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International Coordinating Group (ICG) on Vaccine Provision for Epidemic Meningitis Control

Report of the ninth meeting

*Ouagadougou, Burkina Faso
15–16 December 2003*

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Department of Communicable Disease
Surveillance and Response

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Contents

1. Summary	3
2. Opening address, description of meeting objectives and adoption of the agenda	4
3. Country reports on the previous epidemic season	5
3.1 Burkina Faso.....	5
3.2 Niger.....	5
3.3 Nigeria.....	5
3.4 Ethiopia.....	6
3.5 Sudan.....	6
4. Report on the activities of the ICG's Executive Subgroup during the epidemic season.....	7
4.1 Trivalent ACW135 vaccine: update.....	8
5. Global availability and management of ICG items	9
5.1 Availability of anti-meningococcal bivalent AC vaccine	9
5.2 Availability of anti-meningococcal ACW135 trivalent vaccine.....	9
5.3 Availability of oily chloramphenicol.....	10
5.4 Use of auto-disable syringes	10
6. Specific research studies.....	11
6.1 Study of clinical equivalence of ceftriaxone to oily chloramphenicol.....	11
6.2 Assessment of trivalent ACW vaccine impact.....	11
6.3 Prospective study on suspected cases of acute bacterial meningitis in the Bobo-Dioulasso region in 2002–2003.....	12
7. Discussion and recommendations	12
7.1 Review of ICG's terms of reference.....	12
7.2. Management of ICG stocks	14
8. Conclusions.....	15
Annex 1 – Agenda	16
Annex 2 – List of participants.....	18
Annex 3 – Working groups composition.....	20
Annex 4 – Decision tree for the use of ACW trivalent polysaccharide (PS) vaccine in the African meningitis belt countries	21

1. Summary

During the 200–2003 epidemic season, two moderate epidemic foci were observed in the region, a mixed *Neisseria meningitidis* (*Nm*) A and W135 epidemic in Burkina Faso and an *Nm* A epidemic covering areas in Niger and Nigeria.

The current status of ICG stocks is as follows: 3 450 000 doses of meningococcal bivalent AC polysaccharide vaccine, 3 700 000 doses of meningococcal trivalent ACW135 polysaccharide vaccine, 433 000 vials of oily chloramphenicol, 3141 units of safety boxes and 1650 units of 0.5-ml syringes.

Within the past year and a half, the International Coordinating Group on Vaccine Provision for Epidemic Meningitis Control (ICG) has launched two appeals. The first – in October 2002 – was launched in order to assemble an emergency stockpile of vaccines and injection materials and raised US\$ 3.7 million. The second – in September 2003 – to finance a trivalent vaccine contingency revolving stock has raised US\$ 4.3 million so far. These funds will allow production of trivalent vaccine to be started by GlaxoSmithKline (GSK). The next step in ensuring the availability of trivalent vaccine at country level will be to get fast-track approval from the ministry of health of each country for vaccine use. Later, countries will need to fulfil strict epidemiological and bacteriological criteria to ensure vaccine release.

At present, Aventis Pasteur has 50 million doses of bivalent vaccine in its stores. For 2004, the doses requested by the ICG will be available at US\$ 0.27 per dose. GSK has produced 7 172 000 doses of trivalent vaccine, which will be available to the ICG at €1.00 per dose for 2004. For oily chloramphenicol, the International Dispensary Association's (IDA) new facility in Malta has a production capacity of 660 000 vials per year, which will be available in 2004 at a similar price to 2003.

Two important research studies were conducted during 2002–2003. A clinical equivalence trial undertaken by Epicentre concluded that ceftriaxone is a very good alternative treatment for epidemic meningitis – cheaper than oily chloramphenicol and also more effective against *Streptococcus pneumoniae* (*Sp*) and *Haemophilus influenzae*. However, before its widespread use as an alternative to oily chloramphenicol can be recommended, the impact of its introduction should be evaluated by the 13th Expert Committee on the Selection and Use of Essential Medicines.

A study of the effectiveness of trivalent vaccine undertaken by WHO with the Centers for Disease Control and Prevention (CDC) estimated that the vaccine was 96% against *Nm* A+ W135 and 98% effective against *Nm* A alone. There were no evidence of adverse side-effects causally linked to the vaccine. Results from an immunogenicity study in Ghana are expected in 2004.

Since inception of the ICG in 1997, its terms of reference have been revised at each annual meeting. Moreover, the ICG has been growing in scope and responsibility. Meeting participants concluded that a new structure was needed in order to adjust the role of the ICG according to its origin, as well as to respond to the increasing need for a forum to address various technical subjects on epidemic meningitis.

The establishment of a network of partners interested in meningitis control was recommended, which would embrace the current ICG Executive Subgroup – renamed simply ICG – as well as other ad hoc technical working groups and would take over organization of annual meetings previously organized by the ICG. Consequently, the ninth annual meeting was the last ICG meeting: the next will be convened by the “Epidemic Meningitis Network” (or whatever appropriate name is chosen).

ICG (former ICG Executive sub-Group)

Objectives – same as those defined in 1997.

Agencies – International Federation of Red Cross and Red Crescent Societies (IFRC), Médecins Sans Frontières (MSF), United Nations Children's Fund (UNICEF), WHO.

Technical working groups for 2004:

- **Operational research**

Objective – evaluate the field application of the decision tree for vaccine choice.

Leading agency – WHO.

- **Case management**

Objectives – assess the potential consequences of large-scale ceftriaxone introduction and review the Operating Procedures for case management.

Leading agency – WHO.

- **Laboratory confirmation methods**

Objective – assess the performance of the latex test for *Nm* W135 identification in field conditions.

Leading agencies – Association pour la Médecine Préventive (AMP) at the Institut Pasteur in consultation with WHO meningitis collaborative centres.

- **Communication**

Objective – improve communication and awareness.

Leading agency – The Meningitis Trust

The participants decided that the ICG management of stocks should be limited to vaccines and oily chloramphenicol, items whose availability and affordability continue to pose a challenge. Withdrawal from the management of items previously supplied will be progressive (with a transitional backup stock) so as to ensure continued availability. The participants also concluded that, to facilitate this transition, the ICG partner organizations should help countries in:

- facilitating contacts with suppliers;
- facilitating access to affordable and appropriate supplies;
- assisting countries in estimating strategic stocks;
- taking into account country-specific difficulties;
- investigating the feasibility of a regional stock of auto-disable (AD) syringes.

2. Opening address, description of meeting objectives and adoption of the agenda

Following recommendations made in Geneva in December 1996 by an ad hoc working group on the WHO Strategy for Provision of Meningitis Vaccine for Epidemic Prevention and Control, the ICG was set up to assist the international community in responding to epidemic meningitis and to ensure the emergency availability and rational use of vaccine in response to these epidemics. It was agreed that an annual meeting should be organized to facilitate continuous success in achieving these objectives.

The ninth meeting of the ICG was held on 15–16 December in Geneva, Switzerland, at the invitation of WHO.

Dr Guénaél Rodier, Director of the Department of Communicable Disease Surveillance and Response (CSR) at WHO in Geneva, opened the meeting. Dr Alfred da Silva, Director, AMP, was appointed Chairman and Ms Katya Fernandez of WHO, Geneva, acted as rapporteur.

Dr Rodier began by welcoming the participants and proposing the following agenda:

- Epidemic surveillance and response country reports.
- Report on ICG's activities during the previous epidemic season.
- Update on the availability of vaccines and chloramphenicol.
- Review of ICG's terms of reference.

The agenda was adopted unanimously.

3. Country reports on the previous epidemic season

3.1 Burkina Faso

(Dr Roger Marie Sylvestre Tiendrebeogo, Ministry of Health)

After the 2002 meningitis epidemic unexpectedly caused by *Nm* W135, the 2003 season was characterized by mixed *Neisseria meningitidis* A (50% of isolated cases) and W135 (20% of isolated cases), with *Streptococcus pneumoniae* in another 20% of isolated cases. In total 8474 cases and 1312 deaths were reported up to week 48. Although this epidemic was smaller than previous ones, its early arrival (first week of February) as well as its mixed nature complicated the implementation of a timely epidemic response and immunization campaign. Three different polysaccharide vaccines were used (tetraivalent ACYW135, trivalent ACW135, bivalent AC) and average vaccination delay was 3.7 weeks. Collection of the information necessary to complete the ICG request forms for vaccines was thought to have prolonged this delay. Nevertheless, there was better preparedness and management of the epidemic response than in 2002, facilitated by a strong laboratory role in pathogen identification and monitoring, by considerable social mobilization at all levels, and significant partner support (ICG) in making trivalent vaccine available.

3.2 Niger

(Dr Kadadé Goumbi, Ministry of Health)

Neisseria meningitidis W135 also constituted a threat for Niger in the 2003 meningitis epidemic season, although it was confirmed in only 7.1% of isolated cases (while 75.4% of isolated cases were of the *Nm* A serogroup). In total, 8283 cases with 669 deaths were reported up to week 42. The epidemiological surveillance and response plan that was elaborated following the Ouagadougou technical meeting of September 2002 meant that Niger was better prepared for the 2003 epidemic season. This plan integrated epidemiological and laboratory surveillance (Standard Operating Procedures, SOPs), case management, vaccination, research and social mobilization. Because of the low prevalence of W135, only the polysaccharide bivalent AC vaccine was used (590 700 doses). The biggest problems confronted during the 2003 season were the occasional insufficiency of stocks of vaccine, auto-disable syringes and lumbar puncture kits, a delay in the vaccination response (particularly in districts first touched by the epidemic), and weak resource mobilization.

3.3 Nigeria

(Dr Jide Coker, Ministry of Health)

Epidemic meningitis remains a major public health challenge, which is becoming more widespread with epidemics extending to some southern states outside the meningitis belt. Between November 2002 and May 2003, 2784 cases and 271 deaths were reported in Jigawa State and 683 cases and 69 deaths in Katsina State. Laboratory surveillance confirmed the Jigawa epidemic to be mixed, with two

of 21 isolated samples being confirmed as W135 (a different strain from the Hajj epidemic strains) and three being established as *Nm* A. Two million bivalent vaccine doses were distributed to 20 states, as well as 10 000 trivalent vaccine doses, of which 3000 were used in the Jigawa epidemic. Enhanced surveillance using SOPs was adopted in 2002–2003 but faced the problem of timely and complete reporting of meningitis data/cases: the epidemic in Jigawa started in the first week of January but was not reported until the second week of March. Management of an epidemiological surveillance and response programme is complicated by a system in which the vaccination is managed independently from the epidemiology and laboratory surveillance and from case management, as well as by the limited number of clinicians able to perform lumbar punctures.

3.4 Ethiopia

(Dr Solomon Worku, Ministry of Health)

As has been the case in the past, epidemic meningitis cases were concentrated in the northern region of the country. This year, however, a considerable proportion of cases also occurred in the southern region, as a result of migration/resettlement. In total 2278 cases were reported in the 2002–2003 epidemic season, with 195 deaths; 530 000 doses of meningococcal bivalent AC polysaccharide vaccine were used (particularly used for resettlers), leaving the current vaccine stock at 3 589 250 doses.

3.5 Sudan

(Dr Ahmed Abdelgaleel, Ministry of Health)

No meningitis epidemic occurred in 2002–2003. Nevertheless, a total of 1133 cases with 151 deaths were reported between January and October; 500 000 doses of meningococcal bivalent AC polysaccharide vaccine were distributed in five localities, and 15 000 doses of meningococcal tetravalent ACYW135 polysaccharide vaccine were given to pilgrims. Since 2002, a surveillance and response plan of action has been drafted. However, some challenges remain, such as weak public health laboratory performance and an inadequate budget for surveillance, epidemic preparedness and vaccination.

Points raised

The issue of the differences in lethality rates (Table 1) was raised and participants agreed that it was an interesting topic that needed to be addressed appropriately. It was therefore decided that it would be beneficial to include in the agenda a short presentation of AMP/Institut Pasteur's study of suspect meningitis cases in Bobo-Dioulasso, Burkina Faso, as well as to focus on the lethality conclusions that could be drawn from the ceftriaxone study.

The participants also expressed concern at the delay between the onset of an epidemic and vaccination, and thought it important to analyse the cause(s) of these delays. In Nigeria, one of the biggest contributory factors is laboratory pathogen identification. In Burkina Faso, vaccination delays are the result of the difficulties of choosing between bivalent and trivalent vaccine, as well as of the transport of TIs (trans isolates media) and delays in obtaining the funds to cover operational costs.

Table 1. Number of cases and case-fatalities reported since 1 January 2003 in selected countries in the African meningitis belt

Country	Date of last update	Number of cases	Number of case-fatalities
Burkina Faso	1 December	8474	1312
Ethiopia	10 December	2278	195
Niger	19 October	8283	669
Nigeria ^a	May	3467	340
Sudan	October	1133	151

^a In Nigeria, cases were reported since November 2002 and only in the states of Katsina and Jigawa.

4. Report on the activities of the ICG's Executive Subgroup during the epidemic season

(Dr Eric Bertherat, World Health Organization)

Dr Bertherat recalled that the mission of the ICG is to ensure the immediate availability of products – particularly vaccines and antibiotics, whose availability can be problematic.

In terms of oily chloramphenicol, 2002 was a very complicated year, since the biggest meningitis epidemic due to W135 occurred, for which there was no available affordable vaccine. The supply of oily chloramphenicol was therefore crucial – and it was during this same period that production of this item was discontinued in Europe. However, the ICG was able to secure the remaining stock and establish an emergency stock of 250 000 vials. A producer in India was also identified and, with technology transfer, production of oily chloramphenicol will be ensured. Nonetheless, the need to investigate alternative treatments was considered important, and this led to the ceftriaxone study conducted in Niger in 2003 by MSF/Epicentre.

For the bivalent vaccine, a new agreement was reached between the ICG and Aventis Pasteur in December, under which a stockpile will remain in the manufacturer's storage facility until a purchase order is issued by the ICG secretariat. Any vaccine not used by June is "returned" to the manufacturer. For update on the trivalent vaccine, see section 4.1.

In the 2002–2003 epidemic season, 550 000 doses of bivalent vaccine were released for Niger and 2 million for Burkina Faso.

Since the 2002 ICG meeting, two international appeals for funds have been launched. In October 2002 US\$ 10 million were requested to build a stock of trivalent vaccine for use in 2003–2004 (also see section 4.1). In response, a sum of US\$ 3.7 million was received from the Bill and Melinda Gates Foundation, the European Commission Humanitarian Aid Office (ECHO), Italy and Monaco. In view of the uncertainties about the future behaviour of *Nm* W135, the 2002 appeal covered only a two-year period and was set to be renewed for 2004. The current stock of ICG items is presented in Table 2.

Table 2 . Current stock for ICG items

Item	Quantity
Oily chloramphenicol	433 000 vials
Bivalent vaccine	3 450 000 doses
Trivalent vaccine	3 700 000 doses
Safety boxes	3141 units
Syringes, 0.5 ml	1650 units

In September 2003 an appeal was launched to ensure the establishment of a revolving stock of 6 million doses of trivalent vaccine. So far, €4.3 million have been pledged (by MSF, the United Kingdom Department for International Development, Ireland, and the Norwegian Red Cross), and it is likely that UNICEF will pledge a further €1.5–2 million. ECHO has also committed up to €1 million in support of outbreak response in west Africa. Thus it is hoped that 6 million doses of trivalent vaccine will be available for the 2003–2004 season through the ICG.

In 2002–2003 the ICG dealt with the following technical issues:

- implementation of a preparedness workshop for national epidemic response plan (Ouagadougou 2002);
- technical consultations for countries;
- informal consultation on vaccine choice in epidemic meningitis control;
- ICG information dossier;
- field evaluation of the Pastorex test.

The difficulties and constraints faced by the ICG included:

- delays in countries' provision of epidemiological data and vaccination plans;
- insufficient country knowledge of the ICG;
- political pressure linked to the limited availability of trivalent vaccine.

4.1 Trivalent ACW135 vaccine: update

(Dr William Perea, World Health Organization)

In response to the first large-scale *Nm* W135 epidemic in Africa (Burkina Faso) in 2002, WHO and GSK established a partnership to develop a new meningococcal trivalent ACW135 polysaccharide vaccine. This vaccine was developed and fully licensed in Belgium by December 2002 – in record time. Thus 3 million doses were made available for the epidemic response in 2002–2003. In the mixed A/W135 epidemic in Burkina Faso in 2003, 2 million doses of trivalent vaccine were used; a vaccine effectiveness study was conducted by WHO/CDC and an immunogenicity study is ongoing in Ghana.

In September 2003 a new agreement was reached between GSK and WHO for production of trivalent vaccine, under which vaccine will be available at the preferential price of €1.00 per dose would be offered and production of 6 million doses assured following pre-payment by November 15. The vaccine could also be made commercially available to African countries.

To ensure trivalent vaccine availability at country level, the next step will be to get fast-track approval for vaccine use from the ministry of health of each country. Later, the following strict epidemiological and bacteriological criteria will need to be provided to ensure vaccine release:

- **Epidemiological evidence**
 - weekly attack rates by district (epidemic threshold crossed)
 - age-group distribution.
- **Laboratory evidence of causative pathogens**
 - number of cerebrospinal fluid (CSF) samples collected
 - pathogen and serogroup distribution (% of *Neisseria meningitidis*, *Streptococcus pneumoniae*, *Haemophilus influenzae* b, etc).
- **Specific bacteriological criteria**
 - a decision tree (see Annex 4), to be distributed to ministries of health, to help countries in choosing the appropriate polysaccharide vaccine for epidemic response.

The reimbursement of cost by countries and agencies will ensure the preservation of the revolving stock of vaccine for contingency use for years to come.

5. Global availability and management of ICG items

5.1 Availability of anti-meningococcal bivalent AC vaccine

(Mr Patrick Laturus, Aventis Pasteur)

Meningitis epidemic activity was comparatively low in 2003, resulting in the largest stockpile of bivalent vaccine ever achieved. Consequently, Aventis has stopped production of this vaccine for the time being: 50 million doses of vaccine remain readily available in Aventis stores.

In light of the increasing importance of *Nm* W135 in 2002, Aventis made a conscious decision not to develop a trivalent ACW135 vaccine, feeling that it was important to keep the Y component of a vaccine. The company therefore decided to produce an affordable quadrivalent vaccine for African countries, which should be available soon.

Mr Laturus also mentioned as well that, in 2002, Aventis donated 20 000 doses of quadrivalent vaccine to Burkina Faso to support epidemic response.

5.2 Availability of anti-meningococcal ACW135 trivalent vaccine

(Mr Marc Thomas, GlaxoSmithKline)

In September 2003 a WHO/GSK agreement was reached on the price of the Mencevax trivalent ACW135 vaccine; it was also decided that up to 6 million doses would be manufactured. Between October and December, GSK Biologicals received the first orders from ICG members (target deadline for orders was October). Pre-qualification was expected to be completed in February 2004.

The production of Mencevax trivalent vaccine from bulk polysaccharides is a long process and some 20–22 weeks elapse before finished vaccines are available in the field. Consequently, GSK needs considerable advanced notice to guarantee a stock of vaccine. However, finished packs of vaccine

have a limited shelf life of 2 years after removal from the freezer, so ready to use vaccines cannot be kept for a long time.

Up to 15 December 2003, GSK had 7 172 000 doses of vaccine (including packaged, semi-finished and bulk) available and had received orders for 2 753 000 doses (from MSF, WHO and IFRC).

Mr Thomas reiterated that GSK Biologicals remains committed to assisting the ICG in controlling outbreaks of epidemic meningitis A, C and W135 in sub-Saharan Africa and – given one year's notice – has the capacity to cover 100% of these needs.

5.3 Availability of oily chloramphenicol

(Mr Michiel de Goeje, International Dispensary Association)

Oily chloramphenicol is a long-acting product essential to the treatment of bacterial meningitis in developing countries. The production process is a complex one needing qualified operators and specific equipment. It is therefore costly to have a dedicated site.

In 2003, after ensuring the production of sufficient stock, IDA ceased production of chloramphenicol in Malta and transferred the technology to a new facility in India. The new product, which will be available from the new site from December 2004, is identical and at a similar price. The production capacity is 22 batches per year – a total of 660 000 ampoules – but it is possible to increase the capacity to 40 batches per year. The global availability of the three previous items is shown in Table 3.

Table 3. Global availability of vaccines and antibiotics

Item	Quantity	Price per dose
Bivalent AC vaccine	50 000 000	US\$ 0.27
Trivalent ACW vaccine	7 172 000	€1.00
Oily chloramphenicol	660 000	

5.4 Use of auto-disable syringes

(Dr Sophie Logez, World Health Organization)

In developing and transitional countries alone, some 16 000 million injections are administered every year. More than 90% are given for therapeutic purposes and 5–10% for preventive purposes, including immunization. Although there has been encouraging progress in certain countries, in many others up to 75% of injections are given with syringes reused without sterilization. It is estimated that reuse of injection devices may account for 32% of new hepatitis B infections, 40% of new hepatitis C infections and 5% of new HIV infections.

WHO, UNICEF and UNFPA (United Nations Population Fund) signed a joint statement in 1999 reaffirming the policy that all countries should use only auto-disable (AD) syringes for immunization and that those who finance vaccines should also finance safe injection devices and safety boxes. This first policy statement applies to vaccine supplied in the context of meningitis outbreaks. For therapeutic injections, WHO emphasized in 2003 the need to ensure access to single-use injection devices and safety boxes of good quality. Single-use injection devices are widely accessible and affordable (3–4 US cents). Where local data indicate that unsafe practices are particularly common, single-use syringes with a reuse prevention mechanism (price 6–8 US cents) should be considered for

therapeutic purposes. WHO recommends that injection device security be ensured in all health care facilities and that all donors who finance injectable products should also finance injectable devices, diluents and safety boxes. This second policy statement would apply to oily chloramphenicol made available for treatment purposes during meningitis outbreaks.

Points raised

Several participants expressed their concern about the complexity of managing injection material stock. While it is very costly to transport this material on an as-needed basis with each shipment of chloramphenicol or vaccine, its volume makes it difficult to have stocks permanently pre-positioned in each country or regional. Given the importance – and complexity – of including appropriate injection material with vaccines and antibiotics, it was felt that further discussion was needed. Accordingly, it was decided that a working group would be organized the following day to tackle this issue.

6. Specific research studies

6.1 Study of clinical equivalence of ceftriaxone to oily chloramphenicol

(Dr Nicolas Nathan, Epicentre)

This study was designed to assess the clinical efficacy of ceftriaxone and oily chloramphenicol in the treatment of epidemic meningitis. The equivalence of the two treatments was judged in terms of therapeutic failure at 72 hours (death and clinical failure), case-fatality at 72 hours, and clinical failure between 24 and 48 hours (leading to a second injection). Equivalence was demonstrated according to all these criteria: ceftriaxone treatment resulted in low therapeutic failure rate (5%) and low rate of second injection (7% after 24 hours). Equivalence was also shown on an intention-to-treat analysis. The only limitation of the study was that the follow-up was limited to 72 hours.

It was concluded that ceftriaxone is a very good alternative treatment for epidemic meningitis, since it is cheaper than oily chloramphenicol and also more effective against *Streptococcus pneumoniae* and *Haemophilus influenzae*. However, before its widespread use as an alternative to oily chloramphenicol can be recommended, the impact of its introduction should be evaluated by the 13th Expert Committee on the Selection and Use of Essential Medicines.

6.2 Assessment of trivalent ACW vaccine impact

(Dr Chris Nelson, World Health Organization)

Although annual epidemic meningitis epidemics are common, the emergence of epidemic *Nm* W135 – causing a large-scale epidemic in Burkina Faso in 2002 – added a new challenge. In response, WHO worked with its partners and affected countries to develop and license a trivalent ACW135 polysaccharide vaccine in the record time of 4 months. This was possible by the commitment of GSK to providing a W135-containing vaccine at an affordable price.

During the 2003 epidemic season, two epidemic foci were observed in the region, one in Burkina Faso (peak reached in week 8) and the other covering areas in Nigeria and Niger (peak in week 14). The highest proportion of W135 activity was seen in Burkina Faso, where most districts experienced a mixed A/W135 epidemic. In response, 2 million doses of trivalent vaccine were used in a mass vaccination campaign in the country. A vaccine effectiveness study undertaken with CDC addressed the following issues:

- vaccination status: use of vaccination cards during campaign;

- case identification: reinforced laboratory surveillance;
- controls: field work.

A total of 1.8 million persons were vaccinated (92% coverage) and surveillance of AEFI (adverse events following immunization) was considered to be successful in comparison with countries using A, AC and ACYW135 vaccines. The effectiveness of the trivalent vaccine against mixed *Nm* A and W135 was estimated at 96% and against *Nm* A alone at 98%. No adverse side-effects causally linked to the vaccine were seen.

In Ghana an immunogenicity study was undertaken in 2003; results are expected in 2004.

6.3 Prospective study on suspected cases of acute bacterial meningitis in the Bobo-Dioulasso region in 2002–2003

(Ms Mathilde Lourd, Association pour la Médecine Préventive, Institut Pasteur)

This short presentation was made to clarify the previous discussion on lethality rates. Lethality rates were examined by age distribution and pathogen. The rate for *Nesisseria meningitidis* (all serogroups and all ages) was 15.6%, for *Nm* A alone 9.5% and for *Nm* W135 alone 17.6%. The lethality rate for *Nm* A was highest for individuals aged 1–14 years, while for *Nm* W135 it was highest for those aged over 14 years.

Nm W135 was seen only during the inter-epidemic period. *Nm* A appeared as the number of cases increased.

7. Discussion and recommendations

7.1 Review of ICG's terms of reference

Since the inception of ICG in 1997, its terms of reference have been revised at each annual meeting. Moreover, the ICG has been growing in scope and responsibility over the past few years and it was therefore deemed important to re-examine the Group's mission. Accordingly, a working group was convened to discuss the review.

The working group recalled the ICG's terms of reference at its creation:

- Ensuring optimal use of vaccines in the 1997 season through release of vaccine, drugs and injection material on a priority basis according to agreed criteria.
- Setting up a mechanism with vaccine manufacturers to lessen the risk of a crisis in vaccine supply in future years.
- Improving meningitis surveillance and control in countries at higher risk.

The problems identified were:

- confusion regarding ICG definition and role;
- no permanent body, the ICG meets only once a year;
- confusion between ICG and the ICG executive sub-group;
- many technical subjects need to be addressed;
- need for focusing on the historical objectives of ICG through a core group of activities.

The main recommendations were:

- Establish/define an “Epidemic Meningitis Network” to work specifically on problems of epidemic meningococcal meningitis.
- Schedule an annual meeting of the “Epidemic Meningitis Network”.
- Retain “ICG” as the name for the former ICG Executive Subgroup, which become a specific working group within the network.

The priorities of the ad hoc working groups for the 2004 season would be:

- **Operational research**
Objectives – evaluation of the field application of the decision tree for vaccine choice of ACW versus AC (clarify, feasibility, etc.)
Leading agency – WHO
Participating –
WHO
group of experts involved in the decision-tree concept.
- **Case management**
Objectives –
assessment of the potential consequences of widespread ceftriaxone use for treatment in epidemic situations
review operating procedures for case management
Leading agency – WHO
Participating –
Epicentre
MSF
WHO
panel of experts
countries
- **Laboratory confirmation methods**
Objectives –
assess performance of latex test for *Neisseria meningitidis* W135
Identification in field conditions
Proposed leading agencies – AMP in consultation with WHO meningitis collaborative centres
Participating –
countries
Association pour la Médecine Préventive
Centre de Recherche sur les Méningites et les Schistosomoses (CERMES)
Epicentre
Médecins Sans Frontières
WHO
WHO meningitis collaborating centres (Marseille, Oslo, Atlanta, etc..)
- **ICG (former ICG Executive Subgroup)**
Objectives – same as those defined in 1997
Agencies –
IFRC
MSF
UNICEF
WHO
- **Communication**
Objectives – improve communication and awareness

Leading agency – The Meningitis Trust

Participating –

countries

WHO

AMP

others

Points raised

These proposals were well received by all participants. Only the name of the network elicited some reserves. It was agreed that there could be a quick consultation through electronic mail to arrive at a more appropriate name.

7.2 Management of ICG stocks

As agreed during the previous day of the meeting, a second working group was established to consider how to best approach the management of ICG stocks. This group considered the management of the following stocks by ICG:

- bivalent and trivalent vaccines;
- oily chloramphenicol;
- AD and reconstitution syringes;
- safety boxes.

Main recommendations

The consensus in the group was that the ICG should continue to manage stocks of bivalent and trivalent vaccines, and oily chloramphenicol, whereas it should not continue to manage stocks of AD and reconstitution syringes, and safety boxes. The following reasons were given:

- The ICG mandate is to facilitate emergency outbreak response when countries have reached coping capacities.
- It is costly and complicated to send these items during emergencies.
- These items can be borrowed from Expanded Programme and Immunization (EPI) or other national stocks.

However, the group emphasized the importance of bundling vaccines with auto-disable syringes and safety boxes in accordance with WHO policy. No new items should be added (latex and TIs should be pre-positioned and available before the outbreak).

For items not supplied, ICG partner organizations should help countries in:

- progressive withdrawal (transitional, keep contingency stock, a “backup”);
- facilitating contacts with suppliers;
- facilitating access to affordable and appropriate supplies;
- assisting countries in estimating strategic stocks;
- taking country-specific difficulties into account;
- investigating the feasibility of a regional stock of AD syringes (for example Becton Dickinson immunization material in Ghana or Nigeria).

For the items supplied by ICG:

- ICG stocks are revolving and should be replenished by countries;
- budget for outbreak response should include provision for replenishment;

- continued use of AD syringes should be strongly supported.

Points raised

Concern was expressed that the fact that the ICG would no longer supply AD syringes would be misinterpreted. It was the consensus of the group that AD syringes should be strongly recommended and that the ICG should make sure that no vaccine is delivered to a country unless bundling is ensured at the local/national level.

The possibility of a regional stock of AD syringes was also debated and was deemed important for further study.

8. Conclusions

As agreed by the participants, the ninth annual ICG meeting was the last ICG meeting. The next annual meeting will be convened by the “Epidemic Meningitis Network” (or whatever appropriate name is chosen). The present ICG Executive Subgroup will in future be known simply as the ICG. Ad hoc working groups will be created as needed. In 2004 the working groups will be those defined above – operational research, case management, laboratory confirmation methods, ICG and communication.

The ICG will no longer manage the stocks of AD and reconstitution syringes or of safety boxes. However, withdrawal from this management will be progressive, so as to ensure continued availability of stocks: the ICG will work with suppliers and countries to facilitate this transition. The study of the feasibility of constituting a regional stock of AD syringes is recommended.

Annex 1 – Agenda

15 December 2003

8:30	Registration	
9:00–9:15	Welcome, introduction, adoption of agenda	Dr G. Rodier (WHO, CSR)
9:15–10:30	Epidemic surveillance and response report	
	Country reports on the epidemic response for 2002–2003:	
	– Burkina Faso	Dr R.M. Tiendrebeogo (MOH, Burkina Faso)
	– Niger	Dr K. Goumadi (MOH, Niger)
	– Nigeria	Dr J. Coker (MOH, Nigeria)
	Discussion	
10:30–11:00	<i>Break</i>	
11:00–12:00	Report of the ICG’s Executive Subgroup	Dr E. Bertherat (WHO, CSR)
	Trivalent vaccine appeal (update)	Dr W. Perea (WHO, CSR)
12:00–14:00	<i>LUNCH</i>	
14:00–15:30	Availability of the bivalent meningococcal vaccine	Dr M. de Goeje (IDA)
	Availability of the trivalent meningococcal vaccine	
	Oily chloramphenicol availability	
	Safe administration of antibiotics: use of auto-disable syringe	
15:30–16:00	<i>Break</i>	
16:00–17:30	Presentations:	
	Clinical study comparing oily chloramphenicol and ceftriaxone	Dr M. Nathan (EpiCentre)
	Trivalent vaccine effectiveness study	Dr C. Nelson (WHO, IVB)

16 December 2003

- 9:00–9:30 Suggestions for amendment to the ICG’s terms of reference
- 9:00–10:30 Work groups: ICG’s terms of reference – suggestions for amendments
- 10:30–11:00 Break*
- 10:30–12:00 Continuation of group work
- 12:00–14:00 LUNCH
- 14:00–15:00 Plenary session: proposals of the work groups regarding the ICG’s terms of reference
- 15:00–16:00 General conclusions and recommendations/proposals of the meeting
- Closing remarks

Annex 2 – List of participants

Countries

Burkina Faso

Dr Roger Marie Sylvestre Tiendrebeogo, Direction de la Médecine Préventive, Ministère de la Santé, Ouagadougou, Burkina Faso

Ethiopia

Dr Solom Worku, Data Management, Addis Ababa, Ethiopia

Niger

Dr Kadadé Goumbi, Division de la Surveillance et du Contrôle Epidémiologique/MSP/LCE, Niamey, Niger

Nigeria

Dr Jide Coker, Epidemic Preparedness and Response, Federal Ministry of Health, Phase 1, Federal Secretariat Complex, Abuja, Nigeria

Saudi Arabia

Dr Ameen Abdelhamid Meshkhas, Communicable diseases, Ministry of Health, Riyadh, Saudi Arabia

Sudan

Dr Ahmed Hassan Abdelgaleel, Epidemiology Department, Federal Ministry of Health, Khartoum, Sudan

Partners

Ms Mathilde Lourd, Association for Preventive Medicine, Institut Pasteur, Paris, France

Dr Alfred da Silva, Association for Preventive Medicine, Institut Pasteur, Paris, France

Dr Nicolas Nathan, Epicentre, Paris, France

Dr Bernard Morinière, International Federation of Red Cross and Red Crescent Societies, Geneva, Switzerland

Ms Katinka Aanjesen, Immunization, Supply Division, United Nations Children's Fund, Copenhagen, Denmark

Dr Francis Varaine, Département Techniques Médicale, Médecins sans Frontières, Paris, France

Dr Myriam Hens, Médecins sans Frontières, International Office, Brussels, Belgium

Dr Per Olcén, Örebro Medical Centre Hospital, Department of Clinical Microbiology and Immunology, Örebro, Sweden

Dr Betty Dodet, Fondation Mérieux, Lyon, France,

Dr Marc Laforce, Meningitis Vaccine Project at PATH EUROPE, Ferney-Voltaire, France

Dr Daphne E. Holt, Meningitis Trust, Kerhars, Le Haut Corlay, Bretagne, France

WHO Collaborating Centres

Dr Pierre Nicolas, WHO Collaborating Centre, Marseille, France

Manufacturers of vaccine

Dr Patrick Laturnus, International Tenders/Responsible Adjudications Internationales, Aventis Pasteur, Lyon, France

Dr Pascal Perrin, Aventis Pasteur, Lyon, France

Mme Rose Morales-Duarte, GSK Biologicals, Rixensart, Brussels, Belgium

Mr Marc Thomas, GSK Biologicals, Rixensart, Brussels, Belgium

Manufacturers of auto-disable injection material

Ms Fiona Garin, Strategic Marketing, BD Immunization-Medical Systems, Madrid, Spain

Manufacturers of oily chloramphenicol

Mr Michiel de Goeje, International Dispensary Association, Amsterdam, Netherlands

WHO/France

Dr Alice Croisier, WHO/CSR/Epidemiology Strengthening team (EPS), Lyon, France

AFRO/Harare

Dr Youide Allarangar, DDC/CSR

Dr I. Sow, DDC/CSR

WHO/HQ

Dr Guénaél Rodier, Director, Communicable Disease Surveillance and Response (CSR)

Dr Mike Ryan, Coordinator, Global Alert and Response (GAR)

Dr Eric Bertherat, Global Alert and Response (GAR)

Dr Sophie Logez, Essential Drugs and Medicines Policy (EDM)

Ms Françoise Mas, Procurement Services (PRS)

Dr Chris Nelson, Health Technology and Pharmaceuticals (HTP)

Dr William A. Perea, Global Alert and Response (GAR)

Annex 3 – Working groups composition

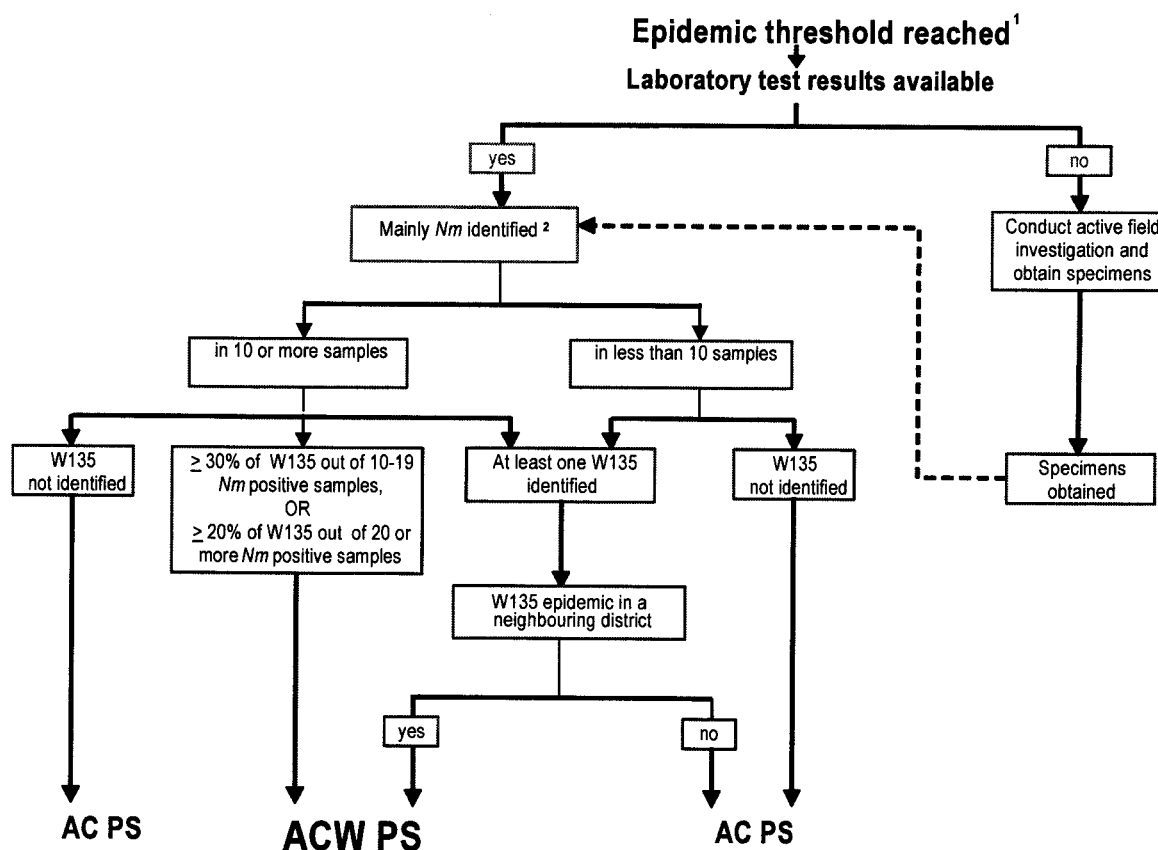
Working Group on Terms of Reference of the ICG

- Dr Eric Bertherat
- Dr Alice Croisier
- Dr Betty Dodet
- Dr Daphne E. Holt
- Dr Bernard Morinière
- Dr Nicolas Nathan
- Dr Chris Nelson
- Dr Pierre Nicolas
- Dr Per Olcén
- Dr Alfred da Silva
- Dr Idrissa Sow
- Dr Francis Varaine

Working Group on Management of ICG Supplies

- Ms Katinka Aanjensen
- Dr Ahmed Abdelgaleel
- Dr Youide Allarangar
- Dr Jide Coker
- Ms Fiona Garin
- Dr Kadamé Goumbi
- Dr Myriam Hensens
- Dr William Perea
- Dr Sylvestre Tiendrebeogo
- Dr Solomon Worku

Annex 4 – Decision tree for the use of ACW trivalent polysaccharide (PS) vaccine in the African meningitis belt countries



² Epidemic threshold

- Population greater than 30 000: an incidence of 15 cases per 100 000 inhabitants per week, in 1 week. However, when the epidemic risk is high (no epidemic for 3 years or alert threshold crossed early in the dry season), the recommended epidemic threshold is 10 cases per 100 000 inhabitants per week, in 1 week (*see reference article for more details*).
- Population less than 30 000: 5 cases in 1 week or doubling of the number of cases over a 3-week period (*other situations must be evaluated on a case-by-case basis according to the epidemic risk*).
- For operational purposes, when an epidemic is confirmed in a neighbouring area, the alert threshold also serves as the epidemic threshold.

Detecting meningococcal meningitis epidemics in highly endemic African countries. *Weekly Epidemiological Record*, 2000, 75(38):306–309, <http://www.who.int/docstore/wer/pdf/2000/wer7538.pdf>.

³ Ideally the samples should be obtained within 2 weeks of the epidemic threshold being crossed.