

REACHING THE POOR WITH HEALTH SERVICES

2008

Kenya

Immunization Reaching the Poor through Mass Campaigns

The Issue

Kenya is one of the many countries in Africa and elsewhere that have sought to increase the immunization coverage achieved through its regular health services by undertaking mass campaigns—formally known as “supplementary immunization activities (SIAs)”. Such activities have been mounted primarily in order to increase overall immunization coverage, particularly with respect to measles and polio. But, as has been increasingly well documented, regular health services tend to serve upper-income groups far more frequently than disadvantaged ones. This raises the possibility that the underserved people whom mass campaigns seek to reach are disproportionately poor; and that in reaching them, campaigns might also reduce coverage inequalities and thereby help improve health equity.

Do campaigns that raise overall coverage in fact help improve health equity? In Kenya, where the equity impact of campaigns has been most carefully studied, they appear to have done so.

The Approach

Most immunizations are typically provided in the health clinics and hospital outpatient facilities that constitute the backbone of countries’ regular health services. However, when health services are weak, as in much of Sub-Saharan Africa, many children are not reached. As of 2000, for instance, only around two-thirds of children were being immunized against measles in the 19 countries in that region that had reliable data.

This affected not only one-third of children who were left unprotected, but also future generations of other children. For the unvaccinated children were numerous enough to

constitute a “safe haven,” where the measles virus could reside undisturbed and subsequently reemerge to cause outbreaks at a later date in places where immunization coverage was allowed to slip.

This problem and the availability of simple, effective technologies led measles specialists to become increasingly frustrated by the slow development of routine health services, and to begin seeking supplementary channels for delivering vaccines. Thus, in the late 1990s, the World Health Organization’s African Regional Office developed an expanded strategy based on one previously implemented with considerable success in Latin America.

One of the strategy’s central components was to offer children missed by regular health services a second chance to obtain a measles immunization, either through the regular services or through a campaign that reached out to the missed children by organizing temporary, highly-publicized stations providing immunizations closer to their homes. There were—and are—two types of campaign:

- Catch-up campaigns, undertaken at the beginning of countries’ intensified efforts. These are one-time efforts, seeking to handle the backlog of unprotected children by immunizing all children under fifteen.
- Follow-up campaigns, undertaken every two to four years following the catch-up campaign. The objective is to reach unprotected children born since the time of the catch-up campaign.

Each type of campaign follows basically the same approach, employing intensive outreach activities to extend immunization services provided at regular government health facilities. Typically, the campaign managers organize



intensive mass media and other publicity activities, and supplement them by creating social mobilization committees of influential groups and individuals in each local area to be covered, in order to supplement intensive mass media and other publicity activities organized by the campaign managers. The committee members are provided the training and support they need to inform families about the value and availability of immunization at a specified time and place.

A team of 2-4 people, vaccinators and assistants, then travels to the place indicated—usually a health center, school, church, mosque, or a tent erected at a bus depot or market place—and immunize up to 100-200 children per day. Sometimes, other health services or products like the other vaccinations, treated bed nets, or vitamins are also provided. Depending upon the number of children to be seen, the team members remain at the site from a few hours to a few days, then move on to the next and repeat the process until the entire region or country has been covered.

The approach is controversial. Its many advocates point to demonstrable accomplishments like those presented here, and to the platform that campaigns provide for delivering other health intervention. On the other side are the critics who note that these immediate accomplishments come at the cost of diverting scarce health personnel from their other important responsibilities, and equally scarce funds from routine activities. By doing so, the critics argue, campaigns detract from the key longer-term objective of strengthening health systems to provide immunizations and other services on an ongoing basis.

Whatever the validity of these criticisms, they have not deterred African governments from pushing ahead with campaigns. Between 2001 and 2006, 42 African countries mounted a catch-up measles campaign and at least one follow-up measles campaign, reaching over 300 million children. In 2007, 16 countries were implementing measles campaigns seeking to reach nearly 40 million more. In 2005, 21 countries in the region mounted similar campaigns against polio.

On average, the measles campaigns reached nearly 95% of the children they targeted in the nineteen countries with adequate data referred to above. By doing so, the campaigns can presumably claim credit for at least part, perhaps a majority, of the 90% decline in measles deaths reported in these countries between 2000 and 2006.

But such overall figures do not speak directly to the impact of campaigns on health equity. For that, one must look further, at the social and economic distribution of the children whom the campaigns reached. In this regard, the experience of measles campaigns in Kenya, where the distribution issue has been directly examined, is instructive.

The Kenya Experience

In June 2002, Kenya's Health Ministry organized an initial nationwide catch-up campaign that sought to provide measles immunization and vitamin A supplementation to 13.5 million children. Shortly thereafter, the Ministry undertook a large-scale household survey, also covering all parts of the country, to assess the campaign's results. The survey focused on determining whether children in the households covered had been covered through regular immunization activities and/or the campaign, drawing primarily on documentation provided to mothers at the time of immunization, supplemented by mothers' recall. The survey questionnaire also included enough information about household characteristics to permit an assessment of its assets or wealth, thereby permitting a comparison of the immunization experience among children living at different economic levels.

Overall, the campaign raised Kenya's measles immunization rate among children aged 9-23 months from 77% to 90%. As shown in Table 1, the increases were largest in the lowest economic groups, regardless whether the changes are measured in absolute or relative terms. Among children in the poorest 20% of households, for example, coverage increased by 32% or 21 percentage points, compared with a

Table 1. Measles Immunization Coverage in Kenya before and after the 2002 Catch-Up Campaign

Population Group	Poorest 20%	Second 20%	Middle 20%	Fourth 20%	Best-Off 20%
Coverage Rate Before Campaign	65%	71%	84%	80%	89%
Coverage Rate After Campaign	86%	92%	91%	92%	87%
Absolute Change (% Points)	+21	+21	+7	+12	-2
Relative Change (%)	+32	+30	+8	+15	-2
Change Statistically Significant?	Yes	Yes	No	Yes	No

Source: M. Vijayaraghavan et al., "Measles Supplemental Immunization Activities Improve Measles Vaccine Coverage and Equity: Evidence from Kenya, 2002"

(statistically insignificant) decline of 2% or 2 percentage points among children in the best-off 20% of households.

To be sure, many of the children immunized through the campaign already had a significant degree of protection through vaccinations they had previously received through regular health services. (Measles campaigns typically seek to immunize all children in the areas where they operate, regardless of the children’s previous immunization status. Although one dose of vaccine administered correctly at the optimal age provides 85% protection, the immunization fails to protect adequately in 15% of cases under even the best of circumstances—and circumstances in low-income country programs are rarely the best.) While these children received a potentially significant degree of extra protection, the greatest benefits accrued to children who had not previously received a measles immunization.

The distribution of coverage among these previously-unprotected children also favored the poor. As can be seen from Figure 1, almost 17% of immunized children in the poorest 20% of households had not been previously covered. This figure declines steadily across income classes, reaching a level of under 4% for children in the best-off 20% of households.

One reason for this pro-poor distribution of benefits appears to have been the lowered costs to families of obtaining immunizations for their children. While the estimated per-immunization cost to the government and participating donors was about the same (around \$U.S. 0.90) for the routine program and the catch-up campaign, bringing immunizations closer to families greatly reduced the amounts of money they had to pay for transportation and time they had to take off from work. As a result, the average per-family cost

of an immunization was only \$U.S. 0.11 for vaccinations provided through the campaign, compared with \$U.S. 0.86 for those made available through regular services.

Implications

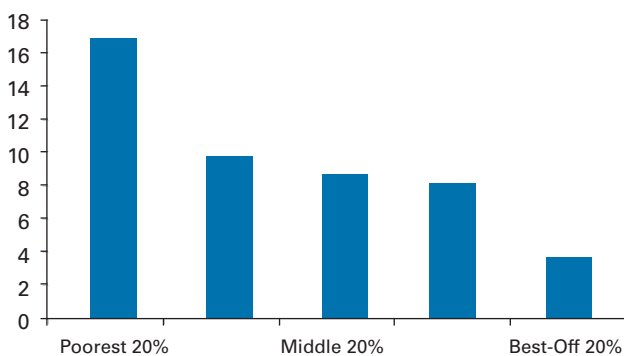
How typical are these Kenyan results? There is no way to know for certain, but there is also no obvious reason to consider Kenya’s regular immunization program and campaign, or the setting in which they occurred, notably different from those of the many other African countries that have also tried measles campaigns. Further suggestive evidence comes from careful studies in Ghana and Zambia showing that treated bed nets distributed through measles campaigns effectively reached even the poorest population groups, implying that the immunizations did so as well.

A further, general consideration is the likelihood that, in situations when the coverage before an SIA campaign is already high, unimmunized children will be disproportionately poor—as was the case in Kenya. This makes it difficult to significantly increase overall coverage without effective outreach to disadvantaged groups.

To the extent that such considerations and evidence are valid, then the Kenya outcome would seem adequate to support a working hypothesis that the benefits of measles campaigns, and perhaps polio campaigns as well, undertaken elsewhere in Sub-Sahara Africa are likely to benefit primarily the poor. This appears especially likely to be the case in countries where a reasonably high level of overall coverage had been achieved prior to the campaigns’ initiation.

Of course, this is not to deny the possible shortcomings of campaigns that critics have noted, as reported above. But it does point to a potentially significant advantage of the campaign approach that deserves consideration in any overall assessment of the approach’s potential.

Figure 1. Percentage of Children Covered by Kenya 2002 Mass Campaign Who Had Not Previously Received a Measles Immunization



Source: M. Vijayaraghavan et al., “Measles Supplemental Immunization Activities Improve Measles Vaccine Coverage and Equity: Evidence from Kenya, 2002”

This brief is intended to summarize good practices in health, nutrition, and population. It draws on many resources. Four of the most important were: M. Vijayaraghavan *et al.*, “Measles Supplemental Immunization Activities Improve Measles Vaccine Coverage and Equity: Evidence from Kenya, 2002,” *Health Policy*, vol. 83, no. 1 (September 2007), pp. 27-36; Regional Office for Africa, *Measles SIAs Field Guide*, January 2006 (http://www.afro.who.int/measles/guidelines/measles_sias_field_guide_revised_jan2006.pdf); M. Otten *et al.*, “Public-Health Impact of Accelerated Measles Control in the WHO African Region 2000-03,” *The Lancet*, vol. 366, no. 9488 (September 3, 2005), pp. 832-39; “Overview” section of the WHO African Regional Office website on measles. (<http://www.afro.who.int/measles/>). While the editors alone remain responsible from this brief’s contents, they wish to thank Amie Batson, Joseph Naimoli, and Maya Vijayaraghavan for comments on an earlier draft. The views expressed do not necessarily reflect those of the World Bank.

