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Technical Paper

SUSTAINABILITY OF NATIONAL IMMUNIZATION LEVELS

CONTENTS

1. INTRODUCTION

The World Health Assembly, through its resolutions WHA41.28 and WHA42.32 committed WHO to the eradication of poliomyelitis, elimination of neonatal tetanus and control of measles, in addition to targeting to provide immunization to 90% of all children under one year of age by the year 2000.

In pursuit of this and the Regional Committee resolutions (EM/RC38/R.9 and EM/RC40/R.8), new programme initiatives were rapidly developed and in the last few years, considerable progress towards these targets has been made in the Region. During 1992/1993, except for a few countries, Member States succeeded in achieving and sustaining immunization coverage with polio and DTP vaccines of 80% or more among children under the age of one. This success was demonstrated by a marked reduction in the reported incidence of EPI target diseases in many countries.

These notable achievements are a cause of pride but should not lead to complacency, as substantial numbers of children are still dying and/or are handicapped annually from EPI vaccine-preventable diseases.

There is concern that some countries have faced difficulties in sustaining their achievements and have failed to move beyond the 80% coverage. Of special concern is the fact that some countries showed a significant reduction trend in their immunization coverage. This is the case not only in the EMR but in many other countries outside the Region.

The decision of the Regional Committee to discuss this important subject is particularly timely at this critical stage of the programme and full attention is required because of the complexity of the factors related to sustaining the programme. If complacency and faltering sustainability are not rectified, it will seriously jeopardize achieving the EPI targets set for the 1990s.

2. TRENDS OF IMMUNIZATION COVERAGE IN THE REGION

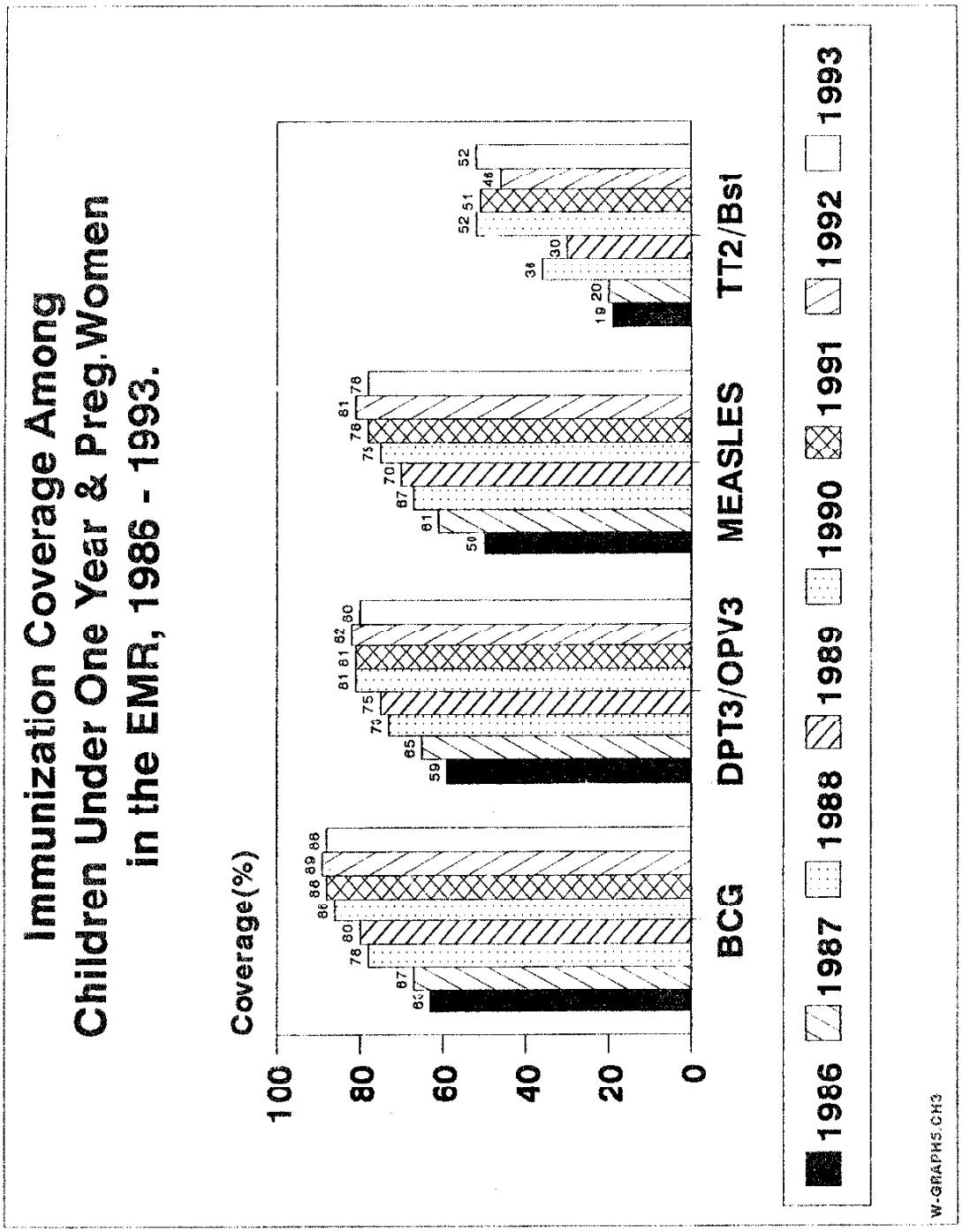
2.1 Achievements in 1980s

During the 1980s, remarkable progress was made by Member States of the EMR in immunizing children under one year of age. The reported immunization coverage in many countries rose from a base of less than 20% in 1981 to over 75% for all EPI antigens given to infants by the end of 1989.

This spectacular progress was made possible by strong commitment from the respective Governments, improved management of the programme and extensive international cooperation and support. The donor community has also come forward with critical funds and technical support in an unprecedented manner.

The strategies adopted by Member States of the Region have evolved in line with the programme in increasing immunization coverage.

Figure 1


Immunization Coverage Among
Children Under One Year & Preg.Women
in the EMR, 1986 - 1993.
Coverage(%)
100
80
60
40
20
0
BCG
DPT3/OPV3
MEASLES
TT2/Bs1
1986
1987
1988
1989
1990
1991
1992
1993
W-GRAPH5.CH3

Specifically:

- necessary vaccines were obtained;
- cold-chain and the capacity of the health delivery system were extended to reach nearly all communities, either from a fixed health facility or by periodic outreach from that facility. Mobile units were also utilized in several countries;
- capabilities of the national responsible officers for carrying out various aspects of the programme planning, management, monitoring and evaluation were developed;
- awareness of the need and importance of immunization by families and community leaders was greatly improved through the use of social mobilization techniques which were never before applied on a massive scale.

Throughout this process, WHO has been a close partner with national authorities. The responsibility to ensure child immunization as a partnership between health authorities, the family and the community has become a source of great pride. Preventive health is on its way to becoming a national responsibility and not only a health ministry programme.

2.2 Achievements in the 1990s

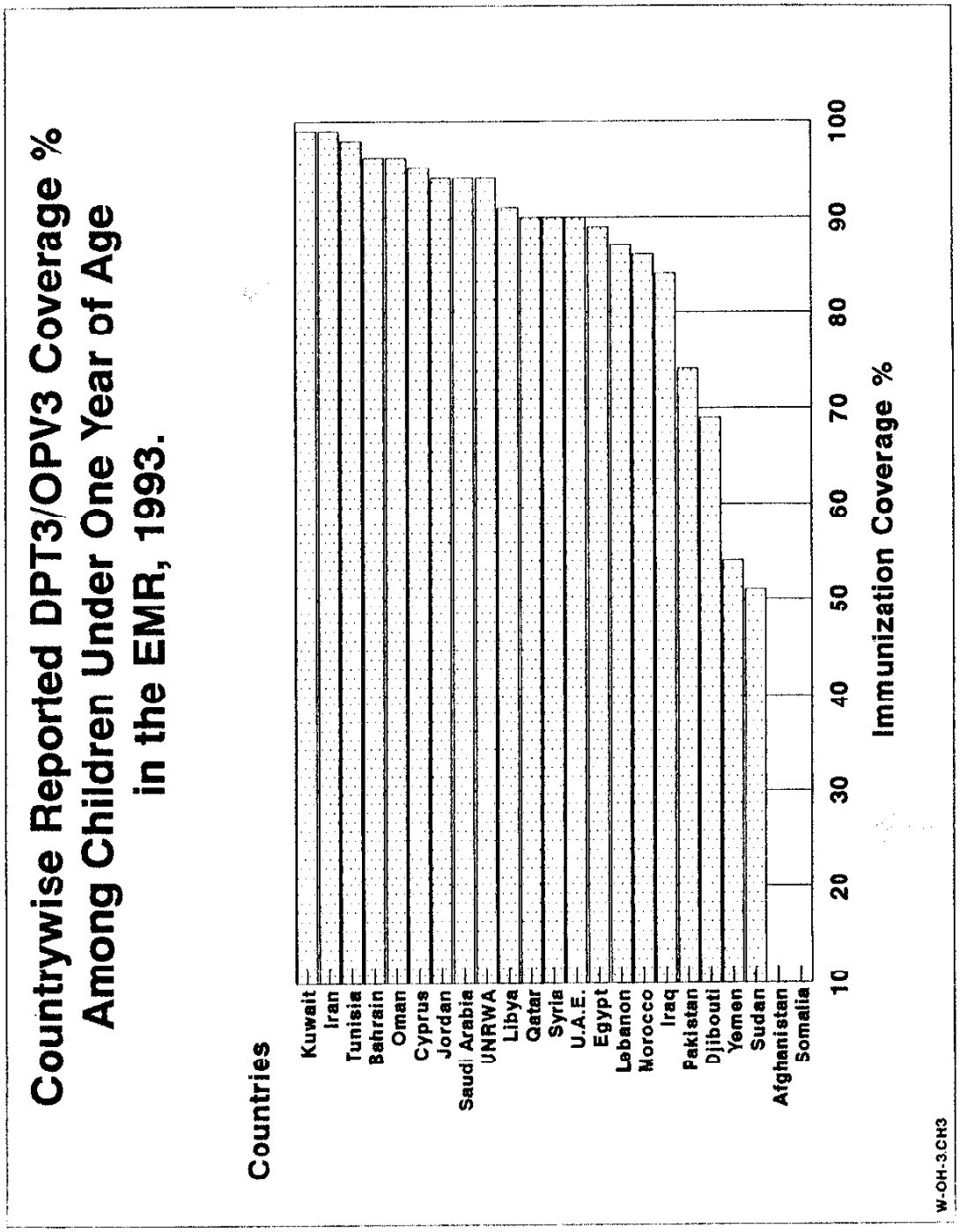
During the 1980s, emphasis was on immunization coverage. The achievements in this regard were manifested in a reduction in disease incidence. In the 1990s greater emphasis has been placed on effective disease surveillance. Nevertheless, sustaining high levels of immunization coverage remains a critical component of the programme because it is the basis for disease control, and should therefore continue to be closely monitored at all levels.

The immunization goals for the 1990s are clear: to achieve and sustain over 90% immunization coverage in all sectors of the community in all Member States. Diseases reduction, elimination and eradication targets were also set for the 1990s, namely by the end of 1995, to eliminate neonatal tetanus and to achieve 90% reduction in measles cases and 95% reduction in deaths due to measles compared with the pre-immunization era as well as to eradicate poliomyelitis by the year 2000. These targets have been ratified by the World Health Assembly, UNICEF and by the World Summit for Children in its declaration and plan of action (New York, September 1990).

In the EMR, except for a few countries, the overall good EPI performance in providing immunization to children before their first birthday has been sustained in most Member States. The reported regional average of immunization coverage by the end of 1993 was 88% for BCG, 80% for DPT3/OPV3 and 78% for measles. At least 52% of newborns were protected at birth against neonatal tetanus through immunization with tetanus toxoid to their mothers during pregnancy.

The regional trend of immunization coverage during the past several years in the EMR is shown in **Figure 1**. A slight decrease in

Figure 2


Countrywise Reported DPT3/OPV3 Coverage %
Among Children Under One Year of Age
in the EMR, 1993.
Countries
Kuwait
Iran
Tunisia
Bahrain
Oman
Cyprus
Jordan
Saudi Arabia
UNRWA
Libya
Qatar
Syria
U.A.E.
Egypt
Lebanon
Morocco
Iraq
Pakistan
Djibouti
Yemen
Sudan
Afghanistan
Somalia
10
20
30
40
50
60
70
80
90
100
Immunization Coverage %
W-OH-3:CH3

overall immunization coverage during 1993 was observed if compared with that of 1992.

The countrywide immunization coverage with various EPI antigens reported during 1993 is shown in **Table 1**. It is satisfying to note that 16 countries out of 22 in the Region and the Palestinians (overseen by UNRWA) have reported immunization coverage with DPT3/OPV3 of over 80% as shown in **Figure 2**. However, it should be noted that these represent less than 50% of the estimated infant population of the EMR.

Immunization coverage figures for 1993 (**Table 2**) show that thirteen countries have successfully sustained immunization coverage of over 90%. The coverage in four countries remained within the levels of 80-89%, and a significant decrease was observed in Djibouti, Pakistan, Sudan and Yemen.

In the two countries shattered by war (Afghanistan and Somalia) complete disruption of health-care services has brought the immunization coverage to below 50%.

The above trends are of special concern because they indicate that sustainability of the programme is threatened and also strongly suggest that progress is being hindered in reaching the "hard to reach" population groups which bear a disproportionate burden of vaccine-preventable diseases. These trends also underline the urgent need for more concerted efforts to sustain the higher coverage which is fundamental for achieving the goals set for disease reduction/ elimination/eradication.

3. FOSTERING THE DEVELOPMENT OF PRIMARY HEALTH CARE

At current levels of achievements, immunization services in the EMR will bring 12 million infants and their mothers/parents into contact with the health system at least five times a year. These 60 million contacts provide an excellent opportunity to deliver other services to both babies and their mothers. Health and nutrition education, including promotion of oral rehydration salts (ORS), breastfeeding and family counselling can also be implemented during such contacts.

The Global Advisory Group (GAG) for EPI during its 16th meeting (Washington, October 1993), while acknowledging that ideally immunization services should be delivered within a comprehensive primary health care system to ensure its longer-term sustainability, has cautioned that in many countries, the PHC infrastructure and management are not yet sufficiently developed to achieve high immunization coverage levels. In those settings, the delivery of immunization services should not be delayed until full development of the infrastructure. Instead, high levels of immunization coverage should be pursued using innovative approaches that stimulate the development of the infrastructure so that EPI can serve as a building block for a comprehensive primary health care system.

Table 1. Countrywide reported immunization coverage (%) among children under one year of age and pregnant women in the Eastern Mediterranean Region, 1993

Member States	Immunization coverage (%)					Remarks
	Under one year				Pregnant women	
	BCG	DPT3/OPV3	Measles	HBV3	TT2/Bst	
Afghanistan	..	..	..	--	..	
Bahrain	--	96	90	90	48	
Cyprus	--	95	83	68	57*	Survey (June 1994)
Djibouti	51	69	68	--	65	
Egypt	95	89	89	73	78	
Iran, Islamic Republic of	100	99	96	15	82[a]	(a) Survey from 6 governorates
Iraq	99	84	83	--	55	
Jordan	--	94	88	..	31	
Kuwait	99	99	87	91	38	
Lebanon	--	87	65	--	--	
Libyan Arab Jamahiriya	99	91	89	--	45	Survey (December 1993)
Morocco	91	86	83	--	87	
Oman	99	96	94	96	85	
Pakistan	87	74	71	--	46	
Qatar	99	90	87	93	--	
Saudi Arabia	94	94	92	93	62	
Somalia	..	..	..	--	..	
Sudan	61	51	49	--	9	for Northern States**
Syrian Arab Republic	91	90	86	22	50	
Tunisia	81	98	89	--	50	
United Arab Emirates	98	90	90	90	--	
Yemen	57	54	51	--	12	
UNRWA	95	94	91	--	53	
EMR average	88	80	78	..	52	

.. = Coverage not collated due to incomplete data and/or unknown denominators
-- = Not included in National EPI.
* = TT2(+) for Childbearing Age Women (CBAW)
** = BCG (69%), DPT3/OPV3 (58%), Measles (56%), TT2+ (CBAW) 10%

Table 2. Trends of reported annual immunization coverage in Member States of the EMR, 1990-1993

Coverage achievements	Member States	Total	
		Number	% of EMR's infant population
Sustained (90% +)	Bahrain, Cyprus, Islamic Republic of Iran, Jordan, Kuwait, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, Syrian Arab Republic, Tunisia, United Arab Emirates and the Palestinians (UNRWA)	13	28%
Maintained (80-90%)	Egypt, Iraq, Lebanon, Morocco	4	21%
Decreasing (50-79%)	Djibouti, Pakistan, Sudan, Yemen	4	42%
Below 50%	Afghanistan, Somalia	2	9%

4. REASONS FOR FALTERING COVERAGE IN THE EMR AND ACTIONS REQUIRED

The main contributing factors that have or may lead to an unsustainable or declining pattern of immunization coverage in Member States of the EMR, can essentially be summarized as managerial, technical, political and financial. All these factors must be given due attention to ensure the proper and effective function of immunization activities.

4.1 Managerial factors

4.1.1 Poor management

Many health workers may be complacent and may feel satisfied with their programme achievements, especially in view of the decreasing incidence of EPI target diseases. They may consider that there is no need to continue the same level of performance in terms of immunization, follow-up, recording-reporting and monitoring of target figures.

Frequent transfer and rapid turnover of staff is also an impeding factor to sustainability of the programme in some countries. It is regrettable that to date, some countries still do not have a full time national EPI manager.

4.1.2 Reduction of immunization posts

With the approach of the 1990s, exceptional efforts were made by national authorities to reach a target of at least 80% coverage of infants. Some countries have developed a strategy to maximize service delivery through the addition of new temporary outlets bringing immunization closer to the community, especially during the acceleration phase of the programme. Unfortunately these have not been maintained.

More important is the fact that some countries, in their attempt to integrate EPI into PHC, have restricted EPI delivery to fixed PHC units. This has resulted in great reduction in outreach and mobile units at a time when the PHC infrastructure is not yet ready to maintain present EPI coverage. The sudden reduction of such temporary posts and/or outreach/mobile units has contributed to the sharp decline in coverage figures in these countries.

4.1.3 Inadequate social mobilization

The role of social mobilization to increase community awareness and participation is critical. It is quite common that after an intense social and media campaign, the media and other social sectors may suddenly withdraw and leave a gap in public information and social mobilization. This tends to have a negative influence on the attitude and performance of both health workers and parents.

4.1.4 Shortage of EPI vaccines

Some countries are often faced with a shortage of vaccines due to inaccurate forecasting of demand and/or an erratic supply/distribution system, difficulties in procurement and shortage of funds, especially for provision of vaccines required for supplementary immunization. Thus, it is important to ensure that all vaccines used for national EPI should strictly adhere to the WHO standard.

4.1.5 Natural disasters and civil unrest

Quite often, EPI logistics and resources have been diverted to other emerging national priorities such as flood and outbreaks of life-threatening diseases. On occasion, these resources are not replenished in a timely fashion and routine programme activities are severely affected. Prolonged civil disturbances/war in some Member States continue to be the main impediment preventing progress.

Actions required to address managerial constraints:

(a) Reduce missed opportunities and drop-outs. An opportunity to vaccinate the eligible target population may be "lost" for a number of reasons: the health worker may not observe that a child brought to a health facility for another purpose lacks a vaccination; a mother may bring her baby for immunization but fail

to get the tetanus toxoid immunization that she herself needs; the health worker may be reluctant to vaccinate a child who has a fever or to open a fresh vial of vaccine and "waste" some of it, etc.

These preventable barriers can be overcome through provision of immunization services in all health facilities. Refresher training and clear instructions are required to ensure that all health workers take up immunization services as part of their routine job.

(b) Integrate EPI into PHC services as appropriate. This should be carefully planned and progressively implemented by phasing in. All PHC services should provide immunization on a routine basis.

Concomitantly, areas not covered by PHC services should continue to receive immunization services through an existing EPI infrastructure.

(c) Increase fixed outlets for immunization. This is faciliated by the integration of EPI in PHC as well as the integration of preventive and curative services. In some countries of the Region, more efforts should be made to equip health centres and train their staff to ensure greater accessibility to immunization services throughout the health facility network.

(d) Maintain outreach and mobile activities to ensure increasing accessibility in remote and isolated areas. This approach remains an important component of service delivery especially whenever satisfactory immunization cannot be achieved through fixed outlets. Reaching the "unreached" population to ensure availability of immunization for all citizens is one of the principles of sustainability.

(e) Maintain social mobilization; develop a long-term plan through various channels of communication, particularly the mass media. The role of the non-health sector should also be promoted for continued input in the national plan.

(f) Create continuing consumer demand for immunization by maintaining public awareness and education about child immunization with the development of public opinion that the neglect of immunization of children in their first year of life is socially unacceptable.

(g) Uninterrupted availability of EPI vaccines should always be secured to ensure sustainability. To achieve self-sufficiency, countries which are already producing some of their vaccine requirements need to increase production and ensure the continuing quality of their product to meet full requirements.

(h) Adopt the Vaccine Independent Initiative as appropriate. This new initiative is being developed to provide a revolving fund

mechanism for the developing countries to become self-reliant in vaccine procurement. As many may not be able to pay in hard currency, the scheme makes it possible for these countries to obtain their vaccine requirements by paying in local currency.

(i) Develop a "defaulter-retrieval" system to identify children who fail to complete their vaccine schedule to ensure their immunization.

4.2 Technical factors

The need to maintain the required technical capabilities to sustain a necessary standard for an effective immunization programme is all the more important due to turnover of staff and rapid development. These technical capabilities include: trained staff in immunization, supervision, vaccine potency, cold-chain maintenance, logistics, recording systems, surveillance, monitoring and evaluation.

Action required to address the question of technical capabilities:

(a) Provide training and/or refresher courses as appropriate to maintain the technical knowledge and skills of health workers at all levels for sustaining high immunization coverage.

(b) Introduce EPI in the curriculum of medical schools and paramedical institutions.

4.3 Political factors

Political commitment and support at the highest level are essential for a programme on a national scale to succeed and meet its operational objectives. It is important for the generation and allocation of financial, material and human resources and ensures multisectoral input and coordination. In the Eastern Mediterranean Region there are excellent examples of how political commitment has been instrumental in achieving and sustaining the goals of the programme. (e.g. the Royal decree of the Kingdom of Saudi Arabia that birth certificates only be issued after completion of primary immunization against childhood diseases; and the Decade of the Child declared by the President of Egypt).

During the World Summit for Children (New York, September 1990), 71 heads of state and representatives from 60 other countries, many from the EMR, pledged to pursue child protection and allocate resources to reach the goals of EPI. This commitment is based upon the agreement that the essential needs of children should be given the first priority in allocating resources in bad times as well as in good times, at national and at family level.

A misconception observed in some Member States of the Region is that the commitment to immunize all children is time limited and so resources were made available for a limited period of time and then stopped or considerably decreased. An immunization programme must continue to provide for new children being born.

It is also essential to convince national decision-makers that resources allocated for immunization are not wasted. Due to complacency and/or competing national priorities for limited resources, political commitment and support towards the programme in some countries of the Region is decreasing. This has greatly affected the programme, particularly as these countries are the ones where the service infrastructure is not yet well developed and immunization coverage is low.

Actions required

(a) Re-activate and sustain political commitment and support from the highest authorities. Provide them with regular feedback and advocacy on the national targets, objectives, progress and constraints faced by the programme.

(b) Maintain closer intersectoral coordination, including the involvement of Ministries of Planning, Finance, Higher Education and Religious Affairs, etc.

(c) Involve nongovernmental organizations and influential public figures to gain their support in promoting the programme.

(d) Use immunization initiatives for promoting "days of tranquility" in countries affected by civil strife/war.

(e) Make immunization mandatory. This requires that immunization services be free-of-charge and universally accessible.

(f) Request full immunization status as a precondition for issuance of birth certificates.

4.4 Financial aspects

At the beginning of the EPI programme, United Nations and bilateral agencies extended considerable technical and financial support. Provision of EPI logistics in some countries of the Region continues to be heavily dependent on external resources and donors and countries often have no definite plan to progressively cover it out of their own national resources. A sudden shrinkage or withdrawal of financial internal or external resources to support the programme activities will cause major difficulties for the service to maintain its level of performance and will lead to a reduction in the immunization coverage rate. This has been the case in Sudan and Yemen. Even in countries where national resources are earmarked, the long delay in releasing allocated funds, including salaries, has often undermined staff morale and programme performance. This important issue was also strongly emphasized by the World Health Assembly in its resolution WHA42.32 (May 1989).

In the World Development report published by the World Bank (1993), immunization services are clearly indicated as one of the most

cost-effective strategies to prevent disease. Securing adequate funding for EPI should therefore be taken as an essential national development programme.

For low income countries, where foreign exchange needs are acute, the need for external support is greater. Imported vaccines, syringes, cold-chain equipment and spare parts are items for which external support will continue to be required for many years to come. However, the duration of external assistance must be carefully planned to avoid "dependency syndrome", and to eventually phase out assistance without detriment to the long-term continuation of the programme.

To fully immunize one child, up to US$5 to US$7 should ultimately be affordable to any country of the Region if the political will is demonstrated and the necessary priority is given to immunization services.

Action required

(a) EPI managers should seek and plan in advance both national and external donor resources which are required to sustain progress and further improve the programme for both the medium and long term.

(b) Political will is reflected in both national and donor country budgets, but hopefully a larger share of the burden of funding routine EPI can be absorbed by national budgets through effective management and prioritization of resources in favour of health, and within the health sector, towards the preventive health services.

5. SPECIFIC ACTIONS TO BE TAKEN BY MEMBER STATES

As described earlier in section 2.2, reported immunization coverage achievements vary considerably among the countries of the Region. To accelerate, achieve and sustain universal high level immunization coverage, Member States should consider adopting relevant strategies applicable to their own country situation as detailed in section 4.

To achieve and sustain a 90% immunization coverage level, the Global Advisory Group (GAG) for EPI, during its fourteenth annual deliberations in Antalya, Turkey in October 1991 made recommendations as follows:

(a) The goal of achieving the 90% immunization coverage target for all antigens by the year 2000 must be seen as the basis for controlling all EPI target diseases and to meet neonatal tetanus elimination, polio eradication and measles reduction goals. This challenging goal will require additional resources as efforts are focused on identifying and accessing high-risk, difficult to reach and underserved populations.

(b) Since immunization services are an integral part of primary health care, maximum effort should be made to utilize immunization contacts to deliver other MCH services.

(c) In their efforts to achieve or maintain high immunization coverage, countries should focus on areas and population groups with lower coverage. They should make more efficient use of available resources, increase self-reliance and improve the quality of services. Drop out rates and missed opportunities must be systematically reduced. The disease reduction, elimination, and eradication initiatives will be the main mechanism to sustain political visibility and goal orientation at both national and subnational levels.

(d) In those countries in which the health infrastructure is less developed or still deficient or which have low immunization performance (countries often affected by war, civil strife and economic hardships), the highest priority should be given to extending the capacity to deliver vaccines throughout the country and initiating the development of surveillance and management information systems. After careful evaluation, in some of these countries, special eradication-elimination activities may be undertaken if it is determined they are likely to hasten the strengthening of the immunization infrastructure (e.g., if such activities can help mobilize the resources to enhance the overall immunization programme). Extensive support from the international community is urgently needed to help these countries reach all communities and attain high coverage as well as to proceed vigorously towards disease reduction, elimination, and eradication targets. Immunization initiatives should be used for promoting "days of tranquility" in countries affected by war and civil strife.

6. CONCLUSIONS

(a) Except for a few countries, most Member States of the EMR have succeeded in achieving and sustaining immunization coverage for over 80% of children under the age of one, but immunization for women of childbearing age is generally still behind childhood immunization. National immunization programmes in the Region have led to a dramatic decline in the incidence of vaccine preventable diseases among children. Poliomyelitis, neonatal tetanus and diphtheria have disappeared in many countries.

(b) Among the countries of the Region, the reported immunization coverage varies considerably. Eleven countries have succeeded in sustaining high level immunization coverage of 90% and above. However, in seven countries the coverage remains stagnant at 80-89%. A significantly decreasing trend has been observed in at least three countries and the coverage in a few remaining countries is still at an unacceptable low level due to prolonged civil unrest.

(c) With the current levels of coverage achievements, the percentage of susceptible children remains high at 15-20%. As this percentage is cumulative from year-to-year, it will form a medium for potential outbreaks of poliomyelitis, measles, diphtheria and whooping-cough. This emphasizes the need for sustaining the highest possible level of immunization coverage with all EPI antigens in all sectors of the community.

(d) Countries of the Region have gone through various experiences in accelerating their immunization coverage in the 1980s. They have succeeded in this by obtaining and maintaining political will and commitment by mobilizing various social sectors and organizations; by massive communication campaigns, by improvement in all aspects of EPI management and delivery services at all levels through appropriate training, by strengthening supervision, improving logistics support and the cold chain system, monitoring, evaluation and feedback.
These basic elements of EPI must be continuously monitored, maintained and improved in the 1990s. Reduction in any of these basics will lead to a weakening and reduction in the protective role of the programme.

(e) Reasons for unsustainable or declining immunization coverage in some Member States of the EMR are complex, but can be categorized into four main groups: managerial, technical, political and financial. All of these must be given due attention to ensure the efficient functioning of the immunization programmes. Concerned Member States should consider adopting and implementing relevant strategies applicable to their situation.

(f) If complacency and the faltering sustainability are not rectified in a timely manner, they will seriously jeopardize the chances of reaching the EPI targets set for disease reduction, elimination and eradication in the 1990s.

REGIONAL COMMITTEE FOR THE
EASTERN MEDITERRANEAN

EM/RC41/6
October 1994

Forty-first Session

Agenda item 9(a)

SUSTAINABILITY OF NATIONAL IMMUNIZATION LEVELS

Summary of Recommendations

1. Reactivate and sustain political commitment and support to the Expanded Programme on Immunization (EPI) as one of the most cost-effective strategies for prevention of disease and disability. This should be reflected in the allocation of sufficient national resources to meet the needs of the national programmes.

2. Ensure the provision of immunization services in all health facilities, the integration of immunization services into primary health care and the conduct of outreach services, as appropriate.

3. Maintain or increase social mobilization to ensure public awareness about the need for immunization of their children, and develop a defaulter-retrieval system.

4. Ensure an uninterrupted vaccine supply and work towards self-sufficiency in production and procurement of high quality vaccines.

5. Maintain or upgrade technical capabilities through continued in-service training, particularly where the turnover of staff is significant, and work towards integration of EPI into the curricula of medical and other allied schools.

6. Maintain intersectoral coordination, involving ministries other than health, nongovernmental organizations and influential public figures.

7. Make immunizations mandatory, wherever this is not done so, and ensure compliance by adopting successful initiatives, such as linking the provision of birth certificates to full immunization status.

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SUSTAINABILITY OF NATIONAL IMMUNIZATION LEVELS

Summary for the Report

Most countries in the Eastern Mediterranean Region made remarkable progress during the 1980s and early 1990s towards achieving EPI targets of high immunization coverage levels and disease control/eradication. However, during 1992-1993 some countries have been unable to sustain these achievements, or to improve upon them. Some Member States have experienced an alarming decrease in coverage, resulting in outbreaks of vaccine-preventable diseases. Failure to stop this decline, or move beyond past achievements seriously jeopardizes achieving the targets for EPI in the 1990s.

The factors related to the sustainability of EPI are multifaceted, and vary from country to country. They include factors that are managerial, technical, political and financial in nature. In addition, attempts to integrate EPI into the PHC system could not meet EPI needs in countries where the PHC infrastructure is not yet sufficiently developed to provide immunization services effectively.

In some countries, managerial problems have arisen from complacency, rapid turnover of staff, decrease in the number of immunization sites, and diminished social mobilization efforts. Certain countries have faced critical shortages of EPI vaccines due to inaccurate forecasting of needs, erratic distribution systems, or difficulties in procurement. Natural disasters and civil unrest have significantly restricted EPI activities. Corrective actions include: reducing missed opportunities and dropouts; appropriate integration of EPI into PHC; maintaining outreach and mobile activities where needed; increasing social mobilization to raise consumer demand and participation; and ensuring an uninterrupted supply and distribution of EPI vaccines.

Inadequate technical capabilities are due to rapid political, programmatic and technical changes in many countries, necessitating

continuous training, both inservice and preservice, in various aspects of immunization and logistics.

Obtaining political support and commitment to EPI should be maintained. Key decision-makers must, therefore, be convinced and continually reminded that immunizations are one of the most cost-effective health interventions and must be maintained continually. In those countries that are affected by civil strife, innovative strategies, such as "days of tranquility", must be implemented.

In many countries, immunization programmes have been heavily dependent on donors, without definitive plans for progressive self-sufficiency. This meant that when external resources contracted, coverage declined resulting in increased disease incidence. It is essential that an increasing share of the funding of EPI must be absorbed by national budgets. In low-income countries, external assistance will be needed for several more years. However, the duration of external assistance and the phasing-out period must be carefully planned to ensure the long-term continuation of the programme.