

Immunization Focus

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GAVI

GAVI is a partnership of public and private organizations dedicated to increasing children's access worldwide to immunization against killer diseases.

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Immunization Focus

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Hard work ahead

WITH two out of three eligible countries still to be approved for awards from the Global Fund for Children's Vaccines, the GAVI partners have a lot of work to do to meet the goal of supporting all 74 eligible countries by 2002. This is the conclusion of Alliance partners who are responsible for ensuring that countries have strong immunization plans in place so that they can attract new money from the Fund.

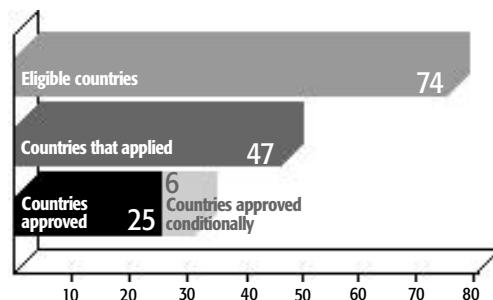
Last month, the Alliance's independent review committee assessed applications from the third round of countries to apply to GAVI and the Fund for support, following the first two rounds last year. Three new proposals for support to improve immunization services, from Cameroon, Pakistan and Tajikistan, were approved in principle pending some clarifications. But 10 countries did not receive approval for any request, either for new vaccines or for immunization services.

Of the 74 eligible countries with incomes below US\$ 1000 GNP per capita, 25 have now been approved for awards, and 6 more have received conditional approval (see Graph). Another 14 countries have been asked to re-submit their proposals, while 2 countries have been turned down⁽¹⁾.

While relatively well-resourced countries submitted their applications in the first two rounds, most of the current wave of applications come from countries that tend to have weaker capacity in their health ministries—or other demands on their overstretched resources. For example, several of the countries asked to re-submit are in West Africa where a major polio campaign has been under way in the past few months.

Dr Tore Godal, executive secretary of GAVI, said that the review had served to highlight needs that might otherwise have

been missed. "We can use the application process as a way to diagnose problems at country level and then start to provide longer-term assistance and capacity building for the countries that are weakest," he said. "Together with the GAVI Task Force on Country Coordination, we have identified as our first target 13 countries in Africa that need particular attention." The Task Force is starting to cost its plans for capacity building. Members say the needs are substantial.



Applications and awards in the first three rounds

Dr Bjorn Melgaard, head of the WHO's department of Vaccines and Biologicals, said that agencies such as WHO could provide consultants to offer technical support in the completion of each country's application. But, he stressed, external support would not be enough in the long term. "You are not building the capacity or the ownership that is needed," he said. He said many countries should be employing a full-time member of staff to develop the government's immunization plans and its application for funds. Dr Melgaard believes that most African countries already have qualified personnel available, but that they need to be recruited. He warns that capacity to plan and implement immunization cannot be built overnight. ■

Reference

(1) For details of applications and disbursements to date, see <http://www.vaccinealliance.org/reference/awards.html>

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First, do no harm

Lisa Jacobs examines the road to injection safety—from recognition of the problem to action

YOU may already know: unsafe injection practices spread disease. In a tragic twist of irony, health workers who aim to improve people’s health may be unintentionally spreading harm with every prick of an unsterile needle, every time they toss a used disposable syringe in a vat of warm water for eventual re-use, or drop it in a trash can.

The result? From 8 million to 16 million new hepatitis B infections, 2.3 million to 4.7 million new hepatitis C infections and 80,000 to 160,000 new HIV infections every year. These chronic infections are responsible for an estimated 1.3 million early deaths and lead to US\$ 535 million in direct medical costs every year.

Look what I've found: children playing with discarded syringes



Keith Sahin

Injections are prescribed for a wide variety of reasons. While they are essential for delivery of vaccines and many treatments, they are also given for other, questionable reasons. The belief that an injection is the most powerful and quick way to deliver medicine—even if the syringe contains nothing but vitamins—contributes to over-demand for, and over-prescribing of, injections. In fact, the majority of injections given for curative reasons in developing countries are thought to be unnecessary.

Why are unsafe injections tolerated—by health workers, patients, caretakers, government officials? The answers are complex and include economic

imperatives and cultural attitudes about waste. But perhaps the most important reason is that the people with decision-making power—including patients and caretakers of children—do not understand the risks, the extent of the problem, or that solutions (Box 1) are well within reach.

According to Dr Yvan Hutin, an epidemiologist and hepatitis B expert who runs the Safe Injection Global Network (SIGN), understanding the problem is the first and most crucial step.

In fact, in many cases, as soon as people see the evidence of what is occurring, they are convinced they must do something about it, says Dr Hutin. “The problem of unsafe injections will not solve itself. But when safety is included in health sector plans and budgets, it will improve.”

A problem with clear solutions

In 1995, a study in Burkina Faso found that only one in ten injections in rural health centres was performed with sterile equipment. A new system was then introduced that made essential drugs—including disposable, sterile syringes—readily available at every health centre through a cost recovery scheme. Five years later, the impact on safety was astounding: by 2000 nearly 100% of injections in the centres surveyed were given with a sterile syringe. In this instance, increased supply of syringes led to increased demand—a demand for which people were willing to pay.

“The Burkina Faso experience shows how incredibly amendable this problem is,” said Dr Hutin. “Sometimes it is just a matter of making clean needles available.”

The supply, or logistics, approach that worked in Burkina Faso will not be the answer for all countries. Demand led to supply in Romania, where a highly publicised outbreak of HIV infections occurred among orphans in the early nineties. Children had

Box 1: Ten actions that will improve injection safety

Patients	<ul style="list-style-type: none"> ▶ State a preference for oral medications when visiting healthcare facilities ▶ Demand a sterile syringe for every injection
Health workers	<ul style="list-style-type: none"> ▶ Avoid prescribing injectable medication whenever possible ▶ Use a sterile syringe for every injection and dispose of it properly
Immunization services	<ul style="list-style-type: none"> ▶ Deliver vaccines with matching quantities of auto-disable (AD) syringes and sharps boxes
Essential drugs programme	<ul style="list-style-type: none"> ▶ Make sterile syringes and sharps boxes available in every healthcare facility
HIV/AIDS prevention programmes	<ul style="list-style-type: none"> ▶ Include awareness regarding the risks of unsafe injections within all education and behaviour-change activities
Health care system	<ul style="list-style-type: none"> ▶ Ensure sharps waste management as part of the system’s duty of care ▶ Monitor safety of injections as a critical quality indicator of healthcare service delivery
Ministry of Health	<ul style="list-style-type: none"> ▶ Coordinate safe and appropriate national policies, with appropriate costing, budgeting, and financing

been infected through blood transfusions and injections conducted in orphanages.

With the vivid images of medically-induced HIV infection, concern about contracting diseases from syringes built among the general public. People demanded new syringes, in sealed packages, for every injection, and the system responded.

“Every time an intervention has been funded and attempted, regardless as to whether it was behaviour change, provision of supplies or sharps waste management, it showed some impact,” says Dr Hutin. “So if we have a sector wide approach that combines all these low-cost interventions, we should be able to eliminate unsafe injection practices.”

EPI: a small part of the problem, a big part of the solution

Even though immunization injections account for fewer than 10% of the 12 billion injections given annually, most health systems have considered injection safety the responsibility of the immunization programme, or EPI. Unfortunately, that responsibility has not been supported with appropriate budgets. And even though it is essential that immunization programmes have safe practices, EPI managers have no control over the use and over-use of injections in the greater health system.

“We can’t solve the problem,” says Dr Caroline Akim, EPI Manager in Tanzania. “But we can act as advocates, and push the health system to address it.” In fact, advocating for safe injection policies and practices is an opportunity for immunization programmes to have a profound, system-wide impact.

The first priority, according to many, is to adopt a policy on safe injection and disposal. “Having a system-wide policy is necessary to extend responsibility for injection safety to the whole health sector, instead of just in EPI,” says Dr

Country file 1: Pakistan—a country ready for change

SOME would be daunted by the scale of the challenges facing Pakistan’s newly formed injection safety network. But Dr Arshad Altaf, one of the key organisers of the network, does not sound like the daunted type.

“There are no short cuts; we need education and training, and we need injection safety to get the attention and priority that it deserves,” says Dr Altaf, a medical doctor and behavioural epidemiologist from the Aga Khan University in Karachi.

The burden of bloodborne infections in Pakistan is heavy. As many as one in ten of the general population is a chronic carrier for hepatitis B virus (HBV). And, in the past few years, hepatitis C virus (HCV) has spread rapidly; in some parts of Pakistan, more than one in 20 people are chronic carriers. Researchers have concluded that unsafe injections are the most likely cause of this growing HCV epidemic. And since HCV is even more likely than HBV to cause chronic liver disease, the burden of long-term illness is rising.

Unnecessary injections

Studies in Hafizabad, southwest of Lahore, and Darsano Channo, near Karachi, both found that exposure to injections was the strongest risk factor for being infected with hepatitis; the more injections, the greater the probability of being infected⁽¹⁾.

“Painkillers, antibiotics, antimalarials, steroids and multivitamins are all given by injection,” says Dr Altaf. All at a price: patients often pay 30 Pakistan rupees (about US \$0.50) for an injection when the whole household’s income is often as low as US\$1.60 a day. “When the supply of syringes runs out, the clinics just dip the syringe in water and re-use it,” says Dr Altaf.

In a study at Aga Khan University Hospital, Dr Naheed Nabi and others⁽²⁾ found that most patients believed injections were more effective than oral medications, and were willing to pay more for them. But when told that oral medications are equally effective, four-fifths of patients said they would prefer to avoid an injection.

Interestingly, 91 per cent of the patients who received injectable treatments said that their doctors recommended them, disputing the claim that health workers are merely responding to demand. Only 9 per cent of patients had requested injections.

Recycled syringes

A further problem is waste disposal. “There is no proper management or disposal system for waste,” says Dr Altaf. His team have tracked the final destinations of syringes from hospitals and clinical laboratories in Karachi. Many are dumped at community waste sites where scavenger boys collect them and sell them to dealers. Some are also sold to scavengers by cleaners at the clinics and labs.

“The used syringes with needles are sold by the kilogram at up to 10 Pakistan rupees [17 US cents],” says Dr Altaf. Needles are removed by the dealers and are re-moulded. The syringe plastic is washed, crushed and made into granules, which are sold on to the plastic ware industry. A minority of syringes are also repackaged and sold for repeat medical use.

The earnings from the hazardous trade of recycling used syringes might seem small to comfortable outsiders sitting in the industrialized countries. But to people on low incomes, they are significant, says Dr Altaf. “With the financial incentive and the culture of re-use being so ingrained in the country, we expect that recycling will continue,” he says.

Educate the scavengers

Pakistan must develop a proper system⁽³⁾ for clinical waste disposal, Dr Altaf believes. This, together with the eventual use of autodisable (AD) syringes in the country’s immunization clinics, may reduce the risks of bloodborne infections. But until doctors and patients gain a greater understanding of the risks of infection, and the number of unnecessary therapeutic injections falls, large numbers of conventional disposable syringes will continue to enter community waste dumps. Dr Altaf believes that it may be pragmatic to educate those involved in the recycling trade about the risks of infection and create a reliable system for the safe removal and incineration of needles before the syringes are put in the trash. If the recycling of syringes for remoulded plastic cannot realistically be stopped yet, at least the risks to everyone can be reduced.

In the short year since Pakistan formed its national network for the Safe Injection Global Network, no time has been wasted. Today, the network’s activities are beginning to bear fruit: the country has recognized the scale of its problem and—crucially—most stakeholders in the health system are now keen to do something about it.

References

- (1) Presentation at SIGN Pakistan symposium, February 2000, by Dr Stephen Luby, CDC, Atlanta USA.
- (2) Presentation at SIGN Pakistan symposium, February 2000, by Dr Naheed Nabi, Aga Khan University, Karachi, Pakistan.
- (3) For an update on current WHO policies and activities on healthcare waste disposal, see <http://www.who.int/inf-fs/en/fact253.html> and www.injectionsafety.org/documents/Aide-Memoire-HCWM.pdf

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Akim. Anational policy also gives programmes the authority to seek out and put an end to actions that are unsafe.

However, a policy is only as good as its implementation. Without buy-in by all stakeholders, a safe injection and disposal policy will just be another rule on the books—one that may be considered a nuisance, adding costs to programmes and perhaps even depriving people of much needed income.

“A policy that is not followed is just like having no policy at all,” said Dr. B. Wabudeya, Minister of State for Health in Uganda. And the danger is that those in roles of responsibility may think that once a policy is drafted and adopted, the situation has been addressed.

Measuring the problem

If discovery is the first step toward solving the problem, the first step has just been made easier. A simple, focused methodology for tracking injection and disposal practices, and documenting knowledge and understanding among health workers and patients, has just been developed jointly by SIGN, the World Health Organization and BASICS, a programme funded by the US Agency for International Development. Referred to as ‘Tool C’ (as in, third of a series of four), this new

methodology has been tested in Burkina Faso, Niger, Ethiopia, Mali, Mauritania, Zimbabwe and Egypt⁽¹⁾. The aim is to make it as easy for governments to monitor injection safety as to monitor the percentage of all children immunized, or coverage. “What is the good of increasing coverage if you also increase exposure to hepatitis B and C, or HIV?” asks Hutin.

The methods behind Tool C are simple. In each country, a team of 12 monitors activities in 80 health centres in 10 districts over 2 weeks. Importantly, the data collected are practical, so countries can quickly identify solutions. For example, the team finds out how many health centres have dedicated areas for the preparation of injections, and whether they have at least a week’s supply of disposable/AD equipment in stock. The measures are standardized, so, as more countries undertake the process, common problems can be highlighted and appropriate actions designed.

Dangerous waste

Tool C identified a serious problem in Burkina Faso, one that has caught many communities unprepared. Investigators found needles discarded in open containers in 66 health centres, putting health workers at risk of accidental needle-stick injuries. At most of the centres, used needles and

Country file 2: Egypt: ‘We need to decrease the demand for injections’

EGYPT knows better than most countries the human cost of re-using needles. An astonishingly high proportion of the population—about one in eight people—is infected with hepatitis C virus (HCV), and hepatitis B is also widespread⁽¹⁾. Much of this disease burden is attributed to unsafe injections. The problem is not new, but today there is a new and powerful commitment to overcoming it.

“Injection safety and infection control have become high priorities of the Ministry of Health and Population,” says Dr Maha Talaat, a public health specialist and executive manager for a new programme in the ministry. The programme’s goal is to prevent the transmission of bloodborne pathogens in the health service. Dr Talaat is also a member of a new national coalition of health workers that is striving to increase awareness of injection safety issues.

Part of Egypt’s problem can be traced back to a mass treatment for schistosomiasis before the 1980s. The treatment required multiple injections and is believed to have spread HCV widely⁽²⁾. But new cases of HCV infection have continued to appear today, even though the schistosomiasis treatment has long been replaced. Researchers believe that re-used needles are still to blame. Today,

studies suggest HCV continues to be spread by unsafe injections and other healthcare practices.

Most of the injections are unnecessary. “People prefer injections to oral medications because they think that injections will cure them faster,” says Dr Talaat. “We need to decrease the demand for injections.”

The government has planned its response carefully. This year, the new programme is gathering essential baseline data so that it can measure the impact of interventions that will start next year, including training for healthworkers, education and mass media campaigns for the public, and action to ensure that supplies of sterile injection equipment are available at all times.

The top priority, Dr Talaat believes, is to educate those who deliver the injections. The first step is to identify who they are. The team has already discovered, from a study in one governorate, that more than 40% of injections in this setting are given not by trained healthworkers but by lay people including relatives, friends and “health barbers”, whose services are cheaper than those of doctors. These findings, and further studies to find out healthworkers’ practices across the country, will be crucial in the design and

targeting of training material.

Another key priority is safer disposal systems for clinical waste, says Dr Talaat. “The Ministry of Environmental Affairs, together with the Ministry of Health and Population, are working to try to solve this problem,” says Dr Talaat. Because there is no proper system for the transport and incineration of clinical waste, all syringes—whether or not they are in safety boxes—are a hazard once they leave the healthcare facility. Some find their way to municipal rubbish dumps where children play with them. If the final disposal system is not properly managed, says Dr Talaat, no type of equipment, including safety boxes or autodisable (AD) syringes, can be regarded as safe.

No one doubts the scale of the challenge facing Egypt. But now it is recognized. And, with a new government programme and an active coalition of healthworkers determined to achieve change, the battle has begun.

References

- (1) WHO press release: <http://www.who.int/inf-pr-2000/en/pr2000-14.html>
- (2) Frank et al. The role of parenteral antischistosomal therapy in the spread of hepatitis C virus in Egypt. *The Lancet*, 2000, 355: 887-891.

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syringes were found in the surrounding environment, putting the larger community at risk—a situation that has been identified in a number of countries.

“In many developing countries, collection and removal of waste is considered to be a municipal responsibility—not that of the hospitals and health system,” says Annette Prüss, from the environmental safety division at WHO. “The concept of ‘polluter pays’ is a very Western concept.”

Not only do children find syringes to be effective squirt toys; in many countries, scavengers also scour refuse for saleable items. Conventional disposable syringes can be rinsed, re-packaged and re-sold as new, when they are not in fact sterile. According to environmental experts, some health workers actually collect used syringes to sell to recyclers, providing income for both. And risk for many.

Now, having learned of their waste disposal problem, health officials in Burkina Faso have developed plans to address it. Their chances for success are high; a recent assessment in Côte d’Ivoire found that facilities which took responsibility for healthcare waste as part of their duty of care successfully eliminated dirty sharps from their environment.

“What is needed above all is the will to take care of the problem,” says Dr Hutin.

Technology to the rescue?

Many countries are addressing injection safety by making the switch to AD syringes for immunizations. AD syringes have a mechanism designed to lock the syringe once it is used, so that it cannot be re-used. Countries that have been approved to receive vaccines from GAVI and the Global Fund will also receive the requisite number of AD syringes. GAVI is now weighing a policy to further help countries with the transition from sterilizable and/or disposable syringes to AD syringes for all vaccines, in order to support countries to comply with the policy of WHO, UNICEF and UNFPA to use AD syringes for all immunizations by 2003.

But when it comes to safety, technology is not the entire solution. “If you want to learn how to re-use an ‘auto-disable’ syringe, come to Pakistan,” says Johnny Thaneoke Kyaw-Myint, Senior Project Officer for Health and Nutrition with UNICEF Pakistan. He was, of course, not serious. “People have learned how to manipulate the syringe so that the safety mechanism doesn’t catch. So it can be re-used, or sold and re-used, again.”

The lesson? People must be educated, motivated and supported to insist upon a sterile syringe with every injection. Provision of safe injection equipment should be part of a broader strategy that

also includes encouraging behaviour change and the management of sharps waste.

At present, 500 million AD syringes are produced annually for use in developing countries. Within two years, as more and more countries follow, that number is expected to rise to 2 billion. The disposal issue becomes more critical each day.

Simple actions can be taken immediately, says Dr Prüss. Supplies of sharps boxes should be available in all health centres—not just in time for immunization campaigns. Small incinerators can be built; local oven-builders can be employed to build incinerators. The costs are affordable; a small incinerator to serve a district can be built for under US\$700, according to Dr John Lloyd, an immunization expert with the Bill and Melinda Gates Children’s Vaccine Program at PATH.

Until recently, the problem of unsafe injections seemed insurmountable, says Dr Hutin. “But in fact, when one looks at the experience acquired, we now know that safety is an area that is easy to address—if the health system decides to address it. We know some simple strategies to follow, and results are visible and quick.”

Reference

(1) Full series and available summary results at: <http://www.injectionsafety.org/html/resources.html>

A good start: safety boxes reduce the risks but their final disposal must be safe too



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Introducing hepatitis B vaccine

As the first round of countries prepare to immunize children for the first time against hepatitis B, Scott Wittet shares some tips in advocacy, communication, and training from developing countries that have done it already

HEPATITIS B is a killer, taking the lives of 900,000 people each year. Chronic carriers of the virus can infect others and are at risk of developing serious liver disease later in life, including cancer.

Fortunately, hepatitis B vaccine can prevent infection and the World Health Organization recommends that all children worldwide should receive it.

The vaccine has been available for decades, but many countries still cannot afford to use it. The partners of GAVI and the Global Fund for Children's Vaccines are working to change this situation.

PATH (the Program for Appropriate Technology in Health) worked on some of the earliest introduction programmes for hepatitis B vaccine in Asia and Africa, under the aegis of the International Task Force on Hepatitis B Immunization. Here, we share some lessons we learned over a decade about effective advocacy with decision-makers, communication with parents and caretakers, and the training of health staff regarding hepatitis B.

As with the introduction of any new vaccine, there are some general rules. Plan your strategies for communication and training ahead of time. Use research to investigate providers' and consumers' knowledge and behaviour—these data can guide the design of messages and information products. Coordinate with colleagues in all parts of the health care system that will be affected, and make sure that messages and materials for key audiences are consistent. Finally, parents report that their most reliable source of information about immunization is their health care provider, so it is important that providers be able to accurately explain hepatitis B, the

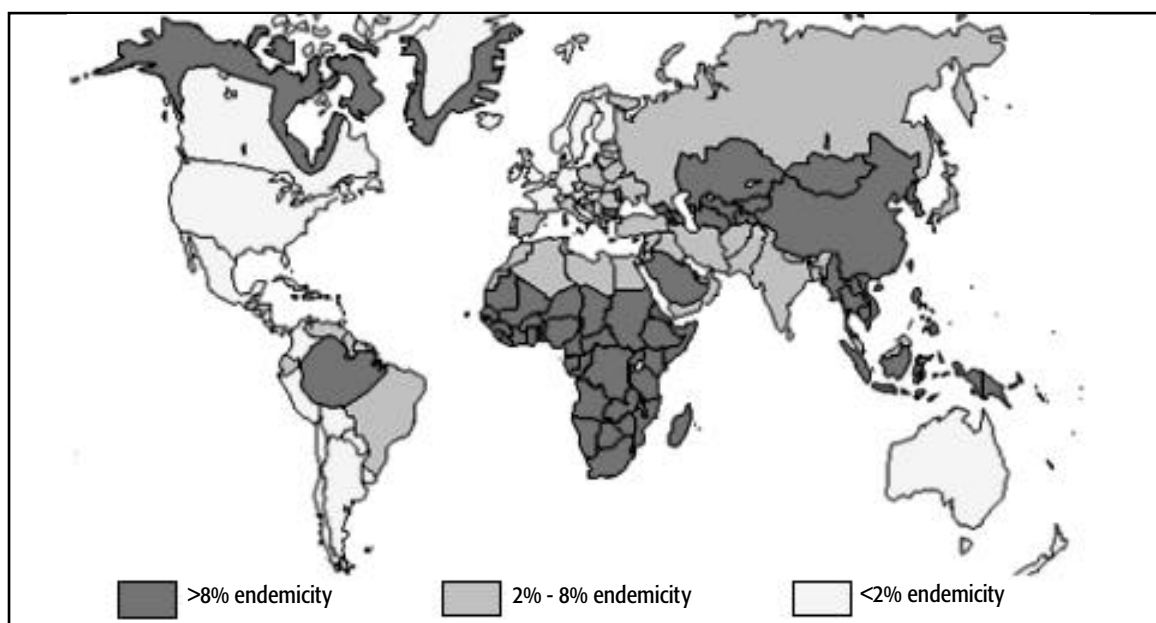
vaccine, and the importance of immunizing children. Focus on improving communication between providers and consumers first, and then use other media to support those interpersonal efforts.

Here are some specific suggestions:

1. Overcome confusion among decision-makers, providers, and the public

Hepatitis, and hepatitis B immunization, are confusing subjects for both providers and parents. Here are some common sources of confusion:

- Some health care providers are not aware that WHO recommends that all infants receive hepatitis B vaccine.
- People are often confused about the differences between hepatitis B and other forms of hepatitis.
- They are also confused about jaundice. It is important to avoid implying that jaundice is caused only by hepatitis B. For example, it is misleading to say, "Hepatitis B vaccination prevents jaundice", when, in fact, hepatitis B vaccination only prevents jaundice caused by hepatitis B.
- Hepatitis B is not always considered a disease of children, because liver cancer may take years to develop. This can make it more difficult for parents to see the benefits of infant immunization.
- Hepatitis B is transmitted in different ways in different places. In some countries, hepatitis B usually is transmitted to children when they are very young. But in other countries, infection tends to occur later in life, causing parents to question the necessity of



Global enemy: the estimated prevalence of hepatitis B by region

WHO

immunizing a young child.

- There can be confusion about whether adults need to be immunized. Again, the advice will be different for different countries.
- Expect numerous rumours about the safety and efficacy of various hepatitis B vaccines. Sometimes misinformation is spread by those who may profit from it.

Make it clear: Thai manuals for vaccinators and community health workers



PATH and Ministry of Public Health, Thailand

2. Use every opportunity to educate providers about hepatitis B

How you can do this most effectively depends on your situation, as the following examples show:

- In Lombok, Indonesia, the government experimented with new systems for birth reporting and for the delivery of hepatitis B vaccine within the first week of life. Due to changes in the roles and responsibilities of various staff, special training was required throughout the project area.
- But in the Philippines, fewer systemic changes were envisioned, so extra training sessions were not needed. Instead, the Department of Health made sure that hepatitis B information was disseminated through in-house publications, and that it was discussed at staff meetings and regional and national conferences. Staff training curricula were updated as well.

3. Design materials based on audience needs

- In Lombok, audience research revealed that parents tended to have lower levels of education and that they held many traditional (non-medical) beliefs about disease causation. Taking this into account, the introduction team decided to keep educational messages simple and to focus primarily on parental behaviour (how many times to take the child for immunization) more than on scientific information about the disease or vaccine. In general this strategy worked well since all parents learned how to get their children immunized and more educated parents who had other questions could get additional information from their doctors.

- In Thailand, parents in our research sample were more knowledgeable and so materials were designed to address more sophisticated questions. One special situation: many providers and consumers in Thailand were confused about the need for adult vaccination. Because most teenagers and adults in that country have already been exposed to hepatitis B virus, adult and teen vaccination does not provide much benefit. Helping parents and providers understand this became a key communication goal for the programme.

4. Don't waste resources on unnecessary materials

Evaluations in Indonesia and Thailand showed that mass distribution of expensive printed materials for parents was not cost-effective.

- When resources are limited, concentrate on providing high-quality reference materials and training for your programme's doctors, nurses, vaccinators, and outreach workers.
- If you find that give-away materials for parents are necessary, try to develop good quality flyers instead of colourful booklets. They are less expensive to print and distribute.

Hope for the future

In the decade since the first Task Force programmes, many countries have found ways to integrate hepatitis B immunization into their national programmes. Botswana, China, Egypt, Indonesia, The Philippines, South Africa, Thailand, Tunisia, and Zimbabwe are among the developing world nations that now routinely protect their children against hepatitis B. With assistance from the GAVI partner agencies and the Global Fund for Children's Vaccines, more than 30 additional countries are beginning introductory efforts.

There is one additional, and crucially important, opportunity that the GAVI partners must not let slip away: now is the time to give the "polio troops" a new mission in countries where National Immunization Days are phasing out. No one has been more successful than the Polio Eradication Initiative in mobilizing communities for health. Now that polio eradication efforts are winding down in many areas, staff and volunteers can broaden their efforts, focusing on improving routine immunization and other primary health care programmes. ■

Scott Wittet is Director for Advocacy, Communication, and Training at the Bill and Melinda Gates Children's Vaccine Program at PATH.

For more information about hepatitis B and immunization programmes, visit the Resource Center of the Bill and Melinda Gates Children's Vaccine Program at PATH website, <http://www.ChildrensVaccine.org> or contact the GAVI Secretariat c/o UNICEF, Palais des Nations, 1211 Geneva 10, Switzerland. Email: gavi@unicef.org

This is an edited version of a paper presented at the GAVI Partners' Meeting in Noordwijk, the Netherlands in November 2000. The full paper can be downloaded from http://www.childrensvaccine.org/html/ip_advocacy.htm

Don't be distracted from good routine immunization

Catriona Waddington opens a debate on whether GAVI and governments have got their priorities right

“ ON the same day, three things happen. In a West African country, a small girl is immunized during a high-profile National Immunization Day. In an East African country, a young boy receives the vaccine against *Haemophilus influenzae* type b (Hib)—which his Ministry of Health has only just started giving. And in a Southern African country, a district public health official urges caution over the support of National Immunization Days (NIDs) and so-called “under-used” vaccines.

Given that neither the boy nor the girl would have received these immunizations without NIDs and the introduction of under-used vaccines, why would anyone take the stance of the health official?

The official was right to advise caution. Whilst NIDs and new vaccines for a country can be exciting, there is a real danger that they distract from the core immunization task—to have a strong health service which can give generation after generation of children the six basic immunizations on a routine basis.

Many countries still have much to do to increase coverage of the basic six immunizations—for example, the average coverage with three doses of diphtheria, tetanus and pertussis (DTP3) in countries receiving GAVI funds is currently only about 65%.

The district public health official favours concentrating on increasing coverage of the basic six immunizations. She worries that the introduction of new vaccines may be a distraction from this priority. And she is concerned that countries may be investing disproportionately in NIDs at the expense of their routine services.

What has this got to do with GAVI? GAVI and the Global Fund for Children's Vaccines currently allocate money through two main “windows”—one for new and under-used vaccines, the other to strengthen existing immunization services. Funds for existing services are not for the vaccines themselves—they are to strengthen the existing system. The money might be spent on the cold chain, training or transport, for example. In rounds 1 and 2 of GAVI funding, \$51.2 million was allocated. Of this, 83% was for new and under-used vaccines and only 17% to strengthen existing services. Put another way, most of the money is being used to pay for vaccines, rather than in developing countries to strengthen the vital routine services. Is this the balance we really want?

GAVI does not have a particular policy on NIDs—each country has its own policies. But the Alliance has argued that access to all vaccines can be improved by learning the lessons of NIDs in the Polio Eradication Initiative⁽¹⁾. And many countries are already using NIDs alongside routine services to increase coverage with measles vaccine. The danger is that there is “NID-creep”—in other words, that the role of, and reliance

on, NIDs gradually becomes broader and broader.

Arguing in favour of routine sounds rather dull. Why should routinely available services—defined here as appropriately trained health staff with the requisite resources, accessible to a population—be so important?

Here are four reasons:

- By its very nature, immunization for children requires a strong health system. Each child needs several contacts with the health system to be fully immunized and there is a constant stream of newly-born children who need immunizing. The job of maintaining a “fully immunized population” is therefore a never-ending one requiring sustained effort. So countries with low rates of immunization need to develop their routine health services—in the end, this is the only way that children can be sure of being fully immunized.

- At their best, NIDs are great—they can be fun, exciting and productive, in that many children turn up (or return) for immunizations. Moreover, they can play a vital role in eradicating diseases. But a downside to NIDs can be their power to disrupt. A large NID can use up the time of many people (and the availability of equipment such as vehicles) for weeks—and it can be very expensive, particularly if health staff receive extra payments for their extra work. So these NIDs have a hidden cost—the price of distracting nurses and other resources from regular immunizations. And the public is also distracted—there is a danger that

immunization is seen as a special event, rather than one that happens automatically when a child reaches the appropriate age.

This is not to argue against all NIDs—of course they have a place for immunizing very hard-to-reach populations or to “catch up” when some children have been missed. But NIDs are rarely an alternative to supporting the health system's routine work—indeed if the routine system works, there is no need for them.

- Caution about the “under-used” vaccines is necessary because we have to be sure that they are the best buy for countries with small government health budgets. The six basic vaccines are relatively cheap and their cost-effectiveness is widely accepted. But how does, say, Hib compare with spending money on malaria control, TB drugs or condoms?

Difficult choices have to be made—just because an effective drug or vaccine exists, it doesn't mean that it is a good buy for a government. The international community is currently promoting the importance of a number of public health measures—there also need to be clear messages about how to prioritize among the many important claims on expenditure.

- Finally, the boy in East Africa received one of the “under-used” vaccines which GAVI supports. Without

“Most of the money is being used to pay for vaccines rather than to strengthen routine services”

GAVI, he would probably not have received it. But we still need to be cautious—is there a risk that vaccinating for Hib may start and then stop when GAVI funding ceases? In the past, before GAVI, there have been examples of immunization starting and stopping after funds dried up. There are few public health benefits from a short-term vaccination programme and there are negative effects on the morale of health workers and the public if it stops. Some may lose trust in vaccinations as a result. Hib is a relatively expensive vaccine—is it realistic for us to expect continuity?

On the face of it, NIDs and new vaccines seem

attractive. But the biggest challenge of all is to immunize all the world's children with the most cost-effective vaccines and then to build on this regular system by adding new vaccines, as they are developed and as they become affordable. The public health official may be arguing a difficult point, but she is probably right that in the long term, strong routine immunization will be the most effective way to reach our shared goal of improving child survival and health.

Catriona Waddington is a health economist and consultant on GAVI to DFID, the UK government's Department for International Development.

Equity is the key to our policy

Tore Godal responds

“ We are all agreed that the biggest challenge is to immunize all the world's children. We are striving to achieve equity. And that means doing two things. First, we need to reach out to all children. Second, we need to narrow the gap between children in the richer countries and children in the poorest. In industrialized countries, a child can now expect to receive vaccines against 11 or 12 diseases. In the poorest countries, children will be protected against six or seven diseases if they are lucky.

We have learnt some lessons. Despite the spectacular gains in routine immunization coverage with the basic six vaccines in the 1980s, progress was not maintained in the 1990s and, by the end of the last decade, one in four children was still not receiving those six vaccines routinely. Business as usual did not seem to be enough; new incentives were needed if coverage was to increase. GAVI is trying to create such incentives, both for strengthening existing services and for the introduction of new and under-used vaccines.

Catriona Waddington raises concerns about National Immunization Days. As far as this relates to GAVI policy, let me be clear: the Alliance is first and foremost about strengthening routine services. The positive side of NIDs is that they can, and do, reach out to virtually all children⁽¹⁾. To our knowledge, they are the only approach that achieves this. If we are serious about equity, we must support governments' use of immunization days as a means to reach the unreached, but only for this purpose, and as a complement to a good routine service.

We know that NIDs can have negative effects on the routine service. They must be planned as a regular programme—in effect, they can be incorporated into the routine system. Disruption to the rest of the system can, I believe, be reduced if, where appropriate, immunization days are conducted at regional level rather than nationally. Recent analyses have suggested that a planned programme of immunization days can actually help to strengthen a health system⁽²⁾.

Equity is also at the heart of GAVI's push to give

more children access to new and under-used vaccines such as hepatitis B and Hib. Many middle-income countries are using these vaccines now, but they are still strikingly absent from the poorest countries. There are of course real questions about how such countries can sustain the resources to buy these vaccines. Realistically, the poorest countries are going to need international support for their immunization programmes until they move out of the poorest bracket, and that is why the Alliance is working hard to find mechanisms by which such support can be sustained beyond the five years we're committed to.

The vaccines are more expensive per dose than the traditional six vaccines, but they are cost-effective in terms of their cost per healthy year of life gained. And, in terms of their cost per capita, they can be justified even where public spending on health is below \$10 per person per year. But we know that even routine immunization with the basic six vaccines is not maintained in the poorest countries if international support falls away. So all of us recognize that the international community has a duty to maintain its support, while governments have a responsibility to convince donors of the case for doing so.

The question of how GAVI and the Fund have allocated support between the purchase of new vaccines and the strengthening of existing services is an important one. The GAVI Board has already noted its concerns about the balance of resources disbursed in the first two rounds. It is currently determining whether corrective measures need to be taken, for example by increasing the size of the “share” awarded to each child in the birth cohort, or by expanding the criteria for which countries are eligible for support to strengthen their existing services.

Dr Tore Godal is Executive Secretary of GAVI.

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Charles Mérieux

Jacques-François Martin remembers a mentor committed to the health of the poor

CHARLES Mérieux passed away in Lyon on 19 January 2001. He had just turned 94.

Strongly influenced by Louis Pasteur's approach (his father had been assistant to Emile Roux and to Pasteur), Charles Mérieux gave his whole life to preventive medicine: it was he, together with Jonas Salk, who coined the term "vaccinology".

Charles Mérieux, who liked to say that there is no boundary between the two branches of medicine, industrialised modern virology in veterinary medicine. By culturing cells in-vitro, he enabled the large-scale production of a vaccine for foot-and-mouth disease. He then applied this approach to the development of human vaccines against polio and measles.

In the 1970s he developed the first vaccine against meningococcal meningitis, which found an unexpected application in Brazil when the entire population was immunized in 1975. That campaign was a precursor to the National Immunization Days which were introduced, again by Brazil, for polio, paving the way for eradication of the disease.

A man of boundless energy, in 1967 Charles Mérieux founded the Marcel Mérieux Foundation,

whose Pensières Centre in Annecy has received thousands of scientists. In 1955 he co-founded The International Association for Biological Standardization, and in 1974 organized the first seminar on immunization in Africa before creating Bioforce, a school to train logisticians in a multitude of tasks to be performed in the context of developing countries, and more recently, in 2000, a P4 laboratory for the express purpose of studying emerging African illnesses.

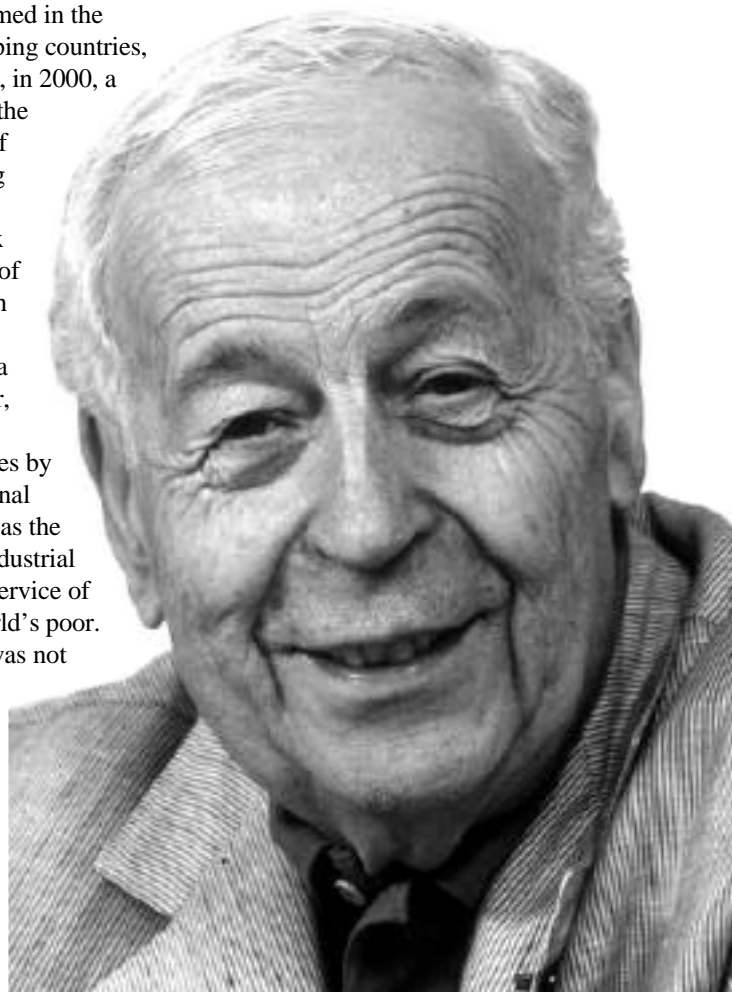
Charles Mérieux was the recipient of the highest French decoration, the Grand' Croix de la Légion d'Honneur, and was awarded honorary doctorates by a dozen international universities. He was the embodiment of industrial efficiency in the service of ethics and the world's poor.

His family life was not unmarked by hardship, but he never failed to demonstrate the strength that sprang from hope. Resolutely turned towards

the future, he taught us to believe in the impossible because in his case, the impossible was no match for his determination. ■

Jacques-François Martin is President of the Global Fund for Children's Vaccines.

For more background see <http://www.fond-merieux.org>



Charles Mérieux, vaccinologist,
born January 9, 1907, died January 19, 2001

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The views expressed in *Immunization Focus* are not necessarily the views of the GAVI Board.

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