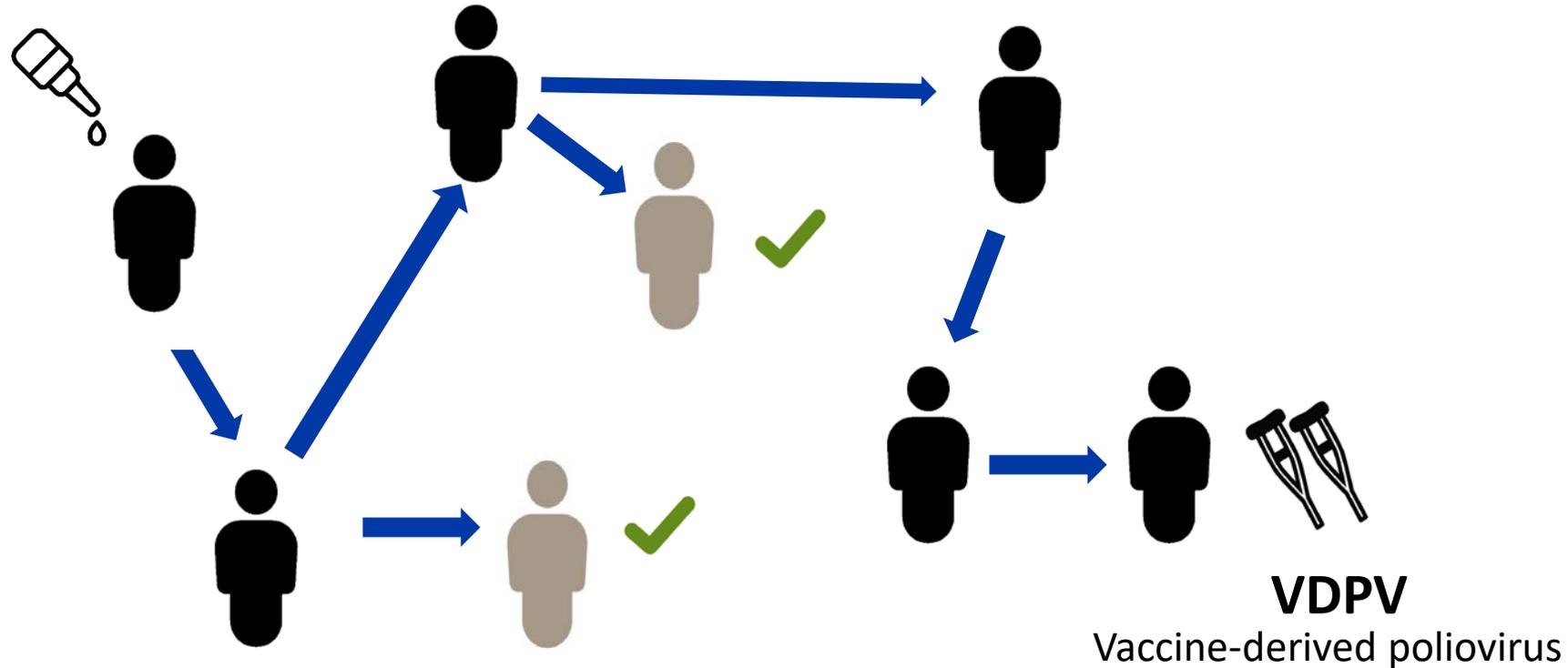


Oral polio vaccine  
(OPV)

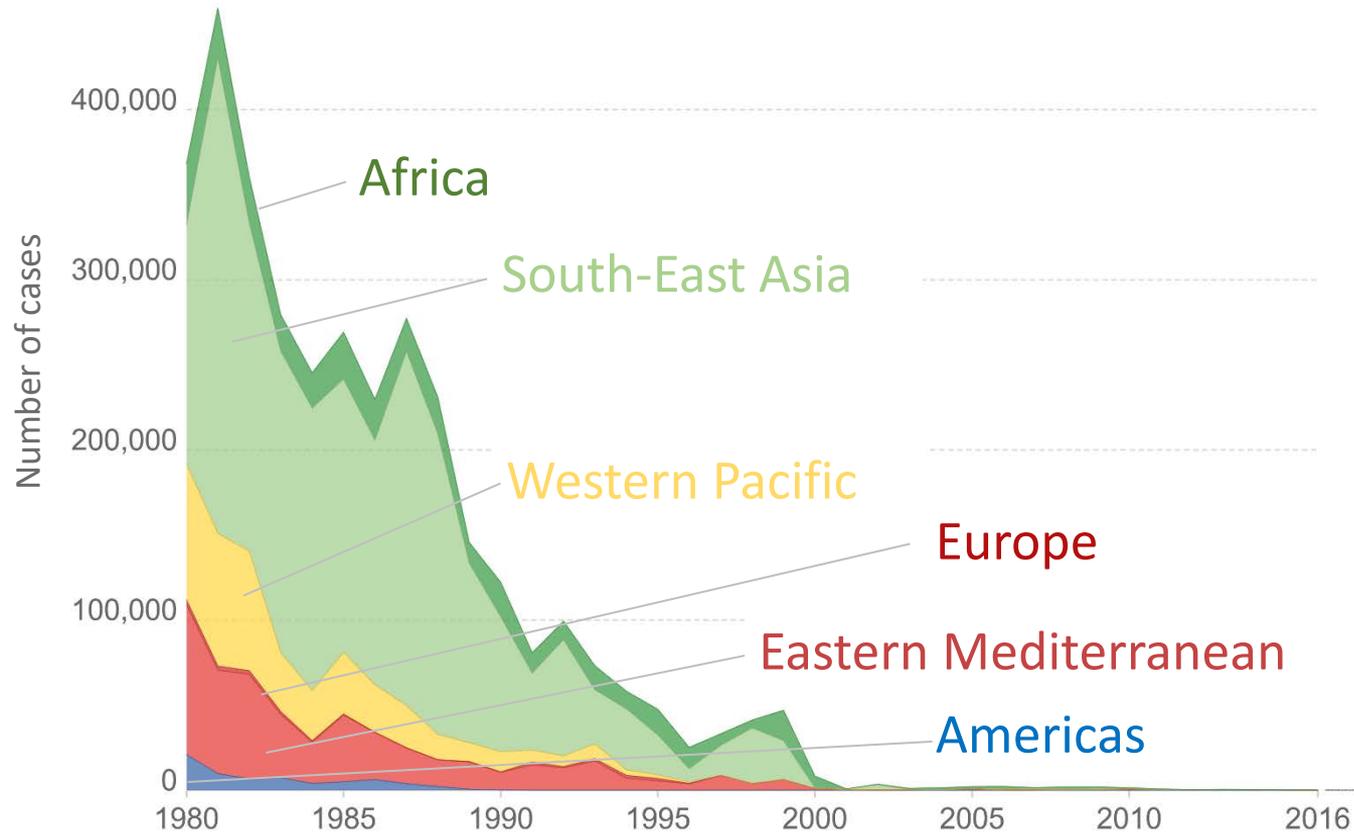


Inactivated polio vaccine  
(IPV)

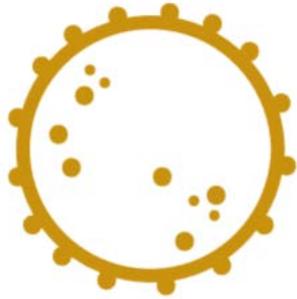
# Very rarely, OPV can mutate back to neuro-invasive poliovirus in non-immune populations



# Globally, cases of polio have become rare events



# Two of three wild poliovirus strains have been eradicated



**Poliovirus 1**



**Poliovirus 2**



**Poliovirus 3**

# Two countries have endemic wild polio transmission



The Global Polio Eradication Initiative (GPEI)  
is a private-public partnership tasked with polio  
eradication

**POLIO** | **GLOBAL**  
**ERADICATION**  
**INITIATIVE**

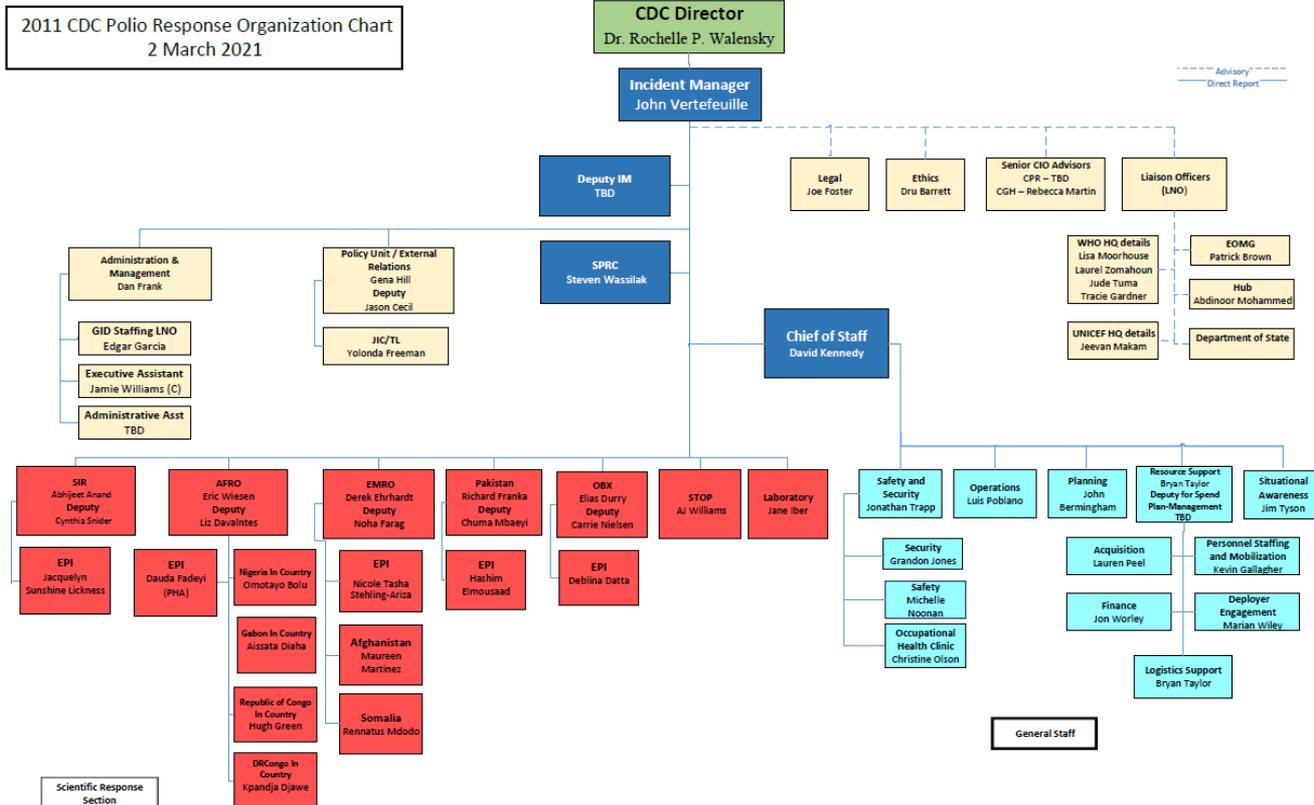
every  last  child

# CDC is a core GPEI partner

BILL &  
MELINDA  
GATES  
*foundation*



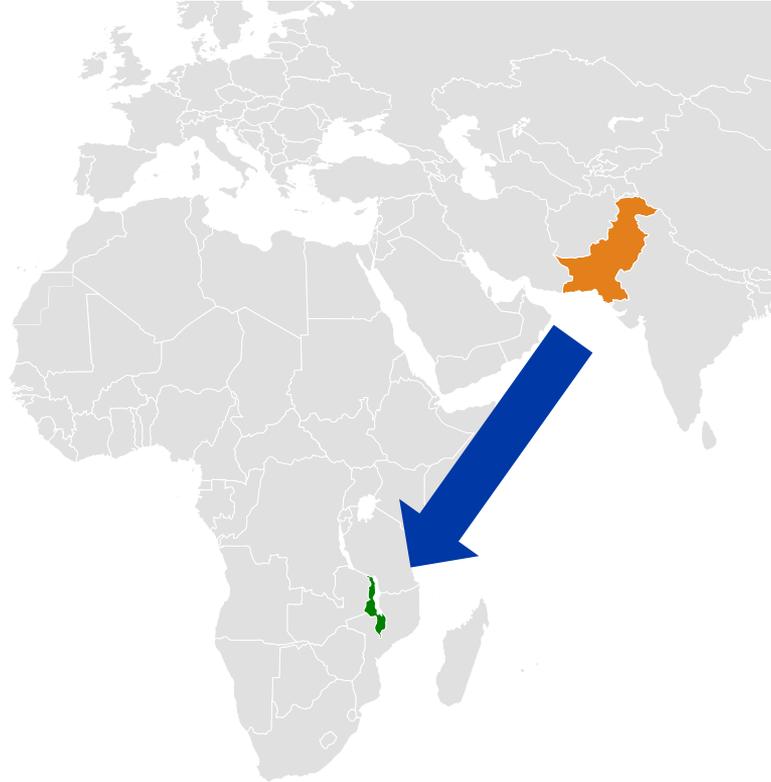
# Since 2011, polio has had its own Emergency Operations Center activation at CDC



**In February 2022, a case of wild polio type 1 (WPV1) was detected in Malawi**



# Genetic analysis shows that the wild-type 1 virus was linked to a strain last seen in Pakistan in 2019

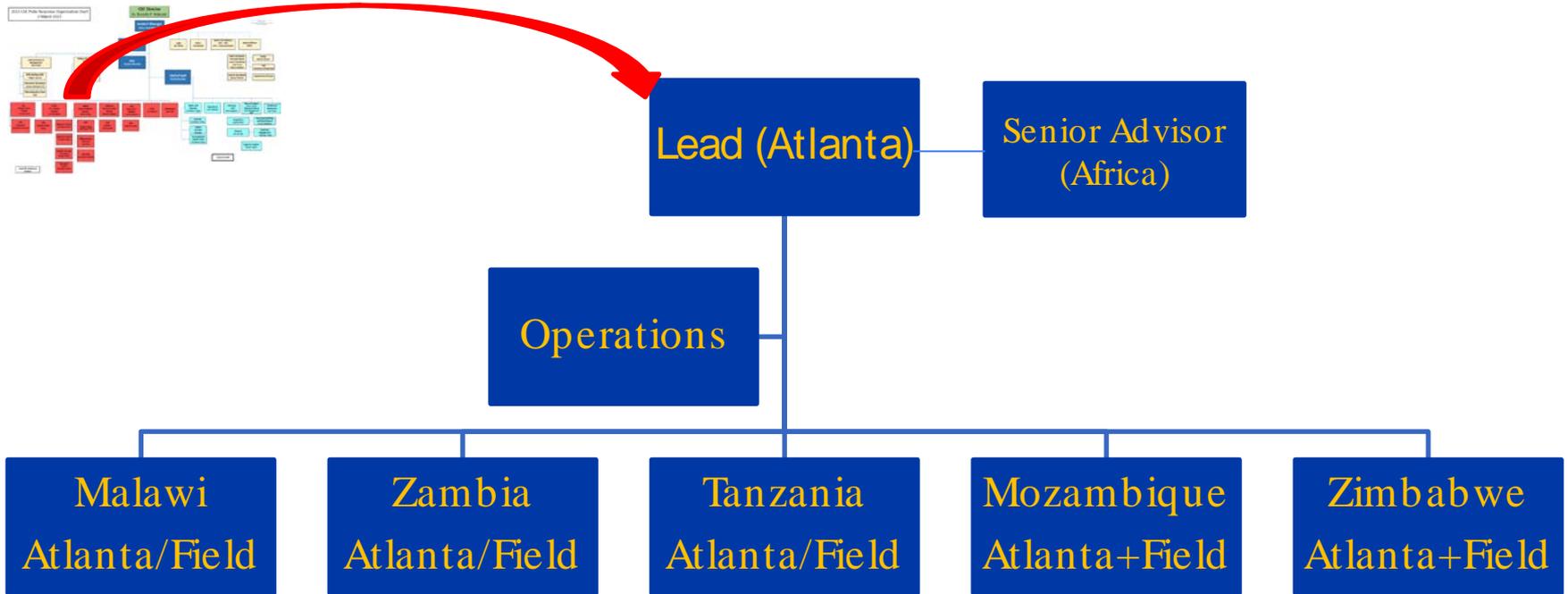


**GPEI partners, including CDC, responded collaboratively in force to this outbreak**

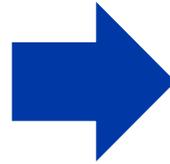
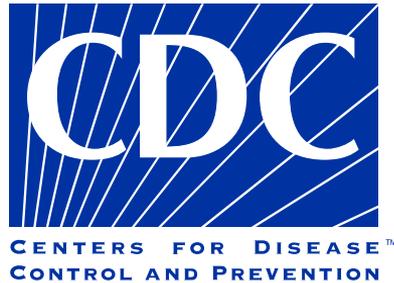


**CDC Response**

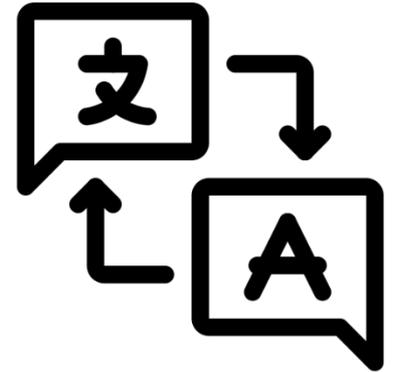
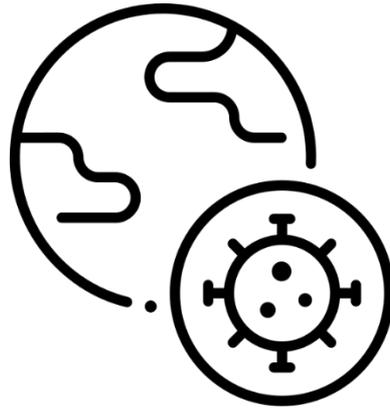
# CDC's Polio Eradication Branch created an emergency response structure to specifically manage this outbreak



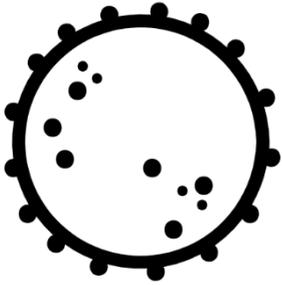
To quickly augment CDC's surge capability, non-polio staff were deployed to Africa



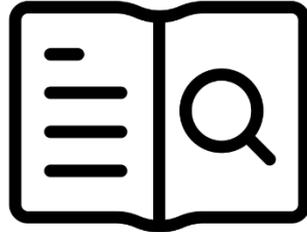
# Recruitment targeted staff with skills translatable to the polio response



# A 4-hour just-in-time training was developed and administered to every responder before departure



**Polio  
Epidemiology  
Basics**



**Surveillance  
Strengthening**

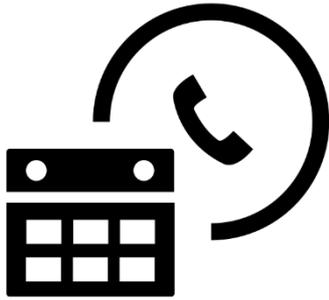


**Mass Vaccination  
Campaign Oversight**



**Country-Specific  
Briefing**

# Surge staff received extensive monitoring and support in the field



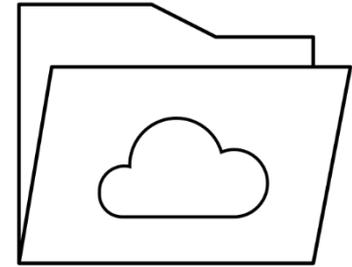
**Weekly Meetings**



**WhatsApp Monitoring Groups**

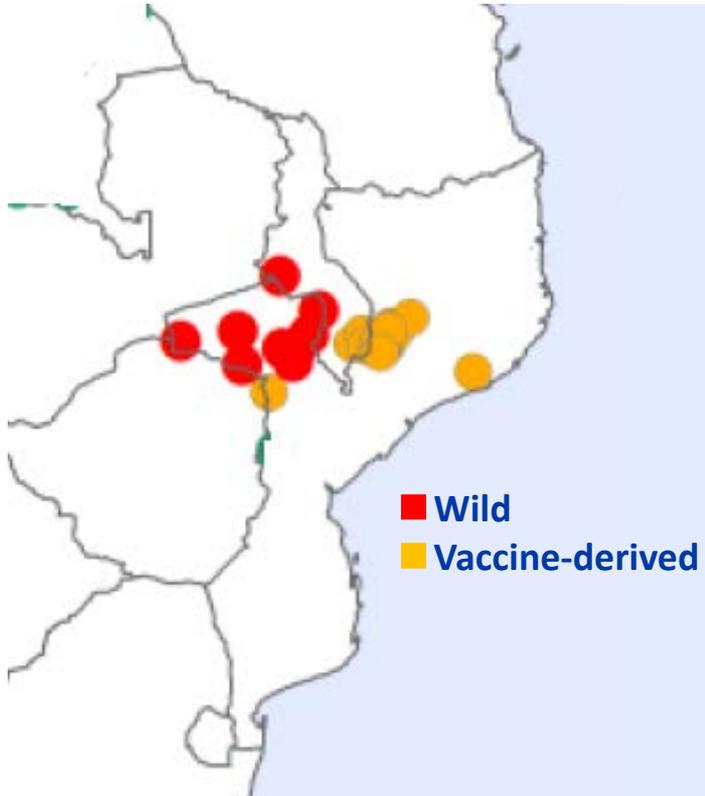


**Weekly Reports**



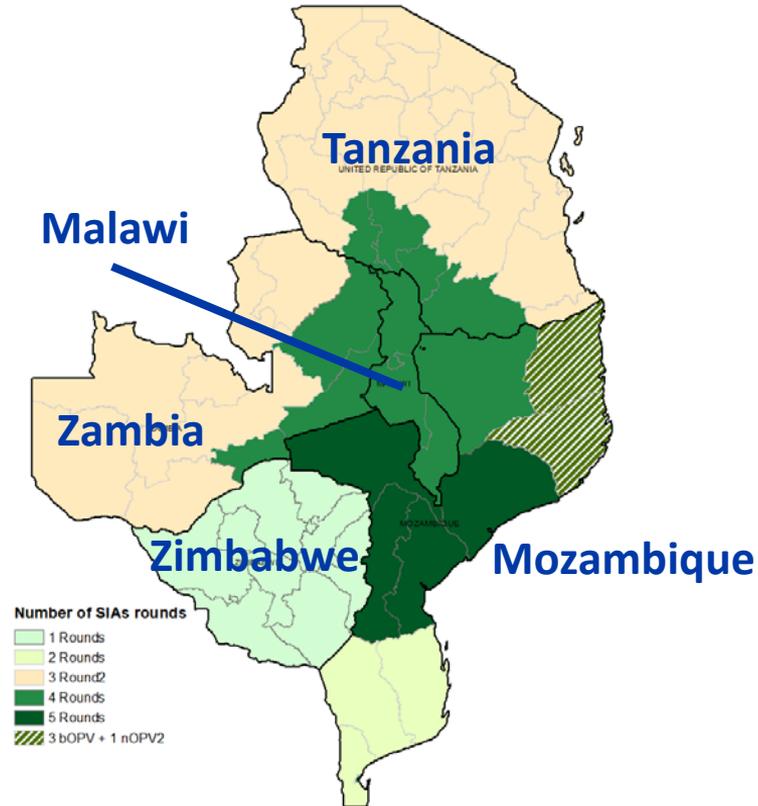
**Share Drive**

# CDC staff have responded to 28 cases of type 1 polio, as of 11/11/22

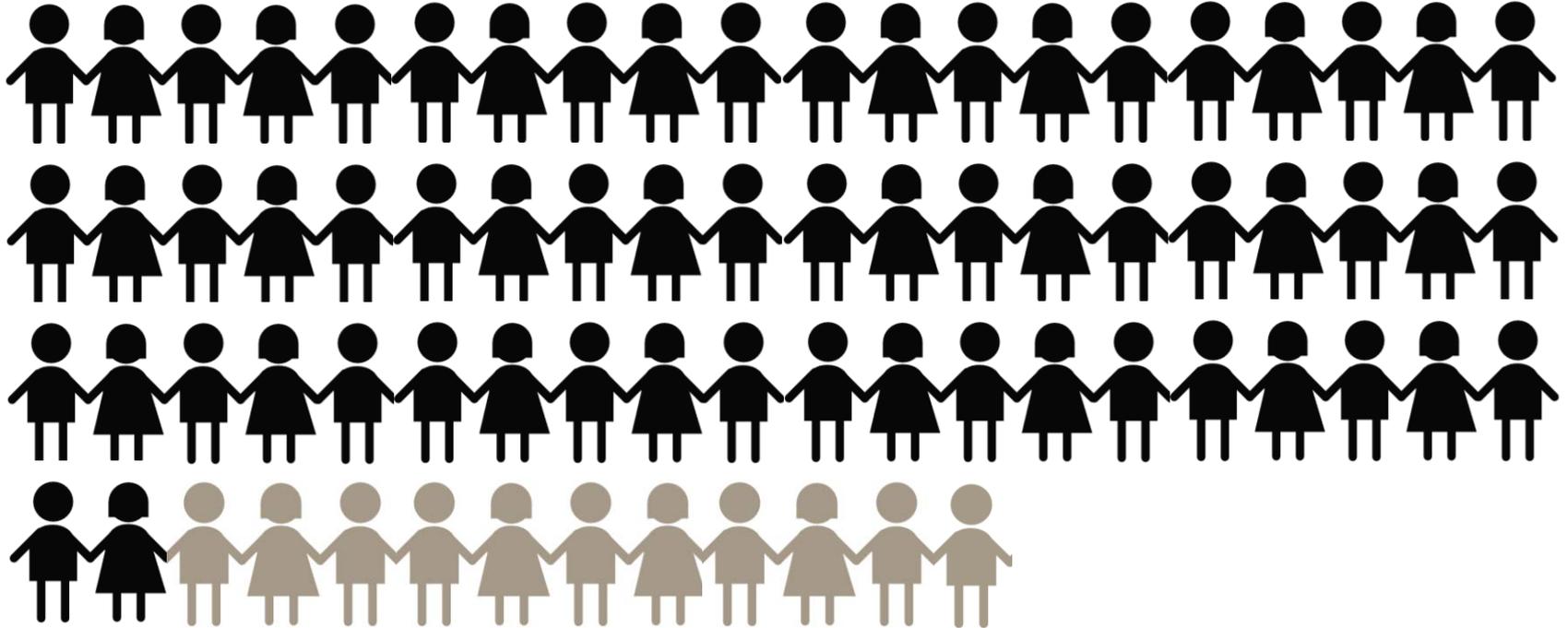


	Malawi	Mozambique	Total
Wild	1	8	9
Vaccine-derived	3	16	19
Total	4	24	28

# CDC supported multiple rounds of polio vaccination campaigns in 5 countries to counteract WPV1 spread



# 73 CDC staff contributed to the international response



■ Civil Service ■ USPHS

# USPHS officers were disproportionately repeat responders



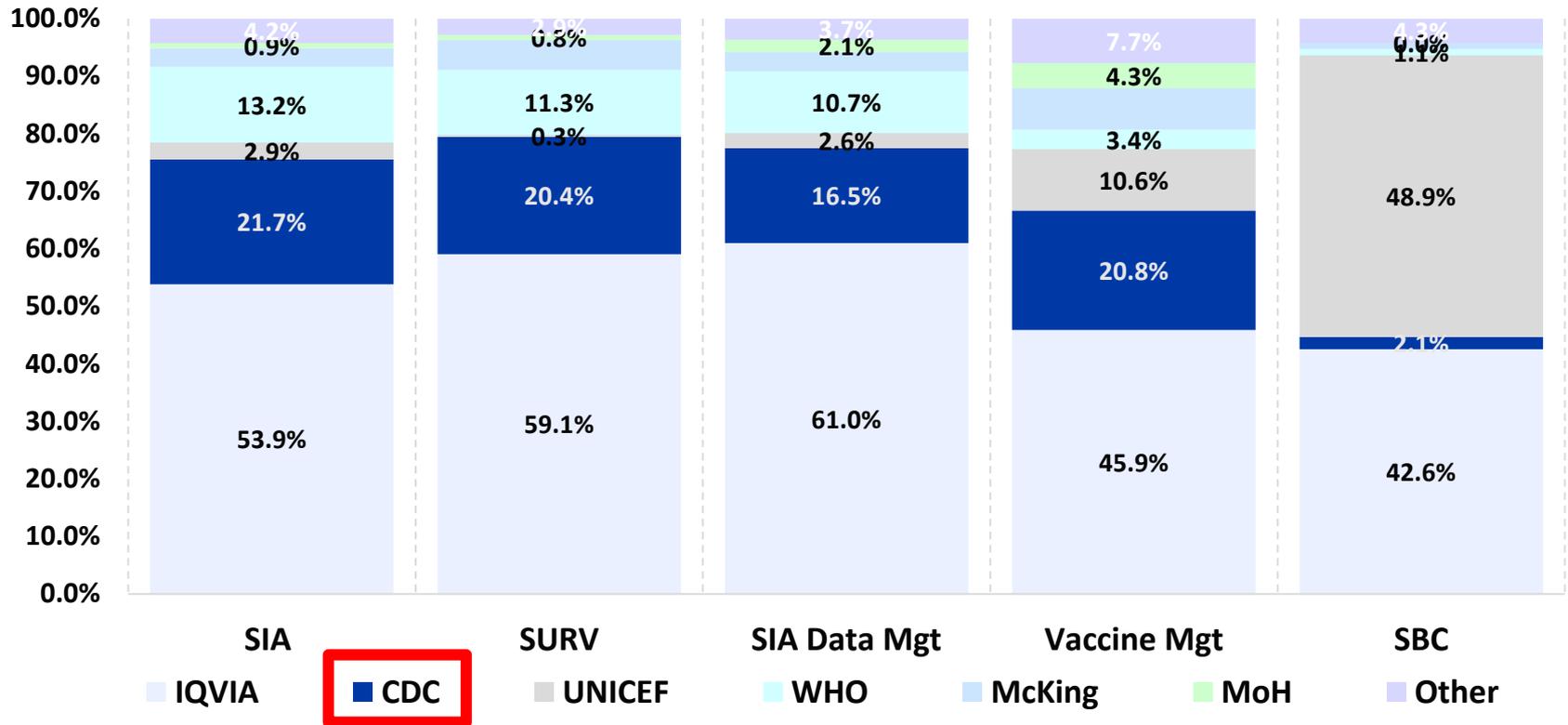
■ Civil Service ■ USPHS

**CDC provided extensive field support**

**2,508**

**Person-days of field technical  
assistance over 82 deployments**

# CDC staff made major contributions to core polio outbreak response strategies



# Staff supported diverse outbreak response activities, some of which were uniquely provided by CDC



# CDC field staff in action



# CDC field staff in action



# Lessons Learned

# Emergency responses are chaotic, especially at the beginning, and flexibility is key

- Organize a response structure early
- Separate headquarters and field leads for the 5 countries improved coordination
- Plan ahead to surmount administrative hurdles
- Think creatively to reach goals
- Over-communicate everything
- Be flexible with changing leadership

# CDC staff are epidemiology experts but need support to transition to the global polio context

- Adjust staff recruitment profile as response needs change
- Close monitoring is critical
- Accommodate multiple learning styles
- Response fatigue was a challenge to recruitment

# Diplomacy is just as important as scientific expertise to response success

- Partnership with CDC Country Offices is essential
- Deferring to the local Ministry of Health to direct CDC's response posture
- Close alliances with other GPEI partners
- Working collaboratively to allocate scarce resources
- Emphasizing the importance of responding to the polio outbreak despite competing priorities
- Constant presence of in-person CDC staff greatly advanced the mission

# Learn from each other and be creative

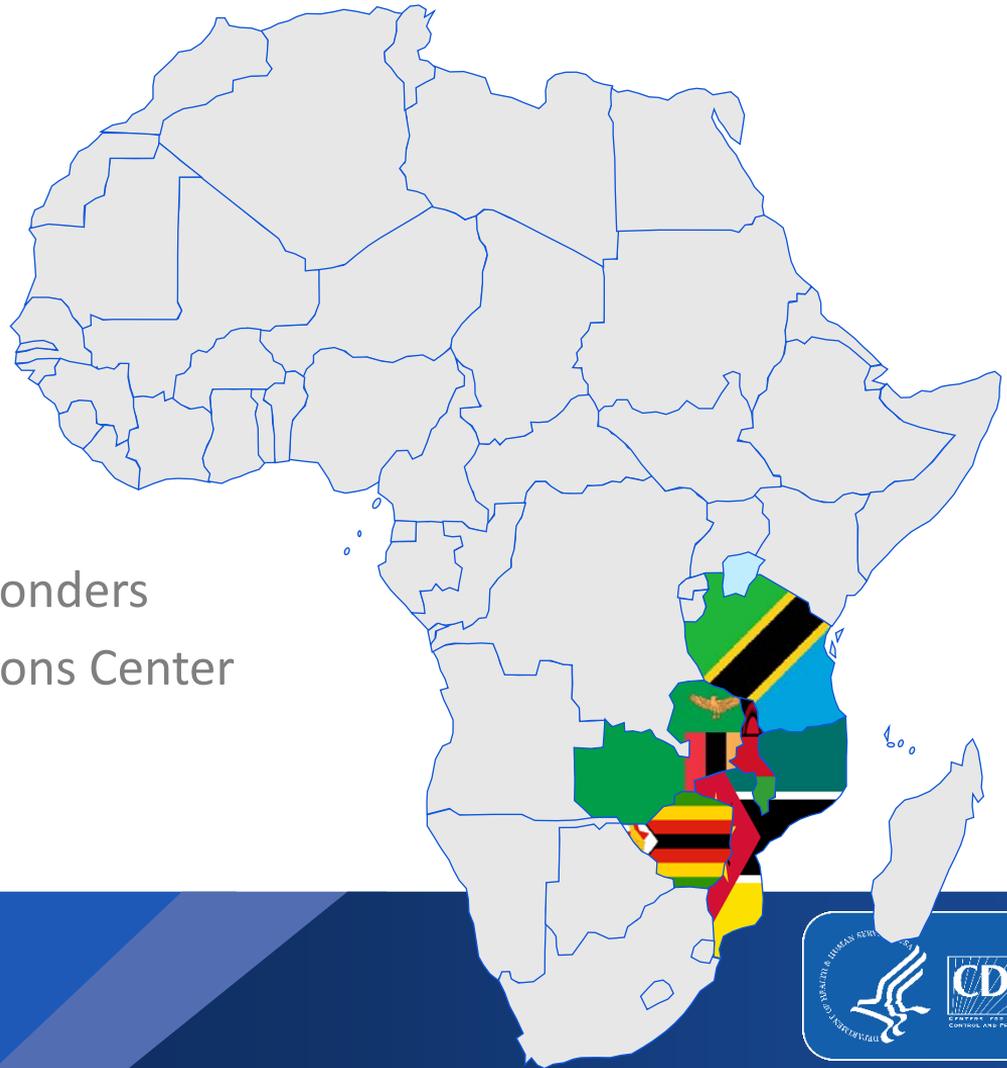
- Think outside the box to surmount obstacles in low-resource environments
- Share best practices with colleagues
- Be mindful of feedback from colleagues

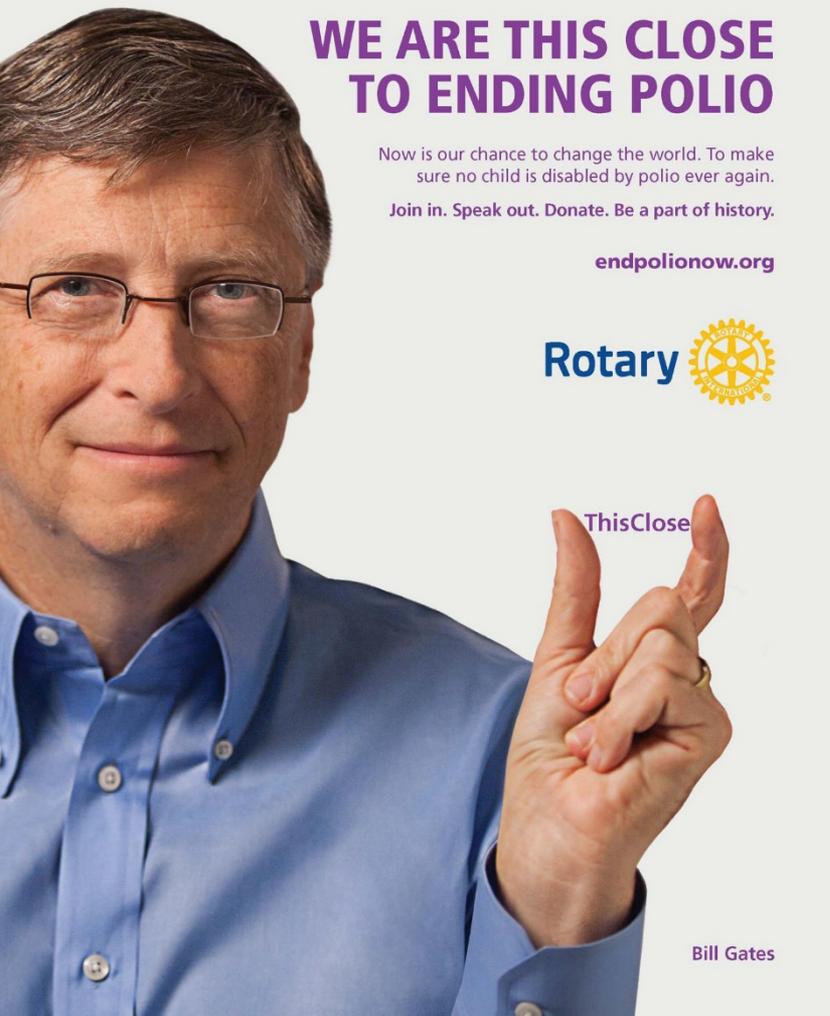
# CDC's response posture is now shifting, but staff deployments filled an essential role

- Allowed CDC to respond quickly when precise needs and funding mechanisms were not clear
  - Now shifting to long-term contract staff
- Capacity building of CDC staff for future polio outbreaks

# Thank you!

- Ministry of Health staff
- GPEI field staff
- CDC Country Offices
- CDC polio responders
- Supervisors of CDC polio responders
- CDC Polio Emergency Operations Center





## WE ARE THIS CLOSE TO ENDING POLIO

Now is our chance to change the world. To make sure no child is disabled by polio ever again.

Join in. Speak out. Donate. Be a part of history.

[endpolionow.org](http://endpolionow.org)



ThisClose

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