

**Experiences and lessons from DDM training:
Field epidemiology project work in CNMI 2005–2006**

In light of PPHSN's goal of building capacity in field epidemiology in PICTs, Data for Decision Making (DDM) training was conducted in Saipan, CNMI, in the second half of 2005. To round off this academic postgraduate certificate-level DDM training, the candidates undertook project work in their workplaces. This paper briefly describes the experience of undertaking such project activity, especially under somewhat constrained conditions, and highlights strengths and weaknesses and lessons observed that could be addressed in future training of a similar nature.

Field epidemiology training was initiated as a DDM training package for the Northern Pacific in 2005 after discussion with a number of PPHSN partners, including the Fiji School of Medicine (FSMed), for the awarding of qualifications. With the assistance of bioterrorism funds from the Pacific Island Health Officers Association (PIHOA) and with the guidance and blessing of PIHOA directors, the training became a reality for Guam and CNMI (see article in *Inform'ACTION* 21, p.25–29).

The preparation for the CNMI training was initiated by the PIHOA Epidemiologist and the PPHSN Coordinating Body Focal Point (SPC), and the candidates were selected by the Department of Public Health, CNMI.

Constraints

Funding availability for the training was limited as only a few jurisdictions contributed and the money had to be used before the end of the US financial year. Therefore, the training had to be conducted in a relatively short timeframe, which had significant impact on the preparation and organisation of the courses. In the end, the PIHOA Epidemiologist and the SPC team basically redesigned and developed the courses for the DDM training. Some of the courses were modified and adapted from the Master of Applied Epidemiology training at FSMed. This was done with the cooperation of FSMed to ensure that the course objectives were similar, and for ease of accreditation and award of qualifications. The discussion on this had been ongoing and at that stage it was warming up to “certificate” and “diploma” equivalent qualifications. The departure of the PIHOA Epidemiologist after the completion of two courses complicated the smooth running of the training.

Courses

The CNMI participants took five courses in total, whilst the Guam participants could only manage two due to the limited timeframe and funds. The course details, trainers and number of participants are presented in Table 1.

Table 1: Data for Decision Making courses, 2005

Course	CNMI			GUAM			Trainers
	Date commenced	No. candidates	No. passed	Date commenced	No. candidates	No. passed	
Introduction to Applied/Field Epidemiology	22 June 2005	17	10	15 August 2005	23	19	Dr Michael O'Leary, PIHOA Epidemiologist Dr Narendra Singh, SPC
Outbreak Investigations	16 August 2005	17	14	n/a	n/a	n/a	Maria Concepcion Roses, CSR, WHO Dr Narendra Singh
Database Design, Data Analysis and Presentation	4 July 2005	19	15	29 June 2005	23	18	Christine Roseveare, NZ Ministry of Health
Public Health Surveillance	3 October 2005	22	12	n/a	n/a	n/a	Hazel Clothier, VIDRL, Australia Dr Tom Kiedrzyński, SPC Dr Narendra Singh

Surveillance Project	10 October 2005	17 (12 projects)	Ongoing	n/a	n/a	n/a	Mr Tim Sladden, SPC Dr Narendra Singh
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Despite the lower-level entry of candidates in CNMI, their overall performance was high (pass rate of > 60% in the first three courses and close to 50% in the surveillance course if failure to turn up is excluded). The Guam participants were much more highly qualified and their performance in both courses reflected this.

Of the 17 candidates in CNMI who took the course, only 11 were eligible to undertake the surveillance project as it had as a prerequisite that candidates had participated in and passed at least two of the preceding courses. Some candidates who were not eligible were paired off to encourage continued learning.

For some courses run in-country, the candidate numbers were not restricted (limited only by the available facilities) to allow benefits to wider health service personnel. In each course there were formal and informal assessments. The formal assessments were recorded for future academic accreditation purposes. All aspects of the FSMed academic board regulations on postgraduate studies were observed in full.

Field or surveillance projects

The philosophy behind the concept of field or surveillance projects was to enable the candidates to apply their learning to a proposed or chosen communicable disease scenario, problem, data set or topic, in the line of duty in their daily work setting. Candidates had to analyse and interpret surveillance data (e.g. of a communicable disease of interest) in their setting, and make decisions based on it. This approach was undertaken because of the long-standing observation that surveillance data storehouses or 'cemeteries' were being created by ministries of health in PICTs and there was minimal utilisation of health data for the planning or delivery of services. Undertaking this project was an initial attempt to change future practice and also give a sense of value to candidates in their work.

As the DDM training had to be started and completed in a short time frame (the second half of 2005) it posed many challenges especially coping with integration of the surveillance projects into the workplace or work plan of candidates; addressing issues in terms of appropriateness, usefulness, timelines and size (research question or objective); and assessing the impact and outcome of the projects.

Outcomes

Of the 12 projects initiated, seven were near completion by January 2006. A first assessment was done and advice was given to all candidates on how to improve their projects. The quality of the work was variable. Candidates had experienced difficulties commencing the project work, so an additional trip by SPC training coordinator Dr Narendra Singh was made to assist candidates and get them on track. They found the project work difficult but very interesting and enriching. Many believed that they would probably have done a better job if there had been more structured time for supervision. Once the projects were completed, the best candidates could proceed to the next stage provided there were funds to continue the training. The candidates were also encouraged to publish their findings in local or regional journals.

Field epidemiology and surveillance projects 2005

Title	Status or outcome as at January 2006
Evaluation of national notifiable disease surveillance	Near completion, needs improvement
TB surveillance	Near completion, needs improvement
Cerebro-Vascular Accident surveillance	Retired, not continuing
Chlamydia surveillance	Near completion, needs improvement

Second-generation HIV/STI surveillance	Health Department candidate: dropped out/left country
Hepatitis B surveillance	Near completion, needs more work
Food-borne disease surveillance	Practice purposes, not submitted
Measles/rubella	Near completion, write-up needs improvement
Mortality surveillance on CNMI	Near completion, write-up needs improvement
Diabetic amputations	Near completion, needs improvement
Sex worker site mapping on CNMI	Not progressed
Leptospirosis surveillance	Incomplete

Lessons

The Pacific DDM approach to field epidemiology training was a very useful experience, highlighting a number of unique issues in distance teaching and training – especially the logistics of coordinating training from a distance. There were a number of observations of factors that are crucial for success in PICTs, especially regarding project supervision. It became very clear that it is possible to do such training in field epidemiology provided some key conditions are met or present in the setting:

- i) adequate funds for timely mobilisation of resources;
- ii) local supervision of work by a mentor, public health practitioner, physician or epidemiologist; or more frequent visits by coordinators;
- iii) interested and capable candidates; and
- iv) commitment from health directors or ministries of health (e.g. PIHOA directors, Secretary for Health in this case).

Most projects that were near completion required improvements in data presentation and write-up. Perhaps the project work was introduced too early in the training and should have followed a few other courses, such as basic biostatistics, more data analysis experience, literature search and critical appraisal, and writing skills.

The project work also demonstrated that distant supervision is not ideal for field epidemiology projects unless there are more frequent face-to-face sessions and visits or video conferences, teleconferences and emails. Local supervision is the best alternative and perhaps less expensive as well if an experienced supervisor is available on site, however this situation is scarce in the PICTs.

Strengths and opportunities

One of the real strengths of the training was that a wider range of health professionals was exposed or trained despite their varied academic background. This allowed CNMI to choose the best candidates to proceed further with advanced field epidemiology training. At the same time, it allowed the building of a larger resource pool of skilled professionals for the national EpiNet team and CDC taskforce. On the educational front, the training had to be adapted to the local context and made relevant to the work of the candidates. As well, candidates freely brought forth classic work problems and examples of difficulties and were able to address them. In fact, the DDM training enabled candidates to identify problems with their existing surveillance system for notifiable diseases, including data flow issues, data storage and backup, and analysis and reporting – let alone PH action. Doing the actual project in the area of candidates' choice confirmed these problems or further highlighted difficulties with accessing data or with lack of data, all of which affected the chances of completion of projects in the expected timeframe. It also identified that there was no dedicated person doing surveillance work, and hence no one was looking at surveillance data in a timely way in their setting – all the more reason that they should have the skills the DDM project work reinforced.

Unfortunately none of the projects was done on outbreak investigations as there were no outbreaks at the time and data for past outbreaks were hardly available.

Directors commented that the enthusiasm of staff in the workplace had improved tremendously with the training, and some even had opportunities for career progression.

Conclusion

The DDM training conducted in CNMI was a success despite the short timeline and budget limitations. This first session of DDM training highlighted the strengths and weaknesses of the project. It became clear from the experience that if there was a bigger dedicated budget it would be possible to improve the outcomes of the project, including the overall training. Many trainers or resource people from developed countries, institutions and agencies were willing to volunteer their services under the auspices of PPHSN provided prior notice was given and that travel and board and lodging were made available in the country where the training was to take place.

With improved selection of candidates, suitable combination of training courses, dedicated supervision time for the surveillance project, sufficient attention to flexible learning needs, academic accreditation and funding, the DDM will become an even more successful field epidemiology training model for the Pacific.

Acknowledgments

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