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**MID-TERM EVALUATION
OF THE FIELD EPIDEMIOLOGY TRAINING PROGRAM**

PHILIPPINES

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Executive Summary

The Philippine Field Epidemiology Training Program (FETP) was established by the Philippine Department of Health (DOH) with assistance from the United States Agency for International Development (USAID) and the United States Centers for Disease Control (CDC) in 1987. The goals of the FETP are to train professional epidemiologists, and to develop a self-sustaining capacity for this training to be done within the DOH.

The FETP is administratively located in the office of the Chief of Staff. Technical supervision is the responsibility of the FETP Program Manager and the CDC Consultant. The first year begins with six weeks didactic instruction in epidemiology, statistics, experimental design, and scientific writing and is followed by intensive in-service hands-on training lasting the remainder of two years.

The program produced five physician graduates in September 1989 (class of 1987), three now assigned to central DOH and one each in the Cebu and Davao Regional Offices. Six physicians entered the program in 1988, followed by seven physicians and one veterinarian in 1989.

The FETP is remarkable for its achievement of very strong support from the Secretary DOH and his Undersecretaries. It has good relationships with DOH program managers, and important institutions such as the Research Institute for Tropical Diseases (RITM), the University of the Philippines College of Public Health (UPCPH), and San Lazaro Hospital (specializing in infectious diseases). This respect has been earned by repeatedly demonstrating a capability to respond promptly and creditably in a "troubleshooting" role for the DOH, including presentations to the media and testimony to the national legislature.

More than 90 epidemiological investigations and projects have been conducted by the FETP. The quality of written output is high, and there is resultant success in publishing. Nearly all trainees have presented at national and international scientific meetings. There is good balance of didactic and field experience and a demonstrable capacity in study design and basic analysis skills in the interviewed trainees. One of the outstanding achievements of FETP is the hospital-based Sentinel Surveillance System, developed to help identify outbreaks.

Issues defined by the mid-term evaluation team include:

- 1) Where in the DOH organizational structure does the FETP belong so as to ensure institutionalization?
- 2) Appointment of a full time DOH counterpart to the CDC consultant and development of replacement trainers.

- 3) Optimal utilization of FETP graduates.
- 4) Recognition of FETP graduation as a professional qualification and route to a viable career path.
- 5) Training needs such as additional supervision time, more emphasis on study design, confounding and bias, laboratory support for outbreak investigations, and additional vehicular support.
- 6) Promotion of institutional relationships, including future relations with CDC.
- 7) Development of the 1992 DOH budget proposal to fully support the Philippine FETP.

The evaluation teams's recommendations, sorted by target agency, include:

For DOH

- 1) Place FETP as a separate service unit, under the office of the Chief of Staff.
- 2) To ensure visibility and proper utilization of graduates in regions, a DOH directive should assign them positions within the offices of the Assistant Regional Health Directors with an official job description.
- 3) Trainees and graduates should experience and expect a lead role in conducting short courses in epidemiology; adequate budgetary support needs to be provided for this activity.
- 4) To enhance the visibility of FETP service and training, the program should present a brief program update, as appropriate, at monthly national, regional, and provincial health officer meetings.
- 5) Graduates should be ensured permanent positions at the Medical Specialist II (MS II) level by DOH memorandum to the Civil Service Commission explaining that FETP training qualifies graduates for such positions.
- 6) Philippine Medical Association certification of the subspecialty of Medical Epidemiologist should be pursued via creation of an examining board.
- 7) Two additional DOH trainers, preferably FETP graduates, should be located and "itemed" soon, so there is sufficient overlap with the CDC Consultant's remaining contract time.

8) Preparation of the FY 1992 DOH budget well in advance of the May 1991 deadline, to ensure that written justifications of line items are complete for the first year of the program without outside funding support.

9) Support at regional and provincial laboratories is not consistently adequate and should be enhanced, with a focus on delivery of basic bacteriology supplies and training in enteric culture procedures. Viral serology capability needs support at the BRL and Regional Laboratory levels. Consider central purchasing of reagents and antigens which must be purchased outside the Philippines.

10) FETP should seek more frequent meetings with other institutions to discuss mutual needs and interests in order to coordinate budget requests, avoid duplication and facilitate development of short and long term studies.

11) Consider having the FETP Advisory Board function as a technical review mechanism for third party research grants.

12) To allow for simultaneous investigation at two sites in Luzon, a second vehicle should be purchased using USAID grant funds, and, if necessary, a driver should be hired.

For CDC

1) There is need for more training experience with chronic disease investigations.

2) More training emphasis on confounding and sources of bias, and more trainee written and oral practice in addressing potential limitations of chosen methodologies.

3) A memorandum of agreement should be signed with DOH before termination of assistance, to recognize areas of future exchange and cooperation.

For USAID

1) In order to allow additional time for the hiring and orientation of DOH epidemiologist-trainers, strong consideration should be given to funding an extension of the CDC consultant's tour of duty through 1993, provided DOH desires such an extension.

Overall, the evaluation team was very impressed with achievements and future potential of the Philippine FETP. Establishment of the program has been steady in spite of the logistic hurdles any such undertaking entails. DOH is already benefiting from this "tool" for targeting cost-effective public health measures, while at the same

time DOH and CDC clearly enjoy a new professional and technical partnership. None of what has so far been achieved would have been possible without the strong and flexible support of USAID and DOH, or the determination and enthusiasm of the trainees themselves.

I. Background and Methodology

The Philippines Field Epidemiology Training Program (FETP) is the sixth such international program to have been established by the United States Public Health Service's Centers for Disease Control (CDC) with financial assistance from the U.S. Agency for International Development (USAID). The existing FETPs and their dates of establishment are as follows: Thailand--1980, Indonesia--1982, Mexico--1984, Taiwan--1984, Saudi Arabia--1985, Philippines--1987. The FETP is based on the CDC's domestic Epidemic Intelligence Service (EIS) program, which was started in 1951.

The origin of the Philippine FETP can be traced back to 1984 when researchers at the (Philippine) Research Institute for Tropical Medicine (an institute within the Philippine Department of Health--DOH) approached the USAID with a proposal to establish a field epidemiology unit within the Institute. USAID told them of the existence of the FETPs, especially the one in Thailand. Later in 1984, Philip Brachman, MD, former head of the CDC's Global EIS Program, stopped in Manila to discuss the possibility of establishing such a program. He suggested that if a program were to be established, that it be placed in the service arm of the DOH rather than in the Institute. DOH officials visited both the Taiwan and Thailand FETPs before the project authorization was finalized on August 30, 1986. The first class of Philippine trainees started in September, 1987 under Manuel Dayrit, MD, MPH, DOH FETP Program Manager and Mark White, MD, FACPM, CDC Consultant.

The DOH goals for the FETP program include: investigation of disease outbreaks; reporting and analysis of disease surveillance data; development of methodologies for disease prevention and control; and utilization of epidemiologic information for planning, managing and evaluating health services.⁵ USAID has similar goals in supporting the program, with an emphasis on both the use of accurate epidemiologic data to target control programs aimed at reducing high fertility and high infant and young child mortality, and the development of a self-sustaining capacity within the DOH to continue training field epidemiologists.⁶

⁵ Malison MD, Dayrit MM, Limpakarnjanarat K. The Field Epidemiology Training Programmes [Letter to the Editor]. *Internat J Epidemiol* 1988;18:995-6.

⁶ Philippines Primary Health Care Financing Project (492-0371), Field Epidemiology Training Program (FETP) Component, Project Paper Supplement, Manila, Philippines, USAID, Sept 1986.

The written scope of work for the evaluation is attached as Appendix 1. The 1990 Mid-Term evaluation team was composed of representatives from four agencies: the DOH, CDC, USAID, and the Western Pacific Regional Office of the World Health Organization (WPRO/WHO). The review included reading of numerous documents, written reports and publications of the FETP trainees and graduates; an orientation briefing by the FETP Program Manager and Consultant; and over a period of nine days, including two and a half days in Davao and Cebu, the team interviewed some fifty-five persons, including all trainees and graduates (except one), three Undersecretaries of DOH, the Dean, College of Public Health, the Director of the Research Institute of Tropical Medicine (RITM), the Director San Lazaro Hospital in Manila, the Director of Southern Islands Medical Center in Cebu City, Division Chiefs, Regional Laboratory Directors, selected program managers, and the Cebu City Health Officer. A complete listing of interviewees is attached as Appendix 2. Although the interviews were conducted in an informal manner and no two were identical, topics focused on a core set of issues as outlined in Appendix 3. The team spent three days in developing the first draft of the evaluation report. This time included debriefing with the Chief of Staff DOH, USAID Office of Public Health (O/PH), and the FETP PM/Consultant.

The purpose of this evaluation was to assess the FETP on both technical and programmatic grounds, and to make recommendations aimed to help FETP sustain its goal of high quality training and service and to enhance its institutionalization prospects.

II. Program Administration

The FETP office is located within the Department of Health compound at San Lazaro and is attached to the office of the Chief of Staff (OCS) with linkages to the Office of Public Health (see organization chart in Appendix 4.). Such an arrangement was made to expedite immediate action on all matters pertaining to the program's training needs as well as those of the trainees themselves. In the reorganized set-up of the DOH, the OCS cuts across all health services. DOH employs approximately 67,000 persons, and of these, 6,000 work in the central office.

The program management staff consists of an in-country consultant epidemiologist from the U.S. Centers for Disease Control (Mark White MD, FACPM) and a program Manager who is an epidemiologist from the Department of Health (Manuel Dayrit, MD, MPH). Other staff include an administrative assistant, a librarian, two secretaries, and a driver. All program staff are funded by the PHC Financing Project and eventually they will be absorbed by the DOH when the project ends in 1991. The

Undersecretary for the office of the Chief of Staff serves as the ex-officio Director of FETP and is responsible for the general direction of the program.

Technical supervision is the responsibility of the FETP Program Manager and the CDC Consultant. CDC-Atlanta has also provided thirteen consultant visits for supervision, laboratory assistance, and field training. The in-service training program lasts two years. The first year includes six weeks didactic instruction in epidemiology, statistics, experimental design, and scientific writing (see Course Schedule in Appendix 5.), followed by eleven months field work in which the trainee investigates outbreaks (involving, ideally, a mixture of infectious and noninfectious agents) and participates in weekly seminars and public presentation of findings and recommendations and preparation of a publishable report. Trainees are also expected to undertake a surveillance project and a disease control program evaluation, as well as participate in weekly seminars. In the second year, trainees must supervise the field work of the first year trainees in outbreak investigations and they must conduct one long-term study which focuses on a priority topic of importance to the Philippine Department of Health (DOH).

The Undersecretary for Public Health is the Chairman of the FETP Advisory Committee and acts as advisor on matters of recruitment, placement and areas of concern of the trainees. Other members of the FETP Advisory Committee are the two FETP co-managers; the directors of the Health Intelligence Service, the Division of Communicable Disease Control, the Bureau of Research and Laboratories, the Research Institute for Tropical Medicine, the Health Manpower and Development Services, the Dean of the College of Public Health, University of the Philippines (UPCPH), and the USAID Program Manager (Rosendo Capul, MD).

Since the start of FETP and up to the present time, this program has enjoyed the strong support of the Secretary of Health and his undersecretaries.

III. Recruitment

Recruitment of prospective FETP trainees was done through a department circular and brochure distributed to all Regional Directors, selected Provincial Health Officers and Chiefs of Hospitals during a national staff meeting in Manila. Most of the trainees stated that they did not actually see the brochure but learned about FETP through word-of-mouth, usually from their superiors who may have seen the brochure.

Applicants have generally come from other positions within the health department. All are asked to pass a screening interview conducted by the

admissions committee. Some applicants have withdrawn their applications to pursue an MPH degree at the College of Public Health, reportedly because of the shorter training period (one year vs. two) and the guarantee of a permanent position upon completion of training (FETP graduates currently are only guaranteed a temporary position--see below under "Institutionalization").

Training of the first FETP group began in September 1987 with seven trainees. The current status, educational profiles, and age/gender breakdown of recruits are outlined in the following tables.

Status of FETP Recruits, by Class Year, 1987-89

	1987	1988	1989
Recruits	7	7	8
Current Trainees	0	6	8
Graduates	5	-	-

Educational Profile of Recruits

Physician without postgraduate training	12
Physician with residency training	6
Physician with MPH degree	3
Veterinarian	1
Total	22

Age and Gender of Recruits

25-29 years	4
30-34 years	15
35-39 years	3
Female	12
Male	10

IV Relations with Other Programs and Agencies

FETP maintains a good working relationship with the different public health programs (Maternal and Child Health; Tuberculosis Control; Malaria; Nutrition; Family Planning; etc.) and program coordinators for these programs are invited to act as lecturers and resource persons.

FETP relationships with provincial, district, and even selected regional health departments are suboptimal and contribute to a reluctance by some local authorities to extend invitations to FETP trainees, and graduates especially, for investigation of outbreaks. Several factors that may be operating were

mentioned by interviewees: lack of awareness of what FETP has to offer; concern that an investigation will point out a shortcoming in the locality; and concern that recommendations stemming from an investigation will be unrealistic because the health director will have little or no opportunity for input.

The Bureau of Research and Laboratories (BRL) and the RITM provide the laboratory support for outbreak investigations. The San Lazaro Hospital serves as the rotation site for clinical epidemiology exposure and as one site for the sentinel surveillance system. The UPCPH assists the FETP program with seminar lecturers on epidemiologic methodology.

The FETP graduates who are now assigned in the field solicit support and maintain collaboration with the regional laboratories and local medical schools such as the Davao Medical School Foundation.

V. Utilization of Graduates

The placement of the first class of five graduates includes three in the central DOH and two in the Regional Health Offices. At DOH, one is assigned to the FETP as a trainer, another to the Health Intelligence Service (HIS) office, and the third is assigned to the TB Control Program. The Region 11 graduate is the Regional Malaria Coordinator. The Region 7 graduate is assigned to the Regional Training Center.

The newly acquired skills of the two graduates now working in regional positions are not being used optimally. In both cases, epidemiologic activities constitute only a fraction (< 50%) of the graduate's workload. This does not appear to be due to a lack of interest in epidemiology on the part of the graduates' supervisors. Rather, it appears to be a function of where graduates are placed in the organizational structure (this, in turn, is a function of which "item" or job class is available), lack of an official job description,⁷ and difficulty in some cases in securing an invitation from a provincial health director in order to investigate an outbreak (see above).

Graduates identified the following as important resources for themselves and future graduates: access to a computer (currently not a problem because of the co-location of regional graduates at sentinel surveillance sites); access to

⁷ A draft job description for "Medical Specialist in Field Epidemiology" (FETP graduate) was sent from Dr. Taguiwalo, Chief of Staff, to regional directors, FETP graduates and their supervisors on November 2, 1989.

reference materials, including standard medical and statistical textbooks (currently most materials have to be loaned from the FETP library in Manila); and ability to attend an annual scientific conference where epidemiologic studies are presented and discussed (planned but not yet implemented).

VI. Institutionalization

The major components of institutionalization, as outlined in the Scope of Work (Appendix 1.), include: program financing and operational budget; appointment of a national director; organizational identity; operational budget/authority; self-sustaining cycle from recruitment to graduation; certification/credentialing for graduates; career path for graduates; epidemiology bulletin; and establishment of an annual epidemiology conference.

FETP is currently financed largely from USAID grant funds. The program administrator is in the process, however, of drafting the first DOH budget for the program in anticipation of the transition to DOH funding. According to Mr. Rhais Gamboa, Undersecretary of Finance for DOH, ample funds are available and will continue to be available to priority programs within DOH. Future funding of FETP will depend on the merits of budget justifications submitted, but it is his feeling that FETP is in a position to make those justifications convincing.

FETP benefits from the technical and managerial strengths of Dr. Manuel Dayrit, MD, DOH Program Manager for FETP. Dr. Dayrit has been instrumental in assimilating the activities of FETP into those of the entire Department. Unfortunately, Dr. Dayrit is unable to devote full time to FETP, since he is also the Director of the Public Information and Health Education Service (see organization chart, Appendix 4.). Currently, then, there is no full time DOH counterpart to the CDC consultant, Dr. Mark White.

Original plans called for five of the first 18 trainees to be groomed to become FETP trainers after graduation. Of the five trainees graduated to date, only one (Dr. Ismael Pastor) is currently assisting with training and supervision, but he is on unpaid leave of absence from his previous position and his continuation as a trainer/supervisor hinges on his obtaining a DOH position within FETP. No firm plans currently exist for hiring additional trainers, although the need for such is generally recognized.

There has been much discussion by FETP managers and top DOH management regarding the organizational placement of FETP so that it will remain viable and successful after the USAID funding ceases in 1991. Where the FETP should be located in the DOH structure was discussed at an Executive Management Committee meeting presided over by the Secretary in

1989. This discussion resulted in a recommendation that FETP should be placed in the layer nearest the Undersecretary level i.e close to the decision making level. As a result of subsequent meetings there has evolved a feasibility study of the possible structure of FETP as a **service** (vs. training only) unit. This proposal has the support of the Chief of Staff, but still requires the enactment of legislation to establish the service. Still unresolved is whether FETP should come under the Office of the Chief of Staff (either within the Health Intelligence Service as originally planned, or as a separate service), or the Office for Public Health Services.

In the long term (after the CDC consultant has left and assuming FETP assumes a service as well as a training function), adequate supervision will require a full time program director (medical epidemiologist) a medical epidemiologist in charge of training and a medical epidemiologist in charge of the service function. This does not address administrative and clerical support, or staffing for the sentinel surveillance system.

A self-sustaining cycle of training, from recruitment to graduation has been achieved, as noted earlier. Certification/credentialing of graduates has been more difficult to accomplish. This in turn has affected the career paths of graduates. No formal credential is awarded to trainees upon graduation. FETP has considered offering an extension of training through a third year, when the trainee would undertake course work at UPCPH. Although this would result in the graduate having an MPH degree, the length of time necessary to attain this degree acts as a deterrent to applicants, trainees and DOH program managers.

Because graduates lack formal credentials, DOH's Health Manpower Development and Training Service has been unwilling or unable to guarantee graduates a **permanent** position at the Medical Specialist II (MS II) level. Instead, graduates are usually given temporary MS II positions (renewed annually), which means they lose any employee benefits acquired in previous positions. According to the Chief of Staff, permanent MS II positions could be guaranteed, even without formal credentials, by having the Secretary of Health notify the Civil Service Commission that graduates of FETP have fulfilled the qualifications for hiring at the MS II level. Even if this were to be accomplished, lack of a formal credential would continue to be a detriment to the career path of a graduate, particularly one who sought employment outside DOH.

Another option to pursue would be to have FETP graduates examined and certified by an expert committee, similar to the board certification in clinical specialties. According to Alejandro de Leon, MD, Deputy Director for Hospital Services (DOH), this could be accomplished either by an expert board

appointed by DOH, or by a branch of the Philippine Medical Association (e.g. infectious diseases), or by a specialty society e.g. a resurrected Epidemiology Society of the Philippines (which DOH could help reestablish).

An epidemiology bulletin has been produced by FETP but issues have been sporadic (about one per year) and have suffered from delays in printing and lack of funds for postage, resulting in limited distribution to DOH units outside the central office, and no distribution to private physicians. An annual DOH-sponsored epidemiology conference is something FETP will plan for in the future.

VII. Quality of Training

Exposure to acute infectious and noninfectious disease outbreaks is adequate, and overall the training is producing epidemiologists capable of meeting the country's disease prevention and control needs. Application of epidemiology to program evaluations was infrequent with the first class of trainees but has subsequently increased. The potential exists for trainees to have increased exposure to the application of epidemiologic techniques to chronic diseases (e.g. morbidity from cigarette smoking) and this area could be pursued to a greater extent in the future. Selected tabulations of trainee output are attached as Appendix 6.

The training appears to provide the appropriate balance of didactic and field experience. Trainees are all participants in a sentinel surveillance system designed to detect outbreaks (see Appendix 7.), and all are exposed to survey techniques. Assessment of the adequacy of training in epidemiologic analysis was difficult given the evaluation methodology and time frame. Trainees appeared to have a clear understanding of the objectives and rationale for design of their studies. Basic analysis appeared to be well understood. When asked about the role of stratified analysis, some trainees had difficulty responding.

Supervision and teaching skills are developed by second-year trainees, who generally oversee one or more first-year trainees on outbreak investigations.

The level of supervision was judged to be somewhat inadequate at present. This is based on both a reported turnaround time of several weeks for review of trainee investigation reports and manuscripts, and a progressive decline in the number of field investigations where the trainee is able to be accompanied by either Dr. White or Dr. Dayrit. This is primarily the result of the expansion of the number of trainees and competing responsibilities of Dr. Dayrit. The quality of the supervision actually rendered, however, is very good.

In the short term, supervision would be greatly improved by the addition of at least one more trainer. Although adding another medical epidemiologist would be desirable, another alternative would be to hire someone with public health training and good scientific writing skills who could assist with manuscript reviews and editing of the epidemiology bulletin. Such a person could also serve as librarian and conduct medical literature searches.

Manila-based laboratory support for investigations is provided by the DOH's Bureau of Research and Laboratories (BRL), and labs at RITM. Supplies are sometimes inadequate because neither BRL nor RITM budget for outbreak investigation. FETP has had to purchase its own supplies on a number of outbreaks. This process has proven to be cumbersome and duplicative. Trainees would benefit from an orientation to laboratory procedures relevant to their work (perhaps even with some hands-on experience). This would allow laboratory workers to appreciate the perspective of the trainee-epidemiologist, and the result would be improved communication and cooperation between the various labs and FETP.

Laboratory support in the field is reportedly weak, with the notable exception of the Region XI Public Health Laboratory under Dr. Paraan. Many regional labs are reportedly unable to process standard enteric bacteriology specimens. According to Dr. Paraan, the merging of public health and public hospital laboratories has lead most of them to focus on hospital services at the expense of public health. USAID funding for the FETP project included support for upgrading three regional laboratories. Apparently delays were experienced in purchasing the needed equipment, which was subsequently held up by customs, and finally delivered to a root beer company by mistake. In sum, upgrading of laboratories was attempted but has yet to be accomplished.

Vehicular support is presently inadequate. With only one vehicle available for travel to outbreaks in Luzon, FETP is paralyzed whenever repairs are needed to that vehicle, and outbreak investigations need to be prioritized and some delayed whenever two or more investigations have needed to be conducted simultaneously. USAID funding of the FETP project apparently included monies for two vehicles and one professional driver (DOH to provide the second driver), but a second vehicle was never purchased.

The quality of the FETP written output is high. A number of reports have been published in the Philippine medical literature (listed in Appendix 8.). Although several papers have been published in an international book and other reports have been published in MMWR, it is clear that more of the interesting investigations should be submitted to international peer-reviewed journals. The rate limiting step appears to be the number of trainers, a situation which needs addressing as outlined above.

FETP output has clearly had an influence on public policy. Some of the trainees have testified before the legislature on topics under investigation (e.g. testimony on paralytic shellfish poisoning, and development of a National Red Tide working group).

The FETP appears to be meeting the goals of the DOH. One of the goals of the program was to place FETP graduates into key positions at the central and regional levels.⁶ As a result of the initial success of FETP, DOH also would like to have persons with epidemiologic training located at the provincial and district levels. The evaluation team feels the latter goal could best be accomplished by having FETP graduates and trainees conduct short course training in epidemiology for appropriate persons in the provinces and districts, rather than risk overextending the FETP by attempting to increase further the FETP class size using already limited resources.

This program appears to compare very well with other FETPs in terms of the quality of training, quality of output, impact of output, and the level and range of supervision.

VIII. Issues and Recommendations

A. Program Administration

Issue: After the assistance period ends, it would be in DOH's and CDC's interest to maintain open channels of communication and collaboration.

Recommendation: CDC should draft a memorandum of understanding between the two agencies to be executed before termination of assistance. This memorandum should formally recognize areas of mutual interest including, but not limited to, exchange of technical information, opportunities for exchange of consultants, and availability of training. DOH should make arrangements to continue the funding of a DIALCOM computer link with CDC, in order to facilitate interagency communications.

Issue: FETP will be entirely dependent upon DOH funding beginning in 1992.

⁶ Philippines Primary Health Care Financing Project (492-0371), Field Epidemiology Training Program (FETP) Component, Project Paper Supplement, Manila, Philippines, USAID, Sept 1986.

Recommendations: The 1992 budget and its written justifications for all line items must be submitted by the end of May 1991. It is important for DOH/FETP to begin now to prepare this budget through a multiple review process. The writing of line item justifications may take more time and effort than the listings and amounts. Also the issue of "replenishment" level for the operating fund should be resolved by discussion with the Undersecretary of Finance in advance of the transition to total dependence on DOH funding.

B. Relations with Other Programs & Agencies

Issue: FETP needs to continue to build a constituency among the regional and provincial health directors.

Recommendations: To increase health authority awareness that FETP is a valuable technical resource, it is suggested that all completed epidemiological studies including updates of FETP activities and accomplishments be presented during the regular monthly national, regional, and appropriate provincial health officer meetings. Production and distribution of the epidemiology bulletin also need to be enhanced (see below). Finally, FETP should involve appropriate program coordinators and local health officials in the decision-making process both before and after implementation of epidemiologic studies.

Issue: Institutions such as RITM, San Lazaro Hospital, UP College of PH, BRL and FETP have much to offer each other. Independent activities have led to duplication of research agendas and budgets.

Recommendation: DOH/FETP should take the lead in arranging more frequent meetings with these organizations to discuss mutual needs and agendas as well as budgets, especially for laboratory support.

Issue: Third party research grants may be available; a mechanism for technical review is needed.

Recommendation: DOH should investigate the feasibility the FETP Advisory Board serving in this capacity.

C. Utilization of Graduates

Issue: The skills of FETP graduates are underutilized.

Recommendation: A directive memo from DOH which includes an official job description for FETP graduates should be sent to Regional

and Provincial Directors. The draft job description circulated in November, 1989 by the Chief of Staff would serve as an excellent basis for such a directive, and should include reference to a graduate's role in conducting short courses in epidemiology for provincial program coordinators, for rural health physicians, and other paramedics in coordination with RHTC or local medical schools. It is also recommended that adequate budgetary support be provided for this activity.

It is recommended that any graduate filling a regional position be placed in the office of the Assistant Regional Health Director, and at the provincial level, in the office of the Assistant Provincial Health Officer.

A formal mechanism, beyond the job description mentioned above, needs to be established by DOH to ensure that graduates have the resources needed to carry out their work as epidemiologists. Those resources include: an office, access to a computer, laboratory support, reference textbooks, funds for travel to investigation sites, and funds for travel to an annual epidemiologic conference.

D. Institutionalization

Issue: One or more trainers will be needed to continue the instruction provided by the CDC consultant.

Recommendation: In the long term, the team recommends that the optimal level of supervision, given the current number of trainees and the likelihood that FETP will evolve into the provision of service as well as training, should be one full time program director, one epidemiologist in charge of training and another in charge of the service function. DOH should begin the process of appointing a full time DOH program director for FETP and groom at least two FETP graduates to fill the staff epidemiologist positions. Since the program will suffer if there is an inadequate overlap period before the CDC consultant scheduled departure, strong consideration by DOH and USAID should be given to extending the CDC consultant's tour of duty through 1993.

Issue: Where in the DOH organizational structure does the FETP belong so as to ensure its institutionalization?

Recommendations: There appear to be four major options for DOH ranked below in order of preference.

1. The current arrangement for the FETP organizational placement is as a function of the office of the Chief of Staff. This arrangement has been mutually very beneficial, giving FETP visibility and political support and giving the OCS rapid and competent "troubleshooting" and enhancing DOH creditability. In terms of institutionalization, the concern is whether the OCS office will be as dynamic in future administrations.
2. RITM (Research Institute for Tropical Medicine) is a service and training institute of the DOH located at Alabang with state-of-the-art laboratory facilities, young highly trained staff, and intellectual commitment to research excellence. The suggested arrangement to explore would place the technical responsibility for FETP at RITM and keep FETP physically located in its present offices at the central DOH office compound with administrative support from the office of the Chief of Staff.
3. The office of the Undersecretary for Public Health encompasses many of the programs one usually associates with epidemiology-oriented service needs and where many program managers are inclined to want quantitative program assessments. There is concern that under this umbrella FETP is too closely identified with these traditional public health activities when the perceived need is to encourage more universal application of the epidemiological approach to other DOH service needs.
4. The fourth option is to place FETP as the **epidemiology arm of the Health Intelligence Service (HIS)**. The identified tasks of both FETP and HIS might better be served if they remain separate but cooperative entities. Given the monumental task currently being undertaken by HIS to modernize and streamline operations, the Evaluation Team is concerned that if the original plan to incorporate FETP into HIS were to be carried out, any mutual benefit to these two programs might be more than offset if FETP were less able to be responsive to other units of the DOH, both centrally and in the field.

Both the office of the Chief of Staff and the RITM are mandated by Philippine law. The placement of FETP as a **service** under either umbrella would require authorization by the legislature, ensuring legal institutionalization. This accomplishment should be sought before the end of 1991.

Issue: The recognition of FETP as a professional qualification for promotion and career path.

Recommendation: A Memorandum Order from the Secretary of Health addressed to the Civil Service Commission attesting that FETP graduates have fulfilled criteria for hiring at the permanent Medical Specialist II (MS II) level is needed. The status of non-medical FETP graduates should also be addressed by the DOH by pursuing the creation of the "item" Public Health Specialist II.

Recognition of medical epidemiology as a subspecialty should be pursued with the executive committee of the Philippine Medical Association. As an interim measure, an accreditation committee could be created by DOH Departmental Order and consist of five highly qualified and well known epidemiologists. This committee would be tasked to accredit FETP graduates through examination as specialists in epidemiology. This committee could also form the basis of a new professional epidemiological society that could eventually assume the accreditation role.

Issue: The FETP epidemiology bulletin has suffered production, printing, and distribution problems. These problems have prevented feedback concerning surveillance reports and outbreak investigations from reaching field units of DOH, private physicians, and hospitals; these would be likely sources of information FETP needs if awareness of FETP activities were improved.

Recommendations: DOH should allocate additional monies for the printing and distribution (postage) of the bulletin, and FETP should identify someone on the staff who could serve as editor (see below).

E. Quality of Training

Issue: The level of supervision was judged to be somewhat inadequate for the number of trainees currently enrolled.

Recommendation: In the short term, DOH/FETP should quickly enhance supervision by the hiring of a scientific editor to help with the review of internal investigation reports and manuscripts for publication.

Issue: Even though these subjects are covered to some extent in the didactic course and weekly seminars, some trainees do not feel confident in either their abilities to select appropriate study designs or their abilities to defend their studies against methodologic criticisms.

Recommendation: Supervision of trainees during outbreak investigations, long term projects, and report writing needs to reinforce concepts of study design, adjustments for confounding, and sources of bias. Discussions in written reports should not only present the significance of results, but also the extent to which the trainee-author was able to address potential limitations of his or her study.

Issue: Relatively few studies of chronic disease have been performed by the trainees (see Appendix 6.).

Recommendation: FETP should encourage each trainee to perform at least one chronic disease study during training.

Issue: Consideration has been given to expanding the class size from eight to fifteen trainees in order to hasten the establishment of epidemiologists at the regional, provincial, and district levels.

Recommendation: The team is not in favor of expanding the class size at this time. Supervisory capacity is thin at this time and needs to be improved before more strain is placed on the program. The team also feels that the need for persons trained in epidemiology at the district level and below would most appropriately be satisfied by having FETP graduates at the regional and provincial levels conduct short courses in epidemiology for selected personnel at the district level and below.

Issue: FETP trainees and graduates cannot function optimally as medical epidemiologists without adequate laboratory support at the national, regional and provincial levels.

Recommendation: DOH should reassess regional and provincial laboratory needs specific to outbreak investigation support; especially bacteriology supplies and training in bacteriology procedures. Viral disease serology capability needs support at the national and regional levels. It may be necessary, in order to ensure uninterrupted supply, to centrally purchase reagents and antigens which must be ordered and purchased outside of the Philippines. Finally, DOH/FETP needs to expedite the delivery of previously ordered equipment and supplies needed to upgrade three regional laboratories.

Issue: With only one vehicle, FETP is often handicapped in getting trainees to multiple field sites.

Recommendation: DOH should purchase a second vehicle for FETP using USAID grant funds (assuming these are available) and hire, if necessary, a driver for that vehicle.

IX. Conclusion

Overall, the evaluation team was very impressed with achievements and future potential of the Philippine FETP. Establishment of the program has been steady in spite of the logistic hurdles any such undertaking entails. DOH is already benefiting from this "tool" for targeting cost-effective public health measures, while at the same time DOH and CDC clearly enjoy a new professional and technical partnership. None of what has so far been achieved would have been possible without the strong and flexible support of USAID and DOH, or the determination and enthusiasm of the trainees themselves.

X. Acknowledgments

The evaluation team would like to express its sincerest gratitude for candidness, support and hospitality from all of the many officers of the Department of Health interviewed or called upon for assistance, as listed in Appendix 2.

Maraming Salamat Po!

Philippine FETP Evaluation

APPENDIX 1. Scope of Work for the Evaluation

Background

- I. Title: Primary Health Care Financing Project (492-0371)--Field Epidemiology Training Program (FETP) Component.
- II. Objective: To provide two members of a team which shall evaluate the above project component and make recommendations to USAID and Philippines Department of Health on: (a) full attainment of FETP goals within the remaining life of the project, (b) assuring the highest quality FETP training; and (c) enhancing the institutionalization of FETP as an effective scientific and policy instrument for the DOH.

III. Statement of Work

The two consultants to be provided by contractor will form part of a four-person team that will conduct a mid-program evaluation of FETP, addressing the following areas:

A. Technical Issues

1. Quality of Training

- a. Are trainees exposed to an adequate cross-section of public health problems?
- b. Does the training provide an appropriate balance of didactic and field experience?
- c. Does the training teach skills in the following areas:
 - (1) Epidemiologic survey and surveillance?
 - (2) Epidemic outbreak investigation and control?
 - (3) Epidemiologic analysis?
 - (4) Program evaluation?
 - (5) Communication?
 - (6) Supervision, management, and teaching?
 - (7) Epidemiologic consultation?
- d. Is the level and range of supervision adequate?
- e. Does the training produce epidemiologists who are technically capable of meeting the country's disease prevention and control needs?

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2. Quality of Output

a. What is the quality of:

- (1) FETP output (recommendations, reports, scientific papers, scientific presentations, etc.)?
- (2) By-products of FETP output and activities?

b. How are public health policy and diseases of public health importance impacted by:

- (1) FETP output and activities?
- (2) By-products of FETP output and activities?
- (3) FETP trainees and graduates?

3. DOH Goals

- a. Does the training provided by the FETP meet the goals set by DOH?
- b. Should current DOH goals for the FETP be changed in any way?

4. Comparison with other FETPs

How does the FETP compare with other FETPs (including the U.S. EIS Program) in:

- a. Quality of training (number and range of outbreak investigations, projects, surveys, etc.)?
- b. Quality of output (recommendations, reports, scientific papers, scientific presentations)?
- c. Quality of by-products of output and activities (number, range, excellence, import, usefulness)?
- d. Cost per graduate produced?
- e. Level and range of supervision?
- f. Impact of output, activities, trainees, and graduates?

B. Programmatic Issues

1. Recruitment of trainees

- a. How is recruiting handled?
- b. What mechanisms are in place to ensure that there are adequate and good applicants to choose from?

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- c. Is trainee allowance adequate?
2. Relations with central-level DOH authorities
 - a. How is the FETP able to support the functions of the divisions within the DOH that have disease-specific or program-specific responsibilities?
 - b. Do central-level health authorities perceive the FETP and epidemiology to be valuable technical resources?
3. Relations with regional, provincial, district, municipal and local-level health authorities
 - a. How does the FETP relate to these health authorities?
 - b. Are the needs of these health authorities being met by FETP activities?
 - c. Do these health authorities perceive the FETP and epidemiology to be valuable technical resources?
4. Relations with the academic public health community
 - a. Has the FETP been able to build relationships with the academic public health community?
 - b. To what extent do faculty from schools of public health participate in teaching and supervising trainees?
 - c. Is there collaboration between the FETP and local public health associations?
 - d. Is there a degree-granting mechanism for the FETP?
 - e. Have academic/FETP relationships been beneficial to the parties involved?
5. Utilization and follow-up of graduates
 - a. What career paths are available for FETP graduates?
 - b. Are graduates currently employed in positions appropriate for their training?
 - c. Are graduate salaries adequate?
 - d. How should the FETP follow the graduates? What post-training support do graduates need?
6. Administration
 - a. Is the FETP adequately staffed with technical and administrative personnel?

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- b. Is the budget for personnel and operations adequate?
- c. Is there adequate office space and equipment?

7. Institutionalization and Sustainability

- a. How is the FETP being institutionalized within the DOH?
- b. How many of the following components of institutionalization has it achieved?
 - (1) Program Financing
 - (2) National Director
 - (3) Organizational identity
 - (4) Operational budget/authority
 - (5) Self-sustaining cycle: recruiting to graduation
 - (6) Certification/credentialing for graduates
 - (7) Career path for graduates
 - (8) Epidemiology bulletin
 - (9) Annual epidemiology conference
- c. What steps (if any) should be taken to fully institutionalize FETP?
- d. Are there any obstacles to self-sufficiency? What are they?
- e. What steps (if any) should be taken to assist the FETP in achieving self-sufficiency?
- f. When is the FETP likely to become self-sufficient?

IV. Reports:

The two consultants will collaborate in producing a draft report containing major findings and recommendations based on the key evaluation questions posed in the statement of work. Consultants will make a verbal presentation of evaluation findings and recommendations to DOH and USAID and will leave behind copies of the draft report prior to departure from Manila. Copies of the draft report will be distributed to DOH, USAID, CDC, and WHO for review and comments, and final report will be due from consultants 30 days after all comments and suggestions for revisions and modifications have been received.

V. Other Requirements

A. Level of Effort

Estimated level of effort is two persons for up to 20 days each inclusive of travel time. This includes about 1 day briefing in Atlanta and approximately 17 days field work in the Philippines. Consultants will be

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provided with copies of all pertinent documents at least two weeks prior to the start of consultancy.

B. Skills Required

Two physician-epidemiologists with at least five years public health experience and alumni of the Epidemic Intelligence Service. Consultants must be familiar with Field Epidemiology Training Programs but should not currently have any employment relationship with the Centers for Disease Control. Previous international experience is essential.

APPENDIX 2. Names and Positions of Persons Interviewed

FETP Trainees and Graduates

Bautista, Nicolas MD, 2nd year trainee
Benabaye, Rosario MD, FETP graduate
Brizuela, Mario MD, 1st year trainee
Conanan, Emmanuel MD, FETP graduate
Diza, Franklin MD, 1st year trainee
Falcone, Ellen MD, 1st year trainee
Gavino, Roy MD, 2nd year trainee
Gopez, Ivy MD, 2nd year trainee
Guerrero, Erlinda MD, FETP graduate (not interviewed)
Lofranco, Vivian MD, FETP graduate
Lopez, Juan MD, 1st year trainee
Miranda, Elizabeth DVM, 1st year trainee
Pastor, Ismael MD, FETP graduate
Quison, Consorcia MD, 2nd year trainee
Rayray, Revelyn MD, 2nd year trainee
Roces, Consorcia MD, 1st year trainee
Sadang, Bert MD, 1st year trainee
Salva, Eumelia MD, 2nd year trainee
Zacharias, Nancy MD, 1st year trainee

Other Interviewees

Abella, Jesus MD, Chief of Communicable Disease Control Services
Alegre, Lourdes, Administrative Officer, FETP
Alquesalas, Juan MD, Chief of Staff, Southern Islands Med. Center
Alves, Primo Joel, Director, Region VII Public Health Laboratory
Aranas, Consuelo MD, Deputy Undersecretary for Public Health
Baltazar, Jane MD, Dean, School of Public Health, Univ Philippines
Cabanban, Arturo MD, Chief of Infectious Dis., San Lazaro Hospital
Capul, Rosendo MD, Child Survival Coordinator, O/PH, USAID
Dayrit, Elvira MD, Chief of Maternal and Child Health Services
Dayrit, Manuel MD, FETP Program Manager
DeLeon, Alex MD, Deputy Director for Hospital Services, DOH
Derequito, Quintin MD, Director, Southern Islands Medical Center
Farr, Kenneth PhD, Chief, Office of Population and Health, USAID
Fernandez, Tomas MD, Director, Cebu City Health Services
Fuentes, Marieta MD, Region XI Assistant Regional Director
Gambao, Rhais MBA, Undersecretary of Finance, DOH
Gregorio, Susan MD, OIC Health Intelligence Service, DOH

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Lambong, Nikki MD, Project Coord., Reg. VII Control Diarrheal Dis.
Manalac, Cecile, Administrative Officer, FETP
Maramba, Tomas Usec. Stds & Regs, and Dir. Bur. Res. Labs
Mendoza, Ofelia MD, Chief of Epidemiology, School of Public Health
Orais, Virginia, Chief Health Educ. & Manpower Dev. Train. Service
Paraan, Asuncion MD, Director, Region XI Public Health Laboratory
Ramos, Adelisa, Chief of Nutrition Services
Reodica, Carmencita MD, Dir. Nat. Capital Region Health Services
Rodriguez, Joe MD, Director Training Division, Region VII
Rubio, Victor Driver, FETP
Saniel, Mediadora MD, Dir, Research Instit. for Tropical Medicine
Santos, Maximino MD, Chief of Malaria Services, DOH
Sonza, Daisy MD, Chief of pediatrics, Southern Islands Med. Center
Taguiwalo, Mario MD, Undersecretary, Chief of Staff
Tayag, Eric MD, Chief Resident, San Lazaro Hospital
Trocio, Cyrus MD, Region XI Chief Technical Services Division
Viacrucis, Milagros MD, Dir. Dept Community Med., Davao Med. School
White, Mark MD, CDC/USAID Consultant
White, Felilia RN, Chief of Sentinel Surveillance System (FETP)
Yap, Mariano MD, Chief of Technical Services and OIC, Region VII

APPENDIX 3. Questions Asked of Interviewees⁹

Questions asked of trainees and graduates

1. Do you feel that the FETP is a complete, incomplete, or overly extensive training program in applied epidemiology?
2. What is your opinion of the didactic course?
3. What is your opinion concerning the instruction and supervision you have received during the course of outbreak and epidemiologic investigations? In the preparation and writing of investigative reports?
4. What suggestions do you have to improve the FETP?
5. Do you consider the amount of supervision you have received during training to be sufficient, insufficient, or excessive? How would you improve the supervision?
6. Do you feel that the lack of university or other institution accreditation of the FETP is having negative effects in the recruitment of suitable residents? (For graduates) Has the lack of official institutional accreditation of the FETP had any adverse effects on your professional career?
7. What opinions do you have concerning administrative support, i.e. salary, travel, etc.
8. During the investigation of outbreaks in the provinces, was the coordination with and support from regional and provincial health authorities adequate?
9. What is your opinion concerning the office location(s), space, classroom areas, library, audiovisual equipment, computers, etc.?
10. What are your plans when you graduate from the FETP?
11. (For Graduates)-
 - a) What is your present position?
 - b) How did you obtain it?
 - c) What are your responsibilities and activities?
 - d) Are you satisfied with your position?

⁹ Adapted from Betz TG, Gutierrez G. Evaluation of the Field Epidemiology Training Program: Mexico. Secretariat of Health, Mexico, and U.S. Centers for Disease Control, November, 1988.

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- e) Are you actually using the knowledge and skills you acquired during the FETP?
- f) Are you involved with outbreak investigations or epidemiologic studies?
- g) Are you involved with the development or use of a surveillance system?
- h) What scientific meetings have you attended since graduating from the FETP?
- i) What investigations have you published?

Questions asked of other interviewees.

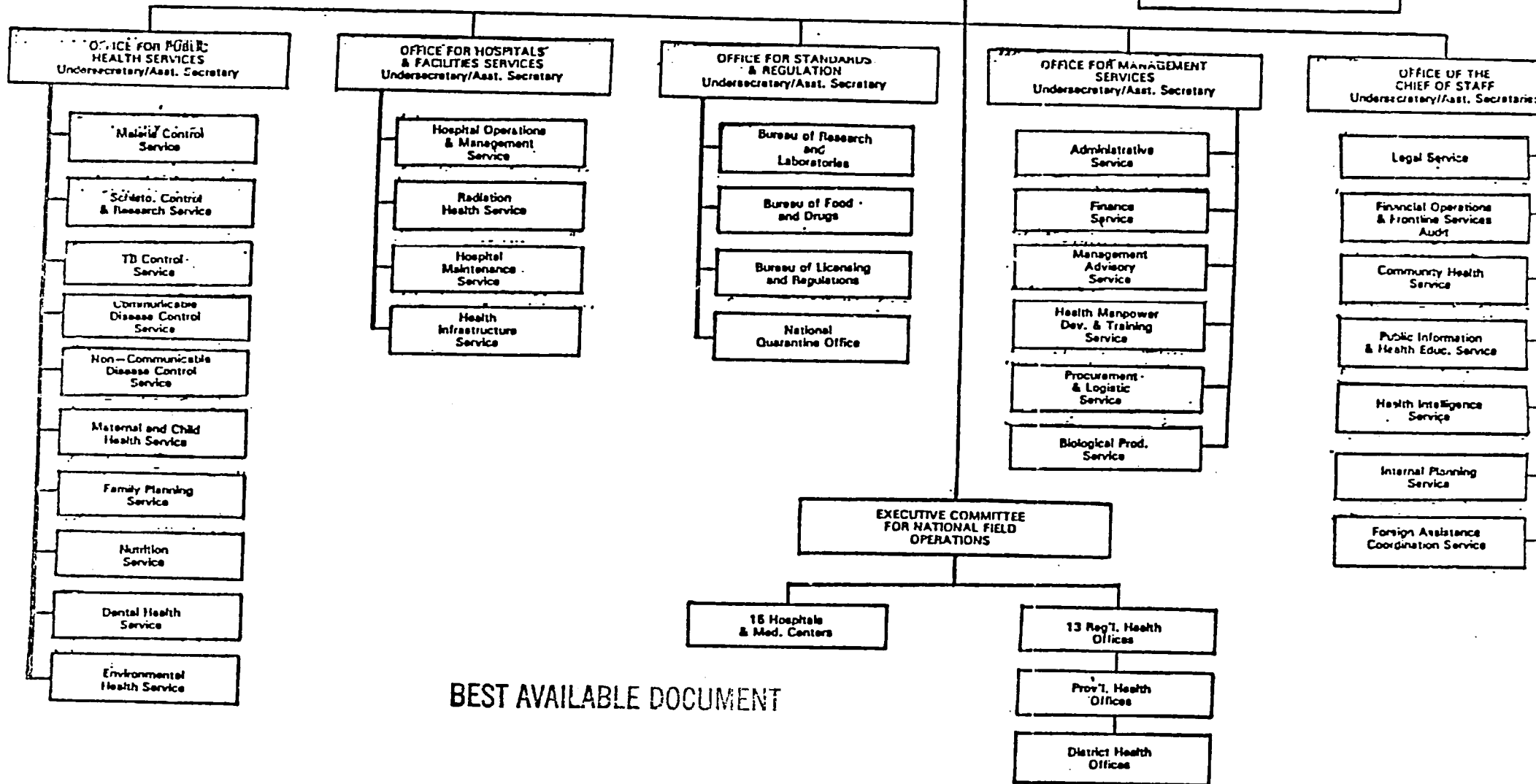
1. The objectives of the FETP as stated in available documents are: a) create a program that will provide a continuous supply of epidemiologists able to meet disease prevention and control needs of the Philippines, and b) form an epidemiologic intelligence network to strengthen and coordinate disease control and prevention activities. In your opinion, how effective has the FETP been in achieving these objectives?
2. If either of these objectives has not been achieved, what do you feel are the constraints which prevented this?
3. What is your opinion as to the value of the FETP?
4. Do you feel that the FETP trainees receive adequate academic training in epidemiology? If no, what are the deficiencies?
5. Do you feel that the FETP residents receive adequate supervision? If no, what are the deficiencies?
6. The FETP is not formally located within the DOH with assigned staff positions and an operating budget. Based on this, how important do you feel it is for the FETP to be formally established within the DOH with identifiable staff positions and its own operating budget?
7. If the FETP is formally established within the DOH, where do you feel it should be located? Under whose supervision? At what level with respect to the programs (areas)?
8. Generally speaking, USAID and CDC intend to provide support to a FETP for 5 years, after which time it is assumed that the program can be managed by the DOH. The FETP in the Philippines has been in existence for about three years. How much longer do you feel CDC support in the form of consultants will be needed?

APPENDIX 4. Organizational Charts (attached)

DEPARTMENT OF HEALTH
Reorganized Structure
Per E.O. 119, (1987)

OFFICE OF THE SECRETARY

PHIL. MED. CARE COMMISSION
DANGEROUS DRUGS BOARD
(Attached Agencies)



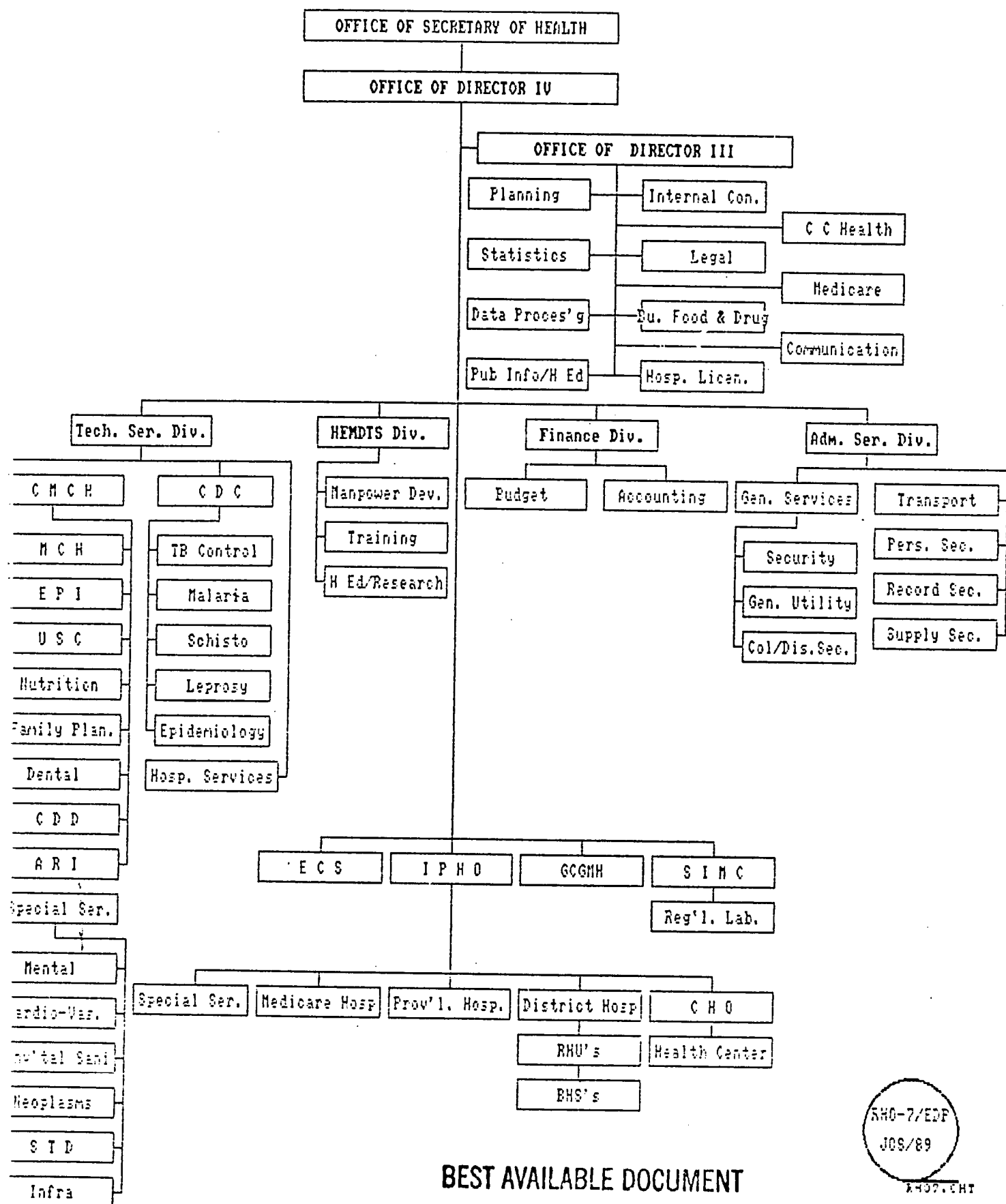
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REGIONAL HEALTH OFFICE - 7

ORGANIZATIONAL STRUCTURE

E.O. 119



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APPENDIX 5. FETP Seminar Series & Course Schedule

Seminars

1. Sample size calculations	Borja M. UPCPH
2. Sensitivity & specificity	Lansang MA. RITM & UPCPH
3. Malaria in the Philippines	Santos M. DOH
4. Epidem. of radiation injury	Peralta A. DOH
5. Nutritional disorders	Florentino R. Food & Nutrition Research Institute (FNRI)
6. Cardiovascular Dis. Epid.	de Guzman S. Phil. Heart Ctr
7. Diarrheal disease	Baltazar J. Instit Pub Health
8. Injury epidemiology	Graitcer, P. CDC
9. Surveillance of injuries	Graitcer, P. CDC
10. Diabetes in the Philippines	Fernando, R. St. Lukes Med Ctr
11. Dengue Fever	Hayes C. NAMRU II
12. Alcohol encephalopathy	Guerrero E. FETP
13. Pesticides & safety	Marquez C. FNRI
14. Enteric Fever, Baliwag	Lofranco, V. FETP
15. Confidence intervals	Mendoza, O. UPCPH
16. Dengue in Cebu City	Gregorio, S. FETP
17. Filariasis	Valeza F. DOH
18. Leprosy	Romero T. DOH
19. Tuberculosis	Conanan E. FETP
20. Writing & editing	Dayrit M. FETP

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21. Cholera in Alabang	Benabaye R. FETP
22. Air pollution in Toledo	Lofranco V. FETP
23. Occup. Respir. Illness	Wolff J. UPCPH
24. The EPI program	Wylie A. DOH
25. Cluster sampling methods	Wylie A. DOH
26. Oroquieta	Conanan E. FETP
27. Formalin in fish	Pastor N. FETP
28. Singapore AIDS conference	Guerrero E. FETP
29. Working with the media	Dayrit M. FETP
30. Food poisoning in military	Pastor, N. FETP
31. PSP in Samar	Bautista N, Gopez I, Benabaye R. FETP
32. PSP in Panay and Negros	Gopez I, Pastor I. FETP
33. IEA (Beijing) rehearsal	Senior trainees, FETP
34. Typhoid in Taguig	Rayray R. FETP
35. Sensitivity & specificity	Lansang MA. Phil Gen Hosp & RITM
36. Meningococcal infections in Mindanao	Salva E. FETP
37. Sample size calculations	Mendoza O. UPCPH
38. Malaria in Basilan	Gavino R, Lofranco V. FETP
39. Measles in Cebu	Lim-Quezon C, Guerrero E. FETP
40. EIS Conference report	Dayrit M, White M. FETP
41. The Generics Act	Dayrit M. FETP

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- | | |
|-----------------------------|----------------------------|
| 42. Radiation health | Peralta A. DOH |
| 43. Selection of controls | Baltazar J. UPCPH |
| 44. Typhoid in Taguig | Rayray R. FETP |
| 45. Cholera in Metro Manila | Benabaye R. FETP |
| 46. Rabies prevention | Fishbein D. CDC |
| 47. Goiter epidemiology | Solon F. Nutrit. Ctr Phil. |

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Table 5. Types of Outbreaks Investigated, Philippines FETP, Sept 1987-Mar 1990

Agent/Disease	No.	%
Typhoid Fever	8	15
Measles	7	13
Ebola Virus	5	9
Malaria	5	9
Cholera	5	9
Food Poisoning	5	9
Paralytic Shellfish Poisoning	4	7
Meningococcal Infection	2	4
Dengue Fever	2	4
Ammonia Gas	1	2
Phosphorus Burns	1	2
Puffer Fish Poisoning	1	2
Ciguatera Poisoning	1	2
Formalin in Fish (suspected)	1	2
Ethyl Alcohol Encephalopathy	1	2
Salicylic Acid Poisoning	1	2
Beriberi	1	2
Asphyxiation, Occupational	1	2
Air Pollution	1	2
Other/Unknown	3	6
Totals	56	100

APPENDIX 6. Tabulation of Trainee Output

Table 1. Cumulative Oral Scientific Presentations by Class Year, Philippines FETP, Sept 1987-Mar 1990

Class	Number of Trainees with:			Total
	No Presen- tations	1-3 Pre- sentations	4+ Presen- tations	
1st Year (current)	7	0	1	8
2nd Year (current)	0	5	1	6
Graduates	0	3	3	6
Total	7	8	5	20

Table 2. Cumulative Infectious Disease Outbreak Investigations by Class Year, Philippines FETP, Sept 1987-Mar 1990

Class	Number of Trainees with:			Total
	No Inves- tigation	1-3 Inves- tigations	4+ Inves- tigations	
1st Year (current)	0	7	1	8
2nd Year (current)	0	4	2	6
Graduates	1	5	0	6
Total	1	16	3	20

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Table 3. Cumulative Noninfectious Disease Outbreak Investigations by Class Year, Philippines FETP, Sept 1987-Mar 1990

Class	Number of Trainees with:			Total
	No Inves- tigations	1 Inves- tigation	2+ Inves- tigations	
1st Year (current)	4	4	0	8
2nd Year (current)	1	5	0	6
Graduates	3	2	1	6
Total	8	11	1	20

Table 4. Cumulative Number of Other Investigations Completed by Class Year, Philippines FETP, Sept 1987-Mar 1990

Class	Proportion of Trainees with Investigation in:				
	Chronic Disease	Program Evaluation	Surveil- lance	Special Survey	Other Study
1st Year (current)	0/8	8/8	2/8	1/8	0/8
2nd Year (current)	0/6	6/6	1/6	1/6	1/6
Graduates	1/6	2/6	5/6	6/6	6/6

APPENDIX 7. Sentinel Surveillance Sites & Recommendations

FETP has developed a sentinel surveillance system based upon eight hospitals located as listed below. This system was planned to facilitate rapid location of infectious disease outbreaks in basically urban areas. The utility of its weekly reports were quickly perceived by management and program managers at central, regional, and urban levels. The sentinel nurse daily collects data by chart review throughout the sentinel hospital. This data is tabulated via a FETP designed computer program. The program places a computer and data entry staff in the sentinel hospital or regional office. A weekly report is sent to selected DOH managers. An example of the weekly report is in Appendix 9.

1. Ilocos Regional Hospital	Region 1
2. Malolos Provincial Hospital	Region 3
3. Albay Provincial Hospital	Region 5
4. Western Visayas Regional Hospital	Region 6
5. Southern Islands Medical Center	Region 7
6. Zamboanga Regional Hospital	Region 9
7. Davao Medical Center	Region 11
8. San Lazaro Hospital, Manila	National Capitol Region

Recommendations Regarding Sentinel Surveillance Sites¹⁰

Issue: Sentinel nurses currently use volunteer time to daily review patient charts in the sentinel hospital. Their paid work is to perform a full shift on the hospital wards each day. Thus this volunteer time is in addition to their regular work. The team is concerned that their interest in being sentinel nurses may "burn out".

Recommendation: Authorization for "overtime" for sentinel nurses would preempt burnout in the short term and this should be sought as soon as possible. But if

¹⁰ Issues and recommendations regarding the sentinel surveillance system are included in this appendix, rather than in the main body of the report, because evaluation of this system was outside the scope of work for the evaluation team.

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sentinel nurses in the future are to be asked for daily data collection from multiple hospital sites, then volunteer time will not be sufficient and an "item" must be sought for full time positions as sentinel nurses.

Issue: To increase the number of sentinel sites so that there is one in each region.

Recommendation: Sentinel sites should be added only upon demonstrable local demand: that is, regional authorities have found the weekly summary useful enough to support the surveillance with budget and staff. This should include a regional MS II FETP graduate as epidemiologist and development of the public health component of the regional laboratory capability to meet the needs of the epidemiologist. Regional laboratory directors would need to budget supplies and the needed training to meet epidemiologic investigation needs.

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APPENDIX 8. FETP Trainee Publications

1. Benabaye RS, Guerrero ET, White M, Dayrit MM. Measles outbreak in Tawangan, Benguet. *J Philippine Med Assoc* 1988;64:7-10.
2. Lofranco VS, Gregorio SP, White M. A waterborne outbreak of typhoid fever in Baliwag, Bulacan. *Philippine J Microbiol Infect Dis* 1988;17:9-12.
3. Guerrero ET, Dayrit MM, White ME. Epidemiological investigation of alcohol-related encephalopathy in metro Manila. *J Philippine Med Assoc* 1989;65:199-203.
4. Conanan EC, Valeza FS. Factors affecting completion rate in tuberculosis short-course chemotherapy. *J Philippine Med Assoc* 1988;64:11-14.
5. Conanan EC, Dayrit MM, Flores BB, Roa RR, Obenza J, Faraon AO, White ME. Typhoid fever pseudoepidemic in Oroquieta City: lessons in the inappropriate use of the Widal test. *J Philippine Med Assoc* 1989;65:205-209.
6. Posadas-Gregorio S, Lofranco V, Auza C, White F, Merin J, Dayrit MM, White M. Dengue fever outbreak in Cebu. *Philippine J Microbiol Infect Dis* 1989;18:16-20.
7. Centers for Disease Control. Update: Ebola-related filovirus infection in nonhuman primates and interim guidelines for handling nonhuman primates during transit and quarantine. *MMWR* 1990;39:22-24, 29-30.
8. Pastor NIS, White M, Dayrit MM. Formalin in fish: investigations of the fish preservative panic of 1987. *J Philippine Med Assoc* 1990 (in press).
9. Salva EP, Conanan EC, Quizon CL, et al. Meningococcal disease in southern Mindanao. *J Philippine Med Assoc* 1990 (in press).
10. Pastor NIS. Paralytic shellfish poisoning in the Philippines. *Proc. International Pyrodinium Red Tide Conference*, 1990 (in press).
11. Pastor NIS. Medical and epidemiologic issues of paralytic shellfish poisoning. *Proc. International Pyrodinium Red Tide Conference*, 1990 (in press).
12. Centers for Disease Control. Occupational fatalities associated with exposure to epoxy resin paint in an underground tank--Makati, Republic of the Philippines. *MMWR* 1990;39:373, 379-380.

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APPENDIX 9. Weekly Sentinel Surveillance Report (example, attached).

WEEK 1

8:00 - 9:00	E1 Introduction to Epidemiology DAYRIT	S1 Tables and Graphs DAYRIT	S2 Rates, Ratios and Proportions DAYRIT	S3 Calculations in Statistics DAYRIT	S4 Probability DAYRIT
9:00 - 9:15	Pre Test	Practice Session PASTOR	Practice Session PASTOR	Practice Session PASTOR	Practice Session PASTOR
10:00 - 11:00	D1 Introduction to Experimental Design WHITE	D2 Case Control Studies WHITE	D3 Descriptive and Cohort Studies WHITE	D4 Selection of Controls WHITE	D5 Meaning of Association WHITE
11:00 - 12:00	Practice Session RAYRAY	Practice Session GOPEZ	Practice Session SALVA	Practice Session GOPEZ	Practice Session GAVINO
12:00 - 1:00	LUNCH BREAK				
1:00 - 2:00	P1 Fever in a Muslim Village RAYRAY/WHITE	P2 Malaria in Dassalan Island GAVINO/WHITE	P3 Age-Specific Attack Rate for Measles in Cebu QUIZON/WHITE	P4 Typhoid in Iloilo SALVA/WHITE	P5 Paralysis in Sanar BAUTISTA/WHITE

WEEK 2

8:00 - 9:00	S5 Measures of Control DAYRIT	S6 Z Scores and T Test	S7 Chi Square and Fisher's Exact Test DAYRIT	S8 Chi Square and Fisher's Exact Test DAYRIT	S9 P Values and Odds Ratios DAYRIT
9:00 - 9:15	Practice Session PASTOR				
10:00 - 11:00	E2 Steps in Outbreak Investigation WHITE	E3 Food and Water Borne WHITE	E4 Airborne, Direct Contact and Vector borne WHITE	E5 STD's and Blood borne WHITE	E6 Sample size and Hypothesis testing WHITE
12:00 - 1:00	LUNCH BREAK				
	P6 PSP Victorias GOPEZ/WHITE	P7 Typhoid in Manila LOFRANCO/WHITE	P8 Epidemic Paralysis on Pangan-an Island QUIZON/WHITE	P9 Meningococccemia in Mindanao SALVA/WHITE	P10 A R E GUERRERO/WHITE

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WEEK 3

8:00 - 9:00

S10
Sample Size
Calculations
DAWRIT

S11
Non Parametric
Tests
DAWRIT

E7
Data Entry
WHITE

E9
Analysis II
WHITE

S12
Review Statistics
WHITE

E6
Introduction to
Computers and
MS DOS

E7
Questionnaire
Design

E8
Analysis I

E10
Analysis III

D7
Review Design

12:00 - 1:00

LUNCH BREAK

1:00 - 2:00

P11
Computer
Laboratory

P12
Air Pollution
in Toledo

P13
Cholera and
Water in Metro
Manila
PASTOR

P14
Cholera and
Food in Metro
Manila
QUIZON

P15
Typhoid in Cebu
GAVINO

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WEEK 4

8:00 - 9:00

Post Test

Post Mortem
and Post Test

Survey

Survey

Survey

E11
Diarrhea,
SABIEL

Plan Survey

P16
Fever in Pilar
Village
BAUTISTA

P17
Linda's NDP
Survey
GUERRERO

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WEEK 5

8:00 - 9:00

Analyze Survey Data	Prepare report	Present report	Report writing and Presentation style	Word Processing
		-Library Methods H. UPENGCO	Word Processing	AIDS MONZON
		Visit Library	Visit Library	

1

WEEK 6

8:00 - 9:00

3 Speeches	3 Speeches	ALL	D8 Confounding	Review of Course
D7 BIAS	Speeches	Soul's	D9 Stratification	Administrative Matters

12:00 - 1:00

LUNCH BREAK

1:00 - 2:00

Prepare Reports	Hepatitis B LANSANG	DAY	P8 Cholera, food and water QUIZON	
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May 3, 1990

M E M O

F.I.P. *145* *16890*
For: Dr. Castor M. Ricaña, M.P.H.
Regional Director III
Officer-in-charge
Regional Health Office No. VII

Thru: Dr. Quintin T. Derikito
Chief of Hospital
Southern Islands Medical Center

From: Julieta R. Oriñas, BSN
Sentinel Nurse
FETP-SIMC Sentinel Surveillance Site
Southern Islands Medical Center

Lourdes Tudlasan, BSN
Nurse Instructor II
Regional Health Office No. VII

Rosario Marilyn S. Benabaye, MD *MB*
Medical Training Officer
Regional Health Office No. VII

Re: FETP-SIMC Sentinel Surveillance System Report
(April 01, 1990 - April 29, 1990 - 14th - 17th
morbidity week)

A total of 25 cases of measles were recorded for the entire month April 1990. Eighteen cases came from Cebu City however, cases were widely distributed in the different barangays of the city. The age range is 6 months to 9 years old: mean age = 3 years. Of the 25 cases 7 were less than 1 year old, 3 of which were below the target age group. Four cases received measles immunization while the rest were unimmunized.

cc:

Dr. Hermenegildo Mercado	- Provincial Health Officer - Cebu
Dr. Tomas Fernandez	- City Health Officer - Cebu City
Dr. Perla Yray	- Regional EPI Coordinator - Region VII
Dr. Nilda Ruiz-Lambo	- Regional CDD Coordinator - Region VII
Dr. Fermilucena Pangui	- Medical Services Supervisor - Cebu City
Mrs. Fe Pascual	- EPI Nursing Coordinator - Region VII
Dr. Delia E. Mediano	- Chief Nurse - SIMC
Dr. Lourdes Macavinta	- Dept. Head, Pediatrics - SIMC
Dr. Francisca Manulat	- Dept. Head, Medicine - SIMC
Mrs. Felilia M. White	- Nurse Epidemiologist - FETP/HIS
Dr. Zenaída Ludovice	- Chief, HIS
Dr. Antonio Faraon	- Chief, Epidemiology Section - HIS

SIHC Sentinel Site Report
FETP and HIS
Reporting period: 01/01/90 to 04/29/90
as of 05/03/90

DIAGNOSIS	WEEKS																	TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
ADULT TETANUS	4	3	2	3	2	2	2	0	2	9	6	2	4	5	3	0	3	52
CHOLERA	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
DENGUE	2	1	0	0	1	0	0	2	1	0	0	1	0	2	1	0	0	11
DIPHTHERIA	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	2
HEP OTHERS	0	0	0	1	0	0	0	1	2	0	1	0	1	0	0	0	0	6
HEPATITIS B	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
MEASLES	12	6	7	11	8	10	8	14	9	13	7	10	7	11	6	3	5	149
MENINGO CONFIRMED	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
MENINGO SUSPECT	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
PERTUSSIS	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3
TET NEOPTORIUM	1	0	2	0	2	2	0	0	1	0	0	0	0	0	0	0	0	8
TYPHOID	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	20	14	11	17	13	14	11	17	16	22	15	13	13	18	10	3	8	238

SIHC Sentinel Site Report: CEBU CITIES
FETP and HIS
Reporting period: 01/01/90 to 04/29/90
as of 05/03/90

CITY	DIAGNOSIS													TOTAL
	ADULT TET*	CHOLERA	DENGUE	DIPH*	HEP O*	HEP B*	MEASLES	CON MEN*	SUS MEN*	PERT*	TET NEO*	TYPHOID		
CEBU	16	1	4	1	1	1	92	1	1	1	5	1	125	
DAVAO	1	0	0	0	1	0	1	0	0	0	1	0		
LAPU-LAPU	0	0	0	0	1	0	1	0	0	0	0	0		4
MANDAU	7	0	0	1	1	0	21	0	0	1	1	0		2
SDO	1	0	1	0	0	0	1	0	0	0	0	0		32
Total	26	1	5	2	4	1	116	1	1	2	7	1	172	

ADULT TET* = ADULT TETANUS
DIPH* = DIPHTHERIA
HEP O* = OTHER HEPATITIS
HEP B* = HEPATITIS B
CON MEN* = CONFIRMED MENINGOCOCCAL INFECTION
SUS MEN* = SUSPECTED MENINGOCOCCAL INFECTION
PERT* = PERTUSSIS
TET NEO* = TETANUS NEOPTORIUM

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SIMC Sentinel Site Report : CEBU
 FETP, and HIS
 Reporting period: 01/01/90 to 04/29/90
 05/03/90

DIAGNOSIS

MUNICIPALITY	ADULT TET	CHOLERA	DENGUE	HEP D	MEASLES	PERT	TET NEO	TYPHOID	TOTAL
ASTURIAS	1	0	0	0	2	0	0	0	3
BORON	2	0	0	0	0	0	0	0	2
CARCAR	2	0	0	1	1	0	0	0	4
CARMEN	1	0	0	0	0	1	0	0	2
CATHON	0	0	0	0	1	0	0	0	1
CONSOLACION	1	1	1	0	2	0	0	0	5
DALAGUETE	7	0	0	0	2	0	0	0	9
LILIAN	2	0	1	0	3	0	0	0	6
NAGA	0	0	0	0	4	0	0	0	4
OSLOA	1	0	0	0	0	0	0	0	1
SAN FERNANDO	3	0	0	1	8	0	1	0	13
SAN FRANCISCO	1	0	0	0	0	0	0	0	1
SOGOD	0	0	1	0	0	0	0	0	1
TABOGON	1	0	0	0	0	0	0	0	1
TABUELAN	0	0	0	0	1	0	0	0	1
TALISAY	2	0	0	0	4	0	0	1	7
Total	24	1	3	2	28	1	1	1	51

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SIMC Sentinel Site Report
Tetanus Neonatorum Fatalities
Reporting Period: 01/01/90 to 04/23/90
as of 05/03/90

WEEKS					
FATALITY	:	3	5	6	9 : Total
+	:	1	1	1	0 : 3
-	:	1	1	1	1 : 4
Total	:	2	2	2	1 : 7

SIMC Sentinel Site Report
Measles Fatalities
Reporting period: 01/01/90 to 04/23/90
as of 05/03/90

FATALITY	WEEKS																	TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
+	0	0	1	1	0	1	1	2	3	1	0	0	1	1	0	1	0	13
-	12	8	6	10	8	9	7	12	6	12	7	10	6	10	6	2	5	136
Total	12	8	7	11	8	10	8	14	9	13	7	10	7	11	6	3	5	149

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SIMC Sentinel Site Report: IMMUNIZATION STATUS - CEBU PROVINCE
 FETP and HIS
 Reporting period: 01/01/90 to 04/29/90.
 as of 05/03/90

IMMUNIZED

DIAGNOSIS :	N	P	Y :	Total
ADULT TETANUS	20	0	0	20
DIPHTHERIA	2	0	0	2
MEASLES	142	0	7	149
PERTUSSIS	3	0	0	3
Total :	167	0	7	174

SIMC Sentinel Site Report: IMMUNIZATION STATUS - CEBU CITY
 FETP and HIS
 Reporting period: 01/01/90 to 04/29/90
 05/03/90

IMMUNIZED

DIAGNOSIS :	N	P	Y :	Total
ADULT TETANUS	7	0	0	7
DIPHTHERIA	1	0	0	1
MEASLES	87	0	5	92
PERTUSSIS	1	0	0	1
Total :	96	0	5	101

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SIMC Sentinel Site Report: CEBU CITY BARANGAYS
 FETP and HIS
 Reporting period: 01/01/90 TO 04/29/90
 as of 05/03/90

DIAGNOSTICS

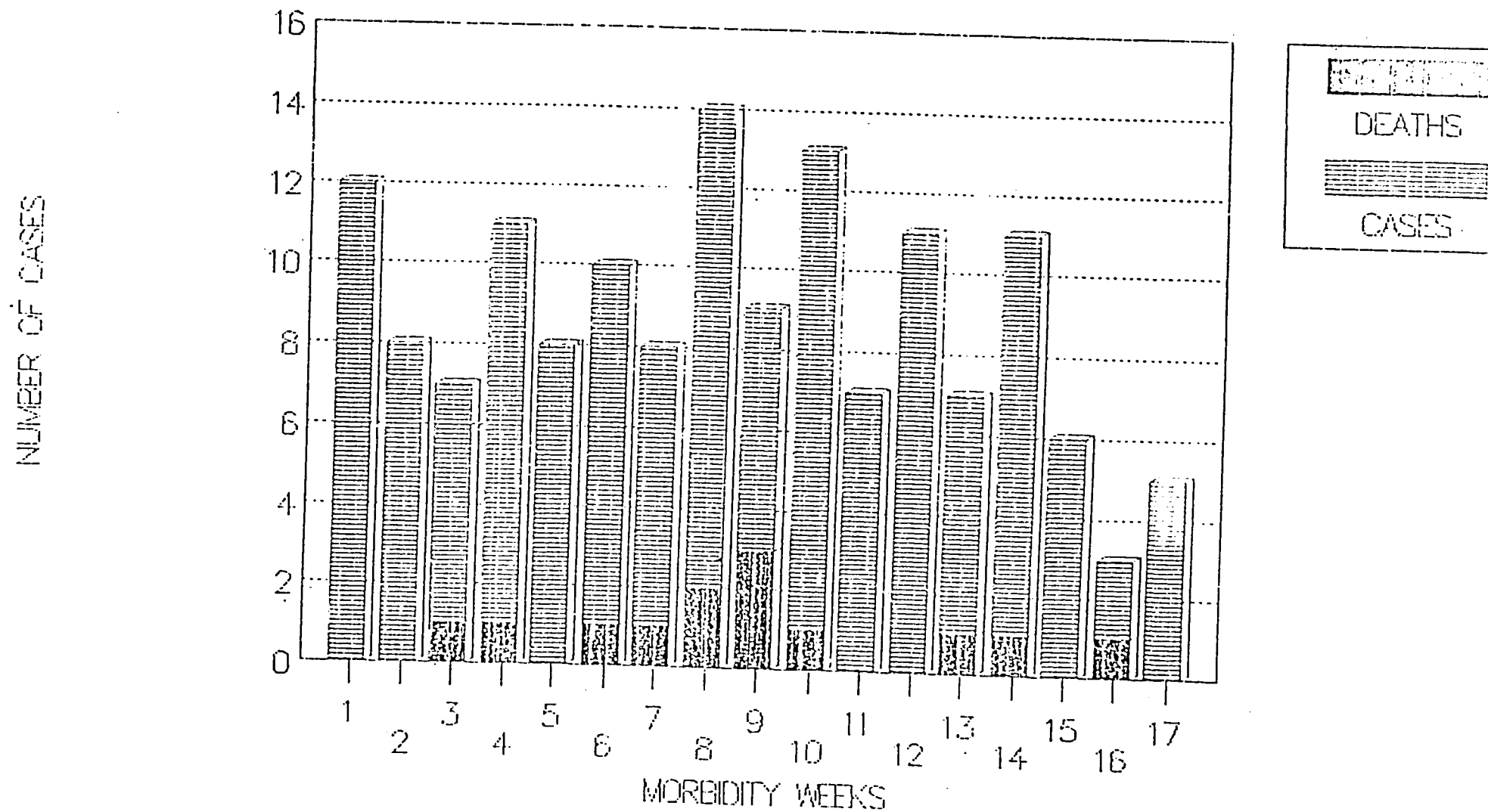
BARANGAY	ADULT TET	CHOLERA	DENGUE	DIPH	HEP D	HEP B	MEASLES	TET NEO	TYPHOID	TOTAL
BALABAN	1	0	1	0	0	0	1	0	0	3
BANTILAO	1	0	0	0	0	0	4	0	0	5
BASAK	1	1	0	0	0	0	4	0	0	6
BULACAO	0	0	0	0	0	0	2	0	0	2
BUSAY	0	0	0	0	0	0	2	0	0	2
DILDO	0	0	0	0	0	0	3	0	0	3
GUADALUPE	0	0	1	0	0	0	5	0	0	6
IMAYENAN	0	0	0	0	0	0	1	0	0	1
LASANGON	0	0	0	0	0	0	3	1	0	4
LAHUG	0	0	0	0	0	1	6	1	0	8
LOREDA	0	0	0	0	0	0	2	0	0	2
LUE	0	0	0	0	0	0	2	0	1	3
MAGLO	0	0	0	0	0	0	8	0	0	8
MAMBALING	0	0	0	1	1	0	11	1	0	14
PARAO	0	0	0	0	0	0	0	0	0	0
PASIL	0	0	0	0	0	0	9	0	0	9
PUNTA PRINCESA	0	0	0	0	0	0	1	0	0	1
Total	10	1	2	1	1	1	64	3	1	84

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MEASLES CASES AND FATALITIES

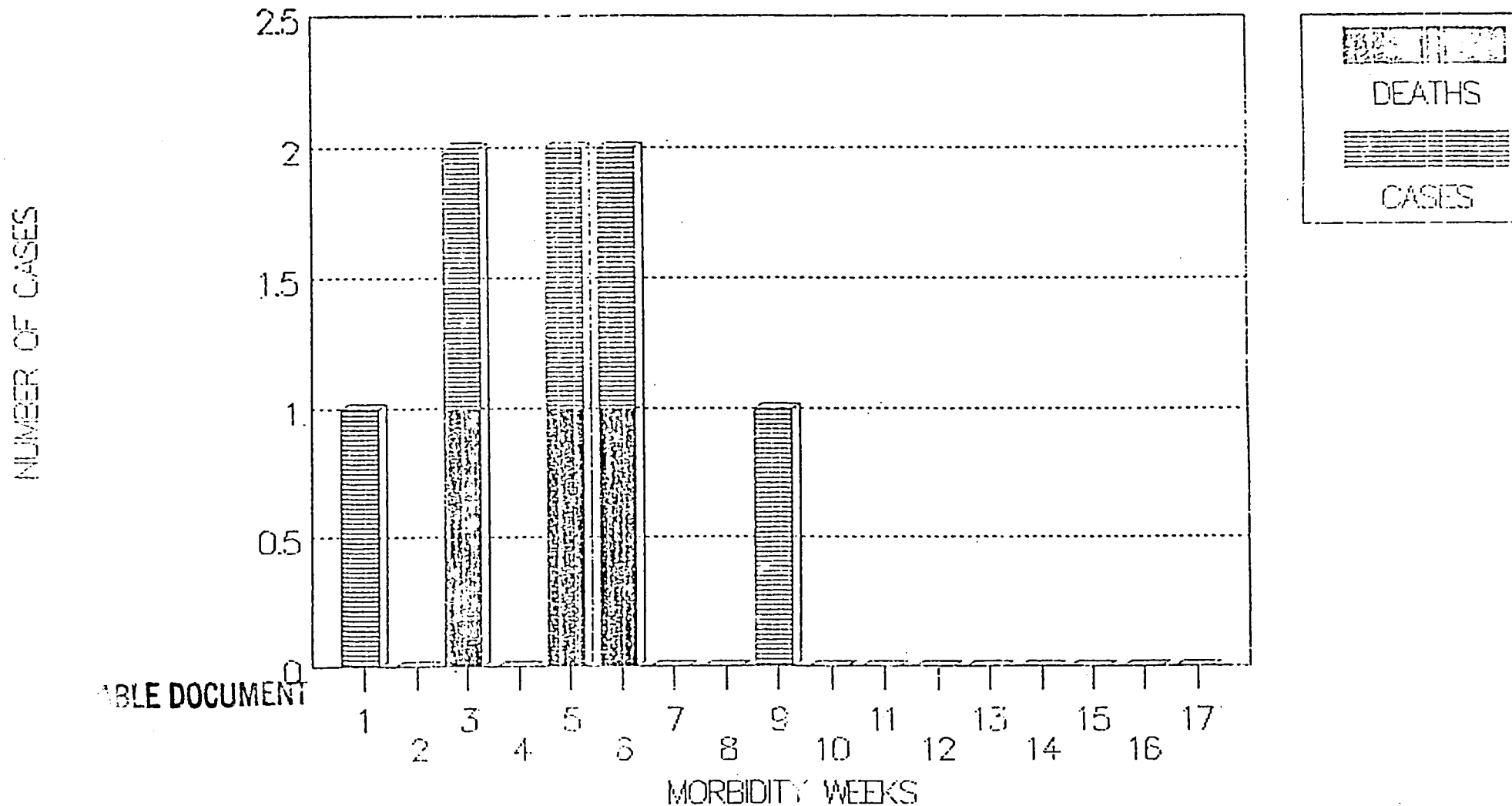
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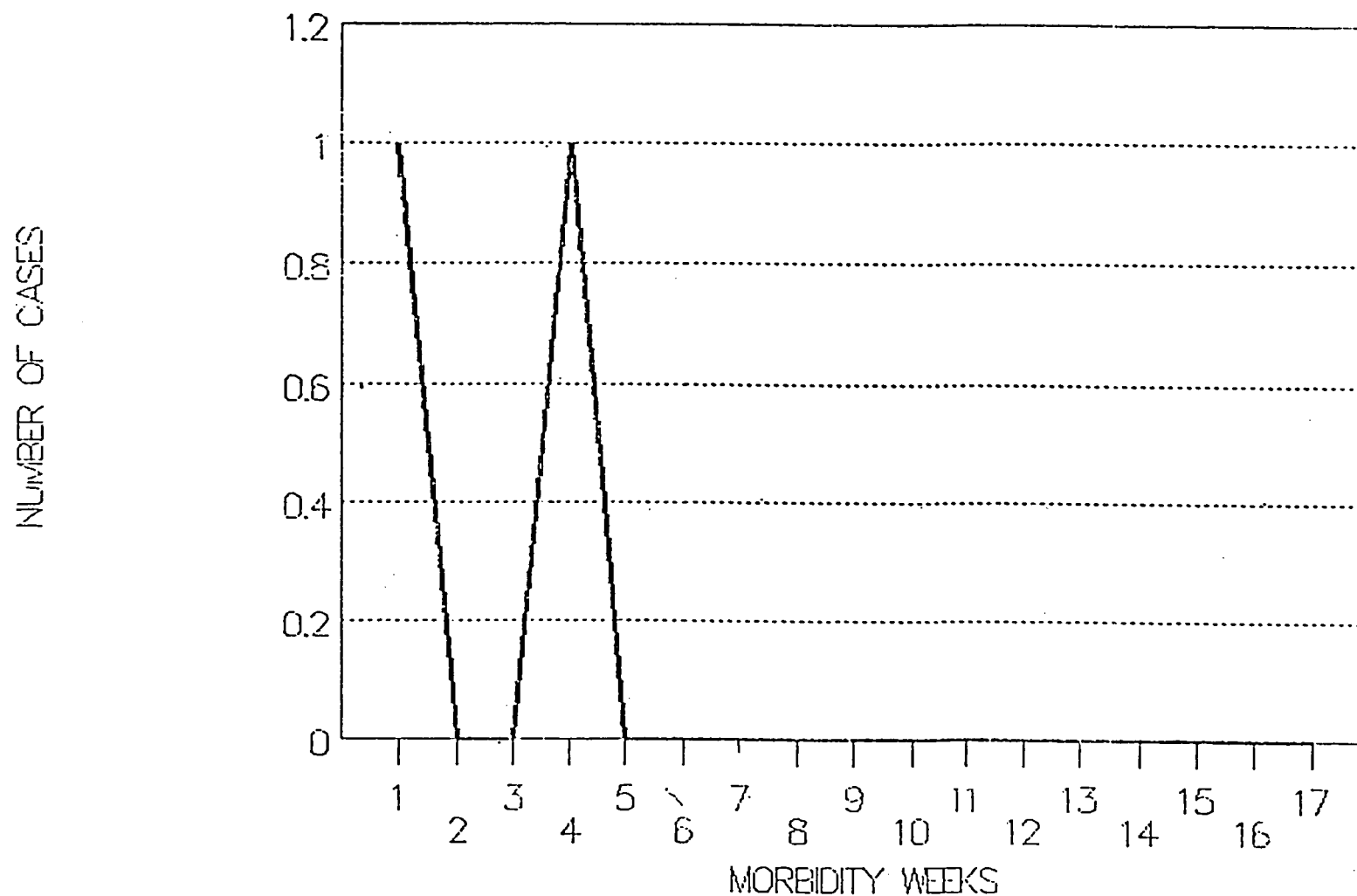


TETANUS NEONATORUM CASES AND FATALITIES

SIMC SENTINEL SITE - as of 05/03/90

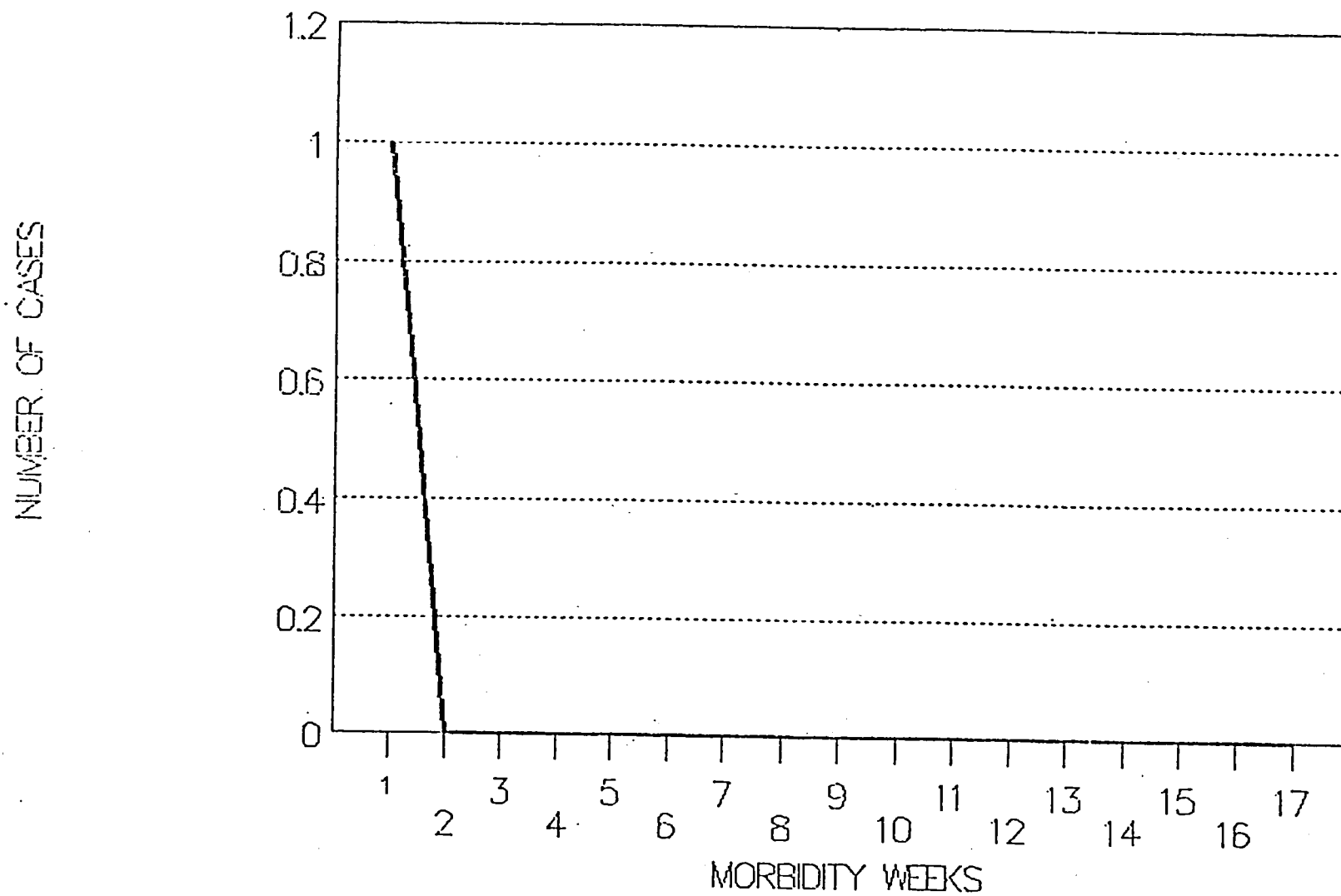


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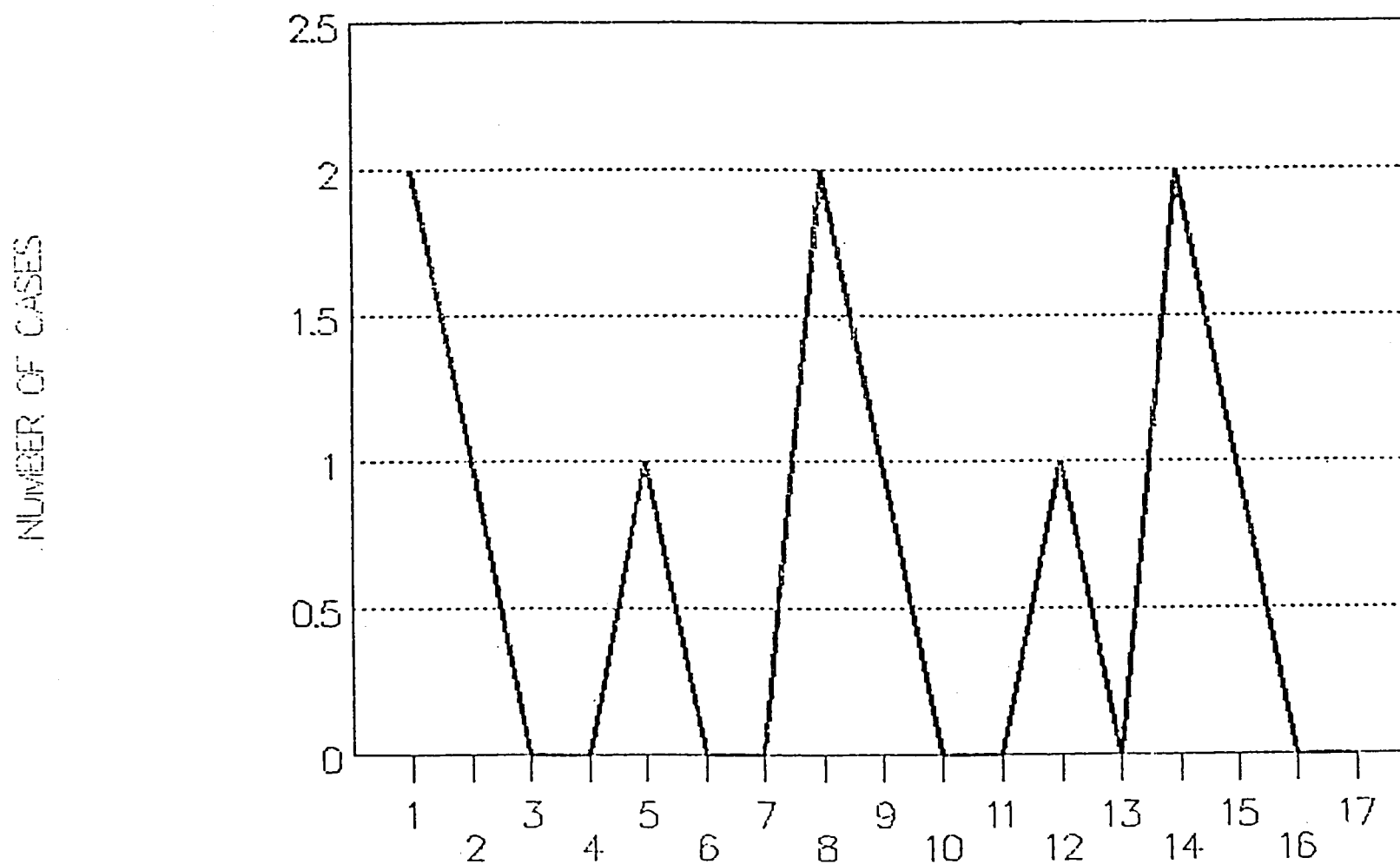


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DENGUE CASES

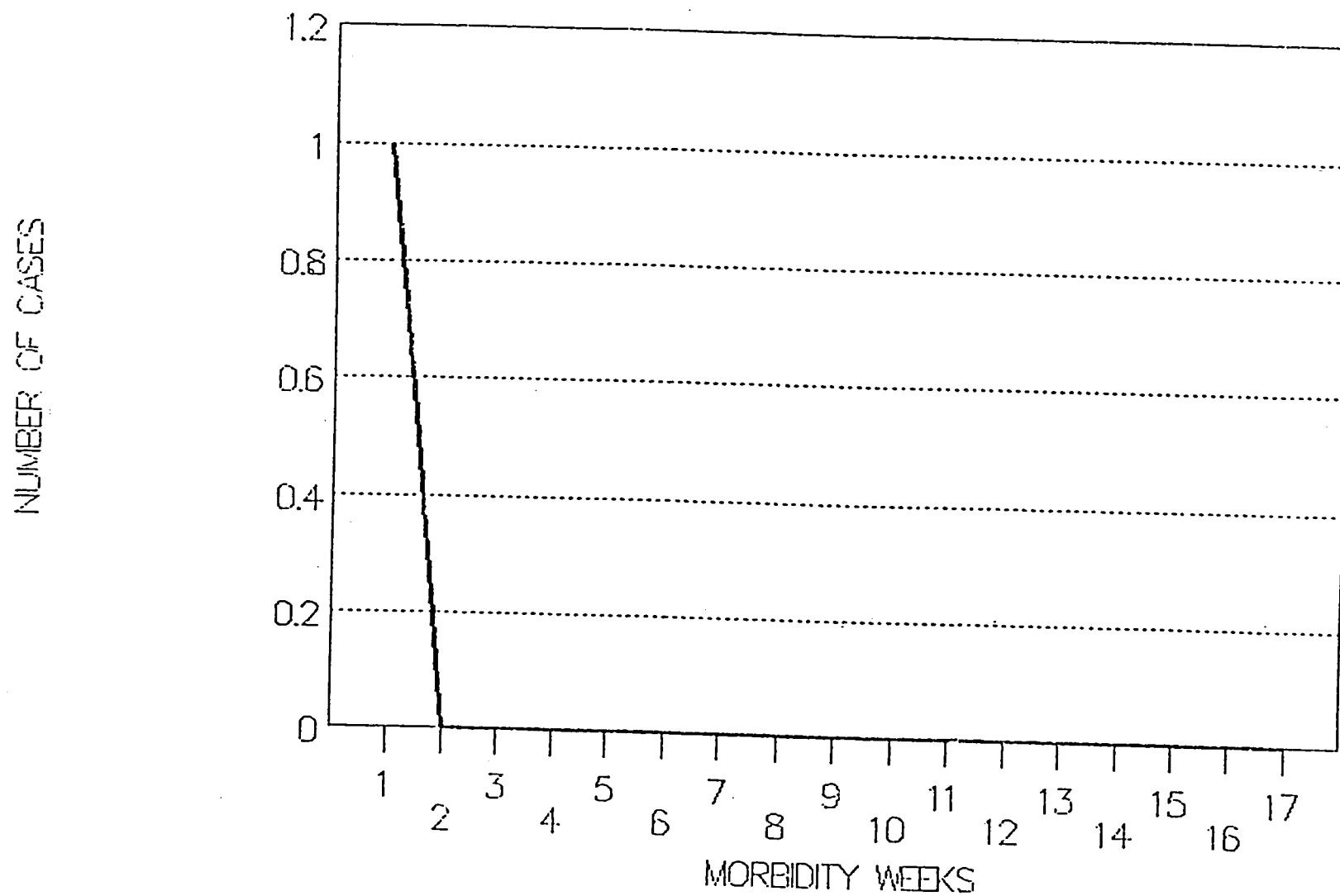
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Meningococcal Cases

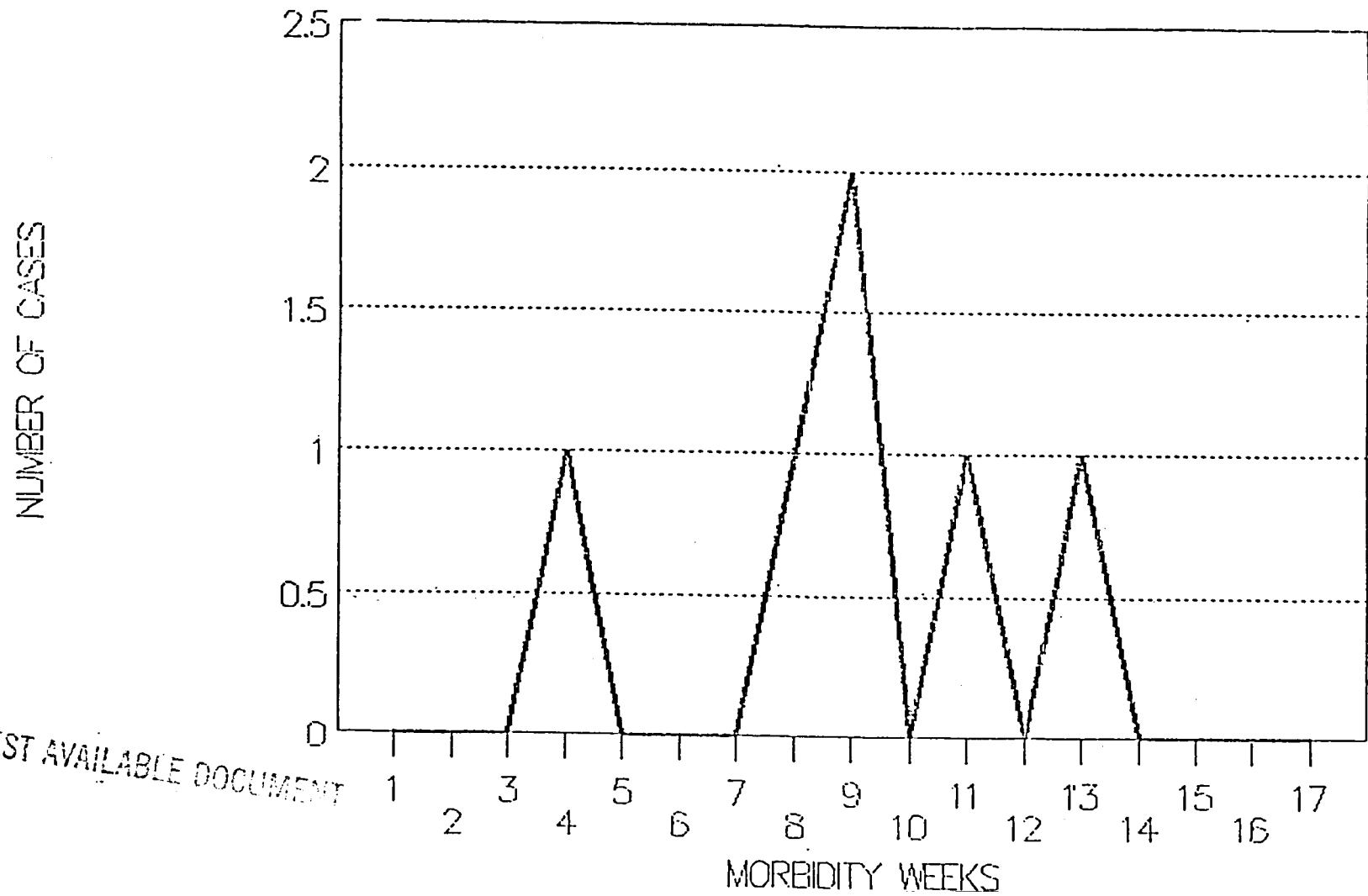
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OTHER HEPATITIS CASES

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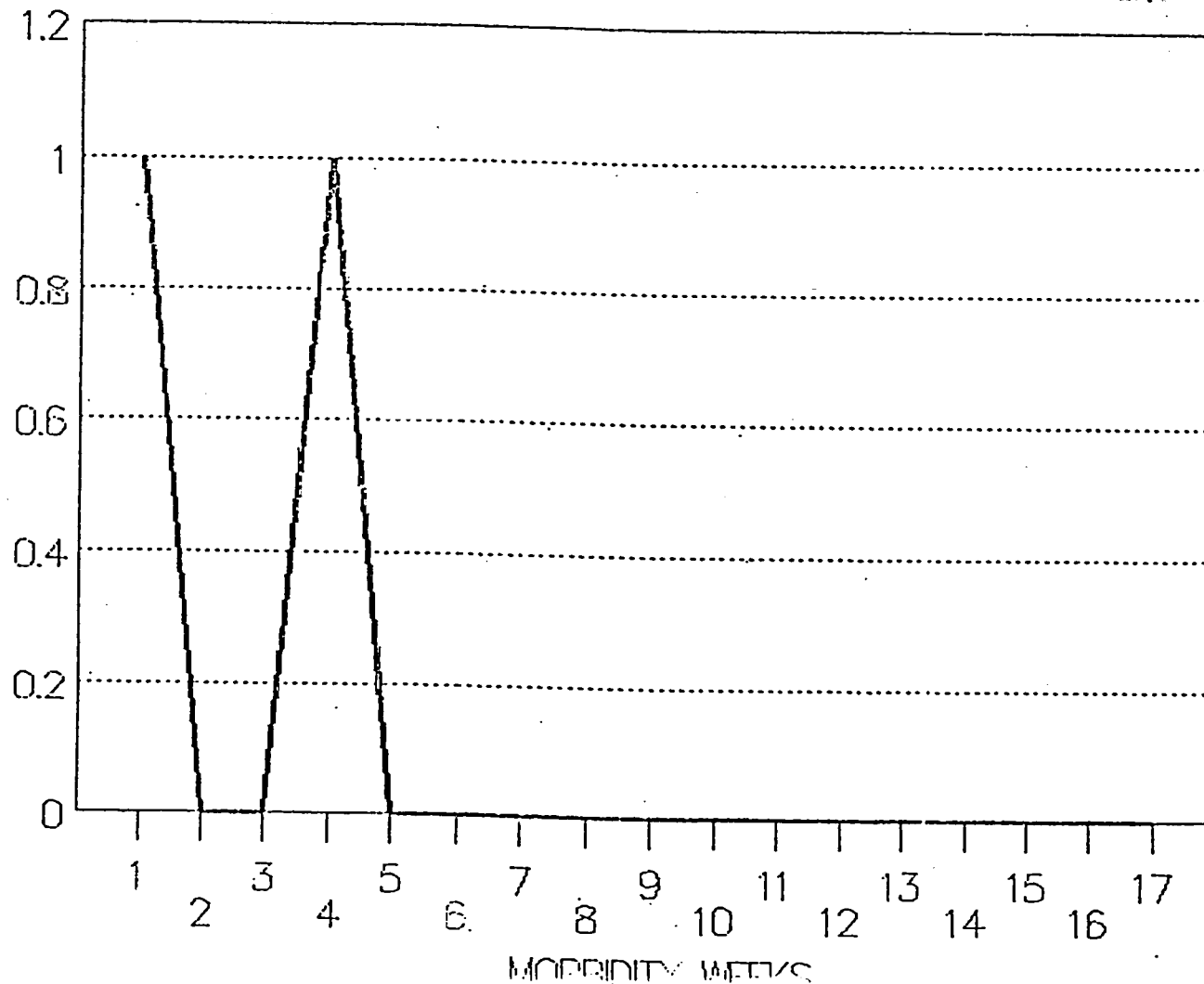
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PERTUSSIS CASES

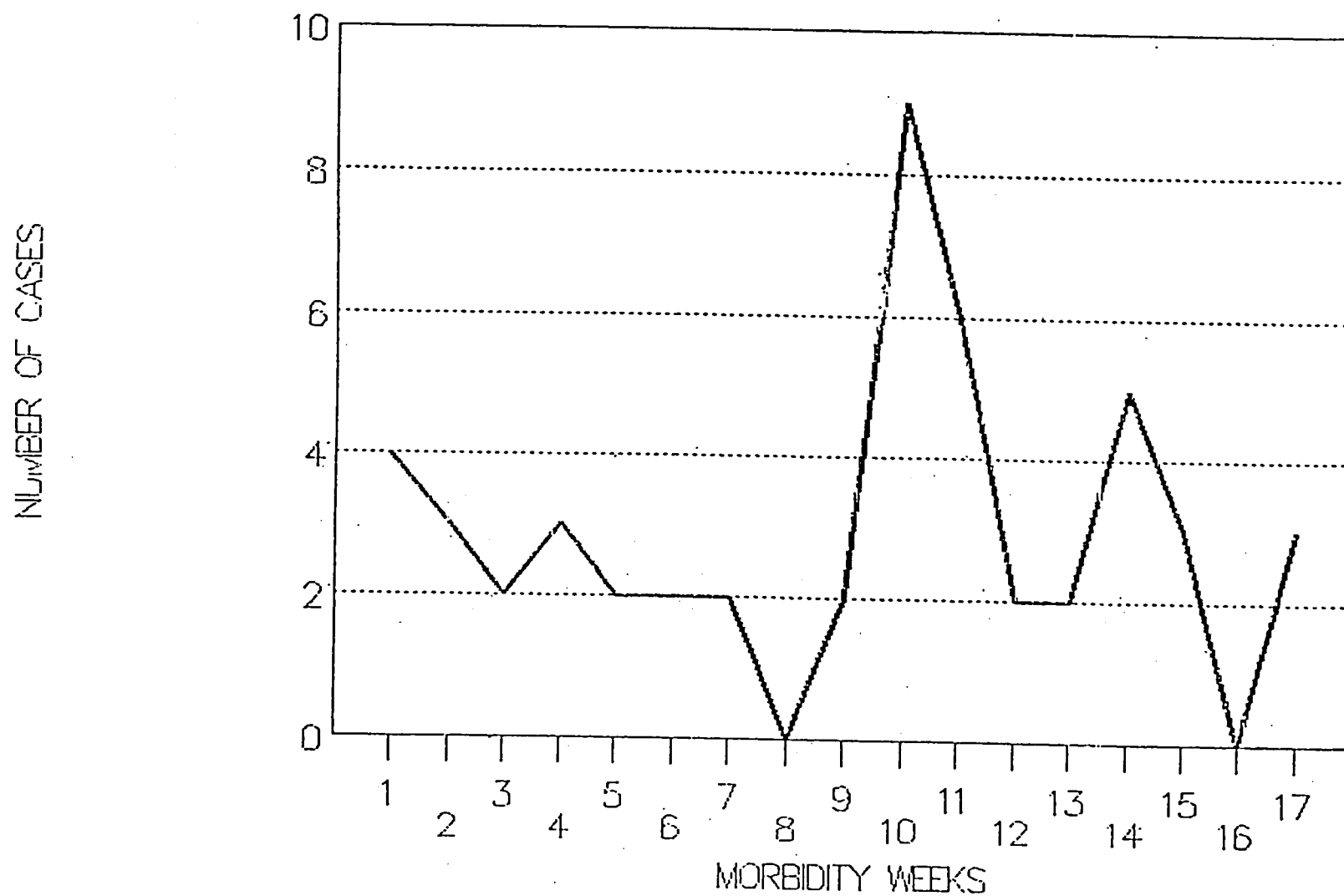
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NUMBER OF CASES

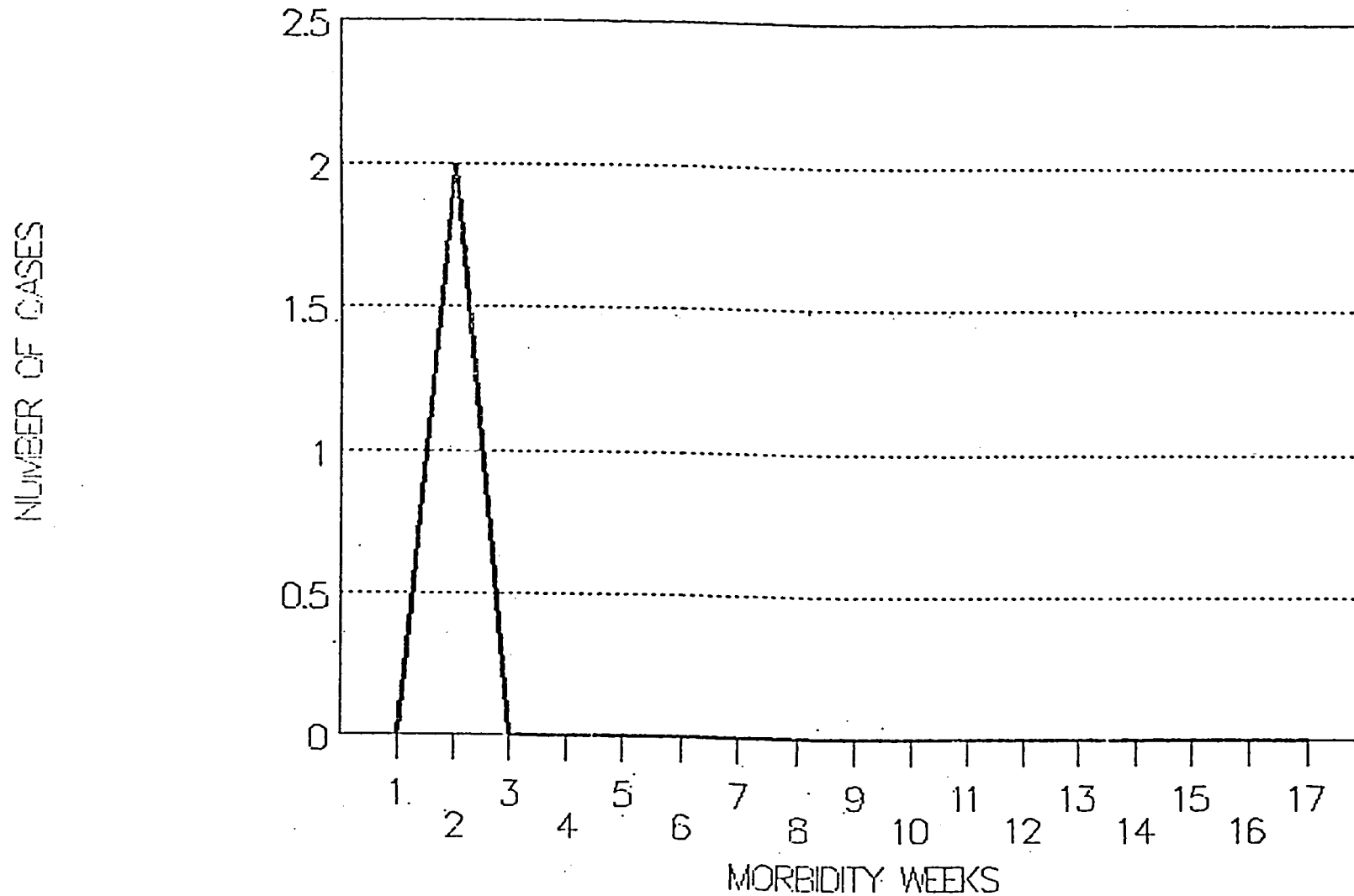


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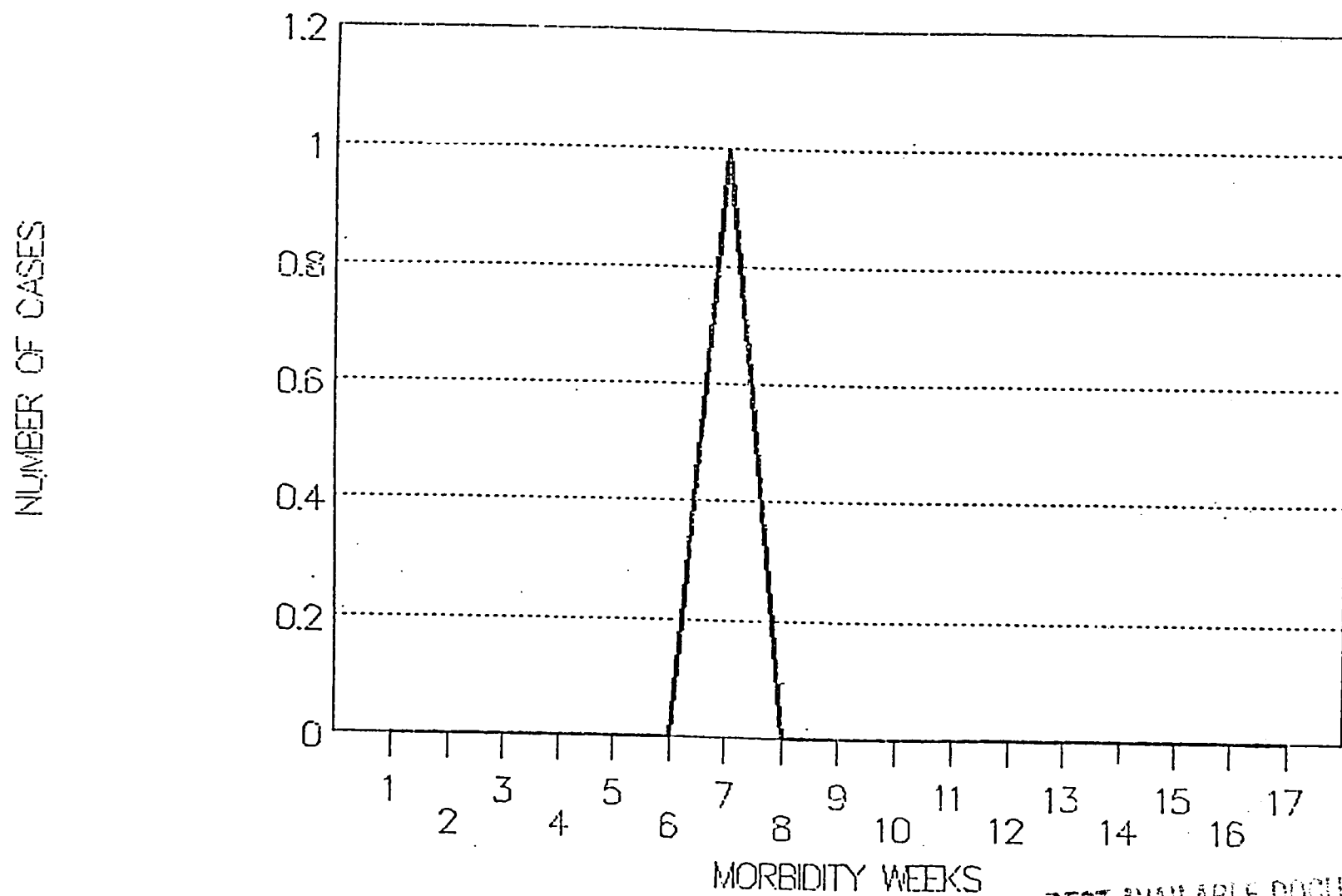


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DIPHTHERIA CASES

SIMC SENTINEL SITE - AS OF 05/03/90

