Chapter 2

The Global Drive for Immunization

If the World Summit was the high point of a year in which children achieved greater international visibility than they ever had before, it was only the most prominent of many landmarks. The year 1990 had been set as the date at which universal child immunization (UCI) should be achieved. In all countries where Unicef provided health care assistance, it was a year of maximum effort to go the extra mile towards the immunization target.

By this time, the drive for UCI had been in operational top gear for five years. The outcome, particularly in 1989-90, was what Unicef described as 'one of the biggest collaborative peacetime efforts in history'[1]. And truly, the mobilization of communities, districts and nations, stretching from the Amazon to the Himalayas, from megacities to hamlets unknown even to the postal service, to vaccinate against communicable disease children whose very existence had previously been unregistered was an unparalleled phenomenon.

The campaign for UCI was significant in terms of vastly improved vaccination coverage—from around 20 per cent of children worldwide in 1981 to around 80 per cent in 1990[2]; and of lives saved—3 million in 1990 alone, according to WHO[3] and 15 million during the decade[4]. Much more important, it showed that it was possible to mobilize large sections of society in a large number of countries behind a specific public health goal and to achieve what by any reasonable standard of measurement was an outstanding success. The development process, perpetually confronted by set-backs and disillusionment, sorely needs the oxygen of success. The immunization campaigns of the 1980s provided it. This was especially noteworthy in a period often described as the 'lost development decade', particularly in countries deeply affected by recession and debt.

In addition, the drive towards UCI created the circumstances in which a World Summit for Children became a practicable proposition. The political mobilization surrounding UCI involved many Heads of State and Government. Their support for immunization made them more cognizant of the children's cause, more willing to view kindly the idea of a Summit, more inclined to attend and more predisposed towards signing its Declaration and Plan of Action.

In many ways, the blockbuster campaign was a throwback to the past: to the postwar campaigns against tuberculosis; the campaigns of the 1950s against yaws, leprosy and trachoma; and the super-campaign of the early 1960s that spectacularly failed to eradicate the malarial mosquito[5]. In the 1970s, there had been the victorious WHO-led campaign to eradicate smallpox. But this had been a last gasp of the disease campaign era. The case for doing it at all had been accepted at the time only because the particular behaviour of the smallpox virus—its immutability, its method of transmission—meant that a strategy that quarantined every case and vaccinated every contact could not fail to be effective. The failure of the malaria campaign was etched into the international health conscience; it had given military-style disease campaigns a thoroughly bad name. The new generation of public health practitioners had consistently rejected this kind of strategy. Indeed, the elaboration during the 1970s of the primary health care approach, with its emphasis on putting health into the hands of ordinary people and developing basic services to respond to community needs, had been, in part, a calculated dismissal of the centrally driven vertical campaign as the way to advance the public health frontier.

All of this disease campaign history was thoroughly familiar to Jim Grant and the group that, in 1982, had come up with the GOBI prescription for the 'child survival and development revolution'. Resurrecting the disease campaign approach at a time when the prophets of primary health care (PHC)—notably Dr. Halfdan Mahler, Director-General of WHO—were still struggling to persuade Ministries of Health to drop 'medical fixes' and undertake a radical restructuring of their health delivery systems was bound to provoke controversy. Grant was very aware, too, that the motivating effect of targets and goals and the commitment of resources behind them could be a double-edged sword: if all the action produced results that fell long short of the goal, sceptics would be triumphant. Even if some of the results were good, the scheme might carry the stigma of failure. On top of these difficulties lay another: that of wrenching an international bureaucracy as obstinate to command as a ship in full sail out of its prescribed and agreed-upon course and onto a different, and narrower, point of the compass.

At the personal level, the institutional level and the international level, Grant's technique was to build alliances and partnerships with those who were keen, active and committed, and work his way around the rest, temporarily sidelining those who showed a lack of initial enthusiasm or were resolutely opposed. He was masterful in building commitment behind a cause that had relatively few followers to start with. During the two years following the launch of the 'child survival and development revolution' in December 1982, he went about this task with a single-minded sense of purpose, inside and outside Unicef.

Grant saw as his main task the creation of political will behind the GOBI prescription. 'Political will'—a very overworked phrase—is commonly seen as the decisive factor in whether those in positions of political leadership will put their weight sufficiently behind a given policy to put it into effect. In democratic societies, leaders may be persuaded to do so by popular demand; but even in democratic societies direct influence on the leadership will be as important. The need for political will, and public lamentation that it is lacking, are repeated in the activist domain to the point of banality. Rarely is a comprehensive strategy developed and operationalized to create political will. This is what Grant set out to do, and he needed all of Unicef to focus its energies on the 'child survival and development revolution' to draw in allies at all levels of society and make it happen.

The strategy adopted was both more subtle and more comprehensive than the standard advocacy campaign on behalf of policy change. Its hallmark was to stress the possible and the doable, to build positive momentum behind a goal in such a way as to dissolve the obstacles in its path instead of adopting an adversarial stance towards the obstacles themselves. The only adversary was a chimera: the goal itself. Everyone else, from parents to teachers, community leaders, priests, sheikhs, policemen, business and professional people, journalists, government officials, the military, politicians, princes and presidents, was a potential ally.

In his first two years at Unicef, Grant narrowed his focus on the issue that Unicef would immediately address. No longer was this to consist of the 'child within human development' or the spread of health care and other basic services. It was to consist simply of 'child survival'. (Although the full title of the CSD campaign was 'child survival and development', the main emphasis was always 'survival'.) This had been selected not as an abandonment of the wider issues, but as a symptom of them all and because it was more doable, comprehensible and politically appealing.

With the articulation of GOBI, the same reductionism that had first defined the issue had now been applied to the response: the four GOBI components were also doable, comprehensible and politically appealing. All were well-tried and respected elements of primary health care; all were low-cost—vital at a time when aid and social service budgets were under political and economic pressure; all were highly marketable. What was lacking was knowledge about them, especially among their potential consumers—knowledge that could, in theory, easily be spread by modern communications; and commitment to them by policy makers at national and international levels, from which would follow the necessary supply of human and financial resources.

The creation of political will behind the 'child survival revolution' was to be brought about by a wide-ranging campaign of social mobilization. At the topmost level, efforts were made to mobilize world leaders and opinion formers, as well as the entire international machinery of cooperation, including other UN partner organizations and the international research community. During 1983-85, Grant used his prodigious energy to become a peripatetic salesman of child survival and GOBI to Presidents and Prime Ministers in countries with Unicef programmes and to key members of the donor community. Unlike a specialized agency of the UN system whose point of contact with recipient governments is the relevant sectoral ministry—health in the case of WHO, agriculture in the case of FAO, education in the case of UNESCO—Unicef with its mandate for children had a freedom of manoeuvre that Grant exploited to the full. Obtaining commitment to an all-out effort for child survival from a country's Head of State meant that the command to mobilize could be addressed to people and organizations in all walks of life, not just to the officials in one or two ministries.

By the end of 1985, Grant had personally visited 39 Heads of State or national government in countries as far apart geographically and ideologically as Colombia and South Yemen, Haiti and Sri Lanka, India and Burkina Faso, Nigeria and Cuba, the Dominican Republic and China[6]. All these visits raised the profile of Unicef in the country concerned and gave the country representative access to government at an elevated level. Since the expressed target was to reduce by half child mortality rates worldwide by the end of the century, Grant naturally made a priority of those countries that had very large populations, extensive poverty and high rates of child death, as well as those that had a strategic value because of their regional or political influence.

Grant and senior colleagues—notably Dr. Richard Jolly, Deputy Executive Director for Programmes, and Dr. Nyi Nyi, Director of Programmes—also sought the active collaboration of other international bodies and of donors. The

International Paediatrics Association and the League of Red Cross and Red Crescent Societies were among the earliest worldwide non-governmental networks to give child survival a ringing endorsement. In 1985, Rotary International joined in with a commitment of $120 million[7] (later rising to over $370 million) to polio eradication via immunization. Among donors, the bilateral aid agencies of Canada, Denmark, France, Italy, Norway, Sweden and the United States quickly became strongly committed; the Italian Government was outstandingly generous, providing over $150 million between 1986 and 1990 and making a critical contribution to the expansion of programmes in Africa[8].

However, not all early reactions to the 'child survival and development revolution' were favourable. In April 1983, Dr. Halfdan Mahler addressed the World Health Assembly in Geneva in terms that made clear that a strategy that selected out certain elements of the PHC approach and packaged them as a global prescription ran deeply against his own, and WHO's, ideological grain. Given that Unicef had, fairly suddenly, reverted to a highly focused child health agenda—its historical starting-point—from a much broader set of child-related preoccupations, it is hard to see how a row between the two organizations could have been avoided. As had been the case in the past, WHO felt that its scientific and policy-setting ascendancy in international public health was being ignored by a non-specialist UN partner claiming the moral high ground. This was particularly difficult to bear since Unicef had been its closest international collaborator in the elaboration of the PHC approach, and co-sponsor of the 1978 Alma-Ata Health for All conference. On Unicef's side, there was a feeling of both betrayal and misunderstanding at this unnecessarily public castigation.

Mahler's 1983 statement was the opening salvo of a battle in the international public health community that continued to rumble on for several years—much longer than it took for Mahler and Grant to reconcile their own differences of vision[9]. The battle—the kind of 'inner circle' confrontation that can arouse inexplicable passion among the parties professionally involved—was between the protagonists of 'selective PHC' and those of 'comprehensive PHC'[10]. The irony was that all shared the same values: a concern with poverty eradication, equity and the need to 'democratize' and 'demedicalize' health. All wanted to make the goal of Health for All a reality rather than a distant dream. Their differences were ones of means rather than ends.

The case in favour of selective PHC, or GOBI, was that very few countries—especially given the economic problems of the 1980s—were in a position to advance all PHC interventions simultaneously to any significant volume of population or geographical coverage[11]. Choices had to be made. And

these choices had to be made primarily by health professionals, whatever the new recognition won during the 1970s for the need to respect communities' willingness to cooperate. It was naïve to think of basing service design solely on community demand, especially since poor communities were often ignorant about the causes of sickness and how their health could be improved. 'Health by the people' was a useful corrective slogan, but services still had to be designed, managed and operated according to professional norms by staff appropriately trained, with or without paramedical assistance. And services had to be funded—and funds everywhere were tight.

The debate had many ramifications, quite a number of them ideological. But Unicef was an essentially pragmatic organization: its primary purpose was the delivery of services to children—all children, not a few today and some more tomorrow. Selective PHC simply meant prioritizing, given a variety of cost and other constraints. It made sense to concentrate on problems known to cause a great deal of illness and death, especially among the poor, and for which cheap and easy remedies were available. The advantage of running health campaigns—against diarrhoea and undernutrition, for immunization and breastfeeding—was not that they were technically superior as a method of service delivery, but that they were motivating and it was possible to mobilize around them. Peripheral health staff could be more easily trained to deliver one or two interventions well than a whole gamut; managerial staff could get their teeth into the technical and logistical problems of developing a well-oiled delivery system for reaching a large population with—initially—one or two interventions only. GOBI was not meant to substitute for PHC, nor to replace new-style participatory approaches with old-style authoritarianism. It was meant to boost the whole PHC movement by delivering some tangible and measurable results. It was also meant to do so on a significant scale, with all the boost to morale that successful results would bring with them.

Those arguing on behalf of comprehensive PHC insisted that tangible and measurable results achieved by a campaigning strategy would not be lasting, and would in the meantime have diverted resources away from the effective delivery of other vital elements of PHC. Only if the health care infrastructure was developed in tandem would a revolution in child survival be sustainable[12]. As with many such debates, there were valid arguments on both sides and much unnecessary polarization. But ultimately, Unicef argued, it was more important to get on and do something than to waste energy beating on the 'straw men' of intellectual construct instead of on the problems of poverty, low access to health care and unnecessary infant and young child death. If the course of action turned out to be wrong, it could always be changed[13].

Not only within the international public health community, but within Unicef itself, the suddenness with which the GOBI initiative was launched caused doubts and hesitations. Unicef is a decentralized organization and its muscle is on the ground. Some country offices, working away at programmes that had been carefully designed to match national priorities concerning children, were horrified at the prospect of switching to a relatively narrow set of child health objectives established in far-away New York. Part of this attitude stemmed from loyalty to previous organizational policy, itself evolved over many years; part from bureaucratic resistance to change; part from the lack of understanding that the rhetoric of GOBI was meant to be a mobilizing dynamic, not a rigid prescription. Programmes in other areas—water supply and sanitation, education, women's well-being, early childhood development, urban basic services—might take a lower profile, but they were not to be abandoned.

In an organization whose centre of gravity was much closer to headquarters and whose country offices waited to be told what to do, it would have been easier to swing in a new direction. The character of Unicef—the strong field presence; the autonomy of the country office; its capacity to plan, programme and advocate independently—led to a widespread internal debate. Ironically, the same organizational power to resist GOBI and the child survival and development revolution was also the organizational characteristic that made feasible the prospect of widespread social mobilization behind the new initiative. Few other UN bodies—if any—had the potential to do what Grant wanted of its outposted legions. Once motivated and technically equipped, the Unicef country office could become the engine behind GOBI, building the necessary alliances on the ground without which any amount of international mobilization would essentially be meaningless. The Unicef organizational network, whose individualistic character and strength had been carefully built up by a previous generation of leaders, had somehow to be pushed and cajoled into energetic commitment.

There is nothing like conspicuous success to quell the reservations of sceptics. At an early stage, therefore, Grant looked around among his many allies and converts inside and outside the organization and sought ways of proving that the 'child survival revolution' was not just a war of words. He wanted to create on the ground some successful examples of ideas in action. He wanted to show that the rhetoric worked.

In the earliest phase of the child survival revolution, Grant believed that among the four GOBI techniques, it was the spread of oral rehydration therapy

(ORT), both in manufactured sachet form as oral rehydration salts (ORS) and as a recipe concocted at home, that held out the most immediate promise.

In the early 1980s, diarrhoeal disease was the leading killer of infants and young children in the developing world, claiming 5 million lives a year and sapping the strength of millions more in repeated bouts of sickness[14]. Many mothers watching the fluids of their child's body drain away made what to them was the logical assumption that the only way to stem the flow was to deny their child food and drink. The result—a loss of salts, fluids and minerals, which dehydrated the body and could send it into life-threatening shock—was usually a much more serious threat than the infection itself. Most doctors advocated intravenous rehydration by saline drip in the controlled circumstances of a clinic. But most families in the developing world could neither reach nor afford medical attention of this kind.

During the 1970s, experiments in Bangladesh proved that diarrhoeal dehydration could be treated orally if the saline solution contained a specific quantity of sugar. This transformed the prospects of effective home care. In a country suffering from endemic cholera with a minimal health service structure in place, this therapy could be carried out by village mothers once they had been taught how to brew the mix correctly from ingredients available in the home. This discovery was hailed by the British medical journal *The Lancet* as 'potentially the most important medical advance this century'[15]. But for many years, with the exception of programmes inspired by the work of the International Centre for Diarrhoeal Diseases Research in Bangladesh and some other pioneers, ORT and its manufactured form, ORS, suffered a classic fate at the hands of the medical consumer society: its very cheapness and simplicity led to its widespread neglect.

This neglect, in which the medical profession and the pharmaceutical companies conspired, Unicef now proposed to end. It set itself the target of putting into the hands of the majority of the world's citizens an extremely cheap and effective remedy, of which they currently knew nothing, for a life-threatening condition.

The control of diarrhoeal diseases is, of course, far more complex than the provision of a remedy for dehydration. The prevalence of such infections in poverty-stricken environments is associated with the presence of dirt and germs and the lack of knowledge—or means—to keep food, utensils, hands, clothes and the household clean. The small child is also more vulnerable to infection if undernourished or malnourished, or less than adequately fed—by diluting infant formula in an unsterilized bottle, for example. A good supply of safe water and sanitary waste disposal are also closely associated with the

reduction of diarrhoeal disease. To reduce the case-load of diarrhoeal infection worldwide required progress on all these fronts. Much of this would take time. The joy of ORT was that it provided an immediate and simple cure, not for the diarrhoea itself but for the dehydration it so easily induced. Those infants and children currently contracting several bouts of diarrhoeal infection every year could be saved from the peril of death and from some of the debility—if only parents and health workers knew about the remedy and used it.

Unicef, together with WHO, was already supporting national programmes for control of diarrhoeal diseases (CDD). After the launch of the child survival revolution, it boosted its provision of ORS mix—a pre-mixed sachet to which only boiled water needed to be added—and its support for local production of the WHO-approved formula. It also embarked on a strenuous campaign of advocacy to promote both the theory of oral rehydration therapy and the use of ORS. At least 20 new national programmes for the control of diarrhoeal disease had been launched by 1985, causing a dramatic rise in ORS production: from under 60 million sachets in 1982 to over 200 million[16]. But from 1983 onward, an important ally—USAID—effectively took over the torch for ORT, obtaining extra resources from the US Congress to back national campaigns around the world.

An example of such a programme was that operated by the Egyptian Ministry of Health[17]. When the anti-diarrhoeal programme went nationwide in 1983, oral rehydration therapy had already been an officially recommended treatment for 10 years. But the sachets of salts were available only on prescription and were not promoted to the public. Fewer than 1 per cent of mothers were thought to use them. The strategy adopted in Egypt included extensive retraining of medical practitioners in 100 special ORT training units. Once this was completed, health clinics all over the country set up oral rehydration centres to teach mothers how to use the therapy.

On the supply side, pharmacists were encouraged to stock ORS sachets. One of the problems with ORS is that the product is so cheap that pharmacists make little profit on the sale. Unless they know better, mothers may instead be induced to buy patent anti-diarrhoeal drugs that look more exotic and cost more money, but are almost certainly an inferior treatment for diarrhoeal dehydration and can even be dangerous. In Egypt, pharmacists were offered a 30 per cent profit margin on each ORS sachet they sold. And to promote public demand, television commercials were aired nightly at peak viewing time. This ambitious five-year programme cost $50 million, of which USAID contributed over half; it was intended to reduce the child mortality rate by 25 per cent.

This was just one of many ORT initiatives heralded in *The State of the World's Children* report at the end of 1985, in which it was claimed that the spread of knowledge about oral rehydration had saved a million children's lives over the previous 12 months. But in spite of the encouraging signs, ORT's promise was only beginning to be fulfilled: the same report estimated that 'only about 20 per cent of the world's families knew enough about oral rehydration to be able to use it'. However good the technique, it was not proving to be a swift and easy task to mobilize whole countries and communities behind its use. Existing methods of treating diarrhoea and beliefs about them had to be worn down and replaced.

ORT did not arrive to fill a vacuum: mothers, healers and doctors had long had their ways of dealing with something so commonplace as diarrhoea. Pharmaceutical companies and private practitioners had vested interests in preserving the anti-diarrhoeal status quo. Mothers had to be sufficiently convinced and practised to apply the therapy when the crisis arose: this was not something for which a 'Day' could be declared and children neatly lined up to receive a dose. There were, also, inhibitions about the subject. As a topic of general conversation or for airing on T-shirts and television, diarrhoea lacked appeal. Most Presidents and senior political figures are not keen to address their subjects on the bowel movements of the under-fives—although 'Baby Doc' Duvalier in Haiti, who gave over the presidential palace to a grand public song and dance extravaganza on the theme of infant diarrhoea, proved an exception[18]. Many Presidents were, on the other hand, willing to identify themselves with the virtues of something so clean and wholesome as vaccination.

The 1986 *State of the World's Children* report declared: 'Immunization leads the way.' Of the four GOBI techniques, the 'O' had started out as champion. But in terms of its potential to mobilize all sectors of society, the 'I' turned out to lead the field. Where ORT showed gains, immunization leapt ahead. Accordingly, from this point on, centre stage in the campaign for child survival was to be occupied unequivocally by immunization.

The expanded programme on immunization (EPI) had been launched by WHO in 1974 to make routine protection against immunizable diseases—diphtheria, pertussis (whooping cough), measles, tetanus and polio—available to all children under the age of one. In 1977, in the wake of the smallpox eradication, the World Health Assembly adopted a target of universal child immunization by 1990. But in spite of major improvements in the 'cold chain' technology required to reach children with vaccines that worked, the take-up

of EPI programmes was sluggish. The picture varied, but in 1980 the average level of immunization in most developing countries hovered between 10 and 20 per cent[19].

Of all the GOBI elements, immunization illustrated *par excellence* the 'chicken and egg' conundrum associated with 'selective' and 'comprehensive' primary health care. EPI programmes in some countries were run just like the old disease control campaigns, with special fleets of vehicles and inoculation staff, divorced from—for example—maternal and child health care programmes. Experience showed that without the involvement of the regular health infrastructure, significant gains in control of a given malady could easily evaporate.

On the other hand, creating a primary health care system that depended for outreach on the participation of trained volunteers did require a starting-point, and the tasks associated with vaccination were eminently suitable. The lay vaccinator was a well-established health cadre, familiar from the smallpox campaign, even from the BCG campaigns in postwar Europe[20]. And where countries' health establishments allowed vaccinations to be given only by a trained professional, there were plenty of other useful tasks for lay participants: gathering children at the vaccination post, filling in health cards, checking registers of names, conducting house-to-house visits. The protagonists of the 'child survival revolution' believed that the organization of efficient vaccination services could provide a vanguard for the full range of PHC.

Coincidentally, in early 1983, Dr. Jonas Salk, creator of the first successful vaccine against poliomyelitis, broached with Robert McNamara, ex-President of the World Bank, the idea of a campaign to eradicate polio worldwide[21]. Talks were initiated with other influential figures in international public health, and Jim Grant became involved. From polio alone, discussions broadened to include the whole range of communicable diseases embraced by EPI. The outstanding question was whether Halfdan Mahler at WHO—the staunch opponent of the single-track campaign—could be persuaded to accept the idea that EPI was well positioned to assume the role of PHC's leading edge. McNamara was persuasive and WHO's vital imprimatur was affixed. A conference was organized at Bellagio in Italy entitled 'To Protect the World's Children'. The roll-call included many of the most famous names in immunology and disease control.

The Bellagio meeting took place in March 1984. Out of it came the formation of the Task Force for Child Survival, a body that included representatives of five international organizations—the Rockefeller Foundation, Unicef, UNDP, WHO and the World Bank—and whose executive secretariat was provided by the Centers for Disease Control (CDC) in Atlanta. The initial mandate of this

specially constituted, neutral body was to accelerate immunization activities in a number of countries, look at unresolved technical issues and mobilize financial resources.

Already, as a result of Grant's salesmanship of GOBI to political leaders and to Unicef country representatives, some countries—in 'pilot' localities or on an experimental basis—had undertaken special stepped-up immunization drives. These were valuable in several respects. They offered examples of what could be done and a challenge to others to match it; they provided a methodological training-ground for solving technical problems; and they provided an opportunity for mobilizing Unicef itself. Many of those within the organization who were doubtful about selective primary health care, particularly when spearheaded by this particular intervention, quickly became converted to the immunization cause when successful models existed for what they were now being asked to do.

The first successful example of a new-style EPI campaign on a major scale came from Colombia. Jim Grant somehow persuaded President Belisario Betancur to back a National Vaccination Crusade. Betancur was the very first Head of State to associate himself personally with a children's initiative of this kind, braving the prospect that his personal association with the cause of small children might invite unspoken ridicule[22].

The strategy developed in Colombia was one frequently drawn upon later as a model elsewhere. Three days, one month apart, in mid-1984 were declared national vaccination days. (Measles and BCG vaccine—against tuberculosis—require one dose each, but polio and DPT—against diphtheria, pertussis and tetanus—require three doses to build sufficient immunity.) A mass mobilization was organized of 120,000 volunteer helpers from the Catholic Church, the Red Cross, the police, the labour unions, the Boy Scouts and the entire school network. Even the Air Force was recruited to fly in vaccines to remote villages. The target group was 900,000 children. To boost attendance, a media blitz was conducted, and President Betancur was televised vaccinating a child on each of the 'days'. This idea, of taking vaccination out of the exclusive domain of the health service and transforming it into a society-wide activity in which everyone had a role to play, was highly effective. The Crusade reached 800,000 children and pushed coverage levels to around 75 per cent[23].

Following successes not only in Colombia, but in Burkina Faso, Senegal and in pilot districts of India and Nigeria, Grant wanted to prove that the national vaccination crusade could work not only in a small country or a corner of a large one, but in a very large country with a considerable number of relatively inaccessible unvaccinated children. The country he picked was Turkey, where

the target child population was 5 million. Nowhere in the country was the immunization rate higher than 20 per cent, and in some areas it was less than 1 per cent. A good case for a stepped-up campaign could therefore be made. As important, one of the key people to whom Grant would make the case was his old ally from his days with USAID in Turkey, the then Prime Minister Turgut Ozal. In February 1985, Grant visited Ankara and obtained a commitment to an immunization crusade at the highest political level[24]. He thereupon posted to Turkey Richard Reid, previously Unicef country representative in Nigeria, scene of a recently successful pilot EPI upgrade, and a person of great energy and commitment.

Within a few months, Reid and an international colleague, Sarojini Abraham, had recruited a local Unicef team and worked with the Ministry of Health and the entire political and civil establishment to set up the campaign. They had also procured 41 million doses of vaccine—some days' worth of the entire global supply—and helped the Ministry position it in refrigerators and cold storage depots throughout the country. A huge feat of mobilization was required: 45,000 vaccination posts had to be set up; 12,000 health personnel and 65,000 helpers trained; and the mothers of 5 million children persuaded that they must bring their children three times to complete their immunization.

As with Colombia, a decisive feature of the Turkish campaign was the backing obtained from the political establishment. In July 1985, President Kenan Evren summoned all 67 provincial governors to Ankara to discuss how to mobilize the local population. They enlisted the country's 200,000 schoolteachers, 54,000 imams—who spoke to their congregations about vaccination at the Friday prayers—and 40,000 *muhtars* (village leaders)[25]. The country's meat and fishing industries put their cold storage facilities at the disposal of the campaign, and as publicity increased, other companies, organizations and individuals offered their support.

By inauguration day in September, constant radio and television announcements had reached 30 million homes, ensuring that there was barely anyone in Turkey even in remote rural areas who had not heard what to do and where to go. The launch ceremony, in which the President, the Prime Minister, the Minister of Health, the Chief Imam and Jim Grant each vaccinated a baby against polio, was televised as a national event. In each province the ceremony was repeated. From stores and corner shop refrigerators, the vaccines were moved out by car, truck, on horseback or on foot. The tally of figures was reported nightly on television and radio. By the end of the final round in November, with winter weather setting in, 84 per cent of the target group had been immunized[26].

The success of Turkey's immunization drive had an immediate impact in neighbouring countries in the Middle East and North Africa: enthusiastic ministers from Egypt, Pakistan, the Sudan and Syria attended the launch ceremony. It also provided a spur to the whole worldwide immunization effort. The Turkish experience showed that it was possible to mobilize a whole society behind a child survival goal. And it elevated 'social mobilization'—a phrase new to the development lexicon—onto the same plane of respect as technical and managerial mastery in achieving health programme success. Not only had access to a service been provided, but demand for that service had been created.

In subsequent years, coverage rates for immunization in Turkey did slip back and legitimate questions were asked about sustainability. But the achievement spoke for itself. No one involved in the Turkish immunization crusade, even with the benefit of hindsight, would describe that remarkable surge of human and national energy on behalf of children as strategically 'wrong'. The cost per immunized child was estimated to be $7.25: hardly an exorbitantly wasteful sum[27].

The year 1985 also witnessed the first occasion on which a war temporarily ceased in order to allow children to be vaccinated on 'days of tranquillity'[28]. In El Salvador, three perilous daylong pauses in the country's bitter civil war allowed 250,000 children to attend vaccination posts set up on both sides of the fighting. The truce, which was fragile but held, was negotiated with the help of prelates in the Roman Catholic Church. This experience, as did that of Turkey but in a different way, also illustrated the magic of childhood immunization as an inspirational force for merging common differences. It produced a concrete manifestation of the idea of 'children as a zone of peace'.

The idea that children are above the political divide has advanced historically more often as a result of de facto precedent than as a result of legislation or international agreement. Up until the 'Days of Tranquillity' in El Salvador, this principle had been advanced during the 20th century to obtain agreement to cross enemy lines or breach blockades to bring relief to children in time of war. But never before had a war actually been stopped in order to administer routine protective health care to the general child population. The 'Days of Tranquillity' idea was later repeated in the midst of civil wars in Uganda, Lebanon, the Sudan, and in former Yugoslavia[29].

By the end of 1985, worldwide demand for vaccine was running at three times the level of 1983[30]. The two most populous countries in the world—China and India—had both announced ambitious immunization targets. Rajiv Gandhi announced that the target of immunizing every child born in India by

1990 had been set as a 'living memorial' to his mother, Indira Gandhi, who had been assassinated the previous year. In Brazil, the ongoing campaign of yearly National Immunization Days had succeeded in all but banishing poliomyelitis, targeted by the Pan-American Health Organization (PAHO) for eradication from the Americas by 1990[31]. In Indonesia, the existing network of child weighing and nutrition posts—the village- and hamlet-based *posyandu*—were about to be galvanized into incorporating EPI into their monthly schedules. Other countries with very large child populations—Bangladesh, Nigeria, Pakistan—as well as more than 30 with smaller ones had conducted surveys and finalized plans and preparations for their own immunization push.

In November 1985, at a ceremony in the United Nations General Assembly held to commemorate the 40th anniversary of the United Nations, the world community recommitted itself to the achievement of universal child immunization by 1990. Over 70 governments and 400 voluntary organizations pledged their support[32]. No one examining the statistics a few years back would have imagined that the target was remotely realizable. Levels of 40 to 60 per cent coverage were now being reported by certain countries. Suddenly it began to seem as if 'UCI 1990' was within feasible range.

The concept of 'universal' child immunization did not actually mean 100 per cent of children immunized with all six antigens. No country has ever managed to achieve this vaccination level. What it meant was that the *availability* of immunization should be universal: every child born into the world had a right to be fully vaccinated by his or her first birthday and the means of becoming so should be within the parents' reach.

All the countries accelerating their EPI programmes, of which there were 80 by the end of the decade[33], intended not only to make immunization available but to see that as many parents as possible took their children for their shots. Targeted coverage varied from country to country; in Africa, where 1986 was declared 'immunization year', the UCI goal for 1990 was 75 per cent. In most other countries the target was 80 per cent, but in China it was 85 per cent—not only nationally but in each province and for each vaccine. The 80 per cent level was sometimes projected as a threshold at which the pool of a given infection in a given area would have been sufficiently reduced to make epidemic outbreaks less likely and the disease less threatening[34]. However, this was not a position sufficiently supported by medical evidence for WHO to be willing to endorse any claim on behalf of the epidemiological potency of 80 per cent. Nonetheless, this was the level jointly understood by WHO and

Unicef to constitute the 'universal' immunization sought by 1990. This position was jointly agreed because truly 'universal' immunization coverage was quite simply undoable.

One aspect of the doability of UCI to which sufficient attention was not given at an early stage was the capacity of existing manufacturers to supply vaccines on a dramatically enhanced scale. In the first half of the decade, the worldwide supply of vaccines to EPI programmes by Unicef increased almost fourfold, from 130 million doses in 1982 to 494 million in 1986[35]. By the end of the decade, a total of 4.4 billion doses had been procured altogether through Unicef[36]. Its supply operation, the Unicef Packing and Assembly Centre (UNIPAC), based in Copenhagen, had to smooth out problems with manufacturers faced with rising demand to ensure that low prices and high quality of vaccines were maintained. Turkey was not the only country to seek Unicef's assistance in procuring such large quantities of vaccines for a short-term campaign that the entire world supply was temporarily snapped up. The need to streamline and upgrade supply delivery and logistics—not only for vaccines, but for all types of cold storage and needle-sterilizing equipment—was an important aspect of the drive for UCI 1990. UNIPAC began to assume an important leadership role in this area.

In most countries of Latin America, the gap between existing coverage and 80 per cent was not enormous—some had already reached this level or exceeded it, notably in the Caribbean. Health service infrastructures were also more or less in place and with some gingering up—clever promotion, immunization 'days', mobilizing of allies in the church, the educational apparatus and NGO partner organizations—the target was not overwhelming where it had not yet been reached. The same went for most countries in the Middle East and in North Africa. The big challenges were in sub-Saharan Africa and in Asia. It was very clear that the target of 80 per cent for the world as a whole could not be attained unless it was met in the most populous countries. China, where basic health care provision had long commanded a high political priority, had already shown that it could effect major improvements in coverage levels in a relatively short space of time[37]. The greatest challenge of all lay in India, where 20 per cent of the children in the world as yet untouched by immunization services were to be found.

Every year, 23 million newborns entered the world in India[38], compared, for example, with 1.5 million in Turkey. Some 40 per cent of Indian families lived at or below subsistence level, and a considerable proportion of their newborn children were beyond the reach of even rudimentary health attention. In many parts of this vast country, vaccination coverage levels were abysmal—where

they were accurately reported. The case-load of illness from the six immunizable diseases was calculated at 40 million annually with 1.5 million deaths in the absence of an immunization programme[39].

The Indian public health administration was a committed exponent of comprehensive PHC—in fact, India could well claim to have been a cradle of the comprehensive PHC philosophy. In the 1970s, the example of some pioneering Indian programmes had been taken up by international enthusiasts shaping the doctrine of 'Health by the People'[40]. Thus, during the stampede for national vaccination crusades in the mid-1980s, India's health decision makers were not willing takers. It took time for them to reach their own conclusions about the value of EPI as an invigorating force for PHC as a whole. India was typical of Asian—and most Latin American—countries in preferring, finally, to adopt a strategy of building up the capacity of the regular health service to carry out immunizations on a routine basis, and using campaigning tactics to 'top up'.

The accelerated nationwide programme began to take serious shape only in 1985, after Prime Minister Rajiv Gandhi committed India to UCI by 1990 as a 'living memorial' to his mother[41]. In 1987, this centrally directed push was enhanced when he appointed an 'immunization mission' as one of five National Technological Missions spearheading the assault on Indian poverty.

The first two years of India's accelerated Universal Immunization Programme (UIP) were a time of experimentation. Thirty districts were selected as pilots for a series of inputs—cold-chain equipment, needles and syringes, training, vehicles, vaccines. David Haxton, then Unicef's Regional Director in South Asia, based in Delhi, encouraged the Government to 'go universal' with EPI from this base. In 1985, plans were drawn up to cover the country's 452 districts in a phased manner by 1990[42]. Indigenous capacity to manufacture all vaccines except polio was enhanced, and trained managers were put in place to ensure coverage and accountability[43].The extra costs of the UIP over the period were estimated at $360 million, of which Unicef pledged to provide $126 million[44]; other donors—the Canadian International Development Agency (CIDA), the Swedish International Development Authority (SIDA) and USAID among them—joined in.

The strategy was to train existing health and family welfare workers to conduct the immunization sessions while building up the cold chain and the vaccine production and supply system. The early districts covered in 1985-86 showed such wide discrepancies in performance that some drastic rethinking had to be done. At this stage, with the full agreement of the Ministry of Health and WHO, Unicef decided to appoint a number of

public health doctors to its own staff and become much more closely involved operationally[45].

The critical innovation in the programme was the concept of the 'fixed day' strategy[46]. The outermost extremity of the primary health care system in India is the sub-centre or health post, manned by an female auxiliary health worker or ANM. These sub-centres—of which there are over 150,000 in the country—have a room or two, a cupboard with a few supplies, but no refrigeration unit. Each serves around 5,000 people—the village in which it is situated and some surrounding hamlets. To carry out the immunization programme, a cold box of vaccines had to be collected from the Primary Health Care Centre and used before their potency expired. This centre was typically around 20 kilometres from the health post[47].

The concept of the 'fixed day' meant that each ANM would collect her vaccines on a set day each month, and then follow a fixed routine for visiting local villages for their monthly immunization session. Whether it was the first Monday or the third Wednesday for a given location, it must always be the same day. This meant that village leaders always knew on which day to round up mothers and children. It also meant that everything—from posters to radio messages, from vaccine supplies to monthly records—could be routinized; once routinized, the monthly 'day' would actually happen. No longer would the health worker turn up in a village at will, and finding no mothers and children waiting to see her, go away again. Simple as it sounds, the 'fixed day' revolutionized the potential of health service implementation—not just for immunization, but for all preventive services.

The UIP not only galvanized India's army of family welfare workers—a group demoralized by their association with the hugely unpopular national drive for family planning. It also breathed new life into another social programme: the Integrated Child Development Services (ICDS) run by the Department of Women and Child Development, whose earliest operations had begun in 1975[48].

Although ICDS had been conceived as an integrated package of nutrition, health, immunization, and preschool education, in practice the health component had turned out the poor relation. The mainstay of the programme was the *anganwadi* worker, a local woman equipped with three months' training. At the *anganwadi*, she prepared a daily meal for the 20 or 30 toddlers in her charge, played games and sang songs with them. Health care and immunization were supposed to be provided by the ANM from the health post. In practice, the health workers rarely turned up. The 'integration' of services rarely happened on the ground.

Unlike some of India's other experiments with services based on village volunteers, ICDS had enjoyed great staying power. By the mid-1980s, it had expanded to 1,000 development blocks. Its performance might have been patchy, but it was a genuinely community-based programme reaching into very poor and backward areas. With the advent of UIP, its potential began to be better realized. The health worker in an ICDS 'block', planning her schedule of 'fixed immunization days', found a link-up with the *anganwadi* worker invaluable. No one else was as knowledgeable about which women in the village had recently delivered. No one else was as well equipped to prepare for the session and generally make the day's work run smoothly. As a result, immunization performance in ICDS areas was conspicuously higher than in others. And the new links between the health centres and *anganwadis* could be developed for the provision of other services: distribution of vitamin A tablets, promotion of ORS and antenatal care.

As the UIP proceeded, to 60 districts in 1987, and 90 more in 1988, constant adjustments were made to every aspect—from training modules, to surveying techniques, to communication strategies, to planning methodologies. Still, some states seemed quite unable to deliver. The worst was Bihar, notorious for its ability to absorb programmes and development finance in such a way that they left not a trace on its poverty-stricken inhabitants. In early 1989, Unicef—with full approval from the Ministry of Health and close cooperation from the state authorities—took an unprecedented step. It temporarily assigned members of the regular staff from its offices in Delhi and Patna to a special Bihar Immunization Task Force[49].

Each task force member was assigned three or four problem districts, which they toured with local officials in an effort to make the inert machinery of cold chain, vaccine and syringe splutter into life. The task force did not attempt to organize the immunization service themselves; rather, they identified the loose connections, the small but critical missing parts—a defunct refrigerator, a missing plug, a lame vehicle, absentee personnel, a non-existent schedule—and remedied them either on the spot or by immediate intercession with the authorities. More important than anything else was its role in triggering an attitudinal change towards UIP throughout the state apparatus.

The task force strategy was so successful in Bihar that, in 1990, Unicef repeated the approach in the four other major problem states: Uttar Pradesh, Rajasthan, Madya Pradesh and West Bengal. Altogether, 120 of Unicef's staff spent part of their time on special secondment to UIP task forces during the final months of 1990[50].

State by state, the 1990 push towards universal immunization was planned with the precision of a military operation. A massive communication campaign ran nationwide to create a sense of urgency among parents. The campaign tried to build parents' confidence in the health care infrastructure and its personnel. Some states, for example West Bengal, planned a series of special immunization sessions during the cool months of October, November and December. Areas that were very difficult to reach, or where health centres did not exist, were chosen for these 'mop-up' operations. The offices of the District Magistrate and Rural Development Departments lent staff and resources for the statewide effort. Private medical practitioners also became drawn in through the Indian Medical Association. In some cities, between 10 and 25 per cent of children vaccinated received their shots from private doctors[51]. In Calcutta, a special plan of action was developed by the Municipal Corporation, and thanks to teamwork and intensive publicity, coverage levels were raised within the space of months from below 20 per cent to 85 per cent[52].

At the end of 1990, India announced that immunization coverage of children under one year old had surpassed 80 per cent. This was an important achievement, not only for India, but also for the global immunization tally. Although many observers thought the figure inflated, no one could deny that for such a vast country with so many poor and illiterate people to have reached anywhere near the target was a major achievement.

Although there was inevitably some slippage in subsequent years, strenuous efforts were made throughout the country to continue to advance the immunization frontier. The 'fixed day' strategy stood India in good stead. Not only has expansion been possible as the network of health centres and posts spreads ever outward; so also has been consolidation. Other components—some directed at maternal health, others at child survival—have gradually been added: vitamin A supplements, iron folate against anaemia in pregnancy, control of acute respiratory infections (ARI), ORT for diarrhoeal treatment, and family planning. The service offered by the local health worker is becoming 'comprehensive' according to the original concept of primary health care, but is doing so incrementally.

India is huge and diverse and its tradition is one of lively debate in all areas of human affairs. The Indian public health care community is not immune to the differences of an ideological and practical nature that have coloured international PHC discussion; the course of UIP has been the subject of considerable debate within India. Not all observers believe that because the system is capable of delivering immunization, it is able to deliver the full range of maternal and child health (MCH) services effectively[53]. Immunization is an intervention of a particular kind, easier to deliver and monitor than most

others. And centrally initiated schemes—such as family planning—do not have a good reputation.

Even within the immunization programme there are important questions about sustainability and the scale of those who remain unreached. In 1991-92, national coverage levels were reported by Unicef to be 85 per cent for measles and close to 90 per cent or above for the other antigens[54]. But even very high national averages in a country such as India can disguise the fact that, in underserved areas, the absolute numbers of the unimmunized may run into the millions. And the figures themselves have been called into question. This problem has derived from the fact that targets have been used heavily for political purposes, and where targets are unrealistic, this can lead to the manipulation of data[55]. Indian systems of data collection are far from perfect, and statistics are open to constant dispute. A National Family Health Survey conducted in 1994 suggested that in some of the largest Indian states, only 50 per cent of children were immunized[56]. Undoubtedly, the UIP won great gains for the lives and health of Indian children and helped give the whole primary health care service system a boost. In such a country, final judgements about the scale and potential of this achievement are bound to remain open.

Many other Asian countries adopted immunization strategies similar to India's. In Bangladesh, Indonesia and the Philippines, EPI was used as the 'leading edge' of an improved MCH service, with social mobilization and media publicity used to accelerate coverage. In both China and Viet Nam, where primary health infrastructures were more developed, planning managed to become so 'micro' that defaulters for second or third DPT and polio shots were even tracked by name[57]. In Asia as a whole, the proportion of children who had received their third DPT immunization dosage rose from 44 per cent in 1985 to 83 per cent in 1990. This was as fair an indication as any that, one way or another, countries had managed to 'go the extra mile'. In this effort, not only Unicef's country offices but its supply operation in Copenhagen—UNIPAC—made a vital contribution.

The challenge of the 1990s would be not only to sustain the immunization advance, but to use it to promote both universal PHC and comprehensive PHC. Given the extraordinary ambition of the UCI drive, it was not overstating the case to suggest that a genuine 'child survival and development revolution', in Asia at least, had been set in progress.

The problems facing EPI in Africa were, by definition, of an order different from anywhere else in the world. Few sub-Saharan countries, and those mostly

very small and relatively better-off—Botswana, Gambia, Lesotho, Mauritius, Swaziland—had managed to set up and staff a service network that brought health care within close range of virtually everyone in the country. In a few others, such as Malawi and Tanzania, the PHC system was sufficiently developed to form the backbone of an expanded immunization programme, given political commitment, an injection of financial and managerial resources and a strong dose of social mobilization to build up popular demand. But in many settings, mobile teams were the only way to reach far-flung rural populations.

More problematic still was the fact that many countries had been disrupted by war and civil conflict. Roads were mined, infrastructures destroyed. Whatever unprepossessing buildings labelled 'health centre' once existed in the hinterlands beyond the main towns and cities of countries such as Angola, Chad, Ethiopia, Liberia and Mozambique, many now lay deserted or in ruins. In Africa as a whole, the 1980s had been a decade of economic set-back, falling export prices, debt and structural adjustment. In country after country, health care services—already skeletal in rural areas—had seen their budgets slashed. Health workers went unpaid, drugs became scarce for long periods, and the maintenance backlog of broken equipment and crippled vehicles steadily grew. In these circumstances, the difficulties facing the delivery of all child health and survival interventions, let alone 'universal' immunization (set at 75 per cent for Africa), were immense.

During the mid-1980s, Jim Grant's strategy of visiting Heads of State to solicit their endorsement for child survival had paid great dividends in Africa. The importance of family and kin is deeply embedded in all African cultures, and African leaders were quick to respond to the theme that Grant presented. The first African country to embark on a high-voltage immunization campaign was Burkina Faso in 1984: Operation Commando, launched by the President, succeeded in immunizing 1 million children within three weeks[58]. Shortly afterwards, African Ministers of Health declared 1986 'African Immunization Year'; and in 1987, the OAU summit in Addis Ababa declared that 1988 would be the 'Year for the Protection, Survival and Development of the African Child'. But political commitment to the cause, however essential as a precondition, could not of itself overcome the profound difficulties facing the average health care system.

In late 1987, Grant played an influential role in helping to launch a more practical African health initiative. Meeting under the auspices of WHO's Regional Committee for Africa, African Health Ministers discussed the crisis situation facing health care delivery in their countries and agreed upon a new approach towards the provision of 'universal' PHC. Called the 'Bamako Initia-

tive', after the capital of Mali where the meeting took place, this approach had many radical, not to say risky, characteristics as well as a heavy initial price tag. It was bound to cause a new round of controversy among public health practitioners, and it did.

The centrepiece of the Bamako Initiative was the removal of responsibility for running and managing primary health services from the centre to the periphery—onto the shoulders of the communities the services were meant to serve. Thus far, Bamako was consistent with the 'Health by the People' thinking, which had been around since Alma-Ata in 1978. But its corollary was new: not only should the community run the services, but it should bear most of the burden of financing them[59].

This suggestion provoked considerable dismay. It ran right against the standard orthodoxy governing attitudes towards health care provision that held that a basic service is the right of every citizen and should be met from the public purse. Of all people for whom this principle might be relaxed, surely the villagers of Africa—whose disposable cash income was among the very lowest in the world—were the least suitable. To this, Bamako enthusiasts replied that what was actually happening at present was that these villagers were obliged to spend their precious resources on drugs and treatments because they had no alternative. Studies showed that, even in the poorest countries, between 5 and 10 per cent of family income was regularly spent on fees for doctors, clinics, traditional healers, mission hospitals and pharmacists[60].

Where public systems were starved of funds, health centres had no drugs to give their patients. In town, if they could afford to, people took their prescriptions to a pharmacy. In rural areas, they were usually forced to resort to local markets, quacks and unscrupulous drug peddlers. Often the remedies and brightly coloured capsules they purchased were overpriced and of dubious quality, and the patient could rarely afford a full course of treatment. Pragmatism suggested that if the household funds currently being wasted on inappropriate and ineffective cures could be better applied, patients' prospects of recovery would dramatically improve. On top of this, the revenue raised could—theoretically—subsidize preventive care, such as immunization, and curative care for the truly indigent. What equity demanded, however, was that if people were expected to pay for services, the income generated should remain under their control and not be sucked up the line to be spent on large city hospitals to which the rural poor had no access.

The ingredient that made Bamako appear viable was the existing international programme for 'essential drugs' operated under the auspices of WHO and Unicef. The start-up for the new type of programme in a given setting

would involve external funding to pay for kits of generic drugs. These would be purchased and packaged internationally to reduce costs to a minimum. Many countries in Africa—Kenya, Mozambique, Tanzania, Ethiopia—were already taking advantage of this international effort to avoid dependency on expensive pharmaceutical branded products. Tanzania, for example, was receiving funding from the Danish International Development Agency (DANIDA) to pay for the regular distribution of sealed, pre-packaged kits purchased from Unicef containing items such as aspirin, anti-malarials, ORS sachets and broad-spectrum antibiotics[61]. The costs of these drugs came to less than $0.45 a head per year, and Tanzania was able to reduce its annual drug bill by half.

Bamako envisaged that similar kits could be supplied to rural health centres, for use by community health workers operating under the supervision of local health committees. More sophisticated packages of drugs and medicaments would be supplied to the next stratum of the health service—the district centre. Their sale would not only cover the cost of their replenishment, but also remunerate local health workers and pharmacists and meet other operational costs. Some experimental schemes in parts of West Africa were already being run along these lines. They had shown that it was possible to provide a service in which people had confidence, and which they were therefore prepared both to use and to pay for. One such scheme was the Pahou PHC project in Benin, which had been pioneering community part-financing of health since 1983. Within a few years, it had led to the creation of projects in many parts of Benin with locally managed pricing systems for drugs and user fees[62]. Another scheme in the Equateur province of Zaire was already covering 80 per cent of recurrent expenditures. Bamako banked on examples such as these, believing that decentralized, community-managed health care programmes could in time become mostly self-financing.

The Bamako Initiative got off to a much slower start than Jim Grant had hoped. To some extent, this was because insufficient time was allowed for it to be properly discussed and internalized within both WHO and Unicef. In 1988, the Unicef Executive Board proved very reluctant to agree to the setting up of a large global fund to finance Bamako Initiative projects, although both the Board and the World Health Assembly did endorse the Initiative and commit some funds. The brake that this necessarily exerted was a blessing in disguise, for it allowed time for both organizations to prepare the ground more thoroughly.

During 1988-90, Unicef's newly established Bamako Initiative Management Unit embarked on a careful process of building up experience and knowledge so as to ensure that this effort to revitalize Africa's PHC infrastruc-

ture would bear its promised fruit. A few countries were quick to adopt the principles of Bamako, with variations, and from these experiments much could be learned. A country to borrow from the experience in Benin and elsewhere and institute Bamako-style reforms was Guinea on the West African coast[63].

In 1986, an evaluation of the country's programmes for primary health care and immunization of children had revealed that the country's outlying health centres and clinics were extremely weak and understaffed, and that the immunization coverage rate was below 5 per cent. There were no vehicles, no petrol, no refrigeration units and no vaccines, and the health staff were demoralized and unpaid. A plan was drawn up to reactivate the entire system. The four areas needing immediate attention were transport and the distribution of drugs and medical supplies; training and counselling; follow-up and evaluation; and community participation and education. After an infusion of external funds, the hope was that the infrastructure would become self-sustaining as local communities took over much of the management and financing.

The architects of Bamako had taken as their starting-point the simple truth that no medical service, be it provided by a white-coated specialist in a fancy consulting room or a traditional herbalist behind a market stall, has any appeal to its potential customers unless it provides pills and potions, cures and remedies. This realization lay behind the emphasis on 'essential drugs'. In the event, reliable and affordable drugs proved to be very important in drawing people back to the health centres; but as important was the quality of the care and personal attention they received.

For this reason, the Guinean Ministry of Health, with Unicef's assistance, conducted a series of workshops to retrain their staff. Not only were they instructed in the management of new responsibilities, but they were encouraged to be much more responsive to their patients. Under the new system of community management, they would meet regularly with the local village health committee. Their joint decisions would cover matters such as planning the schedule for visits to outlying villages, when to hold immunization days and what prices to charge for drugs and treatments. No longer would isolated health workers, buried in the countryside, confront problems such as equipment failure or maternal indifference with helpless inertia. They could bring their problems to the management committee, and together they would solve them.

Guinea started to implement Bamako in one third of its 300 health centres in 1988. The monitoring of the first 30-odd centres in mid-1989 showed a strong increase in people's utilization of both curative and MCH services. The average drug cost was $0.50 per treatment, with an average charge to the

patient of $0.80. The proportion of local operating and drug costs recovered was 90 per cent on average[64]. By 1991, expansion had brought the number of centres under the Initiative to 192 covering a nominal 4 million people, although an independent evaluation suggested that only around one half of these were effectively reached as yet[65].

By 1990, four countries had made considerable progress in implementing Bamako Initiative programmes: Benin, Guinea, Nigeria and Sierra Leone. Their success helped to overcome some of the resistance to Bamako ideas that still lingered in certain quarters, and 24 other African countries began to develop similar programmes of health care reform. Throughout the continent, in response to economic crisis and the vicissitudes of structural adjustment, more and more countries were introducing user fees for health care. Where this was done without adequate planning and public education—as in Ghana and Swaziland—there had been a drop-off in the number of patients coming to government health centres to seek treatment[66]. The whole question of user charges was therefore still highly contentious.

However, where the quality of services had been improved along Bamako lines before the charges had been introduced, there had been no reduction in service usage. In Benin, on the contrary, patient visits to health centres had doubled in the year following the introduction of charges, and had increased by a further 25 per cent in the following year. Not only had more patients come for curative treatments, but there had also been more demand for antenatal services and other preventive services, and in many Bamako areas immunization coverage was as high as 70 and even 80 per cent for some antigens[67].

The adequacy of community financing for the long-term sustainability of Bamako-style services was still an open question. Although some preliminary results were encouraging and positive experiences of community health care management were accumulating, it was still difficult to say whether the central hypotheses of the Initiative—that health services would be better and cheaper if they were run and paid for by the community—were valid. In 1990, the Unicef Executive Board—whose members included several Bamako sceptics—agreed that an independent, external evaluation of the Initiative should be carried out. This evaluation was conducted by the London School of Tropical Hygiene and Medicine and paid for by the Overseas Development Administration of the United Kingdom (ODA), DANIDA, the Norwegian Agency for International Development (NORAID) and SIDA; its report, including case studies of five countries (Burundi, Guinea, Kenya, Nigeria and Uganda), was submitted to the 1992 session of the Executive Board[68]. By this stage, certain countries outside Africa—such as Honduras, Nepal, Peru and Viet Nam—had

also started to utilize Bamako ingredients to revitalize or expand their health care systems.

The Bamako evaluation report was hesitantly positive. 'The overall conclusion is that much looks promising', it stated; but the wide range of forms the Initiative had taken in very different contexts made it impossible to generalize about overall success or failure, especially after such a short period. The implication was not that a perfect formula had been found for health care design in rural Africa, but that with careful adaptation to the local setting, the Bamako principles offered signposts to a new sense of health care direction. Although many critical issues were still in the exploratory and research phase, the general thrust was forward.

One positive development was that a 1992 World Bank report entitled *Better Health for Africa* seemed set to pave the way for a new alliance between the Bank, bilateral and multilateral agencies and NGOs to invest in Africa's health care systems; and that the Bamako experience would be used to help shape this new initiative to revitalize health care on the continent[69]. By this stage, over 20 million people in 26 African countries had theoretical access to more affordable health care because of Bamako-influenced restructuring. On the negative side, some African countries were becoming weighed down with a new health care disaster: AIDS. Only time would tell how far across the great landscapes of Africa the much-needed campaign for health care reform would travel.

When 1990, the year of UCI, was over, the moment had come to calculate what the 'biggest mobilization in peacetime history' had achieved for children.

At the beginning of the decade, around 5 million young child deaths were being caused annually by vaccine-preventable disease, and half a million children were being crippled by polio. The drive for 80 per cent vaccination coverage had approximately halved this toll[70]. Major efforts were still needed to pursue the goal of 80 per cent coverage not as an average but everywhere, as well as to eradicate polio and improve coverage for measles, still responsible for 1.5 million deaths a year. Nonetheless, immunization had been *the* public health success story of the decade. And the mobilization of national leaders around the campaign paved the way for their willingness to support the idea of a World Summit for Children and to agree to a much broader range of health, welfare and education goals.

However splendid the achievement, there was no room for complacency. Not only between regions but within regions, and even within countries, there

were very wide coverage discrepancies—as, for example, in India. There had always been some risk attached to a drive that declared its aim as 'universal' childhood immunization: not only was the 80 per cent target far from universal, but the sense of accomplishment—should it be reached—might easily be followed by a relaxation of effort. Immunization had absorbed large quantities of national and international resources for health care; other demands were equally pressing; yet the job was far from done. The snare of unsustainability lay in wait, as did the prognostications of those who had never believed that anything resembling a vertical campaign could pave the way for effective delivery of integrated PHC.

Against its detractors, UCI 1990 had proved very resilient. This global disease campaign had turned out quite differently from any of its predecessors. The onslaught against the six 'killer diseases' added up to much more than immunization per se. Success or failure could not be judged on the narrow basis of how many antigens had been injected into how many tiny bodies. In trying to reach 80 per cent of all infants, health workers all over the world in their many different settings—on mountainsides, in jungles, on dusty plains, in urban slums—had begun to think of the population they served not as patients who walked through their clinic doors and whose appearance they should passively await. They had begun to think of their charges as the entire population of women and children in a given area. The concepts of enumeration and accountability, of reaching out to the unreached, of working in a complex and interdependent system to achieve a common end—all of these had begun to take root as a consequence of the immunization effort. In many places, a genuine transformation of the primary health care services from the perspective of both caregivers and care-receivers had begun.

Every district and subdistrict where immunization programmes had been mounted had experienced a strengthening of their health logistics system, which could now be used to add on other interventions. Similarly, almost every small health post and sub-centre now had an information collection and reporting system, which they could use to monitor and manage other types of maternal and child health care. For the first time, thousands of community health care workers in country after country existed who had a clear idea of exactly what they were trying to achieve and how to go about it. UCI 1990 had had so many multiplier and ripple effects in strengthening the primary health care delivery system in a large number of countries that most of the critics of a supposedly 'vertical' programme found themselves—at least temporarily—silenced.

In the post-UCI 1990s, Unicef's health brief for children broadened to give equal focus to other elements of the primary health care package. For a time, the immunization imperative had somewhat eclipsed organizational attention to even the other elements of GOBI, let alone to other important causes of child death, sickness and disability. In 1991, Unicef co-sponsored with WHO and UNDP the first International Consultation on the Control of Acute Respiratory Infections, the most acute of which—pneumonia—was regarded as responsible for 4 million child deaths a year[71]. Many countries began to introduce or upgrade acute respiratory infections (ARI) control programmes during the early 1990s, in some cases integrating the training of local health care workers and supply of antibiotics with Bamako Initiative or essential drugs programmes[72].

'Safe motherhood' also began to receive more Unicef attention: antenatal care to detect at-risk pregnancies began to be emphasized in 'EPI plus' PHC. Specific reductions in both ARI and maternal mortality were targeted by World Summit for Children goals. From the late 1980s onward, Unicef also began to be concerned with the impact of AIDS on children, less in the context of paediatric and medical care than in the social and economic context of orphanhood and parental destitution[73]. In the 1990s, the spectrum of Unicef health-related concerns broadened further to include more emphasis on the promotion of healthy adolescence and womanhood, especially in relation to sexual and reproductive health[74] (see also Chapter 7).

But immunization could by no means be abandoned. Besides the moral obligation of Unicef to stick with what it had begun, the Summit had set a goal of 90 per cent global immunization coverage by the year 2000, with measles and polio specifically targeted. One step already under way was the Children's Vaccine Initiative. Announced a few months before the Summit, this Initiative was backed by Unicef, the Rockefeller Foundation, UNDP, the World Bank and WHO, and involved governments, NGOs, industry and research groups. It was intended to apply modern science to the development of new vaccines—cheaper vaccines, simpler-to-administer vaccines, non-perishable vaccines. During its first two years, the Initiative examined such issues as vaccine quality control in countries that had just developed local production and explored the prospects for vaccines that would combine extra antigens with DPT, and ones that could deliver several doses in one shot by slow release[75].

The more important question as far as Unicef's country programmes were concerned was that of sustainability. Many of the 'extra mile' activities of 1990 had depended on conspicuously non-sustainable strategies: high levels of external funding, Unicef's temporary diversion of its own staff to problem loca-

tions, even short-term pay incentives for health workers and communities[76]. For many Unicef country representatives and health programme officers, there was much holding of breath over the next two or three years to see what would happen to immunization tallies now that the big thrust was over. In 1994, Unicef commissioned a group of independent experts to conduct a major inquiry into how immunization had fared post-1990: was coverage advancing or was it retreating?

There was no doubt that in Africa as a whole, and in countries with weak health networks or where there had been war or major economic problems, coverage had dropped[77]. This was particularly marked in West Africa. However, in the large majority of countries—70 per cent—coverage had been maintained[78]. Although only a few countries that had achieved UCI in 1990 had made further advances by 1993, 38 per cent of those that had not achieved it had done so. These results were reassuring; however, they did not indicate that the year 2000 target of 90 per cent would be easy to reach. There was no recipe for 'sustainability'; much depended on circumstances that varied widely from setting to setting, delivery system to delivery system, and many other factors. The evaluation brought out the wide fluctuations between countries and implied that meeting a global target was ultimately less important than making solid, sustainable and measurable gains against realistic targets set at the country level.

In one sense the report brought the immunization story full circle. It backed the view that the disease campaign—the old 'vertical' approach—was not the way forward. 'Over the long run, sustainability of immunization services and the expansion of primary care [will] best occur in the setting of fixed health centres with outreach activities.'[79] This conclusion underlined the built-in ambiguity of the 1980s immunization achievement. Almost all members of the professional public health community distrusted vertical approaches and disliked the military language of disease control 'attack'—just as they had before GOBI was ever invented. Yet the process that had brought a health care intervention within the reach of virtually every child on earth for the first time in history would never have occurred without the disease warrior éclat with which Jim Grant conjured worldwide political support for the UCI 1990 campaign. The tension between campaigners and consolidators will never finally depart the primary health care arena. Meanwhile, the quest for the spread and sustainability of basic health services for all women and children goes on.