



Global Polio

E r a d i c a t i o n

Progress 2000



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NOTE: Unless otherwise stated, this report was prepared using data as of 21 March 2001. Throughout 2001, the surveillance network will report the outcome of acute flaccid paralysis (AFP) cases with onset in 2000, hence the number of reported polio cases in 2000 will increase. Based on previous years' reporting patterns, the number of reported polio cases in 2000 is unlikely to exceed 3500.

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The Global Polio Eradication Initiative is spearheaded by a public-private sector partnership of WHO, Rotary International, the Centers for Disease Control and Prevention (CDC), and UNICEF.

**DEPARTMENT OF
VACCINES AND BIOLOGICALS**



*World Health Organization
2001*



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Abbreviations

AFP	acute flaccid paralysis
AFR	African Region
AMR	Region of the Americas
EMR	Eastern Mediterranean Region
EPI	Expanded Programme on Immunization
EUR	European Region
IPV	inactivated polio vaccine
NGO	nongovernmental organization
NIDs	national immunization days
OPV	oral polio vaccine
SEAR	South-East Asia Region
SIAs	supplementary immunization activities (e.g. NIDs, SNIDs, mop-up campaigns)
SNIDs	subnational immunization days
SOS	sustainable outreach services
VAD	vitamin A deficiency
VDPV	vaccine derived poliovirus
WHA	World Health Assembly
WHO	World Health Organization
WPR	Western Pacific Region



Summary

The Global Polio Eradication Initiative, the largest public health initiative in history, is on track to certify the world polio-free in 2005. Polio cases have declined by 99% since the launch of the Initiative in 1988, from 350 000 to less than 3500 cases in 2000. Polio cases are now at the lowest in history, having halved between 1999 and 2000, even with a 20% increase in surveillance sensitivity.

Two WHO regions have been certified polio-free (Region of the Americas, Western Pacific Region) and one region has been free of indigenous poliovirus for at least two years (European Region). At most, 20 countries remain endemic in the three other regions.

As part of accelerated activities in 2000, all polio-endemic Member States increased the number of NID rounds conducted and began house-to-house vaccine delivery to reach every child. As a result, even within remaining endemic countries, ongoing polio transmission was limited to smaller geographic areas.

On 27 September 2000, polio partners including the UN Secretary-General met and pledged to work to overcome the three main challenges to polio eradication: (1) securing access to all children, including those in conflict-affected areas; (2) closing the US\$ 400 million funding gap (as of 3 April 2001); and (3) maintaining political commitment in the face of a disappearing disease. □

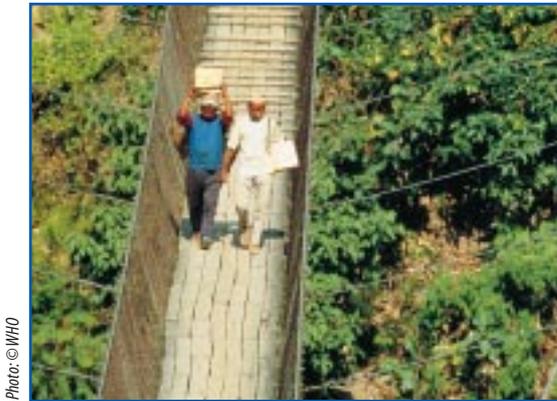


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Polio eradication highlights in 2000

Polio cases are at the lowest in history with a 50% decline between 1999 and 2000 even with a 20% increase in surveillance sensitivity. There were no more than 3500 reported cases in 2000, compared with 350 000 estimated in 1988. This is a 99% reduction in cases since the Initiative began. India saw a record 75% drop in cases in a single year from 1999 to 2000.

A record 550 million children – almost one-tenth of the world's population – received oral polio vaccine (OPV) in 2000 thanks to accelerated vaccination activities in 82 countries. Every polio-endemic country increased the number of NID rounds and began house-to-house vaccine delivery to reach every child.

The 37 countries and areas of the Western Pacific Region (WPR) were certified polio-free in October 2000. No new cases of indigenous polio were detected in the WHO WPR countries and areas in the last three years even with certification-standard surveillance. WPR's last indigenous polio case was Mum Chanty, a 15 month-old Cambodian girl paralysed in March 1997. WPR is the second WHO Region to be certified polio-free, after the Region of the Americas in 1994.

Mum Chanty of Cambodia, the Western Pacific Region's last indigenous case of polio.



Photo: © WHO

Over 240 000 childhood deaths were prevented by the administration of vitamin A during polio national immunization days in over 50 countries.

Seventeen west and central African countries synchronized NIDs and vaccinated 76 million children, including more than two million children never previously immunized. These two rounds of coordinated NIDs in October and November were the largest public health initiative in the region's history.

The global public health laboratory network now enables genetic sequencing of all wild polioviruses, facilitating a prompt and focused immunization response. The 148 laboratories in the polio network will increasingly be used to detect and respond to other diseases of public health importance.

Staffing in the Initiative increased more than five-fold to realize accelerated activities. The number of polio-funded immunization staff rose from just over 200 to almost 1400.

The UN Secretary-General addressed the Global Polio Partners' Summit in New York, an unprecedented gathering of over 350 individuals who pledged their commitment to securing a polio-free world in 2005. The *Global Polio Eradication Initiative Strategic Plan 2001-2005*¹ – the road-map to certifying the eradication of polio by 2005 – was unveiled.

In late 2000, the UK and Netherlands donated an additional US\$ 90 million. The UK's Department for International Development provided US\$ 50 million for operational costs, surveillance, OPV and personnel. The Netherlands gave US\$ 40 million for surveillance. □

¹ *Global Polio Eradication Initiative Strategic Plan 2001-2005*, WHO/POLIO/00.05.

The Global Polio Partners' Summit

A landmark for polio eradication

In an unprecedented gathering at United Nations headquarters in New York, more than 350 individuals from polio-endemic countries, donor agencies, foundations, the private sector, UN agencies, nongovernmental organizations (NGOs) and humanitarian groups pledged their commitment to delivering a polio-free world in 2005. The Global Polio Partners' Summit on 27 September 2000 included UN Secretary-General Kofi Annan, actress and UNICEF Special Representative Mia Farrow, philanthropist and businessman Ted Turner, WHO Director-General Gro Harlem Brundtland, UNICEF Executive Director Carol Bellamy, Rotary International President Frank Devlyn, and US Secretary of Health and Human Services Donna Shalala.

Delegates at the Global Polio Partners' Summit at United Nations headquarters, New York.



Photo: © WHO

Dr Gro Harlem Brundtland unveiled the *Global Polio Eradication Initiative Strategic Plan 2001-2005*, that details the five main components to certify the eradication of polio by 2005. She stated "This is our road-map. It takes us through to eradication of the poliovirus, to certification of a polio-free world. The final journey."

Secretary-General of the UN, Kofi Annan and Thaddeus Farrow, paralysed by polio, with mother Mia Farrow, starting the countdown to a polio-free world at the Global Polio Partners' Summit. The countdown clock donated by OMEGA SA remains on display in the UN Visitors Center in New York until 2005.

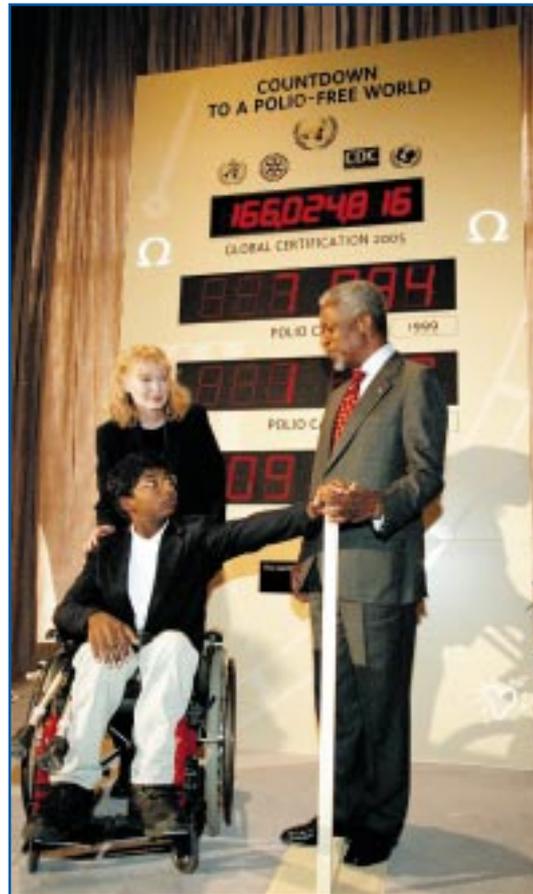


Photo: © WHO

"If we do not seize the chance now, the virus will regain its grip, and the opportunity will elude us forever," UN Secretary-General Kofi Annan stressed in his keynote address. Speakers also proposed solutions to overcome the three major challenges to polio eradication (see page 25). Nigerian President Olusegun Obasanjo pledged his continuing commitment to polio eradication and called on "support from every sector within our countries and from around the world to ensure we take advantage of this tremendous opportunity." The Prime Minister of Bangladesh, Sheik Hasina; the Rt Honourable Clare Short MP, Secretary of State for International Development in the UK, and Bill Gates of the Bill & Melinda Gates Foundation also expressed their support.

The largest synchronized public health initiative in Africa

Seventeen west and central African countries vaccinated a record number of children during rounds of “synchronized” NIDs in the largest public health initiative in the region’s history in October, November 2000 and January 2001. To access every child, polio teams mapped cross-border regions to cover each village, set up immunization posts at border crossings, and travelled to refugee camps. Tens of thousands of volunteers and health workers went door-to-door to immunize 76 million children, including more than two million children never previously immunized.

The synchronized NIDs also heralded exceptional support from west and central African leaders. President Obasanjo of Nigeria, Malian President

and ECOWAS Chair, Alpha Oumar Konare and President Tandja of Niger launched regional events. Presidents, Prime Ministers and First Ladies of Benin, Burkina Faso, Chad, Côte d’Ivoire, the Gambia, Ghana, Guinea, Guinea Bissau and Liberia also launched NIDs, leading the way to kick polio out of Africa.

Participating countries included Benin, Burkina Faso, Cameroon, Cape Verde, Chad, Côte d’Ivoire, the Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo. Fifteen west and central African countries are expected to synchronize NIDs again in 2001 and 2002.

76 million children received OPV during the largest public health initiative in the region’s history.

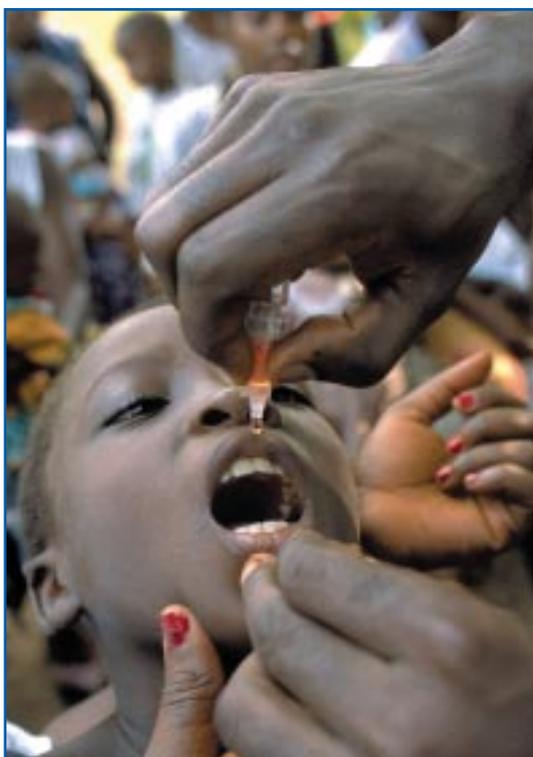


Photo: © WHO

President Tandja of Niger (right) at the regional launch of the west and central African synchronized NIDs, with President Alpha Oumar Konare of Mali on 19 October 2000 in Karma, Niger.



Photo: © WHO C. McLab

Addressing vitamin A deficiency

Integrating vitamin A with polio national immunization days has proven to be a cost-effective strategy for reaching millions of children suffering from vitamin A deficiency.

Globally, vitamin A deficiency (VAD) exists as a public health problem in more than 100 countries - over 250 million children under five years of age are at risk. The provision of high dose vitamin A supplementation every 4-6 months not only protects against blindness but also has a significant impact on the health of children aged 6-59 months, reducing the risk of mortality from all causes by over 20%. The reduction in child mortality attributable to vitamin A supplementation is comparable to that of any single childhood vaccine.

Polio immunization campaigns have allowed large numbers of children in countries with clinical and subclinical vitamin A deficiency to receive supplements of vitamin A. During 1999-2000, vitamin A supplements were administered during polio immunization campaigns in 50 countries, helping to avert an estimated 240 000 deaths (see Table 1).

Present efforts associated with polio eradication, accelerated control of other vaccine preventable diseases and sustainable outreach services (SOS) all provide opportunities through which vitamin A supplements can be provided. These strategies will facilitate the incorporation of vitamin A supplementation into routine immunization services, providing regular ongoing opportunities for supplementation. □

Table 1: Deaths averted by integrating vitamin A with polio NIDs*

Year	Countries adding vitamin A	Deaths averted
1998	41	169 000
1999	50	242 000

*American Journal of Public Health, 2000; 90: 1526-1529.

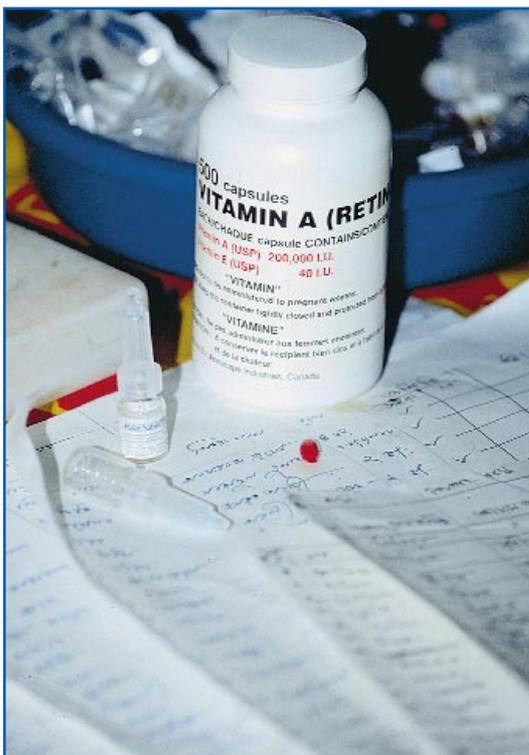


Photo: © WHO



Photo: © WHO/P.H. Schiller



Polio eradication challenges in 2000

The Strategic Plan identified three major challenges to achieving eradication:

- i) closing the **funding** gap of US\$ 400 million (as of 3 April 2001);
- ii) sustaining **access** to all children, particularly in conflict-affected countries;
- iii) sustaining political **commitment** in the face of a disappearing disease.

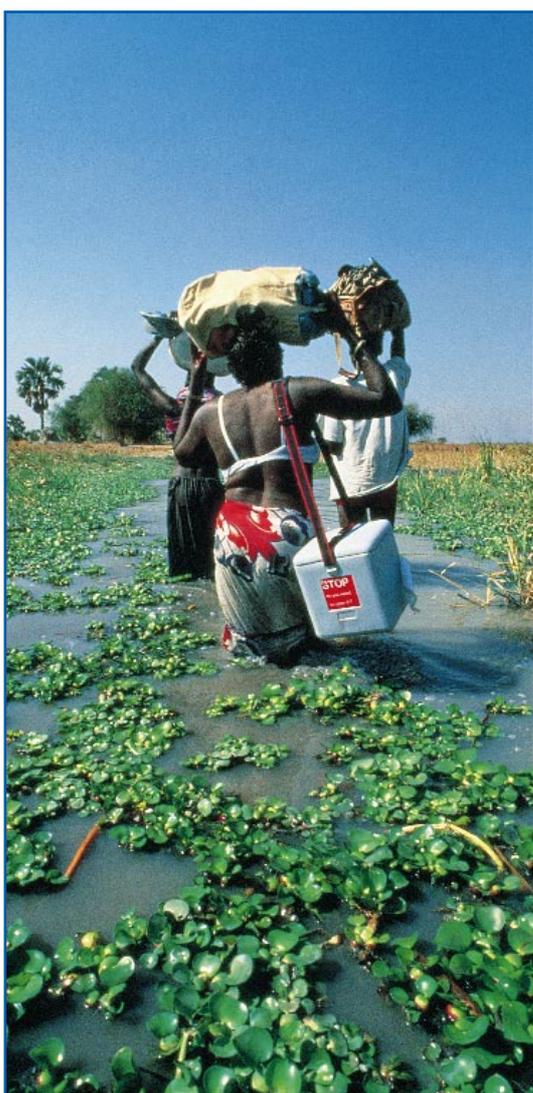


Photo: © WHO

New lessons in 2000

Several challenges in 2000 emphasized additional issues to be addressed to achieve polio eradication:

- The pivotal importance of **optimizing OPV supply** was brought into sharp focus when a round of NIDs in Nigeria, a global priority country, was cancelled in spring 2000 due to limited OPV supply.
- The importance of **maintaining high routine immunization and certification-standard AFP surveillance even when polio-free** was underlined when poliovirus was imported to Cape Verde from Angola, resulting in 44 cases of paralysis between 16 August and 21 October 2000. All ages were affected; 17 people died. Cape Verde had previously been polio-free for over a decade.
- A polio outbreak due to the **circulation of vaccine-derived poliovirus** led some to question whether polio immunization can ever be stopped and the full benefits of eradication realized. The outbreak occurred on the island of Hispaniola (July 2000 to January 2001), leaving 17 people paralysed. It was caused by vaccine-derived poliovirus which spread due to low routine immunization coverage. These cases highlight the need for: **eventual cessation of OPV; globally coordinated OPV cessation; containment of OPV strains; certification-standard surveillance and high OPV coverage until cessation** (see pages 11 and 17). □



Acceleration of activities – report on the World Health Assembly Resolution WHA52.22

National immunization days (NIDs)

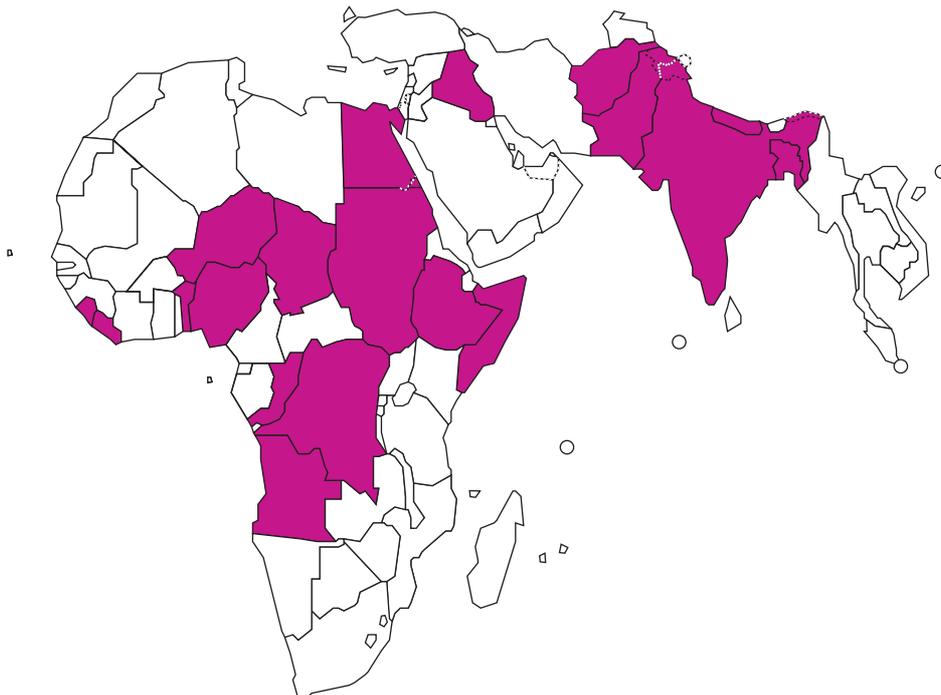
The Fifty-second World Health Assembly in 1999 called for the acceleration of the initiative to eradicate polio. All polio-endemic Member States aggressively accelerated activities in 2000, increasing the number of rounds of NIDs, enhancing surveillance and using a house-to-house immunization strategy in high-risk areas (Figure 1).

Microplanning was emphasized, with the lowest government administrative unit working closely with communities to accurately map out daily routes for vaccination teams to ensure vaccination of all children, and to determine the logistical needs to reach those children (e.g. motorcycles,

boats, camels). National and international monitoring of activities was increased to ensure identification and rectification of weaknesses in strategy implementation.

Rapid implementation of acceleration activities in 1999 consumed the OPV reserve stock. Through better planning, stock management and communications, the acute shortfalls of 1999 were avoided in 2000. Though there was insufficient OPV to conduct all planned activities in 2000/2001, there is sufficient vaccine for four NID rounds in all endemic countries and two rounds in most recently endemic countries in 2001. Improving NID quality to reach every child is now a higher priority than identifying additional vaccine.

Figure 1: Countries conducting extra rounds of national immunization days in 2000.



Acute flaccid paralysis (AFP) surveillance

Surveillance of AFP is used to detect polio cases, determine areas to implement supplementary immunization activities (NIDs and mop-ups) and ultimately determine when poliovirus has been eradicated. The quality of surveillance is measured by the number of non-polio AFP cases reported among persons under 15 years (i.e. a surveillance system is good if it identifies >1 non-polio AFP case per 100 000 population under 15 years) and the percentage of those cases with stool specimens collected for laboratory testing (i.e. surveillance is good if >80% of cases had specimens collected and processed at a WHO-accredited laboratory).

In 2000, all regions achieved >1 non-polio AFP rate per 100 000 under 15 years for the first time. As compared to 1999, during 2000 the global non-polio AFP rate increased by 20%. Of special note is the high level of surveillance achieved in conflict-affected countries such as Afghanistan and Liberia. The global percentage of cases with adequate stool specimens rose to 75% in 2000 from 67% in 1999. The African Region (AFR), with improvement from 31% to 52%, had the lowest percentage of cases with stool specimens collected.

African Region (AFR)

The African Region has made tremendous progress in surveillance over a short period of time. The non-polio AFP rate (NP AFP) improved from 0.3 in

1998, to 0.8 in 1999, to achieving the certification standard of 1.50 in 2000. However, surveillance quality varied throughout Africa's subregions, with country-level indicators weakest in the Central African subregion (ranging from 0.0 in Equatorial Guinea to 2.50 in Cameroon). All countries in the West Africa subregion demonstrated impressive improvements. Surveillance priorities for South and East Africa include Madagascar (NP AFP 0.3) and Eritrea (NP AFP 0.8).

Eastern Mediterranean Region (EMR)

Particular priorities include the six countries polio-endemic at the beginning of 2000 (Afghanistan, Egypt, Iraq, Pakistan, Somalia and Sudan.) All achieved a non-polio AFP rate of >1 per 100 000. EMR's 2001 surveillance priorities include maintaining high-quality surveillance in endemic countries and attaining certification-standard surveillance in all countries including the United Arab Emirates, Morocco and Libya.

South-East Asia Region (SEAR)

For the first time, SEAR achieved a certification-standard non-polio AFP rate (1.77) and percentage of AFP cases with adequate stool collection (80%). Bangladesh, a major SEAR poliovirus reservoir, achieved a non-polio AFP rate of 1.79 in 2000 with 68% of cases with stool specimens collected. This is up from 0.74 in 1999 with 48% of cases with stool specimens collected. India maintained its remarkable surveillance quality during 2000 with a

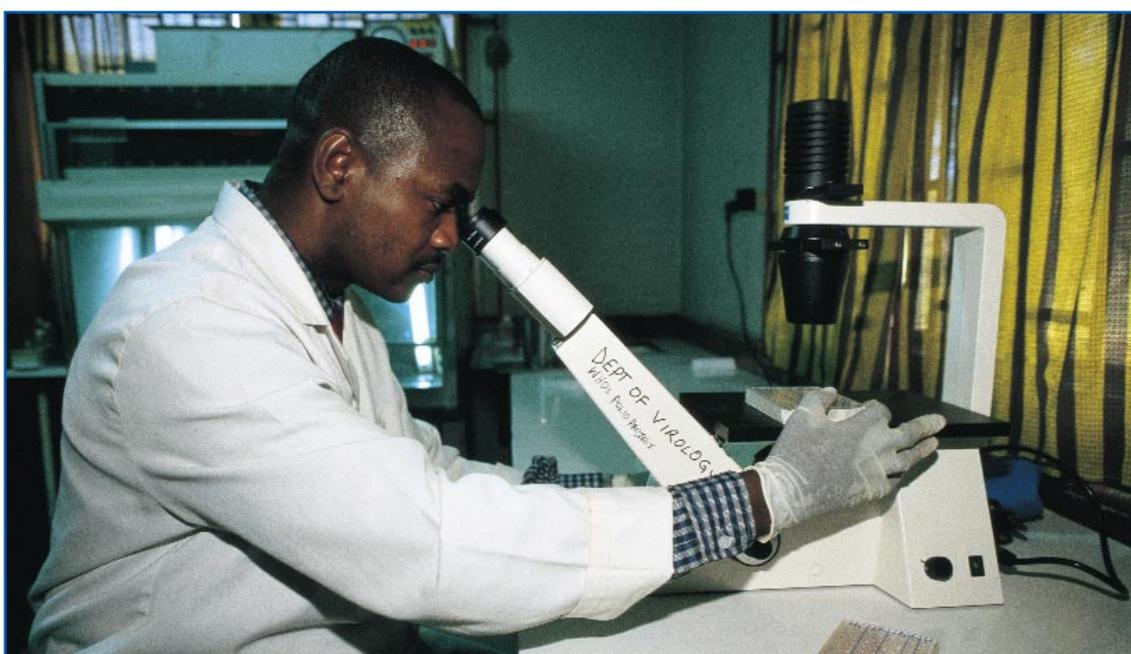


Photo: © WHO/Jean-Marc Giboux

non-polio AFP rate of 2.00 and a specimen collection of 82%. SEAR priorities are to maintain good surveillance in the endemic countries and to rapidly improve surveillance in DPR Korea.

Status of the global polio laboratory network

The laboratory network workload increased considerably during 2000 as polio immunization and surveillance activities intensified in the final push towards eradication. Most laboratories responded to this challenge with improved quality of performance and reporting timeliness. More than 50 000 stool samples from AFP cases were processed in network laboratories during 2000, and more than 80% of results were reported back to the national programmes within 28 days of receipt in the laboratory. More than 3000 poliovirus isolates were obtained during the year, and the intratypic differentiation results were reported back to the programme within 28 days of receipt of isolates for almost 90% of these.

Following tremendous improvement in laboratory performance in the SEAR laboratories in 1999, 2000 has seen similar improvement in the laboratories in AFR. Laboratories in the African Region received almost 12 000 samples in 2000, and most laboratories were very close to the target of reporting 80% of results within 28 days of receipt. Two laboratories serving the largest countries, the Democratic Republic of the Congo and Nigeria, however, were overwhelmed by the workload, and experienced significant difficulties. Both laboratories have been carefully assessed and strategies implemented to increase capacity and improve performance. At the end of 2000, both laboratories were reporting a minimal backlog of unreported samples, but improvements made in 2000 need to be sustained in 2001.

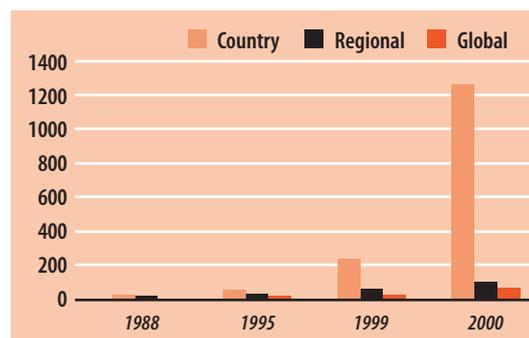
In 2000, a truly global public health laboratory network was established for the first time. At the end of 2000, 128 of 148 laboratories in the network (86%) were accredited. Eleven laboratories were not accredited because of difficulties in passing the annual proficiency test. This global laboratory and surveillance network is already being used to detect and respond to other diseases of public health importance.

For the past two years, all polioviruses isolated from cases with AFP have been tested to determine if they are wild poliovirus or vaccine strains. From January 2001, all polioviruses including high priority vaccine-derived polioviruses will also be genetically sequenced, to identify any indications of prolonged circulation and enable a focused response.

Enabling factors – human resources and administration support

Ensuring the necessary human resources and administrative/management support is key to high-quality implementation of accelerated activities. Table 2 demonstrates the rapid increase in the number of polio-funded staff, particularly at the country level, to support routine immunization and polio eradication.

Table 2: Polio-funded staff dedicated to working within the Expanded Programme on Immunization.



To strengthen administration and management in 2000, substantial activities undertaken include:

- i) doubling the polio eradication staff and establishing a mid-level management structure in the polio eradication group at WHO headquarters;
- ii) establishing an administration team in the polio eradication group at WHO headquarters;
- iii) establishing a Polio Management Support Unit in AFR;
- iv) maintaining a task force for polio administration in EMR and SEAR
- v) conducting administrative and management reviews in all large country programmes and key endemic regions;
- vi) developing a strategic framework to streamline activities in priority countries at UNICEF.

These actions substantially improved the efficiency of personnel recruitment, supplies procurement and financial transactions. □



Impact of acceleration – status of polio transmission

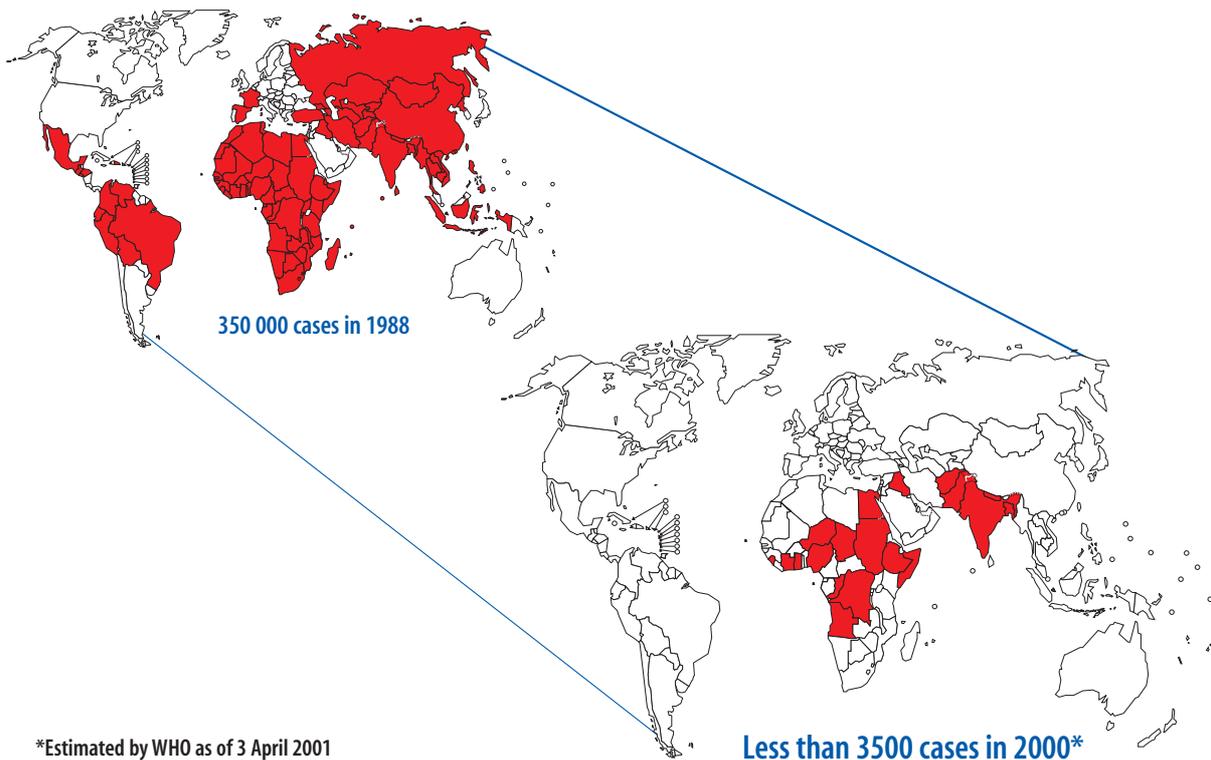
Substantial progress has been made towards the target of interrupting wild poliovirus transmission globally by the end of 2000, and certifying the world polio-free in 2005. Although up to 20 countries have ongoing transmission, the target of global certification of eradication in 2005 can still be achieved. Polio cases have declined by 99% since the launch of the Initiative in 1988, from 350 000 to less than 3500 in 2000. In 2000, the number of polio cases declined by 50% from 1999, to the lowest level ever, even with improvements in surveillance (Table 3, page 10). The number of polio-endemic countries decreased from 30 at the beginning of 2000 to an estimated 20 at the beginning of 2001.

Five principal factors contributed to the delay in meeting the target of interrupting wild virus transmission in 2000:

- i) low routine coverage in large, densely-populated areas;
- ii) a failure to reach every child with vaccine during all NID rounds;
- iii) late start of activities in some countries;
- iv) insufficient or late receipt of funds;
- v) a lack of surveillance leading to late detection of infected areas.

The ability of the eradication initiative to compensate for these problems during the acceleration phase was substantially compromised by the limited OPV supply. The Strategic Plan 2001-2005 addresses all of these issues.

Figure 2: Progress towards poliomyelitis eradication, 1988 – end of 2000.



*Estimated by WHO as of 3 April 2001

Of the three poliovirus types, no Type II poliovirus was reported in 2000 (the last documented case was in India in October 1999), though it may still circulate in parts of west and central Africa.

Wild poliovirus transmission was detected in 24 countries in 2000: 13 countries in the African Region, 7 in the Eastern Mediterranean Region, and 4 in the South-East Asia Region. However, 3 were importations and of the remaining 21 countries, 3 had no viruses after the first half of the year. Indigenous poliovirus transmission was detected in only 18 countries in the second half of 2000, although ongoing transmission is likely in an estimated 20 countries at the beginning of 2001. Thus it is expected that the Strategic Plan milestone of stopping wild poliovirus transmission in all but up to 20 countries by the end of 2000 was achieved.

There were a number of wild poliovirus importations into polio-free areas in 2000 (e.g. Cape Verde, Iran, Myanmar). The most notable occurred in the island nation of Cape Verde resulting in 44 cases of paralysis, many among adults, 17 of whom died. Genetic sequencing determined that the virus was imported from Angola. Cape Verde did not have a functional AFP surveillance system and reported only 70% routine polio vaccination coverage in 1999. Ongoing importations demonstrate the

fragility of any area's "polio-free" status and highlight the importance of maintaining high polio vaccination coverage as well as certification-standard AFP surveillance. As long as polio remains anywhere, all children are at risk.



Photo: © WHO

Table 3: Reported AFP cases, surveillance quality and confirmed poliomyelitis cases, 1999-2000, by WHO region, as of 10 April 2001.

WHO region	AFP reported		Non-polio AFP rate		Per cent AFP with adequate specimens		Confirmed polio (wild virus confirmed)			
	1999	2000	1999	2000	1999	2000	1999		2000	
African Region	5011	5733	0.80	1.50	31%	52%	2861	(246)	1763	(144)
Region of the Americas	1861	1981	1.10	1.19	74%	80%	0	(0)	14	(0)
Eastern Mediterranean Region	3079	3241	1.10	1.42	67%	67%	914	(479)	467	(261)
European Region	1703	1680	1.17	1.32	74%	81%	0	(0)	0	(0)
South-East Asian Region	11 916	10 767	1.58	1.79	71%	80%	3365	(1161)	609	(272)
Western Pacific Region	6354	7100	1.40	1.54	86%	87%	1*	(1*)	0	(0)
Global	29 924	30 502	1.26	1.52	67%	75%	7141	(1887)	2853	(677)

*Importation to China

Status of polio-free WHO regions

Three of the six WHO regions have been free of wild poliovirus for more than two years. Polio-free status has been certified by Regional Certification Commissions in the Region of the Americas in 1994 and in the Western Pacific Region in October 2000. No wild poliovirus has been found in the European Region since the last case reported from south-east Turkey in November 1998.

Region of the Americas (23 countries)

The last case of polio due to indigenous wild poliovirus in the Region of the Americas (AMR) occurred in 1991. However, between July 2000 and January 2001, a polio outbreak occurred on the island of Hispaniola. Haiti reported three cases and the Dominican Republic 14 cases. The majority were either unvaccinated or inadequately vaccinated. Genetic sequencing of the virus showed that the outbreak was caused by a vaccine-derived Type 1 Sabin (OPV) poliovirus. The vaccine-derived virus spread among the population because of low routine immunization coverage. This outbreak reaffirmed the need for high polio vaccination coverage and sensitive polio surveillance. In response, the Dominican Republic and Haiti, in partnership with Regional Office for the Americas (AMRO), conducted three nationwide OPV vaccination rounds (see page 17 for discussion on the implications of this outbreak on the strategy for stopping polio immunization following global polio eradication).

Western Pacific Region (37 countries and areas)

On 29 October 2000, the Regional Commission for the Certification of Poliomyelitis Eradication gathered in Kyoto, Japan, and certified WPR free of indigenous wild poliovirus transmission. The last known case of indigenous poliovirus transmission, a 15-month old girl, occurred in Cambodia in March 1997. Following the Region of the Americas, WPR is the second of six WHO regions to be certified polio-free. WPR consists of 37 countries and areas extending from China to Australia and New Zealand, as well as the Pacific Island nations, with an estimated population of 1.6 billion (27% of the world's population). In October 1999, an importation case of polio was reported in China's Qinghai Province: a 16-month old boy had been infected by a strain of poliovirus more commonly found in the Indian subcontinent. An extensive search of a broad

area surrounding the boy's village found no further cases, but as a precaution intensive immunization was carried out. Continued monitoring and surveillance of suspected polio paralysis cases or acute flaccid paralysis (AFP) is necessary to maintain the Region's polio-free status. Another challenge is achieving safe containment of laboratory stocks of the wild poliovirus to prevent inadvertent release. The Western Pacific Region is breaking new ground for the eradication initiative in implementing the *WHO global action plan for laboratory containment of wild polioviruses*;² Phase I is to be completed by the end of 2001.

European Region (51 countries)

The last known case of polio in the European Region occurred in Turkey in November 1998. Melik Minas was 33 months old when paralysed; he had never been vaccinated. Following case identification, a massive mop-up immunization campaign was conducted in south-east Turkey and the neighbouring areas of Iran, Iraq, and Syria. No additional cases have been reported. In expectation of being certified as polio-free in early 2002, the Region

²*WHO global action plan for laboratory containment of wild polioviruses*, WHO/V&B/99.32.

Melik Minas, the last known polio case in the WHO European Region.



Photo: © WHO/EURO

is undertaking massive certification work – ensuring that certification-standard surveillance is maintained and verified by National Certification Committees (see page 19 regarding the application of EUR lessons learned in polio eradication to other regions and health issues).

Status of polio-endemic WHO regions

African Region (46 countries)

Thirteen of the 46 countries in the region detected wild poliovirus circulation in 2000; 12 of these detected virus after the second half of 2000. In 1999, 17 countries in the Region had detected wild poliovirus circulation. In 2000, 1763 polio cases were reported from the region; 144 of these cases were laboratory-confirmed (Table 3, page 10, data as of 10 April 2001). Poliovirus circulation is now largely confined to west and central Africa and the Horn of Africa. While two of the fifteen West African countries detected virus in the second half of 2000, the largest gains in the Region have been seen in this block (decreased spread of virus, markedly improved surveillance and synchronized house-to-house NIDs). Angola, the Democratic Republic of the Congo (DRC) and Nigeria continue to be the most significant poliovirus reservoirs in the Region.

Two polio outbreaks occurred in AFR in 2000. In Congo, despite low surveillance, 10 cases of paralysis were laboratory-confirmed as the result of wild poliovirus in Sibiti district of the Lekoumou province, with dates of onset between April and June.



Photo: © WHO/EURO

The second outbreak was on the island nation of Cape Verde, which reported 44 cases of paralysis between August and October 2000. All age groups were affected; 17 people died. Cape Verde had previously been polio-free for more than a decade. Genetic sequencing determined that the poliovirus was imported from Angola. The total population of Cape Verde is 435 000; four of the 10 islands reported polio cases.

Priority countries

Nigeria reported 637 polio cases; 11 of these were laboratory-confirmed. These 11 cases came from throughout the country and indicate continued widespread transmission in 2000.

Angola, after the outbreak of over 1000 cases in 1999, continued to have intense poliovirus transmission in 2000, mainly in the Luanda area. Virus from Angola was found to be the origin of the Cape Verde outbreak.

Democratic Republic of the Congo has reported 513 polio cases; 24 were laboratory-confirmed. Circulation is widespread throughout the country including border areas, impacting poliovirus transmission in the entire Central African block.

Ethiopia continues to be a priority country for polio eradication because of the ongoing wild poliovirus circulation detected there in 2000 and its need for improved surveillance and laboratory capacity. Genetic sequencing demonstrates that Ethiopia is an independent reservoir of poliovirus.

In all of these countries, NIDs will be required at least through 2004.

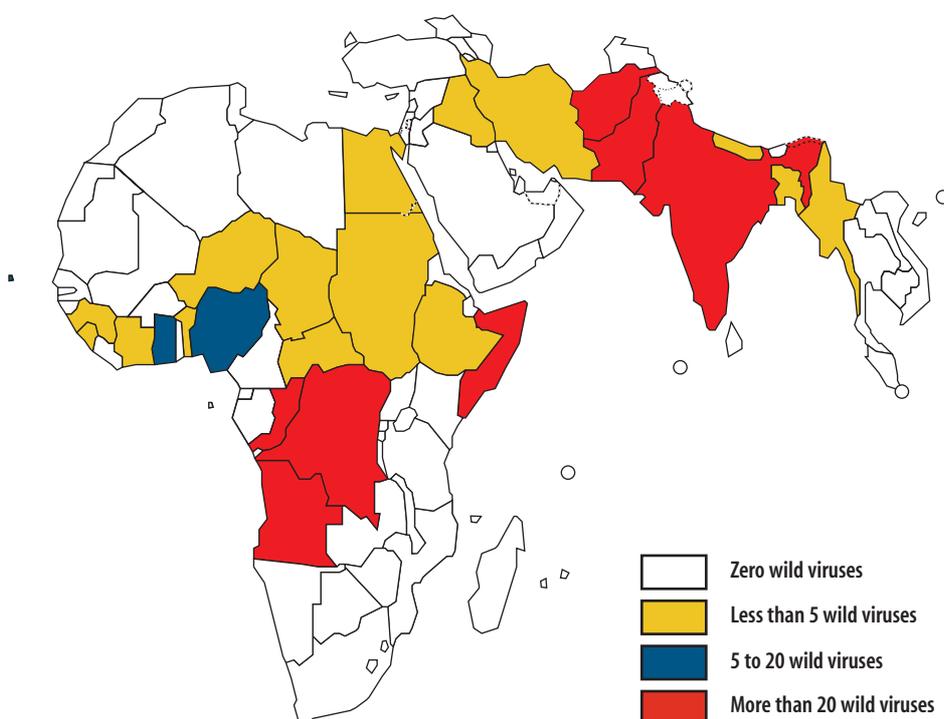
Subregional blocks

The African Region is organized into four subregional blocks with a WHO intercountry office based in each of the subregions.

Central (6 countries)

The Central African block has emerged as a clear priority for 2001 as three of the six countries had wild poliovirus circulation in 2000 (Central African Republic, Chad, Congo) and most countries must urgently improve surveillance.

Figure 3: Countries reporting wild poliovirus in 2000.



West (15 countries)

The West African block has shown tremendous progress in 2000 in both decreased extent of virus circulation and improved surveillance quality. Five of the 15 countries detected virus in 2000 (Benin, Côte d'Ivoire, Ghana, Niger, Sierra Leone) down from 10 countries in 1999. So far, only three of these countries (Benin, Ghana and Niger) have detected virus after the regionally-synchronized NIDs held in the autumn of 2000.

East (7 countries)

With improving surveillance, the last virologically-confirmed case from this block occurred in Uganda in 1996. Because all of the countries in this block border polio-endemic countries, this block's priorities are to (1) maintain certification-standard surveillance to rapidly detect poliovirus importations from neighbouring endemic countries; (2) maintain high immunization coverage to prevent extensive transmission in the event of importation and (3) begin containment Phase I (inventory).

South (14 countries, including 5 island nations)

The last virologically-confirmed case in this block was detected in Madagascar in 1997. Although some countries have sustained a level of surveillance required to confirm a polio-free status, reaching and maintaining adequate surveillance levels in Madagascar and other island nations in particular presents a significant challenge.

Eastern Mediterranean Region (23 countries and areas)

EMR reported 259 wild virus-confirmed cases in 2000, decreased from 479 in 1999, mainly due to a decrease in cases in Pakistan (186 in 2000 compared to 324 in 1999). The Asian block of countries remains EMR's highest priority, given the intensity and extent of transmission. Wild poliovirus transmission remains widespread in Afghanistan and Pakistan. Iran reported three wild virus-confirmed polio cases from September to December near the border with Pakistan, triggering two extensive rounds of high-risk response

immunization. Following a widespread outbreak in 1999, Iraq last found wild virus in January 2000. No virus has been found since then despite very good surveillance, and virus transmission may have been interrupted in Iraq.

On the African continent, wild poliovirus is still endemic in Sudan (four virus-confirmed cases) and Somalia (46 virus-confirmed cases), where improved surveillance identified an outbreak of Type 1 poliovirus in the Mogadishu area. Egypt found three wild virus-confirmed cases near Minya, Asyut and Fayoum. At the end of 2000, Egypt still had ongoing poliovirus transmission, as wild poliovirus (Type 1) was detected in samples of sewage through

environmental surveillance and in cases in early 2001 (see page 16 for environmental surveillance results).

South-East Asia Region (10 countries)

SEAR reported only 272 virus-confirmed cases in 2000, mainly attributable to a great reduction in the number of cases reported from India (265 virus-confirmed cases in 2000, compared to 1126 in 1999). India's rapid progress contributed substantially to the global case count decreasing by 50% between 1999 and 2000. Virus transmission in India was mostly confined to two northern states, Uttar Pradesh and Bihar (Figure 4).

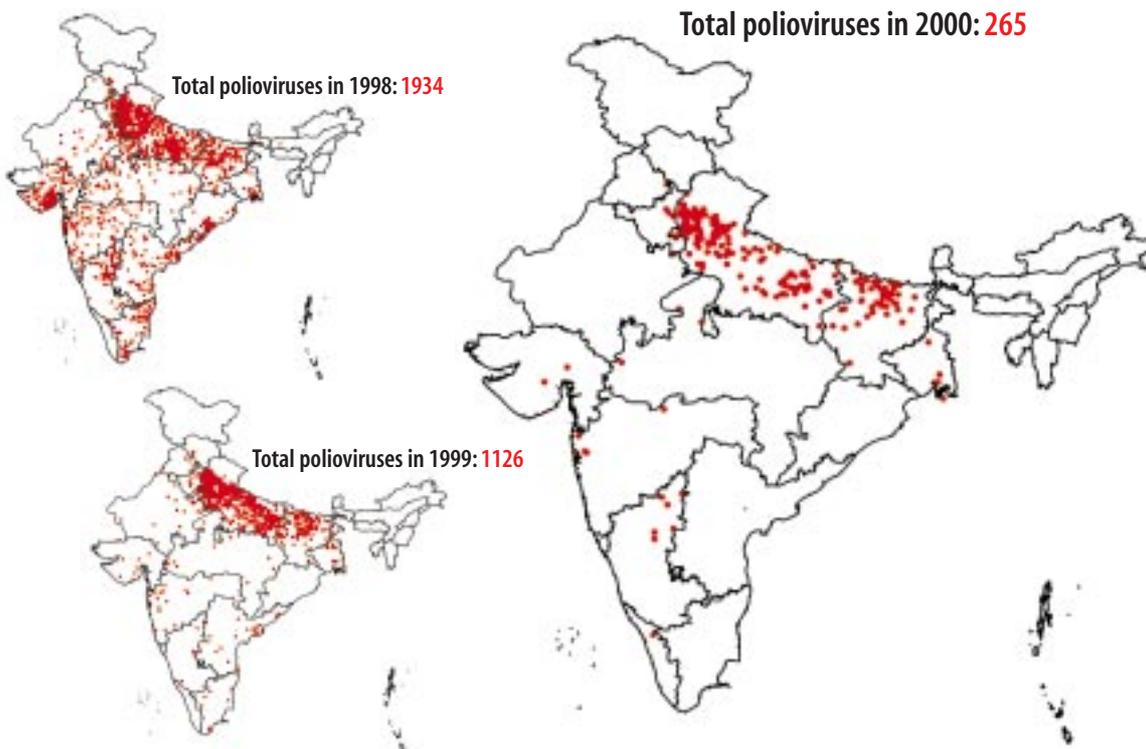


Photo: © WHO/ J.M. Giboux

Bangladesh experienced greatly reduced transmission, with only one wild poliovirus confirmed case reported near Dhaka city in September 2000. However, ongoing transmission may have been missed, as there was a nine month gap in reported cases in Dhaka. Myanmar reported two wild virus cases in February 2000, from the border area with Bangladesh, both importations. Nepal reported one

case in January from its border area with the Indian State of Uttar Pradesh, a likely importation, then a further three cases in the last quarter of the year. The Democratic Peoples’ Republic of Korea (DPRK) may also have had ongoing polio transmission at the end of 2000, though no cases were detected despite improved surveillance and laboratory work. □

Figure 4: Rapid progress towards polio eradication in India, 1998 – 2000.





The polio “end-game”

The final phase of the Global Polio Eradication Initiative – also called the polio “end-game” – consists of three key areas of work:

- (1) **Containment** – containing existing laboratory stocks of wild poliovirus to prevent inadvertent release into the human population;
- (2) **Certification** – maintaining certification-standard surveillance to detect polio cases rapidly, a condition for global certification;
- (3) **Cessation of immunization** – reaching consensus on when and how to stop administration of the oral polio vaccines.

Containment

The importance of laboratory containment of polioviruses is demonstrated by the fact that the last smallpox case was due to an inadvertent laboratory release in Birmingham, England in 1978 – about one year after the last indigenous smallpox case in Somalia. Once transmission of wild poliovirus in human populations around the world has been stopped, laboratories worldwide will represent the only remaining source of the virus. These laboratories may be storing specimens from known cases of poliomyelitis or other materials unknowingly infected with wild poliovirus (i.e. stool samples collected at a time and place of wild poliovirus circulation and stored under conditions known to preserve polioviruses).

In May 2000, the Global Commission for the Certification of Polio Eradication (GCC) stated that global certification of polio eradication will require documentation that laboratory containment of wild poliovirus has been implemented in each country worldwide. To ensure that this requirement can be met, WHO has begun assisting countries in completing this task. As outlined in the

WHO global action plan for laboratory containment of wild polioviruses, all countries should appoint a national task force (NTF) to coordinate activities. The NTF will be responsible for organizing a national search for laboratories and requesting them to look in storage areas for wild poliovirus infectious or potentially infectious materials. The creation of the national inventory will complete the first of the three phases of containment that includes destruction of wild polioviruses in facilities where their use is non-essential, and storing wild poliovirus stocks of scientific value in secure laboratories.

In 2000, countries in two of the three polio-free regions of the world (WPR and EUR) and selected countries in the regions with continuing wild poliovirus circulation have begun creating national inventories of laboratories containing wild poliovirus. Larger countries in these regions have made significant progress towards contacting thousands of laboratories and collecting the necessary information. Smaller countries in these regions have successfully completed the task and are preparing documentation for submission to regional certification commissions. Experiences and lessons learned from countries that began implementation in 2000 are being used to guide implementation in other countries throughout 2001.

Certification

Global certification requires at least three years of zero reported polio cases due to indigenous wild poliovirus in the presence of certification-standard surveillance, and verification in reports from national certification committees.

The role of environmental surveillance (e.g. sampling sewage to detect poliovirus) during the polio “end-game” is being determined. During 2000,

environmental surveillance in Egypt detected wild poliovirus type 1 in waste water from the southern city of Minya. Environmental surveillance apparently detected “silent” circulation of wild poliovirus type 1 in Egypt (routine surveillance did not detect polio cases). Targeted environmental surveillance may complement additional surveillance efforts.

Cessation of immunization

The ultimate benefits of polio eradication, including the estimated global savings of US\$ 1.5 billion annually, will be gained only after cessation of polio immunization. Before polio immunizations can be stopped, all laboratory polioviruses must be destroyed or transferred to maximum biosafety containment facilities. Certification-standard surveillance must be maintained to identify any outbreaks that might occur due to inadvertent release of polioviruses.

During 2000, a polio outbreak in the Americas (see page 11) was caused by a vaccine-derived OPV virus. This is the second documented outbreak caused by a vaccine-derived poliovirus: the first was in Egypt in the 1980s. For the polio “end-game”, these outbreaks reaffirm the need to maintain high population immunity to prevent susceptibles (and such outbreaks); maintain high quality AFP surveillance to allow early detection and response; eventually coordinate the cessation of OPV immunization globally; and ensure poliovirus vaccine strains are subject to biocontainment. The Hispaniola outbreak investigation will contribute greatly to ongoing research to develop an international consensus on when and how to stop polio vaccination, and to contain Sabin (OPV) strains of the virus.

Between 1998 and 2000 WHO convened three consultations of leading virologists, vaccinologists and vaccine manufacturers to determine the remaining research needed to define the safest and most efficient strategy for stopping polio immunization. The Centers for Disease Control and Prevention (CDC) have a key role in these activities. In May 2001, WHO is holding the first meeting of a Steering Committee under the Technical Consultative Group (TCG) to oversee this research.

The data from this will contribute to an OPV immunization policy paper to be ready in 2003. Research studies to determine the strategy for stopping vaccination will evaluate a number of proposed strategies including routine immunization with inactivated polio vaccine (IPV) or an OPV “pulse” immunization followed by cessation. Initial data suggests a combination of strategies may be optimal – the full research agenda will identify which strategy or combination of strategies for stopping poliovirus immunizations will be the safest and most efficient for each country or demographic setting. □

Research is ongoing to develop an international consensus on when and how to stop polio vaccination.



Photo: © WHO/Philippe Blanc

Increasingly, opportunities to strengthen routine immunization programmes via polio eradication activities are being grasped. For example in 2000, a checklist has been developed for managers to guide actions on improving routine immunization services while improving the quality of polio eradication activities (see Figure 5, page 18). This checklist has been distributed to WHO and UNICEF country offices.

Unique and successful polio eradication strategies can also be adapted and applied in the control of other diseases and disease risk factors. One of the most concrete examples is the EMR/EUR success towards polio eradication by coordinating efforts among 18 countries through Operation MECACAR (Mediterranean, Caucasus and Central Asian Republics). All countries worked together to exchange information, maintain certification-standard surveillance, synchronize national immunization days, and contain laboratory poliovirus stocks. Lessons learned from MECACAR have already been applied to AFR’s polio eradication strategies (with synchronization of NIDs in west and central Africa during 2000) and are being applied to other health initiatives, such as measles control.

The Global Alliance for Vaccines and Immunization (GAVI)

The Global Alliance for Vaccines and Immunization (GAVI) was established in 1999 to

strengthen immunization services while enhancing the introduction of new and under-utilized vaccines. Since GAVI’s inception, the GAVI partners have worked closely and quickly to introduce a new approach to international immunization funding: the Global Fund for Children’s Vaccines.

This new financing resource, designed to enable prompt and efficient processing of its resources, is already making disbursements to developing country governments. Approximately 98% of current Fund resources will go directly to countries, in the form of (1) vaccines and safe injection equipment, and (2) financial support to immunization services through performance-based grants that are compatible with sector-wide approaches.

The timely application of the polio initiative’s human resources, infrastructure and lessons learned (as outlined in Table 4) is important to optimize the long-term benefits of polio eradication to strengthen broader health services. At the request of the GAVI Board, the feasibility of aligning GAVI objectives with accelerated disease control initiatives is now being investigated. A number of “integration scenarios” have been developed and the implications, both positive and negative, are being elaborated through a consultative process with polio and GAVI partners. Among the potential options is a cost-sharing scenario in which GAVI would establish a polio milestone and directly contribute to sustaining the polio-funded infrastructure. □

Table 4: Global Polio Eradication Initiative infrastructure – examples for broader application

Category	Examples
Human resources	Long-/short-term staff Training
Physical infrastructure	Cold chain equipment Communications equipment
Institutional arrangements	Technical consultative groups (TCGs) Interagency coordinating committees (ICCs) Surveillance and laboratory network (Labnet)
Strategies	Strategic planning and microplanning Surveillance strengthening Mass campaigns Sustainable outreach services (SOS)
Processes	Advocacy and fundraising Social mobilization



Partnership support and advocacy

The success of the Global Polio Eradication Initiative hinges upon the successful partnership of the public and private sectors. The partnership is spearheaded by WHO, Rotary International, the Centers for Disease Control and Prevention, and UNICEF. Partnership support and advocacy provide the foundation from which implementation of polio eradication strategies is made possible.

Rotary International, through its PolioPlus program, has been the lead private sector partner in stimulating, developing, and maintaining the Polio Eradication Initiative. By the end of 2005, Rotary estimates that its financial contributions alone will total US\$ 500 million. Rotary also advocates for additional resources from governments and the private sector, and provides thousands of volunteers to assist with social mobilization, NIDs and other activities.

Among the many demonstrations of support for polio eradication during 2000 were:

- **Over 10 million community volunteers** gave their time to implement NIDs around the world.
- **President Clinton** (United States) gave polio vaccine to an eight month old girl in Hyderabad, India on 24 March, just two days before the NIDs were launched.
- **President Obasanjo** (Nigeria) **President Konare** (Mali, also Chairman of ECOWAS), and **President Tandja** (Niger) played key roles in the synchronization of NIDs among 17 countries in west and central Africa – the largest public health initiative in the Region's history (see page 3).



Photo: © WHO/Rotary



Photo: © WHO/Rotary

■ **WHO Director-General** Gro Harlem Brundtland and UNICEF Executive Director Carol Bellamy launched the Final Push for Polio Eradication in India in January 2000, calling for continued support for eradication in polio-endemic countries. The WHO Director General and the UNICEF Executive Director also addressed a New Year's letter to heads of state of the remaining endemic countries urging full cooperation and commitment to the global effort.

■ **UNICEF Executive Director** Carol Bellamy visited Sudan in October to participate in the NIDs launch in Khartoum. Days of Tranquillity allowed more children to be reached than previously, increasing coverage from 20% to 100% in some areas. Carol Bellamy also visited the Democratic Republic of the Congo in August to observe the second round of NIDs.

■ **WHO Director-General** Gro Harlem Brundtland instituted monthly polio communications to all countries, and convened a meeting of ministers of health from key countries at the World Health Assembly to discuss the acceleration of polio eradication.

■ **The Rotary Foundation of Rotary International** recognized key members of the US Congress and UNICEF for their polio eradication efforts. The Rotary Foundation presented its "Champion Award" to Senator Ted Stevens (R, Alaska) and Representative Henry Bonilla (R, Texas). Rotary also presented a Proclamation of Appreciation to the

Claudia Schiffer administering polio vaccine during her visit to Bangladesh.

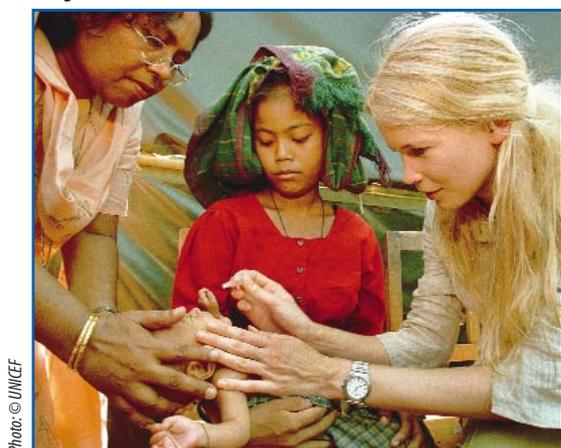


Photo: © UNICEF

Vaccine Supply Division of UNICEF for outstanding performance in procuring and coordinating delivery of OPV to over 100 countries.

■ **The Polio Eradication Heroes Fund** was established by the CDC Foundation in cooperation with partner organizations. The Fund will honour national staff and volunteers by recognizing those who suffer serious injury or death while working to eradicate polio.

■ **Claudia Schiffer**, super-model and UNICEF Special Representative, and Jeff Koplan, **CDC Director**, travelled to Bangladesh in July to participate in immunization activities and to emphasize the importance of attaining certification-standard surveillance.

■ **The Global Polio Partners' Summit** brought together all partners to reaffirm their commitment towards polio eradication on 27 September 2000, with **UN Secretary-General Kofi Annan** providing the keynote address (see page 2).

Martina Hingis and wheelchair tennis player Thierry Caillier join kids in Paris to promote the "Match Point Against Polio" campaign during the French Open.



Photo: © WHO/ Gianni Gracía

■ **Martina Hingis**, number one ranked women's tennis player, launched the "Match Point Against Polio" campaign, to raise awareness and funds for polio eradication. Ms Hingis and the Rotary clubs of Switzerland together donated US\$ 235 000 for polio eradication activities in Somalia.

- **Bill Gates**, Co-Founder of the Bill & Melinda Gates Foundation, made a private visit to an immunization clinic in New Delhi, India, and immunized over 20 children with OPV. While there, he recorded a public service message expressing his support for the Polio Eradication Initiative.

Bill Gates at Chanakyapuri clinic in New Delhi with Madhu Krishna, Program Officer, Children's Vaccine Program, Bill & Melinda Gates Foundation.



Photo: © Bill & Melinda Gates Foundation

- **Ted Turner**, Vice-Chairman of AOL Time Warner and Chairman and Founder of the United Nations Foundation, launched a joint private sector fundraising campaign with Rotary International to target blue-chip corporations, foundations and philanthropists.
- **Roger Moore**, UNICEF Goodwill Ambassador, helped to launch the NIDs in Ghana in October, alongside the First Lady of Ghana, the Minister of Health and Rotarians from the United States and Ghana.

Roger Moore, UNICEF Goodwill Ambassador, helped launch the NIDs in Ghana.



Photo: © UNICEF

New fundraising initiatives and donor support

One of the three key challenges to polio eradication is ensuring the necessary financial resources to meet a US\$ 400 million funding gap (as of 3 April 2001). Substantial progress to close the funding gap was made during 2000.

New fundraising initiatives

- ✓ Rotary International partnered with the United Nations Foundation to launch a unique worldwide private sector fundraising campaign. Blue-chip corporations, foundations and philanthropists will be invited to become polio partners during events held in 20 cities throughout 2001 (in Australia, Brazil, Canada, China, Egypt, France, Germany, India, Italy, Japan, Korea, Mexico, South Africa, the United Kingdom, and the United States.)
- ✓ The United Nations Foundation dedicated a fundraising website to polio eradication (see www.endpolionow.net).
- ✓ The United Nations Foundation donated US\$ 1 million to strengthen WHO public sector resource mobilization capacity.
- ✓ The Red Cross and Red Crescent Movement unveiled plans to secure additional resources in support of polio eradication activities.

Donor support

During 2000, many individuals and organizations provided support and new grants at the national, regional and global levels. Among these were:

- ✓ **Australia** provided US\$ 1.5 million to China for polio eradication activities.
- ✓ **Canada** provided US\$ 4 million to Nigeria for polio eradication and immunization activities from 2000 – 2002.
- ✓ **CDC** responded to the joint UNICEF-WHO appeal for OPV with an additional US\$ 15 million commitment for 2000. With that increase, CDC granted a total of nearly US\$ 80 million to WHO and UNICEF in 2000.
- ✓ **Italy** provided US\$ 1 million to India for operational costs.
- ✓ **Japan** announced a US\$ 28.6 million donation for polio eradication in Bangladesh, Ethiopia, Ghana, India, Nigeria and Sudan; and US\$ 0.5 million to WHO SEAR for technical experts (personnel).
- ✓ The **Netherlands** contributed 20 million guilders (approximately US\$ 8 million) in May, and an additional 106 million guilders (approximately US\$ 43 million) in December. These were the first donations from the Netherlands to polio eradication. The funding will be specifically targeted to improving AFP surveillance.
- ✓ **Rotary International** continued in its role as the largest private donor in the initiative with donations totaling more than US\$ 30 million in 2000 for operational costs, surveillance and the laboratory network.
- ✓ The **United Kingdom's Department for International Development (DFID)** provided US\$ 50 million for operational costs, surveillance, OPV and personnel in an end of year donation.
- ✓ **USAID** provided US\$ 10 million to support polio eradication activities in AFR; approximately US\$ 1 million for strengthening immunization services in AFR; US\$ 6 million for communications, social mobilization, operational costs, surveillance and laboratory network, through WHO headquarters. □



Objectives and challenges, 2001 – 2005

The Global Polio Eradication Strategic Plan, 2001 – 2005 outlines activities in five key areas required to certify polio's eradication by 2005 (Figure 6).

The key to interrupting poliovirus transmission is ensuring high-quality implementation of eradication activities. Interrupting transmission within 24 months requires marked improvements in supplementary immunization and certification-standard surveillance. At the country level, microplanning, house-to-house immunization during NIDs, social mobilization and timely receipt of funds are key to high-quality activities. The objective for 2001 is that wild poliovirus transmission will be stopped in all countries except 5 – 10 in Asia and Africa.

Figure 6: Timeline of five key activities to achieve poliomyelitis eradication by 2005.

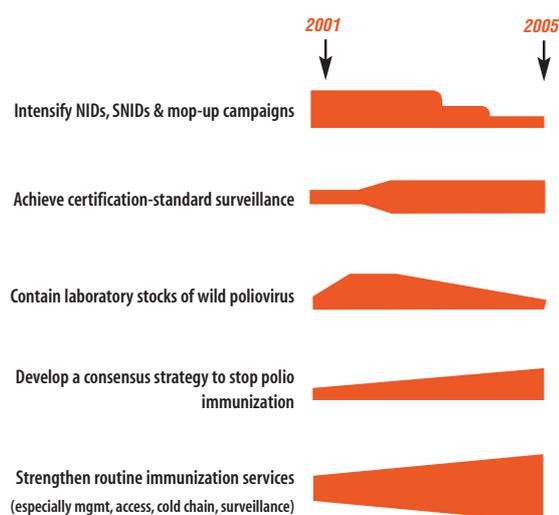


Table 5: Objectives and milestones for 2001.

Objectives	Milestones for 2001
Intensification of NIDs and mop-up campaigns	All endemic countries will conduct intensified NIDs as well as mop-up campaigns
Certification-standard surveillance	(1) All countries in AFR will achieve certification standard surveillance; (2) SEAR and EMR regional certification commissions will have established national certification committees in all countries.
Containment of wild poliovirus stocks	(1) National inventories will be completed and BioSafety Level-2 conditions implemented in AMR, EUR, WPR and 14 countries of EMR; (2) Regional guidelines will be created in AFR and SEAR.
Consensus strategy for stopping immunization	All research studies to determine the strategy for stopping vaccination will be at least at the data collection phase.
Strengthening routine immunization services	(1) The lessons learned from polio eradication will be applied to routine immunization; (2) Immunization training management modules will begin to be updated.

Key challenges

Three key challenges must be overcome to ensure high quality implementation of polio eradication activities.

1. Ensuring adequate financial resources from the public and private sectors

High-quality activities require financial support that is received in a timely fashion. The projected US\$ 400 million funding gap through 2005 must be rapidly met to ensure that the acceleration strategy is not delayed. Delay in interrupting transmission within the next 18 months will increase the cost of the programme by at least US\$ 100 million for every year the programme is late. To overcome this challenge, a private sector fundraising campaign (led by Rotary International and the United Nations Foundation) has been launched in 2001 and public sector fundraising activities accelerated, with new discussions initiated with the European Commission, World Bank and other donors.

Mr Ted Turner, founder of CNN, Vice-Chairman of AOL Time Warner, Chairman and Founder of the United Nations Foundation appealed to “the private sector – those who have been blessed with more wealth than they need – to make their contributions to this cause.”

2. Securing access to all children, especially those in conflict-affected areas

Each and every child under five must be reached with protective OPV. The success of NIDs in 2000 in the Democratic Republic of the Congo demonstrated again the feasibility of working successfully in conflict-affected areas. To overcome this challenge, the support of UN Secretary-General Kofi Annan has been enhanced, and interactions strengthened with partners with expertise in conflict-affected areas, such as the Red Cross and Red Crescent Movement. Countries that must continue to surmount this challenge include: Afghanistan, Angola, the Democratic Republic of the Congo, Somalia, and Sudan.

Mr Kofi Annan vowed to “use all instruments of the UN system to finish the last chapter of polio eradication,” including continued advocacy for Days of Tranquillity for NIDs.

3. Maintaining political commitment in all countries

Political commitment ensures high-level attention to implementing polio eradication strategies, in turn resulting in high-quality activities. Sustaining political commitment is a major challenge in the face of a disappearing disease. Some countries, particularly on the African continent, have stopped NIDs despite surveillance sensitivity below certification-standard. Polio-free countries must continue activities to ensure the laboratory containment of poliovirus stocks and certification-standard surveillance to rapidly detect polio importations. All countries are at risk of polio until the poliovirus is globally eradicated and contained in secure laboratories. To overcome this challenge, all partner agencies will enhance political advocacy efforts.



Photo: © WHO

Country and regional priorities

As of January 2001, the most intense polio transmission in Asia is occurring in Afghanistan, northern India and Pakistan. In Africa the most intense transmission is occurring in Angola, the Democratic Republic of the Congo and Nigeria. Bangladesh and Ethiopia remain major concerns because of the large population size and recent evidence of ongoing transmission.

Global priorities

Among the 20 polio-endemic countries at the beginning of 2001, 10 are global priorities because they face particular challenges requiring multi-year intensified efforts. These countries fall into two main categories:

1. **Poliovirus reservoirs:** Countries with particularly intense transmission due to large, dense populations, low routine immunization coverage and poor sanitation. These countries are Bangladesh, Ethiopia, India, Nigeria and Pakistan.
2. **Countries affected by conflict:** Countries where implementation of vaccination and surveillance activities is particularly challenging due to destroyed infrastructure or ongoing conflict. These countries are Afghanistan, Angola,

the Democratic Republic of the Congo, Somalia and Sudan.

Financial resource requirements, 2001 – 2005

Global estimates of the external resources required for polio eradication through the end of 2005 are compiled annually, and are based on the costs of (1) implementing eradication strategies at the country level and (2) managing the initiative through the UN implementing agencies (WHO and UNICEF) at regional and headquarter levels. These external resource requirements do not include the costs incurred by national governments and local communities in conducting eradication activities.

As of September 2000, US\$ 1 billion in external resources was required to implement polio eradication activities from 2001 through 2005. With existing and projected commitments, the financial shortfall is estimated at US\$ 400 million as of 3 April 2001 (Figure 7). The majority of this shortfall, US\$ 275 million, is required during 2001 and 2002. A failure to interrupt transmission during the next 18 months will increase the cost of the programme by at least US\$ 100 million for every year the programme is late.

The annual global savings after polio eradication will be approximately US\$ 1.5 billion. □

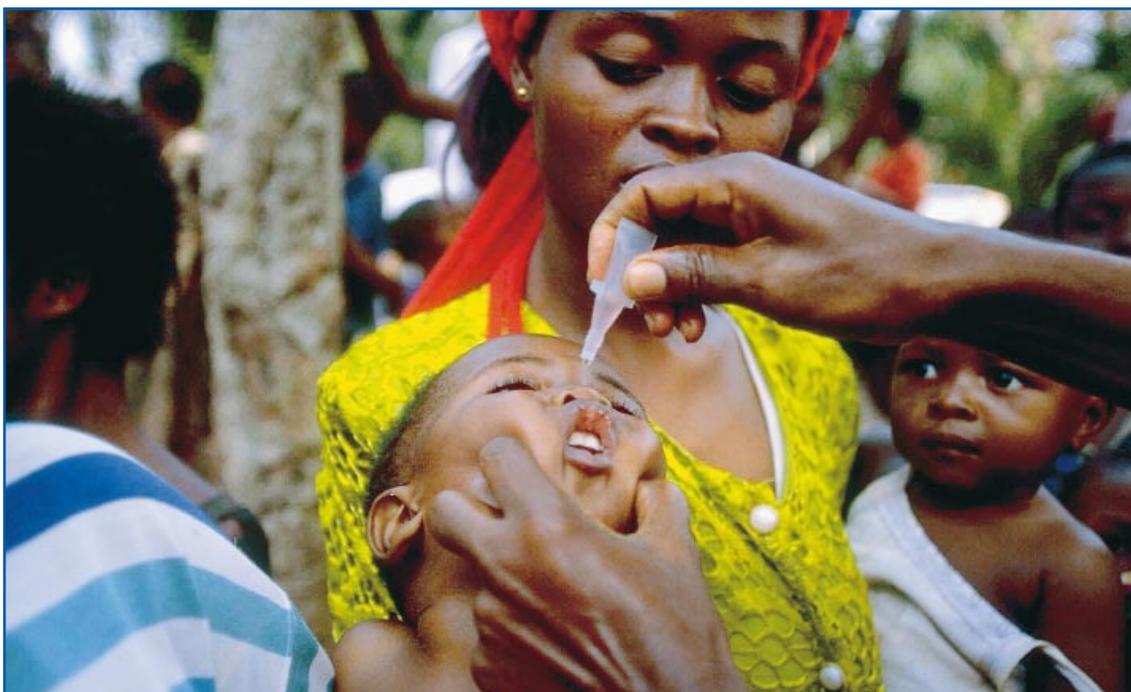
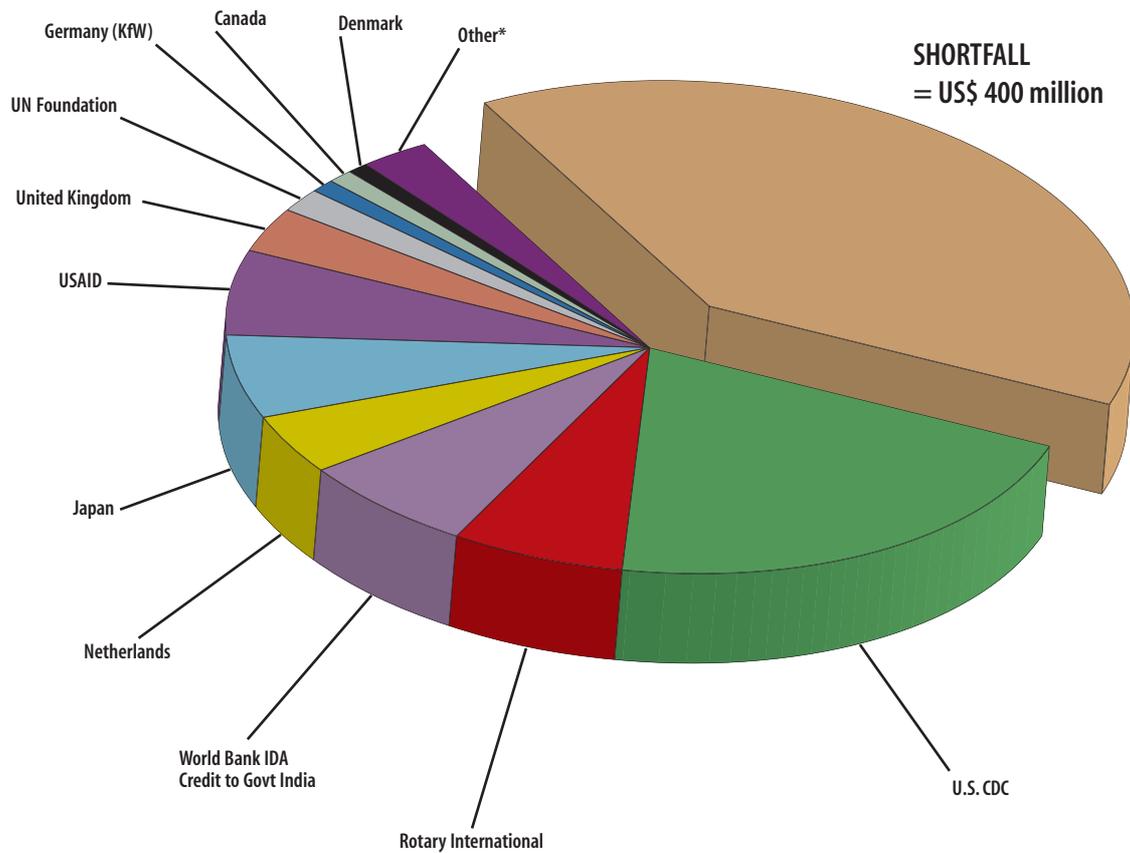


Photo: © WHO/UNICEF

Figure 7: External resources required and projected/pledged contributions as of 3 April 2001.



* Australia, Austria, Aventis-Pasteur, Belgium, Denmark, Italy, Norway, Portugal, Republic of Korea (GOK), Saudi Red Crescent Society, UNICEF, WHO Casual Income.

External resources required = US\$ 1000 million
 Received/projected = US\$ 600 million

The polio eradication partnership is spearheaded by:



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