Science holds the promise of revolutionary new ways to fight the diseases of the world’s poor. But breakthroughs in the lab aren’t always necessary. The past 15 years, when aid for global health tripled to more than $31 billion, have shown that tools in hand today can help achieve dramatic improvements, but only if they are used effectively. Bednets can’t prevent malaria if people don’t use them. Cholera epidemics are relatively simple to stop, but people need access to clean water and sanitation. Vaccines could eradicate measles, but there are still children who don’t get them. Ebola, too, can be contained, if patients are isolated soon enough, their contacts monitored, and the dead buried safely and quickly.

Now that the surge in funding has slowed and the United Nations is preparing new objectives to succeed its Millennium Development Goals, it is critical to target spending where it can be most effective. The most powerful tools address not just individual health but whole communities. This special issue of Science focuses on diverse areas where public health can be improved by making better use of the resources we have in our grasp, ranging from tailoring engineering projects to meet the needs of material- and infrastructure-limited regions, to building a surveillance network for the detection of drug resistance, to empowering women. Education is key for the general public, for decision-makers, and for the next generation of researchers, medical students, and public health professionals.

For this survey of global health, Science has joined forces with Science Translational Medicine, which examines vaccine development, strategies against emerging infections, progress in point-of-care diagnostics, and ways to promote mental health and neonatal health. We look at what works, what doesn’t, and what’s needed to move forward.
Somali mothers wait to have their babies examined before receiving a five-in-one vaccine against several potentially fatal diseases.