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A Marriage of Divergent Interests: Partnership in the Making of the World's First Advance Market Commitment



Lessons Learned:

- *The heart of an Advance Market Commitment is that it is a multi-sector effort to build financing mechanisms as an incentive to facilitate vaccine development.*
- *Technical, financial and scientific issues associated with the AMC require the coordination of a wide range of subject matter experts.*
- *Being flexible and willing to revise your approach when new facts emerge or conditions change is critical.*
- *Being proactive is essential. Provide opportunities for continuous communication among all partners and stakeholders, identify those who can provide constructive suggestions and ensure they're heard by the policy-makers.*
- *Pricing is likely to be a key driver. Be reasonably certain that parties have consensus on timing and mechanisms for determining pricing.*



Enrolled midwife Belita M. Ngoma weighs and vaccinates baby with mother at Maternal Child Health unit in Kapiri Mposhi, Zambia.

Photo by Indrias Getachew

Vaccination remains the most cost-effective intervention available to modern medicine. It has arguably done more to improve public health than any measure except the provision of clean drinking water. Yet some two million children die each year from diseases for which vaccines already exist, and millions more lose their lives to infections against which vaccines could be developed, but never have been.

There are many reasons for this neglect. One is that the design and development of vaccines is, in some crucial ways, as much an industrial art as it is a science. Only a handful of companies have the know-how required to shepherd a candidate vaccine from its design stages through clinical assessment and regulatory review and onto the market. Further, because vaccines are biologics, their production is a relatively complicated and expensive affair. A single industrial-scale vaccine plant can cost several hundred million dollars to build, and its construction must often start three to four years before the vaccine has even won regulatory approval. It can, further, take a decade or more before the sizable investments made in developing and manufacturing vaccines generate the first

trickle of revenue. Given such high risks and steep upfront costs, manufacturers have long lacked any incentive to invest in vaccines tailored to meet the needs of developing countries, where few people could afford them.

This market failure was the focus of a report Italy's Minister of Economy and Finance Giulio Tremonti presented to his G7 counterparts on Dec. 2, 2005, in London. The Tremonti report identified six diseases for which vaccines ought to be developed and described how a financing mechanism known as the advance market commitment (AMC) might be used to enable their development. The AMC, a brainchild of researchers at the Center for Global Development, Washington D.C., creates an incentive for manufacturers to invest in vaccines for developing countries by guaranteeing them, for a defined period, a high price per dose for vaccines that meet specified criteria. That price, subsidized by donors supporting the AMC, alleviates some of the risk manufacturers must take as they expand production capacity. In exchange for this subsidy, the manufacturers agree to sell the vaccine at or below a preset lower price (known as the "tail price") after the donor funds that provided the initial subsidy have run out.



Health worker Elisee Sansa records information about women and their children at the Barumbu mother and child center in Kinshasa, Democratic Republic of the Congo.

Photo by Olivier Asselin

The G7 ministers endorsed the Tremonti report and convened an expert committee to decide which of six developing world diseases identified in the report ought to be the focus of a pilot vaccine AMC. Separate working groups were appointed to build a feasible technical, institutional and financial framework for the pilot AMC. The ministers also set in motion a widely inclusive consultation process to help inform its ultimate structure and vet it with all stakeholders. The World Bank, which had shepherded the idea through international summits and conferences since its arrival on the world stage, led these activities in conjunction with the GAVI Alliance. The latter has been chosen as the institution that would house the AMC secretariat and will contribute a vast portion of the funds for the purchase of vaccines. (See Table I for a list of the major partners.)

On Feb. 9, 2007, an AMC for a vaccine against pneumococcal disease — which kills 1.6 million people every year, mainly in developing countries — was launched with \$1.5 billion in funding from Italy, the United Kingdom, Canada, Russia, Norway and the Bill & Melinda Gates Foundation. Aside from testing the practicality of the AMC concept, this pilot is expected to save more than seven million lives by 2030 and to do so at a cost of \$33 per disability-adjusted life year, a third the accepted benchmark for health interventions in developing countries.

To qualify for the AMC, a candidate vaccine must target serotypes 1, 5 and 14 of *Streptococcus pneumoniae*, which are highly prevalent in Africa and Asia. It must also cover strains responsible for 60 percent or more of serious pneumococcal disease, last at least 24 months on the shelf and be devised for easy delivery via the existing health systems of developing countries. Companies that meet these criteria will be able to claim an initial price of \$7 per dose of their vaccine and a tail price of up to \$3.50, which represents a 95 percent discount on the price currently charged in industrialized countries for a similar existing vaccine. Their share of the AMC funds will be tied directly to the total number of doses they commit to deliver. (See sidebar.)

Over the past couple of years, the World Bank and GAVI Alliance have coordinated working groups and held a dizzying array of consultations with donor nations, developing countries, United Nations agencies, nongovernmental organizations (NGOs) and industry to shape the pilot AMC. These meetings helped establish everything from how the pneumococcal vaccine would be priced and paid for to the specific requirements it must meet to qualify for AMC support. This case study examines some of the issues that arose during the development of this pilot AMC — which became officially operational in mid-June 2009 — and seeks to identify lessons that might be learned from the manner in which they were addressed.

The Consultations

The tension between human need and corporate profit that gave birth to the idea of the AMC permeated every aspect of its subsequent development. It ran like a live wire through the meetings between government representatives and industry leaders that took place after G7 summit at Gleneagles, Scotland, where the idea of the AMC was initially fielded. And it animated the consultations GAVI and the World Bank team held with NGOs and industry. Given the controversy associated with any use of public funds to subsidize drug companies, it was clear that fundamental decisions about the AMC's ultimate structure would have to be arrived at through a transparent process that was demonstrably independent of political and industrial influence. The appointment of an independent consultant to draw up the general structure of the pilot AMC was a good idea, says Susan McAdams, director of multilateral and innovative financing at the World Bank, who was involved in the AMC from its earliest days.

It did not, however, protect the pilot program from criticism. Some NGOs wanted more access to information about things such as the cost of making vaccines, which are closely held secrets of the industry. Others wanted the AMC to somehow modify prevailing intellectual property law. Certain organizations saw no reason to give pharmaceutical companies public funds to do what they believed the companies ought to be doing anyway. As far as this camp was concerned, the very premise of the AMC was flawed. "Those who are ideologically opposed to market-based solutions will never accept that anything like the AMC is a good idea," says Tania Cernuschi, senior AMC manager at GAVI. "What we tried to do was to engage those NGOs that had made positive criticisms and proposals."

The AMC secretariat took care to brief such critics and see to it that their concerns were at least heard by the expert committees charged with writing the details of the AMC. Médecins Sans Frontières' (MSF), for instance, had serious concerns about how the AMC subsidy was structured. In its original form, the AMC would have permitted a single company to lay claim to the entire AMC purse. (That risk had not escaped the attention of critics in academia either.) So GAVI got MSF in touch with the Economic Expert Group (EEG), which had been appointed after the launch of the AMC to sort through pricing and design issues. MSF's concerns were incorporated into the report ultimately submitted by the EEG. Subsequently, rules governing how many vaccines a company can commit to supply under the AMC were modified in a way that make it impossible for any single firm to monopolize the entire \$1.5 billion fund.

This didn't exactly make MSF a champion of the AMC; it still had a list of fundamental criticisms of the scheme. But the

organization was pleased that its concerns had been heard. "It was very important to engage the MSF," says Cernuschi. "You have to be proactive, provide constant briefings to partners." Such interactions, she notes, help identify those who are interested in seeing a proposal succeed and have something of value to contribute to the problem.

Expert Advice

If transparency mattered in the stakeholder consultations, it was perhaps even more important to the credibility of the expert working groups and advisory committees. "Development aid, even a scientifically driven process like the AMC, is fundamentally political," observes David Fleming, who worked on the disease expert committee that first recommended the pneumococcal vaccine for the pilot and went on to chair the EEG and co-chair the implementation working group that penned the details of the AMC. He points out that a number of interest groups — advocates for malaria, TB, HIV — were competing intensely to have their vaccine of choice selected. Any of them might have been legitimately picked for the pilot

The way the decision to target pneumococcal disease was reached, Fleming says, illustrates a key strength of the processes by which the AMC was designed. The group convened for this purpose comprised experts in everything from epidemiology to the legal and economic aspects of vaccine manufacturing. Two-thirds of them came from developing countries. Their deliberations were conducted in a highly transparent manner. "If it had been some

How the Pilot Advance Market Commitment Works

- Manufacturers sign legally binding commitments to supply a certain quantity of vaccines for 10 years at a price no higher than \$3.50 per dose. The vaccine must meet the target product profile requirements of the AMC.
- In exchange, the manufacturers receive an additional payment that averages \$3.50 per dose for roughly 20 percent of the doses they supply.
- The subsidy gives manufacturers the incentive to invest in building manufacturing capacity dedicated to supplying the vaccine of interest to developing countries.
- The AMC price includes a copay, which is paid for by participating developing countries and GAVI.
- By ensuring the availability and accessibility of pneumococcal vaccines, the AMC could save 900,000 lives by 2015, and 7.7 million lives by 2030.

donor group making the decision in a political atmosphere,” says Fleming, “it would potentially have gone the same way. But then it would have been subjected to the criticism that political, rather than public health or scientific issues, were driving the decision.” That, he says, would almost certainly have bogged down the process, which was complicated enough as it was. The decision to delegate scientific, technical and operational decision-making to groups of independent experts, he believes, did a great deal to nip accusations of political bias in the bud.

But not everything went smoothly in the advisory process. The initial, high-level frame of how the AMC was to be constructed was, for instance, developed in advance of the EEG being convened. The group was basically told to “figure out the details,” says Fleming. “But when we sat down to figure out those details, we realized that some of the fundamental premises underlying the project’s initial design were not going to work for the AMC.” As designed, the AMC would allow the first company to market with a vaccine to claim the higher AMC price for its product, and to do so until the money ran out.

The whole point of the AMC, however, was that companies should be incented by the top-off provided by donor funds to build dedicated manufacturing capacity for the developing world. But the economic analysis conducted by the EEG revealed that, if you allowed the first company to make a vaccine to collect the full subsidy, it would in fact have no incentive to build dedicated manufacturing capacity. It wouldn’t need to take on the risk of building a large amount of dedicated capacity for the developing world. “So it turned out that the original, fundamental concept of how the reimbursement in the AMC was going to work actually was not going to work,” says Fleming.

Trouble was, though, that the original frame for the AMC is what had been sold politically to the donors. Changing the structure

now, the EEG was aware, could provoke protest. After some tough discussions within the group, says Fleming, the EEG decided that the AMC would nevertheless have to be modified to remove that potentially crippling risk. Though many of the experts in the group had been involved in devising the original scheme, Fleming notes, they did not balk at revising their initial plan. “In my government experience,” says Fleming, who was once deputy director at the U.S. Centers for Disease Control and Prevention, “it’s unusual that there’s that degree of flexibility built into a process — so that you can learn and evolve as you go.”

Not everyone agrees that this was necessarily an asset. The EEG, says McAdams, was charged with basically working out the details of the AMC: how recipient countries would pay their share (through the existing GAVI mechanism for vaccine co-payments), how the subsidy would be paid out and, most critically, what the tail price would be. “Instead of tackling the issues that had been laid out for them — filling in the critical blanks — the group basically went back to the drawing board and wanted to redesign the AMC,” says McAdams. “This was two-and-a-half years in. It was well-intended, and it did add concretely in some ways to the overall structure. But I don’t think it was actually necessary or that it added materially. There are others who would disagree with that, but it did cause an eight- or nine-month delay.”

This could have been prevented with the establishment of solid deadlines for all major steps of the process, says McAdams. Such deadlines are critically important, she believes, to prevent a sense of drift from taking hold in a project with as many moving parts as the AMC. “What really mattered about it going off the rails was not so much the substance of the AMC, which I think was moderately improved, but that the timing and the deadlines and, most importantly, the level of working attention went down the scale.”

Table I
Major Partners

| Institution | Role |
|--|--|
| GAVI Alliance | Houses the AMC secretariat providing programmatic and administrative support to the initiative. It has overseen the development of the pilot AMC and will contribute substantially to the long-term funding for vaccine procurement. |
| World Bank | Has overseen the development of the AMC pilot. Its board voted in April 2009 to put the \$1.5 billion subsidy for the AMC on the balance sheet of its subsidiary International Bank for Reconstruction and Development. |
| World Health Organization | Set the technical criteria for the selected vaccine and will prequalify (for safety and quality) products bought through the AMC. |
| UNICEF | Will be the primary procurer and distributor of vaccines |
| Governments of Italy, the United Kingdom, Russia, Canada and Norway, and the Bill & Melinda Gates Foundation | Donated the \$1.5 billion in funds for the AMC |

A Fair Price

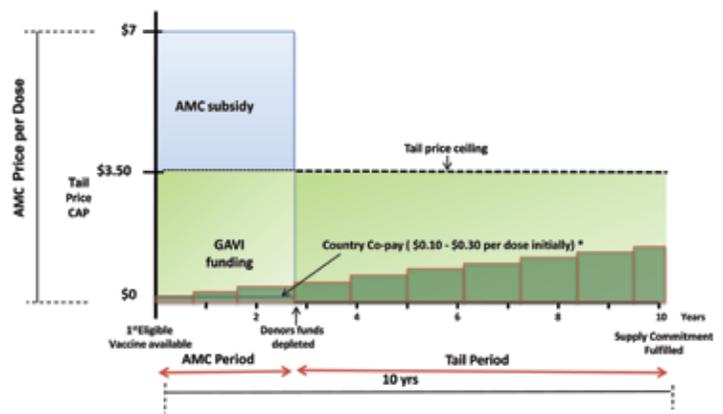
The groups working through the details of the pilot AMC had no shortage of information on their hands to guide them through their decision-making. But the one critical piece of knowledge they lacked, and had known all along they would lack, was the actual cost of manufacturing a vaccine. To the enduring irritation of many NGOs, the vaccine industry has long been jealously protective of this information. Meanwhile, outside analysts have doggedly sought to expose it.

The AMC designers stumbled into the middle of that game, says McAdams. They hired, over the course of the design process, three different consulting firms and a Nobel laureate economist to help them tease out the facts. Determining the costs of manufacturing mattered not just for the appeasement of several NGOs that suspected vaccine manufacturers would be overpaid by the AMC subsidy. It was also important for the retention of suppliers. Some sense of the cost of manufacturing is critical to setting the tail price of the vaccine at a credible level. “From a rational public policy perspective, and understanding what the externalities are about this,” says McAdams, “you should really be more worried about underpaying than overpaying. But [the AMC] is funded by sovereign donors, and they worry a whole lot more about overpaying than they do about underpaying.”

In setting the price, the AMC’s analysts did their research and crunched the numbers until they were reasonably confident that they had found a point that would incentivize suppliers, yet be affordable to procurers. But they can’t be certain that they’re not overpaying — not without having the facts about the cost of manufacturing in hand. “Industry,” as Fleming notes, “has every reason from a business perspective not to share that information.” This is likely to leave any AMC of the future guessing the right price as well. “Some sort of process that allows for the cost of the goods to be taken into account in a way that conceals that information from both competitors and the public is what needs to be developed,” says Fleming.

That isn’t likely to happen any time soon. But could the AMC concept be scaled up to address other market failures — say those associated with technology for climate change? McAdams says the questions to ask before that one are: what precisely is the market failure and is an

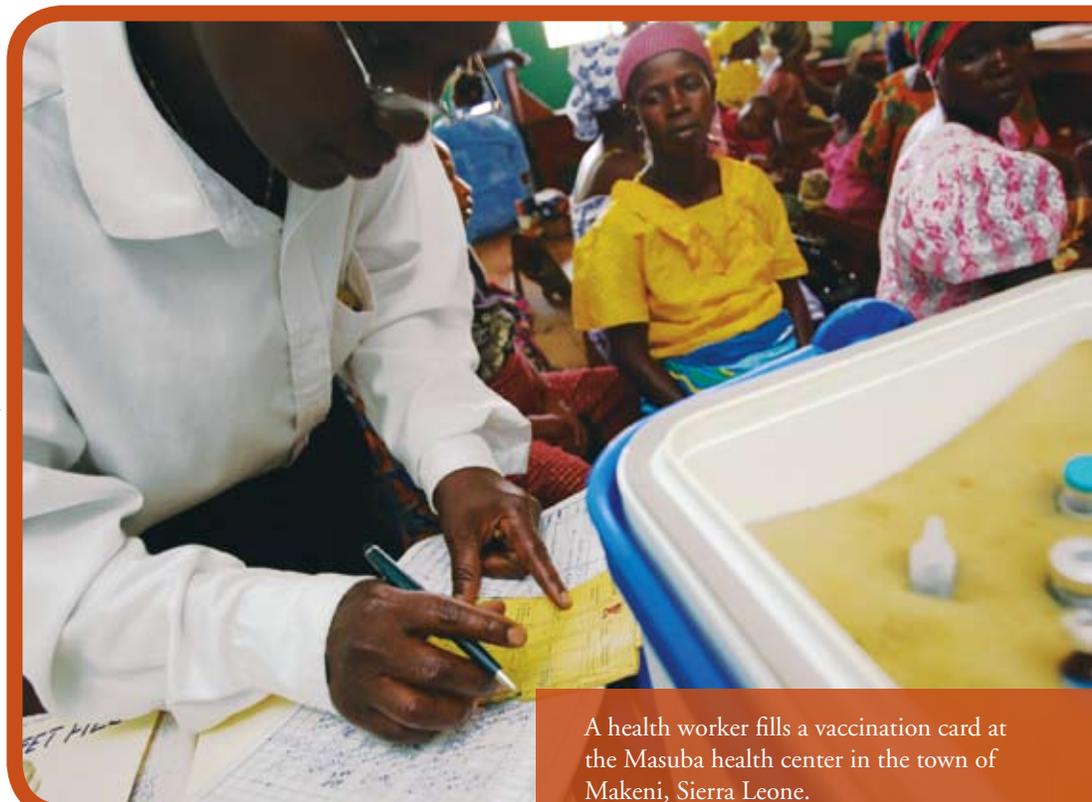
AMC Supply Agreement



This chart illustrates the AMC concept. Cofinancing levels will be in line with the applicable GAVI cofinancing policy.

AMC the right way to address it. Beyond that, the vaccine AMC isn’t necessarily the best way to tackle all infectious diseases either. “At the World Bank, we do not believe that an AMC will work for diseases like HIV/AIDS,” she says. “It’s so far out that you’d have to create a huge incentive without knowing if it will ever work out.” The AMC mechanism may well work to entice vaccine-makers into the business, says McAdams. “But the pricing is going to be tough.”

By Unmesh Kher



A health worker fills a vaccination card at the Masuba health center in the town of Makeni, Sierra Leone.

Photo by Olivier Asselin