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International Coordinating Group (ICG) on Vaccine Provision  
for Epidemic Meningitis Control. Summary Report of the  
Third Meeting. Geneva, Switzerland, 8-9 December 1997

## World Health Organization

Emerging and other Communicable Diseases,  
Surveillance and Control

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## **1. Introduction**

The Third meeting of the International Co-ordinating Group on Vaccine Provision for Epidemic Meningitis Control (ICG) was held at WHO Headquarters in Geneva on the 8th and 9th December 1997. The meeting was chaired by Dr D. Barakamfitye, Director, Prevention and Control of Diseases (DDC) of the WHO Regional Office for Africa. Dr M. Hardiman, WHO/EMC, acted as rapporteur. The agenda and list of participants are to be found in the annexes.

The Chairman welcomed the participants and outlined the objectives for the meeting. Dr D.L. Heymann, Director EMC, added his welcome and commented that, although meningococcal vaccine was not in such short supply this year, there are still a number of important issues to demand global attention. These include the need to improve the speed of response to epidemic situations, the continued political sensitivity to the issue of meningitis, the relative merits of preventive vaccination versus epidemic response and the impact that the development of a new conjugate vaccine might have on efforts to control meningitis. Dr J.-W. Lee, Director, GPV, in his opening remarks looked forward to the time when preventive actions for meningitis would render epidemic response through the ICG as no longer necessary.

## **2. Reports from the ICG Executive Sub-group**

Representatives of the four agencies of the ICG Executive Sub-group presented reports of their activities relating to preparedness for response to meningitis epidemics.

### **a. IFRC**

The IFRC is supporting activities in Cote d'Ivoire, Ghana, Benin and Togo. Following a request from the government of Cote d'Ivoire, a project has been developed together with AMP and the National Institute of Hygiene that strengthens epidemic response systems in 6 districts of northern Cote d'Ivoire and includes the provision of 200,000 doses of meningococcal vaccine. The national Red Cross Society is also working to raise vaccine coverage through community mobilisation.

A long term project for training in surveillance, disease detection and vaccination is being planned for most countries in the meningitis belt. This Red Cross activity is co-ordinated by the Federation's Regional Office in Abidjan.

**b. MSF**

MSF objectives, as member of the ICG subgroup, for 1998 are:

- To minimise delays in decision making about supplies within the subgroup
- To improve the information on the ICG functions and access to security stock at all levels
- To standardise the epidemiological and operational information supporting the requests

Besides, MSF is supporting emergency preparedness programs on epidemics in 2 African countries.

**c. UNICEF**

The focus of the UNICEF response to epidemics lies in the UNICEF Regional Offices. UNICEF Supplies in Copenhagen is concerned with the overview of the vaccine supply. Meningitis vaccine shipments by UNICEF had peaked in the late 1980s and again peaked last year. This year so far meningococcal vaccine has been supplied to: Angola, Gambia, Ghana, Mali, Pakistan, Togo and Tanzania at a total value of \$2.5 million (all costs included). Supplies are viewed as only part of the problem and the UNICEF Regional Offices emphasise the importance of strengthening infrastructure and systems to deliver vaccines.

**d. WHO**

A report was presented on the activities of the ICG Secretariat on behalf of the Executive Sub-group partners.

As recommended by the participants of the 2nd ICG meeting in June 1997, the Terms of Reference for the ICG have been revised (ANNEX 3). These now include oily chloramphenicol amongst those materials for which the ICG would monitor the global availability. The ICG's role is described as ensuring vaccine availability (and not vaccine provision, as had been the case in the previous Terms of Reference). The advocacy role is more clearly specified to include epidemic preparedness as well as response. Finally a new Term of Reference has been added relating to the provision of information to countries and other international partners on how to access the ICG emergency stocks.

Other recommendations arising from the meeting in June 1997 have also been addressed, including; the promotion, at country level, of the ICG role; the continued review of the definition of a "meningitis epidemic"; the introduction of more flexible criteria for the release of vaccine from the ICG stock and the strengthening of surveillance activities to ensure the early detection of epidemics.

Information on the shipment of meningococcal vaccine through WHO for the period since June was presented, as was the state of the ICG emergency stock of materials which is shown in the table below.

### ***Current ICG stock within WHO***

The current stock of the ICG as of the 3rd December 1997:

ITEM	QUANTITY
Meningococcal A&C vaccine (doses)	6,900,000
Oily chloramphenicol (vials 2 ml)	40,000
Autodestruct injection material (units)	6,940,000
Incineration boxes (units)	69,400
Packaging, freight and insurance, balance (US\$)	440,910
Funds (earmarked for Ghana) (US\$)	52,107

Recent meetings with the manufacturers of vaccines have been reassuring through their confirmation of adequate production capacity to meet the demands likely to be arising from the 1997/98 meningitis season. Fears of a shortage of oily chloramphenicol had not been confirmed in discussions with the manufacturer.

ICG activities are integrated into the regular programmes taking place in countries as a part of the wider efforts to promote international preparedness for the detection and control of disease.

### **3. Regional reports on the implementation of the Regional Plans for Preparedness and Control of Epidemic Meningitis**

#### **a. AFRO**

The report from the WHO Regional Office for Africa described the progress being made in the implementation of this plan, and outlined the strengths and weaknesses that have been identified in the areas of surveillance, case management, vaccine availability and epidemic management.

All of the 18 countries participating in the Sub-Regional Meeting on Control of Epidemics in West African Countries in October 1996 have conducted training for District level health workers in the recognition and reporting of cases. Information and reporting systems have been strengthened and, in 5 countries, staff in 13 laboratories have been provided with training and equipment to enable the rapid confirmation of cases. There is evidence from last year's experience that epidemics are being detected more quickly and actions taken that are shortening the length of epidemics. In addition there is now a West Africa Sub-Regional Team of epidemiological and laboratory expertise based in Abidjan, which can provide rapid support to countries experiencing outbreaks.

Case management has improved through the use of technical guidelines and the more widespread use of oily chloramphenicol. These improvements are reflected in a reduction in case fatality rates in the more recent epidemics. Security stocks of vaccine are now available in 15 of the 18 countries referred to above. In 7 countries epidemic management committees have been set up and in others a budget line has been identified for epidemic management. The commitment of national authorities to epidemic prevention and control is improving resulting in closer involvement of ministries of interior and the increased mobilisation of local resources in support of epidemic control.

Against this very encouraging picture, a number of continuing weaknesses were highlighted in some countries: reporting delays and poor utilisation of available data; delays in access to effective treatment; failure to establish plans and committees resulting in poor coordination.

The Regional Office for Africa will continue to support countries in developing plans of action, strengthening laboratory staff, following up the training of health care workers, elaborating country epidemiological profiles, advocating community participation in epidemic control and carrying out relevant operational research.

Outside West Africa there is an ongoing initiative to strengthen epidemic control in the Central and Great Lakes sub-regions of Africa which includes situation analyses of the laboratory facilities and communications systems and the development of a laboratory network for quality assurance.

#### **b. EMRO**

In the Eastern Mediterranean Region activities had concentrated on surveillance, diagnosis and vaccination. Workshops on epidemic preparedness and response have taken place at both inter country and national levels, along with the preparation of training materials in English and Arabic. Further workshops at national level are planned for 1998 to cover those countries unable to participate up until now. There is, in addition, an ongoing programme of evaluation of national surveillance systems. Technical guidelines on epidemic meningitis detection and control are being prepared and in 1998 will be introduced and adapted to meet individual country requirements.

Diagnostic capabilities have been strengthened in Sudan, Egypt and Syria through assessment, training and the provision of diagnostic kits; these activities have been carried out with the support of WHO Collaborating Centres. Similar activities are planned in 1998 with the participation of Iran, Pakistan and Morocco.

Through the ICG, EMRO has contributed to the global stock of vaccine. Some countries within the EMR continue with programmes of targeted preventive vaccination against meningitis and, in Egypt, where such a programme has been in place for 6 years, the impact this is having on the epidemiological pattern of diseases is being investigated with the help of WHO Collaborating Centre at the Centres for Disease Control and Prevention (CDC), Atlanta, USA.

In view of the marked improvements in epidemic preparedness described and the much better global supply of vaccine, the continued need for the ICG was questioned. The Regional offices and country representatives responded clearly that the ICG continued to have an important role to play as the epidemic situation was unpredictable and the security of a global stock for emergencies was very important to them.

Under reporting of meningitis cases was recognised and although the situation was improving the fear of having nationals barred from attending the Haj pilgrimage to Mecca each year had resulted in some countries being reluctant to publicly declare cases. The representative from Saudi Arabia explained that there would be no restrictions placed on countries participating in the Haj this year on account of having declared meningitis cases.

#### **4. Reports from Countries of Preparations for the 1997/98 Meningitis Season**

##### **a. Mali**

Mali is implementing a national plan in epidemic preparedness adopted by the government at the beginning of 1997. There is a daily communication of cases of "priority diseases" (including meningitis) from the health posts and centres to the central level of the Ministry of Health. The information is validated and investigated and is then rapidly available to the appropriate authorities. Case management skills have been improved through the training of the community level health staff and the introduction of standard treatment protocols. Research is being carried out to assess the impact of training in case management.

There is considerable national commitment to the issue of meningitis control, with the direct involvement of the President and cooperative working between the administrative and technical authorities, including a national epidemic control committee. Geographical Information Systems have been introduced which show the incidence of disease down to village level. A series of meetings are being held with neighbouring countries to share information on disease incidence in border areas.

Out of a total population of 9.37 million approximately 2 million people have been vaccinated in 1997. There is a security stock of some 2 million doses of vaccine, 90,000 doses of oily chloramphenicol and 2.3 million 2 ml syringes in addition to an emergency fund of 4 million CFA francs. The state of these security stocks are reported to the authorities every week.

##### **b. Nigeria**

Nigeria experienced an epidemic involving over 100,000 cases and 12,000 deaths in 1996. There had been 70,000 cases in 1995 and so far during this year approximately 2000 cases. Following the experience of 1996 there has been training for health personnel to improve surveillance and a programme of vaccination. Some 12-13 million people received vaccination in 1996/97 when, as syringes were in short supply, vaccination using jet injectors was not uncommon. Nigeria has a security stock of 7.7 million doses of vaccine, 66,000 doses of oily chloramphenicol, 32,000 doses of penicillin and 34,000 disposable (but not auto-destruct) syringes. There are plans to obtain further resources for vaccine purchase and continued training of health personnel. There will be an evaluation of the measures taken to prevent and control the disease in 1998.

The vaccine laboratory in Lagos is hoping to be in a position to produce meningitis vaccine in the future.

During the recent epidemic in Nigeria, *N. meningitidis* was found in 95% of isolates from lumbar punctures and *H. influenzae* in 3.2% (in non epidemic periods *H. influenzae* is responsible for 90% of childhood meningitis). Although the majority of meningococcal meningitis cases during epidemics are serotype A, it would seem that a proportion of cases are either serotype group C or W135.

#### c. Saudi Arabia

Geography, culture and climate have combined to make meningitis an important issue for Saudi Arabia: the country lies between Asia and Africa and the annual pilgrimages of Haj and Omra bring thousands of pilgrims from these continents to the holy cities. The role of this large mixing of peoples in the transmission of meningococcal strains is well documented.

Following the large outbreaks of meningitis associated with the 1988 pilgrimage, the national authorities take a number of precautions to prevent outbreaks. Meningitis cases (as defined by the WHO case definitions) are subject to immediate notification and are then investigated and this is followed by awareness raising, health education as well as chemoprophylaxis to case contacts.

Preventative mass vaccination is carried out every 3 years (with annual campaigns in Mecca, Jeddah and Medina). Children under 2 years of age are given a single dose of polysaccharide A vaccine, all over 2 years receive a dose of A&C vaccine except for pregnant women who are given a course of cefuroxime. Quadrivalent meningococcal vaccine is given in the presence of cases of serotype W135 (24% of isolates).

Pilgrims arriving in the country are asked for evidence of vaccination and offered vaccine if they have not previously received it. If vaccination is declined a course of ciprofloxacin is given.

#### d. Sudan

After the outbreak in 1988, in which the incidence of disease in Khartoum rose to 1000 cases in a week, a mass vaccination of some 12 million people was carried out. Sudan is very concerned that another major epidemic may occur soon as the immunity following that vaccination campaign begins to wane.

Meningitis cases are reported immediately using radios to communicate with remote areas. When a case is detected reports from that area are submitted daily to the Epidemiology Directorate of the Ministry of Health. The national plan to prevent and control epidemics includes: surveillance, preventive vaccination, "buffer" stocks of vaccine and treatment materials, raising public awareness and improving the health care workers ability to recognise and treat the condition. There has been a Epidemic Preparedness Programme involving 10 states in different parts of the country. Guidelines for treatment are available in English and Arabic and some laboratory staff have received special training which will be cascaded through to other staff in the coming year.

The country currently holds 3 million doses of vaccine but 2.2 million of them will expire in August 1998 and so will be utilised in a vaccination campaign before that date if they have not already been used for control of outbreaks during the coming season. There is also a small stock (100 vials) of oily chloramphenicol but no autodestruct syringes are currently held in stock. A need for additional transport media for bacteriological specimens to allow the confirmation and serotyping of cases was identified.

## 5. Forecasting Vaccine Demand

There are 18 African countries with populations living within the classical meningitis belt. The total population at risk in these countries is estimated at 92,200,000. The 1996 meeting in Ouagadougou had estimated that during epidemics 50% of the population would receive vaccination and that 10% of this amount of vaccine should be maintained by countries in immediate readiness for use.

Of the 18 countries, 16 have reported to AFRO on the state of their security stocks (no data is available for Sierra Leone and Cape Verde). 10 of the 16 have security stocks that exceed the 10% recommended and the other 6 have low stocks (details are found in the papers tabled at the meeting).

7 countries were recognised as being at high risk of epidemics - if all of these 7 countries experienced epidemics in the coming year a total of just over 34 million doses of vaccine might be required in epidemic response (see table below). The total stocks of vaccine already held in these 7 countries comes to almost 13 million doses, which would leave around 21.5 million additional doses that would be needed to achieve the 34 million. 21.5 million is considered an over estimate of any probable demand for vaccine as it is unlikely that all these countries will be affected by epidemics simultaneously.

### *Vaccine needs for 7 high risk countries in case of epidemics*

	Estimated doses needed in case of epidemic	Residual doses in country	Estimated additional doses
Ghana	2,268,146	2,000,000	268,146
Togo	521,811	443,450	78,361
Niger	4,961,632	552,700	4,408,932
Mali	4,959,308	1,995,950	2,963,358
Burkina Faso	6,350,000	1,800,000	4,550,000
Nigeria	14,415,000	5,300,000	9,115,000
Chad	886,750	794,200	92,550
<b>Total</b>	<b>34,362,647</b>	<b>12,886,300</b>	<b>21,476,347</b>

The information available from countries regarding epidemic preparedness has greatly improved in comparison to that available to the meeting in June 1997 and provides considerable help to the ICG secretariat as it makes judgements on the adequacy of the emergency preparedness stock.

The demand for vaccine from within the EMR is largely for preventive vaccination strategies. The total vaccine doses bought each year averages about 5 million but varies considerably due to the mass vaccination undertaken by Saudi Arabia every three years; in 1997 this alone accounted for 5 million doses. Some 2 million doses are used annually to vaccinate pilgrims travelling to Mecca. 5 countries in the EMR region hold some emergency stock for epidemics including Sudan, but there is a reliance on the ICG mechanism to provide vaccine in emergency situations.

The security stocks of vaccine held in some countries will soon reach their expiry date; some countries opt to utilise such vaccine in preventive vaccination campaigns. It is difficult to arrange the transfer of such vaccine from country to country because of uncertainties around how carefully it has been stored and therefore its potency cannot be guaranteed. The existence of the ICG emergency stock, held by the manufacturers, will reduce this problem by allowing countries to maintain low levels of security stock actually in the country.

#### **6. Updates from the manufacturers of meningococcal vaccine and autodestruct injection material**

By the 15 November Pasteur Mérieux Connaught had sold a total of 36 million doses of meningococcal A&C vaccine world wide, of which 22 million went to countries of the meningitis belt. The production capacity for meningococcal A&C vaccine for the first six months of 1998 is up to 45-50 million doses depending on demand.

Describing the first year of ICG operations as very successful, the figures for the sales of vaccine by SmithKline Beecham (SKB) were presented. At the end of the season in June 1997 SKB held a stock of 5.7 million doses reserved by the ICG since then the stock has been rotated so that while it still stands at 5.7 million it is fresh stock and a greater proportion is held as filled vials.

Bader and Partner hold about 5 million 0.5 ml autodestruct syringes in stock and currently have a production capacity of approximately 3.6 million of these syringes per month, this capacity could be doubled on six month's notice if required.

UNIVAC endorsed the working arrangements of 1997 and are prepared to manufacture up to 250 million autodestruct syringes per year. An incinerator box has been developed that can accommodate twice the number of used syringes and needles as those currently in use. The company is engaged in a marketing and educational programme for health ministries and health care providers. They are considering the transfer of the autodestruct technology to the manufacturers of syringes in other regions.

The importance of combining or “bundling” together the orders for vaccine and autodestruct injection materials was stressed. No problems of shipping these two products from different sources had been encountered. The need for some objective monitoring of the correct use of this equipment was highlighted. The cost of autodestruct materials is a barrier to their use, however there is now strong pressure to promote them from UNICEF, IFRC and WHO which will result in almost all international NGOs insisting on using them.

## **7. Management of the ICG Vaccine Reserve Stocks and Preparedness Fund**

The presentation addressed the issues of what size the ICG stock of emergency material should be, how it should be sustained into the future, how to manage the process of releasing and then recouping vaccine in stock and how to ensure the quality of ICG vaccine stocks. The unpredictability of future demands for vaccine for epidemic control was emphasised as was the opportunity cost of maintaining an emergency stock pile of greater size than would ever be called upon by countries.

The mechanism used in 1997 was that requests for vaccine from the ICG stock were made via the representatives of one of the four agencies of the ICG Executive Sub-group. The requester then remained responsible for ensuring the ultimate reimbursement of the ICG stock. This mechanism was proposed as a sustainable, long term way to maintain the functioning of the emergency stockpile.

It was proposed that countries be encouraged to develop national budget lines for epidemic preparedness and response and that these could be used to reimburse vaccine released by the ICG, that any estimate of the appropriate size of the ICG emergency stock be increased by 10% to allow for delays or default in the reimbursement process and that the size of the fund be periodically reassessed in the light of experience of demand for vaccine. In addition the need to ensure that potential donors be made aware of the ICG mechanism so that requests for support with which to reimburse the ICG would be understood.

The difficulty in estimating size of the ICG stocks that would be needed to respond effectively to epidemic needs was highlighted in the subsequent discussions. The need for continued efforts in identifying improved methodologies for forecasting of vaccine needs was recognised. Continued donor interest in the area of epidemic control means that the ICG should be careful to report back clearly on the utilisation of funds. The reimbursement mechanism has so far worked less well for autodestruct materials than for vaccine. The need to take account of and monitor the availability of supplies of oily chloramphenicol was also raised.

## **8. Reports on Progress in Operational Research**

Preliminary results from a study carried out by Association pour l'Aide à la Médecine Préventive (AMP) of the costs associated with a mass immunisation campaign in which around 85,000 people received both meningitis and yellow fever vaccine in Senegal were presented. The costs that were estimated were the economic costs of the vaccine, logistics and equipment and the additional management costs; the costs of the health care workers taking part in the campaign were not included. The total cost of the campaign was US\$63,500 and this equated to a cost per dose of vaccine of US\$0.39, cost per meningitis vaccination of US\$0.51 and a cost per person (who would usually have received both antigens) US\$0.74. The vaccines accounted for 60% of the costs estimated, other materials for 26% and logistics for a very small proportion of the total. The cost per dose given in mobile clinics was not much above that in fixed posts, but the costs per dose of vaccinating villages under 1000 inhabitants were considerably higher than those in more populous sites.

The work of EPICENTRE in operational research on case management, thresholds for prediction of epidemics, the impact of mass vaccination, costs of vaccination and mathematical modelling of epidemics was presented. A clinical trial is in progress to evaluate the efficacy of dexamethasone and glycerol in the treatment of meningitis as well as further investigations into the pharmacokinetics of chloramphenicol, the main antimicrobial used during epidemics. Retrospective studies in Burundi and Togo are indicating that thresholds lower than the widely applied 15 cases per 100,000 for two weeks may be equally specific for the prediction of outbreaks and also allow earlier detection and response. Analysis of a number of mass immunisation campaigns in African countries have estimated that between 11% and 35% of the epidemic cases may have been prevented by the campaigns - results from urban areas showing a higher percentage of cases prevented than in rural areas.

A summary report of a meeting of partners involved in applied research held on 7th December 1997 was presented. Two proposals had been discussed at the meeting; addressing the demand from countries for information on the introduction of mass immunisation and the feasibility of introducing meningitis vaccine into routine EPI programmes. The meeting had concluded that an advisory body needed to be set up to further examine these proposals and support their implementation.

The urgent need for research results that would guide African countries in their actions to protect their populations from meningitis was recognised.

## **9. Criteria for Including Other Vaccines in the ICG Mechanism**

There are many elements that need to be in place for effective epidemic control; the ICG had been established to address the specific problems of meningitis vaccine availability, and the expansion of the mechanism to include other vaccines would only have benefits where there are similar problems of vaccine supply.

Criteria were proposed that could be applied to any candidate vaccines for introduction to the ICG system. These criteria relate to the appropriateness of the vaccine for use in the epidemic situation; the evidence of supply problems as a constraint on current epidemic responses; the feasibility of establishing and managing a reserve stock; the impact that inclusion within the ICG mechanism could have on other vaccination activities and resource availability.

These criteria were then applied to the example of yellow fever vaccine. Yellow fever vaccine is very safe and effective and has an important role in the response to epidemics. In principle it should be feasible to hold a reserved stock of vaccine with the manufacturers; either as freeze dried finished product or as deep frozen bulk. Vaccination against yellow fever is already recommended as routine in 33 countries considered to be at risk of outbreaks, some of these countries have incorporated the vaccine into their EPI programmes. It is not clear from published reports of recent yellow fever outbreaks in Africa that vaccine supply has been a major factor limiting the effectiveness of response. Were resources to be used to establish an emergency stock of vaccine it would be necessary to ensure that this focus on epidemic response was not detracting from the efforts to support countries in the establishment of routine preventive vaccination.

There was general agreement that there were not sufficient grounds to consider introducing yellow fever vaccine into the ICG mechanism at this time. Additional information on the role that vaccine supply has played in recent epidemics could be sought from unpublished sources. While there may be some value in the consideration of other, perhaps less frequently used vaccines, the need to introduce the ICG mechanism into other disease areas remains questionable.

## **10. Conclusions**

The meeting endorsed the revised terms of reference of the ICG as presented to the meeting (ANNEX 3). It has reaffirmed the continued need to maintain the work of the group and its Executive Subgroup, even in the context of an improved availability of vaccine on the open market.

It is felt that the ICG system has assured Member States, UN and other agencies supporting meningitis control that vaccine can be made available wherever needed and rapidly. This makes it unnecessary to maintain large stocks of meningitis vaccine at country level for fear of vaccine shortages in the event of an epidemic.

The meeting has appreciated the considerable degree of activity directed towards the control and prevention of epidemics that has been described by the WHO Regional Offices of the African and Eastern Mediterranean Regions. Improvements in the detection, reporting and confirmation of cases have been demonstrated in the reports received by the meeting.

The meeting also concluded that the cooperative relationship between the various ICG partners has been a major strength of the mechanism and played an important part in its success. In particular the close cooperation of the manufacturers of vaccines and injection materials has been clearly demonstrated to make a valuable contribution to the control of epidemics and the functioning of the ICG.

## 11. Recommendations

The participants at the 3rd ICG meeting reaffirm the main recommendations made in the meeting last June, and which are still relevant to the Group's continued role. In summary these recommendations relate to the need to further promote the role of the ICG; that the ICG continue to review the epidemic threshold; that the criteria for release of vaccine are continually reviewed; that detailed forecasts of vaccine needs continue to be developed and used in the determination of the appropriate size of the emergency stock; that surveillance continues to be strengthened and detailed reports of vaccination activities are obtained at the end of the meningitis season.

The following recommendations are made in addition :

1. Countries should be encouraged to maintain the larger part of their security stocks with the manufacturers in order to avoid vaccine expiring without being used.
2. Countries holding vaccine stocks but without sufficient auto-destruct injection material be encouraged and supported in the obtaining of the required auto-destruct materials in order to ensure the safe use of the vaccine held.
3. Regular information should be made available to the donors to the joint appeal on the activities of the ICG and the status of the emergency stocks.
4. WHO is requested to set up an advisory group on Applied Research on Immunization Strategies for the Prevention and Control of Meningococcal Disease. The Terms of Reference and constituents of this group to be reported on at the next ICG meeting. This group will ensure scientific expertise from planning to implementation and evaluation of projects.  
  
WHO is requested to consider the support needed to carry out these studies in collaboration with its partners.
5. All partners should focus their efforts on the development of appropriate and sustainable surveillance, setting up of early warning systems and improving the performance of social mobilisation programmes.
6. The manufacturers of oily chloramphenicol should be invited to participate in future ICG meetings.
7. The next meeting of the ICG should take place midweek during June 1998. It is proposed that the meeting be held in the African "meningitis belt" possibly in Mali.

## ANNEX 1

**Agenda****Monday, 8 December 1997**

- |               |     |   |  |
|---------------|-----|---|--|
| 08.30 - 09.00 | 1.  | Registration  |  |
| 09.00 - 09.30 | 2.  | Opening of the meeting  | - Chairman   |
|               | 2.1 | Introductory  | - WHO Division of Emerging and other Communicable Diseases Surveillance and Control/WHO Global Programme on Vaccines Immunization                    |
|               | 2.2 | Adoption of the Agenda  |  |
| 09.30 - 11.00 | 3.  | Reports from the ICG Executive sub-group  | - International Federation of Red Cross and Red Crescent Societies/Médecins sans Frontières/United Nations Children's Fund/World Health Organization |
| 11.00 - 11.15 | 4.  | Coffee/Tea break  |  |
| 11.15 - 12.15 | 5.  | Regional reports on the implementation of the Regional Plan for Preparedness and Control of Epidemic Meningitis | - WHO Regional Offices for Africa/Eastern Mediterranean  |
| 12.15 - 13.45 | 6.  | Lunch   |  |
| 13.45 - 15.30 | 7.  | Reports from countries of preparations for the 1997/98 meningitis season  | - Mali, Nigeria, Saudi Arabia, Sudan   |
| 15.30 - 15.45 | 8.  | Tea/Coffee break  |  |
| 15.45 - 16.30 | 9.  | Forecasting Vaccine Demand  | - WHO Regional Offices for Africa/Eastern Mediterranean  |
| 16.30 - 17.15 | 10. | General discussion  |  |

**Tuesday, 9 December 1997**

- |               |   |  |
|---------------|---|--|
| 09.00 - 10.00 | 11. Updated from the manufacturers of meningitis vaccines and injection materials | - Pasteur Mérieux Connaught/SmithKline Beecham Biologicals/Bader and Partner/UNIVÉC  |
| 10.00 - 10.30 | 12. Management of the ICG vaccine reserve stock and preparedness fund             | - WHO Vaccine Supply Quality Unit  |
| 10.30 - 10.45 | 13. Coffee/Tea break  |  |
| 10.45 - 11.45 | 14. Reports on progress in Operational Research                                   | - Association pour l'Aide à la Médecine Préventive/Centers for Disease Control and Prevention/EPICENTRE/International Federation of Red Cross and Red Crescent Societies/WHO Division of Emerging and other Communicable Diseases Surveillance and Control |
| 11.45 - 12.15 | 15. General discussion  |  |
| 12.15 - 13.30 | 16. Lunch   |  |
| 13.30 - 14.00 | 17. Criteria for including Other vaccines in the ICG mechanism                    | - WHO Division of Emerging and other Communicable Diseases Surveillance and Control  |
| 14.00 - 14.30 | 18. General discussion  |  |
| 14.30 - 15.30 | 19. Conclusions and Recommendations of the meeting and Closing remarks            | - Chairman/Rapporteur  |

### **Revised Terms of Reference**

- Review the meningitis situation.
- Review new information on cost-effectiveness of meningitis vaccine strategies and vaccination policies.
- Update country estimates of vaccine need for emergency stock and project global aggregate and timing of demand.
- Determine the amount of vaccine to be kept for emergency preparedness stock.
- Monitor vaccine, autodestruct injection material, and oily chloramphenicol availability.
- Review regularly the criteria for vaccine distribution in emergency situations.
- Maintain the current executive subgroup's mandate of vaccine distribution from the emergency stock according to the above criteria.
- Review national reports on vaccine use.
- Identify short, medium and long-term financial strategies to ensure sufficient vaccine availability.
- Provide advocacy with international community and development agencies for preparedness to response to meningitis outbreaks.
- Provide information on how to access to the ICG emergency stock at country level through ICG partners.