



EPI Newsletter

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IMMUNIZE AND PROTECT YOUR CHILD

August 1985

EPI Global Advisory Group Recommendations

The EPI Global Advisory Group addressed a number of issues of global importance at its seventh meeting, held in Alexandria, Egypt, from 21 to 25 October 1984. Following are excerpts from some of the group's conclusions and recommendations.

Use of vaccines

To take maximum advantage of the benefits offered by vaccines, each country should take necessary steps to include all relevant antigens in its national program. In particular, the universal use of measles vaccine should be encouraged. It is also of concern that some countries are not yet using polio vaccine and that others omit pertussis vaccine from their programs. Epidemiologic evidence has conclusively demonstrated the severe impact of these diseases in all countries in the absence of immunization programs.

Site of injection for DPT and TT

Countries are urged to review current practices regarding the anatomical site of intramuscular immunization. Taking into account the criteria of safety and ease of administration, thigh injection for DPT and arm injection for TT are strongly recommended.

Use all opportunities for immunization

The Global Advisory Group reaffirmed its 1983 recommendation to use every opportunity to immunize eligible children: "It is particularly important to immunize children suffering from malnutrition. Low grade fever, mild respiratory infections or diarrhoea, and other minor illnesses should not be considered as contraindications to immunization. Immunization of children so ill as to require hospitalization should be deferred for decision by the hospital authorities."

Oral poliomyelitis vaccine in newborns

Immunization of newborns with trivalent oral poliomyelitis vaccine (TOPV) is a safe, effective means of improving protection against disease and TOPV may be administered simultaneously with BCG vaccine. Although the serological response to TOPV in the first week is less than that observed from immunization of older infants, 70-100% of neonates benefit by developing local immunity in the intestinal tract. In addition, 30-50% of the infants develop serum antibodies to one or more poliovirus types. Many of the remaining infants have been immunologically primed and respond promptly to additional doses later in life.

For the 10-40% of infants in many countries whose only encounter with preventive services is at the time of birth, this single dose of vaccine will offer some protection against disease and they will be less likely to be a source of transmission of wild polioviruses during infancy and childhood. For the 20-40% of infants who receive only one or two additional doses of poliovirus vaccine, the initial dose at birth will help ensure higher levels of immunity against poliomyelitis.

In countries where poliomyelitis has not been controlled, use of TOPV in the newborn period may be particularly important in providing early protection. In this situation, oral polio vaccine is given at birth or first contact, with subsequent doses at 6, 10, and 14 weeks of age. In all countries, routine immunization with DPT and TOPV

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can be safely and effectively initiated at 6 weeks of age. A schedule designed to provide protection at the earliest possible age is shown below:

Age	Vaccine
Birth	TOPV, BCG
6 weeks	TOPV, DPT
10 weeks	TOPV, DPT
14 weeks	TOPV, DPT
9 months	Measles

If the antigens are not given at the above ages, they should be given as soon as possible afterwards. Intervals between doses greater than those listed do not require re-starting the series. If the final doses of TOPV and DPT have not been given before 9 months of age, they can be given simultaneously with measles vaccine.

Tetanus toxoid in women of childbearing age

To protect infants in the neonatal period, all women in the reproductive age should have two doses of tetanus toxoid. These should be given during the first pregnancy, if not given previously; in subsequent pregnancies an additional dose is required.

Pertussis vaccine

Although available whole cell pertussis vaccines are associated with adverse effects at a rate higher than that of other EPI vaccines, the benefits of their use far outweigh the risks. While work is being pursued to develop improved pertussis vaccines and to study their safety and efficacy, the whole cell vaccines currently available are effective in reducing morbidity and mortality. Their use should be promoted in industrialized and developing countries alike.

A variety of issues concerning the epidemiology and control of pertussis require further clarification. These include the earliest age for immunization, the number and spacing of doses and the age groups which are most important in disease transmission to infants. Work in this field is inhibited by the lack of easy and accurate methods of measuring immunity and confirming clinical diagnosis, and by the difficulties in designing and carrying out appropriate field trials. The diagnosis of pertussis may be missed easily in very young infants who tend not to have a typical "whoop" and whose symptoms may appear to be minimal, even shortly before death.

Surveillance

Important increases in immunization coverage have occurred in most developing countries during the past decade, and those increases are now being accelerated in several of them. Although many countries have surveillance data adequate to reflect disease incidence trends, few developing countries have surveillance data adequate for program management. Surveillance data, drawn either from the country as a whole or from selected areas, are needed for use by EPI managers at all levels. It is recommended that:

- national surveillance systems for disease control programs be reviewed with an aim to simplify records and their collection. Records should be limited to those necessary for program management;
- WHO work intensively with national program managers in coming months to assure that national data are promptly transmitted to the Organization, even if only on a provisional basis;
- in cases where routine surveillance systems are not adequate for program management, sentinel surveillance be vigorously pursued as one of the surveillance strategies available to the EPI;
- WHO and national program managers work together to develop innovative approaches so that the impact of immunization in reducing the incidence of the target diseases can be measured; such data help to establish a baseline against which annual progress can be measured in future years;
- outbreak investigations be increasingly promoted as the EPI target diseases are brought under control;
- feedback and necessary action be an integral part of surveillance at all program levels;
- regional offices support national programs in ensuring that surveillance data are used to maximum effect by operational managers; this will promote improvement in the quality of surveillance data.

Research and development

Within EPI, research and development aims to improve the capabilities of the delivery system to increase coverage, leading to further reductions in mortality and morbidity. Noting the high dropout rates in some countries, specific research efforts are needed to identify and correct managerial and technical constraints, and to investigate cultural constraints. Current research to identify simpler and more effective methods of vaccine administration were recognized and encouraged.

The Group noted with interest the recent experience of immunization programs in Brazil and Colombia. Intensified programs led by national leaders and including community groups achieved high coverage through well advertised national immunization days. Such strategies

need to be evaluated regarding cost, logistics, effectiveness and contribution to achievement of national immunization objectives.

The Group noted that the stability of measles vaccine continues to improve. As oral poliomyelitis vaccine is still the least stable of vaccines used in the EPI, the development of a more stable vaccine is a high priority. An initial step would be the development of stability criteria and of a standard procedure for testing heat stability. Sharing vaccine production technology with developing countries, particularly with regard to increasing vaccine stability, should be promoted.

Editorial note: The next meeting of the EPI Global Advisory Group will be hosted by the European Regional Office and will be held in Copenhagen from 4-8 November 1985. Some of the topics scheduled to be presented in technical papers are sentinel surveillance, the use of intensified strategies, communications strategies, recommendations concerning reinforcing doses for EPI vaccines, and an update on research and development.

Source: WHO document EPI/GEN/85/1

Protecting the World's Children: The Bellagio Conference

The Conference on Protecting the World's Children, held in Bellagio, Italy, from 13 to 15 March 1984, was organized as a result of an initiative by the Honorable Robert S. McNamara and Professor Jonas Salk. The conference was co-sponsored by the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), the World Bank, and the United Nations Development Program (UNDP), each represented by its chief executive. The Rockefeller Foundation offered its facilities for the conference and also helped coordinate the planning and preparation of the working papers and final report.

Additional participants included several major development agencies, the Minister of Health of Senegal, and representatives from Colombia and India.

Task Force for Child Survival

At the conclusion of the conference, the co-sponsoring agencies and the Rockefeller Foundation joined to form a Task Force for Child Survival, with Dr. William H. Foegen of the Centers for Disease Control (USA) agreeing to serve as the representative of the Task Force and head of its secretariat.

The Task Force objective is to promote the reduction of childhood morbidity and mortality via the acceleration of key primary health activities. During its first year it is concentrating on supporting three countries—Colombia, India, and Senegal—in accelerating the expansion of their immunization programs and in strengthening other elements of primary health care such as diarrheal disease control, family planning and improved nutrition. Dr. Foegen has also been charged with reviewing research and development activities and needs with respect to vaccines and their effective use.

The significance of the Bellagio initiative lies in finding means and mechanisms through which the international development community can increase the effectiveness of its support throughout the world for the development of primary health care.

At a followup meeting planned for 14-17 October 1985 in Cartagena, Colombia, conference participants will assess current activities and make proposals for future actions.

Source: WHO document EPI GEN 85 1

John F. Enders, Nobel Prize Winning Microbiologist, Dies at 88

Dr. John F. Enders, a Nobel-Prize winning microbiologist whose research paved the way for the development of an effective vaccine against poliomyelitis, died on 8 September at his home in Connecticut.

In 1954 Dr. Enders and fellow Harvard University researchers Dr. Thomas Weller and Dr. Frederick Robbins received the Nobel Prize in medicine for successfully grow-

ing poliovirus in tissue cultures. His research opened up a new approach to the study of viruses and to the development of vaccines against many of the childhood diseases.

The vaccines derived from Dr. Enders' research have led to the virtual eradication of poliomyelitis and measles in many developed countries.

Update on Polio Eradication

Technical Advisory Group Holds First Meeting

Following the 14 May announcement of the plan to eradicate indigenous transmission of poliovirus in the Americas by 1990 (see EPI Newsletter VII-3), the Director of PAHO appointed a 5-member Technical Advisory Group (TAG) to guide the new initiative.

The group first met at PAHO's headquarters in Washington on 11-12 July to review the proposed plan of action on polio eradication. According to its terms of reference, the TAG will advise PAHO on program priorities over the next five years and on the best strategies and tactics to reach the EPI goals, both with respect to polio eradication and the control of the other EPI diseases. The group will also monitor the implementation of the polio plan of action and promote understanding and support for program goals among technical institutions and bilateral, multilateral and private agencies, as well as political leaders. Periodically, members of the group will participate in missions at country level for program reviews and meetings.

The five TAG members are Dr. José Manuel Borgoño, Chief of the Office of International Affairs in the Ministry of Health of Chile; Dr. D.A. Henderson, Dean of Johns Hopkins University School of Hygiene and Public Health in Baltimore, Maryland (who serves as chairman); Dr. Alan Hinman, Director of Immunization at the Centers for Disease Control in Atlanta, Georgia; Dr. Jesús Kumate Rodríguez, Vice Secretary of Health Services of the Secretariat of Health of Mexico; and Dr. João Baptista Risi, Jr., Secretary for Basic Health Actions in the Ministry of Health of Brazil.

Observers from UNICEF and the United States Agency for International Development (USAID) joined the 2-day TAG meeting. Dr. Kenneth Bart and Ms. Paula Feeny represented USAID while Dr. Steven Joseph attended from UNICEF.



Members of the Technical Advisory Group on polio eradication, with Dr. Carlyle Guerra de Macedo, Director of PAHO (seated, center), representatives from USAID and UNICEF, and PAHO staff. (Photo: Alex Winder, PAHO)

Paraguay Supports Polio Initiative

Dr. Adán Godoy Jiménez, Paraguay's Minister of Public Health and Social Welfare, officially launched the national campaign to eradicate the indigenous transmission of poliovirus in a ceremony held at the Ministry on 24 July. The governor of Rotary International in Paraguay and PAHO's country representative were also in attendance.

Paraguay thus becomes the second country, after Argentina, to announce its official support to the polio eradication initiative.

Interagency Coordinating Committee Meets in Washington

A number of international organizations have joined PAHO in the polio eradication initiative. To coordinate their efforts, the polio plan of action calls for the establishment of an Interagency Coordinating Committee (ICC), which first met in Washington on 29 July.

The organizations represented at the meeting were the United States Agency for International Development

(USAID), the Interamerican Development Bank (IDB), Rotary International, the United Nations Children's Fund (UNICEF), and the Bellagio Task Force for Child Survival.

The ICC will ensure that donor organizations coordinate their efforts at the country level so that each agency's resources are most effectively used. The member agencies are currently reviewing the plan of action in order to define how each can best contribute to meet the polio eradication goal.

Increasing Vaccination Coverage: A Search for New Strategies

Background

Newly established immunization programs often achieve dramatic increases in coverage in their early years. Coverages which may have persisted at only 10 or 20 percent for years will often rise to 40 or 50 percent of the target populations when a country first implements the Expanded Program on Immunization. Incorporation of accelerated strategies, such as national immunization days, may even raise coverage levels to as high as 70 to 80 percent. However the efforts required to reach the last 20 to 30 percent of the population are considerably different from those needed to raise coverage initially.

Those who remain outside the reach of routine and intensified services do so for a variety of reasons, which may involve traditional beliefs and attitudes of which public health authorities are largely unaware. Furthermore, this "hard to reach" population is not a homogeneous one, and different strategies will be necessary depending on the particular group to be addressed. Some coverage surveys include questions to find out why parents fail to have their children vaccinated, but the results obtained may give only a superficial idea of the real problems involved.

Health professionals are increasingly looking to the social sciences to help answer these kinds of questions. Sociologists and anthropologists, using methods such as participant observation and lengthy, open-ended interviews, are frequently able to gain the confidence of their subjects and obtain more honest, detailed responses to questions than is possible with standardized questionnaires.

These studies do not pretend to have statistical significance as the numbers involved are often small. However the large amount of information obtained on a relatively few subjects can be extremely useful in suggesting new strategies which might be used to reach the groups they represent.

The results of one such study are summarized below.

Case Study in Argentina

Between December 1984 and February 1985, the investigators conducted 90 hours of interviews with each of seven families randomly chosen from the population covered by the National Feeding Program in the Buenos Aires metropolitan area. The families were selected from those classified by the feeding program as risk "D" as determined by poor quality housing, unstable employment, and the presence of children under 6 years of age and/or pregnant women in the household. The objective was to study a

number of families living in marginal circumstances in order to find out their behavior, attitudes and beliefs about health and sickness, with particular respect to their understanding and use of vaccination services.

The investigators interviewed all members of the domestic unit, with special focus on the key informant—usually the oldest female member of the household who is often the one to make decisions concerning vaccination. Information was collected on births, separations and deaths in the family, housing conditions, relationships with neighbors, group memberships, employment histories, socioeconomic status, education, health histories (including childhood diseases contracted and vaccines received), use of health services, concepts of health and sickness, and knowledge of vaccines.

Based on the interview data and similar material obtained from the files of other institutions, the investigators constructed the following four medical "paradigms," or typical ways of relating to the official health system, and suggested approaches which might be used to improve immunization coverage in each group.

I. Domestic units with little medical care. Disease is seen as something accidental and transitory; health services are used only for emergencies, as when one can no longer work, but it is believed that little can be done for chronic diseases. Contact with medical institutions is personalized and judged in absolute terms (good or bad); there is no continuity of care nor are there common terms of discourse between physician and patient.

Contrary to what might have been expected, the investigators found that the children in this group had completed their immunization schedules. This was credited to the existence of a mobile vaccination unit, and the mother's memory of her own childhood illnesses.

Proposal for action: Work with children in their schools to teach them about health, and offer immunizations from mobile units.

II. Domestic units partially included in the official medical system. The concept of disease is based on pain; prescribed treatments frequently are not carried out due to their complexity or economic problems; prescriptions are seen as "magic remedies"; there is little concept of prevention; traditional healers are considered more appropriate for certain types of disease. These individuals frequently do not believe in or do not agree with the medical advice they are given, however they will appear to accept it and then not carry out the instructions.

Use of vaccination services in this group was variable, according to whether families had the means, or if they were particularly frightened by an outbreak. None of the children was completely immunized.

Proposal for action: Work with mothers in small, personalized discussion groups using simple language. Raise awareness of the need to take responsibility for one's health which will increase spontaneous demand for services.

III. Domestic units included in the official medical system. The concept of disease is based on pain but, unlike the previous paradigms, also includes chronic and psychosomatic diseases. Individuals have complete faith in the medical system, though not necessarily in the doctor; they have frequently had bad experiences with doctors in hospitals and will look to other authorities within the system for clearer explanations and more personalized care—nurses, private doctors or another health center. They identify hospitals with poverty and are eager to be included in the Social Security system which covers salaried employees. Though they may accept treatment from traditional healers as a "last resort," they are careful to distinguish themselves from "ignorant people" who go to a traditional healer for any affliction.

Children in this group were incompletely immunized although the parents understood the need for vaccination.

Proposal for action: Work in small groups to try to generate a sense of responsibility for one's health and a consequent increase in spontaneous demand.

IV. Domestic units which overuse medical services. Disease is seen as something external that may be caused by "bad airs" which provoke colds, "heat," which causes nausea and vomiting, or "viruses" which cause all types of illness; wellbeing is defined as "absence of disease." These individuals believe in the medical system and use it frequently; they prefer large institutions and older doctors whom they perceive as wiser; they do not always follow the suggested course of treatment, believing that they know more than the doctor; they may demand "total cure" from the medical establishment, and will frequently change doctors in search of one who can offer a definitive solution to their health problems; medical care is seen as more important than prevention, and surgery may be considered preferable to a prescription.

The children in this group were also incompletely immunized.

Proposal for action: The strategy to reach this group should take advantage of the prestige and authority of well-known medical figures, for example by carrying out promotional campaigns headed by respected authorities.

Source: Patricia Aguirre, "Vaccination Perspectives in Marginal Domestic Units: A Case Study," Buenos Aires, Argentina, April 1985 (unpublished).

Missed Immunization Opportunities

In order to determine the immunization status and eligibility for immunization of children attending a pediatric out-patient department (OPD), a review of attendance records was performed in the general pediatric out-patient clinic of the Christian Medical College and Hospital in Vellore, India, on 26, 28 and 30 December 1983 and 2 January 1984.

The charts of all patients who had been seen by clinic physicians were examined. Patients who were admitted to the ward or referred to other departments were excluded. A total of 446 charts were examined, an average of 112 per clinic session.

The chart review included the presence or absence of contraindication to immunization. The following conditions were regarded as contraindications: severe illness, undiagnosed illness and immunosuppression, but *not* mild upper respiratory infection, diarrhea, malnutrition or low-grade fever.¹ The findings of this review are summarized in Table 1.

TABLE 1. Review of records on eligibility for immunization of 446 children attending an out-patient department, Vellore, India, 1984

	Number	%
General characteristics		
Over 6 years old	117	26
Resident outside town	150	34
Resident outside state	17	4
Existence of "well-child card"	213	48
Selected symptoms		
Mild upper respiratory infection	154	35
Severe upper respiratory infection	19	4
Mild diarrhea	58	13
Severe diarrhea	11	2
Immunization status		
Immunizations up to date for age	121	27
Immunization needed	183	41
No information available ^a	142	32
Eligibility for immunization		
No contraindication	362	81
No contraindication and in need of immunization	255 ^b	57
Received immunization in OPD	36	8

^aForty three percent of the children for whom no information was available were over 6 years of age.

^bIncludes children for whom no information was available.

¹ See WER No. 3, 1984, pp. 13-14. (A prototype protocol for a study of this kind is available upon request from EPI, WHO, Geneva, Switzerland.)

Reported Cases of EPI Diseases

Number of reported cases of measles, poliomyelitis, tetanus, diphtheria and whooping cough, from 1 January 1985 to date of last report, and for same epidemiological period in 1984, by country

Subregion and Country	Date of last report	Measles		Poliomyelitis		Tetanus				Diphtheria		Whooping Cough	
		1985	1984	1985	1984	Non-neonatorum		Neonatorum		1985	1984	1985	1984
						1985	1984	1985	1984				
NORTHERN AMERICA													
Canada	13 Jul.	1,490	3,083	—	—	2	1**	...	...	5	2	740	603
United States	7 Sep.	2,399	2,278	3	2	43**	43**	...	...	1	—	1,736	1,424
CARIBBEAN													
Antigua & Barbuda	18 Mayo	1	...	—	...	—	...	1	...	—	...	—	...
Bahamas	13 Jul.	18	27	—	—	4	1	—	*	—	—	1	—
Barbados	13 Jul.	2	3	—	—	—	2	—	—	—	—	—	—
Cuba	*	...	...	...	...	...	...	...	...	...	...	...	...
Dominica	15 Jun.	40	—	—	—	—	—	—	—	—	—	—	—
Dominican Republic	*	...	...	...	...	...	...	...	...	...	...	...	...
Grenada	10 Ago.	6	7	—	—	—	—	—	—	—	—	—	—
Haiti	*	...	...	...	...	...	...	...	...	...	...	...	...
Jamaica	13 Jul.	38	193	...	...	...	1	...	1	...	4	1	15
Saint Lucia	15 Jun.	4	9	—	—	—	—	—	—	—	—	—	—
St. Christopher-Nevis	18 Mayo	22	1	—	—	—	—	—	—	—	—	—	—
St. Vincent and the Grenadines	23 Feb.	1	1	...	—	...	—	...	—	...	...	1	—
Trinidad & Tobago	13 Jul.	2,697	3,048	—	—	7	8	—	—	—	—	—	—
CONTINENTAL MID AMERICA													
Belize	7 Sep.	5	...	—	...	2	...	—	...	—	...	28	...
Costa Rica	23 Feb.	—	—	—	—	—	—	...	...	—	—	20	54
El Salvador	20 Abr.	1,046	934	—	5	17	26	9	8	3	8	66	126
Guatemala	18 Mayo	945	...	6	...	22	...	2	...	8	...	477	...
Honduras	10 Ago.	5,281	...	3	...	10	...	3	...	—	...	162	...
Mexico	*	...	...	...	...	...	...	...	...	...	...	...	...
Nicaragua	*	...	...	...	...	...	...	...	...	...	...	...	...
Panama	18 Mayo	274	176	—	—	1	2	3	3	—	—	57	81
TROPICAL SOUTH AMERICA													
Bolivia	*	...	...	...	...	...	...	...	...	...	...	...	...
Brazil	23 Feb.	8,562	7,915	2	—	316	352	75	85	313	451	3,410	3,192
Colombia	*	...	...	...	...	...	...	...	...	...	...	...	...
Ecuador	23 Mar.	597	2,863	—	—	15	16	19	14	7	13	191	127
Guyana	20 Mar.	43	45	...	...	2	4	...	...	43	—	1	—
Paraguay	13 Jul.	141	220	2	—	32	38	38	53	10	7	222	217
Peru	*	...	...	...	...	...	...	...	...	...	...	...	...
Suriname	18 Mayo	65	16	—	—	—	2**	...	...	—	—	—	—
Venezuela	13 Jul.	16,628	5,239	—	—	—	...	—	...	4	1	1,508	682
TEMPERATE SOUTH AMERICA													
Argentina	13 Jul.	4,438	4,563	—	2	48**	105**	...	...	7	8	3,082	6,988
Chile	13 Jul.	2,381	1,768	...	—	14**	16**	...	...	87	72	573	205
Uruguay	23 Feb.	7	—	—	—	—	1	—	—	—	—	6	20

— No Cases

... Data not available

* No 1985 reports received

** Total tetanus cases; tetanus neonatorum not reported separately.

It was concluded that more than 50 percent of the patients attending this OPD could receive the needed immunization. This is an opportunity to protect a large number of children from vaccine-preventable diseases and the feasibility of increasing the delivery of immunizations in this clinic should be considered. It was also considered

that a system of patient-retained immunization records needs to be developed to simplify the assessment of immunization status of patients in a busy clinic.

Source: *Weekly Epidemiological Record* 60:31(237-238), 2 August 1985.

First Regional EPI Epidemiologic Surveillance Course

More than 40 South American health professionals from 11 countries participated in a new epidemiologic surveillance course held in Buenos Aires from 5 to 9 August. The School of Public Health in Rio de Janeiro produced the training materials, while the School of Public Health in Buenos Aires translated and reproduced them for the course. Instructors from both schools participated as coordinators.

New phase of EPI training

This course marks a new phase in EPI training activities, which up to now have focused on planning, managing and evaluating immunization programs. More than 15,000 health workers at national, regional and operational levels are estimated to have attended workshops based on the EPI training modules developed at PAHO, and many countries have adapted the modules to

local needs. Now, as vaccination coverages are increasing in every country, assessment of program impact—as measured by disease reduction—is assuming greater importance. In many countries this has been one of the weakest components of the immunization program, especially at the operational level.

The new course aims to fill this gap in knowledge by teaching health workers how to implement surveillance activities for the EPI diseases. It is aimed primarily at members of epidemiologic surveillance and disease control units of health services.

A second course will be organized by the schools of public health of Brazil, Argentina, and Mexico. It will be offered to participants from Central American countries as well as Mexico, the Dominican Republic, Haiti, and Cuba. The course will continue to be adapted and will eventually extend to all levels of the health system.

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References to commercial products and the publication of signed articles in this newsletter do not constitute endorsement by PAHO/WHO, nor do they necessarily represent the policy of the Organization.



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