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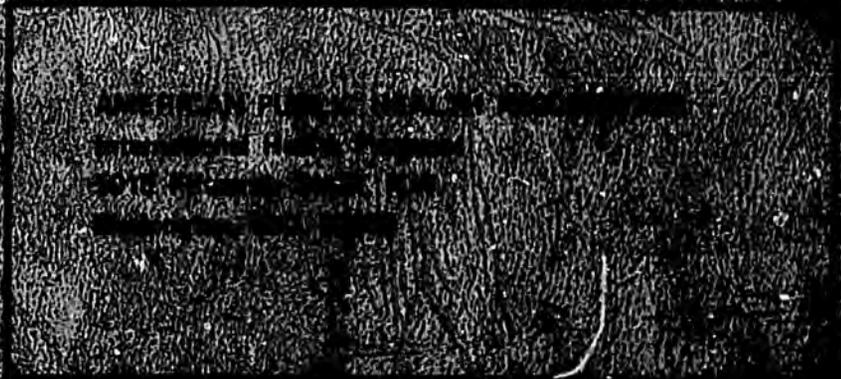
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AN ASSESSMENT OF EFFORTS  
TO UPGRADE THE QUALITY OF  
STERILIZATION SERVICES IN BANGLADESH  
AND TO DEVELOP  
A STERILIZATION SURVEILLANCE PLAN

A Report Prepared By:  
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This report was prepared by John J. Naponick, MDCM, Assistant Professor of Obstetrics and Gynecology, Tulane Medical School, New Orleans, Louisiana. Special qualifications for this assignment included earlier involvement in population activities in New Orleans, Cameroon, and Thailand.

The author would like to acknowledge the excellent assistance of Mr. Charles Gurney, Mr. John Dumm, Dr. Carol Carpenter-Yaman, and Mr. Ali Noor.

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## EXECUTIVE SUMMARY

The author was invited to visit Bangladesh to assess recent efforts to upgrade the quality of sterilization services and, in cooperation with Susan Holck, of the Centers for Disease Control, to develop a sterilization surveillance plan.

In this paper, the author deals only with efforts to upgrade the quality of services. Susan Holck will present joint views in her paper.

The author's trip was beset by difficulties, including indisposition of key government officials, cancellation of surgery because of a meeting of field medical officers in Dacca, and civil unrest in Rangpur. The author has no negative feelings about these difficulties. The meeting in Dacca should be viewed as a positive sign that field people are informed directly of new policies.

The author was able to observe tubectomies at one government rural mobile clinic and at two Bangladesh Association for Voluntary Sterilization (BAVS) centers at Dacca and Dinajpur. No vasectomies were observed. The author can make no statement about the government's stationary sterilization centers because he saw none in operation. It was clear that BAVS centers are model clinics, well staffed, well run, and fully stocked and equipped.

Despite the lack of equipment, Bangladesh workers do an impressive amount of work. The quality of that work is also noteworthy. Bangladesh workers have the basic concepts in hand, but refinement is needed to perfect techniques. They know patients must be screened; monitored before, during, and after an operation; and then followed up. They know that instruments must be sterilized; that caps, masks, and gowns must be worn. But steps must be taken to ensure that masks are properly worn, that instruments are properly sterilized, that patients are properly monitored. The workers want emergency resuscitation supplies. It is expected that the equipment will arrive soon. The attitude of the workers is excellent. They want to deliver quality services, but need some supplies and training to perfect their techniques.

It is important to remember that local standards will have to be developed, but developed to reflect consideration of the resources and capabilities of local facilities.

An integral part of the surveillance system will be one USAID physician for four World Bank expatriate physicians and their four Bangladeshi counterparts. In on-the-spot, scheduled and unscheduled checks of sterilization centers, these physicians will be able to upgrade the quality of services as they receive advice and consultation. The visits and the planned training sessions for surgeons will help to upgrade the services.

Once the complete surveillance system is in operation, yearly mortality figures can be compared to determine whether the quality of service is improving.

## ABBREVIATIONS

BAVS	Bangladesh Association for Voluntary Sterilization
CARE	Cooperative for American Relief to Everywhere
CDC	Centers for Disease Control
FP	Family Planning
ICDDR/B	International Center for Diarrheal Disease Research/ Bangladesh
IPAVS	International Project of the Association for Voluntary Sterilization
MCH	Maternal Child Health
NIPORT	National Institute of Population Research and Training
TEMO	Central Warehouse
RSSR	Resources Support Services Report
UNFPA	United Nations Fund for Population Activities
USAID	United States Agency for International Development

## I. INTRODUCTION AND BACKGROUND

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The need for a sterilization surveillance plan in Bangladesh became apparent when Rosenberg, Grimes and Peterson, and Fishburne submitted their reports.

In May 1980, Rosenberg reported a tubectomy death-to-case rate of 11.7/10,000.<sup>1</sup> A government report at that time placed the tubectomy death-to-case rate at 1.2/10,000.<sup>2</sup>

In June 1980, Grimes and Peterson reported a tubectomy death-to-case rate of 19.3/100,000.<sup>3</sup> In October 1980, Rosenberg reviewed the latest available data--the results of a prospective study--and reported a death-to-case rate of 9.9/10,000.<sup>4</sup> There is a discrepancy between these reports.

The studies identified as the leading causes of death anesthesia overdose, tetanus, and intraperitoneal hemorrhage. Other causes of death were pulmonary embolism, anaphylactic reaction, malignant hyperthermia, bowel obstruction, and aspiration. In his report on anesthesia practices for sterilization operations,<sup>2</sup> Fishburne recommended that basic anesthesia practices be changed, that patients be monitored more closely, and that doctors be trained to perform the surgery.

### Purpose of Assignment

Because of the discrepancy in the epidemiological data on sterilization deaths and the attempts to improve services, the author was asked to assess efforts to upgrade the quality of sterilization services and to incorporate technical information into a sterilization surveillance plan.

### Itinerary

The author arrived in Dacca, Bangladesh on January 5, 1981. On January 5-8, he met with officials from the United States Agency for International Development (USAID), the Ford Foundation, the United Nations Fund for Population Activities (UNFPA), the International Project of the Association for Voluntary Sterilization (IPAVS), The World Bank, the Bangladesh Association for Voluntary Sterilization (BAVS), TEMO (the Central Warehouse), CARE, the International Center for Diarrheal Disease Research/Bangladesh (ICDDR/B), and the Secretary for Health and Population. On January 9, 1981, the author went to a government-sponsored sterilization camp in Tangail.

On January 11, the author visited Dinajpur and Rangpur. He met with the assistant director-general for family planning (FP) in Rangpur and

the deputy director for FP in Dinajpur. He visited local health complexes at Birgong, Fulbari, Thakurgav Kotwali, and Muthapurkur. The BAVS clinics in Dinajpur and Rangpur were also visited. The author returned to Dacca on January 14.

On January 15, 1981, the author met with Charles Gurney, John Dumm, and Susan Holck to review in detail his findings and to discuss in depth a surgical surveillance system for Bangladesh.

Much was accomplished during this mission, but many important tasks could not be accomplished. The author could not meet with three key people because they were absent or indisposed. These persons were Hashmat Ali, the director-general of the National Institute of Population Research and Training (NIPORT), and Nargis Akter and Rafiq-ul Islam, the director and assistant director of maternal and child health (MCH) and FP services, respectively.

The author was only able to observe tubectomies at two BAVS centers and one government sterilization camp. The government centers usually used for sterilization were closed. Because of an important meeting of local health officers in Dacca, surgery in these centers was suspended at the time of the author's field trip. The author observed no vasectomies.

The author's field trip was cut short in Rangpur because a riot between police and elementary school teachers made travel impossible and unadvisable. The author was unable to observe tubectomies at a BAVS center as arranged.

## II. OBSERVATIONS

## II. OBSERVATIONS

In an investigation of the situation in Bangladesh, Dacca can be separated from the rest of the country. Everybody in Dacca is aware of the problems in delivering sterilization services, including logistics, training, and anesthesia schedules. The warehouse (TEMO) is full of supplies, but the shelves in the field are relatively bare. New training programs have been developed, but the fieldworkers are conducting business as usual. Dacca acknowledges anesthesia overdoses; clinics in the field conform to old practices.

There is also a division in the quality of services provided by the BAVS and the government. The government clinics provide most of the coverage. The BAVS limits the number of clinics it operates. It operates clinics under high standards and has adequate supervision, supplies (including emergency resuscitation equipment), and controls. The author observed only a mobile government clinic. He did not see any stationary facilities in operation, but he did see equipment and buildings. Without exception, the structures seem to lack supplies, medicines, and equipment. For example, there are no screens on windows, no emergency equipment or medicines, and few serviceable instruments.

As for actual sterilization services, practices outside Dacca remain unchanged. The author feels that patient screening and selection are adequate. Pre-, intra-, and post-operative monitoring are insufficient. Anesthesia still consists of parenteral medication to deep planes of anesthesia and local injection. The author observed that the local is injected into the fat. While this is good for hemostasis, it provides little relief from pain. The surgeons and assistants are first class; obviously, they have worked together for a long time. Operations are rapidly and efficiently performed with little or no blood loss.

Sterile technique is uniform. Caps and masks are worn by most. The mask always covers the chin, usually the mouth, but rarely the nose. Instruments are autoclaved at the end of each day, but "boiled" between cases. The author observed that warm, but not boiling, water is used. Patient preparation and draping are adequate, as is the handling of instruments. Interestingly, the surgeon does not change gowns between cases, only gloves.

From the lowest health worker up, all are aware of the reporting system for sterilization-associated deaths. The population at large has also become aware of the system. The deaths of patients sterilized 15 years ago are reported by their families in the hope of obtaining a government settlement. The author believes that the reporting system will not underreport. With the incentive of cash payment, all sterilization deaths will be reported. Perhaps all deaths, from whatever cause, will be reported. The author also thinks that the system will have to be monitored, not to ensure adequate reporting, but to prevent over-reporting.

A simple system of surveillance with a feedback mechanism to the facility where the death occurred has been discussed with John Dumm and Susan Holck. The model for that system will be presented in Ms. Holck's report.

### III. CONCLUSIONS AND RECOMMENDATIONS

### III. CONCLUSIONS AND RECOMMENDATIONS

The author will not discuss here the sterilization surveillance system, which will be described in the paper by Susan Holck. He wishes, however, to make several points about surgical sterilization in Bangladesh.

In view of the conditions under which they operate and the patient load, the author is convinced that the Government of Bangladesh is doing a remarkable job with its program. The Thana Health Complex is not Tulane Medical Center, but it is a facility where the author would be happy to work. The author has performed surgery in Africa and Southeast Asia under far worse conditions.

The author believes it is wrong to try to turn the Thana Health Complex into a facility like Tulane Medical Center. This would be possible if only one or two such facilities were desired. But the Government of Bangladesh wishes to increase the number of sterilization centers, not reduce them. Therefore, Bangladesh must be viewed in the context of Bangladesh, not New Orleans.

The author believes there are several ways to complete a task. The current method of anesthesia with parenteral medication would be acceptable if resuscitation equipment were available and patients were properly monitored. The new proposed system of greater reliance on local anesthesia will be adequate once it is correctly instituted; however, one should anticipate problems (e.g., an increasing infection rate because wounds are open longer) in its implementation. The government should issue directives and suggestions to the surgeon, but the surgeons should have the training they need to be flexible in their approaches.

Problems should be viewed as they exist in the field. With 12 surgeries to perform, two serviceable sets of instruments, and one autoclave, what is the surgeon to do? Theoretically, he operates, then washes and autoclaves the instruments. Given the time needed for these activities, it is not possible to do many operations.

The following suggestions are both simple and practical. They are likely to be followed because they are not complicated.

1. Masks should be worn over the nose and mouth. Caps should be worn.
2. If instruments are to be boiled, they should be sterilized in boiling water, not lukewarm water, for 20 minutes.

3. If the surgeon only has one gown, he should be careful not to contaminate himself.
4. Windows should be screened.
5. Operation theatres should be kept clean, and only the essential personnel should be present.
6. Basic emergency equipment and medicines should be provided.
7. Patients should be monitored pre-, intra-, and post-operatively.
8. Surgeons should be allowed some flexibility, depending on their experience.

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Appendix  
LIST OF CONTACTS

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