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UNIVERSAL CHILD IMMUNIZATION 1990: AN ANALYSIS OF REGIONAL AND COUNTRY-LEVEL EXPERIENCES

Addendum

SUMMARY

The present addendum to the progress report on universal child immunization could not be finalized until the results of 1990 performance were received from nearly all developing countries. It reviews overall achievements and performance by region and country at the end of 1990 and provides an analysis of experience at regional and country levels.

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I. COVERAGE ACHIEVEMENTS

1. As discussed in detail in the progress report on universal child immunization (UCI), immunization coverage in developing countries increased nearly fourfold from a base of 20 per cent in 1981 to reach the 1990 goal of 80 per cent coverage. As illustrated in figure 1 below, at the end of 1990, coverage with anti-tuberculosis vaccine (BCG) had reached 89 per cent, and coverage with three doses each of poliomyelitis and combined diphtheria/pertussis/tetanus vaccine (DPT3) had reached 83 and 81 per cent, respectively. Measles coverage was at 78 per cent, which is slightly lower, in part because reporting is restricted to vaccinations administered to infants between the ages of 9 to 12 months. Surveys have shown higher coverage in many children aged up to 18 months. The global coverage data are given in table 1 and coverage by region in tables 3 to 8, all of which are presented at the end of the present addendum. (All data contained in the present document were received as of March 1991.)

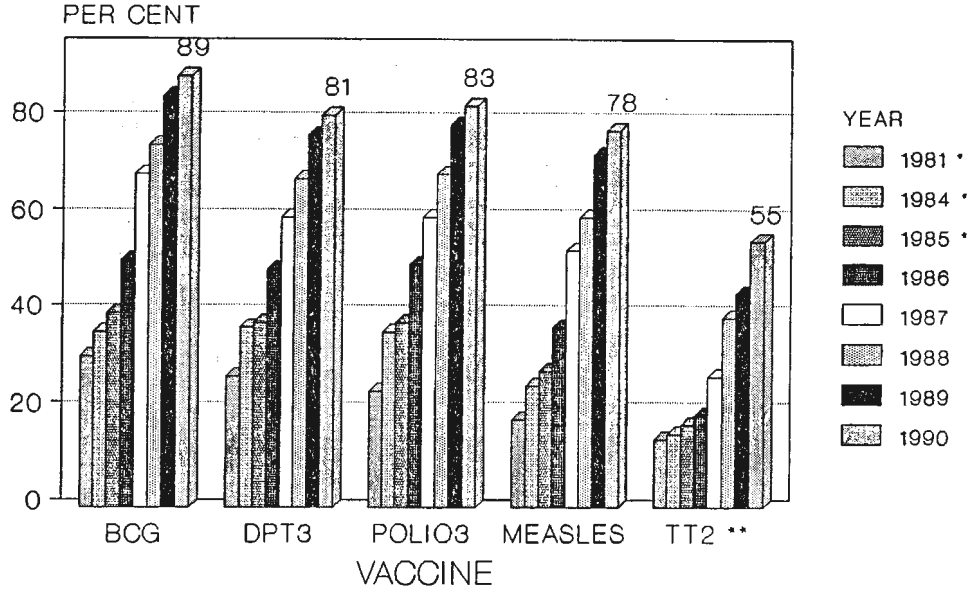
2. Coverage with two doses of tetanus toxoid (TT2) for pregnant women climbed to 55 per cent, but will require special attention in the next several years. Tetanus toxoid coverage was not included in the UCI 1990 targets, although many countries gave increased attention to this element of the programme during the latter half of the 1980s.

3. The number of developing countries that achieved their UCI targets also increased each year. In 1986, only 16 countries reached coverage at their UCI 1990 target levels; this increased to 34 in 1988 and to 43 in 1989. A total of 64 countries reached their UCI targets by the end of 1990 and an additional 16 achieved it for all antigens except measles. Those countries account for approximately two thirds of infants in developing countries.

4. Between 1987 and 1990, nearly all countries made considerable improvements in reaching children with immunizations. The proportion of developing countries with 80 per cent or greater coverage for DPT3 more than doubled, increasing from 26 to 57 per cent. In 1990, nearly 70 per cent of countries reached coverage levels of 70 per cent or more. Very few countries that had been at low to moderate levels remained so during this period. At the same time, the proportion of countries with less than 50 per cent coverage decreased by nearly one half to 16 per cent of the total of developing countries. Most of those countries suffer from political instability or lack the physical infrastructure either to administer vaccines or to mobilize society to want such services.

Figure 1

INCREASE IN IMMUNIZATION COVERAGE
OF CHILDREN UNDER ONE YEAR OLD
IN DEVELOPING COUNTRIES



* Excludes China.
** For pregnant women.

II. PROGRESS BY REGION

A. Asia

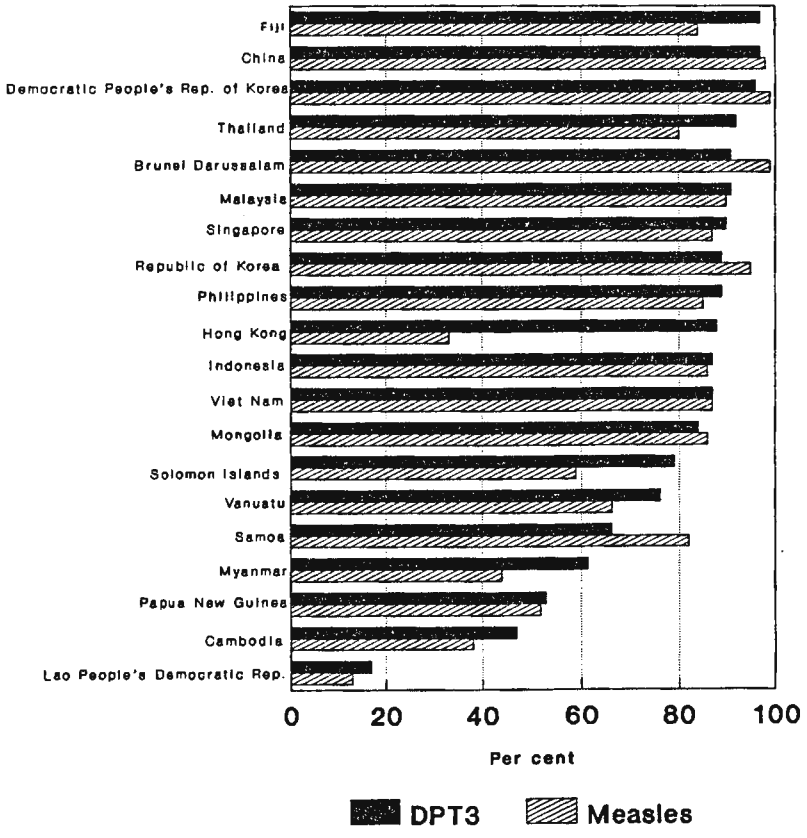
5. The goal of 80 per cent for each antigen was exceeded for the region as a whole, although 10 countries did not achieve this level. In 1990, the weighted average for all Asian countries was 94 per cent for BCG, 89 per cent for DPT3, 90 per cent for three doses of poliomyelitis vaccine and 86 per cent for measles. This was a dramatic increase over the 44 per cent for DPT3 and measles recorded in 1985.

East Asia and the Pacific

6. East Asia and the Pacific leads all other regions in coverage, with rates of greater than 90 per cent for all of the vaccines administered to children. This reflects a programme that is reaching 33 million of 36 million infants five times during their first year of life. Figure 2 below shows the coverage for DPT3 and measles for each of the countries, ranked by DPT3.

Figure 2

IMMUNIZATION COVERAGE OF CHILDREN
UNDER ONE YEAR OLD IN THE
EAST ASIA AND PACIFIC REGION, 1990



Source: WHO/UNICEF.

7. China has led both the region and the developing world since 1985, when its Government set the target of 85 per cent nationally by 1988 and 85 per cent in every rural county and city district by 1990. Coverage surveys in March 1991 showed a remarkable achievement of 95 per cent nationally for all antigens. All provinces had reached the 85 per cent goal. Preliminary data show that by the end of 1990, at least 90 per cent of counties had met the 1990 goal.

8. Several factors have contributed to this success: (a) child immunization has been a political priority at every level of Government; (b) the primary health care (PHC) infrastructure, based on the village doctor, provides access to 90 per cent of the population; (c) the programme has been well managed at national, provincial and county levels as a vertical effort to distribute vaccines efficiently and to maintain the cold chain; (d) all children are enumerated and tracked at village and township levels to ensure completion of the schedule; (e) programme management has been delegated largely in a highly decentralized manner, with accountability at all levels; and (f) all levels share in financing the programme. A unique funding scheme, in which the family pays for immunizations in return for a "guarantee" that the disease will not be contracted, has been established at village and country levels. If a disease is contracted, an indemnity is paid to the family jointly by both the village doctor and county.

9. Thailand reached the 1990 goal for all antigens. Immunization was delivered as an element of a more comprehensive PHC programme, and high performance levels are likely to be easily sustained through this routine system. Timely immunization for measles was a major challenge that was overcome during 1990 through special activities and a strong focus on measles immunization.

10. The Philippines reached greater than 80 per cent coverage for all antigens in 1989 and maintained this level in 1990. The programme has expanded to provide universal access as a fully integrated element of a national PHC programme without using a campaign approach. National success was assured through special efforts in lower performing provinces and urban areas.

11. Indonesia declared its achievement of the 80 per cent target in November 1990. The achievement of this goal nationally is the result of many factors. The infrastructure and capacity to deliver immunization at the village level was carefully developed during the 1980s with support from the United States Agency for International Development (USAID), WHO and UNICEF. In 1985, the national nutrition and family planning weighing posts were integrated with the EPI programme to form an integrated service point (posyandu) at the village or sub-village level. The Government gave high priority to expanding this network to all villages in the country and concurrently established near universal access to monthly or bimonthly immunization services. President Suharto has given personal support to the programme and extensive social mobilization has been achieved at all levels.

12. Viet Nam has made excellent progress during the past three years and exceeded the 80 per cent target in 1990. A special ceremony was held to celebrate this achievement on the one hundredth birthday of the late President Ho Chi Minh. Political will has been high, resulting in a high priority for immunization at all levels, although government health infrastructures have not been developed uniformly throughout the country. Remote and mountainous areas still require a campaign approach in order to reach high levels of performance. Drop-out rates have been significantly reduced through the successful enumeration of children at the community level.

13. The Pacific Islands countries had a mixed record achievement, with high performance by Fiji and Samoa and lower coverage in the Solomon Islands and Vanuatu.

14. Myanmar reached very high coverage in townships under government control, but did not reach the UCI target nationally. Most of the increase was realized during 1989 and 1990. Cambodia, the Lao People's Democratic Republic and Papua New Guinea did not reach the UCI target in 1990. However, they have substantial immunization programmes in place and continue to increase access and improve their performance. These countries will need continued priority support during the next several years.

South Asia

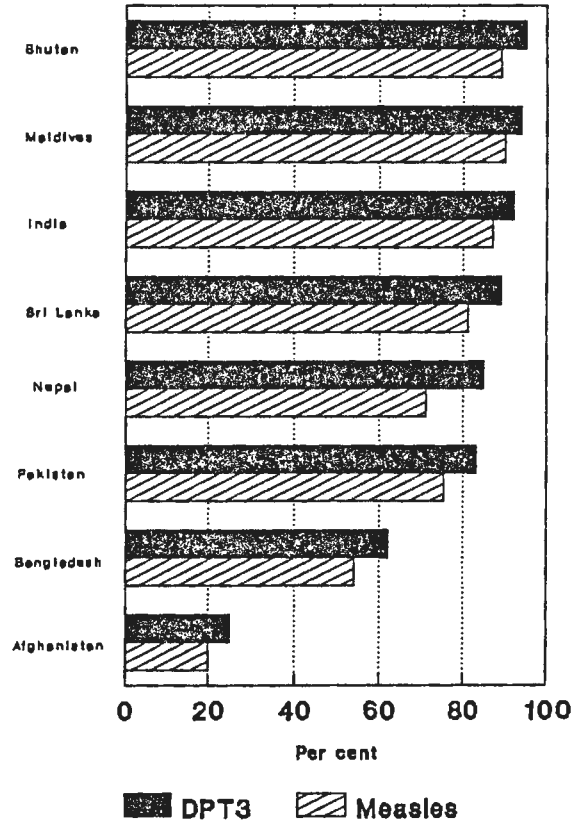
15. The South Asia region, with a dramatic increase in coverage in both 1989 and 1990, reached the target with all antigens. Tetanus toxoid coverage of pregnant women climbed to 67 per cent, the highest of all regions, reflecting the acceptance of immunization by pregnant women. Figure 3 below shows the 1990 coverage by country for DPT3 and measles, ranked according to DPT3.

16. India has made tremendous progress towards UCI since establishing the programme in 1978. The major acceleration of immunization coverage in India occurred as the Universal Immunization Programme was expanded from 31 districts in 1985 to all 448 districts in 1989. Following a series of "mop-up" rounds in rural areas and national immunization days in urban areas during the last half of 1990, coverage was increased substantially. The 1990 national coverage of children under one year old was 97 per cent for BCG, 92 and 93 per cent for DPT3 and three doses of poliomyelitis vaccine, respectively. Measles, which was introduced into the programme in 1986, reached 87 per cent. Tetanus toxoid coverage for pregnant women was 69 per cent.

17. Political commitment to the immunization programme in India has been high. In 1985, the Universal Immunization Programme was launched with the goal of UCI 1990 as a "living memorial" to the late Prime Minister, Mrs. Indira Gandhi. In 1987, a special technology mission was created to monitor progress and to support the indigenization of vaccine and cold-chain production. Significant resources were allocated by the central Government and extensive donor support was received. Other factors that contributed to the success of the programme were: (a) extensive micro-planning at district

Figure 3

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE SOUTH ASIA REGION, 1990



Source: WHO/UNICEF.

and state levels to assure equitable support in terms of facilities, equipment and staffing; and (b) multisectoral support, including from Rotarians, medical associations, medical colleges and other groups, especially in urban areas. Integrated child development centres (anganwadi) were also utilized extensively as immunization points.

18. The Maldives and Sri Lanka reached the 80 per cent level in 1989 and 1988 respectively, and have maintained that level through 1990. In Sri Lanka, the programme is based on a strong routine system of PHC, while in the Maldives it is based on outreach by boat.

19. Despite a difficult terrain and scattered population, Nepal has made a remarkable achievement. Access to immunization has become nearly universal, resulting in coverage with BCG, DPT3 and three doses of oral polio vaccine (OPV3) exceeding the 80 per cent target. The major challenge is to reduce drop-out rates and to ensure that the system can deliver the full series of immunizations to children before their first birthday.

20. Pakistan was an early leader in the UCI drive. In 1985, coverage doubled and further increased in 1987 and 1988, although great disparities continued to exist among the provinces. The main constraints have been high drop-out rates and the inability to immunize against measles by a child's first birthday. A major mobilization campaign during 1990 resulted in significant improvements in Baluchistan, North-west Frontier Province, Sind and the Punjab. The 80 per cent national goal was exceeded for all antigens except measles, which reached 75 per cent.

21. Bangladesh has made phenomenal progress since 1985, when coverage was less than 10 per cent. UCI was adopted as a high priority by the Government and strongly supported by the donor community. The EPI infrastructure was expanded from 8 upazilas (subdistricts) in 1986 to all 460 by the end of 1989. Extensive social mobilization was the focus of last year's activities, which emphasized reducing drop-out rates and completing the full series before the first birthday. Many non-governmental organizations (NGOs), in addition to the family planning network, have provided extensive support. Coverage at the end of 1990 was greater than 60 per cent for BCG, DPT3 and OPV3, with measles at 54 per cent.

22. In Afghanistan, performance improved in areas under government control, although national coverage remains low. Refugees are being served in both the Islamic Republic of Iran and Pakistan.

B. Middle East and North Africa

23. The Middle East and North Africa region nearly reached the 80 per cent UCI goal by the end of 1990. The regional average was 93 per cent for BCG, 85 per cent for DPT3 and the third dose of poliomyelitis vaccine and 78 per cent for measles. Eleven countries achieved greater than 80 per cent coverage for all antigens and an additional eight countries for all except

measles. Figure 4 below gives the country-by-country ranking for DPT and measles coverage for the region.

24. The Syrian Arab Republic followed the example of Turkey by launching an intensive three-round national campaign in 1986. Cold-chain, sterilization and injection equipment were provided to all health units and all health workers were trained. The campaign was characterized, as in Turkey, by full social mobilization of teachers, religious leaders and government officials at all levels together with heavy media coverage. Follow-up campaigns were required during the next three years to achieve coverage over the 80 per cent mark, which was maintained at high levels in both 1988 and 1989. A survey in 1990 showed coverage for all antigens at greater than 90 per cent.

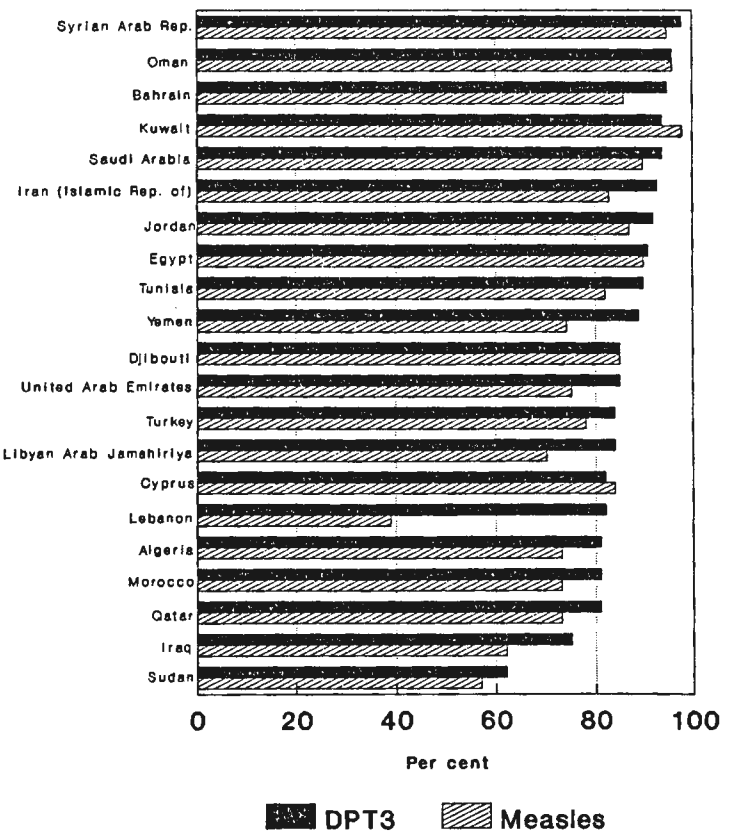
25. Jordan, with a well-managed programme, passed the 80 per cent level in 1986 and was followed by both Oman and Saudi Arabia in 1987. The strategy in Saudi Arabia was to require full immunization before the issuance of a birth certificate, a highly valued document in that country. Oman rapidly improved coverage through an intensive media campaign, together with a thorough and effective information system that tracked performance and defaulters.

26. Egypt also utilized the opportunity for high-level political commitment to rejuvenate its immunization programme. Following a programme review in 1984 which showed that about 30 per cent of children were immunized, a plan was developed during 1985 to invest in a new cold chain and to fully equip and train the staff of 3,600 immunization centres, with a goal of reaching UCI by 23 July 1987, the thirty-fifth anniversary of the Egyptian Revolution. The Egyptian campaign strategy included special campaign days, as well as a managed media strategy called "pulsing", or broadcasting specific messages at intermittent intervals throughout the year. Single antigen campaigns were implemented for measles, poliomyelitis and tetanus toxoid. The political commitment included letters from the President to provincial governors. The religious sector, including the prestigious Al Azar University, was completely involved during the entire campaign period. In 1987, progress was assessed through surveys at the provincial level, which pointed out the lower performing areas. During the period 1988-1990, special support was given to those provinces and coverage was maintained at or near the 80 per cent level without special campaigns. Media support has continued in a very effective manner, with refined messages designed to tackle special problem areas. This consistent effort has resulted in greater than 90 per cent coverage for all antigens given to infants.

27. Tunisia reached greater than 80 per cent coverage in 1988 through a national campaign, complete with very elegant and well-researched media materials. The routine system has been successful in maintaining this success with continued media support.

Figure 4

IMMUNIZATION COVERAGE OF CHILDREN
UNDER ONE YEAR OLD IN THE
MIDDLE EAST AND NORTH AFRICA REGION,1990



Source: WHO/UNICEF.

28. The Islamic Republic of Iran has given a high priority to protecting Iranian children against the EPI diseases and has reached UCI through a combination of successful promotional campaigns, although the extensive PHC system has shown an excellent capacity to deliver immunizations as a part of a more comprehensive package of services. The country produces much of its own vaccines.

29. Turkey has continued to strengthen the routine delivery system, although it required a series of special campaigns to raise coverage to the 80 per cent level. Reaching children with measles vaccine before their first birthday has been a problem, especially during the winter months.

30. The Republic of Yemen 1/ made excellent progress during 1989 and 1990 after spending several years building up its infrastructures. A special campaign, implemented in 1990, raised coverage to the target level.

31. Algeria, Morocco and Tunisia have collaborated to improve immunization coverage through "Magreb Immunization Days". Morocco conducted a large national campaign in 1988, followed by another in 1989. Algeria implemented a measles campaign in 1985 and later relied upon intensifying promotion and focusing support to lower performing areas of the country. The health management information system is well developed and allows for the follow-up of defaulters.

32. Lebanon deserves a special note of praise. Despite the near chaos caused by the civil war, special days have been agreed to by all parties to stop hostilities and focus on immunizing children. A survey in early 1991 showed that at least 80 per cent of Lebanese children had received DPT and three doses of poliomyelitis vaccine, and one third had received measles injections during 1990. The capacity to maintain this level of performance has been due to the extensive network of NGOs that cooperate closely with UNICEF and the Ministry of Health.

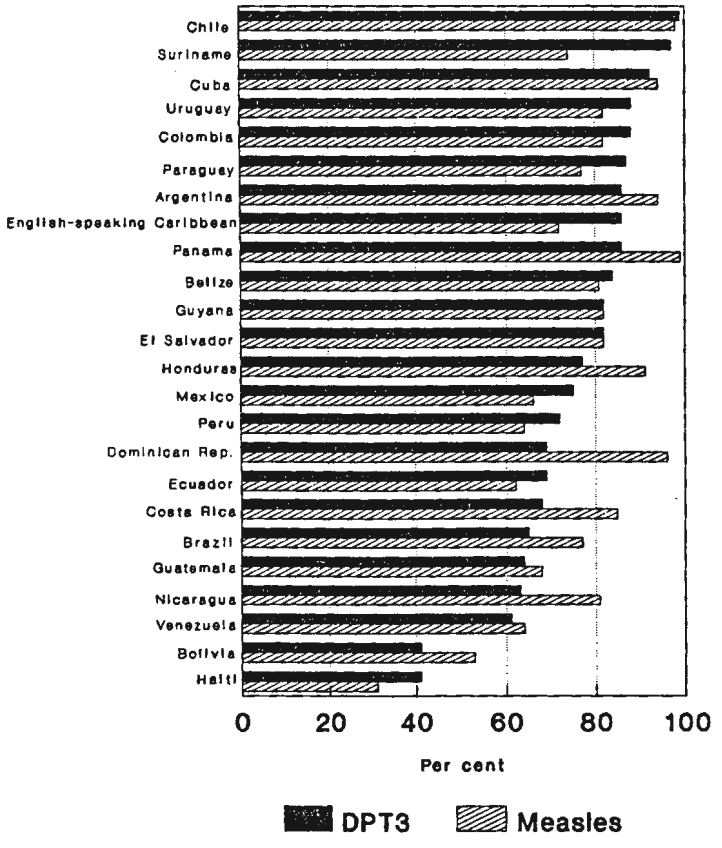
33. The Sudan has also made phenomenal progress in its programme despite civil war, a limited infrastructure and difficult terrain. The programme has relied heavily on mobile teams to augment the fixed health facilities that made it one of the most expensive programmes in the world. In the northern areas under government control, coverage reached the 80 per cent level for BCG, DPT3 and three doses of poliomyelitis vaccine, with measles at 71 per cent.

34. Bahrain and Djibouti, which reached the UCI target in 1988, have maintained this high level of coverage through 1990.

35. Iraq began an intensive effort to reach UCI in 1986, with a series of campaigns supported by the National Women's Organization, religious leaders and other parts of society. Despite war and other problems, high coverage levels were reported in 1988 and 1989. A survey conducted in July 1990 showed coverage levels to be approximately 75 per cent for DPT and poliomyelitis and 62 per cent for measles.

Figure 5

IMMUNIZATION COVERAGE OF CHILDREN
UNDER ONE YEAR OLD IN THE
AMERICAS AND THE CARIBBEAN REGION, 1990



Source: WHO/UNICEF.

C. Americas and the Caribbean

36. Colombia, the pioneer in social mobilization and involving non-health workers in the immunization drive, has continued to rely on national immunization days to improve coverage. Decentralization, good reporting systems and special attention to low performing municipalities have also been responsible for achieving high coverage levels. Colombia organized a remarkable communication campaign in 1990 that focused on making the alcaldes (mayors) of each village and city personally responsible for getting the health system to vaccinate all the children in their communities. This resulted in raising coverage to above 80 per cent for all antigens.

37. Until 1990, Brazil was striving to eliminate the transmission of the wild poliomyelitis virus through poliomyelitis-specific national immunization days and relied on routine immunization activities to reach the 80 per cent coverage target. During 1990, multi-antigen campaigns were introduced and a series of state-level campaigns were implemented to try to bring coverage of all antigens to the level for poliomyelitis. UNICEF provided support both nationally and more intensively to the states in the north-east. Despite the excellent work during 1990, the goal of 80 per cent was not reached.

38. Mexico experienced great difficulty in reaching either the 1990 coverage target or the eradication of poliomyelitis. In 1990, special campaigns were implemented in lower performing areas in an attempt to reach the goal, but DPT3 and measles coverage remain at 75 and 66 per cent, respectively. Six cases of poliomyelitis were confirmed in 1990.

39. The southern cone countries - Argentina, Chile, Paraguay and Uruguay - had good infrastructures and have required minimum UNICEF support, which was mainly directed to strengthening the capacity of selected lower performing areas. All are above the 80 per cent level except for Paraguay, where measles coverage is 77 per cent.

40. The Andean countries have made steady progress towards the UCI goal but, with the exception of Colombia, none have reached their 1990 goal. Ecuador and Venezuala have been unable to move above 70 per cent for DPT3 and measles, although their health infrastructures are well developed. Bolivia, with a much weaker infrastructure, has utilized NGOs and other channels to augment the government health service and has considerably improved coverage, reaching nearly half the children under one year of age during 1990. Peru has suffered from political disturbances and, in spite of extensive mobilization during 1990, was only able to raise DPT3 coverage to 72 per cent.

41. In Central America, Belize and El Salvador reached their UCI targets. Costa Rica and Nicaragua were unable to achieve higher levels of DPT3 coverage.

42. The 14 countries of the English-speaking Caribbean have all reached the 80 per cent target, except Dominica, Grenada, Jamaica and Trinidad and Tobago. They have set a new joint goal of eliminating measles in the islands by 1995.

43. The Dominican Republic, Guyana and Suriname have made considerable progress towards UCI and nearly reached the 80 per cent level for all antigens during 1990. Haiti will require continued support, however, because of a weaker infrastructure and political turbulence.

D. Sub-Saharan Africa

44. Excellent progress has been made during the past five years in sub-Saharan Africa, despite a low level of infrastructure and extremely difficult economic and social constraints. In 1986, coverage for measles in the region was 37 per cent; the 1990 level was 52 per cent.

Eastern and Southern Africa

45. By the end of 1990, the weighted regional average for DPT3 and three doses of poliomyelitis vaccine and for measles had reached 58 and 54 per cent, respectively. Eleven of 21 countries in the region had reached the 75 per cent target. Figure 6 below gives the 1990 levels of coverage for DPT3 and measles by country, ranked by DPT3.

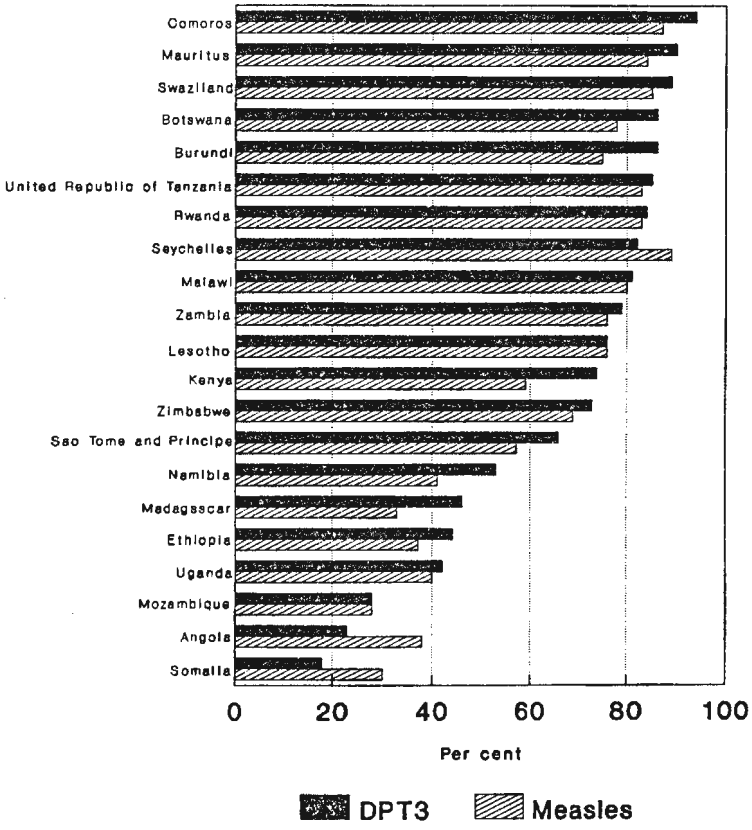
46. The smaller countries (Burundi, the Comoros, Lesotho, Mauritius, Rwanda, Seychelles and Swaziland) have generally led the region. They have fairly well-developed infrastructures and small distances to cover in distributing vaccines and supervising programmes.

47. Malawi, the United Republic of Tanzania and Zambia have relied primarily on routine systems to deliver immunizations with a moderate amount of social mobilization and have well-managed, sustainable systems.

48. Angola, Ethiopia, Mozambique, Somalia and Uganda have all been severely disrupted by war and civil conflict. Despite those handicaps, excellent progress was made in areas under Government control (e.g., in Mozambique, the capital city of Maputo has higher than 90 per cent coverage). In Namibia, considerable gains have been made since independence; immunization coverage for measles increased dramatically from 14 per cent in April 1990 to 41 per cent by the end of the year.

Figure 6

IMMUNIZATION COVERAGE OF CHILDREN
UNDER ONE YEAR OLD IN THE
EASTERN AND SOUTHERN AFRICA REGION,1990



Source: WHO/UNICEF.

West and Central Africa

49. In West and Central Africa, overall progress has been more difficult, compounded by high drop-out rates and a delay in concentrating efforts on the under-one target age-group. With small scattered populations covering large areas of the Sahel, a significant proportion of immunizations have been delivered by mobile teams that visit villages once every two to four months. By the end of 1990, seven countries were able to reach at least 75 per cent for all antigens. Figure 7 below shows the coverage for DPT3 and measles for each of the countries, ranked by DPT3.

50. Cape Verde and the Gambia reached the UCI goal in 1987 and 1988, respectively. Both countries have well-developed PHC infrastructures and have managed to reach a high level of performance without special activities. Current efforts focus on further improvement in the quality of services and on the launching of strategies to eradicate poliomyelitis and to eliminate neonatal tetanus.

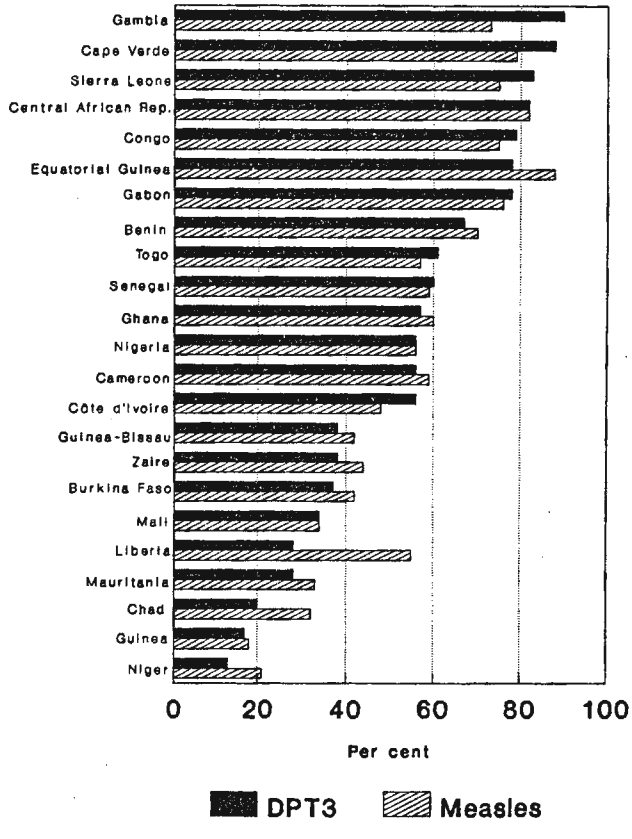
51. The Congo began to accelerate its programme through a very successful national immunization campaign in 1986, followed by special activities in urban areas. Gabon reached UCI by reducing drop-out rates in all areas and with well-selected interventions in low performing provinces. The Central African Republic and Equatorial Guinea began late, but managed to catch up successfully through intense community-based social mobilization and improved logistic support.

52. Several countries, notably Benin, Guinea, Sierra Leone and Togo, improved their immunization performances in the context of the Bamako Initiative. This required the simultaneous development of a broader PHC infrastructure and the implementation of a more comprehensive package of services. The results have been excellent in Sierra Leone, Benin and, to a lesser extent, in Togo, with the provision of integrated services complemented by intense and innovative social mobilization activities. In Guinea, the trend is encouraging in selected areas, but the infrastructure to provide access and high performance nation wide is not yet complete. More time and continued support will be required to achieve high levels of immunization coverage.

53. Nigeria implemented a phased expansion of the programme to reach all local government areas by 1989. Immunization days were held first nationally and then at state and local government area levels during 1989 and 1990. Nigeria has decentralized responsibility for health services to state and local government area levels. Additional initiatives to expand coverage and reduce drop-out rates included house-to-house immunization, enumeration of babies by NGOs and community health workers and mobilization through primary school teachers and pupils. The costs of cold-chain and social mobilization activities were borne by LGAs. The Federal Government has continued to finance most of the EPI vaccines.

Figure 7

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE WEST AND CENTRAL AFRICA REGION, 1990



Source: WHO/UNICEF.

54. Senegal initiated its acceleration with a large national, multisectoral campaign in 1986, which resulted in a shift from a mobile to a fixed-centre strategy. Several subsequent promotional activities were required to reduce drop-out rates and return to the coverage levels reached immediately after the initial campaign.

55. Zaire, the third most populous country of sub-Saharan Africa, has been successful in improving coverage in several cities, including Kinshasa, but continues to experience problems in moving to scale at the national level.

56. The Sahelian countries (Burkina Faso, Chad, Mali, Mauritania and the Niger) have utilized mixed strategies involving mobile teams, fixed centres and campaigns to reach their scattered and sometimes nomadic populations. While coverage has improved notably in urban areas, overall it remains modest. Considerable support will still be required to ensure programme expansion and sustainability.

III. IMMUNIZATION IN COUNTRIES AFFECTED BY CIVIL CONFLICT

57. Even under conditions of domestic tranquility, most countries have required a special effort to reach high levels of immunization coverage. During the past half decade, however, civil wars and disturbances have occurred in 14 countries and have precluded access to immunization by all children and women. With an extraordinary commitment to the cause of children, several of these countries have achieved excellent levels of coverage either nation-wide or in areas under government control. Table 2 below shows the coverage levels reached in 1990 in these countries.

58. El Salvador is an example of a country torn by conflict that has given priority to immunizing children. It implemented a series of "days of tranquillity" in which hostilities ceased in order to focus on reaching children with vaccines. The goal of 80 per cent coverage was achieved in 1990 despite continued civil strive.

59. Lebanon has also used special "days of tranquility" to immunize children throughout the country, with excellent results. Local publicity has resulted in widespread knowledge about immunization and unprecedented collaboration between numerous local NGOs, the Ministry of Health and UNICEF.

60. Ethiopia, Mozambique and the Sudan were able to achieve high levels of coverage in areas under Government control by concentrating on those areas with routine systems. In fact, a recent survey in 26 cities of Mozambique, comprising 24 per cent of the total population, showed coverage of greater than 80 per cent for all antigens administered to children; a remarkable 72 per cent of pregnant women received tetanus toxoid immunizations. The northern regions of the Sudan have also achieved 80 per cent coverage for all antigens except measles. Sudanese children in the southern areas of the country have also been immunized with the assistance of NGOs working in collaboration with UNICEF and with the concurrence of both the Government and the insurgents.

61. Afghan children in all accessible areas have been immunized and in some locations coverage rates are quite high. Refugee camps in the Islamic Republic of Iran and Pakistan have special programmes. Immunization has proven to be extremely useful in preventing epidemics among refugees throughout the world.

IV. THE DECADE OF THE 1990s

62. The achievements of the past decade in developing countries have given a new optimism for continued progress in child health. The World Health Assembly has set ambitious immunization goals for the decade of the 1990s. These goals, which are discussed in the UCI progress report, have been endorsed by the UNICEF Executive Board and the World Summit for Children. Disease control and epidemiology will be important activities and will build upon the foundation of high coverage levels achieved during the last five years in the more than 60 countries that achieved their 1990 targets. The 16 countries where only measles coverage is lagging behind will be giving special emphasis to the timeliness of immunization and the reduction of drop-out rates. Approximately 20 to 25 countries still provide low levels of access to immunization and will require special support from the donor community to extend their cold chains and improve service delivery. If the momentum can be maintained, immunization programmes can continue to lead the way to more comprehensive child and maternal health services on a near universal scale as other interventions are built upon the immunization networks in developing countries. Thus, true UCI by the end of the decade could become a reality.

Notes

1/ On 22 May 1990, Democratic Yemen and Yemen merged to form a single State. Since that date, they have been represented as one Member with the name "Yemen".

Table 1

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD, 1990

(Percentage)

REGION	BCG	DPT3	OPV3	MEASLES	TT2 a/
East Asia and the Pacific	95	92	94	92	49
South Asia	93	86	86	80	67
Middle East and North Africa	93	85	85	78	37
The Americas and the Caribbean	79	72	87	74	45
Eastern and Southern Africa	70	58	57	54	45
West and Central Africa	81	50	50	50	58
Asia	94	89	90	86	62
Africa	76	54	53	52	52
Developing countries	89	81	83	78	55
Industrial countries b/	85	86	88	82	
Global	89	82	84	79	55

Source: WHO/UNICEF,

a/ TT2 coverage for pregnant women.
b/ Coverage for industrialized countries is for 1989.

Table 2

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN COUNTRIES AFFECTED BY CIVIL CONFLICT

(Percentage)

COUNTRY	SOURCE [a]	YEAR	BCG	DPT3	OPV3	MEASLES	TT2 [b]
El Salvador	S	1990	87	82	80	82	19
Lebanon	S	1990		82	82	39	
Myanmar [c]	S	1990	95	88	88	63	80
Mozambique [c]	S	1990	99	84	84	84	72
Sudan [c]	R	1990	94	81	81	71	18
Ethiopia [c]	S	1990	89	69	69	58	67
Cambodia [c]	R	1990	68	47	47	38	22
Angola [c]	R	1990	47	23	23	38	26
Afghanistan	R	1990	30	25	25	20	3
Somalia	R	1989	31	18	18	30	5
Liberia	S	1988	62	28	28	55	20

Source: WHO/UNICEF.

[a] S = survey; R = routine report.
[b] TT2 coverage for pregnant women.
[c] Coverage in areas under Government control.

Table 3

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE EAST ASIA AND THE PACIFIC REGION

(Percentage)

COUNTRY	SOURCE [a]	YEAR	BCG	DPT3	OPV3	MEASLES	TT2 [b]
Fiji [d]	S	1990	99	97	96	84	
China [d]	S	1990	99	97	98	98	
Democratic People's Republic of Korea [c]	R	1989	99	96	99	99	96
Thailand [d]	R	1990	99	92	92	80	79
Brunei Darussalem	R	1989	86	91	93	99	35
Malaysia [f]	R	1990	99	91	90	90	71
Singapore [e]	R	1989	99	90	90	87	90
Republic of Korea [g]	R	1989	70	89	89	95	
Philippines [d]	R	1990	97	89	88	85	47
Hong Kong	R	1989	94	88	96	33	
Indonesia	S	1990	93	87	91	86	49
Viet Nam [d]	R	1990	90	87	87	87	18
Mongolia	R	1989	92	84	85	86	
Solomon Islands [d]	R	1990	93	79	72	59	47
Vanuatu [d]	R	1990	96	76	78	66	13
Samoa	R	1989	80	66	66	82	63
Myanmar [h]	S	1990	66	61	61	44	56
Papua New Guinea	R	1990	82	70	70	59	55
Cambodia [d]	R	1990	68	47	47	38	22
Lao People's Democratic Republic [d]	R	1990	26	17	25	13	14
East Asia and Pacific weighted average [i]			95	92	94	92	49

Source: WHO/UNICEF.

[a] Source: S = Survey; R = Routine report.
[b] TT2 coverage for pregnant women.
[c] Measles given at, or later than, 12 months of age.
[d] Based on provisional 1990 data.
[e] Tetanus Toxoid for 1989.
[f] BCG and TT is for 1989.
[g] Measles given up to age 15 months.
[h] Coverage for areas under Government control: 95-88-88-63-80.
[i] Tetanus Toxoid average only for countries with data.

Table 4

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE SOUTH ASIA REGION

(Percentage)

COUNTRY	SOURCE [a]	YEAR	BCG	DPT3	OPV3	MEASLES	TT2 [b]
Bhutan	S	1990	99	95	95	89	63
India	R	1990	97	92	93	87	69
Maldives	R	1990	99	94	94	90	90
Sri Lanka	R	1989	97	89	87	81	39
Pakistan	S	1990	87	83	83	75	70
Nepal [b]	R	1990	99	85	84	71	26
Bangladesh	S	1990	86	62	62	54	74
Afghanistan	R	1990	30	25	25	20	3
			--	--	--	--	--
South Asia weighted average			93	86	86	80	67

Source: WHO/UNICEF.

[a] Source: S = survey; R = routine report.

[b] TT2 coverage for pregnant women.

Table 5

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE MIDDLE EAST AND NORTH AFRICA REGION

(Percentage)

COUNTRY	SOURCE [a]	YEAR	BCG	DPT3	OPV3	MEASLES	TT2 [b]
Syrian Arab Republic	S	1990	98	98	98	94	84
Oman	R	1990	93	96	96	96	42
Bahrain	R	1990		95	95	86	41
Kuwait	R	1989		94	94	98	22
Saudi Arabia [c]	S	1990	99	94	94	90	50
Islamic Republic of Iran	R	1990	95	93	91	83	49
Jordan	S	1990		92	92	87	23
Tunisia	S	1990	99	92	92	92	32
Egypt	R	1990	93	91	91	90	49
Djibouti	R	1990	95	85	85	85	80
Cyprus	R	1989	94	82	82	84	18
Yemen	S	1990	99	89	89	74	18
United Arab Emirates	S	1990	96	85	85	75	
Libyan Arab Jamahiriya	R	1989	90	84	84	70	64
Turkey	R	1990		84	84	78	15
Lebanon	S	1990		82	82	39	
Algeria	S	1989	96	81	81	73	7
Morocco	R	1990	95	81	81	73	33
Qatar	R	1990	79	81	81	73	
Iraq	S	1990	96	75	75	62	56
Sudan [d]	R	1990	73	62	62	57	14
			--	--	--	--	--
Middle East and North Africa Weighted Average [e]			93	85	85	78	37

Source: WHO/UNICEF.

[a] Source: S = survey; R = routine report.
[b] TT2 coverage for pregnant women.
[c] Tetanus Toxoid for 1989.
[d] Coverage in Sudan northern areas under Goverment control: 94-81-81-71-18.
[e] TT and BCG average only for countries with data.

Table 6

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE AMERICAS AND THE CARIBBEAN REGION

(Percentage)

COUNTRY	SOURCE [a]	YEAR	BCG	DPT3	OPV3	MEASLES	TT2 [b]
Anguilla	R	1990	99	99	99	99	
British Virgin Islands	R	1990	99	99	99	99	
Chile	R	1990	97	99	99	98	
Montserrat	R	1990	99	99	99	99	
Saint Kitts and Nevis	R	1990	75	99	99	99	
Antigua and Barbuda	R	1990		99	99	89	
Turks and Caicos Islands	R	1990	99	99	97	98	
Saint Vincent and the Grenadines	R	1990	99	98	97	96	
Cuba [c] [d]	R	1990	98	92	94	94	88
Barbados	R	1990	95	91	90	87	
Saint Lucia	R	1990	94	89	90	82	
Colombia [e]	R	1990	96	88	95	82	40
Uruguay [e]	R	1990	99	88	88	82	13
Argentina	R	1990	99	86	89	94	
Panama [e]	R	1990	97	86	86	99	27
Belize	R	1990	80	84	80	81	
El Salvador [e]	S	1990	87	82	80	82	19
Suriname	R	1990		97	97	74	
Dominica	R	1990	96	94	94	69	
Paraguay [c] [d]	R	1990	84	87	84	77	58
Jamaica	R	1990	98	86	87	69	
Trinidad and Tobago	R	1989		83	83	69	
Guyana	R	1990	85	82	78	82	
Grenada	R	1990		80	69	85	
Honduras [e]	R	1990	60	77	85	91	16
Mexico [d]	R	1990	70	75	96	66	42
Peru [e]	R	1990	83	72	73	64	12
Ecuador [e]	R	1990	89	69	66	62	5
Dominican Republic [e]	R	1990	68	69	90	96	24
Costa Rica [f]	R	1990	94	68	89	85	90
Brazil [c] [d]	R	1990	79	65	92	77	62
Guatemala [e]	R	1990	53	64	72	68	18
Nicaragua [e]	R	1990	84	63	86	81	25
Venezuela	R	1990	71	61	70	64	
Haiti [f]	R	1990	72	41	40	31	23
Bolivia [e]	R	1990	48	41	50	53	20
Americas and the Caribbean Weighted average [g]			79	72	87	74	45

Source: WHO/UNICEF.

[a] S = survey; R = routine report.
[b] TT2 coverage for pregnant women.
[c] Data refers to two doses of OPV.
[d] Tetanus toxoid for 1987.
[e] Tetanus toxoid for 1989.
[f] Tetanus toxoid for 1988.
[g] BCG and Tetanus toxoid weighted average only for countries with data.

Table 7

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE EASTERN AND SOUTHERN AFRICA REGION

(Percentage)

COUNTRY	SOURCE [a]	YEAR	BCG	DPT3	OPV3	MEASLES	TT2 [b]
Comoros	S	1990	99	94	94	87	59
Mauritius	S	1990	94	90	90	84	94
Swaziland	S	1989	96	89	89	85	63
Botswana	S	1990	92	86	82	78	62
Burundi	R	1990	97	86	86	75	56
United Republic of Tanzania	S	1989	93	85	82	83	42
Rwanda	S	1990	92	84	83	83	87
Seychelles [c]	R	1990	98	82	82	89	98
Malawi [c]	R	1990	97	81	79	80	82
Zambia	S	1990	97	79	77	76	66
Lesotho	S	1990	97	76	75	76	
Kenya	S	1990	80	74	71	59	37
Zimbabwe [d]	R	1990	71	73	72	69	60
Sao Tome & Principe [d]	S	1990	94	66	66	57	50
Namibia	S	1990	85	53	53	41	50
Madagascar	S	1990	67	46	46	33	60
Ethiopia [e]	S	1990	57	44	44	37	43
Uganda	R	1990	63	42	42	40	34
Mozambique [f]	S	1990	31	28	28	28	25
Angola	R	1990	47	23	23	38	26
Somalia	R	1989	31	18	18	30	5
			—	—	—	—	—
Eastern and Southern Africa weighted average			70	58	57	54	45

Source: WHO/UNICEF.

[a] Source: S = survey; R = routine report.
[b] TT2 coverage for pregnant women.
[c] Tetanus Toxoid for 1989.
[d] Tetanus Toxoid for 1988.
[e] Ethiopia: coverage for areas under Government control (comprising 64 per cent of population. 89-69-69-58-67.
[f] Mozambique: coverage for 22 cities in areas under Government control (comprising 24 percent of population): 99-84-84-84-72.

Table 8

IMMUNIZATION COVERAGE OF CHILDREN UNDER ONE YEAR OLD IN THE WEST AND CENTRAL AFRICA REGION

(Percentage)

COUNTRY	SOURCE [a]	YEAR	BCG	DPT3	OPV3	MEASLES	TT2 [b]
Gambia	S	1990	99	90	93	73	93
Cape Verde	R	1990	97	88	87	79	90
Sierra Leone	R	1990	98	83	83	75	77
Central African Republic	S	1990	96	82	82	82	87
Congo	S	1990	90	79	79	75	60
Equatorial Guinea	S	1990	97	78	75	88	84
Gabon	S	1990	96	78	78	76	86
Benin	S	1990	92	67	67	70	83
Togo	S	1990	94	61	61	57	81
Senegal	S	1990	92	60	66	59	45
Ghana	R	1990	81	57	56	60	33
Nigeria	S	1990	96	57	57	54	73
Cameroon	S	1990	76	56	54	56	63
Côte d'Ivoire	S	1989	47	42	42	41	34
Guinea Bissau	S	1990	90	38	38	42	44
Zaire	R	1989	59	38	38	44	29
Burkina Faso	S	1990	84	37	37	42	76
Mali	R	1990	66	34	34	34	56
Liberia	S	1988	62	28	28	55	20
Mauritania	S	1990	75	28	28	33	40
Chad	S	1989	59	20	20	32	42
Guinea [c]	S	1990	53	17	17	18	10
Niger [c]	S	1990	50	13	13	21	44
			--	--	--	--	--
West & Central Africa Weighted Average			81	50	50	50	58

Source: WHO/UNICEF.

[a] Source: S = survey; R = routine report.
[b] Coverage for pregnant women.
[c] TT for 1989.
