

A new commitment for global health



Ernst Berndt, Louis E. Seley Professor in Applied Economics

It is a sad and cynical assumption to consider: There is no guaranteed material benefit to developing and manufacturing drugs and vaccines for the third world.

But a new economic model developed by—among others—Professor Ernst Berndt, the Louis E. Seley Professor in Applied Economics, intends to provide that guarantee.

The Advanced Market Commitment (AMC) model seeks to speed the development of drugs and vaccines for the third world by using philanthropic dollars and a guaranteed price to stoke production. If drug manufacturers are guaranteed a worthwhile price through donor funding, Berndt believes they will pursue the development and manufacturing capacity expansion of critical drugs.

A pilot program is under way with pneumococcal vaccines, which fight infections that kill more than 800,000 children under the age of five every year. More than 80 percent of those deaths occur in countries eligible for assistance from the AMC pilot, according to an article Berndt and colleagues published in *Health Affairs* last year.

“It’s highly prevalent,” Berndt said. “A lot of kids die from it in the third world.”

The model works like this: A consortium of donors (in this case, five donor countries—Italy, the United Kingdom, Canada, the Russian

Federation, Norway—and the Bill and Melinda Gates Foundation) fronts enough funds to allow a project administrator (the GAVI Alliance working with the World Bank) to offer drug companies a set price to develop a finite amount of a new vaccine or drug. Under the model, the first units delivered command a higher price, offering a greater reward for initial manufacturing and a marginal cost for later sales.

The donated funds cover upfront development and additional manufacturing capacity costs, enabling third-world countries to pay a predetermined marginal drug cost from the start.

This advance commitment model has taken hold. In December 2011, Pfizer and GlaxoSmithKline each announced its commitment to supply up to a total of 480 million doses of pneumococcal vaccines Prevnar-13 and Synflorix through 2023, building on their original March 2010 commitment to supply up to 300 million doses under GAVI. In late 2011, GAVI announced it would be introducing the pneumococcal vaccines into an additional 18 countries, bringing the total number of countries supported through the AMC to 37.

“What we hope we can do in several years is to quantify the reduction in infant mortality,” Berndt said. “And how much did we spend? So we know cost per life saved. We are already beginning to evaluate how much more rapidly the diffusion of the vaccine to developing

country markets is, as compared with a traditional R&D model.”

The pilot was launched in 2009 and will last until at least 2023. But Berndt has determined a few early lessons. The AMC model requires a sustained donor commitment to GAVI to support early R&D, he said.

Some level of trust is also required. The model creates a legally binding promise that the program administrator will pay a certain price for drugs or vaccines—so long as the demand exists. Drug manufacturers are taking a risk on that demand appearing.

“Industry has to take some risk here,” Berndt said. “One of our goals was to ensure that the risks industry takes are similar to those they take under first-world drug market conditions.”

But even with some risk and some uncertainty, Berndt is optimistic the model can bring affordable drugs to market in the third world more quickly than in the past.

“I think we’ll know a lot more in the coming year,” he said. “As far as I can tell, it’s the first collaboration of its kind. The potential payoff is so great. Industry can play a vital role. Mutually beneficial transactions are possible.”

—Zach Church