Susi Kessler, Michael Favin, & Diane Melendez

Speeding up child immunization

This article outlines some ways in which it has been possible to improve immunization coverage. With regard to accelerated national campaigns, careful planning at an early stage is vital if the potential benefits are to be fully realized.

In 1974 the World Health Assembly called for a crusade to immunize all children by 1990 against diphtheria, pertussis, tetanus, tuberculosis, polio and measles, diseases estimated to kill five million children and to cause the same number of long-term disabilities each year. In response, the Expanded Programme on Immunization was established. Since 1977, the Programme has laid the groundwork for greatly extended coverage. Most countries have introduced their own programmes. Over 15 000 health workers have attended training courses organized as part of the Programme. Significant advances have been made in cold chains and in the effectiveness and heat stability of vaccines. Various organizations have provided technical and material aid to countries throughout the world. Despite this progress, vaccine-preventable diseases have continued to kill and disable many children in the developing world. By 1983 the coverage rates were still unacceptably low; clearly more intensive action was required.

Dr Kessler is Director, International Health Programs, American Public Health Association, 1015 15th St., N.W., Washington, DC 20005, USA, and Executive Secretary of the World Federation of Public Health Associations. Mr Favin is Research Associate with the International Health Program of the American Public Health Association, where Ms Melendez is an intern.

In the past few years a number of countries have achieved dramatic increases in coverage through public education and mobilization; children under five years old have been the usual target group. The best solution for a particular country or region, however, will probably be found in a combination of strategies.

Fixed facilities

Existing health posts, clinics and personnel can be used to provide immunization services. Sadly, few developing countries have sufficient fixed health facilities to reach the majority of the people. If most parents have to take their children over long distances to health posts, a significant improvement in coverage is unlikely.

Some programmes have an outreach component whereby teams of health workers make regular visits to remote communities. Success here depends very much on reliable and affordable transport and supplies of fuel, the willingness of health workers to leave health centres, and the capacity to keep to timetables for visits to communities. Outreach services have been effective in Nigeria, where the Owo State pilot project used the existing infrastructure and resources and did not involve extraordinary inputs

from external donors; between June 1983 and September 1984 the coverage for BCG vaccination increased from 9% to 83% of one-year-olds.

Mobile teams

Mobile teams generally consist of a nurse or senior health worker, an assistant and a driver/cold chain technician who are vehicle-based. They can cover large areas and remote locations. Workers can become quite proficient because they specialize in one or a few tasks. However, immunization via mobile units may be relatively expensive, particularly if they provide only a single intervention. The cost of vehicle maintenance and fuel may be significant and may make it difficult to sustain the service. Furthermore, if the teams do not keep to a timetable, they may not be sufficiently effective and the communities may become disillusioned.

Channelling

The enumeration and registration of children eligible for immunization, also called channelling, may enhance the programme's strategy. It increases the effectiveness of the programme by identifying children in need of immunization, especially those aged under one year, who are hard to reach. Health workers are required to leave their posts and seek out potential clients, and the collaboration of community leaders is needed. This strategy is labour-intensive and depends on good record-keeping and the quick processing of data so that the children found can be followed up.

National campaigns

Because of slow progress in immunization programmes, some governments and leaders in health development have turned to accelerated national campaigns, aiming at a high coverage for target populations during designated periods. There may be a single effort to cover a backlog of unimmunized children under five, so that the future target will consist of children born since the last campaign, or there may be repeated efforts during the course of a year. This work has attracted strong political support and material help from public and private sources, both national and international.

Successful campaigns have had several features in common. First and foremost has been the marshalling of political will. In almost every campaign the country's chief executive has launched the public education phase and has personally carried out the first immunization of a child. There has been extraordinary cooperation between government ministries, the health services, teachers, religious leaders, the private sector and, most importantly, the community itself. Newspapers, radio and, in most countries, television, have been used, along with other forms of communication, such as symbols, mascots, theme songs, plays, posters, public address systems at markets and sports events, and messages on lottery tickets, bills and bank statements.

If most parents have to take their children over long distances to health posts, a significant improvement in coverage is unlikely.

Benefits

This approach has given dramatic increases in coverage in several countries (see table). It has logistical advantages: fixed immunization dates facilitate the optimum use of supplies and equipment, timing to coincide with favourable climatic or agricultural conditions, and the monitoring of the cold chain. The morale, enthusiasm and self-confidence of health workers have often improved markedly during successful campaigns. They have sought out clients by participating in educational outreach and by going into communities to provide immunizations. With adequate follow-up, the improvement in management and clinical skills achieved during campaign training can be maintained and extended to other health services.

Percentage coverage rates before and after immunization campaigns

	Before campaign	End of campaign
Burkina Faso: overall coverage age 0–14 years		
Measles	9	75
Yellow fever	5	77
Meningitis	11	77
Nigeria (Owo State only): age 12–23 months		
BCG (for tuberculosis)	9	83
DPT 3 (series of 3 vaccinations against diphtheria, pertussis, tetanus)	30	100
OPV 3 (series of 3 doses of oral polio vaccine)	12	85
Measles	10	95
Colombia: overall coverage age 0–4 years		
DPT 3	47.5	72.7
OPV 3	46.9	73.3
Measles	39.9	75
El Salvador: overall coverage age 0–5 years		
DPT 3	41.5	89
OPV 3	31	60
Measles	41	70
Turkey: overall coverage age 0–5 years		
DPT 3	25	82.5
OPV 3	25	83.1
Measles: 9–12 months	25	93.9
9–60 months	25	83.4
Brazil (19 of 27 states): age 0–12 months		
DPT 3	57	64
OPV 3	30–50	90
Measles	63.5	77

Campaigns have made public health measures and the primary health care system more visible. Public consciousness concerning the scope for improving children's health through preventive measures has been raised. There have been greater demands for other basic health services and preventive measures, and a tendency towards increased cost-effectiveness in the face of limited resources has become apparent. The added prestige given to immunizations through a campaign approach may lead to the avoidance of common bureaucratic delays, e.g., in obtaining supplies.

Campaigns help to develop health infrastructures through the acquisition of cold chain equipment and other supplies from international agencies. They create at least a temporary increase in cooperation between, for example, educational and religious bodies concerned with health promotion. Such collaboration may be extended beyond the campaign period and to other issues. Accelerated immunization campaigns may create very positive public relations for governments. Moreover, once immunization coverage has increased to a high degree most governments can ill afford to allow it to decline significantly.

Pitfalls

It is often argued that multisectoral mobilization is difficult to achieve and impossible to sustain and that health interventions can be most effectively made by the health sector alone. The large

Burkina Faso's immunization campaign

"Vaccination Commando" in Burkina Faso showed what could be accomplished. This campaign was designed to catch up with the unimmunized population and reinforce the continuing programme. The aim was to ensure that children aged between 9 months and 6 years received measles vaccine, and that those between 1 and 14 years received yellow fever and meningitis vaccine.

The campaign, implemented between 25 November and 10 December 1984, reached 68–75% of the previously unimmunized target population and overall coverage rose to more than 75%. Significant backing came from the government, whose Committees for the Defense of the Revolution took the primary responsibility for organizing the campaign and mobilizing community support and participation. Refresher courses for health workers were given at provincial health centres. A mass communication strategy was based on personal contacts and simple messages; educational leaflets were distributed to parents; training guides were issued to health workers; posters were displayed in public areas; a campaign song written by a popular artist was performed in several languages; radio and television were used; and theatre groups gave performances with a bearing on immunization.

The Ministry of Health provided trained workers to administer vaccinations and organize the technical aspects of the campaign. Workers were temporarily reassigned to ensure adequate staffing. Every day, three teams in each province kept to a schedule of visits to local health facilities and other places. New vaccination cards were issued but existing old ones also continued to be used.

Vaccines were purchased on the world market with funds from WHO, UNICEF and several national governments. Other international bodies donated fuel, transport and cash. Private citizens of the country donated food and transport and volunteered to work for the campaign in various ways. The military were called to help in the planning of transportation.

"Vaccination Commando" has blended into the continuing expanded programme on immunization. During 1986, outreach health posts were established in many more villages; each was manned by a health worker chosen by the community and trained and supervised by health centre staff. A framework for intersectoral cooperation has been established. This, along with bolstered health worker morale, bodes well for the future of immunization coverage in Burkina Faso.

number of immunizations provided during a campaign may make supervision of clinical technique and quality control extremely difficult. Campaigns are often thought to be unduly expensive if they do not contribute to the development of a permanent health service infrastructure. They can divert important resources, especially human ones,

and may disrupt established services. Inadequate record-keeping may hinder follow-up care. There is serious concern over the possibility of increasing the number of children susceptible to vaccine-preventable diseases where systematic follow-up does not occur.

Campaigns carried out only once may lead to disruption of supplies within the country and internationally; if the planning period for a country's campaign is too short, its purchase of vaccines on the world market may restrict supplies to other countries. The complex planning required is frequently said to be beyond the capacities of developing countries.

A national campaign may be constrained in respect of the types of vaccines delivered. Measles and BCG vaccines are effective after one dose but the timing of measles immunization is crucial. For vaccines requiring two or three doses, inadequate follow-up may be a limiting factor. Furthermore, there may be undue concentration on immunization and insufficient attention to other child health strategies that strengthen its impact. Campaigns define for communities what is important rather than encourage them to decide for themselves. This could inhibit long-term community development.

Are campaigns sustainable?

How can national campaigns strengthen the long-term development of the expanded programme on immunization and primary health care services? Careful planning and the uninterrupted provision of resources are both needed. Follow-up should be considered at an early stage. It is clearly advantageous to rely as much as possible on resources already in place, since they will more effectively facilitate a continuing effort than ones from external sources which cannot be readily replenished. Attention should also be given to such things as registration forms, health education material and immunization schedules for use after the campaigns have ended.

Whether the enthusiasm generated in campaigns can be sustained year after year is questionable. Will government units and private groups be willing to maintain collaboration with ministries of health over indefinite periods? Will television and radio stations be willing to continue giving large amounts of free broadcasts to the cause of immunization?

There is a need to examine immunization campaigns with a view to identifying features that are sustainable or adaptable. It may not be possible to have endless saturation coverage of immunization on television but the media can be involved continuously in health education relating to priority issues. Teachers may tire of devoting extra time to the subject but can incorporate basic health care information into their curricula. Religious leaders can encourage parents to demand services for their children's welfare.

Careful planning can maximize benefits and minimize pitfalls. The challenge for governments is to add permanent gains to the short-term achievements of accelerated campaigns. □