#### Club Leaders

Michael R Leonard President John R **Guthrie** President-Elect

**Scott** Weidman, **CFP®** President-Nominee

**DJ Lebo** Secretary **Timothy Smith** 

Treasurer **Renny Miles** 

Sergeant-at-Arms

Lori Campbell-Baker Club Director

**Stephen Dole** Club Director

**Jeffrey Todd** Huffstickler Club Director

**Bev Johnson** Club Director **Matthew Metz** 

Club Director Keith A. Norden

Club Director **Joyce** Shanahan

Club Director Linda Webster Club Director

Rosaria C. Upchurch

iPast President

Edward D. **Paterniti** Asst Treasurer

**Charles Miller Assistant** Governor

Account Leaders

Michael Thomas **Bruce** Lt. Governor Niels Hansen

Speaker for Monday, August 29, 2022 Paul Knudson from Paul's Coins, Rare Coins, Rare Coin Dealer



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# **Zoom Login for Rest of 2022 Meetings**

Legal Counsel Jeffrey Eliot Michelman District Governor John D. Tabor **DG-Elect** Kelly Altosino-Sastre **Assistant** Governor Steven Crump **Assistant** Governor Cindy Dalecki Assistant Governor Chessie **Flanders Assistant** Governor Lavonia Fore **Assistant** Governor Ron M. Heymann Jr. Assistant Governor **Preston Mangus Assistant** Governor **Charles Miller Assistant** Governor **Gary Williams** Assistant Governor Mickey Ulmer DG-Nominee Richard Cooper **iPDG** 



**September Old Fashioned Happy Hour** 

Katherine Batenhorst District

District Membership Chair

Communications

James D. Kocmoud District

Officer

Bill Griffin District Membership Chair

Mary Stutts District Membership Chair

Jeanette M. Loftus District Rotary Foundation

Amy Workowski District Public Image/PR Chair Karen Lickiss Weiss
District
Secretary
Beth Ann Taylor
District
Treasurer
Billy D Larson
Sgt. At Arms
Marie R.
Turnbull
Training
Coordinator
Edward
Lombard
Sgt. At Arms

#### **Birthdays**

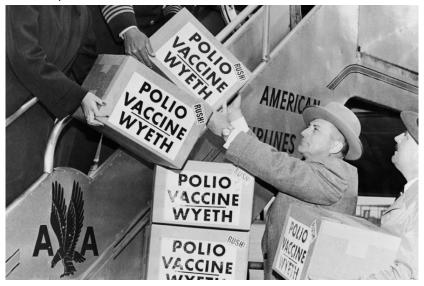
DJ Lebo September 3rd Traci Hultzapple September 8th Skip Lilly September 11th Stephen G Gardner September 15th



# Polio Is Back and Here Is How It Happened

# Polio Is Back in the US and UK. Here's How That Happened

For every person paralyzed, hundreds or thousands could be infected. It's a setback for the long-overdue plan to eradicate the virus from the world.



PHOTOGRAPH: GETTY IMAGES

THE DISCOVERY THAT polio has partially paralyzed a young man in a New York suburb feels wearying, yet shocking. Wearying, because it's the third highly infectious virus to make a surprise landfall in the US in three years, after monkeypox and SARS-CoV-2. And shocking because, for decades, polio hasn't spread in rich nations, where sanitation, vaccination, and solid public health funding are presumed to keep populations safe. Transmission was eliminated in the US in 1979, all of the Americas in 1994, and the UK in 2003. And yet there it was, jin the wastewater of the county where the young man lives and a neighboring one, in New York City, and also in London. Of course, polio exists in other parts of the world. A global campaign to eradicate it has been laboring on that exhausting task since 1988. Last year, poliovirus caused paralysis—which can't be treated or cured—in two countries where it has never been contained, and another 21 where it has rebounded. Disease experts, though, were not surprised to see it reappear in Western nations. For years they've watched as protection against the disease was undermined by funding cuts, vaccine hesitancy, forgetfulness—and the wily nature of the virus. "This should be a wake-up call to people," says Heidi Larson, a professor and founder of the Vaccine Confidence Project at the London School of Hygiene and Tropical Medicine. "We have been saying that until we can get this fully eradicated, we are all at risk."

Public health experts consider this an emergency, because polio paralysis cases represent the tip of an immunological iceberg: For every person paralyzed, at least several hundred more have likely carried asymptomatic infections, providing a refuge for the virus to replicate and transmit itself. That takes time. Wastewater findings show that polio has been circulating possibly since February in London, and for at least several months in New York.

This feeling of urgency is why London health authorities have offered booster doses of vaccine to any kids 9 years or younger, and why their counterparts in New York City—where 40 percent of kids in some zip codes are not vaccinated—have urged parents to bring children in for shots. "The number one way to prevent paralytic polio is to get vaccinated against the poliovirus, and the vaccine is over 99 percent effective at preventing paralysis," says Daniel Pastula, a physician and associate professor at the University of Colorado Anschutz Medical Campus who studies neuro-invasive diseases. "If you are unvaccinated, or your children are unvaccinated against polio, and poliovirus is circulating in your community, you are at risk for developing paralytic polio."

To understand how polio ended up in these cities, it helps to review a little history. Two histories, in fact: one for the polio vaccine, and one for how it's been deployed to chase the disease from the world.

Start with the vaccine formula—or formulas, actually, because there are two. They were born from a ferocious mid-20th century rivalry between scientists Jonas Salk and Albert Sabin. Salk's formula, the first to be approved, is injected; it uses an inactivated version of the virus, and protects against developing disease, but does not stop viral transmission. Sabin's formula, which came a few years later, used an artificially-weakened live virus. It does block transmission, and—because it is a liquid that gets squirted into a child's mouth—it is cheaper to make and easier to distribute, since it doesn't require trained healthcare workers or careful disposal of needles. Those qualities made the Sabin oral version, known as OPV, the bulwark of polio control, and eventually the main weapon in the global eradication campaign.

The oral vaccine had a unique benefit. Wild-type polio is actually a gut virus: It locks onto receptors in the intestinal lining and replicates there before migrating to the nerve cells that control muscles. But because it's in the gut, it also passes out of the body in feces and then spreads to other people in contaminated water. The Sabin vaccine takes advantage of that process: The vaccine virus replicates in a child, gets pooped out, and spreads its protection to unvaccinated neighbors.

Yet that benefit concealed a tragic flaw. Once out of every several million doses, the weakened virus reverted to the neurovirulence of the wild type, destroying those motor neurons and causing polio paralysis. That mutation would also make a child who harbored the reverted virus a potential source of infection, rather than protection. That risk is what caused rich nations to abandon the oral version: In 1996, when wild polio was no longer occurring in the US, the oral vaccine caused about 10 cases of polio paralysis in children. The US switched to the injectable formula, known as IPV, in 2000, and the UK followed in 2004.

Polio vaccination requires several doses to create full protection, and once that occurs, children are protected against both wild-type and vaccine-derived versions of the virus. So the international vaccination campaign continued to rely on OPV, arguing that the risk would diminish as more children received protection. That was a reasonable gamble when the effort was new and health authorities thought it would take 10 to 12 years to achieve eradication. But thanks to funding shortfalls, political and religious unrest, and the Covid pandemic—which imposed a slowdown not just on eradication activities but on all childhood vaccines—it's now been 34 years, and the job is not

done. Meanwhile, last year in 20 countries there were a total of 688 cases of paralysis of what's called "circulating vaccine-derived poliovirus," and only six cases of wild-type polio, in three nations.

There's a further complexity driving the emergence of vaccine-derived virus, and that arises from a combination of its natural history and the vaccination roll-out. Poliovirus comes in three strains: types 1, 2, and 3. Originally, both vaccines contained all three. As time went on and more people gained immunity, the strains began to occur less frequently, but not at the same rate. The first to disappear was type 2, so in 2016 planners decided to take that strain out of OPV. (Because type 2 attaches to the gut more efficiently than the others, its inclusion interfered with establishing immunity to the other types, and it no longer made sense to let a strain that wasn't circulating dominate the immune response.) In one enormous coordinated action, known as "the switch," the eradication campaign swapped the three-strain vaccine for a bivalent one.

But removing type 2 from the formula meant that if any type 2 virus reemerged in the world—from an environmental reservoir, or from someone whose system harbored a mutated vaccine virus—there would be little defense against it. And the bet on the switch did not pay off.

"I think the best way to describe this is as an honest mistake," says Svea Closser, a medical anthropologist and associate professor at the Johns Hopkins Bloomberg School of Public Health who studies polio eradication. "They did not expect the extent and spread, and global reach, of these type 2 outbreaks."

Most of the vaccine-derived virus now circulating is mutated type 2. It primarily has appeared in Central Africa, where outbreaks have spread across national borders. The polioviruses found in New York and London are mutated type 2, as well. Importantly, though these two viruses are related to each other—and to vaccine-derived viruses found earlier in Israel—there is not yet any genomic evidence that they are related to African viruses. They have fewer genetic changes from the vaccine virus than the African-circulating ones do, indicating that they emerged more recently. They likely were imported from somewhere that once used OPV (as Israel did in the 2000s) or continues to.

That's significant, and not just because these type 2 viruses may have emerged from the misplaced optimism of the switch. The generally accepted data about the incidence of polio—about one case of paralysis for every 200 infections—comes from research into type 1. Some data suggests that the numbers for type 2 are different: one case of paralysis for every 2,000 infected. Thus, if one New Yorker is paralyzed, thousands might be passing on the virus unknowingly. Add in neighborhood clusters of low vaccination rates, and the area could be more vulnerable than people understand.

"This always comes back to immunization coverage," says John Vertefeuille, an epidemiologist and the branch chief for polio eradication at the US Centers for Disease Control and Prevention. "This area in New York, the vaccine coverage is not as high as it is in much of the US population, and the early detections in London were in places that had lower vaccine coverage than you would typically see."

It's hard to imagine how society stopped fearing this disease. There are living politicians and celebrities who endured polio as children: Senate leader Mitch McConnell, for instance, and singer Joni Mitchell, who also suffered a severe recurrence in 1995. The polio panics that closed schools and theaters and emptied swimming pools in the 1950s occurred within boomers' lifetimes. "That we needed everyone vaccinated was well-accepted at one time; people lined up in the streets to get their polio vaccine and their measles-mumps-rubella," says Howard Forman, a physician and health policy expert, and professor at Yale School of Medicine. "Over time I think people's memories faded. I think now most people probably don't understand what polio is."

If there's any upside to the emergency, it may be that it has brought polio's persistent threat and unpredictable risks back into the consciousness of people in rich nations. For the international campaign to end the disease, that can only be good. The campaign is a shared effort of the CDC, World Health Organization, UNICEF, the Bill and Melinda Gates Foundation, and millions of volunteers from the service organization Rotary International. Since last year it has been rolling out a reworked OPV, just for type 2, that is less likely to cause mutations. Even with those sponsors, though, the campaign is chronically short of money. Fresh awareness might change that.

"The detections in London and New York have already brought increased attention to polio and VDPVs," or vaccine-derived polioviruses, says Carol Pandak, an epidemiologist and global health expert director of Rotary's PolioPlus program. "They also highlight the urgency of stopping both wild and vaccine-derived polio, as many more people now understand that VDPVs can cause paralysis just like the wild poliovirus. They are stark reminders that as long as polio exists anywhere, it is a threat everywhere."

# Minutarian

Jeff Michelman
District Governor
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Jacksonville, FL 32247
Dr.Jeff.RotaryD6970@gmail.com



This week was my best week of the year so far as your District Governor with five club visits and the Vibrant Club seminar on Saturday. Two very remarkable things came out of this for me in the leadership track. First Past District Governor Bill Griffin asserted that District Governors have neither power nor authority. Rather, what a District Governor has is influence. I set up Saturday's program and invited the speakers, but it was the speakers themselves that created an amazing morning for all of the attendees. Second, Rotaractor Megan Madrid Kinhofer spoke about the Empowering Girls initiative and the reason that she stepped up was because, as a young girl, someone thought enough of her to help her. For her, life is about paying this back and providing opportunities for her three-year-old daughter.

We are still looking for a chair of RYLA and a second Rotarian to join Megan as our Empowering Girls Advocate.

During a club visit/board meeting, we discussed how the club could focus more on the needs of their community and how this could lead to membership growth.

During another club visit, they passed the hat and raised over \$3,000 for an underfunded local middle school. When our community calls, Rotary is there to answer.

The Vibrant Club seminar ended with moving presentations by Julia Kalinski from the RC of South Jacksonville and James Joeriman from the RC of Lviv International. Both presenters made the War in Ukraine much closer to us and helped us to understand the human toll. James and District Governor-Elect John Tabor had the chance to thank the district for both their financial support and, through the leadership of Ukrainian Disaster Chair Pat Mulvihill, better understand both what we have done for local refugees and opportunities for the future. The Firetruck is now in service and each of you should be D6970 proud!



# **Pictures of the Week**

Membership is more than just collecting new applications with Chair Katherine Batenhorst and Innovative Club Advocate Mary Stutts.



Getting to the heart of Public Image with Chair Amy Workowski



Learning about leadership opportunities in your club and beyond.



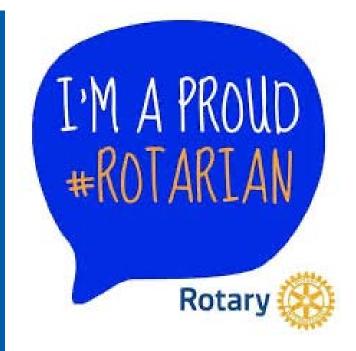
An Update on District Grants 2022/23 by PDG Art MacQueen.



Hanging out with RC of Bartram Trail-Julington Creek President Jose Gavarette.



What Is Your Reason?



We all join for different reasons and stay for others. Why are you a Rotarian? We would love to hear why!

### **Club Meeting**

Daytona Beach Meets at Palmetto Club 1000 S Beach St Daytona Beach, FL 32114-6202 Division Manday et 13315 PM

Time: Monday at 12:15 PM