EDITORIAL

A Plea For Cost-Effectiveness, or at Least Avoiding Public Health Malpractice

I had a wonderful experience with one of our medical residents last month. He is a great guy. He quit his emergency room job and moved to New Orleans, Louisiana, when Hurricane Katrina struck. In class he never cared about grades, only learning. Last year during his internship in a Thai refugee camp, he encountered a child suffering from a treatable form of cancer. The cash-strapped nongovernmental organization hosting my friend flatly refused to spend the $10 000 needed to save the boy's life. He proposed to the director of his fellowship that she simply spend the fellow's travel budget for the next year to pay for the boy's treatment. When the director refused, he roped me in by e-mail, assuming I would support his position. I suspect he was more than a little stunned when I wrote back saying I thought that he as a doctor was a credit to the Hippocratic Oath, but that I considered his proposal to be public health malpractice.

Until that moment, when I found myself at odds with pure and loving medical idealism, I never fully appreciated the tension between the medical and public health approaches to service. Within reason, a doctor is sworn to serve the interests of the person he or she is facing. In the West, spending tens of thousands of dollars to treat a person with a serious illness is common. Deeply interwoven into the public health profession is the notion of providing the most social benefit with the limited resources available. We in public health advocate prevention because it is more humane to prevent suffering, and also because it is more economically efficient and therefore socially just.

Enthusiasm over cost-effectiveness advocacy has been met with mixed success in the recent past. Many have mused that the 1978 Declaration at Alma Ata advocating "health for all by 2000"[1] was a dismal failure given the state of the world's health in 2000. This is a somewhat narrow conclusion. From 1960 to 2000, the global infant and child mortality rate reportedly dropped from 174 to 61 deaths per 1000 live births.[2] This suggests that globally, the rate of childhood deaths dropped by almost two thirds in less than a generation. For a species that has probably been in its present form for at least tens of thousands of years, this is a quantum leap in survival.[3] While this spectacular increase in human survival may have resulted in part from the access to water, electricity, and food that accompanies development, I believe that widespread child immunization efforts, the establishment of primary care treatment centers, and other formal health efforts certainly played a role as well. It may not be possible to separate the benefits of development from formal health activities, as the two are often interwoven. As the Alma Ata Declaration called for both; whether the global enthusiasm and fund-raising efforts it inspired were influential or not becomes less historically important as a lesson for us today. The declaration captured the essence of what was already happening: the world was getting healthier because we were learning to inexpensively prevent illness.

The concept of cost efficiency was hinted at in the Alma Ata approach. As it stated,

> Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development.[1]

The phrase "at a cost the community and country can afford" proved the Achilles heel of the Alma Ata movement. Does "at a cost" mean the total cost? Is it the cost to the individual and host nation after international contributions? Very quickly following Alma Ata, an opposition voice formed arguing that we cannot do all associated primary health care tasks, so let's take the limited resources we have and just fund the most cost-effective components: vaccinations and oral rehydration therapy (ORT).[4] This narrowed approach inspired the US Agency for International Development (USAID) to declare immunizations and

ORT the "Twin Engines of Health Development," and the United Nations Children's Fund to focus on growth monitoring, oral rehydration, breast feeding, and immunizations.

Whether this narrowed public health approach was purely about cost-effectiveness or more institutional impatience and fundraising concerns, as suggested by LaFond, the primary health care movement quickly evolved to a selective primary health care movement, neither of which have proven sustainable among the largest development agencies.[5] Central to the demise of these two programs is the apparent realization that after 25 years ORT, that wonderful, simple, effective treatment for dehydration has not been able to produce reductions in overall or child mortality in a population. It is likely that this effective treatment in the clinic setting cannot be scaled up to a population benefit because of something referred to as replacement mortality, where those saved by ORT are likely to later die from something else. This phenomenon has been documented with measles vaccination.[6] In short, it is hard for a program to fly when one of the engines does not produce a population-based benefit.

Today a wave of international health enthusiasm similar to that of post-Alma Ata has gripped the world's powerful, resulting in a Millennium Fund, well-endowed foundations, and most interestingly, the Presidential Emergency Plan for AIDS Relief (PEPFAR). According to a 2008 US Government Accountability Office report, 55% of the $6.0 billion in PEPFAR spending (US $3.3 billion) was for antiretroviral therapy.[7] According to USAID, these programs served 2.1 million people in 2008.[8] This means that with all costs included, PEPFAR spent over $1500 to keep each beneficiary on antiretroviral drugs for a year! Will PEPFAR activities or the individuals they serve become less reliant on external funding over time? Probably not. How long will these people be on antiretroviral drugs?

Within the emergency programs of the Canadian International Development Agency, the Canadian government has shown that humanitarian aid can be held accountable by expecting emergency nonfood health programs to avert a death per $300 spent. They have no shortage of programs to fund! How can PEPFAR spend thousands of dollars per lifetime of an HIV patient while the world will not spend hundreds to avert a death from acute respiratory infection or meningitis? We all know the answers. HIV has an advocacy base in the West: celebrities have made HIV politically popular, and the crisis creates images of orphans and suffering patients that motivate Western voters and taxpayers. Is the popularity of HIV/AIDS relief reason enough to toss all considerations of cost-effectiveness to the winds?

We have measures, perhaps imperfect, to assess public health impact associated with interventions: cost per death averted and the more humane Disability Adjusted Life Years (DALYs) primary among them. Rigorous and thoughtful cost-effectiveness assessments have not reflected favorably on the antiretroviral therapy orientation of the present international health spending.[9] Public health justice and the Red Cross Code of Conduct would argue that we address all of those killers and disablers that are most efficiently addressed. When we have, for example, addressed all those issues where a death can be averted for $300 (or a DALY for $20), we can move to those measures that avert a death for $500. As the resources and new approaches become available, we can keep raising the acceptable cost threshold.

The response to the call for effectiveness-prioritized funding from many advocates is to say that we only need 0.1% of Western gross domestic products or 0.7% of Western government budgets to implement the major proven life-saving measures.[10] They say, "Don't slam PEPFAR or you will risk the funding with which we are doing so much good . . . who cares how inefficient. It is still doing good!" The experiences of Alma Ata, selective primary health care, and the last century tell us that this is a short-sighted goal. The practice of public health—that is, maximizing the social good with the resources we have—suggests that this is obscene. There will always be more to achieve than is possible with the resources available.

Ultimately, the goal of development is to make the health and living quality in most impoverished nations comparable to that seen in the wealthiest. At the end of 100 years, will meeting the PEPFAR goals this year in Nigeria mean that it will have a standard of living like that of Canada? Certainly not. After meeting the UN Millennium Goals, will Angola eventually look a little like Sweden if it still has no functioning judicial and conflict resolution processes? No, of course—it will look like a war-ravaged impoverished nation! Some in the health field feel that if health just could be addressed, all else will follow. That may be a tragic and expensive replay of the ORT infatuation of the 1980s.

That wonderful medical fellow I mentioned earlier is now back in the United States. After begging friends and organizing benefit concerts, he managed to arrange treatment of that cancer-afflicted child. I admire him for ignoring me and his employer, but I'm also afraid that the experience has drained too much of his compassion. He is thinking of going back to life in a US emergency room. The costs of his unsustainable passion-driven efforts may in the end deprive the global community of his talents. I fear in the long haul, his over-reliance on passion over effectiveness and logic is being repeated on a massive scale by PEPFAR. He may cull himself out of the international health process because he is pure of heart. If little benefit can be seen after tens of billions have been spent on PEPFAR, I wonder if its advocates will be humble enough to do the same.

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