

OPTIMIZE THE SUPPLY CHAIN

INVITE COLLABORATION

ENCOURAGE ONGOING INNOVATION

DEMONSTRATE GOOD IDEAS

OPTIMIZE

**Immunization Systems and
Technologies for Tomorrow**



**World Health
Organization**

A TRANSFORMATION IN THE VACCINE LANDSCAPE



PATH



In the last decade, as the public health impact of vaccines has become increasingly clear, interest in and funding for new vaccine development and introduction

have surged. Countries all over the world, including the poorest, are now beginning to add new and under-used vaccines to their standard immunization programs.

However, the vaccine supply chain and logistics systems used in most low- and middle-income countries were developed 30 years ago, before sophisticated tracking and management tools were widely available and before vaccines cost more than US\$1 per dose. To meet the demands of the future, supply chains will need more physical space to accommodate new vaccines. At the same time, as the cost of vaccines rises, programs are under considerable pressure to improve performance by avoiding stock-outs, minimizing wastage, and improving safe and efficient vaccine management.

WENDY STONE



A PARTNERSHIP FOR THE FUTURE

Building on what has been learned thus far, Optimize—a collaboration between the World Health Organization (WHO) and PATH with financial support from the Bill & Melinda Gates Foundation—has been given a unique mandate to identify, develop, and test solutions to help supply chains keep up with rapidly advancing vaccine and delivery device technologies. We focus our work in three areas.



PATH/YANCY SEAMANS

REVISING POLICY

Some vaccines are quite stable at temperatures above 8°C. If these vaccines can be stored and transported in a controlled environment outside of refrigerators and cold boxes, health staff could gain access to remote populations, protect vaccines from freezing, and make more physical space available for other vaccines and heat-sensitive health products. Vaccine vial monitors, small stickers that indicate exposure

DEMONSTRATE GOOD IDEAS

Optimize is building an evidence base for ideas that have been tried in private-sector supply chains, other public health programs, or specific regions but not applied in large-scale immunization programs. Collaborative demonstration projects will answer questions about the impact that innovations can have on the efficiency and sustainability of supply chain and logistics systems and the availability and quality of products that move through the system.

By generating a strong evidence base and documenting new ideas, Optimize will answer critical questions about how to build more adaptable and efficient logistics systems in low-income countries throughout the world.

to heat, would help health workers determine whether vaccines had been exposed to too much heat. Optimize is working with partners (including industry and regulators) to explore the possibility of relaxing the strict temperature storage requirements for heat-stable vaccines.

INTEGRATING LOGISTICS

Supply chain challenges are not unique to immunization. Public health programs that support the delivery of antiretroviral drugs, bed nets, diagnostic kits, and other health products are also facing increased growth and pressure resulting in similar delivery, management, and storage problems. Where possible, Optimize aims to integrate vertical programs and strengthen consolidated supply chains, thereby reducing cost, eliminating redundancies, and improving efficiencies.

PAT/ROBIN BIELLIK



COMPUTERIZING TRACKING AND RECORDS

Most vaccine supply chains use paper-based systems to track supplies and place orders. However, some countries now have the infrastructure and capacity to introduce computerized tracking,

monitoring, and ordering. Optimize will work with collaborating countries to explore the feasibility of computerizing birth registries, linking them with immunization records, and using them to inform vaccine orders and inventory management.



PATH/DAN CHANG

DEFINING SPECIFICATIONS

The Vaccine Presentation and Packaging Advisory Group, created by the GAVI Alliance and currently housed at

ENCOURAGE ONGOING INNOVATION

Optimize's goals are not limited to what we can do in five years but are the first steps in promoting long-term planning among all stakeholders—from countries to industry. In addition to demonstrating the value of innovations that exist today, Optimize will strive to establish enduring mechanisms that identify, refine, influence, test, and introduce new ideas on an ongoing basis—creating an environment that encourages and rewards innovation.

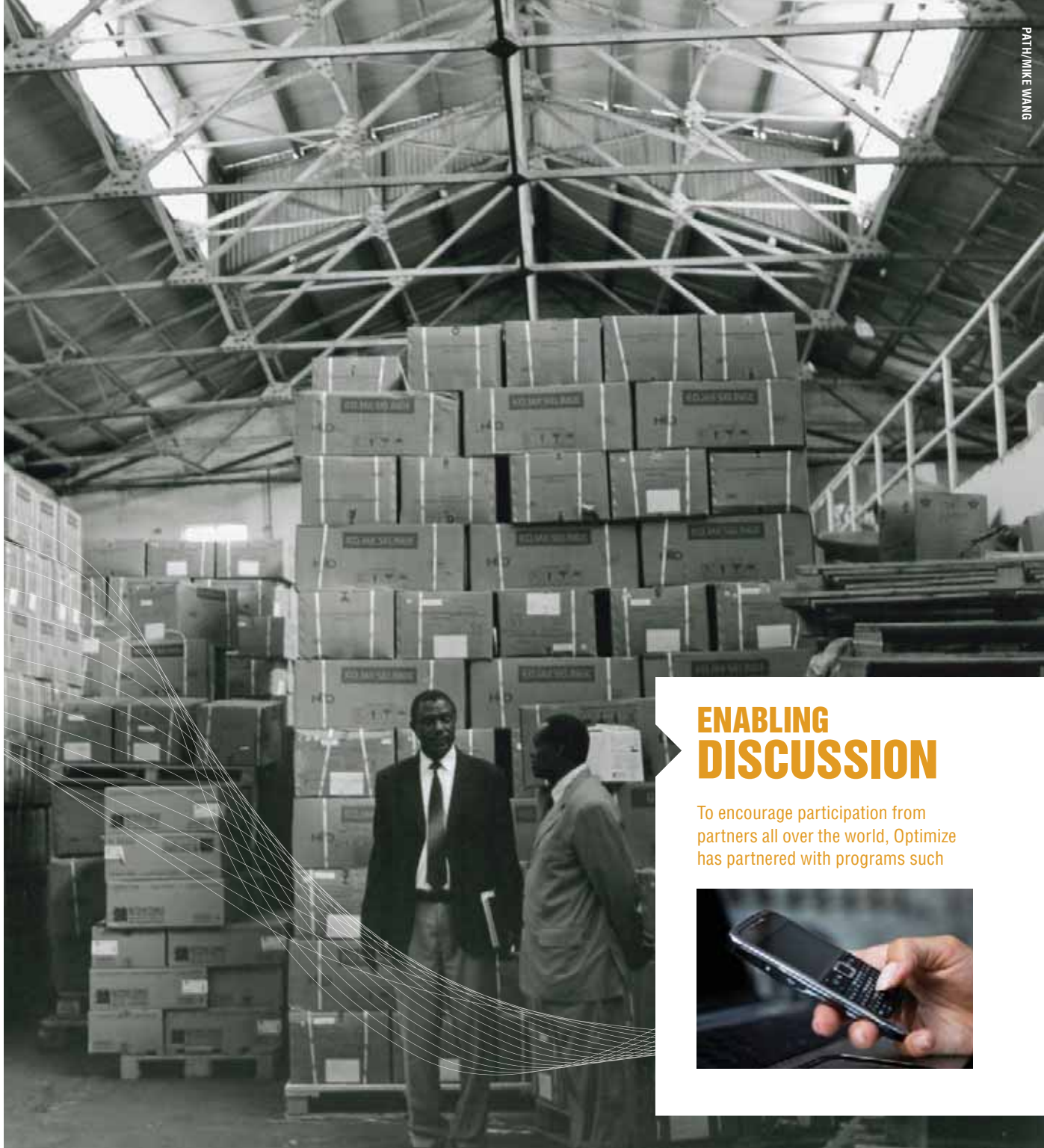
WHO, was created to bring industry and public health officials together to define the ideal characteristics and specifications for immunization products. Optimize is working with this group to define preferred product profiles for vaccines that are in early stages of development, which will help ensure that they are designed to meet the needs of low- and middle-income countries.

PATH



ENDORISING NEW TECHNOLOGIES

WHO's Performance, Quality, and Safety specifications are designed to evaluate existing refrigeration and vaccine delivery technologies. Optimize is working with its WHO colleagues to identify, test, and endorse new and innovative technologies that can benefit immunization programs in low-income countries.



ENABLING DISCUSSION

To encourage participation from partners all over the world, Optimize has partnered with programs such



INVITE COLLABORATION

Optimize invites all stakeholders to help identify solutions, test their feasibility, and build enduring logistics and supply chain systems that can handle vaccines now and in the future. Collaboration at all levels is the only way to ensure that good ideas are consistently identified and pursued over the next few decades.

HENG CHIVAN



as TechNet, the Technical Network for Strengthening Immunization Services, to create discussion forums and dissemination portals for our work.

SHARING KNOWLEDGE

Optimize is also carefully documenting the work and planning that goes into implementing changes in systems and practices—creating a library of learning that can be shared around the world.

Our formative research as well as ongoing reports and findings can be found on the TechNet website (www.technet21.org).



ENVISIONING THE FUTURE

Reaching our goal means that supply chains and logistics systems need to be flexible and robust; global policies must ensure that technologies and systems are constantly evaluated and introduced without undue delay; and global, regional, and national stakeholders must work together long into the future to meet the changing needs of a changing world.

Some questions we are asking include the following:

Q: Can we strengthen supply chains by integrating the storage, transport, and/or management of vaccines with other health products?

Q: How can vaccines be developed with characteristics that meet the needs of developing countries?

Q: Can we improve the flow of information so vaccine ordering and distribution are based on actual need?

Q: Is there a less expensive and more environmentally friendly way to transport vaccines from manufacturer to country?

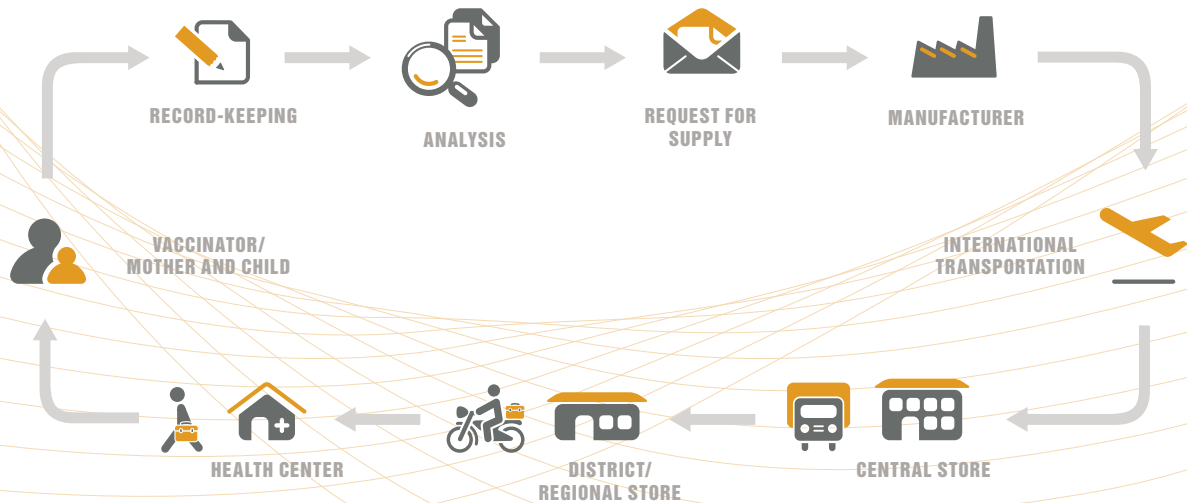
Q: Could new technologies enable tracking of vaccines throughout the system to help manage stocks and possible lot recalls?

Q: Can new information technologies improve our access to information so that we can better use the data for decision-making?

Q: Would safety, coverage, and efficiency improve if some of the more heat-stable vaccines traveled without ice packs or were stored in air-conditioned rooms?

OPPORTUNITIES TO OPTIMIZE THE SUPPLY CHAIN

Ultimately, all immunization programs aim to safely, affordably, and reliably deliver lifesaving health technologies to people at the right time, in the right place, in the right condition, in the right amount, no matter where they live.



JOIN THE DISCUSSION

People around the world are working together to demonstrate good ideas and encourage innovation in technologies and logistics systems for health.

To participate in ongoing discussions and join our mailing list, visit www.technet21.org

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