



# WHO

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## *SUB-REGIONAL COORDINATION MEETING ON SURVEILLANCE AND CERTIFICATION OF POLIOMYELITIS*

Report on a WHO Meeting

Istanbul, Turkey  
10–11 December 1998

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1999

EUROPEAN HEALTH21 TARGET 7

## EUROPEAN HEALTH21 TARGET 7

### REDUCING COMMUNICABLE DISEASES

By the year 2020, the adverse health effects of communicable diseases should be substantially diminished through systematically applied programmes to eradicate, eliminate or control infectious diseases of public health importance

*(Adopted by the WHO Regional Committee for Europe at its forty-eighth session, Copenhagen, September 1998)*

### ABSTRACT

The participants in the meeting included the immunization programme managers, directors of national poliovirus laboratories, chairs of national certification committees (or their representatives) and WHO country staff in Albania, Bosnia and Herzegovina, Romania, The Former Yugoslav Republic of Macedonia, Turkey and the Federal Republic of Yugoslavia. A review of the global and regional status of the poliomyelitis eradication initiative allowed each country's representatives to be briefed on the progress of the programme and the direction and needs for the future. Certification will occur only when all Member States involved demonstrate that no indigenous circulation of wild polioviruses has been detected for three years. For recently endemic countries, this requires a strong system of surveillance for acute flaccid paralysis involving the testing of all faecal specimens from suspected cases by laboratories that are fully accredited by WHO. National certification committees will be requested to submit documentation for recently endemic countries (which generally includes those with confirmed or possible cases since 1989) by 31 December 1999 to the Regional Commission for the Certification of the Eradication of Poliomyelitis. The mechanism for submitting this documentation is the Manual of Operations, which allows review of surveillance, laboratory and immunization data in a standard presentation. Participants were briefed on future work required for the containment of wild polioviruses in laboratories and the proper handling and disposal of clinical specimens from earlier years, which potentially could contain wild polioviruses.

### Keywords

POLIOMYELITIS – prevention and control  
CERTIFICATION  
EUROPE, EASTERN  
EUROPE, SOUTHERN

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## **Introduction**

The World Health Organization, Regional Office for Europe held a sub-regional coordination meeting on surveillance and certification of poliomyelitis eradication in Istanbul on 10–11 December 1998. Participants included the immunization programme managers, directors of national poliovirus laboratories, chairs of national certification committees (or their representatives) and WHO country staff from Albania, Bosnia and Herzegovina, Romania, The Former Yugoslav Republic of Macedonia, Turkey and the Federal Republic of Yugoslavia. The meeting was chaired by Sir Joseph Smith, Chairman of the European Regional Commission for the Certification of Eradication of Poliomyelitis and the secretary was Dr George Oblapenko. The Rapporteur was Dr Victor Olsavszky. The programme of the meeting and the list of participants are attached as Annex 1 and Annex 2, respectively.

## **Scope and purpose**

- to give an overview on acute flaccid paralysis (AFP) surveillance and laboratory performance;
- to share experience on AFP surveillance;
- to identify problems and solutions towards improving AFP surveillance in support of certification of poliomyelitis eradication;
- to discuss the documentation for the certification of poliomyelitis eradication;
- to review the plan of action for 1999–2000 in the light of the experiences gained.

## **Current status**

### **Global overview**

Dr George Oblapenko welcomed the participants on behalf of the Regional Director. Dr Harry Hull presented a global overview indicating that the poliomyelitis eradication initiative, in addition to its own goal, can be used to improve routine immunization services. The four primary strategies for polio eradication are:

- a strong routine immunization programme
- National Immunization Days (NIDs)
- acute flaccid paralysis surveillance
- “mopping-up” immunization.

In order to achieve the target, key elements have to be ensured to fully implement the four primary strategies for polio eradication, which are political support, surveillance to identify high-risk groups, funding/fundraising, and outreach campaigns.

In addition, the strategies must be followed by several other activities: a process for certification of being polio-free, laboratory containment of polioviruses, and stopping polio immunization. The global overview on polio eradication shows that coverage with the third dose of OPV3 in 1997 was above 80%, 92% in the European Region. 450 million children were immunized in NIDs in 1997; India reported 150 million children immunized in a day. Annual reported polio cases decreases globally from 35 251 in 1988 to 4962 in 1997 with a significant reduction of wild poliovirus isolations in the same period of time. With a few exceptions, known or probable wild poliovirus transmission is occurring only in Africa and South Asia. Priorities for 1999

include accelerating activities in the major global reservoirs (South Asia, West/Central Africa, Horn of Africa), in countries affected by conflict and in other endemic countries. Acceleration activities will include additional rounds of NIDs/SNIDs, dedicated surveillance personnel, eradication teams, enhanced mopping-up, etc.

### **Regional overview**

The regional overview was introduced by Dr George Oblapenko. The only country in the Region where endemic transmission of wild polioviruses is still on going in 1998 is Turkey. AFP surveillance has improved in almost all high-risk areas in the Region, particularly in Armenia, Turkey and Turkmenistan. Improvements have been noted in the quality and performance indicators of AFP surveillance and Regional LABNET. National certification committees have been established in 48 Member States. A standard format Manual of Operation has been developed, tested and distributed to all Member States. Coordinated mopping-up operations were implemented in six countries of the Region covering high-risk areas. Continuing problems in the path toward regional elimination of poliovirus circulation include:

1. different types of civil tension or civil unrest in certain areas of some countries (Azerbaijan, Armenia, Federal Republic of Yugoslavia, Georgia, Russian Federation, Tajikistan, Turkey);
2. political support to national eradication programmes was not translated into programmatic areas;
3. slow improvement of the quality for AFP surveillance due to lack of cooperation between different health professionals and/or misunderstanding of the concept of that type of surveillance at different levels of a health system.

The Regional target to interrupt transmission of wild polioviruses by the end of 1997 was not achieved; Turkey remains at high risk of continued wild poliovirus transmission in 1999. More support is needed from all partners of the Regional anti-polio coalition in order to guarantee the successful end of the polio eradication effort – and to certify the European Region as POLIO FREE.

### **Global commission for certification**

Sir Joseph Smith described briefly the criteria, policy and certification process. There are still concerns about the process for some problem areas in the world, due to social factors as high density population, poverty or conflict and regarding bureaucratic procedures. Some of them can be resolved by involvement of the political leaders in the process, or by special or individual arrangements between countries. Surveillance must be maintained after eradication until immunization can be stopped. Certification will be made for entire Regions, not for subregions.

### **Regional certification process**

On behalf of the Regional Commission for Certification of the Eradication of Poliomyelitis, Dr Istvan Dömök reminded the participants of the process, timetable and terms of reference of the Commission. The Regional Commission was established in 1996 and at their first meeting agreed on the process of certification, main activities, plan of action and timetable for certification of polio eradication. National certification committees are independent bodies appointed by national authorities in consultation with the WHO Regional Office. They have to verify the documentation needed to prove, in their opinion, that wild polioviruses have been eliminated. Upon verification they have to submit the documentation to the Regional Certification

Commission. The national committees have to follow up the activities connected with polio surveillance and control even after the Region has been declared free of wild poliovirus until global eradication is declared.

The timetable accepted by the Regional Certification Committee for the 34 non-endemic countries follows the scheme: March 1998 submission of documentation for group 1 (Denmark, Finland, Netherlands, United Kingdom); submission of action plan for group 2 (Nordic/Baltic and western European countries) and group 3 (southern and central European countries); April 1998 review of documentation for group 1; December 1998 submission of documentation by countries of groups 2 and 3; February 1999 review of documentation for group 2 and May 1999 review of documentation for group 3.

### **AFP surveillance**

Dr Steven Wassilak referred to the eradication of poliomyelitis as serious business requiring reliable surveillance data. All responsible persons should feel encouraged by the improvements noted in AFP surveillance from 1996 to 1998. However, if we are to meet the goal of regional elimination and global eradication by the year 2000, every country in the recently endemic and endemic zone must have a surveillance system which meets the requirements for certification.

Acute Flaccid Paralysis (AFP) surveillance with collection of faecal specimens for virologic examination in an accredited laboratory serves three purposes:

1. finding virus if it is circulating
2. as an early warning system of when wild polioviruses are introduced and
3. certification standard for proving that virus is not circulating.

For the first two purposes, the most efficient means to find wild poliovirus infections are the paralytic manifestation, and faster response requires early diagnosis. Purported GBS gave confusion at the beginning of some polio outbreaks. Unless AFP surveillance is well implemented, continued NIDs/SNIDs will be necessary instead of more limited activities. For the third purpose, no other surveillance system has proven performance indicators so that AFP is the standard surveillance method to document the absence of poliovirus circulation. AFP is any case of new onset flaccid paralysis in a child aged less than 15 years of age, including Guillain-Barré Syndrome and transverse myelitis; clinically suspected polio at any age.

### **Regional polio laboratory network**

Dr Galina Lipskaya presented the major activities of the Regional Laboratory Network (RLN). The Global Polio Laboratory Network was created as an integral part of the Global Polio Eradication Programme. Its activity becomes absolutely critical at the stage of Certification, when confirmation of the absence wild type polio virus circulation in countries can come only from the virological laboratories. The key elements of the RLN are 38 national labs (NLs), working in a collaboration with the WHO/Regional Office. The major activities in 1998 were expanding virological surveillance for wild polioviruses and accreditation of NLs. In 1998, 1011 AFP cases were investigated in the Regional LABNET, which is 83% of the reported AFP cases as compared to 43% analysed in LABNET in 1997. Up to November 1998, there were 19 polio cases associated with wild poliovirus type 1 and 2 cases associated with wild type 3.

The accreditation of NLs of the Regional LABNET was initiated in 1997. Six objective criteria for accreditation were developed to check the ability of a laboratory to isolate and identify polioviruses from stool samples of AFP cases. In 1998, 22 NLs were fully accredited by WHO,

6 NLs were provisionally accredited, 6 laboratories were not accredited on the results of the review and the last 4 NLs will be reviewed in the near future. Based on the results of the accreditation procedure actions were taken to upgrade the laboratories in the newly independent states (NIS) and Turkey, provide laboratory supplies and reagents for virological examination of AFP samples for the NLs of NIS, Turkey, the Baltic states and some others, and to train virologists.

Great improvement in communication with WHO/EURO was observed in 1998, although even now, not all of the NLs report their data to the Regional Office. There were 10 reporting in 1994, 16 in 1995, 21 in 1996, 23 in 1997 and 30 in 1998. WHO/EURO supported the linking all the NLs in EURO by e-mail by provision of PCs, software and internet subscription to many NLs in need.

### **National documentation required for certification**

In November 1996; the Manual of Operations for national documentation was completed. Following pilot testing in 6 countries, it was revised in October 1997. In December 1997, the Manual was distributed to 34 countries and final conclusions were noted in April 1998. The national certification committees for the countries represented at this meeting (except Turkey) are to present a completed Manual by 31 December 1999 to the Regional Office for review in early 2000. The more recently endemic countries of the Region will be reviewed in more detail during 2001 and 2002; in this way polio elimination for the Region could be declared by 2003 or earlier.

### **Country reports and other issues**

A session was dedicated to country reports on the progress towards polio eradication followed by some brief presentations and a round table discussion on how to improve AFP surveillance.

### **Country presentations**

#### **ALBANIA**

Routine infant immunization coverage with oral polio vaccine (OPV3) is >95%, under a vaccination scheme at 2, 4, 6, 18 months and 5 years. There is consideration being given to perform Sub-NIDs in areas where the vaccine coverage is less than 90%. The present surveillance system for acute flaccid paralysis (AFP) and poliovirus needs to be improved by 1) workshop training in case definition (for family doctors), 2) improving communication (establishing e-mail, radio or fax/phone connection between all parts of the surveillance system), 3) providing feedback to districts (a monthly epidemiological newsletter was just initiated), 4) improving overall the epidemiological surveillance at central and local levels. AFP surveillance detected 9 cases of AFP of an expected minimum of 11, and 56% had two specimens collected within 14 days.

The Institute of Public Health virological laboratory is the national laboratory. Additional training of the staff is needed in diagnostic procedures of poliovirus and enteroviruses in generally and supplies and reagents are needed.

#### **BOSNIA AND HERZEGOVINA**

In the Federation entity, in 1998, immunization coverage for three doses of polio vaccine by the first birthday was 90%. After a round of NIDs in 1996, subnational immunization days and

mopping up campaign were conducted in 1997 and 1998. The provisional non-polio AFP rate in 1998 is 0.47 (compared to 0.20 in 1997), with 100% two stool specimens collected.

In the Republika Srpska entity, OPV3 vaccine coverage during the civil war (1992–1995) was about 70%. In 1996 on 21 December using the KOSAS 4.5 programme, a NID was organized in Republika Srpska. During six months in 1998, no OPV was available for authorized use. Vaccine is now available and a campaign is being planned. The Public Health Institute carries out the supervision of AFP; in 1997, 3 non-polio AFP cases were registered (rate of 0.22) and tested. Additionally specimens of 9 contacts were tested. Cases have not been detected in 1998.

At the end of November 1998, the members of the National Committee of Certification of Polio Eradication were nominated for both entities of Bosnia and Herzegovina, pending approval.

## ROMANIA

After changing routine OPV delivery from semi-annual campaigns to monthly vaccination of children at recommended ages in 1995 (through installation of a proper vaccine "cold chain" in Romania), vaccine coverage increased. In the past 3 years, vaccine coverage at national level was constantly at least 95%. All districts but one, are reporting vaccine coverage >95% at 18–24 months of age with 4 OPV doses. Additionally, in the last 3 years, after replacing OPV with donated IPV in orphanages, vaccine-associated polio paralysis was eliminated from orphanage children. Since 1969, the health system in Romania reported only suspect cases of paralytic polio. In 1992, AFP case definition and AFP weekly zero reporting replaced the previous system for polio surveillance. Health professionals are requested to report within 24 hours to district public health authority any case of illness compatible with WHO case definition for AFP in a child under 15 years of age. In order to improve surveillance of enteroviruses circulation in Romania, facial paralysis in children under 5 is included in surveillance. In order to decrease underreporting of AFP, active surveillance of AFP in sentinel hospitals from each district was successfully implemented since 1995, which increased AFP reports by 30–40% over the number of cases passively reported. In each year, 15 000 medical files of hospitalized children aged less than 15 from all districts are reviewed.

Subnational vaccination campaigns conducted by Romania in 1996 improved vaccine coverage mainly by vaccinating hard-to-reach groups in the routine vaccination populations. In the last two years, supplemental immunization was conducted in each May and September for preschool children with fewer than 4 reported OPV doses in the immunization history. Overall, around 12 000 (1%) of preschool children received 1–4 doses of OPV.

The 1998 Plan of Action includes improvement of AFP cases surveillance in order to maintain the rate of >1 case of non-polio AFP per 100 000 children aged less the 15 years. It focuses also on maintenance of a 95% vaccine coverage for primary OPV immunization at 2 years of age in each district, on further improvement of the capacity for an immediate response in the case of detecting the wild poliovirus activity, on preparation of detailed and complete data needed for polio eradication certification.

## THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

Routine immunization has continually reached high coverage levels for many years. The coverage is over 95% on a country level, with small variations between municipalities. During 1996 and 1997, two campaign rounds of NIDs, were implemented, reaching high coverage levels. An active system of AFP surveillance in The Former Yugoslav Republic of Macedonia is

functioning. From the beginning of this year, all health institutions are obligated to report AFP on weekly basis (in comparison with previously when reporting was on a monthly basis). Reports are submitted to the State Institute for Health Protection. In arrangement with WHO, two referral centres for diagnosis of AFP for children and adolescents were established. There are continuous "catch-up" activities performed by health personnel. During 1997 and 1998, 16 workshops on EPI were organized for paediatricians, specialists in school medicine and other doctors involved in the process of immunization. In 1998, six workshops on AFP surveillance were conducted for paediatricians, specialists in school medicine, neurologists, specialists in infectious disease and other doctors.

## TURKEY

Routine immunization in the last several years is more or less stabilised at OPV3 coverage rates between 75–80%. OPV3 coverage is lower in the east and south east part of the country where socioeconomic, geographic and staffing problems are prominent. Turkey has conducted 4 years of NIDs and 2 mopping-up activities between 1995–1998. Coverage in the NIDs was fairly high, but variable. The most recent mopping-up activity in 1998 has been conducted under good supervision of the Ministry and with adherence to the door-to-door immunization strategy. Considerable improvement has been achieved in AFP surveillance in the last 3 years. Non-polio AFP rates, the proportion of AFP cases with adequate stool samples and the proportion of AFP cases reported within seven days after the onset of paralysis increased while the number of silent areas decreased. Improvement in surveillance led to better detection of polio cases and in the first 11 months of 1998, Turkey had 21 isolates of wild virus all of which are from the south eastern provinces. Turkey is preparing a strategic plan covering the period 1999–2002 on the improvement of EPI and achievement of polio eradication goal. This plan will include strategies and activities related to all four main strategies of polio eradication. Routine OPV3 coverage will be improved, and supplemental immunization will be continued until stopping the transmission of wild virus. AFP surveillance will further be improved by focusing on high-risk areas, and laboratory performance will be improved.

## FEDERAL REPUBLIC OF YUGOSLAVIA

Immunization against polio is mandatory and coverage with routine OPV3 for the whole country was 89.5% in 1995, 91.1% in 1996, 94.0% in 1997, with an estimate of 94% or lower in 1998. The same districts (municipalities) with coverage lower than 90% in 1997, are expected to have similar results in 1998, as well as Pec and Prizren districts in Kosovo. Additional immunization activities in high-risk zones, such as sub-NIDs and mopping-up, took place in 1996, 1997 and 1998, respectively. Although AFP reporting started in 1995, active epidemiological surveillance for AFP started in 1997. The quality of AFP surveillance has been improving over time, as shown by performance indicators: provisional non-polio AFP rate of 1.37 in 1998, compared to 0.62 in 1997. The Rapid Assessment of AFP Surveillance conducted by the WHO team in March 1998, has shown that "The AFP surveillance system has dramatically improved in 1997 ..." and "The reporting system overall should be able to meet all performance criteria in 1998". During the first ten months of 1998, Yugoslav National Laboratory for Poliomyelitis, that was fully accredited in 1998, investigated 31 AFP cases that represent 100% of all AFP cases reported. Based on laboratory reports, adequate stools (2 stools, collected at least 24 hours apart, within 14 days of paralysis onset) were collected from 81% of all reported cases comparing to 29% in 1996 and 71% in 1997. The laboratory investigated 62 stool samples from AFP cases and 60 stools from contacts. Data for AFP cases showed that 97% of stools were received in "good" condition, comparing to 88% in 1996 and 71% in 1997; 58% of stools were received within 3 days of their collection (and for those not, there were clear data about their storage at -20° C).

Virology results were available within 28 days for 74% of investigated AFP case samples, which fell short of the 80% performance target (compared to 100% in 1997). The reasons for “turn-around time” >28 days can be considered as “technical ones”: laboratory revision and staff absences. NPEVs were isolated from 8.1% samples from AFP cases.

Although there are clear data about specimen storage, improvement is still required with respect to the speed of specimen transport to the laboratory. The last AFP case classified as confirmed poliomyelitis was registered in October 1996, during the 1996 outbreak. During 1997 and first ten months of 1998, 40 AFP cases were classified (14 and 26 respectively). Only one AFP case (in 1997) was classified as polio-compatible. Out of 39 AFP cases classified as polio-discarded, four of them (in 1998) were classified as vaccine-associated polio.

### **Detection of importation and appropriate response**

The country reports were followed by a short presentation of Dr Harry Hull on detection of poliovirus importation and appropriate response. Adequate surveillance to detect imported polio cases can be performed through accredited laboratory, AFP surveillance at high level in all geographic districts, with two adequate stools in 80% of AFP cases. High risk population must be clearly identified with AFP surveillance covering facilities serving these populations. Fully functional AFP surveillance detects a case from imported virus as soon as it occurs. In order to very quickly get the results “hot” specimens and cases have to be immediately “flagged” for high priority in investigation as public health emergencies. The epidemiological investigation procedures should determine the extent of spread of imported viruses and therefore determine the outbreak response, which should be determined in advance as requested in the Manual of Operations.

### **Global action plan for maximum laboratory containment of wild polioviruses**

Dr Walter Dowdle presented an overview on this Action Plan, which is structured in three phases: pre-eradication, post-eradication and post-immunization. The current efforts in the first phase are:

- to enlist participation of all biomedical laboratories in the Global Action Plan. The proposed scheme for an inventory of laboratories that might possess wild poliovirus infectious and/or potentially infectious materials was presented;
- to encourage safe handling and destruction of materials no longer needed;
- to establish a Global Registry of all laboratories which have such materials, by use of a proposed scheme.

The containment of wild polioviruses in laboratories and the proper handling and disposal of clinical specimens from earlier years which potentially could contain wild polioviruses will be important work to be performed in the years after the elimination of wild poliovirus transmission from the Region, but prior to the time that global eradication is certified and before immunization against poliomyelitis can be stopped.

Round table discussions included the necessity of improving the quality of surveillance and the means to do it: e.g. active surveillance, special teams to visit local areas, training of local staff, workshops, monitoring, and supervision.

## Summary

Certification of the region will only occur when all Member States have demonstrated that three years had progressed without any indigenous circulation of wild polioviruses having been detected. For recently endemic and endemic countries, this requires a strong system of surveillance for acute flaccid paralysis meeting the performance requirements of certification and testing of all faecal specimens from cases in fully WHO-accredited laboratories. The documentation for the recently-endemic countries of the Region (which generally includes those with confirmed or possible cases before 1993, mostly consisting of the countries represented at this meeting, except Turkey) will be requested to be submitted by the national certification committees to the Regional Commission for the Certification of the Eradication of Poliomyelitis by 31 December 1999. The Manual of Operations, distributed to all Member States, allows the Regional Commission to review surveillance, laboratory, and immunization data in a standard presentation.

*Annex 1*

**PROVISIONAL PROGRAMME**

**Thursday, 10 December 1998**

- |             |   |                                  |
|-------------|---|----------------------------------|
| 8.30        | Registration  |                                  |
| 9.00        | Opening: WHO/EURO<br>WHO/HQ<br>Chairman of the Regional Certification Commission<br>Administrative matters                          |                                  |
| 9.30–10.30  | <b>Session 1: Progress towards eradication of poliomyelitis</b><br>Global overview<br>Regional overview<br>Discussion               | Dr H. Hull<br>Dr G. Oblapenko    |
| 10.30–11.00 | <i>Coffee break</i>   |                                  |
|             | <b>Session 2: Certification of polio eradication – process, basic documents, surveillance</b>                                       |                                  |
| 11.00–12.30 | Global Commission for Certification (criteria, policy, certification process)<br>Regional Certification Process<br>Discussion       | Sir Joseph Smith<br>Dr I. Dömök  |
| 12.30–13.30 | <i>Lunch</i>  |                                  |
| 13.30–15.00 | Standard AFP surveillance for certification: situation analysis and requirements<br>Regional Polio Laboratory Network<br>Discussion | Dr S. Wassilak<br>Dr G. Lipskaya |
| 15.00–15.30 | <i>Coffee break</i>   |                                  |
| 15.30–16.30 | National documentation required for certification<br>Discussion   | Dr G. Oblapenko                  |
| 16.30–17.00 | Supplementary surveillance for polio viruses<br>Discussion  | Dr H.v.d. Avoort                 |

**Friday, 11 December 1998**

**8.30–10.30 Session 3: Meeting the requirements for certification**

Status of countries' progress towards polio eradication:

Albania  
Bosnia and Herzegovina  
Romania  
The Former Yugoslav Republic of Macedonia  
Turkey  
Yugoslavia

(20 minutes for each country, 15 minutes presentation and 5 minutes discussion)

*10.30–11.00 Coffee break*

**11.00–12.30 Actions to improve AFP/virological surveillance (round table discussion)**

Introduction to improving AFP surveillance  
Discussion

Dr S. Wassilak

Introduction to improving virological surveillance  
Discussion

Dr G. Lipskaya

*12.30–13.30 Lunch*

**13.30–14.30 Detection of importation and appropriate response (surveillance activities and immunization actions) Discussion**

Dr H. Hull

**14.30–15.00 LABNET: Implementation of the global action plan for maximum laboratory containment of wild polioviruses Discussion**

Dr W. Dowdle

*15.00–15.30 Coffee break*

**15.30–16.00 General discussion**

**16.00 Closure of the meeting**

*Annex 2*

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