Under the auspices of the Pacific Public Health Surveillance Network (PPSHN), the Secretariat of the Pacific Community (SPC) and the World Health Organization (WHO) jointly convened the first regional EpiNet workshop in Suva, Fiji Islands, 1–5 September 2003. The theme of the workshop was: “Building on the SARS experience — preparing PPHSN for emerging and re-emerging infectious diseases”.

The meeting gathered more than sixty participants and invited guests. They included members of national/territorial EpiNet teams from all the Pacific Island countries and territories, except Papua New Guinea and Tuvalu (who could not make it), and representatives from regional organisations and collaborating institutions.

The format of the workshop included plenary presentations and discussions, group work, and panel discussions.

Here is an overview of the workshop by day and theme.

**Day 1: Opening Ceremony and Introductory Session**

The opening ceremony of the workshop was officiated by Dr Margaret Cornelius, Deputy Director Public Health, Fiji Ministry of Health; Dr Chen Ken, WHO representative in the South Pacific; and Dr Jimmie Rodgers, Senior Deputy Director-General of SPC.

All speakers spoke highly of the achievements of the PPHSN and how this meeting was timely in sharing experiences related to the SARS outbreak and building on this experience to develop effective strategies for preventing, containing, and controlling other priority communicable diseases (CDs), including preparedness for a possible re-emergence of SARS.

The need to explore ways of including surveillance for priority noncommunicable diseases (NCDs), as recommended by the Pacific Island Ministers of Health during their last meeting in Tonga, was also highlighted.

The PPHSN-CB Focal Point (SPC) then made a presentation on the origins, evolution, role, purpose and activities of the PPHSN.

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The remainder of the first day and all of the second day then focused on the SARS outbreak and lessons learnt.

**Update on SARS — Past, Present and Future**

*Chairperson: Dr Salanieta Saketa, Fiji Islands  
Rapporteur: Mr Len Tarivonda, Vanuatu*

The focus of the first day of the workshop was the SARS outbreak — its origins and evolution as a global health threat, management, and prospects for re-emergence. Sessions included:

- introduction to PPHSN activities in SARS preparedness and response;
- SARS — overview of the outbreak: virology, clinical aspects and epidemiology;
- sustaining the benefits of the SARS response — infection control and related issues; and
- SARS — the lessons.

Although the Western Pacific Region was the area worst hit (with over 95% of the global total number of SARS cases), the region did well to contain the outbreak.

In the Pacific Islands, WHO and SPC worked closely with the regional outbreak response team in Manila. The PPHSN immediately formed a SARS Task Force, which developed a set of interim technical guidelines and circulated them to all PICTs within four days of the second global health alert on 15 March. PPHSN also used its technical and communications networks to keep PICTs informed of the progress of the outbreak, and to guide and support their preparedness for possible importation of cases from Asia or North America. There was a strong emphasis on stronger clinical infection control and pre-placement of emergency start-up kits of personal protective equipment (PPE) for health staff at risk of exposure to cases of SARS.

Plenary presentations covered the following topics: virology, clinical features and management, mobilising governments for a multi-sectoral response, mobilising hospitals for improved infection control, and case studies on the PICT response to the threat of importation of SARS.

A series of key themes emerged from the discussions that followed each plenary presentation:

- it is likely that foci of SARS will re-emerge during the coming Northern Hemisphere winter.
- the SARS outbreak has provided a powerful stimulus to PICTs to strengthen their surveillance systems, infection control, and quarantine and border control procedures.
- inter-sectoral collaboration was a key feature of the SARS response, and remains important in all epidemic preparedness and response activities.
- effective containment of outbreaks requires a high level of political will and commitment.
- during outbreaks, effective communication is essential (within the health sector, between jurisdictions and with the public).
Three PICT delegates presented as case studies their countries’ responses to SARS:

- **SARS – Samoa’s experience — The good, the bad and the ugly: lessons learnt and future prospects**, by Namulauulu Dr M. Nu’ualofa Tu'u'a-Potoi, Director, Preventive Health Services; Samoa;
- **SARS preparedness in Vanuatu**, by Dr Corinne Capuano, WHO Country Liaison Officer, Vanuatu; and
- **Plan de prévention du SRAS – Polynésie française**, by Dr Dominique Bessette, Médecin coordonnateur des maladies transmissibles, Polynésie française.

An outline of Dr Potoi’s presentation on Samoa’s response to the SARS outbreak is included in this issue.

The SARS outbreak showed that PICTs are capable of rapid mobilisation of resources and donor support for containment of outbreaks of infectious diseases. The experience will be valuable for extending clinical preparedness, prevention and control activities to other outbreak-prone, priority CDs in our Pacific region, and to emerging and re-emerging global health threats.

**Day 2:**

**Sustaining the Benefits of the SARS Response — Infection Control and other measures**

*Chairperson: Dr Sylvie Barny, New Caledonia*

*Rapporteur: Dr Dominique Bessette, French Polynesia*

The second day included four plenary presentations:

- **SARS an New Zealand – Issues/lessons from the pandemic (case study);**
- **Regional initiatives to strengthen infection control;**
- **Community aspects of SARS control;** and
- **Legislation.**

Six working groups addressed the important issues arising from the presentations.

Highlights from the discussions of the working groups include:

- infectious disease control must be strengthened overall;
- practical exercises and drills can help maintain the system’s preparedness and efficiency;
- laboratory surveillance for emerging or re-emerging infectious diseases should be strengthened;
- PPHSN is a vital link between the PICTs and sources of technical expertise;
- cross-sectoral collaboration, rapid mobilisation of resources, coordination and transmission of information were key successes of the SARS response — these should be maintained and optimised for similar situations in the future;
- economic analyses and simulations are useful to measure the financial impact of outbreaks, and for mobilising politicians to secure the resources needed;
- a dedicated communications unit can provide consistent information to the media and the public, and can help to avoid misunderstandings and counteract misinformation;
- in the event of a major outbreak, a crisis management unit (coordinated by the Ministry of Health) should be used to mobilise other stakeholders;
- current legislation in each country needs to be reviewed and adapted to respond to the possibility of emerging diseases;
- the measures to be taken in future, particularly with regard to quarantine, should
be prioritised according to each country’s situation and assessed level of risk; and national surveillance systems need to remain alert, and be broadened and optimised, with support from WHO and SPC.

Day 3
Chairperson: Ms Natalie Ngapoko Short, Cook Islands
Rapporteur: Dr Robert Haddock, Guam

The third day of the workshop was devoted to preparedness for emerging and re-emerging infectious diseases. Six working groups addressed the following issues:

Planning Influenza Pandemic Preparedness for the Pacific Islands
The PPHSN Influenza Specialist Group was identified during the workshop. The list of members of this group is available on the PPHSN website under the heading Outbreak Preparedness & Control > Influenza.

The Group members started to develop the terms of reference (TORs) of the Group. These were further amended after the workshop.

Proposed Terms of Reference of the Influenza Specialist Group

1. Oversee development of the PPHSN Guidelines for the Control of Communicable Diseases section on influenza:
   - develop feasible methods of clinical and laboratory surveillance and appropriate responses to influenza outbreaks.
2. Oversee development of the PPHSN Guidelines for Influenza Pandemic Preparedness:
   - develop a template that each country can use to develop their own pandemic plan;
   - develop a simple protocol for trialling and testing influenza preparedness plans at the country level.
3. Be advocates within the PPHSN for all influenza matters:
   - promote awareness of influenza in the region;
   - collate regional information and report influenza data (Pacnet, the PPHSN, WHO etc);
   - provide advice and guidelines on the appropriate use of vaccines and antivirals.
4. Be a communication link on influenza for the PPHSN:
   - maintain linkages with technical experts;
   - support Labnet in the development of influenza testing programmes;
   - advise on prioritisation of operational research in the region.
They identified the following **immediate priorities:**
1. Confirm membership
   - approach absent nominees.
   - advise governments / agencies.
2. Ratify TORs.
3. Agreed action plans and responsibilities for PPHSN Guidelines:
   - advanced draft to PPHSN-CB early November 2003.
   - final draft by 31 December 2003.
4. Develop active audit tool for country status of preparedness for influenza.

**PPHSN information services**

**PacNet and derived lists**

1. **PacNet**
   PacNet is an email (and fax) listserv for a network of health practitioners (including decision-makers) interested or working in the Pacific Islands. Created in 1997, it allows rapid overall communication, especially “Early Warnings” for epidemic threats, and consequently makes it possible to raise awareness and preparedness levels in the region. It also gives access to resources, including expertise.

   The positive points of PacNet highlighted at the EpiNet workshop were its wide accessibility, its use for early warnings, the access it gives by email to advice and assistance, and the easy subscription.

   The two negative points mentioned were the quantity of useless messages, and the messages sent in error.

   The suggested improvements to PacNet were a better self-discipline (use of “Netiquette”), more explicit titles for the messages (e.g. “Early Warning message”), error messages to be forward to list administrators for possible further action, a survey to identify PacNet members who are not participating in the forum and understand the reason why they are not, and messages reminding members about the importance of participating in the forum and summarising PacNet possibilities.

2. **PacNet-restricted**
   PacNet-restricted is more recent. Only selected health professionals from the Pacific Island MoH/DoHs, plus the PPHSN Coordinating Body members, are on this list. It is a possible alternative to full PacNet in very early stages of outbreaks, when information is often sensitive and confidential (not yet confirmed and/or adequate public health response not yet brought about). The list is also used for Requests For Information (RFI) following fresh news from other sources (e.g. the media), and as a tool for restricted communication.

   The list has a fluctuating traffic, usually quite low.
At the first three sub-regional EpiNet workshops, members of the national/territorial EpiNet teams recommended that communication between the national/territorial EpiNet teams or other communicable disease control committees must be strengthened and that this should be done using PacNet-restricted: membership of PacNet-restricted should be reviewed and endorsed by the national health authority, and official agreement should be sought to allow all members of national EpiNet teams to receive messages on PacNet-restricted. The PacNet-restricted listserver could also accept all messages from national EpiNet members, although countries may wish to implement internal guidelines for their own team members about posting messages (the same should apply for PacNet).

The same thing was suggested at this workshop, to help make EpiNet more operational.

The problems of the Early Warning System

Late warning — or no warning — is the major problem of PacNet (and PacNet-restricted), with the consequences that: PICTs are not warned an outbreak may spread or is spreading from a given PICT; a possible mistrust in the region; the circulation of (earlier) news from media with often inappropriate information against which health professionals of the region have no professional information to oppose; and possibly a wrong or negative perception of the PICTs by health professionals from countries neighbouring the PPHSN region (members of PacNet as potential resources, or because of their interest in the Pacific Island region).

3. EpiNet Announcement list

It is a distribution list from the PPHSN-CB Focal Point (SPC) to national/territorial EpiNet teams (or other “communicable disease control committees”). The contents of the communications are specifically meant for the EpiNet team members, e.g. PPHSN developmental issues, guidelines, meetings.

This is clearly a role PacNet-restricted could play if all EpiNet team members have access to it (as explained above). Therefore, this list should disappear as soon as PacNet-restricted includes all EpiNet teams.

4. PacNet-lab

This list was created for the development of LabNet, and initially included Level 2 and Level 3 laboratories, plus the PPHSN Coordinating Body members. At the first sub-regional EpiNet workshops, it was recommended “that Level 1 laboratories be included into PacNet-lab” and “PacNet-lab should be further expanded to facilitate communication among laboratories at all levels”. This was achieved in 2002 for those laboratories for which the list administrators received contact details.

The list has a fluctuating traffic, usually quite low. Although it is used to share lab-specific information, the information is quite often also relevant for and shared on PacNet. Therefore at this stage, it is duplicating PacNet and the further existence of PacNet-lab depends on the users.

Inform’ACTION bulletin

A survey was conducted during the workshop in order to measure the use, relevance and popularity of the bulletin (format and content). The results presented in this publication show an overall great appreciation. There are, however, some problems with the distribution. They have been taken into consideration for this issue. Following a suggestion, new colours are being studied for Inform’ACTION #16.
A few members suggested also widening the themes discussed. We take advantage of this new opportunity to encourage you again to contribute to Inform'ACTION. Any kind of news and information about public health surveillance activities in the Pacific Islands is very welcome! Remember the title of Inform’ACTION #6 “Let’s share our experience, let’s speak up!”

For more details, see the results of the Inform’ACTION survey.

**PPHSN websites**
The PPHSN and Distance Education in Health websites were presented to the participants. Although the Internet may be available at the top level of the Pacific Island health departments, it seems that most of the health professionals do not have access to this service. Consequently, the PPHSN websites are not well known or utilised by the PPHSN members. Nevertheless, the members recognise that the sites have proven to be a good and quick tool for information access and that they should be further developed. One of the working group addressing this issue recommended that their relevance and usefulness be better advocated.

**Sustainable funding mechanisms for the response to epidemics in the region**
Each PICT has a responsibility for avoiding the spread of epidemic diseases in the region, and might also benefit from learning about a proper response to an epidemic elsewhere.

Response operations during epidemics (identification and confirmation procedures using LabNet capacities, and investigation and control using local and regional EpiNet capacities) must be quickly in place and need to have a reliable funding system.

Therefore, at the 8th PPHSN Coordinating Body meeting, in order to ensure the sustainability of these operations, it was planned to work on a proposal to set up a Revolving Fund system. Consequently, a committee was formed to start to work on this issue. At the Ministers of Health meeting in Tonga in March 2003, the issue of sustainable funding for PPHSN operations was also raised. The subject was to be further discussed with EpiNet team members during this regional EpiNet workshop.

I. **Summary of the discussions of the PPHSN-CB committee on the Revolving Fund**
The aim of the fund is to have a sustainable financial source available in order to strengthen the rapid response capacity in epidemic situations, especially at local level (national/territorial EpiNet teams).

The funds could be used for supplies (e.g. laboratory tests, packages for specimen shipment, drugs, chlorine, pesticides), equipment (e.g. for vector control) as well as to mobilise additional expertise in the region.

Three main issues must be addressed:
1. **Initial capitalisation for the fund.** Who will provide the initial input? A higher initial amount would make replenishment strategies more flexible (it would allow, for example, the PICTs to plan for the replenishment of the funds in the following year’s budget, based on the previous year’s expenses).
An evaluation of the use of the funds should be carried out, to verify the adequacy of the initial capital (amongst others).

2. **Replenishment strategies.** The fund can only become revolving (and therefore sustainable) if there is a firm commitment by beneficiaries (and/or other contributors) to replenish what is drawn down from the fund.

There are a few options.

The replenishment could be done by the PICTs only. An option is to have an annual subscription fee (as with an insurance policy) which might be the same for all PICTs, or different for each PICT according to pre-set criteria. Another option would be to ask for the replenishment according to the extent/cost of the service received.

Replenishment could also be done by aid donors (or whoever wants to contribute) together with the PICTs. The percentage of the replenishment requested from the PICTs would then be less and would depend on the external funds received and the funds used. Aid donors could contribute directly to the Revolving Fund or through a given PICT (and cover, for example, the PICT’s contribution).

3. **Fund management, including utilisation procedures and policy issues.**

The utilisation of the fund and its limits must be very clear. For example, a limit should be drawn somewhere between the emergency situation of an epidemic, and the long-term threat situation. The latter would very likely not be a situation where the fund could be used.

The funds would be used in epidemic emergencies (or threats), for PPHSN target diseases, unexpected/unknown outbreaks, and bioterrorism.

The potential users will be the PICTs (either all or those interested).

The management of the fund could be done by SPC as Focal Point of the PPHSN-CB (or another agency/institution).

The PacNet-restricted list could be used to make the requests for funding, for transparency purposes. In this way, it will be easy:
- to clarify the mechanisms for the utilisation of the funds;
- for all PICTs to keep track of their utilisation;
- to keep PICTs aware of the potential; and
- to inform at the same time the other PICTs of an existing/potential problem.

Potential problems should also be envisaged such as, for instance, a year with too many outbreaks, and no funds left for the last ones.

II. **Summary of the main outputs from the working group addressing the sustainable funding mechanisms**

First, the existing funding mechanisms that respond to a disease outbreak must be identified at both national and regional levels, then the way they could be strengthened has to be addressed.

If a revolving fund is chosen as the appropriate funding mechanism, a series of questions need to be answered, e.g. how it would be established, who will manage the
The current funding situation in the PICTs represented in the group shows that in Solomon Islands, Vanuatu, Tonga and Nauru, there is no Ministry of Health-specific budget allocation for the response to disease outbreaks. On the other hand, in Guam, Tokelau and the Cook Islands, there are designated emergency funds for all forms of disasters, including disease outbreaks.

To have sustainable funding mechanisms at the national level, it was proposed that the Ministry or Department of Health creates a trust fund for outbreaks or epidemics, using government grants and other sources of funding, with clear criteria and protocols to manage and operate the fund, and a legal regulatory framework. Inter-sectoral collaboration should be enhanced for the pooling of resources, e.g. disaster committees, partners, NGOs and other sectors.

To have sustainable funding mechanisms at the regional level, the establishment of a regional revolving fund is proposed, with a call for contributions (from PPHSN core members, partners, organisations and agencies, and interested donors) and clear criteria and protocols to use and replenish the fund (through interest rate, regular contributions, donations etc.), so that it is self-sustained. SPC could be the focal point for managing this fund.

Regional and National communicable disease databases
A working group identified the different needs at national and regional levels to plan the development of useful, efficient and coordinated database systems. The needs and ideas include: capacity building in some countries, training follow-up, PPHSN participation with technical training in the countries to address the lack of ICTs, coordination within the countries to improve networking, inclusion of NCDs in the PPHSN, and coordination and sharing of information at the level of the regional bodies to minimise confusion and reduce repetition at the national level (harmonisation of data requirements).

Another issue was highlighted from the discussions of this working group: the use of information. The members of the group suggested that PPHSN should have an agreement, signed by all Pacific Island countries and territories, identifying notifiable diseases to be reported, and mentioning that no censorship should be applied with regards to regional dissemination after validation (laboratory confirmation).

Day 4:
Chairperson: Dr Airambiata Metai, Kiribati
Rapporteur: Ms Eden Ridep, Palau
The fourth day started with four plenary presentations from the PICTs.

Experiences with recent outbreaks in the PI region
- *La Dengue en Nouvelle-Calédonie* (Dengue in New Caledonia), by Dr Sylvie Barny, Épidémiologiste, Nouvelle-Calédonie ;
Dengue fever outbreak in Tonga, 2003, by Dr Seini Kupu, Senior Medical Officer, Tonga;

Trouble in paradise: rubella or measles epidemic in Samoan, by Dr M. Nu'ualofa Tu'u’au Potoi, Director, Preventive Health Services, Samoa; and

Surveillance experience at the South Pacific Games, 2003, by Dr Salanieta Saketa, National Epidemiologist/Medical Officer, Fiji Islands.

An outline of Dr Saketa’s presentation on surveillance at the South Pacific Games in Fiji Islands, and an updated version of Dr Potoi’s presentation on a rubella or measles epidemic in Samoa, are included in this issue.

Two key lessons were highlighted during the discussions that followed the presentations:

- partnerships, communication and collaboration across all levels are essential in dealing with epidemics; and
- utilisation and improvement of the existing surveillance systems are crucial.

PPHSN guidelines

Dr Dennie Iniakwala, Dr Salanieta Saketa and M. Andrew Darcy explained what contribution they expect to make to the PPHSN guidelines, respectively addressing measles, leptospirosis and laboratory issues. Dr Seini Kupu proposed to take the chapter on dengue and the Influenza Specialist Group will work on the one on influenza. In general, the final version of their work should be available by the end of 2003.

Other priority diseases for the PPHSN?

Communicable diseases

The current specific, priority communicable diseases (CDs) for the PPHSN are cholera, dengue, influenza, leptospirosis, measles, typhoid fever and SARS. Except to a certain extent leptospirosis, these are all CDs with epidemic potential, which can easily spread internationally in more or less specific circumstances. Similarly to SARS, any outbreak-prone emerging or re-emerging disease of public health importance may also become a priority target for the PPHSN. Leptospirosis, although endemic rather than epidemic, has been included given its increasingly recognised public health importance in the Pacific Islands and the clinical picture, which might be very similar to dengue, influenza or typhoid fever.

There is still some substantial work to be done to achieve a good, robust level of development for the three PPHSN services: PacNet, LabNet, and EpiNet. It was recommended by the participants that PPHSN must first have its services developed to properly address the existing targets, and consequently to build on that. Given the developmental and consolidation work yet to be done, the extension to new priority CDs should be probably envisaged not earlier than 2005, except if opportunities arise without threatening the final steps of PPHSN development with regard to the existing targets.

The ‘PacSel’ methodology to select priority CDs to be under surveillance is an appropriate tool for the countries. It is less appropriate (more difficult to use) for a region like the Pacific Islands, for which criteria adapted from the new International Health Regulations might be more relevant. It was therefore proposed to use the criteria of burden and potential for international spread to select possible priorities, but also to take into account:
opportunities to reinforce the PPHSN or to speed up its development offered by existing/developing CD-related programmes or projects (e.g. Tb, HIV); and the ease with which a given CD could be included into the existing framework — or guidelines — within the PPHSN. For example, with regards to measles, “acute fever and rash” surveillance to be used, and, therefore, rubella to be possibly included, given its burden and potential for spread.

**Non-Communicable Diseases**
In the previous years, the inclusion of NCD surveillance under the PPHSN umbrella was brought up quite a few times in the meetings of the PPHSN-CB. To this desire was pragmatically contrasted the danger of not building the PPHSN on solid grounds, by losing the focus and spreading PPHSN resources too thinly. At this stage, as the PPHSN is likely to have a robust basis to build on in 2005, that was considered the proper time and opportunity to re-think the possibility of NCD surveillance being part of PPHSN scope, and to plan accordingly.

Additionally, at the Ministers of Health meeting in Tonga in March 2003, it was recommended that “aspects of NCD surveillance should be incorporated into the Pacific Public Health Surveillance Network (PPHSN)”.

To fuel the discussions on this matter, Jan Pryor wrote a discussion paper (see page…).

There is a consensus opinion that:
- NCDs are an increasing burden for PICTs and for many have evolved to be a primary concern;
- the surveillance tools and methods for NCDs are quite different to those for CDs; and
- the emphasis for NCD surveillance should be on NCD risk factors and their prevention.

The ultimate outcome of NCD surveillance should be the reduction of population-wide NCD risk factors (e.g. obesity, physical inactivity, tobacco use, unhealthy dietary habits, etc.) and the prevalence of their adverse outcomes.

Taking into account the discussion paper and the above discussion with regards to CDs, it was therefore proposed that, whereas CDs must remain the priority focus while NCD surveillance is being better defined and resourced, the PPHSN will aim at promoting the NCD STEPS framework as a foundation for NCD surveillance in the PICTs, and to explore specific strategies and activities to accomplish its integration within the PPHSN.

The first step will be to create a PPHSN subcommittee tasked to develop specific strategies for the inclusion of certain aspects of NCD surveillance within the PPHSN operations.

The creation of a PacNet-NCD listserv (including a mechanism to monitor and maintain it) to help facilitate communications on developments in Pacific NCD surveillance will also be explored and can be done very soon. As well, the Pacific NCD STEPS focal point will be included within the work of the PPHSN-CB.

**New International Health Regulations (IHR)**
After testing the tools of the proposed new IHR with different diseases, the working group agreed that they need to be revised and appropriately adapted to PICTs settings. They also recommended that a role be defined for PPHSN as a regional point of review in the notification process.

**Day 5**
*Chairperson: Dr Seini Kupu*

The last day included plenary presentations on PPHSN new projects, and bioterrorism preparedness. The remainder of the day was devoted to the finalisation of the draft Strategic Plan for the PPHSN.

**PPHSN existing or planned projects:**
- *The multi-centre survey on incidence and public health impact of leptospirosis in the Pacific* was presented by Dr Alain Berlioz-Arthaud, Pharmacien-biologiste, Institute Pasteur of New Caledonia.
- *The acute fever and rash surveillance project* was presented by Dr Michael O'Leary, CDC / NCID Regional Epidemiologist.
- *A new dengue vector-control project* was presented by Dr Jim Dodds, Environmental Health Adviser, SPC.
- *The results of a dengue survey conducted among 40 Japan Overseas Cooperation Volunteers (JOCVs) staffs residing in Fiji* was presented by Dr Ichiro Itoda, WHO South Pacific Office.
- *Environmental surveillance activities* were presented by Dr Donald Sharp, Environmental Engineer, WHO South Pacific Office.

**PPHSN Strategic Plan**
The draft Strategic Plan developed during these EpiNet and LabNet workshops has been sent to all members of the national EpiNet teams for their comments and approval. The final version will be posted on the PPHSN website.