

A History of Polio in Canada

Polio quietly preyed on thousands of young Canadians. The disease caused paralysis, deformed limbs and in the most severe cases, death by asphyxiation. In Canada, polio was so feared that as recently as the 1950s, it closed schools, emptied streets and banned children under 16 from entering churches and theatres. In 1955 it looked as though a miraculous polio vaccine signalled an end to new cases of the crippling disease. But a recent medical condition known as post-polio syndrome has survivors reliving the sequel to this once-forgotten nightmare.

Poliomyelitis is a very old disease — the earliest recorded case was 1580 BC. It is caused by a virus that is extremely stable, highly virulent and easily ingested by others. Polio epidemics raged in North America for 100 years killing, paralyzing and liming children. From 1927 until 1962 more than 50,000 Canadians were known to be infected and thousands died, however Health Canada tells us actual numbers are much higher. Polio can strike people at any age but children under age five are most at risk. Polio used to be called “infantile paralysis” or “the crippler” because the virus can permanently damage the nerve cells that control the muscles.



Although the first polio outbreaks appeared in Europe in the early 1800s, the first known outbreak in Canada occurred in 1910. A little girl was taken to a Hamilton, Ontario hospital with what was thought to be rabies. She died, and it was later discovered to be polio. At that time, no one knew if the disease was contagious or what could be done to prevent or treat it. Polio epidemics continued, usually in the summer or fall, and became more severe and affected older children and youth.

WORLD POLIO DAY 2014

Join Rotary on October 24 for a live global update on the fight to end polio.

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END POLIO NOW: MAKE HISTORY TODAY

Rotary's Livestream Event

World Polio Day | 24 October 2014
6:30 p.m. CST

Join us!

#worldpolioday | endpolio.org

3 Endemic Countries Left

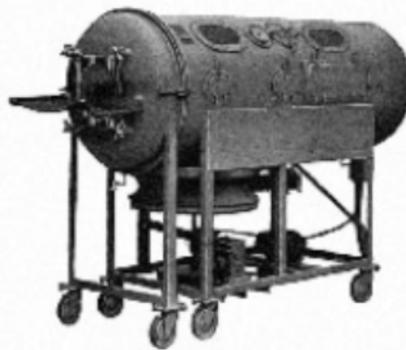
2.5 BILLION Children Immunized Against Polio

119,350 Have signed on with Rotary to make history

Provincial public health departments tried to quarantine the sick, closed schools, and restricted children from travelling or going to movie theatres. Over time, it became clear that these measures did not prevent polio's spread.

Most provinces also provided a free “convalescent” serum when people became ill from polio. The serum was made from blood donated by those who had survived a polio attack, although there was never proof of the serum's effectiveness.

In 1930, Canada's first “iron lung” was brought to The Hospital for Sick Children in Toronto from Boston. These huge metal cylinders regulate the breathing of people whose polio attacked their respiratory muscles. There was a rush to



assemble more iron lungs to help keep people alive after a severe outbreak in 1937. The Ontario government paid to have 27 of these devices assembled in a six-week period. Some women gave birth while confined in an iron lung and the Royal Canadian Air Force made emergency deliveries of these devices across the country.

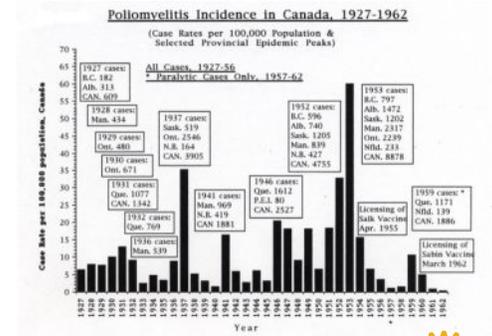
A nasal spray designed to block the polio virus from entering the body was used on

5,000 Toronto children in 1937. After two rounds of treatments, the spray was abandoned because it did not prevent polio and actually caused a number of the children to lose their sense of smell.



An estimated 11,000 people in Canada were left paralyzed by polio between 1949 and 1954. The disease peaked in 1953 with nearly 9,000 cases and 500 deaths — the most serious national epidemic since the 1918 influenza pandemic. The last major polio epidemic in Canada occurred in 1959, with nearly 2,000 paralytic cases.

The widespread application of the Salk vaccine (introduced in 1955) and the Sabin oral vaccine (introduced in 1962) eventually brought polio under control in the early 1970s. Canada was certified “polio free” in 1994.



Until the Salk and Sabin vaccines were introduced in 1955 and 1962, respectively, paralytic poliomyelitis was one of the most feared diseases of twentieth-century North America. Indeed, during the two or three decades before 1955, parents told their children to "to regard [polio] as a fierce monster that lurked in the damp hollows of their experience", and personified the disease as "a grim terror... more menacing, more sinister than death itself". This frightening imagery, generated and magnified each summer – "polio season" – by the popular press, shaped a unique Canadian response to this disease.

This climate of fear was reinforced by the sharply rising incidence of epidemic polio during the first half of the century, especially among middle class families living in the "better areas", and by the fact that little to nothing could be done to prevent "the crippler" until polio vaccines were widely used. The Canadian medical profession frequently acknowledged a profound helplessness with respect to polio. For example, in 1936, an article in the Manitoba Medical Association Review

declared that "There is no disease over which the public is more apprehensive, and in which both the laity and the medical profession feel so helpless, than Epidemic Poliomyelitis".



Sadly, some people who recovered from paralytic polio in the past may later experience post-polio syndrome (PPS). This nervous system disorder can appear 15 to 40 years after the original illness, bringing progressive muscle weakness, severe fatigue, and muscle and joint pain.

There is still no cure for polio but the global eradication of the disease is hoped for in the near future — another great public health achievement.

Dr. David Butler-Jones, Canada's Chief Public Health Officer has stated: "If we

had never eradicated polio in North America we would not even be TALKING about hip and knee surgery today as they would be SECONDARY to the damage caused by polio. It is likely that every orthopaedic surgeon we could train would be too occupied treating the after-effects of polio".

Do we still need immunization in Canada today — you bet we do! Polio is merely ONE plane trip away from us and that means a few hours until it can arrive and attack those who are unprotected. An infected person can spread polio from 7-10 days before and after the onset of symptoms and the virus can be excreted in feces for another three to six weeks.

END POLIO NOW **MAKE HISTORY TODAY**

From 2010 to 2015, every US\$1 Rotary country has raised and UNICEF in direct support for polio immunization will be donated to UNICEF, with a per seat by the Bill & Melinda Gates Foundation.

YOUR DONATION US\$25	+ US\$50	TOTAL CONTRIBUTION US\$75
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150 VESTS FOR VOLUNTEERS
75 VACCINE CARRIERS
600 PURPLE FINGER MARKERS

Rotary DONATE ROTARY.ORG/CONTRIBUTE LEARN ENDPOLIONOW.ORG



POLIO IN THE NEWS

- A study published in Science showed that administering IPV alongside OPV **boosts immunity** against polio and could speed eradication.

POLIO IN NUMBERS

Wild poliovirus in 2014

- Global Total: **201 (270)** ↓
- Global WPV1: **201 (270)** ↓
- Global WPV3: **0 (0)**

Endemic: 182 (79) ↑

- Afghanistan: **10 (4)** ↑
- Nigeria: **6 (47)** ↓
- Pakistan: **166 (28)** ↑

Importation Countries: 19 (191) ↓

- Cameroon: **5 (0)** ↑
- Equatorial Guinea: **5 (0)** ↑
- Ethiopia: **1 (3)** ↓
- Iraq: **2 (0)** ↑
- Kenya: **0 (14)** ↓
- Somalia: **5 (174)** ↓
- Syria: **1 (0)** ↑

As of 24 September 2014. Numbers in brackets represent data this time in 2013.

August 5, 2014

Rotary Supports WHO Director-General's Public Health Emergency for Polio

In May, the Director-General of the World Health Organization (WHO) declared the international spread of polio a Public Health Emergency of International Concern (PHEIC), and issued a set of recommendations to all polio-impacted countries. On 31 July, the situation was reassessed and the Director-General has declared polio remains a public health emergency. Several factors played into this decision, including:

- both Pakistan and Equatorial Guinea have exported the virus internationally since May
- polio thrives in areas compromised by conflict – the unfortunate reality is that there are currently several countries whose public health systems have been seriously weakened by crisis, and whose children are now some of the most vulnerable to polio – in fact, the number of people living in conflict-torn states has increased since May, putting these children at greater risk
- it is too soon to determine whether the guidelines issued in May have had serious impact in the affected countries
- the measures recommended by WHO in early May help to protect the initiative's overall gains in the fight against polio, specifically working to ensure that international travelers do not unknowingly carry the virus with them, and inadvertently contribute to international spread of the wild poliovirus

ENDING POLIO TIMELINE

1979

1979

Rotary clubs take on a project to buy and help deliver polio vaccine to more than six million children in the Philippines.

1985

Rotary International launches PolioPlus, the first and largest internationally coordinated private-sector support of a public health initiative, with an initial pledge of US\$120 million.

1988

Rotarians raise US\$247 million for PolioPlus, more than double their fundraising goal of \$120 million. The World Health Assembly passes a resolution to eradicate polio, setting up the launch of the Global Polio Eradication Initiative. More than 125 countries are polio-endemic.

1995

1995

Rotarians, health workers and volunteers immunize 165 million children in China and India in a single week. Rotary launches the PolioPlus Partners program, enabling Rotarians in polio-free countries to provide financial support to their fellow Rotarians in polio-affected countries for immunization campaigns and other polio eradication activities.

1979

2000

A record 550 million children – almost one-tenth of the world's population – receive the oral polio vaccine. The Western Pacific region, spanning from Australia to China, is declared polio-free.

2003

The Rotary Foundation raises US\$119 million from its membership in a 12-month campaign. Rotary's total contribution to polio eradication exceeds \$500 million. Six countries remain polio-endemic – Afghanistan, Egypt, India, Niger, Nigeria, Pakistan.

03

2004

In Africa, synchronized National Immunization Days in 23 countries target 80 million children, the largest coordinated polio immunization effort on the continent.

1979

2009

Rotary's overall contribution to the eradication effort nears US\$800 million. In January the Bill & Melinda Gates Foundation pledges US\$355 million and issues Rotary a challenge grant of US\$200 million which becomes known as Rotary's \$200 Million Challenge. This announcement will result in a combined US\$555 million in support of the Global Polio Eradication Initiative.

2011

Rotary welcomes celebrities and other major public figures into a new public awareness campaign and ambassador program called "This Close" to ending polio. Program ambassadors include Nobel Peace Prize Laureate Desmond Tutu, violinist Itzhak Perlman, golfer Jack Nicklaus, Microsoft Chairman Bill Gates, actor Jackie Chan, Grammy Award-winning singers Angelique Kidjo and Ziggy Marley, and environmentalist Dr. Jane Goodall. Rotary's funding for polio eradication exceeds \$1 billion.

GLOBAL POLIO ERADICATION INITIATIVE



every last child

Rotary



BILL & MELINDA GATES foundation



World Health Organization



unicef

Information for this story gathered from various sources on the Internet including:

- 1) CHRISTOPHER J. RUTTY, Ph.D., HEALTH HERITAGE RESEARCH SERVICES
<http://www.healthheritageresearch.com> • hhrs@healthheritageresearch.com
- 2) Rotary Polio Plus and End Polio Now websites
- 3) Other general articles on Polio in Canada

Rotary supports the WHO Director-General's decision to keep these recommendations in place for travelers to/from Pakistan, Syria, Equatorial Guinea and Cameroon (countries who have exported polio in 2014); and Afghanistan, Ethiopia, Iraq, Israel, Somalia and Nigeria (countries infected by polio in 2014).

We firmly believe that through close collaboration, Rotary, its partners and governments will achieve a polio-free world.

John Germ
Chair, International PolioPlus Committee
Rotary International

September 29, 2014

Scenes from the Field: Afghanistan

In Afghanistan, not a single case of endemic polio occurred in 2013. Of the 11 cases reported, all were linked to cross-border transmission from neighboring Pakistan. This achievement reflects the success of social mobilizers, community elders, and religious leaders in forging community trust.



Clean water and sanitation remain an important issue in eradicating polio. The disease thrives in contaminated water and sewage systems.



Throughout the polio eradication program, children have their finger marked with a purple marker by health worker to indicate they have been immunized against polio.

Polio Took a Hit at this Year's Rotary Convention in Sydney, Australia, Smashing 2 Records



Wild Poliovirus (WPV) cases

Total cases	Year-to-date 2014	Year-to-date 2013	Total in 2013
Globally	201	270	416
- in endemic countries	182	79	160
- in non-endemic countries	19	191	256

Case breakdown by country

Countries	Year-to-date 2014				Year-to-date 2013				Total in 2013	Date of most recent case
	WPV1	WPV3	W1W3	Total	WPV1	WPV3	W1W3	Total		
Pakistan	166			166	28			28	93	02-Sep-14
Afghanistan	10			10	4			4	14	01-Sep-14
Nigeria	6			6	47			47	53	24-Jul-14
Somalia	5			5	174			174	194	11-Aug-14
Equatorial Guinea	5			5				0	0	03-May-14
Iraq	2			2				0	0	07-Apr-14
Cameroon	5			5				0	4	09-Jul-14
Syria	1			1				0	35	21-Jan-14
Ethiopia	1			1	1			1	9	05-Jan-14
Kenya				0	14			14	14	14-Jul-13
Total	201	0	0	201	270	0	0	270	416	
Total in endemic countries	182	0	0	182	79	0	0	79	160	
Total outbreak	19	0	0	19	191	0	0	191	256	

Data in WHO as of 24 September 2013 for 2013 data and 23 September 2014 for 2014 data.

First there was the record-breaking climb across the Sydney Harbour Bridge that raised enough money to protect 240,000 kids from polio. On 30 May, two days before the official opening of the convention, 340 participants ascended the bridge, eclipsing the record previously held by Oprah Winfrey for most climbers on the bridge. Waving 278 flags, they also broke the Guinness World Record for most flags flown on a bridge. Then it was announced that the World's Biggest Commercial, Rotary's public awareness campaign for polio eradication, set a Guinness World Record for largest photo awareness campaign. More than 100,000 people from 170 countries have uploaded their photos, including Archbishop Desmond Tutu, Bill Gates, Archie Panjabi, Jackie Chan, and many more.

But the biggest news was the \$101 million pledged to polio eradication. Australian Prime Minister Tony Abbott opened the convention on 1 June with a commitment from his government of \$100 million to the PolioPlus campaign. Two days later, Sir Emeka Ofori, executive vice chair of Chrome Group, announced a \$1 million gift to The Rotary Foundation to help end polio.

