

Regional training in public health surveillance: how far are we?

An SPC perspective

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Abstract

“Training in applied epidemiology and public health surveillance” is one of the five strategies of Pacific Public Health Surveillance Network (PPHSN). It aims to develop a regional pool of experts in public health surveillance and response for the Pacific Islands. In 1996, the idea of a modular training programme with field-based components, involving universities, health development agencies and professional associations came up. This programme should be accredited by a training institution. From 1998 to 2001, SPC made a first move in that direction and ran two different series of sub-regional training sessions in surveillance, outbreak investigation and the use of Epi Info 6 software for surveillance activities. The overall objective of these training sessions was to build a critical mass of health professionals who share a common set of tools and methods for public health surveillance. SPC can also provide attachment and hands-on field training opportunities for trainees in public health practice. A memorandum of understanding was signed between SPC and FSM in 1999. The article suggests the areas of future FSM/SPC collaboration in public health surveillance: the accreditation of SPC courses by FSM; the addition of a microbiology component; the identification of opportunities for field training; and the evaluation and harmonisation of the training programme(s).

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Introduction

“Training in applied epidemiology and public health surveillance” is one of the five strategies of Pacific Public Health Surveillance Network (PPHSN) that were agreed to during the Pacific Islands Meeting on Public Health Surveillance, held in Noumea in 1996. The strategy aims to develop a regional pool of experts in public health surveillance and response (including outbreak investigation). This pool should develop and network in the framework of the PPHSN and be as far as possible self-reliant, i.e. limit the needs for external expertise to outstanding situations.

During the Noumea meeting in 1996, SPC presented a vision of the training in public health surveillance in the region^{1,2}. This was later published in this journal³. In line with the spirit of the Yanuca Island Declaration⁴, this vision was comprised of the following key elements:

- Revising the objectives according to the differing needs at different levels of the health services;
 - Reforming methods: by strengthening basic training, integrating training institutions in the PPHSN—with one institution playing a pivotal leadership role—and developing a modular training programme with field-based components, that are recognised by the different training institutions (accreditation);
- Integrating resources: accreditation of continuing education using recognised modules, integrated assessment systems (including pre-requisites to be met by students), networking of universities, health development agencies and professional associations especially for the teaching workforce, short-term attachments and trainee supervision.

As a result, it was expected that costs involved in this kind of training would be reduced.

In 1997-98, Mahomed Patel, who has been involved since the beginning in the process of preparing the ground for the PPHSN and represented National Centre for Epidemiology and Population Health, Australia National University (NCEPH) and Communicable Disease Network Australia New Zealand

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(CDNANZ) at the PPHSN Coordinating Body, produced a report to SPC and PPHSN on service-oriented training in public health⁵.

Training delivery

The situation of the Pacific Islands is rather unique. The region encompasses immensity and smallness; diversity and similarity. This has many implications for the delivery method of the training: it can be physically centralised somewhere, and gather students for the whole duration of the training. But as soon as the training includes a field component, or targets professionals in their working environment, it entails the development of distance supervision and distance training delivery capacities. In other words, "learning-by-doing" – by far the best way of learning, especially in a realistic working environment – requires access to information and supervision. Although access to information and supervision capacities could be sometimes present locally in the Pacific islands, especially in "bigger" urban centres, very often information and supervision are to be sought at distance. This is where the availability of modern communication technologies like e-mail and Internet can make things much easier.

Nevertheless, it is unrealistic to think these technologies will soon be available to the nurse working on a remote island without electricity, or in the inland bush of a big island. As well, the use of information and communication technologies gives access to many distance training opportunities that are not always relevant to the local context (be it professional, geographical or cultural).

As it has been presented in the Pacific Telehealth Conference, other, more classical ways of delivering training still remain suitable and will be used in the future, such as decentralised training sessions and/or simply distance training courses sent by regular mail. In addition, training sessions where health professionals meet each other offer the unique advantage of exchanging information face-to-face among the trainers and the trainees, and even more importantly among the trainees. This enables a networking process to be initiated, that benefits the region. Training sessions that bring health professionals together, e.g. workshops or coursework, combined with field works supported by local and/or distance supervision and learning using modern information and communication technolo-

gies if possible, could be a reasonably well-balanced way of delivering the package.

Training in public health surveillance: what SPC does and plans to do

From 1998 to 2000, as part of the Pacific Public Health Surveillance Network (PPHSN), the Public Health Surveillance and Communicable Diseases Control (PHS&CDC) section of SPC, ran two series of sub-regional training sessions in public health surveillance. The first series was on the basics of public health surveillance, and the use of Epi Info 6 in surveillance; the second series covered the investigation of outbreaks and advanced use of Epi Info 6.

As part of the PPHSN, the overall objective of these training sessions was to help building a critical mass of health professionals, who share a common set of abilities (tools and methods) for public health surveillance. The two week-long sessions were designed to introduce the practice of public health surveillance and the use of Epi Info 6 software for public health surveillance to the participants.

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The first week of training made the participants familiar with:

- the concepts of public health surveillance,
- the methodology for selecting communicable diseases and priority health indicators for surveillance,
- designing an operational plan for the surveillance of communicable diseases,
- some of the skills needed to use Epi Info 6 for surveillance.

The objectives of the second week were:

- to understand the respective domains of epidemiology, public health surveillance and outbreak management (including information dissemination for action),
- to be able to plan and perform the various stages of outbreak investigation (going as far as the descriptive stage of the investigation and generating hypotheses regarding the risks),
- to be able to develop appropriate surveillance systems based on the use of aggregated epidemiological data, and to be familiar with aggregated data processing and analysis using Epi Info 6 to generate relevant surveillance reports.
- to become familiar with the new information and communication technologies tools for public health surveillance (including e-mail, PACNET and Internet use)

⁵ see M. Patel's summary paper "Service-Oriented Training in Public Health: A Model for Enhancing Public Health Surveillance in the Pacific" in this issue.

The training programme based on these first two sessions is also available on request and à la carte at country or territory level. SPC has already received a couple of requests from Pacific Island countries for this kind of tailored training.

A third session is planned with a focus on training in advanced outbreak investigation (testing hypotheses and comparing them with facts, i.e. analytical epidemiology) and further advanced use of Epi Info 6.

In the next stage the PHS&CDC section intends to achieve the following:

- create one continuous realistic scenario for all three sessions (including the third one in preparation);
- make these courses available for distance training (using Internet, e-mail, and regular mail);
- integrate (a) suitable training module(s) in microbiology, addressing practical topics like laboratory testing and samples handling, for the surveillance of communicable diseases;
- further develop a field-project approach, with each student having to develop and implement a project in public health surveillance ("learning-by-doing"); this will be the other component of the distance training programme;
- identify tools for evaluating students' performance; and
- gain academic recognition and accreditation for this training (from the Fiji School of Medicine for example).

The whole public health surveillance training programme will thus include both the courses, and the field project. It will allow credits to be gained towards a more comprehensive continuum of public-health post-graduate degrees (i.e. certificate, diploma or master).

Tailored to local needs, this training programme will also be available at country or territory level.

Regional collaboration: the Fiji School of Medicine (FSM)

In 1998, efforts were made to begin collaborating with the FSM. As a result, an MOU was signed between SPC and FSM in June 1999. As FSM was about to start a post-graduate diploma in public health in 1999, it was the perfect time to exchange training materials and think collaboratively about the development of a modular training package in public health and public health surveillance, with field components. The aim was to avoid a purely academic and theoretical training, and include as much field work as possible. In

this way the training programme would not only benefit the trainee, but also national and regional public health as a result of the trainee's project. This field-based training approach is used by the field epidemiology training programmes or the Public Health Schools Without Walls models.^{6,7}

In 1999 and 2000, SPC's Epidemiologist and Notifiable Disease Specialist of PHS&CDC section were guest lecturers at FSM, providing interactive exercises to medical (MBBS), post-graduate and master degree students, and sharing their training materials with FSM public health programme staff.

Considering the PHS&CDC section training development strategy, and the progress already achieved, the future joint action needed by SPC and FSM is clear for us:

- The courses carried out by the section need to be academically recognised and accredited. The tools used to evaluate students' performances need to be identified and implemented

to retrospectively and prospectively gain academic accreditation.

- To agree on the microbiology component of the training, and on the way and where it should be delivered. Other training institutions like the Pacific Paramedical Training Centre may become involved specifically for this component, as they already provide such a type of training (see the draft report of the Inaugural Meeting of the PPHSN Public Health Laboratory Network held at SPC in Noumea in April 2000).
- Opportunities for field training need to be identified, assessed, developed if necessary, and recognised: training sites, local and distance supervision. This is probably the most critical and difficult part to accomplish. To be specific, within the PPHSN framework the PHS&CDC section can already provide :
 1. attachment opportunities at the level of the PHS&CDC section. Three students have already benefited from these.
 - *With the students, the PHS&CDC section developed clear objectives and expected results for the attachment.*
 - *The trainees received technical support from the PHS&CDC section and were able to take advantage of other programmes in SPC both within the Community Health Programme, such as the Pacific regional vector-borne diseases project, or outside, demography for example.*
 - *The students published an article based on their work in a medical journal, and presented their work at international conferences.*

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2. hands-on field training opportunities, during outbreak investigations, whenever epidemics occur, or during other field activities like surveillance system evaluation or development, for example. Not only local counterparts can benefit from these, but also students from FSM for example. The PHS&CDC section is committed to finding funds and making them available for that purpose.
- The training programme (and materials) in public health surveillance needs to be evaluated and harmonised by the two institutions.

All these efforts will result in a better complementarity, optimising the use of scarce regional resources. Hopefully, they can be reproduced in the future in domains of public health other than public health surveillance.

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It is better to have a little ability and use it well than to have much ability and make poor use of it.

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