As one of the only global health organizations dedicated to developing vaccines and supporting vaccination uptake, we consider community access and acceptance of the vaccine as important as developing the vaccine. If we develop and deliver the vaccine but don’t get it into arms, we won’t reach our goal of protecting lives.

Amy Finan
Chief Executive Officer
Sabin Vaccine Institute
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The road from vaccine research and development to vaccinations is incredibly arduous — and can be deeply fulfilling. Those two colossal pillars bookend the immunization spectrum, and Sabin is fortunate to work across the entirety of this complex continuum. Our Research & Development team develops vaccines for diseases that strike a heavy blow in low and middle-income countries. And our Global Immunization team works to ensure that vaccines benefit hundreds of millions of children and adults in under-resourced communities.

We made important strides on both fronts in 2022 and are grateful to our partners who help us stretch, grow, and go that extra mile.

The R&D team raced against time to deliver Sabin’s investigational vaccine to Uganda for a Sudan ebolavirus outbreak in late 2022. As part of a WHO-coordinated response to the emergency, we worked closely with multiple partners, including funder BARDA and manufacturing partner ReiThera, on details ranging from rigorous testing to sourcing vaccine vials and obtaining import/export permits. Thanks to the professional and personal perseverance of our team and partners, Sabin delivered the first Sudan candidate vaccine doses to Uganda, just 79 days after the outbreak began. Fortunately, the outbreak concluded before Sabin’s vaccine could be deployed in human trials. The outbreak lasted five months and took the lives of 55 people in that short duration. The ability to respond to an outbreak quickly and successfully lies at the heart of our R&D work. What we learned from the Sudan outbreak will help significantly improve our readiness for such a filovirus threat in the future.

On the Global Immunization front, we recruited a new president, Anuradha Gupta, veteran public health leader and former deputy CEO at Gavi, The Vaccine Alliance. Anuradha is known for tackling audacious global health challenges and she wasted no time at Sabin. Working with team members and listening to implementing partners and immunization professionals, she charted a revitalized approach to global immunization that is both BRAVE + BOLD, calling for new thinking and approaches from Sabin and the global health community at-large to tackle decades-old immunization challenges.

Local communities and leaders are at the center of Sabin’s BRAVE + BOLD approach. Contextual solutions developed with local partners are key to the successful and sustained deployment of any vaccine. Immunization workers are often the unsung heroes of any campaign mounted to end disease. The stories of our partners — researchers, nurses, and health workers — soldiering on to expand the benefits of immunization in some of the most remote and challenging parts of the world testifies to their grit and resilience. We believe these narratives will leave you inspired and hopeful. Clearly, while much still needs doing at a time of falling vaccination rates, much is also being done by locally led groups.

In highlighting our impact over the last year, this report illustrates how Sabin manages the funds entrusted to our care. Our funders, staff, frontline associates, and implementing partners around the world make what we do possible — every day.

Health progress is always hard to quantify because it is measured in things that didn’t happen — the bout of measles or pneumonia infection that you didn’t get when you were young because you were vaccinated. The pandemic transformed that perspective. We witnessed how vaccines saved lives and how the world’s researchers swiftly came together to solve the giant COVID-19 development and manufacturing puzzle. We also witnessed how access to these vaccines was anything but equitable. Nine months after the first COVID-19 vaccine was approved, just 3% of people in low-income countries had been vaccinated with at least one dose compared to 60% in high-income countries.

A new era of vaccine science is here, and we should harness that technical prowess into developing more just systems of implementation and distribution. While science is a remarkable tool to protect and save human life, its impact on global health progress will be limited until there is unwavering leadership commitment — at all levels — to ensure that vaccines reach everyone, everywhere, including our most vulnerable.

Amy Finan
Chief Executive Officer

Regina Rabinovich, MD, MPH
Board of Trustees Chair
UGANDA
Sabin first on the ground with vaccine 79 days after the Sudan Ebolavirus outbreak declared

BANGLADESH, NEPAL AND PAKISTAN
12,290 participants enrolled in a surveillance study to generate evidence for typhoid vaccine introduction

BRAZIL
1,451 participants recruited for COVID-19 fractional vaccine dosing clinical trial

149 BOOST COUNTRIES
The Boost community grew from 133 to 149 countries

10 SABIN GRANT PARTNERS
Implemented social and behavioral research projects: Guatemala, India (3), Kenya, Liberia, Nepal, Nigeria, Sierra Leone, and Thailand
2022 Snapshot: By the Numbers

Sabin's Boost online community GREW by 78%

108 journalists
Trained by Sabin and its partners to fight vaccine misinformation in 28 low- and middle-income countries in Africa, the Caribbean, and Latin America

17 partners
Across 5 COUNTRIES joined a training to increase capacity to conduct and analyze serosurveys

3,302 members
1,855 members

7,400+ media mentions
Sabin Vaccine Institute averaged 20 mentions a day in news stories in multiple languages, much of it devoted to the Sudan ebolavirus outbreak response

45 global health advocates
Engaged in a Sabin-hosted live session at the Global Health Landscape Symposium titled “From R&D to frontline delivery: Advocating for the workforce needed to deliver global health security”

$250 million
Contracted value of new R&D funding for Sudan ebolavirus and Marburg vaccine development

$6.3 million
Awarded to evaluate effectiveness of fractional doses of COVID-19 vaccine

LIFE or DEATH for a young child too often depends on whether he is born in a country where VACCINES are available or not.
Nelson Mandela
Powering Research & Development

In 2018, Sabin laid the groundwork to relaunch its research and development program — targeting diseases that strike a devastating blow to those who live in low and middle-income countries but remain inadequately addressed by traditional vaccine developers.

Sabin focused initial R&D efforts on a few diseases, including two filoviruses, Sudan ebolavirus and Marburg, which, on average, kill one out of every two people infected. In 2022, following a steady infusion of funds from the Biomedical Advanced Research and Development Authority (BARDA), Sabin advanced development of its vaccine candidates to successfully respond to a World Health Organization-led Sudan ebolavirus outbreak response effort in Uganda. Sabin, along with its partner ReiThera, manufactured thousands of Sudan vaccine doses and was the first organization to deliver vaccines to Uganda, within 12 weeks of the outbreak being declared.

At the end of 2022, BARDA committed to a second contract, valued at $214 million, to further the development and production of single-dose vaccine candidates for Sudan ebolavirus and Marburg virus diseases.

“I was privileged to meet the CEO of Sabin Vaccine Institute, Amy Finan at the US-Africa business forum, on the sidelines. Amy, thank you so much for your efforts and that of the entire institute in ensure timely provision of Sudan Ebola vaccine for trial among contacts.”

— Dr. Ruth Jane Aceng Ocero, Uganda’s Minister of Health
Uganda health authorities declare outbreak of Ebola disease, caused by Sudan virus, following laboratory confirmation of a patient from Mubende district, central Uganda.

Sabin, with partners, ramps up production of Sudan ebolavirus candidate vaccine.

WHO holds news conference; tells reporters it is following up on three Sudan ebolavirus candidate vaccines with Phase 1 safety and immunogenicity data.

First manufacturing run begins at ReiThera.

WHO evaluates and finalizes three candidate vaccines to be used in ring trial, including Sabin’s vaccine.

Sabin delivers 1,100 vaccines in Uganda for outbreak use, in a record 79 days.

Vaccines complete release testing, meeting highest quality standards.

The Sudan ebolavirus disease outbreak in Uganda is declared over before planned ring trials can be held.
What’s Next

In 2023, Sabin plans to hold Phase 2 clinical trials in Kenya and Uganda for its Sudan ebolavirus and Marburg virus vaccine candidates. Both vaccine candidates were shown to be safe, rapid, robust, and durable in Phase 1 human trials and non-human primate studies.
A New Vision for Global Immunization

Sabin’s Global Immunization division is retooling its approach to ensure that vaccines remain front and center on the global public health agenda.

In 2022, veteran public health leader Anuradha Gupta joined as President after eight years as the Deputy CEO at Gavi, The Vaccine Alliance and a career spearheading a host of successful global initiatives to improve the health of women and children, and boost vaccine access and uptake. The Global Immunization team also launched the first Vaccine Acceptance Research Network conference virtually, created webinars and podcasts, welcomed the first group of COVID-19 Recovery fellows (a collaboration with the World Health Organization), grew the Boost Community to more than 3,300 members across 149 countries, hosted a conference on influenza, conducted epidemiologic research on typhoid, COVID-19, and other vaccines, served as secretariat to the Coalition Against Typhoid, and provided professional support for health workers and journalists who cover vaccines.

With the introduction of a BRAVE & BOLD vision for activating local to international leadership and fueling progress, Sabin’s Global Immunization team set the stage for a future of elevating ideas from the community and growing partnerships that ensure action.
BRAVE and BOLD in Action

Reversing backslides in immunization and fast-tracking to meet global targets requires a BRAVE new vision and BOLD approach.

A BRAVE New Vision and Framework

- Boost immunization
- Reduce the number of zero-dose children
- Accelerate vaccine introductions
- Value communities, value women
- Enhance integration

A BOLD Approach to Replace Top-down Solutions

- Bridge the gap between global, national, subnational, and local
- Organize to foster two-way exchange and learning
- Listen to understand and co-craft solutions
- Dynamically distill and disseminate what works
Even the SMALLEST person in the community can whisper something REALLY IMPORTANT to you.

Tina Iroghama Agbonyinma, UNICEF Social and Behavioral Change Facilitator for Immunization, Nigeria

Fellowship Skills Help Encourage Vaccinations in Remote Nigeria

Tina Iroghama Agbonyinma can spend five hours traveling one way to some of the 378 remote and nomadic settlements she oversees as a facilitator for polio and routine immunizations in Kano State, Nigeria. That’s not the hard part. The 10-year immunization veteran credits skills in community activation and adaptive leadership that she learned in Sabin’s Boost Flagship Fellowship with helping her engage vaccine hesitant communities once she gets there. Identifying a leader ally, she says, “will solve more of your problems, because once they accept, the others are definitely going to accept.” Navigating gender issues and lack of information often means cultivating trust and knowledge through community meetings and individual conversations, and then continuous follow-up. It’s worth the time, she says. “I’m really, really very fulfilled to have been able to actualize my dream of reaching women and children, knowing that I got groups in the community to accept the vaccination.”
Looking for Answers to Drug-Resistant Typhoid

Increasing anti-microbial resistance poses a terrifying specter for scientists working on diseases such as nontyphoidal salmonella (NTS), a leading cause of diarrhea globally. Sabin’s Applied Epidemiology team leads the Coalition Against Typhoid, which recently published a study supplement noting the increased prevalence of antibiotic resistance. With no vaccine yet for NTS, the researcher who led the study, Dr. Samuel M. Kariuki, says “We are faced with a situation where we have literally no options available for treatment as the more effective alternatives (such as fourth generation cephalosporins) are unaffordable and often not commonly available.”

"The best option in the face of the severity of disease caused by invasive nontyphoidal salmonella and with so many drugs becoming ineffective due to resistance is use of vaccines for prevention and control."

Samuel M. Kariuki, Director of Research and Development at Kenya Medical Research Institute, Honorary Faculty at the Wellcome Sanger Institute
This experience taught me the importance of remembering that there are still things to be DONE to SAVE LIVES, especially among those communities that have been forgotten over time.

Mariana Souquett, Journalist, Efecto Cocuyo, Venezuela
GLOBAL IMMUNIZATION

Highlights

“Through VARN, we learned that we were not the only people facing the same problem.”

Rubina Qasim, Dow University
Assistant Professor and VARN member

Exploring Vaccine Acceptance

6 EARLY CAREER NURSES AND MIDWIVES were named Immunization Advocacy Champions by Sabin and the Nursing Now Challenge. They were recognized for their advocacy with policy makers to help address challenges in vaccine acceptance, demand, and delivery in their communities, countries, and other forums.

750 PERSONS from 76 countries registered for the inaugural Vaccination Acceptance Research Network (VARN) conference, held virtually over three days.

64 JOURNALISTS from 22 low- and middle-income countries, offered fellowships for investigative reporting in Africa, Eastern Europe, and Latin America, resulting in 74+ stories.

684 EARLY CAREER NURSES AND MIDWIVES were named Immunization Advocacy Champions by Sabin and the Nursing Now Challenge. They were recognized for their advocacy with policy makers to help address challenges in vaccine acceptance, demand, and delivery in their communities, countries, and other forums.

2022 IMPACT REPORT
Learning is like a journey, and my experience at the sero-epidemiology workshop in Bangkok last September was a great one. I enjoyed every minute of the class and learned how to leverage the power of R programming in data analysis.

Shiva Naga, Participant, Sabin’s Applied Epi R Training Workshop, Bangkok

Generating Evidence

8 RESEARCH PAPERS on COVID-19, Typhoid Surveillance, and Drug-Resistant Typhoid

53 IMMUNIZATION STAKEHOLDERS from 15 countries in Asia came together to discuss regional typhoid burden trends and new vaccine introduction strategies at the first Asia Regional Meeting on Typhoid & Typhoid Conjugate Vaccine

SINCE 2019, Sabin’s Social and Behavioral Research Grants Program has awarded over $600,000 to 18 research projects across 10 countries

HOSTED A SYMPOSIUM exploring new developments in typhoid diagnostics at the American Society for Tropical Medicine and Hygiene annual meeting
GLOBAL IMMUNIZATION

Highlights

The COVID-19 Recovery for Routine Immunization Programs Fellowship helped us to be able to use community health workers to mobilize their communities in a disrupted health system. It also helped to improve monthly data review at the facility and district level which helped (us) to evaluate the impact of this project in their routine immunization activities.

Martha Ngoe, Boost Community Member, Cameroon

Strengthening Immunization Capacity

11,000 LEARNERS used a new self-paced, introductory adaptive leadership course, Discover Your Leadership Moment

4 NEW BOOST LEARNING GROUPS WERE CREATED TO EXPLORE:

→ Behavioral science applications for immunization
→ The implementation of social media solutions for immunization programs
→ Mass vaccination site operations
→ Increasing demand for COVID-19 vaccination

1,500 IMMUNIZATION PROFESSIONALS and behavioral science experts from 119 countries came together for the Behavioral Science for Immunization Network, where they could share and explore practical experience and evidence for the effective application of behavioral science tools and interventions

22 MEMBERS OF BOOST’S FLAGSHIP FELLOWSHIP PROGRAM focused on deepening leadership skills for advocacy and community organizing; participants came from 11 countries — 68% from the sub-national level and an equal number of women and men

READ MORE
With vaccine misinformation a continuing barrier to global immunization, Sabin’s Vaccine Acceptance & Demand Initiative (VAD) has been trialing solutions. In 2022, the team connected with Dr. John Cook, a senior research fellow and climate scientist at the University of Melbourne in Australia. Cook led an effort to use gaming to “inoculate” against climate change misinformation by training players to recognize and respond to common techniques used to spread false information. In 2020, Cook developed a game called “Cranky Uncle vs. Climate Change,” which trains users in the ten most common techniques used to spread misinformation (e.g., fake experts, conspiracy theories, etc.) and invites the user to practice their new knowledge and critical thinking skills through quizzes.

In 2022, Sabin partnered with Cook, UNICEF and the nonprofit Irimi to develop “Cranky Uncle: Vaccine Edition.” The group spent time in Kenya, Uganda, and Rwanda connecting with community health workers, parents and child caregivers, and youth to co-design a locally tailored game script and create a set of characters for an east African version of the game. The version has been piloted in Kenya and Uganda among 1000+ users in each country. “The preliminary data is promising,” says Kate Hopkins, Sabin’s director of research on the Global Immunization team.

See the video of partners presenting on the East African co-design process and preliminary pilot study results at the recent Sabin and UNICEF co-hosted and sponsored VARN2023 Conference. Versions of Cranky Uncle: Vaccine Edition in other languages including French and Urdu are in development.
The role of partnerships in implementing audacious public health feats is pivotal, as Sabin’s accomplishments in 2022 attest. By uniting a broad array of public and private organizations within our initiatives, we stand better prepared to meet our mission and help contain the outbreaks and pandemics of tomorrow.

Chuck Nice, comedian and radio personality, is the narrator of a new flu documentary with origins in Sabin’s Influenzer program.
Priority Disease Areas in 2022

**COVID-19:** We continued to apply lessons from the pandemic to improve how these vaccines are developed and delivered, with a focus on advancing countries’ ability to access, develop, and distribute vaccines effectively.

**HPV:** We lead the Global HPV Consortium, a public-private partnership to mobilize action across three pillars — vaccinations, screening, and treatment — and reduce incidence and deaths from HPV-induced cancers. HPV is responsible for an estimated 95 percent of all cervical cancers. More than 340,000 women, many in their prime, succumb to the disease each year.

**INFLUENZA:** We are working to accelerate the development of next generation broadly protective vaccines for influenza to better prepare for and prevent the next pandemic.

**MARBURG VIRUS:** Sabin is advancing development of a vaccine for the deadly Marburg virus disease. Marburg virus disease is fatal in up to 88% of cases. No licensed vaccine for the disease exists. Sabin is an active member of WHO’s MARVAC, a group of experts from industry, government and academia dedicated to the rapid development of Marburg vaccines.

**SUDAN EBOLAVIRUS:** Sabin is refining a candidate vaccine for Sudan ebolavirus to prevent future outbreaks. The lethal virus kills, on average, one out of every two people infected. Sabin worked with the WHO and other partners during the 2022 outbreak in Uganda, and was the first to deliver its candidate vaccine to the country. No licensed vaccine for the disease exists.

**TYPHOID:** We are collaborating with local researchers in high-risk communities to gather and analyze data on disease spread and the impact of new vaccines that are rolled out in countries.

We FOCUS on vaccines to prevent DISEASES that place a disproportionately negative burden on the HEALTH and LIFE expectancy of individuals in low- and middle-income countries (LMICs).
Honoring Our Scientists

2022 Gold Medal and Rising Star Awards

Sabin honored two extraordinary scientists in a virtual ceremony for their breakthrough vaccine research that changed the course of the COVID-19 pandemic, advanced public health, and saved countless lives. The 2022 Albert B. Sabin Gold Medal was awarded to vaccine research leader Kathrin U. Jansen, PhD, and the Rising Star to immunologist Kizzmekia Corbett, PhD.

The Gold Medal is Sabin’s highest scientific honor, given annually to a distinguished member of the global health community who has made exceptional contributions to vaccinology or a complementary field. The Rising Star Award, instituted in 2020, celebrates the achievements of an early-career professional who demonstrates a commitment to the field of immunization.

When you look at all the previous Gold Medal recipients, they are colleagues and friends that you know and have interacted and worked with for years — passionate people, all dedicated to making a healthier world.

Dr. Kathrin J ansen, 2022 Gold Medal Recipient
Dr. Jansen was selected for her nearly three decades of commitment to advancing vaccine research and development (R&D) for a range of challenging diseases from COVID-19 to HPV and pneumonia, all of which afflict adults and children in low- and middle-income countries with already fragile health care systems.

During her time as Pfizer’s head of vaccine research and development, Dr. Jansen, in collaboration with BioNTech, spearheaded the development of a COVID-19 vaccine that would become the first FDA and WHO-authorized COVID-19 vaccine. It is the first-ever approved vaccine using an mRNA platform. Dr. Jansen’s leadership at Pfizer also produced newer versions of a widely used pneumococcal conjugate vaccine and vaccine candidates to prevent Streptococcus pneumoniae, respiratory syncytial virus (RSV), meningococcal infections, and Group B streptococcus. Previously, she directed vaccine R&D efforts at Merck Research Laboratories and led the development of the world’s first cervical cancer vaccine. She also contributed to programs for rotavirus, mumps, measles, and rubella.

“I got really deep into vaccines after seeing what vaccines can do and working on it and being successful with it. I think many of my colleagues shared this — it was a really wonderful time to see people get passionate about vaccines come together and move mountains.”
Dr. Corbett is an assistant professor of immunology and infectious diseases at the Harvard T.H. Chan School of Public Health. A viral immunologist by training, Dr. Corbett works to advance vaccine development for pandemic preparedness and to build public confidence in vaccines, particularly among communities of color facing health disparities. While at the National Institutes of Health, she was a member of the team whose research on the novel coronavirus laid the groundwork for the COVID-19 Moderna vaccine — the first candidate to be tested in Phase 1 clinical trials in the U.S.

Dr. Corbett’s research has also included a universal influenza vaccine, dengue, and RSV. Currently, she leads a laboratory focused on novel coronaviruses and other infectious diseases that aims to inform vaccine development against potential future pandemics. She is also a leading advocate for STEM education, health care equity, and community-based public health outreach.

“Science is basically the answering of why the world works the way that it does. And if we as scientists cannot communicate that out to everyone in the world in some shape or form, then I don’t really think we’ve succeeded at answering the question.”
The measles vaccine saved an estimated 17.1 million lives between 2000 and 2015 alone. Stanley Katz was part of the research team that developed that vaccine. He passed away on October 31, 2022, at the age of 95.

Dr. Katz was recognized in 2003 with the Albert B. Sabin Gold Medal for his contribution to the measles vaccine and other discoveries, and his exemplary leadership in the field of vaccinology.

As a third-year resident at Boston’s Children’s Hospital in 1955, Dr. Katz had seen first hand the devastation wrought by a polio outbreak. He never forgot the sight of parents rushing into overflowing pediatric wards with limp and feverish children in their arms, and would later become an ardent advocate for vaccines.

In 2022, measles cases surged with the WHO reporting more than 17,000 measles cases worldwide in January and February alone because of an increasing number of unvaccinated children. “People have lost sight of what it is they are being protected from,” Dr. Katz was quoted as saying.

Dr. Katz retired from Duke University in 2017 as professor emeritus. He had previously headed the pediatrics department at Duke’s School of Medicine for more than 20 years, helping raise its national profile. He was credited with playing a pivotal role in shaping US public health policies as chair of the CDC’s advisory committee on immunization practices.

Most young parents cannot appreciate, fortunately, as I do, the horror of polio with iron lungs and crutches; measles with encephalitis;...tetanus of newborn infants with overwhelming mortality; and a number of the other infectious diseases that we fortunately do not see...It is true that despite all that vaccines have done to improve the health of individuals and communities in the United States and throughout the world, they are not perfect...However, one simple fact cannot reasonably be disputed — the benefits of immunizations far outweigh any possible risks.

Stanley Katz, testifying in 1999 before the House Committee on Government Reform
Sabin continues to build on recent engagement, diversity, and communications efforts to help redefine workplace relationships in a remote-work environment.

Our 2022 initiatives included adding training for supervisors to develop communication and leadership skills; streamlining universal onboarding for new hires through Sabin’s online human resources portal; increasing Sabin’s recruitment outreach to low- and middle-income countries; and diversifying the pipeline of candidates to better serve global communities.

In addition, Sabin developed a new scholarship and summer internship program targeted to undergraduates at Historically Black Colleges and Universities. The scholarship aligns with Sabin’s commitment to build a diverse and culturally-rich candidate pipeline. It also takes Sabin’s celebration and support of excellence and diversity in public health to all levels — from experienced researchers (the Albert B. Sabin Gold Medal Award) to early and mid-career professionals (the Sabin Rising Star Award) to students entering the field.
Financials

How We Used Our Funds in 2022

- **90%**
  $28,266,000 on programs

- **9%**
  $2,736,000 on organizational management & administration

- **1%**
  $358,000 on resource development & fundraising to support future growth

Program Expenditures in 2022

- **64%**
  $18,099,000 on vaccine research & development

- **36%**
  $10,167,000 on global immunization
Making a Lasting Impact

Honoring Joseph L. Chen

Recently, Sabin received an unexpected and generous gift from the family of Joseph L. Chen, who passed away in 2020 of stomach cancer. The donation for more than $550,000 came with no conditions and supports any activity advancing immunization.

Born in Taiwan on November 19th, 1955, Joseph spent much of his childhood and young adult life on the island. He majored in ocean biology in college, served as an officer in the Taiwanese Navy, and relocated with his mother and brothers, Simon and David, to California in 1981.

After obtaining a master’s degree in computer science at the University of Southern California, Joseph worked as a computer engineer at Cisco until his retirement in 2015.

He never married and cared for his elderly mother until her passing in 2019 at the age of 89. His family says that it was while caring for his ailing mom that Joseph came across Sabin’s work and decided to entrust his lifetime earnings to aid the organization’s mission.

Joseph is remembered as an intelligent and earnest man, a doting uncle, and a caring and loving son. He enjoyed photography and traveling around Europe. His family says one of his great legacies was the kindness and love that he passed to people around him over the course of his life, and the strength and gratitude that he showed even while he battled cancer.

He is survived by his two brothers and their families.

One of his great legacies was the kindness and love that he passed to people around him over the course of his life.