

WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE WESTERN PACIFIC



REPORT

**UNICEF/WHO WORKSHOP ON THE
EXPANDED PROGRAMME ON IMMUNIZATION IN
THE PACIFIC**

**Auckland, New Zealand
8-12 March 2004**

Manila, Philippines
May 2004

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Report series number: RS/2004/GE/03(NEZ)

English only

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**UNICEF/WHO WORKSHOP ON THE
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Convened by:

**WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE WESTERN PACIFIC**

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Printed and distributed by:

**World Health Organization
Regional Office for the Western Pacific
Manila, Philippines**

May 2004

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MANILA, PHILIPPINES**

24 JUN 2004

NOTE

The views expressed in this report are those of the participants in the UNICEF/WHO Workshop on the Expanded Programme on Immunization in Pacific Island Countries and Areas and do not necessarily reflect the policies of the World Health Organization.

Keywords:

Immunization programs / Vaccines / Social mobility / Rubella vaccine / Hepatitis B – prevention and control / Measles – prevention and control / Sentinel surveillance / Pacific Islands
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This report has been printed by the Regional Office for the Western Pacific of the World Health Organization for the participants in the UNICEF/WHO Workshop on the Expanded Programme on Immunization in the Pacific, which was held in Auckland, New Zealand, from 8 to 12 March 2004.

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1. INTRODUCTION

1.1 Objectives

The objectives of the workshop were for the participants:

- (1) to review the status of their national immunization programmes and identify ways of strengthening them;
- (2) to agree on strategies to strengthen the Pacific Vaccine Independence Initiative (VII) to improve vaccine security and management;
- (3) to review the readiness and options for rubella vaccine introduction (as a model for new vaccine introduction);
- (4) to identify social mobilization and advocacy strategies for sustaining and improving immunization programmes in the Pacific; and
- (5) to strengthen cooperation among Pacific island countries and areas in surveillance for EPI diseases and improve surveillance links between countries.

[The objectives of the meeting were prepared before adoption of the Regional Committee Meeting (RCM) resolution which required a particular focus for the meeting to be the two new initiatives to strengthen EPI in the Region: measles elimination and hepatitis B control.]

1.2 Organization

The United Nations Children's Fund (UNICEF)/WHO Workshop on the Expanded Programme on Immunization (EPI) in Pacific Island Countries and Areas (PICs) was convened in Auckland, New Zealand, from 8 to 12 March 2004. Eighteen PICs sent national representatives to the workshop. In addition, observers from the Australian Agency for International Development (AusAID), the Japan International Cooperation Agency (JICA), the New Zealand Ministry of Health, and the Pacific Island Health Officers Association (PIHOA) were in attendance, as were WHO Temporary Advisors from the Center for International Child Health, the United States Centers for Disease Control and Prevention (CDC), and the Government of Fiji, together with Secretariat members from WHO and UNICEF (See Annex 1)

1.3 Opening ceremony

Dr Douglas Lush, Acting Director of Public Health, welcomed all the delegates on behalf of the Ministry of Health, who were hosting the workshop. He said it was particularly important to build on the successes of EPI and to have mutual learning and sharing of experience to build the links between New Zealand and the Pacific island countries and areas (PICs). Dr Lush had attended the last EPI meeting in Fiji as an observer and noted how similar the challenges were for the PICs. Therefore, he hoped that the participants would benefit from having the workshop held in New Zealand and being exposed to the immunization issues and solutions being implemented there.

Ms Gillian Mellsop, UNICEF representative for the South Pacific, particularly thanked the donor agencies for their continuing support to the EPI in the Pacific. The aim is to develop more extensive support, because immunization is widely recognized as one of the most cost-effective health

interventions, and has a remarkable impact on protecting children from disease, disability and death. Immunization is often the only health intervention that reaches remote areas and other areas where there are no health services, and can even be provided in areas of conflict. In 2000, a special assembly reviewed the achievements over the past decade. The Pacific has taken the lead in the many achievements for immunization globally, including the achievement of polio-free status. However, there is a continuing need to provide access to high quality and user-friendly services to achieve high levels of coverage to achieve disease control goals, and to extend the benefits of immunization with new vaccines and technologies. The millennium development goals require a very strong immunization system, not just because of the direct effects of immunization, but also the potential to build on the delivery systems for other health programmes. There are still many challenges – many countries still lack a clear plan of action, reliable coverage data, and adequate management of cold chain systems (including maintenance and repair of equipment). Ms Mellsop concluded by stating that the world could not stand by while many children continued to fail to receive the benefits of immunization and that by working together we could achieve our shared vision to protect every child with needed vaccines.

Dr Chen Ken, WHO Representative for the South Pacific, on behalf of Dr Shigeru Omi, Regional Director, WHO Western Pacific Region, also welcomed the opportunity to make some comments on the EPI in the Pacific. Dr Chen said that the workshop provided an opportunity to reflect on the achievements since the previous meeting, and to plan for the future. EPI is one of the success stories in the Pacific, with several important achievements: achievement of polio-free status well ahead of the Region's certification; interruption of measles transmission since 1998; integration of hepatitis B vaccine into the EPI into all PICs since 1996; and high coverage, leading to good disease control. In addition, countries have moved from donor-dependency to self-sufficiency. Since the last meeting, the Regional Committee, in its 54th session, adopted a resolution to move towards measles elimination and improve hepatitis B control. The most vital ingredient to achieve these and the broader aims for EPI is political commitment of the countries' governments. Dr Chen concluded by expressing the hope that the workshop would provide the opportunity to strengthen donor collaboration.

Dr Yang Bao Ping, Regional Adviser in EPI, gave an overview of the workshop by stating its purpose to support the Pacific islands' national immunization programmes (NIPs). This will be achieved by:

- helping countries to improve the overall function of the EPI and specifically to achieve measles elimination and hepatitis B control, and improve vaccine management, data quality and reporting;
- reviewing progress since the last meeting and understanding the constraints (if any) in implementing previous recommendations;
- improving the dialogue between countries and UNICEF/WHO on EPI issues, including assistance to complete UNICEF/WHO data requests; and
- facilitating discussion and planning between countries and partner agencies (AusAID, US CDC, Government of Japan, and NZAID) for EPI support in the Pacific through the proposed Pacific Immunization Programme Strengthening (PIPS).

2. OVERVIEW OF THE EPI

2.1 Global and regional overview

Considerable achievements have been made, preventing an estimated 3 million deaths per year, globally. However, there are still 3 million deaths occurring annually that could be prevented if immunization could reach every child. The Polio Eradication Initiative (PEI) continues to make progress, with polio eliminated from all but seven countries, and most cases in just three (India, Nigeria and Pakistan). The goal remains for global eradication by 2005.

Globally, in 2002, a total of 43 countries achieved 80% coverage in all districts and 141 countries had introduced hepatitis B vaccine, with 68 countries achieving coverage of at least 80% for three doses of hepatitis B vaccine.

In the Western Pacific Region, coverage has been progressively improving, but in the Pacific the trend over recent years has not been so positive. Measles elimination and hepatitis B control are the two new pillars recommended by the Regional Committee to revitalize the EPI. Considerable progress has already been made in the Region for both these diseases, but measles is still causing 70 000 deaths per year in the Western Pacific Region. In 2001 and 2002, there were large outbreaks in Papua New Guinea (over 30 000 cases and over 200 deaths reported). The situation is now being addressed with an immunization campaign.

Hepatitis B is particularly important in the Region as it has over half the HBV-related deaths in the world but only a quarter of the global population - an estimated 800 deaths per day. There remain countries in the Region which have high rates of chronic HBV infection, with especially high rates in the PICs.

At the Regional level, work is now focused on measles elimination and hepatitis B control following the Regional Committee's Resolution of September 2003. Two other issues are the consideration of adding rubella immunization and maintaining the polio-free status of the Region, certified polio-free on 29 October 2000. The challenge now is to maintain polio-free status with high coverage and high quality surveillance. Two key challenges facing EPI are the difficult access to children in many parts of the Region and sustaining commitment for EPI at all levels, competing with the priorities of other health initiative.

The Regional Committee urged member states to develop or strengthen national plans of action for measles elimination and hepatitis B control and to use the initiatives to strengthen other public health programmes. Of the 36 countries and areas in the Region, 13 have set a target for measles elimination, nine by 2010. In the Pacific, eight countries have set a target date for measles elimination, with five countries setting a date by 2010.

- (1) All countries need to develop or strengthen national plans for measles elimination and hepatitis B control as part of overall plans for immunization services;
- (2) To use measles elimination and hepatitis B control strategies to strengthen EPI and other public health programmes, such as prevention of congenital rubella syndrome.

For hepatitis B control the priority is to improve routine coverage and the quality of routinely reported data, and to monitor the delivery of a timely birth dose for infants.

Progress on the Regional Committee Resolution will be reviewed at the next session of the Committee and it will be important to report on progress on these two initiatives.

2.2 Pacific island country overview

The achievements of EPI in PIC, as noted in the opening speeches, are under threat, with what appears to be a trend towards decreasing coverage. Perhaps the main reason is the increasing competition from other priority health programmes, leading to less attention being given to EPI. There is a need to strengthen EPI management to prevent vaccine outages, improve cold chain management and improve the quality of reported data and use of the data for management.

Review of the action points from the last meeting revealed limited progress on certain key issues, including not getting the EPI on the agenda of the meeting of PIC Ministers of Health, developing strategic plans, and financial sustainability plans. There are also issues in relation to measles, in particular the need for 95% coverage to ensure elimination, which has not been met by all. Consideration of rubella vaccine was proposed, but the only countries that have added these have done so in response to outbreaks, rather than as a considered strategy.

2.3 Pacific island country reports

Posters were prepared outlining background facts, cases, coverage and immunization schedule, with selected indicators for each of the countries, based on the standardized data questionnaire. The posters were reviewed by the participants with a particular focus on countries' achievements and the need to implement the Regional Committee Resolution on measles elimination and hepatitis B control.

Four key issues were covered by country presentations: measles outbreak (Marshall Islands); EPI review (Vanuatu); coverage survey (Tonga); and rubella outbreak (Samoa).

2.3.1 Measles outbreak - The Marshall Islands

The Republic of the Marshall Islands has 29 atolls and 5 major islands, with most people living on the two major atolls. The last reported measles outbreak was in 1988. Between 1989 and 2003, there were no reported cases of measles, giving a false sense of security. An outbreak started in July and lasted until November, with 828 cases, predominantly in the urban centre of Majuro. There were three deaths aged 39 and 29 years, and 15 months. The school restart was postponed for one week and all boat and air travellers (national and international) were required to provide evidence of two doses of MMR. As an outbreak control measure, one dose was delivered to all aged 6 months to 40 years, achieving 97% coverage in 1-4 year olds (starting from August). A second dose was given up to 18 years to comply with routine immunization policy and school entry requirements.

Before 1998, the Marshall Islands had a one-dose measles scheduled at nine months of age. A two-dose measles schedule was introduced in 1998 (12 and 13 months). Routine coverage from 52 - 93% between 1990 and 2002. Three SIA campaigns were conducted in 1994, 1998 and 2002, with reported coverage between 77-90%.

The outbreak caused a major disruption to the entire country, including travel and schools. However, it led to renewed measles elimination efforts, including a second dose for all schoolchildren, enforcement of school-entry requirements (two documented doses of MMR are required), and increased visits to the outer islands.

The full cost of the response has not been assessed, but the vaccine cost was US\$750 000 for just over 50 000 doses of MMR purchased for the campaign.

2.3.2 EPI review - Vanuatu

Vanuatu has experienced a trend of declining coverage. A working group, established to assess the problem, decided that a qualitative survey should be undertaken. A tool, adopted from one used in Papua New Guinea, was developed to assess the eight major aspects of the EPI. Main findings were the lack of staff to deal with their target population, poor cold chain, lack of training, and lack of feedback. As a result, the key recommendations were to develop a strategic plan, improve the cold chain, provide transport to allow outreach, provide refresher training and supervision, and strengthen management at all levels.

2.3.3 Coverage survey - Tonga

Tonga has two main islands and the coverage survey was conducted on these. The target group was from aged 12 to 60 months, using a random cluster survey. As well as coverage, questions were asked about knowledge and attitudes to immunization and barriers to services. There were 772 households screened in 43 clusters, with a response rate of over 90%. Of the children, 66% had a card, 6% had paid for immunization, but 98% had obtained immunization from a public clinic. Coverage was found to be 90% or higher for all vaccine except BCG, DTP4, MCV2, and rubella, coverage of which was lower because of its recent introduction.

Issues identified in the survey include problems with the immunization registers, the delay in delivery of measles/MR, large dropout rates between DTP3 and 4, and the need to improve service at some clinics.

As a result, the aim is to improve information management, including a computerized register, and using parent-held records rather than the clinic log as the primary source of information and, with that, to develop a recall system.

Tonga's population mostly lives on two islands. In 2003, there was an outbreak of rash and fever, thought initially to be measles. However, the testing was rubella IgM-positive in over half the specimens. A notable feature was the lack of existing measles immunity in the samples taken, despite high measles immunization coverage and measles immunization campaigns in 1998 and 2002.

The rubella outbreak started in May and peaked in September, and the campaign started in mid-November, by which time the outbreak looked like it was declining. There were 13 cases of rubella encephalitis, two of which died. It is not known why there is this high rate. A review of the coverage records of nearly 5000 children showed much lower coverage (68%) for measles, as well as for other vaccines, compared with reported data.

3. SURVEILLANCE

3.1 AFP surveillance

As the Polio Eradication Initiative (PEI) continues, it is essential to maintain high levels of acute flaccid paralysis (AFP) surveillance. The risk is, not only from an importation of wild poliovirus, but also the emergence of circulating vaccine-derived poliovirus (cVDPV). There is a need to maintain zero-reporting (reporting even if there are zero cases) and active surveillance for AFP.

Hospital-based active surveillance for AFP and suspected measles began in 1997 in 58 hospitals in 20 Pacific island countries. The completeness of reporting varies by country, but has generally declined over time, and surveillance appears more passive than active in many circumstances. The reasons for the decline may include difficulties in sustaining interest among clinicians, turnover of staff, lack of perceived benefit for the effort involved, and difficulties in accessing laboratory support. Overall only 21%, 71%, and 50% of expected reports were received in 2001, 2002 and the first six months of 2003, respectively. The AFP rate remains above or close to the target of 1 per 100 000 population aged under 15 years because of good reporting in some sites (lower AFP reporting rate was 0.7 in 2002). Over the past three years, only about 40% or less of the AFP cases have had two adequate stool samples taken, compared with the target of 80%. The rate of follow-up examination at 60 days has also been about half or less of the target of 80%.

The need for two stools from each AFP case was raised after certification. Analysis showed that additional information (i.e., isolation of NEPV or vaccine virus) from the second stool justified maintaining the global standard requiring two stools from each case.

3.2 Measles surveillance

In the hospital-based system, acute fever and rash (AFR) surveillance was substituted for suspected measles in 2001. There is a need to extend AFR surveillance into the community because most measles cases will not get to hospital.

Laboratory testing to confirm measles diagnosis is supported by the LabNet component of the Pacific Public Health Surveillance Network (PPHSN). There are three levels of laboratory in LabNet: level I (all laboratories in the Pacific); level II providing essential public health testing (Fiji, French Polynesia, Guam and New Caledonia); and level III (reference laboratory for quality assurance and technical support).

Surveillance involves many people at country level, and may also not be part of the EPI responsibility. Front-line clinicians must ensure that cases are reported, but are often reluctant to devote time to surveillance and reporting. Laboratory support is needed for confirmation, and surveillance staff must collect and report data and ensure that surveillance for measles (and other EPI diseases) is integrated with the broader surveillance system. To make surveillance work, all the players need to meet and develop or implement strategies to improve surveillance, supported by written protocols.

It is important to provide motivation for surveillance and reporting by clinicians and others, such as assuring that data are analysed and used, and providing feedback to all those involved. Because clinicians often want laboratory tests for their patients, they may especially be motivated by effective laboratory support, including ease of diagnosis of AFR cases. This is facilitated through LabNet (IgM/IgG testing at Level II), together with development of the Regional Measles Laboratory Network. A new option to facilitate shipping of specimens is the availability of tests using dried blood on filter paper.

Other innovative strategies and incentives can help to reinvigorate and sustain surveillance for both AFP and measles. Tuvalu has developed a simple surveillance manual and the PPHSN continues to support efforts at country and Pacific regional level, with input from agencies such as WHO, UNICEF, CDC and the Secretariat of the Pacific Community (SPC). Recently the efforts of PPHSN have been supported with new financial input from the Asian Development Bank (ADB), and also (in those Pacific countries and areas affiliated with the United States) from CDC funds.

4. MEASLES ELIMINATION

4.1 Measles: disease and vaccine

Measles is a relatively straightforward disease, especially compared with a disease like malaria. We have the tools (immunization and surveillance), knowledge, and now the political commitment to get rid of measles. Once considered a normal part of childhood, it has a high rate of complications and fatalities, especially in developing countries, in infants and amongst those with vitamin A deficiency. There are limited data on complication rates in developing countries, but one study found pneumonia (16%), diarrhoea/gastrointestinal problems (14.1%), encephalitis (8%) and meningitis (3.3%).

Simple modelling shows the impact of immunization in line with real world experience. For the situation in the Pacific, where the initial catch-up campaigns have been conducted and there has been a period of several years without measles, there is potential for a progressive build-up of susceptibles that will eventually lead to a large outbreak – unless immunization is maintained to achieve 95% population immunity.

The key is to assess population immunity by age group so that the gaps in population immunity can be addressed and targeted for immunization.

The timing of the second dose was discussed. It was emphasized that the second dose is not a booster, but is given to protect those who are still unprotected – either from vaccine failure or from failure to vaccinate. The timing is not as critical as the programmatic aspects that will allow high coverage. In other words, the second dose should be given at the point in time when highest coverage can be assured. It is also vital, whether the dose is given as a scheduled dose or as part of a campaign, that any previously unvaccinated children are reached.

The value of using Indian ink to mark children was shared by Samoa, as the ink stayed on for over a month and could be used for monitoring and to prevent giving unnecessary doses to children.

4.2 Measles in the Pacific

From 1983 to 1997, there was an average of four outbreaks every year in the Pacific. Following the epidemics, the catch-up campaigns in 1997 and 1998 led to an interruption of measles transmission from March 1997. Since then, importations only led to small limited outbreaks (French Polynesia and Guam) until the 2003 Marshall Islands outbreak, which was contained in about three months with a large MMR immunization campaign and travel restrictions.

Surveillance is the essential foundation for all control efforts. The PPHSN provides a good foundation for case-based measles surveillance. From this foundation a network is developing throughout the Pacific.

Now that the Regional Committee has set a goal for measles elimination, it is important for the PICs to maintain and build on the achievements already made. Although it is believed that measles transmission has been interrupted in the Pacific since 1998, there are two critical areas of work needed for the Pacific island countries to demonstrate elimination: achieving and maintaining 95% population immunity; and adequate surveillance. There are now specific indicators being proposed for an operational definition of elimination (see below). The PICs do not yet meet these, but should be able to do so within a year or two.

4.3 Measles laboratory network

The Measles Laboratory Network is in the process of being established, building on previous experience with polio and existing work on measles in the region, including through the PPHSN with Labnet and EpiNet. There are three Regional Reference laboratories in the network (Australia, China and Japan) and also connected (through the United States-associated territories) to the laboratory at CDC. The role of the laboratory depends on the epidemiological situation of the country. In the Pacific, which is on the verge of elimination, it is essential to test every case and to obtain an isolate from every chain of transmission so that its source can be identified. High levels of testing are essential to confirm and properly evaluate measles cases and to make sure that there are no other causes of fever and rash.

4.4 Measles field guide and exercise

To help countries implement the Regional measles plan, the WHO Western Pacific Regional Office is preparing a measles field guide. The draft was shared with participants, with a request for feedback and comments. The draft will be reviewed by the Technical Advisory Group on the Expanded Programme on Immunization and Poliomyelitis Eradication (TAG) meeting from 29 to 31 March 2004, and, based on their comments, will be finalized and circulated to all countries in the Region. It is being released as a "field test" version and will be finalized once a target date for measles elimination has been set, and there is more experience on measles elimination activities in the Region. As the Pacific is leading the rest of the Region in measles control, it will be important to use their experience, particularly in maintaining that achievement and meeting the initial indicators being used for elimination which include:

- low measles incidence (<1 per 1 000 000 per year, excluding imports);
- excellent AFP surveillance (suspected measles/AFR reported >1 per 100 000 per year in >80% of districts, and investigation of suspect cases (including blood tests) >80% and viral isolates from every chain for genotyping;
- 95% immunity in all cohorts in every district (MCV2 coverage >95%, importations leading to small outbreaks <100 cases) and ongoing assessments of population immunity.

The participants then undertook an exercise of working through the headings for a national plan to help them in developing one. One of the difficult areas is estimating population immunity based on past coverage and disease data, especially when the data are limited and/or quality uncertain. In addition, the effectiveness of the vaccine may have been lower because of cold chain failures or other issues.

4.5 Guidelines on introduction of rubella vaccine

The WHO Western Pacific Regional Office is also preparing guidelines to help countries to consider when it is appropriate to add rubella as part of their measles elimination programme. As rubella is less infectious than measles, it should be possible to eliminate rubella at the same time as measles by using measles-rubella vaccine (MR) instead of measles vaccine. However, understanding of the epidemiology of the disease in the country, proper surveillance and coverage levels, and ability to sustain the cost of adding a new vaccine must be considered. The draft guidelines were shared with participants, with a request for feedback.

5. HEPATITIS B CONTROL

Hepatitis B has been fully integrated into the EPI of all PICs since 1996. Coverage for HepB3 has been at similar levels to DTP3 for the past few years, showing that it is well integrated. It is good that the PICs are more advanced in the use of hepatitis B vaccine than the rest of the Region, because they have amongst the highest rates of chronic infection with the hepatitis B virus (HBV).

Chronic HBV infection is the major cause of HBV-related mortality, with only 10% of the HBV-related deaths caused from acute hepatitis B. Up to 40% of all chronic HBV infection in the Region arises from perinatal infection. Perinatal infection occurs in up to 90% of the babies whose mothers have chronic HBV infection. If hepatitis B vaccine is given, including a timely birth dose, then up to 95% of these births are protected. Hence, for the PICs, where overall hepatitis B coverage is relatively high, the key issue now is to ensure timely delivery (within 24 hours) of the birth dose, and to have reliable systems to monitor it.

6. OPERATIONAL ISSUES

6.1 Immunization policy

WHO has produced a publication with core information for developing policy, and provides a basis for the policy. Every NIP should develop an overall policy document that explicitly states the national immunization policy.

Tonga developed such a policy in 2003. It covers the key aspects in a short document, and includes performance indicators under three areas: coverage, management and immunization safety. Tonga has also developed an immunization handbook to provide guidance to vaccinators and other health workers on service delivery to implement the policy. This policy and the handbook provide a useful model for other PICs.

Some of the issues for the PICs to consider in their policy is a review of their schedule with a view to harmonizing (to the extent possible) the immunization schedules with that of other PICs; including the use of BCG beyond the age of one year; and bearing in mind that the birth dose of OPV is only recommended for polio-endemic countries and that only three doses are needed.

6.2 Injection safety

The regional policy is to move towards safety boxes for disposal of used injection materials, and destruction through incinerators where appropriate. All PICs are using autodisable syringes (ADs) and/or disposable injections, and all but one use safety boxes. There is no evidence of re-use of disposable syringes being a concern in the PICs.

The main challenge is disposal of used injection materials. Almost half the PICs are using incinerators. The WHO Western Pacific Regional Office recommends Sicim or Vulcain incinerators, which combust at a high temperature. These incinerators (with one burning per week) produce the same amount of dioxin as that produced by 9 and 5 households burning wood during that week, respectively. The Sicim incinerator is not the ideal method of waste disposal, but it is the least bad of the available options, given the risks from unsafe disposal of used injection materials.

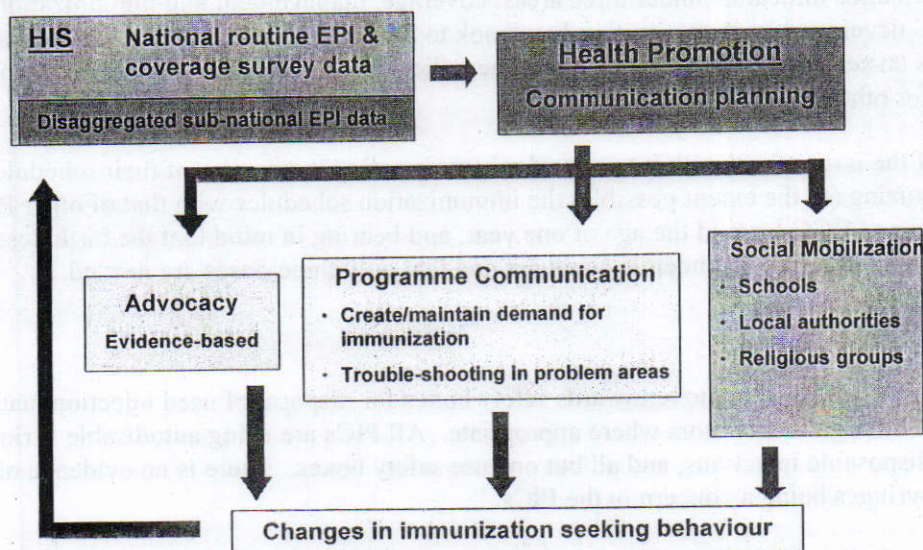
6.3 Communication

How to revitalize demand for immunization? Globally, there has been success in mobilizing people for campaigns, but less so for routine immunization. It is assumed that everybody knows what is available and the need for protection through immunization. However, this is not necessarily so. Parents need to take their child to the service and the service needs to provide a quality service. To do so, they need support and training, etc. Four key failings have been a lack of supplies, a lack of quality services, a lack of outreach and a lack of community links. There is a need to deliver quality services to increase demand for services, which is the fuel for continuing the service, as well as to sell "new and improved" aspects of the immunization programme.

Behaviour change communication is more than just messages. A range of techniques is needed: advertising; one-to-one selling; point-of-delivery communication; social mobilization; and advocacy. There is the potential to sell human stories from the experience, such as the Marshall Islands outbreaks. There is a need to explain what will happen without immunization and put a human face on it. A key outcome is to improve the communication skills of health workers as they are the point of contact for the immunization programme.

Planning for communication needs to be data-driven (based on research and monitoring of the impact of specific strategies) to address the underlying causes of the constraints. The first step is thus to undertake operational research (e.g. KAP study) linked to analysis of subnational coverage data. From the research and analysis, an appropriate strategy for communication for behaviour change should be developed and implemented, using local and international experience of the impact of the specific interventions. One approach that has proved every effective is to target schoolchildren for social mobilization of the entire community.

RECOMMENDED EVIDENCE-BASED COMMUNICATION STRATEGY



6.4. Global vaccine situation

Over the past few years, the global vaccine market has changed, with a divergence between the vaccines used by the industrialized countries compared with the developing countries. As a result,

there are fewer manufacturers able to supply the traditional EPI vaccines to UNICEF. This led to shortfalls of some vaccines in 2002 and 2003. The supply is expected to improve over the next few years. However, supply will still only just be adequate to meet the expected demand. If demand increases further, there may again be shortfalls. Hence, it is very important to have accurate forecasts of demand, especially for measles vaccine.

For DTP-HepB and DTP-HepB-Hib there is still only one supplier and supply is limited. In addition, because of the supplier's monopoly, there is a premium. The DTP and IPV combinations are the only vaccines with acellular pertussis. At present, there is no prequalified (i.e. approved for United Nations procurement) hepatitis B in the Uniject.

6.5 Vaccine Independence Initiative (VII)

The VII was established as a global mechanism to help move countries towards self-sufficiency. In the Pacific, it was established in 1995, with funding through a revolving fund of US\$ 1 million, established by the governments of Australia, Japan and New Zealand. Procurement is undertaken through UNICEF after consolidating the vaccine requirements of each of the 13 PICs who use the VII. Once the vaccine is received in each country, they repay UNICEF the cost of vaccine. In 2003, only 42% of payments were received within 42 days of vaccine receipt. The VII ceiling was US\$ 1 005 000, but, due to a payment default by a country, the 2004 VII ceiling has been reduced to US\$ 875 435. Given the increasing price of traditional vaccines, as well as countries' move toward combination vaccines, which are more expensive, the ceiling of the VII needs to be increased and/or countries need to use the UNICEF Procurement Service mechanism, which requires payment in advance of delivery.

Other issues need to be reviewed, including the challenges of communication, the high cost of freight (sometimes exceeding the cost of vaccines), and the high turnover of EPI focal points. To improve the VII, it is proposed to have twice-a-year shipments as part of a process of improved vaccine stock management, which includes training to build local capacity.

6.6 Cold chain and vaccine management

Vaccine management and financing systems are needed not just to get the vaccines into the country but also for transport so that they can reach every child. The system needs to prevent stock-outs and minimize wastage (without compromising coverage or safety), maintaining the cold chain, provide reliable forecasts and secure funding for vaccines.

There are two types of vaccine wastage: opened and unopened vial wastage. The former can be reduced, but is not entirely preventable, especially for multidose vials, such as measles, that need to be discarded within six hours of opening. Unopened vial wastage is preventable and generally reflects poor vaccine stock management, including cold chain failure.

There is a need to map out the cold chain requirements, based on a cold chain policy and immunization service delivery, to show both the current situation and the ideal. This should then lead to a functional cold chain inventory that can be used for a planned replacement programme for the cold chain.

UNICEF and WHO have developed 10 criteria for effective vaccine store management and a process to assess stores and to certify stores that meet the standard using a standardized procedure. The process then provides a framework for remedial action to achieve certification.

Solomon Islands developed a cold chain policy to ensure that health workers have the vaccine at the right place, in the right quantity, and of assured quality. The policy sets out the responsibilities

and authorities of the different players, the storage temperatures and types of cold chain equipment (and its monitoring and maintenance), vaccine stock levels, transportation, and cold chain management at national and subnational levels. As a result, 10 vaccine distribution centres have been established and supplied (through support by the Government of Japan) with new fridges.

Fiji undertook a cold chain review to assess current status and develop new policy for the cold chain. Transit storage and national storage both were well maintained and had back-up generators, but there were issues about the storage of vaccine in the national store and limited packing space. Assessments at the main clinic and in a nursing station also found adequate and well functioning equipment, but there was gap in the skills and knowledge of the workers, leading to less than optimal vaccine stock management and a lack of freeze watches and heat monitors. However, there was a basic understanding of the cold chain at all levels, and there was monitoring of fridge temperatures. As well as leading to policy, the review will lead to standardization of cold chain equipment.

6.7 Vaccine arrival report (VAR)

UNICEF has implemented the VAR to ensure that vaccines undergo a physical inspection upon receipt in-country and that the condition is reported back to UNICEF Supply Division. Countries were reminded that, once they take title, they are responsible for the vaccines, including ensuring that they are stored under proper conditions. The participants were guided through the process of completing a VAR. Countries that do not receive vaccines from UNICEF were also encouraged to ensure vaccines were inspected upon receipt in-country.

6.8 Improving data quality

Data on immunization coverage, vaccine use, and disease are three critical areas needed for immunization programme management. Improving the quality of these data through using them is a strategy to improve the overall performance of the programme. This requires analysis and feedback of data.

UNICEF and WHO have an annual data request (the UNICEF/WHO Joint Reporting Form (JRF) on immunization programmes. This has been becoming increasingly large and, in an effort to reduce country burden, the data request for the country report for the workshop was combined with the JRF request.

However, countries found the data request difficult and time-consuming. There were also issues of interpretation on some issues. It was emphasized that countries should only be reporting on data that they are using for their immunization programme. If they do not use some data then they can report on that item as "not relevant". Part of the process of improving data management in the WHO Western Pacific Regional Office is to identify the areas that are not relevant for countries and not to ask again on information already held in the regional database (e.g. on immunization schedule) but only ask if there have been any changes.

7. SUPPORT FOR PACIFIC EPI

7.1 Review of existing project

The current project for EPI support from AusAID and NZAID is ending this year and a review of this was undertaken by Drs Tilman Ruff and Junilyn Pikacha. The review was undertaken because of concerns both about the project and the apparent declines in coverage. The current project built on the successful Pacific hepatitis B project and establishment of the Trust Fund for the VII.

The major concern identified by the review was the potential for measles to become re-established, with the large outbreak in the Marshall Islands and limited data showing evidence of low levels of immunity in Samoa and Kiribati. There were also issues related to EPI policy, vaccine and programme management, staff training and supervision, safe injection practices and cold chain. For all of these areas, while there were important strengths reflecting a good infrastructure in the sites visited, there are many areas of practice that need to be improved, perhaps exemplified by the fact that while monitoring (e.g., fridge temperatures, coverage) is undertaken, there is no remedial action occurring when problems are detected.

Despite its achievements, the immunization programmes of the PICs are fragile and a number are in trouble. The key needs are ongoing and are based on issues such as programme leadership and management, training and support for staff. There is the potential to address these, but ongoing support will be needed for the foreseeable future. There are several specific needs and outcomes that should be addressed by 2004. There is potential for collaboration between similar PICs to share resources and provide peer support. Technical support needs to be focused on capacity-building, wherever possible, and should use local expertise to the extent possible.

7.2 Pacific Immunization Programme Strengthening (PIPS) project

A proposed new project for support is being proposed and was supported at an initial donor discussion held in Suva, Fiji, on January 2004. The project outline in relation to objectives and strategies was sent to participants with the invitation to enable the PICs to consider their response to the proposed project.

The participants at the workshop are generally working at the operational rather than the policy level. However, they all agreed that it was important for donor support to continue because of the extensive need. The major needs relate to building local capacity, particularly in relation to management of the programme at all levels (for the PICs with more than one level of management), and the development of national policies. Most countries have ongoing cold chain needs as the equipment is ageing. For the French territories, it is more in the nature of communication and specific technical support needs that will be useful. External review is something from which most PICs could benefit, to identify the strengths and weaknesses. For all countries there is a need to advocate for EPI, and for governments to make the case for EPI support in discussion with development partners to enable PIPs to proceed.

7.3 Existing and proposed new JICA project

The processes for acquiring JICA support through the A4 form – which is a total of US\$300 000 for the 11 PICs who are included in this support, was also discussed. In the past, the process was delayed because some of the A4 forms were received late. For this year, the deadline will be strictly observed, and no A4 forms will be accepted after the deadline of the end of April.

In May 2003, Prime Ministers from the PICs met in Okinawa, Japan, and asked for support for the EPI in the PICs. As a result, the Government of Japan asked WHO and UNICEF to assess the possibility of a new JICA project for the EPI in the PICs. The aim is for a new project from January 2005, and a project formulation team will visit 14 countries in mid-2004.

The main component of the project is likely to be cold chain and training for maintenance of cold chain equipment. Other areas include epidemiology training, medical waste management, logistics and financial planning. It is planned that the project will focus on training to build capacity in all these areas.

The PIPS would provide a good umbrella under the new JICA support.

8. IMMUNIZATION IN NEW ZEALAND

In New Zealand, there are 21 District Health Boards, three of which are in Auckland (where 37% of the 4 million population live). Immunization is delivered by general practice services, usually by practice nurses. There are no user fees for immunization, unlike other general practice services. There are also a few outreach services, mostly associated with Maori and Pacific providers. There is also school-based delivery of immunization for the 11-year old episode. There are good disease surveillance data, but no reliable coverage data. Coverage is believed to be about 80%, and is lower for Maori and Pacific children in New Zealand. There are some local examples of high coverage arising from good integrated service delivery. Issues leading to low coverage include population mobility, changing of providers, services not always meeting people's needs, and the low priority of preventive services (including for providers).

There are 279 000 Pacific people in New Zealand (7% of the population), with the three main groups being from Samoa, Cook Island and Tonga.

Since 1991, there has been an increase in meningitis cases, leading to about 600 cases per year – a ten-fold increase compared with the background rate. The epidemic has particularly affecting the Pacific population (24% of cases). In response to the epidemic, a new vaccine was developed for the specific strain of the bacterium causing most of the disease, and the Meningococcal Vaccine Strategy (MVS) was developed. The initial studies have now been completed, showing safety and immunogenicity in the phase II trials, and the data from the toddler study have been released, showing the vaccine to be safe and immunogenic, but with relatively frequent local reactions.

The participants went on a field visit to local Maori and Pacific providers (organized by Immunization Advisory Centre) and then shared their experiences, comparing issues and solutions between each of their home countries and New Zealand. Many similarities between the services at home and in New Zealand were observed by the participants.

The participants noted the following positive aspects of the New Zealand situation that they would like to take home: the additional resources, particularly the human resources in the nurses available for immunization, as well as the community health workers; community-based services, with good outreach services and very strong health promotion; the developing immunization register (KidsLink), which allows identification and follow-up of children who are due and overdue for immunization; using traditional Pacific ways (and staff) to reach Pacific children; and the health staff who were very committed and dedicated to their task of serving the health of their population.

Some of the positive aspects from the Pacific that New Zealand should consider included: making immunization compulsory before starting school; doing the immunization at the same time as home visits (instead of just assessing and referring); and incentives for completing the primary series of immunization.

The participants expressed their appreciation to the Ministry of Health and the Immunization Advisory Centre.

9. CONCLUSIONS AND RECOMMENDATIONS

9.1 Conclusions

EPI in the Pacific has made considerable achievements, including certification of polio-free status, full integration of hepatitis B vaccine, self-funding for EPI vaccine, and interruption of measles transmission. However, overall coverage appears to be declining (though still relatively high), and there are questions about the accuracy of reported coverage in some PICs.

The major concern is the risk of re-establishment of measles transmission because most PICs cannot demonstrate achievement of 95% population immunity. The key requirement is to achieve and/or maintain over 95% coverage with two doses of measles-containing vaccine before school entry in all areas. Surveillance for acute fever and rash (AFR) is not yet of adequate quality to demonstrate elimination.

The coverage for hepatitis B vaccine is at the same level as for DTP. However, there is a need in some PICs to establish a system to monitor the timely delivery of the birth dose (within two hours) to ensure that children receive the full benefit of this vaccine.

Changes in the global vaccine market, increases in the vaccine price and the addition of new vaccines mean that that vaccine finance and procurement need to be reviewed, including the ceiling for the VII.

Participants recognized and appreciated the support from development partners (ADB, AusAID, CDC, Government of Japan, NZAID, UNICEF, and WHO) for the EPI in PICs. Continued support from existing partners will be needed and new initiatives will be welcomed.

Action points need to be concise, precise, measurable and achievable. The Members States of the Region, in the Regional Committee's Resolution, call for measles elimination and hepatitis B control. The political commitment shown by Ministers at the Regional Committee now needs to be implemented at the operational level. Therefore, country and agency staff have given their commitment to implementing the action points by the end of 2004, reporting at the next workshop, to be held in Fiji in 12 to 18 months, and having greater involvement in the formulation of the agenda.

9.2 Possible action points for countries

- (1) All countries should develop/review/update an overall national immunization policy, as well as specific ones, such as for cold chain, using appropriate examples from the Pacific and as part of the process to assess and assure the financial sustainability of their EPI.
- (2) All countries should develop a national plan for measles elimination, ideally as part of an overall plan for EPI.

- (3) Each country should improve case-based AFP and AFR surveillance and laboratory testing by strengthening local linkages, and regionally through PPHSN (PacNet, EPIInet and Labnet).
- (4) All countries should review EPI coverage data, validate the data if necessary and take actions to increase coverage and improve the quality of data.
- (5) All countries should develop/strengthen the systems to record and monitor delivery of the birth dose of hepatitis B vaccine within 24 hours.
- (6) All countries should further strengthen their vaccine management systems, specifically by developing functional national cold chain inventories, improving vaccine stock management, and monitoring and reducing preventable vaccine wastage.
- (7) All countries should develop a communication plan/strategy for EPI.
- (8) All countries should advocate within their Ministry of Health to endorse PIPS and have the EPI set as an agenda item on the next meeting of PIC Ministers of Health and other regional meetings.

9.3 Possible action points for agencies

- (1) UNICEF (with WHO) should work with countries to obtain vaccine through UNICEF to ensure that adequate funding for vaccines continues to be available and to implement VAR processes.
- (2) WHO/UNICEF should assist at least one country to develop a measles plan by June 2004 to facilitate the process for all the PICs.
- (3) WHO should post information on PacNet on PICs' AFP/AFR reporting completeness to encourage timely reporting and give feedback on reported case and coverage data to help improve data quality.
- (4) UNICEF/WHO should review and improve the process for requesting information about the EPI from the PICs to minimize the burden on countries and maximize the use of the outcome.
- (5) WHO/UNICEF should coordinate development partners input in the Pacific for EPI, including the development of the PIPS initiative.

UNICEF/WHO WORKSHOP ON THE EXPANDED PROGRAMME
ON IMMUNIZATION IN THE PACIFIC

(13 February 2004)

Auckland, New Zealand
8-12 March 2004

TENTATIVE TIMETABLE

Time	Monday, 8 March		Tuesday, 9 March		Wednesday, 10 March		Thursday, 11 March		Friday, 12 March
8:00-9:30	REGISTRATION 1 Powhiri and opening ceremony - Overview of workshop - Group photo	8:00-0930	9 Measles: disease, vaccine and Pacific situation	8:00-0930	Immunization issues for Pacific people in New Zealand (Field trip)	8:00-0930	13 Vaccine independence initiative (VII)	8:00-0930	17 Support for EPI in Pacific island countries
9:30-1000	COFFEE BREAK	9:30-1000	COFFEE BREAK	9:30-1000	COFFEE BREAK	9:30-1000	COFFEE BREAK	9:30-1000	COFFEE BREAK
1000-1200	2 Global EPI overview 3 Regional EPI Overview 4 Regional Committee resolutions 5 PIC overview 6 Country issues	1000-1200	Cont. Sustaining measles elimination 10 Options for rubella immunization	1000-1200	Field trip (cont)	1000-1200	14 EPI policy and cold chain	1000-1200	Conclusions and points for action Closing ceremony
1200-1330	LUNCH BREAK	1200-1330	LUNCH BREAK	1200-1330	LUNCH BREAK	1200-1330	LUNCH BREAK	1200-1330	LUNCH BREAK
1330-1500	7 Country reports and panel	1330-1500	11 Injection safety (disposal) and improving hepatitis B control	1330-1500	Field trip (cont)	1330-1500	15 Vaccine arrival report Presentation	1330-1500	Individual country meetings with WHO/UNICEF
1500-1530	COFFEE BREAK	1500-1530	COFFEE BREAK	1500-1530	COFFEE BREAK	1500-1530	COFFEE BREAK	1500-1530	COFFEE BREAK
1530-1700	8 EPI disease surveillance	1530-1700	12 Communications	1530-1700	Sharing experiences	1530-1700	16 Data review	1530-1700	PCC meeting and donor discussion for Pacific immunization programme strengthening (PIPS)



UNICEF/WHO WORKSHOP ON THE EXPANDED PROGRAMME ON IMMUNIZATION IN THE PACIFIC



Auckland, New Zealand
8-12 March 2004

WPR/ICP/EPI/5.2/001/EPI(1)2004/IB/2
24 February 2004

ENGLISH ONLY

LIST OF PARTICIPANTS, TEMPORARY ADVISER, CONSULTANT, REPRESENTATIVES/OBSERVERS AND SECRETARIAT

1. PARTICIPANTS

AMERICAN SAMOA. Ms Diana Tuinei, Director, Public Health Nursing, Department of Health, Pago-Pago, Telephone: (684) 633 2263, Fax: (684) 633 1911, Email: dtuinei@hotmail.com

COOK ISLANDS. Dr Natalie Short, Director of Public Health, Ministry of Health, P.O. Box 109 Rarotonga, Telephone: (682) 291 10, Fax: (682) 29100

FIJI, Dr Frances Bingwor, Sub-Divisional Medical Officer, Ministry of Health, Central Office, Dinem House, Suva, Telephone: (679) 650 0455. Fax: (679) 652 0577

FIJI, Dr Timaima Tuiketei, Acting Director, Public Health, Ministry of Health, Central Office, Dinem House, Suva, Telephone (679) 330 6177, Fax: (679) 330 6163, Email: info@health.gov.fj

FRENCH POLYNESIA, Dr Sandrine Lot, Director of Pharmaceutical Services, Direction de la Sante, BP 134, 98713, Tahiti, Telephone: (689) 542 101, Fax: (689) 431 547, Email: sandrine.lot@sante.gov.pf

GUAM, Mr Ronald G. Balajadia, Communicable Disease Control Coordinator III, Bureau of Communicable Disease Control, Department of Public Health and Social Services, Box 2816, Agana 96932, Telephone: (671) 735 7143/7135, Fax: (671) 734 1475

KIRIBATI, Ms Kaonre Tiia, Pharmacy Technician, Ministry of Health & Medical Services, P.O. Box 268, Bikenibeu, Tarawa, Telephone: (686) 28100, Fax: (686) 28568

MARSHALL ISLANDS, THE, Dr Mailyynn Konelios, Public Health Administrator, Ministry of Health, P.O. Box 1622, Majuro, Telephone: (692) 625 8457; Fax: (692) 625 4372

MICRONESIA, THE FEDERATED STATES OF, Ms Louisa Helgenberger, National Immunization Program Manager and Chief of Communicable Disease Section, Department of Health, Education and Social Affairs, FSM National Government, P.O. Box PS-70, Palikir, Pohnpei, Telephone: (691) 320 2619, Fax: (691) 320 5263

NAURU, Dr Godfrey Waidubu, Acting Director of Public Health, Community Health Section, Ministry of Health, Government Office, Telephone: (674) 444 3881, Fax: (674) 444 3883, Email: godwaid@hotmail.com

Annex 2

NEW CALEDONIA, Dr Bernard Rouchon, Doctor of Public Health, Service des actions sanitaires DASS-NC, BP N4 98851, Noumea Cedex, Telephone: (687) 243 700, Fax: (687) 243 702, Email: brouchon@gov.nc

NIUE, Ms Minemaligi Pulu, Public Health Charge Nurse, Department of Health, P.O. Box 33, Alofi, Telephone: (683) 4100, Fax: (683) 4265

NORTHERN MARIANA ISLANDS, THE COMMONWEALTH OF, Mr Edward Diaz, Public Health Epidemiologist, Department of Health, P.O. Box 500409, CK, Saipan, MP 96950, Telephone (670) 236 8700

PALAU, Dr Yuriko Bechesserak, Deputy Chief of Paediatrics, Ministry of Health, P.O. Box 6027, Koror, 96940, Telephone: (680) 488 2552, Fax: (680) 488 1211, Email: phpal@palaunet.com

SAMOA, Ms Salape Poutoa Slade, Nurse Manager, Integrated Community Health Nursing Services, Ministry of Health, Private Mail Bag, Apia, Telephone: (685) 21212, Fax: ((685) 30970

SAMOA, Dr Nu'ualofo Potoi, Assistant Chief Executive Officer, Preventive Health Services, Ministry of Health, Private Mail Bag, Apia, Telephone: (685) 21212 ext 376, Fax: ((685) 21106

SOLOMON ISLANDS, Mr Raymond Mauriasi, National EPI Coordinator, EPI Section – Reproductive Health Division, Ministry of Health and medical Services, P.O. Box 349, Honiara, Telephone (677) 24260, Fax: (677) 24260, Email: repro@solomon.com.sb

TONGA, Sister Sela Sausini Paasi, Supervising Public Health Sister, Ministry of Health, P.O. Box 59, Nuku'alofa, Fax: (676) 24291

TOKELAU, Dr Tekie Timu Iosefa, Director of Health, Department of Health, Atafu, Telephone: (690) 2111 Fax: (690) 2108, Email: director.health@clear.net.nz

TUVALU, Dr Tekaai Nelesone, Director of Health, Health Division, Ministry of Health, Funafuti, Telephone: (688) 20765, Fax: (688) 20481

VANUATU, Mr Leonard Tabilip, National EPI Coordinator, Ministry of Health, PMB 009, Port Villa, Telephone: (678) 22512, Fax: (678) 25438

2. TEMPORARY ADVISER

Dr Michael O'Leary, Regional Medical Epidemiologist, Guam Department of Public Health and Social Services P.O. Box 2816, Hagatna, Guam, Telephone: (1 671) 637 6704, Fax: (1 671) 734 2066; Email: mjoleary@guam.net

3. CONSULTANT

Dr Osman Mansoor, Consultant, Public Health Consulting Ltd., P.O. Box 388 994, Wellington Mail Centre Level 6, Avalon Studios, Percy Cameron Street, Lower, New Zealand, Telephone (644) 914 5653, Email: oz@phc.org.nz

Dr Tilman Ruff, EPI Project Review Team Leader, 52 Sussex Street, Brighton, Victoria 3186, Australia Telephone: (613) 9592 8643, Fax: (613)9592 4682, Email: tilman.a.ruff@gsk.com

4. REPRESENTATIVES/OBSERVERS

Dr Terri B. Hyde, Medical Epidemiologist, Measles, Mumps and Rubella Team, National Immunization Program, Centers for Disease Control and Prevention, 1600 Clifton Road, NE, Mailstop E-61, Atlanta, GA 30333, U.S.A., Telephone: (1-404) 639 6367, Fax: (1-404) 639 8665, Email: thyde@cdc.gov

Dr Amra Uzicanin, Medical Epidemiologist, Global Immunization Division, National Immunization Program, Centers for Disease Control and Prevention, 1600 Clifton Road MS E-05, Atlanta, GA 30333, U.S.A. Telephone: (1 404) 639 8747, Fax: (1 404) 639 8573, Email: auzicanin@cdc.gov

Ms Tania Pompallier, General Manager, Immunization Advisory Centre, P.O. Box 17360 Greenlane, Auckland, New Zealand, Fax: (09) 373 7030, Email: t.pompallier@auckland.ac.nz

Dr Nikke Turner, Director, Immunization Advisory Centre, P.O. Box 17360 Greenlane, Auckland, New Zealand, Fax: (09) 373 7030, Email: n.turner@auckland.ac.nz

Dr Meika Veikune, Public Health Physician, Immunization Advisory Centre, P.O. Box 17360 Greenlane, Auckland, New Zealand, Fax: (09) 373 7030, Email: mkveikune@middlemore.co.nz

Dr Clair Mills, Manager, National Immunization Programme, Public Health Directorate, Ministry of Health, P.O. Box 5013, Wellington, New Zealand, Telephone: (644) 495 4440, Fax: (644) 495 4401, Email: clair_mills@moh.govt.nz

Dr Helen Leslie, Health Advisor, Nga Hoe Tuputupu-mai-tawhiti, New Zealand Agency for International Development, Private Bag 18901, Wellington, New Zealand, Telephone: (644) 439 8133, Fax: (644) 439 8513 Email: Helen.Leslie@mfat.govt.nz

Dr Jean-Paul Chairme, PIHOA Epidemiologist, Department of Health, Education and Social Affairs, FSM National Government, Palikir Stations, PS 70, Palikir, Pohnpei, Federated States of Micronesia 96960 Telephone: (691) 320 2619, Fax: (691) 320 5263, Email: fsmshots@mail.fm

Dr Siniva Sinclair, Auckland Regional Public Health Service, P.O. Box 68-028, Newton, Auckland 1032, New Zealand, Telephone: (649) 377 5218; Fax: (649) 355 0505. Email: siniva.sinclair@extra.co.nz

5. SECRETARIAT

Dr Yang Baoping, Regional Adviser, Expanded Programme on Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Telephone (632) 5289747, Fax: (632) 521 1036; 526 0279, Email: yangb@wpro.who.int

Dr Yoshikuni Sato, Medical Officer, Expanded Programme on Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Telephone: (632) 528 9742, Fax: (632) 521 1036; 5260279, Email: satoy@wpro.who.int

Dr Ernest Smith, Medical Officer, Expanded Programme on Immunization, World Health Organization, Regional Office for the Western Pacific, United Nations Avenue, 1000 Manila, Philippines, Telephone: (632) 528 9765, Fax: (632) 521 1036

Dr Asaua Faasino, WHO Focal Person for Coordination of EPI Programmes for American Samoa, Cook Islands, Niue, Samoa and Tokelau, Project Coordinator for Communicable Diseases, P.O. Box 77, Apia, Western Samoa, Telephone: (685) 24 976, Fax: ((685) 23 765, Email: asaua@sma.wpro.who.int

Annex 2

Dr Chen Ken, WHO Representative, South Pacific, Level 4 Provident Plaza One, 33 Ellery Street
Suva, Fiji, Telephone: (679) 3 304 600, Fax: (679) 3 300 462, Email: lis@fij.wpro.who.int

Mr Richard Duncan, Technical Officer, Expanded Programme on Immunization, World Health Organization,
Level 4 Provident Plaza One, 33 Ellery Street, Suva, Fiji, Telephone: (679) 330 4600,
Fax: (679) 3 30 0462; Email: duncanr@sp.wpro.who.int

Mr Basil Rodriques, Regional Immunization Officer, UNICEF Bangkok Office, UNICEF East Asia and
Pacific Regional Officer (EAPRO), P.O. Box 2-154, Bangkok 10200, Thailand, Telephone: (662) 356 9499,
Fax: (662) 280 3563, Email: brodriques@unicef.org

Ms Susan Mackay, Programme Communication Officer, Immunization Plus, Health and Nutrition,
UNICEF East Asia & Pacific Regional Office, Bangkok 10200, Thailand, Telephone (662) 356 9206,
Fax: (662) 280 3563/4, Email: smackay@unicef.org

Ms Shanelle Hall, Contract Officer, UNICEF Supply Division, Freeport, Copenhagen 2100, Denmark
Telephone: (453) 527 3084, Fax: (453) 526 9421, Email: sehall@unicef.org

Ms Gillian Mellsop, Representative, UNICEF Pacific, Private Mail Bag, Suva, Fiji, Telephone: (679) 3301 667,
Fax: (679) 3301 667, Email: gmellsop@unicef.org

Dr Kamrul Islam, Project Office, Health & NCD, UNICEF Pacific, Private Mail Bag, Suva, Fiji,
Telephone: (679) 330 0439, Fax: (679) 330 1667, Email: kislam@unicef.org

Dr Arthur Jaucian, Immunization Officer, UNICEF Pacific, Private Mail Bag, Suva, Fiji,
Telephone: (679) 330 0439, Fax: (679) 330 1667, Email: ajaucian@unicef.org