



# INNOVATION COUNT DOWN 2030

REIMAGINING GLOBAL HEALTH

Innovation has played a vital role in much of the progress in the past 15 years to improve health and save lives around the world. As the world rallies around a new set of global goals, it will be even more important to accelerate and advance lifesaving innovations. Research and innovation for health—which includes the scaling up of proven health interventions as well as the development of new, improved health technologies—is critical to meeting the ambitious targets of the new global goals.

Driven by this understanding, PATH released the Innovation Countdown 2030 report (IC2030), *Reimagining Global Health*, which identifies 30 high-impact innovations selected by independent global experts for their promise to transform health in the next 15 years. By engaging entrepreneurs, investors, innovators, and experts across sectors and around the world, IC2030 reimagines what is possible if we harness the world's collective expertise, resources, networks, and commitment to scale up the most promising solutions to the world's health challenges. Policymakers play a vital role in establishing supportive policies and making catalytic investments to advance lifesaving innovations.

## REPORT FINDINGS

In addition to the 30 innovations which follow, the report offers several insights:

- Innovation is happening in **every corner of the globe**. All countries and communities have a role to play in meeting the world's most pressing health challenges, and we must commit ourselves to tap and support innovation wherever it occurs. This includes strengthening the capacity of low- and middle-income countries (LMIC) to develop, produce, and share homegrown innovations.
- Focusing on health solutions that deliver the most **value for money**—including crosscutting health system and platform innovations—will require more robust assessment tools to help guide decision-making on where to invest precious health resources.
- We need **new financing mechanisms** that can bring new players to the table, leverage and align funding across different stages in the development pipeline and across different partners, and ensure investment

ultimately results in scalable, affordable technologies and interventions that meet the needs of LMIC markets.

- By **better coordinating investment** in innovations across the healthcare lifecycle, particularly across disease area, the world can better ensure a comprehensive suite of tools and services to achieve the greatest possible health impact.

## WHAT'S NEXT

PATH plans to continue to build on IC2030, expanding the evidence base for high-impact innovations, crowdsourcing solutions to issues that could impede the progress of the most promising innovations, and advocating for policies that pave the way for introduction and scale up of proven innovations. **Advancing promising global health technologies to ensure they make an impact will require more focused efforts, increased financial resources, and more supportive policies, such as regulatory reform and investments to support domestically-driven research agendas and solutions.**

Download the full report and learn more at [ic2030.org](http://ic2030.org).

# 30 INNOVATIONS WITH GREAT POTENTIAL TO SAVE LIVES

## MATERNAL, NEWBORN, AND CHILD HEALTH

### New formulations of oxytocin

Severe bleeding after childbirth kills many women. Although oxytocin can control postpartum hemorrhage, it is often unavailable when needed. Alternative formulations, such as fast-dissolving tablets and an inhalable formulation, will improve access.



### Kangaroo mother care

Kangaroo mother care involves prolonged skin-to-skin contact (skin-to-skin) between the newborn and mother immediately after birth. Based on observed benefits, the method is recommended for widespread use, especially in low-resource settings.



### Uterine balloon tamponade

When first-line treatments don't control postpartum hemorrhage, a balloon tamponade inserted in the uterus may stop bleeding. The Every Second Matters for Mothers and Babies tamponade is a simple, low-cost kit.

### Handheld device to measure blood pressure

Preeclampsia affects more than 1 in 20 pregnant women and leads to dangerously high blood pressure. Better methods to measure blood pressure during pregnancy are needed. One promising technology is the Microlife Vital Signs Alert, an easy-to-use handheld device.



### New neonatal resuscitators

Many newborns need help breathing at birth, and many will die without proper care. New low-cost, reusable, and easy-to-use resuscitators, including the Laerdal Upright Resuscitator, can help to prevent deaths.



### New treatments for severe diarrhea

Diarrheal disease is a leading cause of death among young children in developing countries. Several new treatments promise to help children with life-threatening diarrhea have a better chance at recovery, such as DiaResQ.

### Simple, safe device for assisted delivery

Complications during prolonged labor can be fatal to mother and baby. Simple, low-cost solutions are needed. The BD Odon Device™ features a polyethylene film that is wrapped around the baby's head to assist delivery.



The BD Odon device is a trademark of BD.

### Rice fortification

Micronutrient deficiencies threaten the health of millions of children. For children living in areas where rice is a staple food, rice fortification is a cost-effective and sustainable way to boost nutrition.



### Chlorhexidine for umbilical cord care

Many newborns die each year from infections. Chlorhexidine reduces the risk of infection when applied to the umbilical cord stump after birth. It can be used at home by health workers or family members.



### New tools for small-scale water treatment

Many households in developing countries use contaminated water that causes diarrheal disease among children. New technologies, such as the Zimba automated chlorinator, are making small-scale community water treatment feasible and economical.



## Portable pulse oximeters to measure oxygen

Measurement of blood oxygen levels is helpful for detecting pneumonia, a leading killer of children. A new type of device uses a mobile phone attachment to accurately measure oxygen levels without touching the body.

## Better respiratory rate monitors

Another way to diagnose pneumonia is measuring respiratory rate. New respiratory rate monitoring tools, such as the INSPIRE sensor, will improve the diagnosis and timely treatment of infants and children with pneumonia.

### INFECTIOUS DISEASES

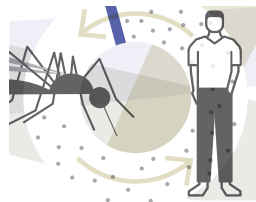
## Protective malaria vaccine candidates

Malaria affects more than 200 million people each year and kills about 600,000, mostly young children in sub-Saharan Africa. Vaccination against malaria could be a low-cost, effective way to prevent disease and save lives. Advanced clinical trials have shown that a vaccine candidate known as RTS,S can safely reduce incidence of clinical and severe malaria in young children.



## Malaria transmission-blocking vaccine

Candidate malaria vaccines target various stages in the life cycle of the parasite that causes the disease. This innovation is a vaccine candidate designed to block transmission of the parasite from humans to mosquitos.



## Potent, single-dose antimalarial drug

The primary objective of malaria treatment is to rapidly and completely eliminate the *Plasmodium* parasite from the patient's blood. This innovation is a drug candidate that may lead to a complete cure with a single dose.



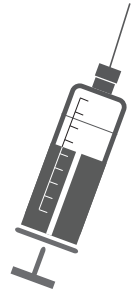
## Expanded use of rapid malaria tests

Patients with suspected malaria should be tested to confirm the presence of malaria parasites before beginning treatment. Expanded use of malaria rapid diagnostic tests—including new, more accurate tests—will improve treatment.



## Broadly neutralizing antibodies in HIV vaccines

Vaccines are the most effective, affordable, and practical way to eliminate an infectious disease such as HIV. Several HIV vaccine candidates that use broadly neutralizing antibodies hold special promise.



## Long-acting injectable antiretrovirals

Taking an oral antiretroviral medication every day can effectively treat HIV infection and slow or stop progression to AIDS. Developing long-acting formulations of antiretroviral drugs could improve treatment adherence and outcomes.

## Oral pre-exposure prophylaxis for HIV

Although condoms can reduce HIV risk, they are not always available, and consistent use can be challenging. Pre-exposure prophylaxis is the use of oral formulations of antiretrovirals to prevent HIV infection in high-risk groups.

## Novel multidrug treatment regimen for TB

More than a million people die from tuberculosis each year. A novel multidrug treatment regimen has potential to safely treat TB and some forms of multidrug-resistant TB in as little as three months without injections and at low cost.



## New vaccines to prevent TB

Tuberculosis prevention and control efforts rely primarily on the vaccination of infants and the detection and appropriate treatment of active cases. Several new vaccines under development may potentially improve prevention and control.



## Nucleic acid amplification tests

Pulmonary tuberculosis is difficult to diagnose based on signs and symptoms. New nucleic acid amplification tests, including Xpert MTB/RIF and Alere Q allow more sensitive and rapid diagnosis, facilitating prompt treatment.





## REPRODUCTIVE HEALTH

### Expanded access to implants and intrauterine devices

Increased use of contraception could substantially reduce maternal and infant deaths. Long-acting reversible contraceptive methods such as implants and intrauterine devices are an appealing option for many women.



### Injectable contraceptives

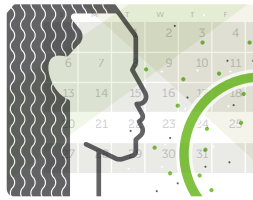
Injectable contraceptives are among the world's most popular methods for preventing pregnancy. Sayana Press® promises to make injectable contraception more widely available to women in low-resource settings, especially in remote areas.



Sayana Press is a registered trademark of Pfizer, Inc.

### One-year contraceptive vaginal ring

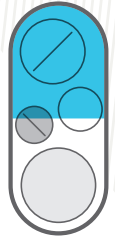
Thousands of maternal deaths could be avoided each year if more women delayed motherhood, spaced births, and prevented unintended pregnancy. A one-year contraceptive vaginal ring may be a good option for many women.



## NONCOMMUNICABLE DISEASES

### Polypill

By 2020, heart disease and stroke will be the leading causes of death worldwide. The polypill contains a combination of inexpensive medications that can reduce the risk of cardiovascular disease or help to control progression.



### Broader use of HPV vaccine

Most cases of cervical cancer are caused by infection with human papillomavirus (HPV). Broader use of vaccines to prevent HPV infection will accelerate the decline of cervical cancer mortality.



### Task-shifting for diabetes care

Health systems in many countries have too few physicians and other health professionals to manage diabetes diagnosis, treatment, and monitoring. Task-shifting focuses on training lower-level health workers to provide many components of diabetes care.

### mHealth innovations

The prevalence of noncommunicable diseases (NCDs) is growing rapidly in LMICs. Mobile devices and communications networks may help to improve NCD prevention and management.

### Portable, affordable screening for eye problems

Nearly 300 million people are blind or have substantial visual impairment, though eye care could prevent many cases. New portable, affordable devices to screen for early signs of disease may help to preserve eyesight for many.



The IC2030 initiative has been supported by the Norwegian Agency for Development Cooperation, the Bill & Melinda Gates Foundation, and the US Agency for International Development. To learn more, please visit [www.ic2030.org](http://www.ic2030.org).

Photos: PATH/Will Boase



[www.path.org](http://www.path.org)

PATH is the leader in global health innovation. An international nonprofit organization, we save lives and improve health, especially among women and children. We accelerate innovation across five platforms—vaccines, drugs, diagnostics, devices, and system and service innovations—that harness our entrepreneurial insight, scientific and public health expertise, and passion for health equity. By mobilizing partners around the world, we take innovation to scale, working alongside countries primarily in Africa and Asia to tackle their greatest health needs. Together, we deliver measurable results that disrupt the cycle of poor health. Learn more at [www.path.org](http://www.path.org).

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