



Polio Oz News

December 2024 – Summer Edition

New Post-Polio History Form

By Paulette Jackson
Administration Officer

The [Post-Polio History Form](#) is a comprehensive tool designed to assist healthcare providers and individuals affected by polio in documenting their history, symptoms, and current health needs. This form is critical for understanding the long-term impacts of polio, including Late Effects of Polio (LEoP) and Post-Polio Syndrome (PPS), and for tailoring individualised care plans.

Purpose of the Form

The form collects detailed information about:

- The individual's **acute polio history**, including the severity, treatment, and rehabilitation experiences.
- **Current symptoms and challenges**, such as muscle weakness, fatigue, pain, and functional impairments.
- Adaptations and devices used for daily living and mobility.
- Personal goals and coping strategies for managing post-polio conditions.

Key Features

Two-Section Design

1. The left-hand section is completed by the client before any clinical evaluation.
2. The right-hand section serves as a guide for clinicians to review and address key clinical points during consultations.

Person-Centred Approach

Focuses on the individual's unique experiences and preferences while being mindful of avoiding emotional distress during discussions.

Holistic Assessment

Encourages exploration of both physical symptoms and psychosocial factors, such as healthcare anxieties or emotional responses to new challenges.

Guided Symptom Documentation

Provides space to detail the intensity, frequency, and variability of symptoms like pain, breathing difficulties, or cold intolerance.

How to Use the Form

We have created a video explaining how to use the form. You can view that video here:

<https://youtu.be/HbnRp7qz3vI>



For Clients

- Provide detailed information about your acute polio experience, early rehabilitation, and current challenges.
- Use the form to communicate specific needs and goals for managing your condition.

For Clinicians

- Use the client's input to guide a thorough assessment.
- Leverage the included QR code for access to additional educational resources.

Benefits

By completing this form, individuals with post-polio conditions can help healthcare providers develop personalised care plans that address their needs while supporting their independence and quality of life.

For more information and to access the Post Polio Education Navigator page, use the QR code included in the form or visit Polio Australia's website.

Acknowledging the Contributors

The development of Polio Australia's **Post-Polio History Form** was made possible through the invaluable input and feedback of contributors from both clinical and population-based perspectives. This ensures the form is a comprehensive and practical tool for addressing the needs of individuals with Late Effects of Polio (LEoP) and Post-Polio Syndrome (PPS).

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“Keep your face always toward the sunshine—and shadows will fall behind you.”

~ Walt Whitman ~

Polio Australia’s Websites



Living with polio?
Click To View Our Brand New Resources
Bone and Muscle Health, Comorbidities, Complementary Therapies, Inflammation, Nutrition, Orthoses, Pain, Medication, Sleep and Breath, Fatigue, Post Polio Syndrome, Healthy Mind, Women, Housing, Quality of Life, Disability, Health Services, Lifestyle, Migration Services, Providers
My **Fact Sheets** - **Videos** - **Clinical Papers** - and more!



Welcome to the Polio Australia website. Polio Australia is a not-for-profit organisation supporting polio survivors living in Australia. This website contains information about polio, the Late Effects of Polio, the work of Polio Australia and much more.

www.polioaustralia.org.au



The Polio Health website is a comprehensive resource for both health professionals and polio survivors. It contains clinically researched information on the Late Effects of Polio; the Health Professional Register; and where Polio Australia’s Clinical Practice Workshops for Health Professionals are being held.

www.poliohealth.org.au



The Australian Polio Register was established by Polio Australia in October 2010 to gather information on the numbers of polio survivors living in Australia today, whether or not they contracted polio in this country. To make the Australian Polio Register truly reflective of the unmet need for polio services throughout Australia, we urge every Australian polio survivor to join the Polio Register. Our strength lies in our numbers—please help us to get you the services you need by adding your polio details to the Register. You can register online or by downloading and completing a [paper copy](#).

www.australianpolioregister.org.au

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President's Report



By Gillian Thomas OAM
President

As we wind down another year, I am left marvelling at how Polio Australia has continued providing relevant and up-to-date information with so little funding. Of course, this is largely due to the dedicated Team we have been fortunate enough to retain, thanks to EOFY and other donations received over the year. 100% of all income goes back into service provision. There is no 'fat'.

Examples are plentiful, as can be viewed in our latest Annual Report for the 2023-24 financial year (link p4). In Michael Jackson's Health Worker Education Program Report (HWEP), he outlines two projects that have resulted in 500 additional clinical locations that are now aware of the post-polio population, and of our education, resources, activity and advocacy.

During the period December 2023 to March 2024, the HWEP also ran an international survey to capture the state of education across international post-polio organisations and groups. Ultimately, we endeavour to raise the profile of the collective need for post-polio

education here and abroad, and advance the scope and delivery of education worldwide.

Devalina's Community Program has continued to support polio survivors across the country through face-to-face information sessions and regular Zoom meetings to discuss topics such as the NDIS and My Aged Care.

Paulette Jackson works quietly behind the scenes to promote Polio Awareness Month (p5), and coordinate resources including the new Post-Polio History Form (p1). She also maintains the database, to name just a few of her invaluable functions.

Long-term Finance Officer, Shylie Little, diligently manages our finances, ensuring all bills are paid promptly and our accounts are accurate and well-maintained.

Apart from the Community Program (which will conclude mid-2025), all roles part-time, with no dedicated funding. We are lucky to have them!

During our AGM in November, we bid farewell to three long-standing Board Members: Arthur Dobson (Tasmania), Sue Mackenzie, and Noel Will (both Independents). They retired with our sincere gratitude.

Until next year, stay safe and well. 🌟

Gillian

From The Editor



By Maryann Liethof
Editor

Another year is wrapping up, and polio is still proving a difficult virus to eradicate in various parts of the world. It is not helped by the fact that there always seem to be political forces at work, seeking to destabilise regimes and playing havoc with local communities. However, it is gratifying to know that there are passionate and dedicated champions around the globe, who are continuing to push for the end of polio.

In this edition of *Polio Oz News*, I have included articles on vaccine research (p11); a linked interview with Dr Hamid Jafari, Director of WHO's Polio Eradication Program, quoting Nelson Mandela by saying "*It always seems impossible until it is done,*" (p13); and the ongoing commitment of world leaders to stamp out polio (p13). As long as polio is still being discussed, there remains the hope that it can be beaten.

Closer to home, we have some timely advice from our regular Nutritionist contributor, Melinda Overall, as to what to be mindful of over the festive period, i.e. alcohol (p7).

Many Australian's will know of Independent MP, Dr Monique Ryan, who recently spoke in Parliament on the Aged Care Bill 2024 (p9). The excerpt from Hansard clearly demonstrates Minister Ryan's understanding of the issues faced by polio survivors: "*Unlike health care and the NDIS, the Aged Care Act retains a rationed approach to health care.*"

We learned about the sad passing of Dr Richard Bruno in October this year (p8). There is a link to his memorial page, and I chose to include a farewell from John McFarlane, who is always very eloquent. I have been fortunate enough to meet both men over the years, and was reminded of just how passionate people who have worked with the post-polio community can be.

December 3 was the International Day of Persons with Disabilities, and I came across an article from Nigeria celebrating a three-week-long tournament of para-soccer, a fast-paced and highly competitive game played among polio survivors (p10). To quote the article "*football unites everyone*".

I hope that this time of year also helps "unite everyone", and I'm sending up my wishes for a hefty helping of world peace! 🌟

Maryann

Community Program Update



By Devalina Bhattacharjee
Community Development Worker

A lot has gone on in the Community Programs department since we last touched base.

We have successfully completed sessions throughout the Gippsland area in Victoria, having conducted sessions in Warragul, Wonthaggi and Bairnsdale in the months of September, October and November, respectively. The sessions were successful in raising awareness about Late Effects of Polio among people affected who had hitherto not been aware and helped in increasing numbers for our Australian Polio Registry. We also have a session to be conducted in Bendigo on the 6th of December. Please consider joining us if you are in the area and register on <https://bit.ly/sessionbendigo>

We have also successfully conducted a series of Community Information Sessions in South Australia (see photo), namely in Richmond, Willunga, Victor Harbor and Smithfield Plains. The sessions were successful in attracting new

members to join our existing community and spread awareness about Late Effects of Polio, bringing survivors into the fold who had thus far been unaware of us and our efforts. It's very rewarding when attendees can interact with those who have been in the know and feel as if they finally have an explanation as to what they have been experiencing and feel empowered to be able to verbalise their issues which had hitherto been inexplicable, in addition to learning from the experiences of others.

We have also been conducting our NDIS and My Aged Care chats, every 3 months, which finds attendees bringing their respective NDIS and My Aged Care chat questions and queries, so that they can benefit from others' experience who happen to be on the same boat. Please consider joining us for these sessions, by registering on: https://bit.ly/NDIS_Chat and https://bit.ly/MyAgedCare_Chat

In 2025, we will be visiting different parts of New South Wales, Western Australia, Queensland, Tasmania and Northern Territory. Please check this link for more updates in the new year <https://www.polioaustralia.org.au/community-information-sessions/>

Until then, wish you all a wonderful holiday season! Stay safe and stay blessed! 🌟



2023 – 2024
**ANNUAL
REPORT**

Polio Australia's Annual Report is now available for viewing on our website here:

www.polioaustralia.org.au/annual-reports/

Polio Awareness Month—October 2024

Shining A Light On Polio Survivors



By Paulette Jackson
Administration Officer

This October, Polio Australia proudly celebrated **Polio Awareness Month** with the theme *"We're Still Here"*. The campaign highlighted the resilience of polio survivors while raising awareness of **Late Effects of Polio (LEoP)** and **Post-Polio Syndrome (PPS)**—conditions still impacting thousands across Australia.

Lighting Up Cities in Orange

One of the most striking elements of this year's campaign was the Illumination Campaign, which saw 97 landmarks across the country lit up orange. From Perth to Sydney, iconic buildings and structures glowed orange to raise awareness for the tens of thousands of polio survivors living within our communities.

A full list of participating landmarks and images from the event can be found on our website: [Light Up Your City Orange](#).

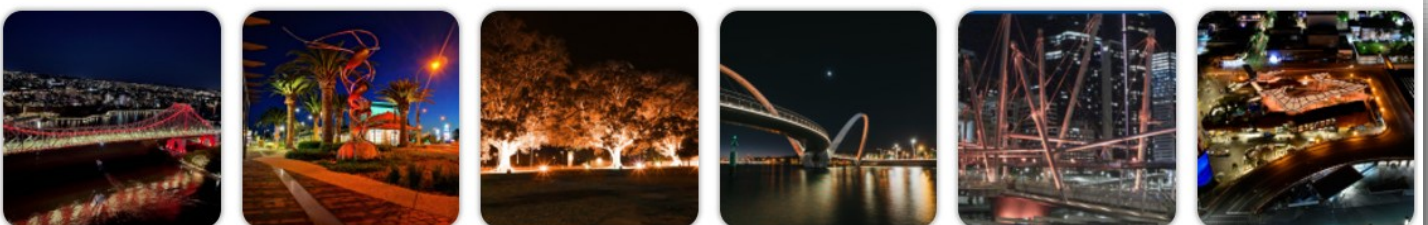
Wearing Orange to Show Support

Polio survivors, carers, and supporters embraced the spirit of awareness by wearing orange throughout the month. During Polio Australia's monthly Zoom chat, participants donned the campaign's signature colour.

Looking Forward

Polio Awareness Month may be over, but the journey doesn't end here. Polio Australia continues its mission to advocate for and support survivors year-round. By sharing their stories and encouraging a greater understanding of post-polio conditions.

For more information and resources, or to get involved in future campaigns, visit www.polioaustralia.org.au. Together, we remind everyone that *"We're Still Here!"* 🇦🇺



Summer Drinks

By Melinda Overall JP

Nutritionist / Counsellor

www.overallnutrition.com.au

After a not-so-springy spring in Sydney, summer has finally arrived. This time of year often brings plenty of gatherings, dinner parties, and catch-ups over drinks. While a little tippie now and then won't hurt, there are a few things to be mindful of when it comes to alcohol. I know, I can hear you now – "*here comes the party-pooper nutritionist!*" But trust me when I say, "*it's only because I care.*"

Excessive alcohol consumption can cause long-term health issues and lead to conditions like liver disease, heart disease, cancers, pancreatitis, and dementia [1]. Even just a few heavier drinking sessions can cause problems like digestive upset, dehydration, nutritional deficiencies, hormone imbalances, memory loss, loss of coordination, and bladder control issues [2]. The National Health and Medical Research Council defines just four standard drinks on any given day as binge drinking, which is linked to an increased risk of injury, disrupted sleep, risky behaviour, violence, impaired judgment, and even alcohol poisoning [3].

It's important to remember that alcohol is not a prerequisite for a good time. You can decline when your host offers you another drink. You don't need to justify drinking less than others, or not drinking at all. Taking care of your health is the perfect reason, and this is especially important for those of us who've had a few trips

around the sun. The impact of alcohol is greater and more rapid in older adults. As we age, alcohol increases the risk of falls and can interfere with medication use [4].

If you're on any medications – prescribed or over-the-counter – drinking can alter how well they work. Some medications combined with alcohol can cause loss of coordination, cognitive impairment, nausea, vomiting, and internal bleeding. Always check with your doctor to see if alcohol consumption is safe while taking your medications.

Drinking affects cognition, even in the short term, and your brain can be impaired before you even notice it. The effects of alcohol can persist even after you've stopped drinking, and you may still be over the legal blood alcohol limit in the morning. It's not just how much you drink that affects your health, but there's a range of other factors too, including [5]:

- How often you drink
- The alcohol concentration of the drink
- The serving size (it may be less than you think – see image 1)
- Carbonation (bubbles increase the impact and speed it takes effect)
- The type of alcohol (darker drinks contain more congeners, which lead to worse hangovers)
- Body size and composition
- Gender and age
- Genetics
- Nutritional status



Summer Drinks *(Cont'd from p8)*

So, if you choose to indulge this summer, here's a little list of tips to help make it safer:

- Don't drink and drive – always have a Plan B.
- Drink plenty of water – alcohol can dehydrate you.
- Eat before you drink.
- Avoid drinking alcohol if you're on medications.
- Stick to one type of drink – don't mix them.
- Pace yourself – sip, don't guzzle.
- Avoid making important decisions after even a couple of drinks.
- Offer non-alcoholic options when hosting gatherings.
- Be mindful of others – don't pressure anyone to drink.
- If your guests have had too much, offer them a place to stay or help them get home safely.

Most importantly, have fun and stay safe!



Vale Dr Richard Bruno

The Steering Committee and all members of the Post-Polio Syndrome Advocacy Group and the Rotary Club of World Disability Advocacy mourn the death of Dr. Richard Bruno. He was a tireless advocate for those who had encountered polio during their lifetime and devoted himself to helping others around the world. In many cases when people pass on the work that they do dies with them. This will not be the case with Richard Bruno's work, for unlike Mark Anthony's speech in Shakespeare's Julius Caesar, the good he did "will not be interred with his bones". He leaves behind the "bible" for Post Polio Syndrome in his book The Polio Paradox and in the work he did in establishing his Encyclopedia. Others will take up the cudgel and fight on and keep his name alive. Although we are all sad at his passing, we must celebrate his life and the work that he has done for so many around the world without asking for anything in return. May he rest in eternal peace.

John McFarlane, Colleague—22 October 2024

OBITUARY

Richard L. Bruno

NOVEMBER 19, 1954 - OCTOBER 14, 2024



IN THE CARE OF
Becker Funeral Home

Richard L. Bruno, age 69, of Hackensack, New Jersey passed away on Monday, October 14, 2024.

<https://www.dignitymemorial.com/obituaries/westwood-nj/richard-bruno-12028728>



Dr Monique Ryan MP—Aged Care Bill 2024

Monique Ryan (*Kooyong, Independent*)
[Share this](#) | [Link to this](#) | [Hansard source](#)

The following is an excerpt from Hansard which can be viewed in full by clicking on the above link.

[Aged care](#) is one of the most important parts of the federal government's responsibilities to its citizens. The Aged Care Bill 2024 results from the most significant recommendation of the [Royal Commission](#) into Aged Care Quality and Safety in 2020, and it has been long coming and the subject of much consultation. There are unfortunately significant residual concerns with respect to the limitations of its rights based approach, to its complaint mechanisms, to its provision of supports for older Australians with a disability and those from a culturally and linguistically diverse background, and to its definitions of quality care.

This new aged care bill emphasises a rights based approach. It outlines a statement of rights for older people; however, those rights are not enforceable in any meaningful way. Parenthetically, this speaks to a bigger issue, which is the lack of a human rights act in this country. The bill relies on the Aged Care Quality and Safety Commission and the complaints commissioner to uphold the rights of older Australians, but there is no positive duty for providers to ensure that those rights are met. This lack of enforceability means that the rights it identifies are unfortunately, in reality, more aspirational than practical.

This positioning of a statement of rights in aged care is at odds with the rights to access healthcare. The Australian Charter of Healthcare Rights specifically sets out the right to access healthcare services and treatment which meet individuals needs. It's incongruous that we guarantee the right to healthcare services in this country to receive treatment in a medical fashion when you need it but we don't guarantee the same thing—we don't reciprocate this basic right—for older people. This seems curious, particularly given, as the previous speaker has pointed out, that our population is aging and that escalating aged-care needs will be in tandem with escalating healthcare needs for the Australian population.

Moreover, the rights delineated in this bill do not guarantee Australians quality aged care delivered when and where they need it. Rather, all the bill guarantees is the right to be assessed for eligibility for funded aged-care services. We all know that an assessment is pointless if the services that are required are not available. It's also worth considering that the statement of rights concludes, 'Nothing in this division creates rights or duties which are enforceable by

proceedings in a court or tribunal.' This means that the rights enshrined in this aged care bill are enforceable only as far as the strengthened quality and safety standards extend. It means that the impact of a rights based approach is reliant on the effectiveness of the roles of the regulators, the system governor, the Aged Care Quality and Safety Commissioner and the complaints commissioner.

Unlike health care and the [NDIS](#), the Aged Care Act retains a rationed approach to health care. Access to care is not a universal entitlement based on the needs that are assessed. This approach can lead to lengthy waiting periods and to inadequate support for people who need help. For people with a medium priority, the expected wait time for an approved homecare package is one to three months for level 1, three to six months for level 2 and nine to 12 months for level 3. I'm sure I'm not alone as a MP in having heard from many frustrated, anxious constituents and their families, who have been waiting for months on end to access the care that they need. Just last month, I heard from the daughter of a man who'd been waiting nearly 12 months for a level 4 package. On escalating the inquiry, the only immediate solution offered by My Aged Care was to go back to the existing level 2 provider to see whether any additional services could be offered under the gentleman's current package. It's not good enough.

Waiting for aged-care packages can have a significant impact on families. It leads to emotional, physical and financial strain. There are also productivity costs. I hear from family members who have had to reduce their own work hours or leave their jobs to provide care for elderly loved ones. It's not good enough for those family members and not good enough for those elder Australians. As this legislation does not address the need for a universal entitlement to care based on the assessed need, supported by adequate funding mechanisms, there is no guarantee that waiting periods will improve.

Secondly, although the new aged-care bill aims to improve the quality and accessibility of aged-care services, there are widespread concerns in the disability community that it falls short in supporting older people with disability. Firstly, it fails to provide a clear definition of 'disability' within the bill, which could lead to inconsistencies in how services are provided and accessed by older persons with disability. Secondly, the bill maintains a separation between aged care and other services such as health care, including allied health, and the NDIS. This siloed approach could well lead to fragmented care and support, making it difficult for people with disability to navigate the system.

Dr Monique Ryan MP—Aged Care Bill 2024 *(Cont'd from p10)*

The separation creates a gap where older people with disability may well not receive the comprehensive support they need. For instance, individuals diagnosed with dementia at age 65 receive limited home support, pushing them towards residential care. In contrast, those diagnosed at age 64 receive much greater support under the NDIS and can often remain at home for longer. **Another example is several constituents of mine who have post-polio syndrome.** Many were too old to access the NDIS when it was introduced, and they are now appropriately concerned there may be no pathway to adequate support via the aged-care system. 🌟

International Day Of Persons With Disabilities

By Priyanka Khanna and Philip Yatai

Source: www.unicef.org/—3 December 2024

To commemorate 2024 International Day of Persons with Disabilities, polio survivors came together to highlight the urgent need for continued efforts to respond to polio outbreaks and improve routine immunisation in Nigeria.

It is half-time, and the polio vaccine team is tied 2-2 with the polio virus team in the final of the para-soccer match at the Giginya Memorial Stadium in the extreme north-western Nigerian state of Sokoto.

The final match culminates a three-week-long tournament of para-soccer, a fast-paced and highly competitive game played among polio survivors—individuals who were struck and left paralysed by the poliomyelitis virus in childhood.

In the final minutes of the game, the Polio Vaccine Team scores a decisive goal against the Polio Virus Team. This winning goal symbolises the triumph of vaccinations against deadly childhood diseases in Sokoto.

The visibly excited captain of the winning team, Mukhtar S. Doki, stated, *“Our victory represents the triumph of vaccines over the polio virus and other vaccine-preventable diseases affecting children under five years. The tournament’s primary goal is to remind parents and carers to ensure their children receive vaccinations.”* Doki emphasised that polio is real and has no cure, urging parents to protect their children from the virus. *“The polio vaccine safeguards children from the virus that can cause paralysis or even death. Immunise your children and give them a good start in life,”* he said.

Abdullahi Abubakar, popularly known as ‘Dagangang’, the star player of the winning team, echoed similar sentiments: *“We are living testimonies that polio is real, and the trusted protection you can give your child against this dreaded virus is vaccination.”*

Nigeria is a nation marked by significant divisions along ethnic and religious lines, but football unites everyone. From time immemorial, football has been a powerful unifying force and a



unique source of joy for Africans and Nigerians in particular. The Para-Soccer Tournament was organised as part of a strategy to enlighten youth and adults about polio and its effects on children.

Sokoto, much like the rest of northern Nigeria, has been plagued by low levels of routine immunisation and ongoing polio outbreaks. Supported by partners, the State Government of Sokoto has been organising a series of social mobilisation events to encourage parents to overcome vaccine hesitancy and increase vaccine uptake, in addition to conducting extensive vaccination campaigns.

Earlier, during a rally to commemorate the 2024 World Polio Day, Sokoto State Commissioner of Health Hajiya Asabe Balarabe reaffirmed the state government’s commitment to collaborating with partners to eradicate polio in Sokoto State. Balarabe commended UNICEF and other partners working tirelessly to ensure every child in Sokoto is vaccinated, stating, *“By working together, we can eliminate polio in our dear state.”*

Partnerships include all tiers of government and organisations such as AFENET, the Centres for Disease Control and Prevention, Chigari Foundation, CGPP Nigeria, eHealth, the Dangote Foundation, the Gates Foundation, Rotary, Solina, the Sultan Foundation for Peace and Development, UNICEF, and the World Health Organisation.

Int'l Day Of Persons With Disabilities *(Cont'd from p11)*

Dr. Shamina Sharmin, UNICEF Acting Chief of Field Office, noted that the match serves as a powerful reminder that the fight against the polio virus is far from over. *"We are not yet there, and we should not focus solely on the polio campaign; we must also emphasize routine immunization, strengthen healthcare systems, and other interventions. We need to work hand in hand through a multisectoral approach, combining our efforts to reach eligible children,"* she advised. *"I am sure the skills of these polio survivors entertained us all,"* she continued. However, if they had received immunization and protection from the virus, their lives might have been different. 🌟

Polio Vaccine

A highly immunogenic UVC inactivated Sabin based polio vaccine

Authors:

Gregory J. Tobin, Matthew F. Maale,
John K. Tobin, David A. MacLeod,
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Ruth V. Bushnell, Michael J. Daly &
Arina V. Kozar, Stephen J. Dollery

Source: www.nature.com/ – 14 November 2024

Abstract

Despite their efficacy, the currently available polio vaccines, oral polio vaccine (OPV) and inactivated polio vaccine (IPV), possess inherent flaws posing significant challenges in the global eradication of polio. OPV, which uses live Sabin attenuated strains, carries the risk of reversion to pathogenic forms and causing vaccine-associated paralytic poliomyelitis (VAPP) and vaccine-derived polio disease (VDPD) in incompletely vaccinated or immunocompromised individuals. Conventional IPVs, which are non-replicative, are more expensive to manufacture and introduce biohazard and biosecurity risks due to the use of neuropathogenic strains in production. These types of limitations have led to a call by the Global Polio Eradication Initiative and others for the development of updated polio vaccines. We are developing a novel Ultraviolet-C radiation (UVC) inactivation method that preserves immunogenicity and is compatible with attenuated strains of polio. The method incorporates an antioxidant complex, manganese-decapeptide-phosphate (MDP), derived from the radioresistant bacterium *Deinococcus radiodurans*. The inclusion of MDP protects the immunogenic neutralizing epitopes from damage during UVC inactivation. The novel vaccine candidate, *ultraIPV*TM, produced using these methods demonstrates three crucial attributes: complete inactivation, which precludes the risk of vaccine-associated disease; use of non-pathogenic strains to reduce production risks; and significantly enhanced yield of doses per milligram of input virus, which could increase vaccine supply while reducing costs. Additionally, *ultraIPV*TM retains antigenicity post-freeze-thaw cycles, a

testament to its robustness.

Discussion

The development of an effective vaccine necessitates a delicate balance between mitigating adverse reactions, managing the pathogenicity of the agent during manufacturing, and ensuring vaccine efficacy. Polio was responsible for disabling 15,000–20,000 individuals annually in the US during the late 1940s. Post introduction of IPV and OPV, these figures drastically decreased to approximately 100 per year in the 1960s and to around 10 annually in the 1970s⁵³⁻⁵⁸. Since the start of the Global Polio Eradication Initiative, an estimated 2.2 million instances of deaths and 20 million cases of paralytic polio were prevented worldwide from 1988 to 2018⁵⁹.

OPV has been the workhorse throughout much of the vaccination campaigns. The use of OPV is accompanied by the risk of reversion to neuropathic forms during replication in the gut. The reversion rates have been estimated to be on the order of 1 in 125,000 birth cohorts in a Norway study, with about half in vaccinees and half in by-standers⁶⁰, 1 in 143,000 in India⁶¹, and approximately 1 in 750,000 from a review of documented cases worldwide⁶²⁻⁶³. Throughout most of the seven decades of OPV use, the risk of paralytic disease from natural infection with wild-type viruses far out-weighed the risks from attenuated vaccine viruses that have evolved into pathogenic strains. However, as the global burden of wild-type infection has declined, the risks of evolved viruses have eclipsed those of wild-type infections, and OPV has been replaced with IPV in most countries.

Historically, IPV has been produced by formalin inactivation of wild-type strains of PV1, PV2, and PV3 viruses. As global eradication efforts continue, the use of neuropathogenic viruses in manufacturing has become an increasingly serious biohazard and biosecurity risk. Despite manufacturers' rigorous safety measures, at least two accidental leaks into the surrounding environment have been documented²³⁻⁶⁴⁻⁶⁵.

In light of the risks posed by OPV reversions and IPV's wild-type strains, alternative vaccine strategies are required. New OPV products that

Polio Vaccine *(Cont'd from p12)*

incorporate novel OPV (nOPV) vaccine strains have been engineered to be more reversion resistant. A 2023 statement from the Global Polio Eradication Initiative reported that nOPV2, which has evolved into pathogenic strains, had been recovered from the stools of seven children with paralytic polio who were immunized with nOPV2⁶⁶. Although this number is lower than what would have been anticipated with OPV2 (Sabin strain), any such evolved viruses are concerning.

Sabin-based IPV vaccines have been developed and approved for use in some countries, with attenuated strains used in manufacturing to reduce biohazard and biosecurity risks. However, the inactivation of PV1 Sabin with formalin has been linked to damage to a neutralizing epitope^{67:68}. In addition, a study of 300 infants vaccinated with three doses of Sabin-IPV showed reduced immunity against wt-PV1 compared to infants vaccinated with conventional IPV⁶⁹. Based on our findings of reduced antigen damage caused by UVC-inactivation compared to formalin-inactivation, the reduced immunogenicity against the wild-type PV1 component may have been caused by formalin cross-linking of amino acids within neutralization epitopes. If so, the reduction in efficacy against wt-PV1 may be avoided with the use of *ultraIPV*TM.

Conflicting thoughts on the ability of IPV to lead to and maintain eradication have been published⁷⁰. It is well-accepted that OPV stimulates high levels of mucosal immunity after replicating in the intestines. The ability of IPV to lead to and maintain eradication is not as clear, possibly due to difficulties in quantitating the level of polio-specific IgA in stool samples. However, Norway phased out OPV in favor of IPV in 1979, and since then, all reported cases of poliomyelitis have been imported^{53:71}. In studies where vaccinated children were challenged with OPV, those immunized with IPV shed less fecal and nasopharyngeal virus than naïve, yet more than those initially vaccinated with OPV⁵³. In addition, children immunized with three doses of cIPV had similar levels of nasopharyngeal sIgA antibodies as seen in those immunized with three doses of OPV^{53:72}. Thus, it appears clear that IPV can stimulate some level of mucosal immunity which could assist in eradication and maintaining the state of eradication.

In this report, we present data showing similar inactivation kinetics of the three polio Sabin serotypes (Fig. 1) and confirmation data showing a lack of residual infectivity after 30s UVC treatments. We unexpectedly found that when calibrated to formalin-inactivated viruses using standard D-antigen ELISA, the UVC-inactivated viruses contained far less mass of virus protein,

suggesting that the UVC-MDP inactivation method is gentler to the antigens by preserving epitopes. In addition, we found a disconnect between the D-antigen ELISA data derived from the three viruses inactivated with and without the MDP complex (Fig. 2), and the neutralization data (Fig. 5). UVC inactivation of PV1 and PV2 without MDP caused an almost complete reduction of D antigen while the reduction in neutralization stimulated by the immunogens was more modest. In contrast, the D antigen content of PV3 inactivated with or without MDP was relatively constant. The PV3 result is reproducible and not yet understood. The PV3 data may reflect the complexity of characterizing polio immunogens based on the concentration of a single epitope such as reported by the D antigen ELISA. Finally, we observed fairly consistent magnitudes of neutralization titers when assessing partial vaccine doses (Fig. 6). These results may reflect the timing of the experimental samples where immunizations occurred on Days 1 and 21 and the serum for neutralization was collected on Day 49. We hypothesize that lower doses may result in reduced neutralization titers when the sera is collected several months or years after the final immunization.

The vaccine candidate described in this report, *ultraIPV*TM, incorporates at least three enhancements over previous vaccines. The inactivated candidate is produced using attenuated Sabin strains, which reduce manufacturing risks. The inactivation process takes less than a minute compared to 2–4 weeks for formalin inactivation. In addition, the increased number of doses per milligram of input virus could lead to reduced costs and increased supplies, an important feature when phasing out less expensive OPV vaccines. Moreover, the use of UVC instead of formalin inactivation may avoid damage to neutralizing epitopes, which could increase immunity to wt-PV1. In ongoing studies, we plan to develop *ultraIPV*TM through IND-enabling studies and then clinical trials. We believe that the regulatory development pathway will benefit from the long safety and efficacy record of IPV products and that we will need to demonstrate that the immunogenicity profiles (e.g., stimulated neutralizing titers) are not significantly lower and that the toxicity profiles are not significantly higher than approved conventional IPV. We recognize that the novel inactivation process may require additional analysis to satisfy safety concerns, and the use of attenuated strains may require additional immunogenicity analyses. ●

Full article here: [npj Vaccines volume 9](#), Article number: 217 (2024) [Cite this article](#)

The Polio Endgame

Hamid Jafari: the polio endgame and its challenges

Source: polioeradication.org/ – 05 November 2024

Q: The International Health Regulations (IHR)(2005) Emergency Committee for Polio recently expressed concern about the resurgence and spread of wild poliovirus (WPV1) in Afghanistan and Pakistan. What can be done to reverse those trends?

A: First, regarding the question of trends. Progress towards eradication tends not to be linear because of the formidable challenges faced in vaccinating all children in certain contexts and the nature of poliovirus which, when not interrupted, causes periodic outbreaks. The trend in reported cases in Pakistan is a perfect example of this. There was a steep drop from 306 reported cases in 2014 down to 8 cases in 2017, a bounce back to 147 cases in 2019 and just one case in 2021. This year we already have 28 cases and expect to see more. However, these cases in no way predict what is going to happen in the next 12–15 months. As Nelson Mandela once said, *"It always seems impossible until it is done,"* an epithet that I consider to be particularly applicable to polio eradication – a view I derive from lived experience. In India we also had to deal with an end game that seemingly would not end. By the year 2000, every state had stopped endemic transmission with the exceptions of Uttar Pradesh and Bihar. It took another 11 years, with periodic outbreaks, to stop transmission in those two states concurrently, and just as in Afghanistan and Pakistan, the biggest challenge was reaching all the children.

[Read the rest of the interview here.](#)

Global Leaders Undaunted

Global leaders undaunted in face of rising polio cases

Source: polioeradication.org/ – 14/11/2024

The year 2024 has not been an easy one for polio eradication, with an increase in wild poliovirus transmission in the remaining two endemic countries and new and high-profile outbreaks including in Gaza. And yet global commitment to polio eradication remains as high as ever.

From community groups to G7 leaders, the determination to complete polio eradication goes beyond the health sector. Political, multi-lateral fora including the Leaders and Health Ministers from the G7 and G20, and the Commonwealth, all underscored the opportunity we have in ridding the world of polio once and for all. Countries, bilateral institutions and oversight and advisory groups, ranging from the World Health Assembly, to Regional Committees and the Eastern Mediterranean Regional Subcommittee for Polio Eradication and Outbreaks, to the African Regional Certification Committee for Poliomyelitis Eradication, all continue to voice their support to the global eradication effort. Such support is echoed by civil society and communities, led by Rotary International and Rotarians from around the world. Youth delegates at the inaugural in-person meeting of the Model WHO brought new generations

to this quest.

G7 Leaders: *"We recommit to ending... neglected tropical diseases and polio as public health threats..."*

G7 Health Ministers: *"We recommit to ending... polio. We also commend the Global Polio Eradication Initiative's efforts to eradicate polio and call for keeping the efforts strong in order to reach eradication before 2030."*

Commonwealth Summit: *"Heads urged for increased global and national efforts... to eradicate polio..."*

G20 Health Ministers: *"We also reaffirm our commitment to ending the epidemics of AIDS, tuberculosis, malaria and for polio eradication."*

Such political support across all levels is critical to securing success, as the challenges to global eradication are now primarily a geopolitical. Medically and technically, everything is in place to achieve success. The key lies in reaching all remaining children who have not yet been fully vaccinated, and the answer to those challenges lies squarely in political will. As one delegate at the recently-held Model WHO said: *"Rain does not fall on a single house alone. If we can reach children in Gaza given the current situation, we can reach children anywhere."*

Poland Urges Polio Vaccinations For Children

By The Associated Press

Source: apnews.com/ – 19 November 2024

WARSAW, Poland – Poland's health authorities on Monday urged polio vaccinations for children after the virus was detected in Warsaw's sewage during regular tests this month.

The state Main Sanitary Inspectorate in a statement said the presence of the virus does not necessarily mean people have been sick, but those who have not been vaccinated against polio could be at risk. The vaccinations are free in Poland for people under 19.

New measures also include more intensive testing of Warsaw's sewage, renewing the vaccination stocks and updating the list of children still unvaccinated. Polio is most often spread by contact with waste from an infected person or, less frequently, through contaminated water or food.

The polio virus mostly affects children under 5. Most people infected don't have symptoms, but in severe cases, polio can invade the nervous system and cause paralysis within hours, according to the World Health Organization. It estimates that 1 in 200 polio cases results in permanent paralysis, usually of the legs.

Poland's inspectorate said about 86% of the country's 3-year-olds have been vaccinated against polio and that vaccinating at least 95% of children can prevent the spread of the virus. Poland has seen the rise of anti-vaccination movements among some parents, which has worried health officials.

The statement said Poland's last case of polio was in 1984. 🌐

Poliovirus Detections In European Region

Poliovirus detections in European Region underscore importance of vaccination and vigilance

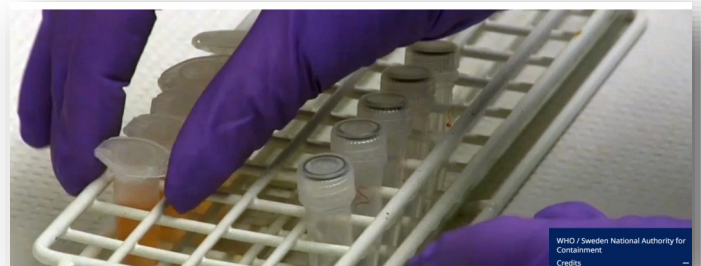
Media release

Source: www.who.int/ – 28 November 2024

Poliovirus has been detected through routine surveillance of wastewater systems in 3 countries in the WHO European Region (Germany, Poland and Spain) since September this year. While no cases have been detected to date, the presence of the virus underscores the importance of vaccination and surveillance, as well as the ongoing risk that any form of poliovirus poses to all countries everywhere.

"These countries are to be commended for their strong vigilance, which enabled them to detect and quickly respond to this public health threat," said Robb Butler, Director of the Division of Communicable Diseases, Environment and Health at WHO/Europe. *"While investigation of these detections is ongoing, WHO will continue to work with all countries in the Region to strengthen poliovirus surveillance and ensure high immunization rates."*

The Region has been free of endemic poliomyelitis (polio) since 2002. However, as long as any form of poliovirus is spreading anywhere in the world, it can be imported. Such importations can lead to outbreaks if the virus finds its way to unvaccinated individuals, as occurred in Tajikistan and Ukraine in 2021, and Israel and the United Kingdom in 2022.



All countries in the Region are on alert for such importations and many conduct routine surveillance of sewage systems to ensure early detection. Consistently high rates of vaccination are vital to prevent the virus from re-establishing a foothold in any community.

Detections in 2024

In the past 3 months, circulating vaccine-derived poliovirus type 2 (VDPV2) was detected in sewage samples in Barcelona, Spain; Warsaw, Poland; and Cologne, Bonn, Hamburg and Munich, Germany. The detected virus is genetically linked to a strain that emerged in Nigeria. This strain is circulating in several countries outside the Region, most widely in North and West Africa.

In all 3 countries in the European Region, the virus was isolated from environmental (sewage) samples only – no associated paralytic cases of polio have been detected.

"WHO continues to support national and local public health authorities in their investigations and monitoring of the situation, including

Poliovirus Detections In Europe *(Cont'd from p15)*

identification of any potential subnational immunity gaps that may need to be addressed," added Robb Butler. "Vaccination of every vulnerable child is essential to ensure that the virus cannot lead to lifelong paralysis or even death."

Germany, Poland and Spain maintain strong disease surveillance and high levels of routine immunization coverage, estimated at 85–93% nationally with 3 doses of inactivated polio vaccine (IPV), which provides excellent protection from paralysis caused by poliovirus.

However, pockets of undervaccination exist in every country. In response to the detections, investigations are ongoing, including through continued disease surveillance. Subnational immunity levels have been examined to identify any potential gaps and immunization of unvaccinated children has been initiated.

Polio eradication

Polio is a highly infectious disease that travels easily and silently across wide geographic areas, not respecting national borders. These detections are a further reminder of the urgent need to eradicate all forms of poliovirus.

WHO/Europe, together with other Global Polio Eradication Initiative partners, is continuing to support national and local public health authorities in their investigations and monitoring of the situation, as well as in rapid response to detections of the virus to prevent it from spreading. 🌐

Source: <https://polioeradication.org/qpei-news/>

Second round of polio campaign in Gaza completed amid ongoing conflict and attacks: UNICEF and WHO

11/11/2024

Financing and donors, Outbreak response 🗒

The second round of the polio vaccination campaign in the Gaza Strip was completed yesterday, with an overall 556 774 children under the age of 10 being vaccinated with a second dose of polio vaccine, and 448 425 children between 2- to 10-years-old receiving vitamin A, following the three phases conducted in the last weeks.

Administrative data confirm around 94% of the target population of 591 714 children under the age of 10 years received a second dose of nOPV2 across the Gaza Strip, which is a remarkable achievement given the extremely difficult circumstances the campaign was executed under. The campaign achieved 103% and 91% coverage in central and southern Gaza, respectively. However, in northern Gaza, where the campaign was compromised due to lack of access, approximately 88% coverage was achieved according to preliminary data. An estimated 7000-10 000 children in inaccessible areas like Jabalia, Beit Lahiya and Beit Hanoun remain unvaccinated and vulnerable to the poliovirus. This also increases the risk of further spread of poliovirus in the Gaza Strip and neighbouring countries.

The end of this second round concludes the polio vaccination campaign launched in [September 2024](#). This round also took place in three phases across central, south and northern Gaza under area-specific humanitarian pauses. While the first two phases proceeded as planned, the third phase in northern Gaza had to be temporarily [postponed](#) on 23 October because of intense bombardments, mass displacements, lack of assured humanitarian pauses and access.

After careful assessment of the situation by the technical committee, comprising the Palestinian Ministry of Health, World Health Organization (WHO), United Nations Children's Fund (UNICEF), and the United Nations Relief and Works Agency for Palestine Refugees (UNRWA), the campaign [resumed](#) on 2 November. However, the area under the assured humanitarian pauses comprising the campaign was substantially reduced, compared to the first round, as the access was limited to Gaza City. Due to hostilities, more than 150 000 people were forced to evacuate from North Gaza to Gaza City, which helped in accessing more children than anticipated.

Polio This Week

Source: polioeradication.org—02/12/2024

To see the full count of both wild and global circulating vaccine-derived (cVDPV) cases and environmental samples 2021-2024, click on the following link:

<https://polioeradication.org/wild-poliovirus-count/>

2 Dec 2024
Date last refresh

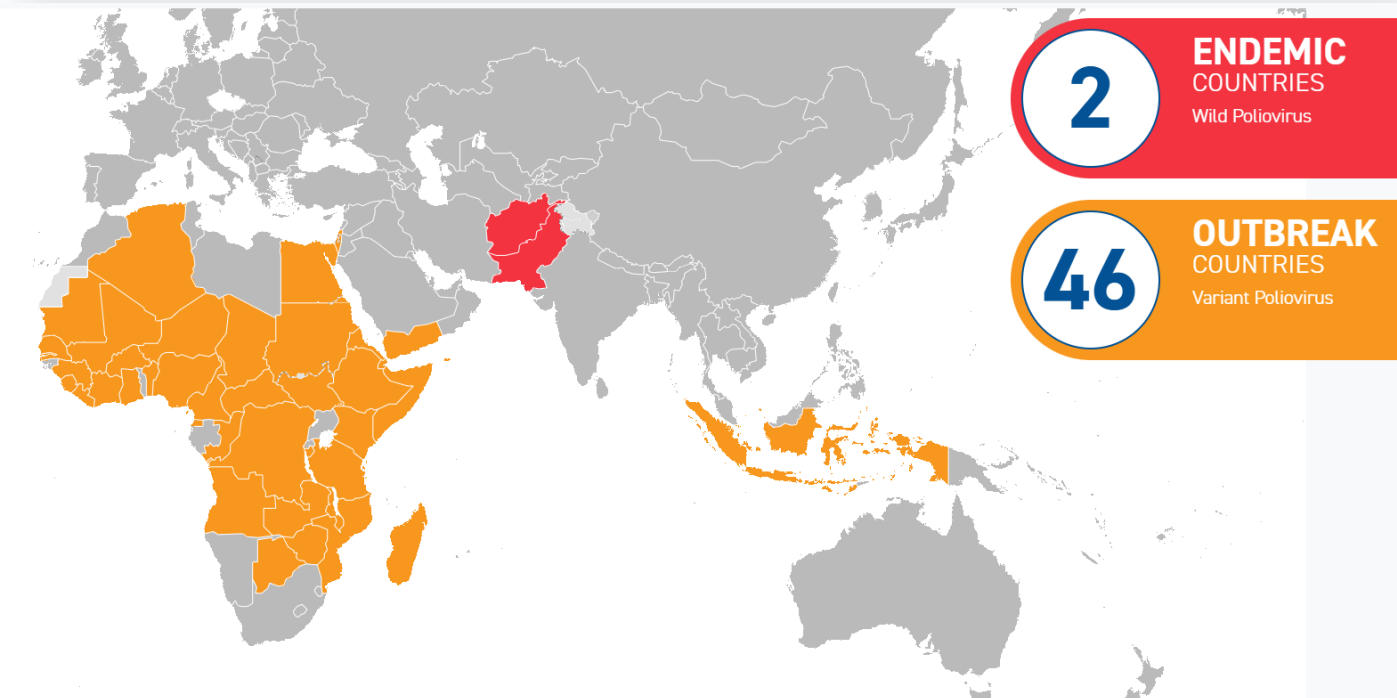
Global Wild AFP cases and environmental samples 2018-2024



Source	Period	Wild virus type 1 confirmed cases								Date of most recent virus	Wild virus type 1 reported from other sources ²							
		Full year total						01-Jan - 03-Dec ¹	Full year total						01-Jan - 03-Dec ¹	Date of most recent virus		
		Year	2018	2019	2020	2021	2022	2023	2023		2024	2018	2019	2020	2021		2022	2023
Afghanistan		21	29	56	4	2	6	6	25	05-Nov-2024	86	66	43	1	22	62	106	23-Oct-2024
Pakistan		12	147	84	1	20	6	6	56	06-Nov-2024	139	391	438	65	41	127	557	12-Nov-2024
Islamic Republic of Iran												3						20-May-2019
Malawi					1					19-Nov-2021								
Mozambique						8				10-Aug-2022								
TOTAL (TYPE 1)		33	176	140	6	30	12	12	81		225	460	481	66	63	189	663	
Tot. in endemic countries		33	176	140	5	22	12				225	457	481	66	63	189		
Tot. in non-end countries					1	8						3						
No. of countries (infected)		2	2	2	3	3	2				2	3	2	2	2	2		
No. of countries (endemic)		2	2	2	2	2	2				2	2	2	2	2	2		
Total Female		18	72	59	2	10	4				2	3			1			
Total Male		15	104	81	4	20	8					8						

Countries in yellow are endemic.

¹ Cases reported to WHO HQ on week 49 in 2023 and 2024
² Wild viruses from environmental samples, selected contacts, healthy children and other sources





Wishing you a joyful holiday season

From all of us at



HAPPY
2024 25
NEW YEAR



The office will be closed for the holiday season

Closed 24th December 2024
Reopening 2nd January 2025