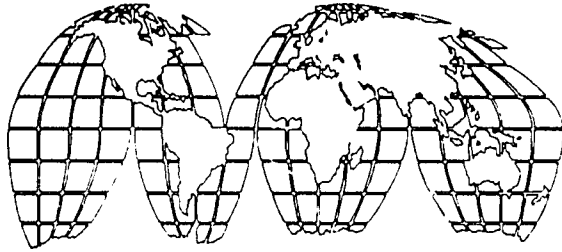


USAID Working Paper No. 162

Center for Development Information and Evaluation

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Swaziland Health Manpower  
Training Project:

*Dynamism Challenges Dysfunction*

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

12/05/85

**DRAFT**

SWAZILAND HEALTH MANPOWER TRAINING PROJECT:  
DYNAMISM CHALLENGES DYSFUNCTION

by

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November 1985

The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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SUMMARY

It is a distinct pleasure to find a success story, especially one concerned with institutional development and health. The Swaziland Institute of Health Sciences is one such success.

The Swaziland Health Manpower Training Project was initiated in FY 1977 and terminated in December 1983. The goal of the project was to improve Government of Swaziland (GOS) health services and expand coverage. The project built and equipped the physical structure for the Institute of Health Sciences (SIHS) and provided participant training of Swazi nurses in nurse education. While the trainees were out of the country, contract personnel were placed at the SIHS to assume their teaching load. The Institute also trained health inspectors and dental hygienists. Other components of the project included the services of a health statistician, a health planner, and a hospital administrator who were supposed to strengthen the planning and administration of health services in the Ministry of Health and to provide orientation and in-service training to local counterparts.

In spite of significant resistance to the Institute from within the Ministry of Health and the nursing community at large, the SIHS was able to initiate a functioning training program within a remarkably short time and graduate its first class of Nurse Practitioners in December 1979. They did this by expanding on the nascent Danish AID-funded Community Health Project which

was providing refresher training for Nurse Practitioners, but for a shorter period of time. The ability to seize this opportunity enabled the SIHS to produce visible output very quickly.

The evaluation found that the project had created a dynamic and viable institution which has been very productive. The graduates and faculty in general are well grounded in the science, although not necessarily the practice, of their respective disciplines. In short, this institution is likely to be an integral part of the Swazi health system for a long time to come.

These strengths notwithstanding, the Institute faces some critical issues over the next few years. Its identity needs to be clarified--will it become an autonomous academic institution or the training arm of the Ministry of Health or some balance between them? Should it be a general health training institution or a more narrowly focused nursing school? The flexibility of the staff to respond to changing health manpower priorities will determine in large part the Institute's role in medical care in this society.

The evaluation found that the Institute had an indirect positive effect on the health system, but that problems in health care delivery overwhelmed the impact of the increased number of better trained nurses and health inspectors. Specifically, the system is somewhat dysfunctional in that there is inadequate primary health care, particularly in the rural areas. It is believed, however, that long-term impact on the health system

could be substantial. No direct impact on health status could be measured.

The team believes that SIHS has not reached its potential in enhancing outreach. Better training and practical experience in community mobilization and communications is needed, and Kural Health Motivators need to be brought into the system better.

The Institute of Health Sciences has had a facilitating but indirect effect on health policies, particularly decentralization and the increased priority for rural preventive care. The work of the Institute would benefit from policy changes on the balance between preventive and curative care, staffing, and financing. The increased health manpower generated by the Institute makes more urgent the resolution of the health financing issue.

All in all, the Institute of Health Sciences was found to be an impressive, viable institution essential to the Swaziland health care system.

GLOSSARY

- Lilangeni  
(pl. Emalangeni) - Swaziland's currency, E1 = 1 Rand = US\$.53
- GOS - Government of Swaziland
- IHAP - International Human Assistance Programs, Inc.
- MOH - Ministry of Health
- SIHS - Swaziland Institute of Health Sciences
- RFM - Raleigh Fitkin Memorial Hospital
- NEBLS - Nursing Examination Board of Botswana,  
Lesotho, and Swaziland
- NNC - Nazarene Nursing College located at RFM
- RHM - Rural Health Motivator



1. INTRODUCTION

We bumped our way up a dusty back road to the tiny health clinic. Not having been warned of our visit, the nurse was busy attending to the waiting patients who were seated on the front yard of the clinic. She was a young nurse, just 25 years old, but she takes her clinic responsibilities seriously. Assisted only by two orderlies, she attends to the curative and preventive care of the several thousand people within three hours' traveling distance of her clinic. She schedules her week so that 2 half-days are devoted to antenatal care and maternal child health; the remainder is for curative care. She also maintains clinic supplies sometimes in creative ways: she managed to extend her diagnostic urine test strips by cutting them in half. Beyond persevering the normal challenges of being a clinic nurse, this young woman has increased her workload by teaching and working with the Rural Health Motivators (RHMs) in her area. Although nurses are supposed to work with RHMs, the general disarray in the program makes it optional. RHMs are supposed to visit homesteads and motivate families to come to the clinic for preventive health care (immunizations, oral rehydration, antenatal care). This nurse particularly

wanted the RHMs to persuade families to bring in their children for a complete immunization series, so she taught the workers how to read and understand vaccination cards. Realizing the RHMs would not be acceptable to the community if their role were only motivational, the nurse gave them some simple medical supplies and taught them how to use them. She believed this kit would enhance their status and credibility in the community.

After the rest of the AID team had left, one member took the nurse aside and asked what she would have changed about her training at the Institute of Health Sciences. Without hesitation she replied, "We should have spent less time on the hospital wards. That didn't prepare us for the work in the clinics."

The coexistence of many seemingly incongruent yet viable dual systems in Swaziland is a conundrum to the outsider. There is a traditional political system and the "modern" government, which intertwine informally but meet formally only in the King and commoner. There are two legal systems, two agricultural systems, and several health systems that may be complementary, duplicative, or conflicting. At times it seems that this dualism introduces inefficiency and unpredictability to the Swazi development process, yet others feel that in this dualism lies the

fundamental vitality of the Swazi nation. It became apparent during this evaluation that this dualism superimposed on the existing preventive/curative dialectic of the health field was an important motivation for the Swaziland Health Manpower Training project and yet a factor limiting ultimate impact on the beneficiary.

## 2. SETTING

It is difficult to believe that as late as 30 years ago, Swaziland was one of the least developed countries in Africa.

The socioeconomic situation in Swaziland following World War II hardly seemed propitious for economic or political development. The country had remained for three decades one of the backwaters of Britain's African empire, and the dimensions of its stagnation were considerable. In the first place, physical infrastructure was rudimentary at best. There were no tarred roads, no railroads, no airports in the entire country.... Supplies of water and electricity were sporadic and undependable even in the principal population centers of Mbabane, Manzini and Stegi (now Siteki). Health conditions were generally poor. Malaria, tuberculosis, gastroenteritis, pneumonia and

malnutrition were rampant. Infant mortality was as high in Swaziland as it was anywhere in Africa. There was one doctor for every twenty thousand inhabitants. Medical facilities were rare and for the most part confined to urban areas.... Education was in a deplorable state; in 1946 only 12 percent of European children and 6 percent of Swazis were enrolled in territorial schools of any kind. In fact, there was no organized, coherent school system encompassing the entire territory...."<sup>1</sup>

Today Swaziland is one of the economically most favored African countries. Two-thirds of the population is literate, average per capita income was US\$886 in 1982, and three-quarters of the population lives within 8 kilometers (km) of a static health facility. The country has excellent communications infrastructure and a diversified and relatively open economy.

Unfortunately, health and nutrition status have not kept pace with structural gains. The recently completed CDC nutrition survey indicates that 30.6 percent of children under 5 years of age are chronically undernourished (nutritionally stunted), although average food availability has increased from 1,672 kilo-

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<sup>1</sup>C.P. Potholm, Swaziland: The Dynamics of Political Modernization (Berkeley, CA: University of California Press, 1972), p. 29.

calories per person per day in 1961 to 2,179 in 1978. The World Bank Health and Population Sector Review calculated that the infant mortality rate in 1984 was 105 compared to 135 in 1976 and 138 in 1966.<sup>2</sup> Major health problems in Swaziland include malnutrition, tuberculosis, diarrheal diseases, malaria, measles, schistosomiasis, whooping cough, sexually transmitted diseases, and respiratory infections. Most of these problems are preventable or treatable by available technology. The persistent prevalence of these diseases can be attributed in large part to the failure of the Swazi health system to reach the rural population. (See Appendix C for a description of the Swazi Health Care System, and Appendix D for health status indicators.) The health care system suffers from many of the same problems as health systems in other less developed countries--poor management, insufficient personnel, inadequate transport, and poor supervision.

Swaziland's estimated 1984 population of 637,000 is growing at an accelerating rate. In 1966 the rate of natural increase was 2.75 percent, but it had increased to 3.41 percent by 1983. Population density differs considerably between Swazi Nation Land (that owned by the King and "lent" to the Swazi people) and Individual Tenure Farms (generally owned by nonethnic-Swazis):

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<sup>2</sup>World Bank,

36.1 and 11.5 persons/km<sup>2</sup> respectively. Approximately 85 percent of the population lives in rural areas, but the cities are growing at a rate of 4.65 percent per year.

Swaziland's economy, human resources, history, and material well-being are inextricably linked with the Republic of South Africa. A landlocked country, surrounded on three sides by South Africa (on the fourth side by Mozambique), Swaziland depends on South Africa as a trading partner, an employer, a training site, and a customs agent. The Swazi currency, the Lilangeni, is tied to and equivalent to the South African Rand. Hence, Swaziland is economically dependent on South Africa and experiences the same growth and recession. At the time of this evaluation, the regional economy was in a recession.

Swaziland's economic future is unclear. Although the country has rich natural resources, its economic growth depends largely on that of South Africa. About half of public revenues derive from the South Africa Customs Union and rise and fall with the South African economy. Furthermore, Swaziland is heavily dependent on exports, many of which (minerals, sugar, wood-pulp) are highly volatile on the world market. The World Bank Economic Memorandum in 1981 projected that growth rates would rise from 4 percent to 6 percent over the 1980s but that the balance of trade would worsen. Unemployment, particularly that of people with intermediate levels of education, was expected to

worsen.<sup>3</sup> This is exacerbated by the high population growth rate. Recent economic analysis shows that these projections were largely correct.<sup>4</sup> Because the economy is small, however, small changes in investment can change the projections significantly, although impact is always modulated by the South African economy. There is a fear, however, that the relative prosperity of recent years will rapidly disappear, and there is a reason to expect significant growth over the next few years.

The status of women in Swazi society appears to be high within the traditional belief system--the Queen is a powerful figure and shares the instruments of power with the King. The homestead is jointly managed by the headman and his mother. In practice, however, the status of women is extremely low. It is said, for instance, that a woman may not take a child to a health clinic without the father's approval. Rural women have little access to cash yet are responsible for feeding, clothing, and educating their children. Women have heavy workloads, both domestic and agricultural, which adversely affect their health and that of their children. They are formally excluded from traditional decision-making in the homestead and the community at

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<sup>3</sup>World Bank, Economic Memorandum on Swaziland, Report No. 3028-SW (Washington, D.C.: World Bank, 1981).

<sup>4</sup>USAID/Swaziland, Country Development Strategy Statement FY1987 (Washington, D.C.: AID, 1983).

large, although they may exert influence through men to whom they are related. Finally, they have few opportunities for advancement in the modern sector. Among the most desirable opportunities open to women are those in teaching and nursing. As the status of nurses increases in Swaziland, one would assume that nursing would become a more desirable career. Perhaps for this reason, the number of women who apply for nursing school and nursing assistant training is considerably larger than the number of places available, and competition is increasing.

### 3. DESCRIPTION OF THE PROJECT

The Swaziland Health Manpower Training project was designed to increase the access of rural Swazis to preventive and promotive health care by building a training institution for health professionals and developing a national and subnational capacity for health planning and administration.

The project evolved in part from Oscar Gish's 1974 consultancy.<sup>5</sup> His recommendations included the need to train health personnel locally (including nurses, nurse assistants, health assistants, and village health workers), to upgrade the national health statistics and planning capability, improve hospital ad-

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<sup>5</sup>Oscar Gish, Planning the Health Services of Swaziland (Washington, D.C.: American Public Health Association, 1974).



ministration, change fee structures, and better integrate curative and preventive public health services. The overriding emphasis in his report was that preventive health care must be given higher priority.

The Government of Swaziland incorporated most of Gish's recommendations into its Provisional Plan for the Development of Health Services of 1975, which was subsequently incorporated into the 10-year plan for the health sector. An additional Government objective was to "localize" health manpower (i.e., reduce expatriate presence). One significant difference between Gish's report and the national plan was in the projections of relative numbers of registered nurses and nurse auxiliaries needed. The plan predicted an additional annual need for 20 registered nurses, 16 auxiliary nurses, 2 health inspectors, and 10 health assistants.

In addition to the creation of a Government health manpower training school, the plan called for more rural clinics and health centers, modest increases in hospital beds (once again contrary to Gish's recommendations), and significant increases in Ministry of Health personnel.

It is against the backdrop of the Gish report and the 10-year plan that the project was developed.

A review of manpower requirements at the time, coupled with a nationalistic desire for a "Swazi" nursing school, led the

Government to request from USAID a new government nursing school (rather than, for instance, expanding and upgrading the existing religious-based Nazarene Nursing College) and training for other health professionals so that the Ministry of Health could "control and coordinate health manpower development."<sup>6</sup>

The project itself included several components:

1. Building the physical structure of the Institute of Health Sciences
2. Providing technical assistance and training to get the SIHS established
3. Providing a health statistician to strengthen Ministry of Health statistical capabilities
4. Providing a hospital administrator to manage and coordinate the regional hospitals
5. Providing a health administrator to facilitate regional health planning
6. Training Swazis in the United States and other countries, who would return to faculty positions at SIHS and to other planning and administrative positions

In addition to the the U.S.-funded inputs, two nurse educators and a health planner were provided by British aid, a health inspector educator was provided by the World Health Organization (WHO), and the Institute of Development Management in Botswana provided special services for training health administrators.

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<sup>6</sup>Agency for International Development, "Swaziland Health Manpower Training Project," Project Paper and approval package, (Washington, D.C.: AID, 1977), photocopy.

The Government of Swaziland provided salaries of Swazi personnel, administrative support, support for out-of-country trainees, and furnishings, supplies, land, and architectural and engineering costs for the Institute.

To be most effective, the project components would have had to have been well coordinated. As the project evolved, however, each component developed virtually independently. As a result, the project was not a comprehensive upgrading of the health services but rather the establishment of a training institute with some assistance in hospital administration and health planning. This impact evaluation focuses on the Institute of Health Sciences component of the project, but it is important to emphasize that the training of health professionals may be inefficient and inappropriate unless combined with a broader analysis of the health problems and health manpower needs and adequate attention to management issues. The team believed that this lack of coordination between the Institute's development and health planning and administration constitutes a potential threat to the viability of the Institute.

The Swaziland Institute of Health Sciences is now a fully functioning training institution. It has six tracks of study: a 3-year health inspector (leading to a University degree), a 3-year basic nursing course, 4th year nursing specialization courses in midwifery and community mental health, a 1-year post-

graduate nurse practitioner course for experienced nurses who need diagnostic and physical assessment skills, and a 2-year dental hygienist course. The health inspector course is a regional program and accepts students from Botswana and Lesotho as well as Swaziland. The number of graduates to date is shown in Table 1.

Table 1. Graduates of the Swaziland Institute of Health Sciences, 1979-1983

Program	No. of Graduates
Health Inspectors	
Swazi	21
Non-Swazi	2
General Nurses ("basic or single qualified") <sup>a</sup>	56
Nurse Midwives	29
Psychiatric Nurses	12
Nurse Practitioners	60
Dental Hygienists	13

<sup>a</sup>Most of these nurses went on to become doubly qualified at the Institute. At this writing, graduates include 10 general nurses, 41 doubly qualified nurses, and 60 nurse practitioners. Twenty additional graduates are singly qualified but studying an additional year for midwifery or mental health qualifications.

All Swazi graduates have found employment in the Government health system or in private industry.

#### 4. RESULTS AND ANALYSIS

##### 4.1 Implementation Issues

Almost from its inception, the Swaziland Institute of Health Sciences met with opposition. Within the nursing community there was disapproval of the new curriculum and teaching style. The Institute emphasized preventive care, rural and community problems, and practical assessment skills. Students attended school full-time and received their practical training during fixed time periods in rural clinics and hospitals. This system was very different from status quo that at the Nazarene Nursing College at Raleigh Fitkin Memorial Hospital, where curative, hospital-oriented nursing was taught and where three-quarters of the time was spent working in the wards. Even today, the debate is still very much alive over whether SIHS students have enough "practical" experience.

Resistance to SIHS also took on a moral tone. Nursing students (all female) at Nazarene Nursing College were required to attend the Nazarene Church frequently and to adhere to its moral standards (no smoking cigarettes or drinking alcohol). If they became pregnant (which many did), they were dismissed and not granted readmission. Many of these requirements have been relaxed, but the aura of the strict moral guidance of students remains.

At SIHS, on the other hand, there are no overt controls on morality, and the male students (primarily in the health inspector program) are even housed in a dormitory next to the girls' dormitory. These factors originally caused many parents to believe that girls at the SIHS were "loose." The SIHS administrators became aware of this problem and ensured that proper discipline was maintained, but the perceptions linger.

There were also problems at SIHS with supporting services necessary for training nurses. SIHS students were supposed to undertake their hospital training at the Mbabane Hospital, but the physical plant was in decay and the staff were overworked and inadequately trained to train students themselves. The students were looked upon as a burden and a threat simultaneously. A burden because they could not relieve much of the workload, yet required teaching and supervision. A threat because the students were better trained, and more up to date than the staff, and the students had been taught to ask questions. SIHS staff had been given advanced training and promotions and were affiliated with an institution that was rapidly gaining a good reputation. Moreover, the SIHS staff had escaped the drudgery of working long hours under adverse conditions without equipment as the Mbabane Hospital nurses were required to do. Finally, the line of succession to the highest nursing position in the country, Chief Nursing Officer, seemed to have been set aside for the principal

tutor at the Institute. This situation may change as hospital nurses are given opportunities for in-service training and as the physical plant of the hospital improves, but the resentment is still immediate.

This resistance to a new kind of nurse training resulted in SIHS's being evaluated twice in the early days, once by WHO and once by an external accreditation board (comprised of a representative from South Africa and one from the Nursing Examination Board of Botswana, Lesotho, and Swaziland). Accreditation was made provisional because of the poor state of Mbabane Hospital, but the bottom line was that SIHS would be allowed to adopt its new "American" nursing curriculum.

The SIHS had some of its own problems starting up. While the building and facilities were good, the staff was small and transport to and from training sites was insufficient. Both problems were exacerbated when the health inspectorate program was added and have become major roadblocks to getting the nursing students to the clinics for practical training and even to Raleigh Fitkin Memorial Hospital, where they do their surgical training.

The Institute has now earned professional respect because of the so-called "scientific" curriculum, the quality of students, and the internationally qualified staff who returned from



training in the United States. An inherent advantage of the Institute was that it was a Swazi organization, run by the government, and staffed by Swazis with advanced training. One should not underestimate the importance of pride as a determinant of its success. The Institute also had strong support in the upper levels of the Ministry of Health which helped it weather the storms of criticism, much of which came from within the Ministry itself. Most important, however, the Institute had a strong hard-working staff that believed in the Institute and wanted particularly to elevate the status of nursing.

Today many of these same issues remain. SIHS graduates are still thought to be "green" when they graduate--they still need practical experience. Yet some clinic supervisors feel SIHS graduates are better nurses after a year or so in practice, than are graduates of NNC.

Notwithstanding this respect, there are some serious questions concerning whether Swaziland can afford the large number of registered nurses currently being produced and whether that level of personnel is most effective in extending the preventive and promotive services to the rural areas. Earlier analysis had recommended using a large number of auxiliary nurses in place of registered nurses. In order to reduce the output of RNs, the RFM nursing school was supposed to begin training 2-year auxiliary nurses. The recent World Bank health sector assessment also questions whether Swaziland can afford to use RNs.

All of these problems notwithstanding, SIHS has without question had some important impacts on the training and status of nurses in Swaziland. The Nazarene Nursing College is now moving its curriculum from practical to more "scientific" training. The nursing council has been revitalized. The Department of Establishments and Training has made some small changes in grading and staffing to accommodate more highly trained nurses. The MOH feels that more changes are needed and is pushing for more incentives for clinic and public health nurses. Applicants to SIHS have increased and the quality of students has improved.

The future holds many challenges for SIHS. The Government must determine to what degree the Institute will be an academic institution instead of a service organization; how autonomous it can and should be in the face of the desire for control by the Ministry of Health; what transcendent goal will sustain the Institute after the pioneers of the staff have retired. These issues must be resolved over the next few years if the Institute is to remain a coherent and cohesive organization.

More seriously, the economic viability of this manpower strategy may call into question the viability of the SIHS. Given the size of the nursing corps, changes in one pay scale and numbers of nurses will exert strong pressure on the MOH budget. The upward creep in academic credentials may at once increase the cost and reduce the effectiveness of the health care system.

4.2 Long-Term Viability of Swaziland Institute of Health Sciences To Continue To Train Personnel To Meet Health Care Needs

A number of factors bear on the viability of SIHS to train health care personnel over the long run. The most important of these include (1) the degree of institutionalization that will make SIHS an "engine of development" in the health care system; (2) linkages SIHS has established with key elements in the society; and (3) factors external to the Institute, primarily budget support from GOS and contributions from donors in the future. Attention will now be turned to each of these. (Details of the institution building analysis can be found in Appendix B.)

4.2.1 Institutionalization of SIHS

Several items of evidence suggest that SIHS is a permanent part of the Swaziland health care system. These include its record of performance via its production of graduates; the influence it exerts not only on the MOH but also on the other health education institutions in the country; a well trained, committed faculty; plans to continue sending young faculty members abroad for advanced training; and a well-equipped physical facility.

Few, if any institutions, have all characteristics of permanent institutionalization. SIHS is no exception. The "verdict is not yet in" with regard to its propensity to change as the health care training needs of the country change, its perception of its opportunities as they adjust through time, its ability to capture funds from both GOS and external sources, and its ability to formulate a doctrine that will both motivate its faculty/graduates and connote a sense of value to the larger society.

On balance, SIHS appears to be as well institutionalized as could be expected at this stage of its relatively short history. Nevertheless, major strengths and weaknesses included in the above lists warrant elaboration. Attention will be turned initially to the most important strengths.

One of SIHS's noteworthy characteristics is its productivity. It has been training health workers. Moreover, it has been training these personnel so that they have more training in the basic health sciences than others trained in the country. Hence, a discernable degree of pride has been imparted to its graduates.<sup>7</sup> Insofar as the value of an educational institution

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<sup>7</sup>While this sense of pride that "we are the best" can be a strong motivational force because of its tendency to become a self-fulfilling prophecy, it carries with it a potential danger. That is the danger of producing a group of elites that underutilize their potential for contributing to the development of the health care system.

is largely derived from the contribution its graduates make to society, SIHS has the initial characteristics of becoming infused with value. However, the graduates are relatively recent and, hence, additional time will be required to determine the degree to which this value infusion will ultimately exist. Unfortunately, the SIHS productivity may be contributing to the oversupply of nurses in the absence of any efforts to reduce the output of the Nazarene Nursing College.

SIHS appears to exert an appreciable amount of influence on MOH. Given that (1) nurses represent the "backbone" of the health care system and (2) SIHS has the reputation of being a higher status health education program in the country, there are good reasons for this influence to exist. Added to these factors are the well-trained faculty and personally respected formal leaders of the Institute. The end result is that SIHS may have more influence than even its staff realize it has. However, influence must be well managed or it becomes a fleeting thing. Influence management will be a major challenge to the Institute's leadership in the future.

Two major characteristics of the Institute that have not been fully clarified are its flexibility and its doctrine. The flexibility issue concerns its willingness to change and its perceptions of the subjective opportunities open to it. In its most obvious form this turns on the question of whether its primary

objective is to educate a professional woman who perceives herself as a member of an elite nurse corp or whether its objective is broader, that is to train health care professionals in accord with the society's needs. At stake are such things as breadth of program, service orientation, and flexibility to adjust to the evolving needs of a developing country.

Closely related is the need for clarification of the institution's doctrine. This is probably the greatest single deficiency of SIHS at present and, as such, the greatest threat to its more complete institutionalization. Although its Bulletin, indicates that the Institute's purpose is to train paramedicals to meet the health needs of Swazilands, this has not been translated into a slogan or similar normative statement of goals. The de facto doctrine of the Institute thus far appears to be an amalgamation of several concepts--giving nursing a sense of professionalism and dignity, imparting a service motivation to filling clinic posts, and providing diagnostic skills that are not being taught elsewhere in the country. In this form the "doctrine" has limited value. It is of limited value as a motivational force at the present stage of the Institute's development. It is of limited value as a means of expressing its basic mission to the larger society. It is of limited value in garnering future support in meeting its need to become further infused with value. Worst of all, in its present form it may

allow the Institute to "rest on its laurels" rather than serve as an "engine of development" in the entire health care system. The ability of the Institute to come to grips with the issue of doctrine will likely determine more than any other factor its sustainability.

The Institute possesses a surprisingly well-developed set of linkages with others in the society, given its short history. Its linkages with other health care educational institutions appear to have resolved a variety of potential problems. Its relationship to MOH has already been mentioned. However, the linkage it has with the Department of Establishments and Training does not appear to be as well developed. Likewise, its linkages with the cadre of ministers in Parliament most interested in the health care system may require additional management in the future. Finally, the Institute's diffuse linkages, i.e., relationships with the general public, appear to be embryonic but growing. On balance, although some linkages are in place, linkage management is likely to occupy much of the energy of the formal leaders, whose numbers will have to be increased, of the Institute in the future.

#### 4.2.2 Factors External to SIHS

Like most other public sector institutions, SIHS is subject to a variety of factors largely beyond its control. The most telling of all of these is the question of budget support for the Institute.

As suggested above in the discussion of the project setting, the budget prospects of the GOS are not particularly encouraging. The forecasted decline in per capita income, if it does occur, would mean a shift in the mix of public and private sector activities in favor of the former would be required to maintain a constant per capita expenditure by government. Obviously, this would not be a desirable environment in which an institution would have to raise its budget. Further, the economic ties that Swaziland has with the Republic of South Africa introduce another uncertainty over which GOS has little if any control. Finally, SIHS's existence in the health sector means it must compete with compelling alternative uses of funds. For example, the need for funds to deal with a highly publicized drug shortage represents strong competition, indeed, for funds for SIHS. Clearly, the SIHS may be faced with a more difficult struggle for funds in the future than it has had to cope with in the past. If the economic shutdown worsens, the SIHS may need to appeal to the private sector for support and make itself a leaner more responsive institu-



tion to meet the minimal training needs of Swaziland. Of particular importance in this respect is the economic viability of the current manpower strategy. Tradeoffs between drugs or hospital and clinic expenses are one concern, but another equally serious concern is the most cost-effective mix of personnel to reach MOH goals. If, as mentioned above, the overall nurse training program in Swaziland (SIHS, Nazarene Nursing College, and the Good Shepherd Nurse Auxiliary program) is overproducing expensive registered nurses and underproducing auxiliary nurses, the personnel costs may be covered at the expense of drugs, clinics, and outreach. Moreover, if the nurse assistants are the most important service of preventive and promotive medicine in the clinics, this imbalance in training could jeopardize the impact of the health system on basic health indicators.

A final external variable that must be considered is the future role of donor agencies. Given their number and past importance as a source of resources, they introduce another source of uncertainty into the support picture. The matter is not as simple as just how many external resources will SIHS be able to acquire, but it also includes the question of the flow and integration of those resources to other parts of MOH and to the rest of government in general. If strong donor support continues to be forthcoming, resources are likely to be freed within government for which SIHS could compete. While there appears to

be ample evidence that this will be the case, the uncertainty that surrounds this source of funds needs to be recognized.

#### 4.3 Impacts on the Health Care System

Although all health projects have the ultimate goal of improving health status there are a number of reasons why measuring impact on health status is not most appropriate at this time. First, this is a health project and less than a year has elapsed since its termination. Changes in health status, e.g., changes in mortality and life expectancy, do not come about quickly. Second, major activities to date in this project have been training, not service delivery. Little time has elapsed since the first trainees from the SIHS completed their program and took their positions in the health care system and they have been placed in hospitals for the most part. To some extent therefore, it is more plausible to look at program execution indicators in our evaluation. And, third, there are no reliable health status baseline data against which to assess change. This applies substantially to coverage and utilization data as well.

On the other hand, it is possible to examine certain program execution variables, and the process or means by which rural health services are delivered to the target population, and to evaluate the actual and potential role of the SIHS in that pro-

cess. The process is as important as, if not more important than, the impact itself since without an effective process there will be little chance of impact in the future.

One indicator of impact or potential for impact, is the extent to which SIHS graduates (1) are employed in the fields for which they have qualified, and (2) are located in rural areas where they have an opportunity for making the greatest impact. Table E-1 presents SIHS graduates by field of training and employment sector. Because of the emphasis on the training of nurses, most of the discussion following will be on this cadre.

Focusing on the nurse cadre, it can be seen that approximately two-thirds of them are not posted to the rural clinics. This is in contrast to the stated objectives of the project where it was planned that one "new" nurse would be available for every clinic by 1985. If the nurses are posted in hospitals their potential for significant impact is dramatically curtailed.

What accounts for this distribution? Personnel practices are responsible to some extent. The general policy is that first assignments will be to hospitals. First assignments are the responsibility of the Chief Nursing Officer. Once the graduates are placed in a hospital, the matron of the hospital has control. As staffing needs arise in individual clinics, the matron sends nurses from the hospital. Since there has always been a shortage

of nurses, most clinics have only one nurse. Once placed in a clinic a nurse may find herself "forgotten" if she is doing a satisfactory job. Personnel practices appear more reactive than proactive.

Table 2. Employment of SIHS Graduates, by Field of Training and Employment Sector, June 1985

Employment Sector	Category of Training		
	Nurses	Health Inspectors	Dental Hygienists
Government Clinics or Health Centers	14	9	3
Hospital Out-Patient Units or Wards	71	6	5
Mission, Industrial, and other Clinics	3	0	1
Public Health Units	16	4	2
Private Nurses	0	0	0
Private M.D.	0	0	0
Tuberculosis Center	1	1	0
Other	<u>6</u>	<u>3</u>	<u>2</u>
Totals	111	23	13

Nurses' attitudes and preferences are also given as an explanation for this concentration in hospitals. We did not explore this area systematically. On the one hand we were told

by a placement specialist that nurses find rural clinic service unattractive, that they prefer to stay in the most urban environment. (He made no distinction among nurses by background training in this regard, but neither did we query him on this). The specialist further indicated that although a "tour" is supposed to be 2 years, he has found it reduced by the matron to 1 year in response to nurses' dislike.

On the other hand, in a focused group interview with seven SIHS students, six of the students responded that they preferred to work in rural clinics. The seventh student said she preferred to work in a hospital, but wouldn't mind a rural setting. They elaborated on their responses saying that the cost of living is lower in rural areas and that living conditions are being improved there, that there was a greater opportunity to practice preventive and promotive care, and that they wanted to teach the communities about such things as what they should grow.

A systematic evaluation conducted in 1983<sup>8</sup> concluded that "the great majority of Nurse Practitioner trained clinic nurses were quite satisfied with their positions." This in spite of sometimes difficult working conditions and family problems, espe-

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<sup>8</sup>Salveig Jensen and Bjarne Jensen, The Community Health Project: An Evaluation of Clinic Nurses' Job Performance and Assessment of the Community Health Project (Mbabane, Swaziland: Swaziland Institute of Health Sciences, January 1984), p. 15.

cially caused by schooling of older children and a husband working in another location. In their future plans, nurse practitioners gave high priority to the possibilities for continuing education, and for some also the possibility of promotion."

Our visits to rural clinics and hospitals left us with the distinct impression that clinic nurses derived a great deal of satisfaction from the responsibilities they experienced. They enjoyed being in charge. On the other hand they were frustrated by lack of supplies and equipment. Accommodations were less frequently cited, but were a problem in some cases.

A final point should be made in regard to employment posting. The backgrounds and experience of the students prior to their training at SIHS undoubtedly has a significant effect on their posting preferences. Nurse practitioners (who have had quite long employment before attending SIHS), probably had family ties and a natural connection to the community in which they worked. Those students coming into the Institute for basic nursing directly from secondary schools may bring different attitudes and expectations.

#### 4.3.1 Health Status

While changes in health status between 1979 and 1985 were not measured and would be difficult to attribute to the training project in any case, it is possible to hypothesize how the Institute of Health Sciences might affect basic health indicators of Swaziland.

First, the health services would have to be accessible. It is estimated that only 70% of the population lives within 5 km of a static-health facility so accessibility would be a problem regardless of the training program. Rural health motivators to some degree should be able to compensate for physical inaccessibility, but the RHM program is at present not functioning well and contributes little to the real extension services. Economic access to health care (including the opportunity cost of making a visit) may also be constrained --by women's time constraints. The monetary cost is probably not a constraint since evidence indicates that people pay considerably higher prices for traditional healers than for modern health care. Moreover, the real price of government health services-- notwithstanding the recent price "rationalizing" between public and religious services-- has not risen appreciably in the last 10 years. Insofar as additional (some say surplus) nurses enable the government to make health care accessible to that 30% which

now lives beyond an hour's walk of a static facility, the SIHS will contribute to accessibility. The deployment of graduates continues as it has, however, the SIHS will not contribute to improved access but rather will further encumber the hospitals with increased recurrent costs.

Second, the services have to be used. Recent studies of health seeking behavior in Swaziland indicate that traditional medicine is often preferred to modern medicine. Furthermore, Mission clinics may be preferred to government clinics, and hospital-based care preferred to clinic- or health- center based care. Part of this preference set is simply due to better quality (drugs are available, they see a doctor instead of a nurse, the preferred clinics may be better run) but some of it is impressionistic and perhaps could be changed. The training of nurses could change both the quality and the perceptions of quality of government clinics. There is little evidence with which to test this hypothesis, however.

Finally, the services provided need to be appropriate to making an impact on health and child survival. At present, the health system is devoting most of its resources to curative care --both in hospitals and clinics. Without attention to promotive and preventive health care, infant and child mortality, life expectancy, nutritional status, and birth rates are unlikely to improve. The inefficient isolation of public health from the



line of responsibility in the clinics contributes to this low priority. It may well be that the personnel strategy of two registered nurses per clinic rather than one registered nurse and two auxiliary nurses also exacerbates the problem. The training of SIHS nurses could conceivably exacerbate this problem as well --most of the training is curative medicine and hospital oriented. The solution proposed by the SIHS and USAID-- to train a new cadre of Public Health Nurses-- is an expensive and possibly ineffective way of solving the problem. Expensive compared to the auxiliary nurse option; ineffective because of the structure of the health system which isolates the public health clinics and public health nursing corps from the mainstream.

In summary, no impact is evident to date and we doubt the training program per se will have a positive impact on health indicators. Absent changes in utilization of paramedical staff, perceptions of quality, and the curative/preventive emphasis, it is unlikely that SIHS can have such positive effects.

#### 4.3.2 Overall Health Care Strategy and Organization of Health Services

Undoubtedly, the successful implementation of the SIHS has facilitated the ability of the MOH to effectively decentralize health services and to strengthen the country's rural health care

program. Although the main benefits are still to be realized, the SIHS will provide the significant cadre of nursing and other personnel to staff rural health facilities, both to provide curative services and to more effectively organize, train and supervise rural health workers, particularly those at the community level.

#### 4.3.3 Demand and Utilization of Health Services

Again, no statistically reliable data exist on which to assess the impact of the project on demand for health care and utilization of services. Preliminary reports from various categories of health facilities show increasing numbers of patients seen, but these visits continue to be overwhelmingly for curative care. Specific factors contributing to this need to be studied more thoroughly, now that more reliable data will be available.

#### 4.3.4 Availability and Accessibility of Health Services

Presuming that cadres trained by SIHS increase in numbers and provide services that meet the needs of Swazi citizens, there may be an increase in the availability and accessibility of health services. In addition to utilization data, it would be good to look at the ratio of reattendances to first visits. The ratio of reattendances to first visits should increase.

#### 4.3.5 System Components

Health Information System. The project played a significant role by providing technical assistance in the strengthening, modernizing and expanding of the health information system. The present system has the capability to record and analyze health-related data with increased speed, accuracy and relevance. This could improve disease surveillance, provide better data for planning health care, strengthen decision making and management with respect to health care programs, and will improve resource allocations and control, but only if complementary improvements are made in health planning and decision-making.

Facilities and Services. The SIHS has improved and upgraded the ability of nursing and other health personnel to implement some of the country's health care strategy by more effectively staffing facilities and providing appropriate services but this expertise is concentrated exclusively on curative care. However, lack of drugs, supplies, equipment, adequate maintenance and transport still seriously handicaps the system. The medical staff of the Mbabane Government Hospital has been upgraded and the physical facilities improved, in large part to provide a better teaching and learning environment for students.

Human Resources. The SIHS increased both the quantity and quality of the cadres of clinic-based health professionals

trained. Previously unavailable categories of health workers such as family nurse practitioners and community mental health nurses are being trained. While Government has not absorbed all graduates when trained, because of private demand as well as public funding and other constraints, the graduates have entered the country's health system thus contributing to the overall social welfare.

There has been a profound impact on the nursing profession in Swaziland. The status and self-image of nurses as a professional cadre has been elevated, while at the same time the elitism and obsession with credentials may be detrimental to the practice of community health care, particularly preventive care. However, some competition and strain has become evident with respect to SIHS and the NNC at RFM. As a result of a number of factors, Government has become increasingly involved in financing and in other respects has greater influence on RFM than in the past. Beneficial changes are being made in the NNC nurses training program. These changes largely have been stimulated by SIHS which serves as a model, at least so far as technical training is concerned.

The training of SIHS nursing students has created some stresses and strains. Not all hospital and clinic nurses have teaching skills and some complain they have insufficient time to perform their usual functions and supervise students. On

balance, however, supervising matrons report that the training of students has improved the functioning of staff nurses by stimulating them to become role models.

There has, however, been little impact on preventive health care.

#### 4.4 Impacts on Outreach

An essential component of any primary health care project is involving the community in the health care delivery system and motivating the target group to utilize the services. There are several aspects of the health system that encourage outreach:

1. Incentives for health cadres to work with communities
2. Training in communication and community motivation
3. Availability of adequate numbers of personnel at appropriate levels
4. Ability of the system to meet perceived needs of the population served
5. Willingness of the community to be reached

The Swaziland Institute of Health Sciences has been training many cadres of health workers who can and should be making links to the community. Clinic nurses are supposed to work directly with community health committees to solicit advice from local leaders and work with them to solve health problems of importance

to the community. This community orientation was not universal, by any means. In addition, clinic nurses and public health nurses are supposed to work with the Rural Health Motivators (RHMs) who are selected by their communities to provide outreach. The RHMs were originally envisioned to provide motivation as well as first aid in their communities, but the system is not working well and there is not universal agreement on what they should do. Nurses in some clinics use RHMs effectively to increase completions of immunization series yet in other clinics the RHMs are completely unutilized. While in one clinic, RHMs were regularly given medical supplies by the nurse, in another they had not received any supplies for 5 years because of resupply failures and in yet another area the nurses had made a unilateral decision not to give even aspirin to RHMs for fear that this would delay or avert the sick person's visit to the clinic. Lack of training, supervision and transport for RHMs has been a major constraint to effective utilization of that cadre. Much work remains to be done on training and utilizing RHMs to be consistent with community demands.

The Health Inspectors are also supposed to work along with health assistants to educate the community about public health, especially water and sanitation. The severe shortage of health assistants and transport problems have significantly limited community outreach by these workers.

Given these cadres and other medical auxiliaries who might be trained in the future at SIHS, it is important that SIHS consciously address the outreach issue. At this point, however, neither the curriculum nor the practical rotations adequately develop the student's skills in this area. The philosophy and interest of the staff is certainly in the right place but this is not adequately reflected in curriculum or practical experience.

Therefore, the team concluded that the Institute has not had a direct impact on outreach to the ultimate beneficiary. It has, however, might have had a minor indirect impact through increasing the supply of nurses and improving the quality of curative care.

Motivation and skills for working with the community appear to be idiosyncratic: some nurses have done it by themselves without being directed to do so. Outreach is, however, much too important to be left to individuals and must be inculcated in students throughout the training process. One might hypothesize that the Institute, because of its image in the Swazi Nursing Community, might attract students who are more likely to have these outreach skills. This could not be tested by the group, however. One might just as easily posit the converse: that SIHS because of its status as a more scientific training program than the Nazarene Nursing College, might attract the more credential-oriented clinical students, not the community-oriented ones.

Interviews with students and staff indicated a strong professed interest of the students in working in the rural areas but this interest has not yet been evidenced in the personnel system because the civil service still finds it difficult to fill rural clinic posts. Some have explained this discrepancy by stating that the SIHS graduates are new and have not gotten into the system yet because of the MOH policy of placing all new nursing graduates in hospitals. They also feel that past trends are not indicative because the Nazarene Nursing College (the only nursing college in Swaziland until the Institute was built) never gave students practical experience in clinics whereas the SIHS students spend half of their practicals in clinics. The logic is that ignorance is fear and once students know what it is like to work in a clinic they are happy to do so.

The SIHS may have directly contributed to the provision of services that are of enhanced value to the community by improving the training of health workers. One evaluation found that the Nurse Practitioners upgraded by SIHS provided better quality care, increased their community activities, and had better convinced the community that health clinics could treat all diseases<sup>9</sup> (traditional healers are more accessible and frequently preferable to modern medicine in many areas of the country than nurses).

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<sup>9</sup>Jensen and Jensen.



One key intermediate variable between the Institute and its effect on outreach is the effectiveness of the health system in general. A worker loses credibility and trust of the community if supplies run out or the worker is unable to provide services for lack of equipment. Inadequate transport, supervision and record keeping are also impediments to improved care. Because of the general weaknesses of the system, it is unfair to attribute low levels of community participation to the training of health workers alone--such training under these circumstances can at best be facilitative.

In summary, the Institute to date has not had a direct impact on outreach but it could have impact in the future through curriculum changes and increased practical experience. The Institute may have had an indirect effect on outreach but this remains largely unmeasured and uneven.

#### 4.5 Impacts on Health Policies

Before discussing the health policy environment it is important to describe the dual government structures which determine the policy making process. The traditional government not only has an autonomous power structure but also a source of revenues separate from the modern government's.

The traditional government intersects with the modern bureaucracy at the service delivery end--chiefs exert their influ-

ence to persuade the modern government to put a school, health clinic or water system in their area--and at the King, but other points of interaction exist on an informal basis only.

The modern government--that with which AID usually deals--is in many ways peripheral to the more important traditional system. Except for consideration of the national budget, Parliament seems to have very little power beyond rubber stamping what the Ligogo has already approved. The Parliament's control over the budget derives from the complexity of the subject and the apparent lack of interest by the traditional bureaucracy.

Within the Swazi context described above, it is not difficult to understand why policy decisions in the modern government are often ad hoc, based on informal relationships, and dependent upon personal negotiating skills of upper level bureaucrats and technocrats. The apparent lack of interest in the modern government by the traditional power structure may have facilitated the enactment of several health policies which other countries have found politically very difficult to bring about, namely, the increase in the fees for government health facilities (albeit matched by a decrease in fees for mission facilities) and the move to decentralization of health planning and administration.

In 1984 the Government raised the price of government hospitals and clinics from E0.20-.30 to E1.00. At the same time,

mission-run health care was reduced in price to E1.00 and the shortfall made up by government subvention. This changing fee structure apparently caused an increased caseload at mission facilities as well as increased costs.

The movement to decentralize health care has been afoot since 1975. At present the government is in the early stages of the process. The government is making slow but definite progress toward this end. It has organized regional meetings to identify key problems and begun to educate headquarters personnel about divesting their responsibilities. Issues of decentralization of budgetary and personnel functions are yet to be resolved among Ministries but the MOH appears to be firmly committed to complete decentralization.

One formal policy which has not changed since 1975 is the goal to shift the emphasis in the health system from curative to preventive care. In reality, however, none of the planned policy statements to this effect have been matched by budget shifts (see Table 3).<sup>10</sup> Some informants stated that motivation to make this shift is present now while it was not in the past and that the existence of a policy will help them make structural changes in the health system. This could not be verified in budgetary allocations, however.

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<sup>10</sup>See Gish and Government of Swaziland, "Health Implementation Plan."

Table 3. Swaziland Ministry of Health Recurrent Expenditures  
for Selected Programs  
(as percentage of total MOH recurrent expenditures)

Programs	1976/ 1977	1977/ 1978	1978/ 1979	1979/ 1980	1980/ 1981	1981/ 1982	1982/ 1983	1983/ 1984
Transfers, Internal		11.2	8.3	8.2	11.1	14.6	17.5	17.2
Preventive Medicine	13.4	14.0	13.8	14.5	14.2	12.6	11.4	11.3
Curative Medicine	69.4	62.9	67.3	66.7	62.2	58.8	57.1	61.1
Consumables, Curative		20.8	23.8	26.7	25.3	20.2	25.8	22.3
Total Recurrent Expenditures:								
as % of GOS Recurrent Expenditures	8.3	8.6	8.1	8.0	8.1	7.5	8.2	
as % of Gross Domestic Product	2.0	2.0	1.8	1.8	2.0	1.8	2.4	
Per Capita (constant 1970 prices; est.)	5.15	5.51	5.53	5.39	5.99	6.27	7.733	7.98

Note: The resident population of Swaziland is taken to be 635,000 in 1984, with an average annual growth rate of 3.5 percent (1976-1984). The deflator for 1970 constant prices is the Retail Price Index 'A' for Mbabane, Health and Education component.

Sources: Calculated from data appearing in Treasury Annual Reports, various years; Annual Statistical Bulletin, CSO, Swaziland, various years; International Monetary Fund, 1982; 1982/1983 and 1983/1984 Ministry of Health Expenditure Data from Planning Unit, MOH.

Personnel policies have also changed in recent years, in particular the grading of nurses and health inspectors, the size of civil service health corps, and the staffing of clinics. Nurses are now more differentiated by education levels than previously and more changes are apparently under consideration. While a nurse used to enter at a level 13, she can now enter as a 14 if she has a 4-year diploma. The number of nurses and nursing assistants have also grown significantly since 1975 (see Table 3). There was also a change in the number and recommended staffing pattern of health clinics. The old staffing pattern allowed one nurse per clinic; the new plan calls for a public health nurse, a nurse practitioner, and a nurse assistant in the average clinic. The ideal staffing pattern is fulfilled only rarely in reality, in large part because of its fiscal ramifications on a national scale.

The general support for health, as evidenced by MOH's share of the government budget, has not changed significantly between 1975 and 1985. Its share of the recurrent budget has not changed either, nor has the relative strength of curative care, unfortunately. Last fiscal year MOH was given an increased budget although most other ministries were not. This seems to have been due to public outrage over food and drug shortages at Mbabane Hospital rather than from political priority for health.

The impact of the Health Manpower Training Project on these policy changes is difficult to assess, but at best it was indirect. Presumably, the project's health administrator might have moved the decentralization movement along but no tracks were left and any such effect would have been overwhelmed by self-generated activities in the MOH and the impact of the current U.S.-funded International Human Assistance Program (IHAP) project which is concentrating all of its attention on decentralization. That the Institute of Health Sciences is graduating students presumably destined for clinics and rural delivery may facilitate the process of decentralization but certainly is not a major promotive force.

The cost recovery issue is not yet settled although rationalizing the public/private fee structure was an important first step. The increased cadre of publicly employed health workers graduating from SIHS, makes resolution of the cost issue more urgent but cannot in any direct way be said to affect those policy deliberations. Once again, the health and hospital administrators on the Health Manpower Training project may have identified and highlighted the need for better cost recovery, but their effects (undetected by the team) were undoubtedly superseded by the IHAP project and other consultants brought in by AID to examine that issue specifically.

Perhaps the most clear impact of the project on policies has been that on grading and staffing. SIHS has lobbied the Ministry

of Health as well as the Department of Establishments and Training to upgrade and differentiate levels of nurses. Because of the size of the nursing corps, even minor changes in entry levels have major budgetary implications. The Ministry of Health has also engaged in an unspoken policy of overproducing health workers relative to civil service slots, in order to push the Department of Establishments and Training to allocate more positions to the MOH.

Graduating a large number of clinic-oriented health personnel (nurses with diagnostic skills, community health nurses, health inspectors) coupled with the government investment in those students (half of which can be recovered by employing the graduates) by its sheer weight may have encouraged policymakers to have more graduates but not necessarily in rural preventive health care. The placement policy has been to put recent nursing graduates in hospitals for 1 or 2 years after graduation in order to get practical experience before being sent to the rural areas. Since only two SIHS nursing classes have graduated, few have yet been posted in rural areas and it is difficult to conclude that the Institute has had an impact on these policies. This may become an important factor in the future.

The SIHS seems to have raised the visibility of health care in general, and thereby revealed many of its flaws. For instance, some of the problems of the Mbabane Hospital, where the

students train, have become too visible to ignore because of the flow of students, staff and consultants who make public its short-comings.

The Institute is a source of national pride--it is a Swazi institution that graduates technically competent and confident nurses. In spite of internecine quarrels within the nursing community, SIHS gives the casual observer the impression that it puts out the best and the brightest nurses. This may have contributed to the general support for the MOH budget and last year's increase. This linkage was not verified, only concluded based on subjective statements of several informants.

How has the SIHS been able to affect national policies? We postulate several mechanisms:

1. Through generation of more graduates
2. Through generation of "better qualified" graduates
3. Through its vocal, academically respected Swazi staff
4. Through its access to media, especially in the early years
5. Through strong interest by the top management of MOH
6. Through informal political ties of the staff
7. Through working with traditional political leaders before the Institute was built to create a constituency

In the final analysis, however, the policy impact of the SIHS lies much more in the future than in the past. How well the



Institute develops its constituency within the Ministry of Health will determine employment of graduates which in turn will generate new or renewed support for the Institute. If the Institute chooses to become a University based academic training institution, it will perforce reduce its capacity to respond to national health needs for lower level workers.

5. AN UNRESOLVED ISSUE: THE ECONOMIC VIABILITY OF  
THE HEALTH SYSTEM

This evaluation team could not adequately address the economics of the health system. All indications are, however, that the government-supported health care system has serious economic problems. While Swaziland spends more on health than its neighbors Lesotho and Botswana, its health indicators are worse. With respect to the Swaziland Institute of Health Sciences, the team was unable to evaluate the extent to which the Institute as part of the overall training capability of the country, was transferring an unbearable load to the public sector. The Gish analysis had recommended converting the Nazarene Nursing College into an auxiliary nurse training program, and not increasing the annual output of registered nurses. This rationale was that auxiliary nurses were less expensive and more able to undertake preventive and promotive work than registered nurses. Somehow, this recommendation was lost and both the Swazi health plan and

the AID project proposed greatly increased numbers of registered nurses. The ideal clinic staffing was changed from one RN and two auxiliaries (Gish) to two RNs and one auxiliary (MOH and AID).

The implications of that change for recurrent costs, preventive versus curative orientation, and outreach require further analysis which this team could not provide.

## 6. CONCLUSIONS

1. The Institute of Health Sciences appears to be a sustainable, highly respected institution that can be very useful in addressing the health manpower needs of Swaziland. In the near future, the Institute faces several tests of its identity and sustainability, in particular the balance between academic orientation and responsiveness to Swaziland's health needs; the balance between teaching nurses and teaching other health auxiliaries; and the relationships among SIHS, the Nazarene Nursing College, the Good Shepherd Nurse Assistant Training Program, and other actual and potential health manpower training institutions. Resolution of these issues must consider the relative strengths of SIHS and other institutions, preferences of SIHS faculty, national needs, and priorities of relevant decision makers in the MOH.

2. The Institute has facilitated a shift from urban hospital-based curative care to more rural, clinic-based preventive care. The numbers of nurses and health inspectors and the orientation conveyed in training have promoted this shift.

3. The Institute has improved the image of nurses because it is scientifically strong and staffed almost entirely by Swazis who have received advanced training of international standards. Because change is often accompanied by opposition and controversy, care must be exercised to prevent this excellence from becoming a divisive force in the nursing community. This tension should be channelled toward improving the quality of related training programs. Attention needs to be paid to collaboration and integration of training programs.

4. SIHS has graduated over 50 new nurses and upgraded 60 nurse practitioners at a time when there is a serious shortage of nurses. This in turn has facilitated increased staffing of rural clinics.

5. SIHS has indirectly promoted improvements in Mbabane Government Hospital (increased numbers of physician specialists, construction of a new surgical theatre). This impact can be traced to the accreditation problems, increased public exposure to the conditions (through consultant's reports and increased numbers of policy makers passing through), and the increased

status accorded to a teaching hospital. Even with these improvements, however, the hospital remains a grossly inadequate training facility in addition to its weaknesses as a health care institution. The Institute should strengthen its relations with the hospital and consider adding extra faculty for the clinical training in the hospital, and the hospital should appoint nursing tutors.

6. The Institute has not reached its potential for promoting outreach. Realizing that effective outreach depends in large part on factors beyond the control of the Institute (in particular the lack of transportation support), still in all the Institution should include more outreach, health education, and working with Rural Health Motivators in the curriculum and practical experience of students, both nurses and health inspectors. Moreover, the Ministry of Health should facilitate and provide incentive for nurses in clinics to engage in outreach.

7. The statistical component of the original project was successful. Health Statistics have improved markedly since 1980. Due to this improvement, however, it is impossible to compare vital statistics pre and post 1982. Therefore it was impossible to measure impact on health status. Furthermore, it appears that utilization of clinic services has increased significantly while medical supplies have been reduced and the fee structure changed so it would be difficult to attribute any impacts even if one could measure change in health status.

8. Regardless of the quality and quantity of health manpower produced by the Institute, the health system has some dysfunctional elements which limit the potential impact graduates might have on health status. The average population per health facility (8,500-9,000) is far in excess of the WHO recommendation of 5,000 per facility. The low ratio of repeat visits to first visits 1:3) is indicative of low accessibility, poor care, and unmet needs. The MCH system needs to be strengthened; the Institute should start training Public Health Nurses. Clinics should be staffed wherever feasible by a public health nurse and a clinical nurse. The role of the Rural Health Motivator needs to be clarified, training and supervision has to be strengthened, and appropriate linkages made to other health cadres in order to improve their capabilities to provide more meaningful primary health care.

9. As a result of increased manpower output, the Institute has increased the rate of implementation of important health policies (decentralization and increasing priority for rural clinic oriented preventive care) and made more urgent the resolution of the health financing issues.

10. The Institute has directly affected staffing and personnel policies related to health personnel.

11. The Institute has inadequate numbers of teaching staff to cover classroom and clinical teaching and administrative

duties. The Institute should also have a vice principal and department heads who can assume much of the administrative burden of the Institute.

12. The Institute should strengthen its ties to alumni in order to get feedback on curriculum and to enhance the Institute's influence.

## 6. LESSONS LEARNED

1. Timing. In order to garner early support and convey an aura of success, it is important to produce outputs as soon as possible. This means the contractor must stay on schedule and AID should take measures to ensure that.

2. Government Commitment. Key persons in the government in particular need to feel a sense of ownership of the project. It should be seen as a host country effort rather than an AID project.

3. Esprit de Corps. A sense of self-esteem by participants motivates them to work harder for the goals and gives them a pride in the institution.

4. USAID Influence. Key positions must be taken by USAID staff and they must be willing to "pull out all the stops" to support a project in extreme situations. Influencing policies

which affect or are affected by the primary project need to be pushed. It is just as important not to overdo AID influence to the detriment of building linkages-- it must make a project "smart." The continued presence of a competent and enthusiastic health officer in the Mission was crucial to the success of AID's involvement.

5. Participant Training and Transition. Advanced training of local faculty is the most important aspect of sustainable institution building for it builds human capital and makes the institution a local one. It engenders high standards of performance based on international criteria. Technical personnel need to be able to shift from operational to advisory roles, especially in a new institution as the trainees return. Advisers must serve as role models and should be selected for those qualities.

6. Ancillary Support. The effectiveness of a training institution will be greatly enhanced if attention is paid to bringing the capacity of supporting institutions and services up to required levels (hospitals, equipment, staff, and transportation).

7. Linkage Management. Both the establishment and management of linkages among and within institutions requires deliberate attention.

8. Project Focus. AID should be prepared to shift project focus from unsuccessful to successful components based on interim

evaluations. Consider new projects which take up the areas which have been sloughed off. The USAID was better able to address the decentralization issue by dropping it from the SHMTP and designing another project (IHAP) to address only that problem.

9. Student Selection. To produce the best output, a training institution has to devote much attention to recruiting appropriately qualified applicants. It must also be highly selective of faculty to meet long-term institutional goals.

10. Donor Support. It is important to create a comfortable environment for donors to participate in a project in order to facilitate their working together effectively.

11. Feedback. The Institute needs to develop a system for receiving evaluative information from the field to design better curricula and practical experiences, to recruit better students, and to be more responsive to national health needs.



## APPENDIX A

METHODOLOGY

The information used in this evaluation came primarily from review of consultants reports and other documents; interviews with nurses, other health personnel, students and policymakers, and observations at various sites. Some focused interviews were carried out with students at SIHS and with Rural Health Motivators. The team visited \_\_\_\_ clinics, \_\_\_\_ health centers, \_\_\_\_ public health units, and 4 hospitals. The clinics represented all ecological zones and political regions, and were staffed by SIHS graduates as well as NNC graduates. Government, church, and industry clinics were represented. It was not possible to draw a scientific sample of clinics and the actual sample was heavily weighted toward government facilities staffed by SIHS graduates. USAID/Swaziland has in its possession so many consultants reports and analyses of the health problem and these required considerable time to read and digest.

The findings of the team were based primarily on subjective views of individuals affected by the project, but efforts were made to obtain the views of a wide range of individuals at all levels. Wherever possible, hypotheses were checked against existing data from studies or government statistical bulletins and other reports.

## APPENDIX B

INSTITUTION-BUILDING EVALUATION OF  
SWAZILAND INSTITUTE OF HEALTH SCIENCES

by Melvin Blase

The Swaziland Institute of health Sciences (SIHS) appears to be a viable, functioning, sustainable institution. Given the fact that it has been in existence only seven years, this accomplishment represents a remarkable feat. The questions that will be addressed in this appendix deal with the method by which this institution building process was accomplished. Conversely, reasons why it is not more completely institutionalized than it already is will be analyzed. The method of analysis will be to use a systems model of institutional development and performance as the organizing vehicle for the assembling of data concerning the historical development experience of the Institute. Prior to analyzing the data in this framework however, the framework itself must be discussed.

1. FRAMEWORK FOR VIEWING AN INSTITUTION

An institution can be perceived as producing one or more products of value to the using society. Further, an institution can be viewed as a multiphased production process. In it "raw"

inputs are transformed and the resulting intermediate products, in turn, are further transformed in the production of the end products that are injected into the using society. Finally, institutions are resource using organizations. In sum, most institutions can be perceived as multiproduct, multiphased, resource-using organizations. Figure B-1 provides a clearer understanding of this generic perception of an institution.<sup>1</sup>

The systems perspective of institutional development and performance as depicted in Figure B-1 suggests that there are two subsystems involved for most institutions. The first to be considered here is Subsystem B which depicts the final phase of the production process. Subsequently, attention will be turned to Subsystem A.

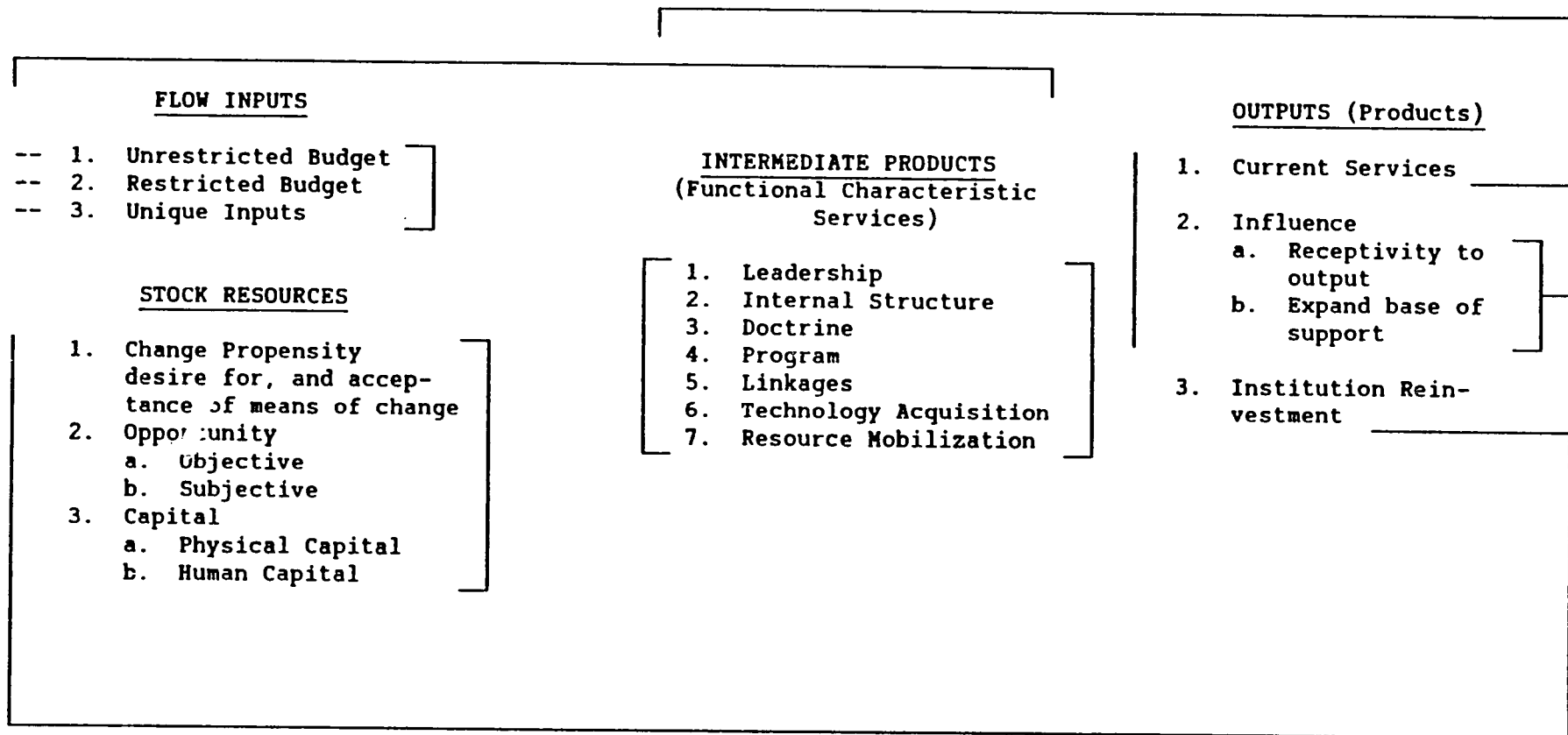
### 1.1 Subsystem B: Production of Final Outputs

Three classes of outputs are depicted in the model. The first two of these are injected into the using society while the third is absorbed into the institution itself as it recycles through time. Each of these three categories of outputs--current

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<sup>1</sup>Numerous definitions of institution abound. It is defined here as organizations infused with value. Although most often found in the public sector, this definition does not limit them in that regard.

Figure B-1. Systems Model of Institution-Building Process



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B-3

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services, influence, and institutional reinvestments--deserves elaboration.

Current services are the outputs which are usually associated with an institution. Universities produce graduates, development banks make loans, research institutions produce findings, etc. This category of outputs is the valued dimension of the institution with regard to the using society. Hence, this is the source from which the value laden dimension of an institution emanates. As used here, institutions differ from organizations with respect to the extent to which they are valued by the using society. The supply of current services that an institution provides the using society largely determines the relative value with which it is held.

Influence is also an output of an institution. In fact, one measure of institutionalization is the amount of influence that it has on its environment relative to the amount of influence that its environment has on it. The process of deliberately producing influence tends to center on two major foci. The first is an effort to influence the environment with regard to improving the receptivity of it to the current service output of the institution. Merely because an institution produces a flow of current services does not necessarily guarantee its sustainability. Rather, a planned effort to expand the base of support via exertion of influence by the institution on its environment is

necessary in order to capture the full component of value that the society attributes to its current service outputs.<sup>2</sup>

Institutional reinvestments are analogous to the research and development (R&D) expenditures made by private firms. They represent investments made by the institution at one point in time with a view toward improving the future capability of the institution. Minimal reinvestments are needed just to maintain the capacity of an institution. Obviously, a growing, expanding one will require more. Especially in these cases, the opportunity costs of institutional reinvestments becomes apparent.

All three categories of outputs share the characteristic of being the product of a transformation of intermediate products within the institution. These intermediate products, frequently referred to as functional characteristic services in the institutional building literature, have value only insofar as they are transformed into the outputs of the institution discussed above. There are seven categories of intermediate products. These are leadership, internal structure, doctrine, program, linkages, technology acquisition, and resource mobilization. Each deserves elaboration.

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<sup>2</sup>In the area of non-market goods this amounts to ascertaining that the "producing" institution is "compensated" for its output. Especially if the production process is initiated by a donor agency, the using society may become accustomed to the current service output being a free good. A valid institution building strategy should provide for use of influence to obtain compensation for the institution.

Leadership within an institution has two components. These are the formal leaders and the informal ones. The development of leadership of both types is a terribly important part of successful institution building. Past evaluation studies have revealed that successful institution building efforts resulted from "smart" projects. That is to say, there is enough leadership to perceive changing circumstances and opportunities so that the institution can adjust over time. Clearly, a profile of both types of leadership is essential in an institution building evaluation.

The internal structure of an institution has a major impact upon the efficiency with which it operates. The process of adjusting and readjusting the internal structure of an institution, usually through a series of trial and error activities, is important in determining the most effective mode for its structure. In addition, the most effective mode may vary as its program adjusts to changing needs.

Doctrine is one of the most illusive intermediate products of an institution. As its philosophy, or "its philosophical superstructure" that justifies its existence, it can serve as a motivational device as well as a guidance mechanism. Frequently, doctrine is manifest in the form of slogans. Doctrine changes slowly and is of crucial importance in determining whether the institution exists for the benefit of a few elites or functions in a service capacity for the entire society.

The program of an institution involves the planning and programming functions combined. The program serves as a manifest of the institution's doctrine or mission that justifies its existence. The program involves combining resources in an effective manner in order to produce outputs valued by the society.

Linkage relationships require effort both for their formation and their maintenance. Any institution exists in a galaxy of other institutions, some of which are supportive and others of which are competitive. The establishment and maintenance of linkages, therefore, is of crucial importance in determining an institution's destiny.

The acquisition of technology in order for an institution to maintain its currency with regard to the state of the art, applies not only to its substantive dimensions, but also to managerial technology. Especially in the Third World, the process of attempting to acquire both types of technology is an expensive and never-ending process.

Resource mobilization involves not only acquiring financial resources, but, perhaps more importantly, attracting capable personnel to the institution. Resource mobilization finds itself manifest ultimately through the exertion of influence on the using society, as well as determining the human capital (staff) that the institution has at its disposal.



## 1.2 Subsystem A

The intermediate products summarized above have one common characteristic: they all require resources. These resources come from two categories. One is a set of flow inputs, the other is a set of stock resources. These interact in the process of producing the intermediate products. Attention will now be turned to flow inputs. Subsequently, stock resources will be discussed.

### 1.2.1 Flow Inputs

The budget dimension of flow inputs is in two parts: the restricted budget and that which is unrestricted. Clearly, not only the amount of the budget but also the relative flexibility of the budget is indicated by the ratio of restricted to unrestricted budget. This ratio is important in indicating the autonomy, an important aspect of institutionalization, of any institution being evaluated.

Each institution has a set of flow inputs that are unique to it. For example, universities must have incoming students, developing banks must have loan applicants, research institutions must have problems posed for analysis, etc. These inputs are unique to the essential nature of the institution.

### 1.2.2 Stock Resources

The three dimensions of stock resources are (1) change propensity, (2) opportunity, and (3) capital. Attention will be turned to them in that order.

The change propensity of an institution is its collective knowledge of, desire for, and acceptance of the means of change. Institutions tend to have collective personalities. Some are very averse to change; others are risk-takers with regard to change. Clearly, the relative freedom from rigidity possessed by an institution is instrumental in determining its responsiveness to the changing needs of the society it serves.

Opportunity can be of two types. Objective opportunities are usually spelled out in the charter of the institution. Perhaps more important, however, is the matter of subjective opportunity. The perceptions of the leadership of the institution with regard to its opportunities to be of service is of crucial importance in determining how dynamic an institution will be over time.

Capital is composed of physical capital and human capital. The former is the physical manifestation of the institution and is what frequently is thought of in the using society when the name of the institution is mentioned. Human capital, however,

is undoubtedly more important in determining the effectiveness of the institution over time. Technical assistance efforts to augment and strengthen this dimension of capital can be expected to be of crucial importance in determining an institution's sustainability over time.

## 2. THE SYSTEMS PERSPECTIVE AS AN ORGANIZATIONAL VEHICLE FOR EVALUATING TECHNICAL ASSISTANCE EFFORTS

An institution has been depicted above as having a set of flow inputs which interact with stock resources to produce a set of intermediate products which, in turn, produce a set of outputs. Two categories of outputs, current services and influence, are injected into the using society while the third, institutional reinvestments, are recycled back into the institution to augment its capability for future production. This perspective of an institution can serve as an organizational vehicle for evaluating the consequences of an assistance intervention designed to make it more sustainable over time. The subsequent parts of this paper deal in detail with these component parts as the model applies to the Swaziland Institute of Health Sciences (SIHS).

## 2.1 Analyzing Components of SIHS by Segments

The four primary component parts of the model--outputs, intermediate products, flow inputs, and stock resources--will now be discussed by component parts. In each case, factors responsible for the degree of sustainability that SIHS enjoys will be identified. Likewise, obstacles that prevent SIHS from being more institutionalized than it already is will be discussed.

### 2.1.1 Outputs

Of the three outputs in the generic model--current services, influence, and institutional reinvestments--the first would appear to be the most obvious and easiest with which to deal. Attention will now be turned to three aspects of SIHS' current services: quantity, quality and timing.

For a relatively young institution SIHS has produced a remarkable number of graduates. In the body of this report, information is presented on the number of graduates by location of employment. In light of the fact that there are less than an estimated 1,000 registered nurses in the entire country, these numbers are impressive. Additional importance needs to be attached to the number of nurses trained in light of the shortage that has existed in the country.<sup>3</sup> Clearly, the output of grad-

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<sup>3</sup>Government of Swaziland, "Health Manpower Needs Assessment, 1983-88," photocopy, June 1983.

uates, especially nurses, has been the noteworthy primary means by which the new institution has become valued by the society. It has established its credibility by transforming its initial promises of production into actual output at a surprisingly early stage in its existence. Noteworthy is the fact that the first class of nurse practitioners completed their year long training program before the building was completed and the first 3-year program of general nursing was initiated. This type of early output may have been the most important factor responsible for the degree of value infusion that the Institute enjoys.

Unfortunately, not all of the output of SIHS has been in high demand. Mention needs to be made of one class of health inspectors who were not all employed upon completion of their program. Due to the fact that the training program and the ability of the public sector to hire this category of health worker were not synchronized, this problem arose. This proved to be a learning experience which has prompted the Institute to be somewhat more cautious in the size of their program offerings. Nevertheless, some problems have been identified with regard to the proper meshing of the Institute's output with the Ministry of Health's demands (requirements). Especially as a consequence of this, the Institute is now represented on the Training and Personnel Management Committee of the Ministry where determinations are made about such things as size of entering classes into

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educational programs.<sup>4</sup>

One category of current service output that is conspicuous by its absence is that of a significant number of publications. Although perhaps too young an institution to be publishing yet in appreciable quantities, this is an output of most dynamic educational institutions. If the Institute is to maintain its academic vitality some publications need to be forthcoming in the future. Such things as textbooks would appear to be a logical by-product of the training programs underway. In addition, the embryonic research function being initiated by some faculty members is highly commendable. There is promise that the publication of research findings may be forthcoming in the future.

The quality of the outputs is worthy of comment. "Nurses with a stethoscope" is used by some to describe the output of the nursing program at SIHS. This means that emphasis in the program has been on subject matter content, especially diagnostic skills. In the process of providing that type of an academic orientation to the training program, emphasis on apprenticeship aspects of hospital nursing has been limited. As a consequence, both favorable and unfavorable comments can be heard concerning

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<sup>4</sup>Noteworthy is the fact that employment opportunities exist in the private sector as well as in the Ministry of Health. This may become a major source of employment for SIHS graduates in the future.

the graduates of the nursing program. On the one hand, the training with emphasis on diagnostic skills prepares nurse graduates for assignments in rural clinics where they have relatively infrequent contact with doctors, sometimes as little as once per month. However, the graduates are frequently faulted for (1) lack of adequate preparation for ward duty in hospitals and (2) their reluctance to "get their hands dirty," partially as a result of the program of training they have received.

Especially with emphasis on the decentralization of health care services in-country, the importance of leadership skills needs to be stressed with regard to the graduates of SIHS. The Gallagher report emphasizes the need for these leadership skills.<sup>5</sup> The importance of being able to not only provide the nursing care in the outlying clinics, but also being able to (1) organize community support,<sup>6</sup> (2) provide leadership for health education programs, and (3) develop a preventive medicine program in rural communities requires capabilities beyond those acquired

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<sup>5</sup>Gallagher, p. 11.

<sup>6</sup>The fostering of support from community committees by graduates in nursing positions in clinics is also indicative of this aspect of influence. Further, the existence of a professional nurses association provides an opportunity for the exertion of emphasis in this area. However, at the same time, there are signals that suggest caution in this area. One is the fact that clinic nurses have recently had to pay for their housing which suggests that this group has had limited influence, although this question is still under discussion.

in traditional preparation for hospital nursing. Hence, the leadership skills that the graduates have acquired, need to be further emphasized in the future.

The final dimension of current services that needs to be emphasized is their timing, as suggested above. Noteworthy is the fact that the institute was initiated in 1978 and the first class of nurse practitioners completed its course of study in 1979. As a consequence of the fourth year program being offered before the three year program was initiated, the Institute had output that was a tangible asset to share with the supporting environment. This is very important in institution building projects, especially for new institutions. Initially, a new institution must obtain support based upon promises that it makes for producing future output. As soon as the output is forthcoming, the credibility of the institution is thereby enhanced. Consequently, not only the magnitude of output but also, perhaps more importantly, the timing of that output in the initial years of the institute was of critical import.

The influence output of SIHS is much more difficult to document than is its output of current services. As indicated above, the categories of output worthy of consideration are (1) those efforts made to increase the receptivity of the using environment to the output of current services, and (2) efforts made via the exertion of influence to expand the base of support for



the institution. Each deserves comment in the case of the Institute.

The demand for the Institute's graduates in most cases has been overwhelming. Especially for nurses where a severe shortage existed, the need for the graduates has been such that little effort has been required to place them. Further, the nature of the training, with emphasis on diagnostic skills, made many of the graduates desirous of clinic assignments. This fact was of considerable assistance in staffing clinics, many of which are isolated and quite distant from urban areas. However, mention has already been made of the fact that in one instance the graduating class of health inspectors had difficulty finding positions. In the future, when the deficit of nurses has been overcome, additional emphasis will need to be placed on exerting influence in this area. Efforts will need to be made to place graduates in order for the program to continue, even with the likely reduced level of output of nurses.

The second type of influence has been obvious in other illustrations. The assumption of budget responsibilities for SIHS by the Ministry of Health provides strong support for the effective use of influence. However, the fact that an estimated 26 percent of the Ministry budget is allocated to one hospital suggests that a considerable amount of emphasis will need to be placed on expanding the base of support for the Institute in the

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future. Further, as the donors further withdraw their support from SIHS according to the planned phase-out, additional effort will be needed in this regard. The transition will serve as a testing period for the strength the Institute has in the Ministry of Health. In contrast to these signs of caution, there are also encouraging indicators. One of these is the fact that one donor from abroad has expressed interest in supporting research in the Institute if faculty has an interest in undertaking it. Further, the high regard with which the formal leadership of the Institute is held in the Ministry of Health suggests that this is an important source of strength. On balance, there is evidence that suggests that mixed signals are recorded with regard to the amount of influence that the Institution exerts with respect to expanding its base of support. Judicial use of influence in expanding that base will be critical in determining its ability to sustain its present program, at minimum, and possibly expand.

The institutional reinvestments made by the Institute at present are somewhat limited. Certainly compared with its initial years when a large proportion of the staff was sent abroad for training, the relative amount of investing being made at present is modest. The "Health Manpower Needs Assessment" provides for two health educators to be trained out of the country per year.<sup>7</sup> SIHS plans to send two per year in the near future.

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<sup>7</sup>Government of Swaziland, "Health Manpower Needs Assessment," p. 19, June 1983.

However, the size and expected distribution of retirements of the faculty suggests that much attention is warranted in the future to the proper timing of this institutional reinvestment project. Fortunately, the faculty of the Institute is involved in professional activities according to Bracewell (Criterion 20).<sup>8</sup> This bodes well for an institution that is concerned with its capacity for future production. Likewise, a good supply of professional journals is available and this needs to continue to be the case after donor support has been phased out.

Clearly, if the Institute is to retain its vitality, it must make investments in its human capital in order to maintain a flow of new concepts and ideas. One of the important issues concerning the sustainability of the Institute has to do with its willingness to forego present production in order to reinvest some of its resources to enhance its future productive capacity. Institutions at times find irresistible the temptation to "rest on their laurels" when they have achieved much of their sought-after goals. In the case of the Institute, it has made marked progress toward becoming the premier health education program in the country. However, it needs to make peer comparisons not only with other educational programs in the country but also with

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<sup>8</sup>Mervell L. Bracewell, "Report of Swaziland Institute of Health Sciences Nursing Programs: Criteria, Guidelines for Observations, Interpretation, Evidence and Recommendations," photocopy, August 10, 1984.

those in neighboring countries such as Botswana and Lesotho, and even beyond these to those in the larger world community.

Without doubt, the sustainability of the institution will, in large measure, turn on the propensity of the institution to make investments in itself.

### 2.1.2 Intermediate Products

Within SIHS, a number of intermediate products are produced. These are the services of leadership, internal structure, doctrine, program, linkages, technology acquisition, and resource mobilization. The Bracewell report examines several of these. Hence, reference will be made to that document as well as examining the evidence concerning the adequacy of each of these services produced within the institution. As stated above, each of these intermediate products has value only insofar as it is subsequently transformed again into current service outputs of the institution. Each of the intermediate products will be discussed individually.

Leadership within SIHS is composed of the leadership services provided by both formal and informal leaders. The Bracewell report indicates that with regard to academic preparation, the formal leadership of the Institution is well qualified. Further, the stability of the leadership of the Institution has

provided a large measure of continuity to the organization. The informal leadership services generated within the Institution is not as obvious. Nevertheless, there is considerable evidence that not only is the Institution well led, but also the recognition of this leadership is accorded it by important individuals outside of the Institution, especially in the Ministry of Health.

Internal structure concerns the process of evolving the structure of an organization. This is a current issue at SIHS. It has submitted an organizational proposal calling for department heads and a deputy principal. Formal action has not yet been taken by MOH. Meanwhile, the institution essentially functions as if this organizational structure were in place. Regardless, an organization has evolved that promotes efficiency within it (see Bracewell, Criterion 3). One further dimension of internal structure is noteworthy. That is the internal structure as it pertains to information flows within the institution. Fortunately, the Institute is small enough that major problems are not encountered with regard to the flow of information within it. Both formal and informal patterns of information sharing exist.

Doctrine is probably the weakest intermediate product within the institution. First, the statement of SIHS' mission has not been put in a concise, clearly articulated form. Second, it appears to be an amalgamation of several concepts--giving nursing

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a sense of professionalism and dignity, imparting a service motivation to filling clinic posts, and providing diagnostic skills that are not being taught elsewhere in the country. Unfortunately, these all tend to be biased toward nursing. Further, they tend to be somewhat outmoded by the very success of the program itself. Finally, while having functioned effectively in the past as (1) a motivator for faculty and (2) an image of what the Institute is about to the larger society, this composite doctrine is of limited usefulness at this stage of the Institute's development. Clearly, the Institute cannot afford to "rest on its laurels" when it is beginning to have a significant impact on the health care system.

The program of SIHS has evolved in a number of regards. Especially of interest is the development of the fourth year program. A limited amount of flexibility has been indicated by virtue of the various options in that program. For example, the advent of the community mental health program is noteworthy. In addition, the non-nursing components of the educational program have indicated some flexibility also. The curriculum content of the Institute was examined by Bracewell and was found to be quite acceptable (Bracewell, Criterion 1). Suffice it to say, the program that has evolved in the Institute has fit its purposes as it has evolved through time.

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Linkages of SIHS have been established with a number of external organizations. The most important of these has been its relationship with the MOH. This has been a relationship characterized both by informal contacts and formal ones. Perhaps the most important of the latter is the recent appointment of a representative of SIHS to the Training and Personnel Management Committee of the MOH, as mentioned earlier. In addition to linkages with the Ministry, SIHS has developed linkages with the user groups such as the Public Health Service and the health system in general, including hospitals and clinics.<sup>9</sup> Linkages have also been established with the wider society via information that has been dispensed primarily through the press. Further, linkages have been established with the donor community, especially with the representatives of the foreign assistance programs of the British and U.S. governments. Finally, relationships have been established with potentially competitive institutions, i.e., other health educational institutions. These linkages have afforded relatively clear areas of responsibility and authority as far as the Institute is concerned.

The technology acquisition component of the intermediate products has provided SIHS its window with the outside world. The bulk of the efforts in this regard have been directed to two groups--the Ministry of Health and selected donors. As a consequence of assistance provided, various types of means of main-

taining currency with technology in health delivery systems has been maintained. The subscription to professional journals, use of textbooks from other parts of the world, and utilization of consultants, has enabled the Institute to maintain the state of the art with regard to its teaching programs.

The final intermediate product within the institution has been its attempts to mobilize resources. Modest efforts, in addition to those initially made at its inception, have been made to obtain funds, especially from the Ministry of Health and from donor organizations. But perhaps the most important effort in this regard has been that with regard to its personnel. One of the most impressive statistics about the Institute has been the fact that all of the instructional staff sent abroad for training have returned to join the faculty. Few other institutions can display such a record. Clearly, the Institute has done a remarkable job in being able to attract and hold the human capital which has provided part of the key to the success it has enjoyed thus far.

In sum, many positive features characterize the development of intermediate products within the SIHS system. However, the deficiencies described with regard to doctrine could represent the "Achilles' heel" of the Institute. A clear definition of the basic mission of the Institute, expressed in a form clearly understood by all participants as well as key individuals in the



larger society, could do much to determine the effectiveness of the Institute over time.

### 2.1.3 Flow Inputs

The flow inputs of crucial importance as far as the Institute is concerned are budget and its unique inputs. The budget will be discussed with regard to its relative flexibility, as well as the evolution of it over time.

Table B-1 presents budget information for SIHS for recent years. Clearly, both the amount of the budget and the source of the budget has changed over time. The national commitment to the Institute has been manifest in this increased allocation of funds to it. This trend is partially responsible for Bracewell concluding that the fiscal resources available to the Institute are adequate (Bracewell, Criterion 6).

In addition to the recurrent budget mentioned above, the budget for capital items is worthy of note in Table B-1 also. The fact that the MOH committed funds to build the second floor of the building which houses SIHS is an especially significant expression of commitment. The continued support of the government for the Institute with regard to capital and recurrent budget items are primary indicators of its support for the Institute.

Table B-1. SIHS Budgets for Recurrent and Capital Expenditure, by Source<sup>a</sup>

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A. SIHS Recurrent Budget (estimates)

1982/83 E323,218  
 1983/84 E370,854  
 1984/85 E417,960  
 1985/86 E519,200

B. Capital Budget Estimates      Source      Actual Expenditure

1977/78	E183,086	USAID	E137,000
1978/79	E858,000	USAID (E818,000) GOS (E40,000)	E333,000
1979/80	E800,000	USAID (E625,000) GOS (E175,000)	E530,000
1980/81	E308,000	USAID (E255,649) GOS (E52,360)	E84,000
1981/82	E95,000	USAID	-
1982/83	-		E95,000
1983/84	E529,000	GOS	E429,000
1984/85	E300,000	GOS	?

C. SIHS Acquisitions (main construction)

1982 Main Building  
 1983 Sithobela Hostel  
 1985 Extensions to Main Campus: 70 bed dormitory; 9 offices

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<sup>a</sup>Assistance has been obtained from the British and Danish Governments in addition to the budgets included here.

Source: Swaziland Ministry of Health

The other flow input of significant importance is the incoming freshman class. The ability of the Institute to attract high quality, capable students will be of crucial importance in the future. For example, the fact that there are more than 100 applicants for less than 10 openings in the basic nursing program speaks well for the Institute's ability to attract students. Clearly, there is some evidence that suggests that the Institute is becoming a more attractive educational alternative over time.

#### 2.1.4 Stock Resources

The stock resources that will be discussed for the Institute are its change propensity, the opportunities afforded it, and the capital invested. The similarities between the first two of these will be noted, particularly as regards the present decisions being faced with regard to training health assistants.

The change propensity of the Institute has been relatively favorable in the past. The fact that the Institute has been able to modify its offerings is suggested by virtue of the changes in those offerings over time. The present orientation of the Institute, however, leaves question about its change propensity in the future. The strong sentiment against initiating the health assistant training program in SIHS suggests a limit to its change propensity. The extent to which this extends to other program possibilities is not obvious at this time.

The opportunity of the Institute to be of service is suggested in its bulletin (see Appendix I for a copy of the bulletin). Perhaps more important than this objective statement of the SIHS opportunities is the subjective opportunities perceived by its faculty. The possibilities of adding programs in the area of the public health and health assistant fields illustrates the subjective opportunities that it is now facing. The ability of the Institute to function as an institute of health sciences rather than merely as a nursing school with appendages will be determined partially by the faculty's ability to perceive and take advantage of further opportunities to be of service.

The capital of the Institute is invested primarily in physical facilities and in the form of human capital invested in the faculty. The physical facilities that have been provided have been judged as adequate by Bracewell (Bracewell, Criterion 8). In fact, relative to the physical facilities frequently found in educational institutions in developing countries, the facilities have much to recommend them.

Not only are the physical facilities highly desirable, but also the faculty of the Institute has been invested in and is now paying a handsome return on that investment. As stated above, the recruitment rate of 100% of the former participant trainees returning to become a part of the faculty is remarkable indeed.

Further, the similarity of educational experiences of the faculty outside the country has undoubtedly contributed to the homogeneity and esprit de corps the Institution now enjoys. Bracewell commented on various aspects of the faculty, and found them to be quite adequate (Bracewell, Criteria 15 and 16). However, there appears to be two limitations to the Institute's human capital. One limitation is the possibility of a substantial number of faculty members retiring at approximately the same time. Careful planning will be required in order to be certain that the replacement faculty can be trained sufficiently far in advance to minimize the major disruption of program when these retirements occur. The second is that a disproportional number of the faculty in the non-nursing areas are technical assistance personnel. A training program to localize that part of the faculty is long overdue.

### 3. UNCERTAINTY AND THE FUTURE

In the sense that no institution is ever "built," the term institution building is misleading. Institutional development is a never-ending, continuous process. Hence, the sustainability of an institution over time is a function of numerous factors. A number of these have been alluded to in the previous section. Others are worthy of note, especially as they impinge on uncertainties that may have a significant bearing on the viability of the institution.

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One source of uncertainty at present concerns the internal structure of the institution. Although a request has been made for permission to establish department chairs and a deputy principal, no action has been taken yet by the Ministry of Health. Informally, there has been some communication that suggests that the request will be disapproved.

Clearly, the institution is not enjoying its maximum efficiencies under the present organizational arrangements. Specialization in the nursing program would be the result of a clear establishment of departmental lines. Further, the excessive workload carried at present by the principal--both of a teaching and an administrative nature--needs to be relieved in order for her to become as effective as possible in her formal leadership role. The uncertainty that surrounds this issue is a source of difficulty and conceivably could jeopardize the sustainability of the institution over time.

A second uncertainty was alluded to above. The lack of a clearly articulated doctrine looms as the largest single source of uncertainty concerning the viability of the institution. The need to make a determination with regard to the basic role of the institution is of crucial importance in determining its future. Without such a well articulated doctrine, alternative program opportunities will be considered on an ad hoc basis. Clearly, a consistent set of reasons needs to exist for accepting certain

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program opportunities while rejecting others. Closely akin to the need for clear establishment of doctrine is the area of planning and programming. The establishment of a clear doctrine could well provide additional impetus to more deliberate planning with regard to the scheduling of practical work experience and the planning of the logistic support which that requires, especially transport.

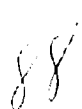
Technology acquisition may be a major factor in the future. The need for the SIHS faculty to remain current with regard to the state of the art in health science education cannot be over-emphasized. Journal subscriptions, opportunities to attend short courses and scholarship opportunities for future faculty members all are of utmost importance in maintaining a currency with regard to the state of the art in this area. Unfortunately, frequently institutions see these areas as possible expenditures that can be foregone when budget problems are faced. As donor support is phased out, the institution will have to make hard decisions with regard to whether it will plateau with its present knowledge base or whether it will maintain its currency with regard to the state of the arts on a worldwide basis.

Mobilization of resources raises the question with regard to the role that research might play in the institute in the future. Under present arrangements, research is undertaken essentially on faculty members' own time. The possibility of adding a research

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function to the institute, comparable to the teaching function it now performs, is suggested by the variable of mobilization of resources. In the event that a decision is taken to add a research function, there will be opportunities for aggressively pursuing funding sources to do research. The prestige of the faculty and their inquisitiveness suggests the possibility of adding a research function.

The final area of uncertainty concerns linkage management. Up until now, linkages have been established of a very crucial nature. The enabling linkage between the institute and the Ministry of Health has stood the institution in good stead. However, there is some evidence that this linkage is not as strong as it was during the early years of the institution. The functional linkage between the Institute and Mbabane Government Hospital is an area already "flagged" as a linkage relationship that needs to be carefully managed. The establishment of the joint committee between the two institutions is an indication of improvements to come. Similarly, the linkages the Institute has with other hospitals and clinics will require careful management so that the participants in the linkage relationships feel that they are benefitting at the same time they are assisting the Institute. The diffuse linkages held by the Institute can be strengthened by especially maintaining closer contact with alumni and has been the case in the past. As the number of graduates





increases, the potential that they can be sources of strength and support for the institution should not be overlooked. This will require, however, the expenditure of resources to maintain a close communication with those former students. Finally, the relationship of the Institute with the norm setting institutions in the society will need to be continuously monitored. The relationship of the Institute to medical associations, religious organizations and other sources of normative declarations in the society will be important in maintaining its legitimacy.

Regardless of the type of linkage involved, all of these numerous relationships will require careful management. In most cases they have been initiated. However, linkage management also involves the maintenance of these relationships. Inevitably, these linkages change over time. The participating institutions in these linkage relationships with the Institute need to be both fully informed and full participants in the linkage process if the institution is to maximize its effectiveness in exerting influence in the society.

## APPENDIX C

OVERVIEW OF THE SWAZILAND HEALTH CARE SYSTEM

by Paul Zukin, M.D.

1. INTRODUCTION

Health development is a broad process consisting of an interlinking series of events. This process begins with a specification of health problems and health status, and health care needs and demands. Then, in the context of overall government and health policy, priorities are established and decisions are taken on the type of services, facilities, and programs that will meet these needs and demands in a practical, affordable and cost effective manner. Next, the desired output that satisfies the needs and demands must be produced. This includes the design, location and operation of services and facilities; maintenance programs for equipment; transportation, communication and other infrastructure; supplies, stores and logistics--in short all that needs to be done in order to provide for health. In essence, this is the health care delivery system.

To provide for this system, human resources and finances are required. The human resources component is concerned with personnel--needs assessment and staffing as derived from

needs/demands projections and services and facilities production requirements. It includes projections of training and development of human resources, rewards and incentives, conditions of service, etc. The financial component deals with sources of funds, both capital and recurrent, and their interrelationship; the use of funds, including cost expenditure controls; the costing of facilities and services; and the development of budgets. How the various events noted above are meshed largely determines the characteristics and functioning of a country's health care system.

## 2. ORGANIZATION OF HEALTH SERVICES

In Swaziland, the health care system has not evolved in an orderly fashion as described. Rather, it has developed piecemeal related first to former colonial influence and later to often uncoordinated international organization and unilateral donor agency assistance. Curative services have dominated the system and only recently has there been a shift toward preventive and primary health care.<sup>1</sup>

Health services are provided by many organizations and individuals: government; industry; religious missions; other private

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<sup>1</sup>See Government of Swaziland, Ministry of Health, National Health Policy (Mbabane, Swaziland: Government of Swaziland, 1983).

voluntary organizations; private physicians; private nurse practitioners; and traditional healers and midwives.

Health policy and coordination of health-related activities is the responsibility of the Ministry of Health whose top management consists of a politically appointed Minister, a Principal Secretary (PS)--the senior civil service post in the ministry, and a Director of Health Services (DHS). Administration, finance, personnel and training (including the SIHS) report to the PS through an undersecretary. Health planning and statistics fall directly under the Principal Secretary.

A Deputy Director of Health Services (DDHS) and a Chief Nursing Officer (CNO) report to the DHS. All health care services fall under the DHS who in addition is specifically responsible for curative services while public health services and district development are the primary responsibility of the DDHS.

Several years ago the Ministry of Health began the process of decentralization into four regional districts. The purpose of decentralization is to strengthen the delivery of health services for the rural areas giving priority to preventive services and primary health care. To accomplish decentralization, district health management teams are being established and workshops have begun to define roles and responsibilities, processes and procedures for planning and management, and for increasing community involvement and participation.

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To secure appropriate public involvement, health advisory councils or committees have been established at the national, district and community levels.

## 2.1 Health Facilities

With respect to health facilities according to the 1984 World Bank study, Swaziland has a total of 9 hospitals, 9 health centers, 118 clinics, and 6 public health units, unevenly spread geographically. Of these, government operates 6 of the hospitals (67 percent), 5 public health units (83 percent), 36 of the clinics (31 percent), and only 2 of the health centers (22 percent). In terms of services delivery, in 1982 government facilities provided for about 50 percent of hospital admissions, missions about 40 percent and industry about 8 percent. Government also was responsible for 50 percent of first out-patient visits recorded in 1982, while missions accounted for only 16 percent and industry for 38 percent. (Appendix D details health status indicators and data covering utilization of health facilities and services.)

Until the early 1980s, government and mission facilities functioned more or less independently but cooperatively and with infrequent overlap or redundancy. As missions began to experience serious financial difficulties, government stepped in

with subventions and now covers approximately 80 percent of the operating costs of mission facilities. The missions have continued to function outside of the government system administratively but express concern that this independence may not continue.

Rural health care in Swaziland is primarily based upon health centers and clinics backed by services provided through public health units and by rural health motivators at community levels. The national health plan does not call for various categories of health facilities to serve a specific population "catchment" number but rather that the total population live within 8 km of a health facility. Somewhat over 70 percent of the population are said to meet this criterion at the present time. However, this means that 30 percent have little or no sustained access to the formal health care system and those that do have theoretical access are served by a system which is uneven, thin and plagued by multiple problems including inadequate staffing, insufficient drugs and other supplies, poor maintenance, and sparse transport.

## 2.2 Health Financing

Expenditures for health care in Swaziland in 1983/84 amounted to approximately E.50 per capita.<sup>2</sup> The ratio of capital to recurrent expenditures is roughly 1 to 9. Out of pocket payments by individuals accounts for around one half of total expenditures and the Government funds approximately one third of health-related expenditures. Missions, foreign assistance, industry, etc., fund the remainder.

The approved health budget as percent of the total government budget has averaged between 9 and 10 percent over the past ten years but was somewhat above this figure for the past financial year.

## 2.3 Health Manpower

An understanding of the development of health manpower in Swaziland is important to assessing the impact of the Health Manpower Training Project.

Early on, health services in the country were provided by expatriate physicians and other health workers, largely asso-

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<sup>2</sup>World Bank, Swaziland Population and Health Sector Review (Washington, DC: World Bank, 1984).

ciated with religious missions. Industrial organizations, mines and plantations, have facilities and services to meet their own needs. The doctor-patient ratio is low, around 1 doctor per 6,000. Approximately 80% of physicians are non-Swazi and physicians are located mainly in urban areas and primarily do curative work.

To meet the needs for patient care, many years ago the Catholic church-operated Good Shepherd Hospital in Siteki established a 2 year training program for nursing assistants. Students trained at Good Shepherd help to staff the hospital. Over time, enough nursing assistants were trained to permit them to be deployed to other parts of the country and the Good Shepherd nursing assistants training program remains as the only institution turning out this important cadre. However, their numbers are inadequate to meet the needs of hospitals and clinics, countrywide.

Until the inception of the SIHS, the only training of registered nurses in Swaziland was at the Nazarene Nursing College (NNC) in Manzini, in association with the Raleigh Fitkin Memorial Hospital (RFM).

Nurses training at RFM evolved slowly over time. Commencing in the 1930's a program to train ward assistants for the hospital was established. This was later expanded to nurses assistants



training, then to three year registered nurses training. Next, a fourth year for midwifery training was added and at present, graduates of NNC are "doubly qualified," receiving the State Registered Nurse (SRN) and the State Certified Midwife (SCM) diplomas. The current intake of students is 20 per year.

Nurses training at NNC has always been oriented toward meeting the needs of the hospital and its religious philosophy. Training is basically an apprenticeship with students attending classes approximately one-third time and working in wards or clinics the remainder. They receive a small payment for their work. Tuition is generally paid by government scholarship.

A recent assessment of the NNC by Dr. M. Bracewell pointed out several significant deficiencies in both curriculum and faculty capability.<sup>3</sup> While students generally are well-trained in practical aspects of nursing, they are said to lack adequate technical knowledge. Measures to strengthen curriculum and faculty are now under way.

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<sup>3</sup>Mervel L. Bracewell, "Report of Nazarene Nursing College Curriculum Consultancy," photocopy (Swaziland: USAID, August 1984).

#### 2.4 Swaziland Institute of Health Sciences

In 1978, with the inception of SIHS, the government actively began training several cadre of health workers. These include programs for basic nurses (3-year program); dental hygienists (2-year program); health inspectors (3-year program); and three 1-year post graduate programs for nurses --midwifery, family nurse practitioners and community mental health.

The initial program was the 1-year post-graduate course leading to certification of family nurse practitioners (FNP). The stated purpose of the FNP program has been to strengthen health care primarily in the rural areas (health centers and clinics). Emphasis of training is on basic diagnosis and treatment and maternal child health and family planning. To date, 60 nurses have completed this program and 15 are still in training. Because of housing limitations, the programs has had some interruptions but with the construction of new housing it is back on track.

The intake of students into various programs at SIHS has varied over time. Significantly, the dropout rate for all cadre trained is negligible. Initial targets for each category of health workers to be trained was made on the basis of the then existing national health manpower plan. However, this plan proved to be overambitious given ministry personnel funds, and

for dental hygienists and health inspectors there were insufficient posts available after graduation. This does not imply lack of need for these cadre, rather an inability for the Government health services to absorb them. The result has been, however, to discontinue the dental hygienist program in 1984 after two classes which turned out a total of 15 graduates. The original health inspectors program trained 45 against a target of 100. That program has continued at the Institute but is now under the sponsorship of WHO and serves as a regional training project primarily meeting the needs of other countries.

The SIHS was delayed briefly in opening and during the last national development plan ending 1984/1984 had trained 282 nurses of various categories whereas the original target was 351. Completion of additional housing accommodations for students recently has added to the training capacity of the Institute.

Training of basic nurses began in January 1980 and as of November 1984, 61 had graduated. Whereas recent classes of basic nursing students average around 37 students, an intake of only 20 nursing students is planned for the next year. Other adjustments in numbers and categories of health workers to be trained at SIHS are likely to occur over the next several years. For example, it has been suggested that the Institute provide post graduate training for public health nurses and possibly for laboratory technicians, dispensers, and middle level health administration as well as other categories to be identified.

Let us now look at the SIHS as a training institution--its stated philosophy, self image, orientation toward its students and some of the linkages it has with other educational and health care organizations.

In its August 20, 1983 Bulletin, SIHS characterizes itself as "an autonomous institution within the MOH, mandated to training various categories of paramedicals to meet the health needs of the Kingdom of Swaziland." The Bulletin further notes that SIHS is "not a health service delivery agency nor a part of one." Students are to maintain their status at all times and are not to be considered part of the work force of any agency. In essence, SIHS sees itself as an institution training professional health workers in an academic setting and not on an apprenticeship model as is found both in the health assistants training program at Good Shepherd Hospital and the nursing and midwifery training program at NNC.

The matter of linkages to approved health services delivery agencies--hospitals, health centers, clinics, etc.--is critical to the training of SIHS students and it is here that the Institute has run into problems. The Institute is contiguous to the 320-bed Government Hospital in Mbabane and uses this hospital as its primary in-patient training site. Unfortunately the hospital is in bad physical condition and in general is understaffed and ill equipped. The SIHS has clinical instructors on

its faculty whose job is to supervise and train students in clinical settings. At present there are only three of these clinical instructors and this number is totally insufficient to provide the necessary supervision and training. Thus, in actuality, it is left to the staff nurses in hospitals and out-patient facilities to carry out much of these functions. However, staff nurses are often too busy with patient care to provide adequate training. Further, the nurses receive no rewards for teaching and some see the added chore as a burden. Their ability to train effectively has also been questioned since they may not have been trained as tutors.

For their part, according to some with whom the team spoke, the students do not consider the provision of patient care to be their responsibility. They are there to observe and learn but are not obligated to provide care. The lack of payment on ward or clinic service may contribute to this "mind set."

The scheduled hours for laboratory and/or clinical experience for basic nurses training are 774 hours in year one, 1,072 hours in year two, and 1,376 hours in the third year (see Appendix H). However, the Institute has no records validating that these figures are in fact the number of hours actually spent, although they believe them to be fairly accurate.<sup>4</sup>

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<sup>4</sup>They do acknowledge, however, that obstacles such as the lack of adequate transport do frustrate their being able to provide all of the practical training schedules.

Under any circumstances, the numbers greatly exceed the hours required for certification by the Nursing Examination Board of Botswana, Lesotho and Swaziland (NEBBLS), e.g., 774 hours in year one versus 500 hours required by NEBBLS.

The lack of sufficient clinical instructors in the Institute coupled with the inadequacy of most training sites and that of the facilities' staffs is of concern to the SIHS. About 6 months ago, the SIHS and the Government Hospital in Mbabane established a joint committee to review and strengthen supervision and training of students. Positive impact of this committee is still to be realized, however.

On-going physical improvements in the Mbabane hospital should have a beneficial impact on training students. A new surgical theater is under construction. When that has been completed the existing theater will be renovated and upgraded for obstetrics. These improvements should make it possible to attract more specialists and other staff, which will add to the teaching and learning environment, provided there are sufficient finances to maintain operations at an adequate level.

As noted earlier, the need for nurses in Swaziland in the context of established positions and the ability to fund these positions is still being studied by Government. Over the next several years the "sustainable need" will drop and the output of

nurses both from the NNC and SIHS is to be reduced. Each school is expected to turn out about 20 nurses, some of whom will also be qualified as midwives.

There has been considerable discussion concerning whether two nursing schools really are required to meet the country's needs. At present, both schools are to be retained. This decision is based on future needs projections which show a considerable number of nurses reaching retirement age in the next five years as well as increasing demand related to population growth and anticipated improvement in health facilities and services.

A fundamental issue to be resolved with respect to nursing education has to do with training orientation and a potential relationship with the University of Swaziland (UNISWA).

The Ministry of Health, having largely taken over the funding of RFM, has sponsored an in-depth study of the curriculum and other aspects of training at the NNC.<sup>5</sup> One of the aims in studying the NNC is to establish a common training program for nursing in the country. Whether the basic science component of the nursing training should be undertaken at the University is currently being discussed.

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<sup>5</sup>Bracewell, "Report of Nazarene Nursing College," August 10, 1984.

There being no nurse educator on the impact assessment team, no attempt was made to critically evaluate the nursing curriculum of the SIHS (see Appendix H for the nursing curriculum format). However, approximately 90 percent of SIHS graduates are said to pass the NEBBLS certification examination and in July 1984, Dr. Mervel L. Bracewell, a nursing educator from the United States, evaluated the nursing programs of SIHS according to 30 criteria covering structure and governance, material resources, policies, faculty size and qualifications, curriculum content and internal consistency, and evaluation of program components.<sup>6</sup> Her overall conclusion was that the great majority of criteria were met. Her major recommendations were that (1) administration and management of SIHS be strengthened with each discipline having a director; (2) the Institute's principal's teaching responsibilities be reduced; and (3) there be closer relationships between the Institute and the Government Hospital in Mbabane.

Mental disease and alcoholism are significant health problems in Swaziland. An early focus of SIHS was on community mental health. Clinics sessions to address these problems commenced in the late 1970s, with mobile out reach to communities. Formal post graduate training of community health nurses began in

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<sup>6</sup>Mervel L. Bracewell, "Report Swaziland Institute of Health Sciences Nursing Programs: Criteria, Guidelines for Observations, Interpretation, Evidence and Recommendations," photocopy, August 10, 1984.



1982 and is on-going. Appendix J shows the development of mental health services in Swaziland and some utilization data. Since 1980, both out-patients seen and hospital admissions have risen almost four times; however, occupancy and average length of stay in the mental hospital have dropped significantly as have the number of chronic patients. These changes suggest (1) more intensive and more effective psychiatric care and (2) that this is largely the result of the community mental health training and related activities of SIHS.

The dental hygienist program at SIHS has graduated two classes, the last in 1984. According to Dr. Jorgen Bindslev, the dental tutor, graduates are well able to deal with the bulk of preventive dental problems as well as with treatment of gingivitis. They perform extractions but not dental fillings. Although trained to take x-rays and make impressions, lack of necessary equipment in the sites where the hygienists are posted precludes their carrying out these procedures. However, with no on-going classes at the Institute, Dr. Bindslev is able to make frequent rounds of the sites where the hygienists are posted and to provide supervision and dental care.

Training of health inspectors at SIHS differs somewhat from that of other students. Health inspector students receive some training at the University and qualify for British qualification. Thus, their diploma is issued by the University, not the Institute.

One gets the impression that this cadre is well trained and functional. The four health inspectors visited in the field were articulate and knowledgeable. Whereas drugs and medical supplies in most clinics and health centers visited were sadly lacking, in part related to problems at the Medical Stores in Manzini, health inspectors obtain supplies elsewhere and have experienced far less disruption in meeting their supply requirements. However, funding problems negatively impact the adequacy of supplies and equipment maintenance through the system.

A major constraint to the coverage of health inspector services is the lack of sufficient numbers of health assistants. Training of this cadre stopped some years ago and it has not been decided when and where to resume this training program.

A major question to be answered is what is the relationship of the SIHS and the country's health manpower plan?

A review of health training needs was carried out by the MOH in 1983, looking at requirements up to 1987/1988. This manpower study has not subsequently been revised and it still stands as the country's official health manpower plan. Table C-1 shows the projected manpower requirements and shortfalls, 1987/1988.

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Table C-1. Projected Manpower Requirements and Shortfalls,  
Selected Cadres, All Sectors, 1987/88

	Total Additional Requirement							Total	Train. Output	Net Require- ments
	Government				Non-government					
	Vacancies	Anticipated Attention	New Posts	Total	Missions	Indus. & Priv. Sec.	Total			
Doctors (including specialists)	24	16	0	40	16	33	49	89	14	75
Nurses (including nursing assistants)	82	91	354	527	128	77	205	732	356	376
Health Assistants	41	15	35	91	0	0	0	91	0	91
Other Qualified Health Personnel	26	20	74	120	30	12	42	162	47	115
<b>Total</b>	<b>173</b>	<b>142</b>	<b>463</b>	<b>778</b>	<b>158</b>	<b>122</b>	<b>296</b>	<b>1074</b>	<b>417</b>	<b>657</b>

Source: Ministry of Health.

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The World Bank health sector team in 1984 and others have criticized the study on the basis of methodological inconsistencies and the fact that different sources were used on which to base manpower estimates, some of which were said to be highly subjective in nature. Disagreement on attrition rates and failure to consider changes in overall health care strategy are also noted.

Nonetheless, the manpower plan does highlight the need for nurses and other personnel trained by the SIHS. The problem, as noted earlier, is not with substantiating need, rather it is with securing additional posts. Health manpower planning is again under review and how this plays out will be determined by the importance placed on health care in the context of Swaziland's resources and national development policy.

### 3. HEALTH INFORMATION SYSTEM

A second component of the Health Manpower Training Project was the design and introduction of a comprehensive health information system (HIS) for the Ministry of Health. To accomplish this, a technical adviser was posted for 30 months, commencing July 1981.

Two years prior to the arrival of the adviser, a new HIS had been designed to simplify recording and reporting of data,

and was in the process of being introduced on a trial basis. With assistance of the project technical adviser and other consultants, the new HIS was expanded to include the entire country and the capabilities of the MOH Statistical Unit were strengthened in terms of data collection and analysis (computer assisted) and monitoring of data quality. New data forms were introduced and medical records were reconstructed so as to indicate the causes of morbidity, rather than the bodily system involved as had been the practice in the past. Thus, from 1982 on, disease conditions are being recorded according to the International Classification of Diseases. This adds tremendously to the usefulness of data for management of health services and for planning health care.

Despite resource and manpower limitations, the Statistical Unit is flourishing. Appropriate statistical forms, reports and procedures have been prepared as well as a manual for their use. The Unit works closely with the Planning Unit. Swazi personnel have been trained to staff the Statistical Unit although at present an expatriate specialist still heads the Unit. There is only partial reporting of in-patient data; however, out-patient records are said to be almost complete. Their accuracy in terms of diagnosis remains questionable but the data are very useful in terms of utilization of services.

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#### 4. STRENGTHEN PLANNING AND ADMINISTRATION OF THE MOH

The original project design called for posting a hospital administrator, a rural health administrator and the training of four counterparts. While the hospital administrator is said to have improved some aspects of the physical aspects of the MOH hospital at Hlatikulu, problems arose when he was posted at the Mbabane Government Hospital and this aspect of the project was terminated early.

The rural health administrator participated in planning for decentralization, focusing primarily on the Shiselweni district.

There appears to have been some delay in sending the Swazi to the United States for training. Ultimately, three were sent out and have now returned. One intends to marry a non-Swazi and will leave the country. The remaining two are scheduled to be assigned to district health management teams.

The impact of this component of the project is assessed as marginal to date. However, the two trained Swazi administrators can play a significant role in the process of decentralizing health services.

## APPENDIX D

by Paul Zukin, M.D.

HEALTH STATUS AND FACILITY AND SERVICES UTILIZATION DATA

Health status in Swaziland is typical of that found in many African countries with a high birth rate and a predominantly young population which is medically underserved. Its health statistics, however, are notably worse than such nearby countries as Lesotho, Botswana, and Zimbabwe. Mortality does not vary greatly by region but does vary considerably as a function of socioeconomic factors.

Infectious and communicable disease, primarily affecting infants and children, are the major sources of morbidity and mortality. Ministry of Health statistics shown in Table D-1 reveal a high crude birth rate, high crude death and infant mortality rates, and low life expectancy at birth.

Until the health statistics system was revised and vastly improved in 1982, age and disease specific information was reported by groupings of diseases rather than by specific pathological diagnosis. The top 10 causes of death reported in 1982, accounting for 85 percent of all deaths, are shown in Table D-2. By far the commonest causes are infectious and parasitic disease,

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Table D-1. Basic Vital Statistics, Swaziland  
(all rates per 1,000 population)

Category	1966	1976	Estimated <sup>a</sup> 1983
Crude Death Rate	21.5	18.5	17-19
Crude Birth Rate	47.5	52.5	44-51
Crude Rate of Natural Increase (%)	2.6	3.4	3.5
Fertility Rate (%)	6.9	6.87	7.0
Infant Mortality Rate	168	156	105
Child Mortality Rate (1-4 years)	-	81.5	20-25
Under Five Mortality Rate	-	237	-
Life Expectancy at Birth (years)	44	46.5	52

<sup>a</sup>World Bank Figures, 1984.



Table D-2. Top 10 Causes of Death in Swaziland, 1982

Cause (all ages)	Percentage of Total Deaths
Infective and Parasitic Disease	31.6
Intestinal/Infectious Disease	(14.1)
Tuberculosis	(13.2)
Measles	(0.8)
Tetanus	(0.8)
Malaria	(0.4)
Other	(2.3)
Diseases of the Circulatory System	8.7
Diseases of the Respiratory System	7.4
External Causes of Injury	7.1
Perinatal Associated Conditions	7.0
Endocrine and Metabolic Disease	5.8
(includes malnutrition)	5.5
Diseases of the Digestive System	4.4
Malignant Neoplasms	3.9
Diseases of the Nervous System	3.4
Mental Disorders	
Total	84.8

Source: Ministry of Health.

primarily diarrheal disease in infants and young children and tuberculosis. Malnutrition alone accounts for 4.8 percent. Hypertension is common in Swaziland and contributes to a significant number of deaths due to strokes and heart disease.

Table D-3, lists the top 10 causes of morbidity reported by hospital and clinic out-patient departments in 1981. The majority of the respiratory diseases are acute infections in infants

and children, as is the case with diarrheal disease. Two significant health problems whose numbers are not reflected in Table D-3 are the high incidence of sexually transmitted diseases and alcoholism.

The chief parasitic diseases in Swaziland are schistosomiasis (both mansoni and hematobium), malaria, and intestinal worms. Malaria is generally confined to the lowveld and is not a frequent cause of death but does cause some morbidity. Schistosomiasis can be diagnosed in over half of the population in some areas, but it too is not cited as a frequent cause of symptoms. Ascaris is extremely prevalent, particularly in rural areas, and many clinics routinely deworm children.

Table D-3. Top 10 Causes of Morbidity, Hospital and Clinic Out-Patients, Swaziland, 1982

Cause	Percentage of Total
Respiratory Disease	19.8
Diarrheal Disease	16.7
Disease of Digestive System	6.4
Disease of Genito-Urinary System	5.8
Diseases of Skin and Subcutaneous Tissue	5.2
Sexually Transmitted Diseases	5.2
Accidents	5.1
Diseases of the Oral Cavity	4.0

Eye Disease	3.5
Normal Pregnancy	<u>3.2</u>
Total	74.9

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Source: Ministry of Health.

Although health statistics for 1983 have been largely processed by the MOH, these data were not available at the time of this impact evaluation.

The perception of the importance of disease groups from various perspectives is shown in Table D-4.

Attendances at various out-patient facilities, as well as hospital statistics, are found in Tables D-5 to D-12. Most of the data run through 1982. However, just released preliminary data for 1983 are also included.

Unfortunately, data sources vary and there is some overlap and inconsistency. This, coupled with recent changes in recording and analyzing statistics, make comparisons less meaningful. However, some general conclusions and trends seem warranted.

Whereas out-patient visits have grown modestly over time, attendances at MCH clinics have increased more rapidly. A large increase in hospital discharges reported between 1981 and 1982 is undoubtedly related to the institution of the new data system.

Table D-4. Ranking of Disease Groups by Different Factors

Priority Ranking	In-Patient Morbidity	Family Disruption	Economic Consequences <sup>a</sup>	Public & Potential Demand	Technical Feasibility of Solution	Social Consequence	Suffering & Disability
1.	Enteric diseases	Alcoholism	Alcoholism	Malaria	Tuberculosis	Leprosy	Leprosy
2.	Complications of pregnancy	Psychiatric disorders	Tuberculosis	Complications of pregnancy	Measles	Alcoholism	Polio
3.	Respiratory diseases	Skin diseases incl. leprosy	Bilharzia	Alcoholism	Polio	Sexually transmitted diseases	Eye Diseases
4.	Tuberculosis	Tuberculosis	Trauma		Malnutrition	Psychiatric disorders	Tuberculosis
5.	Malnutrition	Sexually transmitted diseases	Polio		Water-Borne diseases incl. enteric	Tuberculosis	Trauma
6.	Measles		Leprosy				
7.	Skin Diseases incl. leprosy						

<sup>a</sup>Both in terms of cost of treatment and loss of production.

Source: Swaziland Country Report for presentation to the Nampula Primary Health Care Workshop, Nampula, April 1980.

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Admissions to hospitals appear to have dropped between 1982 and 1983 (54,000 vs. 45,000). This change, if substantiated by final reporting, warrants study as to cause and significance.

The ratio of first attendances to reattendances at clinics is an important indicator of the capability of a health care system. In industrially advanced countries, this ratio is approximately three return visits for each initial visit for the same health problem. In Swaziland, this ratio is reversed, only one reattendance per three initial visits. Several possible causes can be cited for this low reattendance rate. One could be that one visit effectively treats most problems. However, this is unlikely. More probably the true explanation is that transport problems, fees charged and waiting times discourage the use of the system. Further, if the first visit did not beneficially affect the person's health problem, that individual may feel that a revisit is not likely to produce a better result.

Table D-5. Out-Patients at Government and Mission Hospitals, First Attendances and Reattendances

Diseases Group	1974		1981	
	Number	Percentage	Number	Percentage
1. Infective and Parasitic	10,301	7.5	38,977	10.5
2. Diarrheal Diseases: Under 5 years	-	-	32,893	8.9
3. Diarrheal Diseases: Over 5 years	-	-	20,546	5.5
4. Neoplasms	241	0.2	-	-
5. Endocrine, Metabolic and Nutritional	2,797	2.0	-	-
6. Malnutrition and Vitamin Deficiency	-	-	1,540	0.4
7. Blood and Blood-Forming Organs	1,187	0.9	387	0.1
8. Mental Disorders	1,562	1.2	1,581	0.4
9. Nervous System and Sense Organs	7,434	5.4	-	-
10. Eye and Ear Diseases	-	-	14,926	4.0
11. Circulatory System	2,864	2.1	16,492	4.4
12. Respiratory System	29,012	21.2	71,063	19.2
13. Digestive System	31,348	22.9	37,828	10.2
14. Genito-Urinary System	10,927	8.0	25,528	6.9
15. Complications of Pregnancy, Childbirth and the Puerperium	7,107	5.2	12,859	3.5
16. Causes of Perinatal Morbidity and Mortality	877	0.6	-	-
17. Skin and Subcutaneous Tissue	7,214	5.3	25,049	6.7
18. Musculoskeletal System and Connective Tissue	3,960	2.9	9,481	2.6
19. Congenital Anomalies	199	0.1	-	-
20. Symptoms and Ill-defined Conditions	9,205	6.7	12,290	3.3
21. Accidents, Poisoning, and Violence	10,740	7.8	27,657	7.5
22. All other Diagnosed Conditions	-	-	12,290	3.3
23. Medical Examinations	-	-	2,202	0.6
<b>Total First Attendance</b>	<b>136,985</b>	<b>100.0</b>	<b>370,804</b>	<b>98.0</b>
<b>Reattendances</b>	<b>86,301</b>		<b>71,012</b>	
<b>Total</b>	<b>226,286</b>		<b>441,816</b>	

Source: Ministry of Health Annual Statistical Reports.

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Table D-6. Mother and Child Services, Ante-Natal Care, 1973-1983

Year	First Attendances	Reattentions	0-24 Months		25-60 Months		Total		Grand Total
			First Attendances	Reattentions	First Attendances	Reattentions	First Attendances	Reattentions	
1973	11,121	26,615	8,253	75,051	4,134	51,338	23,508	153,004	176,512
1874	13,056	31,730	9,807	73,562	4,708	38,889	27,571	144,181	171,752
1975	13,756	30,680	10,121	75,182	3,944	38,790	27,821	144,652	172,473
1976	15,903	43,326	11,678	74,836	5,512	45,235	33,093	163,397	196,490
1977	24,020	48,786	12,742	96,594	5,090	51,800	41,852	197,180	239,032
1980	27,801	59,836	25,744	126,097	9,130	63,958	62,675	249,891	312,566
1981	28,579	70,636	28,354	135,455	9,136	68,966	66,069	275,057	341,126
1982	29,620	74,668	26,921	109,297	6,297	54,064	62,838	190,337	353,698
1983									

Source: Ministry of Health Annual Statistical Reports.

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Table D-7. Attendances at Outpatient Departments, Clinics, and Hospitals,  
1976-1982

Attendances	1976	1977	1979	1980	1981	1982
First Attendances	141,077	146,418	173,201	187,587	370,804	752,670
Reattendances	65,648	82,311	104,431	112,268	71,012	235,755
Total	206,725	228,729	276,632	299,855	441,816	988,425

Note: In 1982, data collection and analysis was markedly improved, accounting for the marked increase in attendances recorded in that year.

Source: Swaziland Annual Statistical Bulletins.



Table D-8. Attendances at Government, Mission, Company, and Private Clinics 1977-1982  
(excluding hospital outpatient departments)

Ownership	1977		1978		1981		1982	
	No. of Clinics	Total Attendances <sup>a</sup>	No. of Clinics	Total Attendances <sup>a</sup>	No. of Clinics <sup>b</sup>	Total Attendances <sup>a</sup>	No. of Clinics <sup>b</sup>	Total Attendances <sup>a</sup>
<b>Government (by district)</b>								
Hohoho	8	128,861	12	139,878	9	212,407	9	161,241
Manzini	10	41,703	12	102,004	9	105,829	9	86,666
Shiseleni	12	167,742	15	243,797	14	224,997	14	208,225
Lubombo	7	90,852	10	243,791	9	129,230	9	141,780
Mission	51	259,108	36	98,061	27	311,964	27	272,569
Company/Private	<u>20</u>	<u>208,833</u>	<u>28</u>	<u>172,643</u>	<u>7</u>	<u>76,616</u>	<u>17</u>	<u>168,101</u>
<b>Total</b>	<b>103</b>	<b>897,099</b>	<b>113</b>	<b>981,502</b>	<b>75</b>	<b>1,061,043</b>	<b>85</b>	<b>1,038,582</b>

<sup>a</sup>Attendances are for ante-natal care, maternal and child health, family planning, and medical treatment (curative care), based on a 5-day work week.

<sup>b</sup>The decrease in clinics is a result of a change in the reporting system, not a closure of clinics.

Source: Ministry of Health.

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Table D-9. Major In-Patient Facilities, 1982

Type of Facility	Number of Facilities	Beds	Doctors	Nurses	Total Admissions
<b>Hospitals</b>					
Government	6	935	29	385	24,806
Mission	2	381	12	194	19,779
Private	0	0	0	0	0
Industrial	<u>1</u>	<u>92</u>	<u>2</u>	<u>34</u>	<u>1,547</u>
Subtotal	9	1,408	43	613	46,132
<b>Health Centers</b>					
Government	2	33	1	19	1,904
Mission	1	26	1	12	1,993
Private	1	26	3	14	1,357
Industrial	<u>4</u>	<u>63</u>	<u>8</u>	<u>68</u>	<u>2,543</u>
Subtotal	8	148	13	113	7,797
<b>Total</b>	<u>17</u>	<u>1,556</u>	<u>56</u>	<u>726</u>	<u>53,929</u>

Source: Ministry of Health.

Table D-10. Preliminary Health Facility Data, 1983

Health Facility	Sector	Urban/ Rural	No. of Beds	Total Admissions	Average Stay (days)	Out- patients
<b>Hospitals</b>						
Mbabane	Gov't	Urban	328 <sup>a</sup>	10,059	12.0	166,882
Hlatikulu	Gov't	Rural	189	4,788		38,097
Pigg's Peak	Gov't	Rural	66	2,761		38,002
Mankayane	Gov't	Rural	43	1,848	7.7	21,320
RFM	Mission	Urban	300 <sup>a</sup>	10,527 <sup>b</sup>	5.6	51,830
Good Shepherd	Mission	Rural	120	4,315		22,465
Havelock	Industry	Rural	68	1,606	10.4	6,202
<b>Specialty Hospitals</b>						
Tuberculosis	Gov't	Urban	120			
Mental	Gov't	Urban	200			
<b>Health Centers</b>						
Nhlangano	Gov't	Rural	17	3,002	3.0	30,205
Sithobela	Gov't	Rural	16	456	2.9	9,787
Ngonini	Gov't	Rural	-	-	-	-
Emkhuzweni	Mission	Rural	27	1,523	5.4	11,500
Mbabane Clinic	Private	Urban	25	1,412	3.7	4,490
Tshaneni	Industry	Rural	20	-	-	-
Ubombo Ranches	Industry	Rural	31 <sup>a</sup>	1,751	3.5	72,862
Rocklands	Industry	Rural	14	-	-	-
Bhunya Mill	Industry	Rural	12	-	-	-
Simunye	Industry	Rural	8	502	2.1	62,498
<b>Public Health Units</b>						
Mbabane	Gov't	Urban	1,618	10,191	6,343	
Pigg's Peak	Gov't	Rural	-	2,606	3,071	
Hlatikulu	Gov't	Rural	1,114	4,666	3,798	
Mankayane	Gov't	Rural	-	2,188	4,380	
KS II	Gov't	Urban	1,180	5,709	7,465	
Good Shepherd <sup>c</sup>	Mission	Rural	1,923	3,821	12,383	
<b>Outpatient Visits</b>						
Health Facility	Sector	Rural/ Urban	ANC	CW	Number	Number Reporting
<b>Clinics</b>						
	Gov't	Urban	-	-	0	-
	Gov't	Rural	378,367	37,909	84,564	38
	Mission	Urban	-	-	-	0
	Mission	Rural	184,323	18,834	35,942	27
	Private	Urban	9,183	252	1,409	15
	Private	Rural	14,560	1,303	3,407	23
	Industry	-	119,564	2,758	3,818	17
	Other	Urban	-	-	-	2
	Other	Rural	-	-	-	3

<sup>a</sup>Includes bassinets.<sup>b</sup>Includes boarders.<sup>c</sup>Includes outreach.

Source: Health Planning Unit.

Table D-11. Government, Mission, Private Hospitals,  
Discharges and Deaths; 1976-1983

Discharges/Deaths	1976	1977	1981	1982	1983
<b>Discharges</b>					
Disease Specified				31,722	
Disease Unspecified				19,820	
Total	24,151	21,915	28,399	51,542	
Deaths	1,045	985	748	1,928	

Note: In 1982 the health data system in the Ministry of Health underwent revision and strengthening, and this process continues to the present. The increased number of hospital discharges and deaths reported from 1982 on reflects this improved data reporting and processing capability.

Source: Swaziland Annual Statistical Bulletins.

Table D-12. Family Planning 1975-1982

Category	1975	1976	1977	1979	1980	1981	1982
Number of Clinics Reporting F.P.	52	52	31	33	51	58	78
New Acceptors	3,814	4,614	2,171	4,854	8,391	7,351	9,467
Reattendances	12,495	13,239	7,208	20,880	16,114	19,743	19,646
Total	16,309	17,853	9,379	25,742	24,505	27,094	29,113

Source: Ministry of Health.

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## APPENDIX E

RURAL HEALTH SERVICES DELIVERY:  
IMPACT, EFFECTIVENESS AND PROCESS

by Lois H. Godiksen

1. INTRODUCTION: THE PROJECT FOCUS

The Health Manpower Training (HMT) project was formulated as a partial response to recommendations set forth in a health sector analysis conducted in 1974.<sup>1</sup> That analysis established that if any significant change were to be made in the high morbidity and mortality in Swaziland, it would be necessary to give high priority to the development of a rural infrastructure capable of supporting the preventive work that underlies all health promoting activities within the organized health sector. The problem was identified as one of bringing health care to the people rather than waiting for the sick to come to the hospital or clinic.

It was an assumption of this project that more appropriate training of larger numbers of health personnel would permit progress in putting into operation a more efficient health service program. It was further assumed that, because of the need to

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<sup>1</sup>Oscar Gish, Planning the Health Services of Swaziland, (Washington, DC: American Public Health Association, 1974).

expand maternal-child health services,, there would be an accelerated need for more nurses. Therefore, although SIHS was founded to train all cadres of auxiliary health personnel, the first emphasis was on nurses. Swaziland's nurses would have to take charge of rural units, and the nursing curriculum should be revised accordingly. The curriculum was to include much more emphasis on public health and diagnostic skills which prepare nurses to function in a more independent fashion than is customary in hospital practice. This curriculum was to be implemented within 2 years, thus providing a sufficient output of "new" nurses to ensure at least one for each rural facility by 1985. These nurses would direct auxiliary nurses, rural health workers, and other rural health staff working under their supervision.

It is the purpose of this section to explore how this process seems to be working and with what effect. We will be looking for evidence of impact or potential for impact. This requires that we gain some understanding of both the activities that are taking place and the local environment within which health care operates.

## 2. PERSONNEL TRAINING AND OUTCOMES

Several categories of personnel have received training at SIHS since it began operations in 1978. These include:

- Basic Nursing (3-year program)
- Health Inspectors (2-year program)
- Dental Hygienists (2-year program)
- Midwifery (1-year post-basic nurse training)
- Community Mental Health (1-year post-basic nurse training)
- Nurse Practitioners (1-year upgrading training for clinic nurses)

The first training offered by the SIHS when it began operations in late 1978 was the Nurse Practitioner (NP) course, a 1-year upgrading program for clinic nurses. Prior to the opening of the Institute, the MOH had planned to conduct 8-week refresher courses for clinic nurses. This was to be carried out under the Community Health Project (CHP) which had begun in 1978. However, with the inception of the Institute, technical assistance was provided in the form of increased faculty. It was decided to use this surplus training capacity to provide more extensive



upgrading for clinic nurses. The new plan reduced the number of nurses to be trained, but the length of the training was extended to 1 year. The original plan had called for training approximately 40 nurses. This was revised in 1981 to 60 nurses. \_\_\_ additional nurses received upgrading in \_\_\_.

During 1979-1981, two different types of nurse practitioners were trained: Family Nurse Practitioners (FNPs) who were supposed to specialize in diagnosis and treatment, and Maternal Child Health-Family Planning (MCH-FP) practitioners who should be more prevention oriented. Ideally each clinic would be staffed with two nurses, one of each specialty. In practice, however, there was little difference in their training. Furthermore, the realities of the manpower situation were such that very few clinics could be staffed with two nurses, and these two had to alternate and fill in for each other. It was decided in 1982 to train one type of multipurpose nurse practitioner. Consequently, the 1983 refresher course for 32 trained nurses concentrated on giving FNPs additional preventive skills and the MCH-FPs additional diagnostic skills.

Meanwhile two other categories of personnel received training at SIHS. These were health inspectors and dental hygienists.

## 2.1 Employment Status

Problems with placement remain somewhat unassessed, most likely because until now the shortage of nurses in all settings has tended to obscure it. On the other hand, it also seems clear that much could be done through (1) a set of carefully conceived selection criteria for admission to training, and (2), a set of carefully conceived personnel policies that provide an appropriate incentive structure to effect optimal placement. These are being developed by the Ministry of Health and include financial incentives to accept posting in clinics.

## 2.2 Quality of Care Provided by Nurses

We tried to gain insight into quality of care primarily from existing reports and interviews with various health professionals working with SIHS graduates.

The CHP evaluation of the 60 NPs referred to earlier systematically assessed quality of medical care in two ways: (1) effectiveness/ineffectiveness in consultation, and (2) validity of diagnosis, treatment and referral.<sup>2</sup> The method used was to

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<sup>2</sup>Salveig Jensen and Bjarne Jensen, The Community Health Project: An Evaluation of Clinic Nurses' Job Performance and Assessment of the Community Health Project (Mbabane, Swaziland: Swaziland Institute of Health Sciences, January 1984), p. 15.

demonstrate the difference in diagnostic ability between an experienced physician and an NP nurse seeing the same patients under the same conditions. The observation was carried out under, so far as possible, normal working conditions in 15 FNP staffed rural clinics. Difficulties with a planned comparison group of non-NP staffed clinics resulted in substitutions of a comparison group from a St. Lucia study. The overall level of agreement of diagnosis was substantially higher for the Swazi NP group than the St. Lucia group. The investigators concluded that the NPs were able to deal efficiently and safely with most cases attending out-patient units; and that the overall competence and performance were, with few exceptions, good.

Other conclusions included the following:

- Referrals. The outpatient statistics showed a very low referral rate which the researchers interpreted as a need for on-going training.
- Overtreatment and Undertreatment. Through comparisons with the principles for prescribing established in the Community Health Manual the researchers concluded that a high failure in treatment existed, with 9.1 percent due to overtreatment, and 3.7 percent to undertreatment. (These figures extend to the whole out-patient population gives 24,000 drugs prescribed unnecessarily each month.)

-- Overall Summary. The impression was that the overall competence of the average NP was greater than the nurses who had not received this additional training. The non-NP nurses lacked certain essential skills and knowledge, and they did not seem to have an understanding for the complexity of clinic work.

The CHP study also assessed change in 10 areas of job performance in 15 clinics with Nurse Practitioner staffing. Nurses responded that they had introduced positive changes in clinic activities in nine out of ten areas. The largest increase was in the number of clinics now providing daily health talks. Other areas showing substantial increase were Community Health Committee, cooperation with Health Inspector/Health Assistants, immunizations every day, Family Planning every day, clinic kitchen garden, home visits by health team, regular meetings with Rural Health Motivators and regular meetings with clinic staff, education, and planning. The only area in which there was a reduction in number of clinics providing services was Antenatal Clinics. Finally, six clinic nurses reported good cooperation and relationships with the School Health Team, and one reported occasional cooperation with Rural Water Supply.

The direction of these changes in areas of job performance are overwhelmingly consistent with those endorsed in the widely accepted Primary Health Care approach with emphasis on preventive and promotive health practices.

### 2.3 Strengths and Weaknesses in Training

We obtained information regarding perceived strengths and weaknesses in SIHS training from several sources, including existing reports and individual and group focused interviews.

Several SIHS curriculum evaluations have been conducted to date. These are discussed in Appendix \_\_. Here we call attention to several points made in the evaluations that seem pertinent to our present discussion.

The recent Bracewell report stressed the strength of the SIHS nurses' program in terms of its consistency with the standards established by the nursing profession in other countries, especially the United States.<sup>3</sup> The recommendations for change focused on bringing those elements which did not meet these professional standards into line.

The Gallagher report, on the other hand, made it clear that the effectiveness of the curriculum could not be assessed until the graduates of the program are in practice.<sup>4</sup> She indicated

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<sup>3</sup>Mervel L. Bracewell, "Report of Swaziland Institute of Health Sciences Nursing Programs: Criteria, Guidelines for Observation, Interpretation, Evidence and Recommendations," Photocopy, August 10, 1984.

<sup>4</sup>Gallagher,

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that, given the current direction and activities of the IHS, the logical conclusion would be that the graduates will be able to function effectively and appropriately. At the same time, she cautioned about the constraints that could frustrate change, e.g., traditional attitudes, educational backgrounds of health personnel, and the civil service structure. And she pointed to the need for management and supervision skills in the curriculum. Because of the intended placement of graduates in the rural areas, more training in supervisory and administrative skills was needed, geared to effective management of rural clinics.

A glaring deficiency in the training of nurse practitioners identified in the 1984 CHP evaluation was the bottleneck in practical and public health experience under supervision.<sup>5</sup> Problems in this area remain a major consideration today. The primary area in which resident health professionals and SIHS students alike expressed dissatisfaction was practical experience and field training.

In a group meeting with students we first asked that they provide individual written responses concerning the areas of strengths and weaknesses in their SIHS training. Lists of strengths were shorter than those of weaknesses.

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<sup>5</sup>Jensen and Jensen.

Responses concerning strengths included:

"The academic standard provides the modern requirements in the nursing and health profession."

"Academic services are good."

"Teaches diagnostic skills, which help because of the shortage of doctors."

"The lectures now are based more on promotive, preventive and total well-being of the patients, clients and community as a whole, i.e., not solely concentrated on curative basis."

"The goals are not that of imparting knowledge."

"SIHS provides learning opportunities for all, irrespective of creed."

"No religious restrictions and regulations, e.g., one does not have to be married to have a baby and still continue with one's training."

"It provides post-basic training not available elsewhere in the country."

Identified weaknesses of training at SIHS, on the other hand, included the following:

"Lack of clinical instructors."

"Need more opportunities to go to the field."

"Lack of transport--trips canceled or arrive late in the day."

"Lack of continued instruction, assessment and evaluation in the clinical area."

"Not exposed to practicals."

"Hospital set-up is not suitable for training; hospital staff not always aware of needs of the students."

"Hospital not concerned with training and doesn't help students effectively."

"Clinical area not suitable for learning experience."

"Material more Americanized for the culture's beliefs and social standard of the country."

"Shortage of equipment in clinical area."

"Lack of textbooks which results in need for copious note-taking. Books sometimes arrive after course is over."

"Not enough supervision."

"IHS graduates lack cultural consideration."



"Emphasis on theory rather than practical is possible hindrance after graduation."

"Unconsciously teaching theory rather than practice."

"Students feel resented by hospital staff."

"Some graduates (dental hygienists and health inspectors) are unemployed still."

"General lack of teachers."

"Shortage of teachers in particular specialties--does not provide depth."

Our interviews with various resident expert health practitioners revealed substantial consistency with student views. In general the SIHS graduates were perceived to have superior technical training. However, they were faulted frequently in the area of practical experience. A typical response, "SIHS has aims... to produce a 'professional woman' and they've succeeded. They're not shy school girls. But it hasn't made them functional nurses which is what the MOH wanted. They have potential to be good nurses. But, they need an internship type of training. This gap should be closed."

Part of the underemphasis on practical experience or field training lies in the inability of the staff and students to carry

through with their scheduled plans. One resident expert reported that students have on occasion been scheduled for small-group, staggered six-week rotations to a facility, whereas in actuality they arrived in a group of over 30 and remained for only one week.

In discussions with Raleigh Fitkin Memorial (RFM) hospital personnel they, too, expressed dissatisfaction with the applied training in the SIHS program. NNC students were thought to be superior in practical training, whereas the SIHS students were better grounded in theoretical knowledge. It was pointed out that the SIHS student nurses do clinical training at RFM now and that it is "sort of a pain." The scheduling by SIHS is erratic and ill-planned, or at least it works out that way in practice.

In the hospital context, RFM, Mbabane, and Good Shephard hospitals expressed dissatisfaction with the fact that the SIHS student played the role of "observers" rather than "doers." They were, therefore, perceived as an additional burden. The feeling was that they missed valuable experience, but just as important, or more so in the eyes of some, they failed to provide services in a situation where critical shortages exist.

RFM staff questioned whether the government could afford to support these people "to sit on their hands." They felt that there was an attitude of "If you are a student you are on Easy

Street--you don't have to do a lick of work." RFM students have traditionally paid their own way to a much larger extent. The nurse training at RFM developed gradually over time to meet the hospital's requirements, and gradually became creditable in a wider arena. Although students receive scholarship support, the cost to the hospital for their training exceeds this amount. The only rationalization for RFM hospital in providing the training was the advantage that accrued to the hospital from students' work on the wards. RFM questioned whether the MOH was going to be able to afford the luxury of training all students without receiving the benefit of their labor. RFM cannot afford this policy without a significantly increased subvention from the MOH.

The paralleling of this situation with the development of professional nurses' training in other countries was noted. If the government policy is changed such that the labor contributions of RFM students are eliminated, and the "gap" is closed by government subvention, the net effect is to shift the cost of manpower training from the private sector to the public sector. The question raised was whether the government could absorb these increased costs.

It should be noted that the Bracewell report has not yet been formally accepted by the government. RFM is operating in a somewhat "suspended" state pending government response. On the one hand, largely in response to the Bracewell report, they have

been forced to let many of their tutors accept scholarships for training in other countries, which has handicapped their training program. Further implementation, however, depends on funding from the MOH.

Usually this is perceived as a "quality" issue; i.e., training that is consistent in content and method with that of more "developed" countries is assumed to result in trained personnel with higher qualifications. What is further assumed is that these higher qualifications translate into improved health status for the population as a whole. This ultimate effectiveness issue has not been put to the test. Nor has the affordability issue been fully explored.<sup>6</sup>

#### 2.4 Relevance Vis-a-vis "International Standards"

It was repeatedly impressed upon us that the SIHS curriculum was consistent with "international standards." This was frequently mentioned in interviews and appeared often in the Bracewell report on curriculum as well. Numerous recommendations were justified in that report on the basis of "this is the way it is in the United States."

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<sup>6</sup>A macro health financing review was conducted by a consultant recently, but the report has not been accepted by the MOH. (C.M. Stevens, "Alternatives for Financing Health Services in Swaziland," Photocopy, November 1984.

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Another issue, usually meshed in practice with the "practical versus theoretical" characterization, is the issue of relevance. The Health Policy Statement of July 1983 for Health Manpower Development stated in regard to objectives and methods, "Training programmes, particularly for auxiliaries and mid-level managers should be experience-based, skill-oriented and conducted in the field under conditions that reflect the actual environment."<sup>7</sup>

The objective here is to ensure that health professionals are trained to provide relevant care that will be appropriate to, and accepted by, the population served. There are indications that these criteria are not being consistently employed in the assessment of nurses' training and practice. Examples in two areas illustrate this dimension.

The first example is in mental health training, one of the two areas in which 4th year post-graduate specialization is now offered at the SIHS. Our informants in this area told us that in spite of theory in mental health provided in the SIHS classroom, the students have to "learn African psychiatry in the practical setting." Textbooks simply do not exist that are relevant in this regard, although efforts are being made to get WHO to undertake such an initiative. For the time being, however, it is only

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<sup>7</sup>Government of Swaziland

through supervised internships that this knowledge can be acquired. Further "blackboard teaching" in the absence of appropriate field involvement has a tendency to produce a "set of elites" rather than a cadre of nurses effective in the field setting.

The second example is family planning, another area in which sociocultural specificity is especially critical to effective service delivery. This is an area of particular importance in the rural areas of Swaziland. The CHP evaluation found a very low rate of use of family planning methods for child spacing in the clinics they studied.<sup>8</sup> A maximum of 4 percent of couples in the rural areas used any form of family planning. The average rate of defaulters was high at 60 percent. The nurses' statements concerning difficulties in introducing family planning showed that there was a lack of information both concerning the necessity and the methods. The researchers concluded that family planning activities, in rural areas, does not have any impact on population growth ratios, and that family planning education of nurses should concentrate less on the technical aspects and more on how to have family planning accepted in the community. All NPs have been trained in how to insert loops. However, only two of the thirteen clinics studied were able to provide this ser-

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<sup>8</sup>Jensen and Jensen.

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vice. In general, clinics were not supplied with the necessary equipment.

In general, we found numerous deficiencies reported in the quantity and quality of care provided by SIHS graduates. Some of these deficiencies related to the curriculum content. Others related to necessary ancillary services, e.g., transportation and logistics. Everywhere drugs and equipment problems constrained the quality of care the nurses were able to provide.

### 3. EXTENDING OUTREACH

As discussed in the introduction to this appendix, a primary problem to be addressed by this project was the problem of outreach. In the remainder of this appendix, we focus on three key components in the process of extending outreach, i.e., (1) rural health extenders (Rural Health Mobilizers), (2) coordination between modern and traditional health sectors, and (3) community participation.

#### 3.1 Extending Outreach Through Rural Health Motivators

In order to effect any significant change in the large volume of morbidity in Swaziland, it will be necessary to have a rural infrastructure capable of supporting preventive work. It

was anticipated that a cadre of Rural Health Motivators (RHMs) would provide a link between the static rural clinics (staffed with nurses) and the largely rural and dispersed population. It is clear that without an effective cadre of workers extending beyond the clinics, there will be minimal potential for impact on the health status of the rural population.

The RHM program came into existence in 1976, approximately two years before the HMT project was launched. A total of 10 tinkhundla (out of a total of 40) are presently covered by 381 RHMs, encompassing each of the four districts of Swaziland. RHMs work on a part-time basis of 2 1/2 days per week, and receive a monthly stipend of E20 from the Ministry of Health.

A study conducted in 1982 identified a number of major issues surrounding the operation of the program which needed to be resolved if significant impact was to occur.<sup>9</sup> In addition to the need to train more RHMs to extend geographic coverage nationally, the study identified major problems with supervision, supplies, assigned responsibilities, financing and attitudes.

Supervision. Although provision has been made "on paper" for the supervision of RHMs, little supervision is actually being

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<sup>9</sup>Daniel H. Thompson, "Five-Year Plan for Strengthening the Rural Health Motivator Program," photocopy, MOH/GOS, November 1982.

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done. The RHMs are supposed to receive technical supervision from the clinic nurse in the area in which they work, and from the District Public Health Nurse. However, various factors including clinic workload, logistical and transport problems, and personnel policies of rotating nurses mitigate against this outcome.

Supplies. The issue of supplies is intertwined with the assigned role of the RHMs which appears to fluctuate. However, the reality is that supplies have been minimal, essentially limited to an occasional issue from a clinic nurse. During our focused group interview with 25 RHMs in an Inkhundla in Hhohho district (reported to have one of the best functioning RHM programs in the country), they told us they have received no supplies since they received their original kits in 1978. These kits were taken from them in 1982 and have not been replaced. Yet they are called upon by the community for first aid needs which they cannot meet except out of their own household means. They do have midwifery kits (resulting from a UNICEF training program two years ago) and assist in emergency home deliveries.

Similarly in a recent study carried out in the context of a PRICOR project nearly half of the RHMs in the survey reported that they had no supplies.<sup>10</sup> Any supplies received were from

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<sup>10</sup>Cathleen Connolly, "Report on the Survey To Determine the Potential for community financing for the Rural Health Motivator," photocopy, USAID/Swaziland, March 1985.

the clinic nurse on an erratic basis. Moreover, less than 20 percent of the RHMs reported that they received any drugs from the clinic nurse.

Role and Functions. Since the MOH sees the RHMs as essentially motivators rather than service providers, their role is very constricted. They seem capable and eager to do much more. In fact, some are doing much more. This was confirmed in our interviews with RHMs.

One of the conclusions of the PRICOR study was that the potential for community financing would be very low unless the RHMs were able to provide additional services that are highly valued by the community.<sup>11</sup> Curative services rank high on this list.

Some of the strongest reservations regarding an expanded role for RHMs come from the nursing community. The underlying reasons for this concern require exploration. Some nurses justified their concern by saying that if the RHMs had drugs they might not refer patients to the clinic until it was too late for the nurses or doctors to treat the patients' illness. On the other hand it was also suggested to us that (1) the nurses do not want any "competition" from the RHMs that they prefer to reserve

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unto themselves those tasks, and (2) some nurses are afraid that their own status will be lowered if less highly qualified personnel are permitted to dispense services and medications that were previously the prerogative of more highly trained personnel.

Attitudes. The problem of low morale among RHMs has been noted by various observers of the community outreach program. This outcome might be mitigated by a number of steps, some involving relatively minor costs.

As we were concluding a meeting with a group of RHMs we asked if there were any additional things that they wished to talk about with us. One woman spoke up, saying that they would like increased salary. There were numerous agreements with this. Then another woman stated that what she thought they needed was uniforms. The women broke into smiles and a round of applause at this suggestion, some patting the area on their shoulders where nurses display their badges of qualification.

The PRICOR study (cited previously) was conducted more recently and identified a number of other factors constraining the impact of the outreach program carried out by RHMs. In a survey covering 572 rural homesteads located in four tinkhundla, and 31 RHMs from 11 different areas, the researchers reported the following:

1. Uneven Coverage of Services. Thirty-two percent of the community respondents reported that they had never seen the RHMs, and an additional 15 percent reported that the last visit was at least 4 months ago.
2. Inconsistency Between Community and Ministry Priorities and Activities of the RHM. Both the community members and the RHMs placed a high priority on drugs and water as the two greatest needs of the people, yet the MOH places its priority on preventive care. According to the survey, less than 10 percent of the RHM's activities related to treatment, excluding referral, while 90 percent involve health education and other forms of preventive care.
3. Inconsistency Between MOH Goals and RHM Activities. Two goals stated by the MOH in its plans were (1) to reduce child morbidity and mortality through immunization, and (2) to make available family planning services. The activities of the RHM focused on environmental issues.

A third brief informal written memorandum to the mission from a technical adviser noted areas of concern between the RHMs and the MOH--how they are trained, supervised, and provided with material support. He reported that 50 percent of the clinic nurses responsible for the health care delivery system in their area

had no idea of the number of RHMs working there. This seemed to be explained in part by the MOH practice of rotating rural clinic staff. The district supervisors paid them and led discussions with them. On the other hand, 50 percent of the clinic nurses know not only how many RHMs they have, but also who they are and, to a degree, the families they are responsible for. In some cases RHMs were often present in clinics, assisting the nurse with dispensing pills. He concluded that administrative follow up/support of RHMs is quite weak. In addition, he reported that really no concerted effort has been made to provide in-service training for RHMs. They have not been directly involved in the conception, development, or distribution of health education materials on a coordinated national scale. He proposed exploring programs in other African countries oriented toward round-robin workshops where skills are taught in discrete modules, interspersed with time in the field for practice and reflection, as an alternative to "one straight-through training program."

### 3.2 Extending Outreach: Cooperation With Traditional Practitioners

The primary health care approach as articulated at Alma Ata in 1979 holds that traditional practitioners should be integrated with modern health services where possible, thus significantly extending the system of care. Orientation about traditional

medicine is part of the nurse training curriculum at the SIHS. The extensive utilization of traditional practitioners in Swaziland makes cooperation between the modern and traditional health sectors a significant element in the delivery of health services to the majority of the population.

Traditional medicine and indigenous health practitioners constitute an important part of the Swaziland health care system. In the 1984 survey of community homesteads mentioned earlier (PRICOR), the researchers found that health services utilization patterns showed the following distribution by sector: Government nurses were consulted most frequently (60 percent) followed by mission nurses (18 percent) and traditional healers (10 percent) and last by doctors (12 percent). The distribution of visits by children (under 5 years) and adults is different. Children are attended most often by a nurse, 87 percent versus 70 percent for adults. Adults were inclined to use traditional healers and private doctors with considerably greater relative frequency than children. There are over 5,000 nonbiomedical healers in Swaziland and an estimated 85 percent of the population make use of their services.

The CHP evaluation explored the community's perceptions of the role of the clinic vis-a-vis the role of traditional medicine. They reported that 10 out of 15 groups of community members answered that the clinic nurse could treat all diseases; 3

groups especially mentioned that traditional diseases could not be treated by the nurse, but otherwise she could handle everything else; and 2 groups mentioned diseases which they felt could be especially well treated at the clinic: diarrhea, abdominal pain, eye diseases, accidents, pneumonia, cholera, and tumors. What community members felt should be seen by a doctor were tuberculosis, cholera, diseases needing x-rays for diagnosis, unknown diseases, combinations of modern and traditional diseases, serious traumas, and other serious conditions.

Ministry policy regarding traditional healers continues to be one of cooperation and cautious optimism. In 1981 the King directed the MOH to look into ways of organizing healers. A Commission for Traditional Medicine was formed whose function was to recommend ways of organizing and regulating healers. The commission drafted revised legislation modelled upon that which applies to the Modern Medical and Dental Council. The legislation dealt with registration, code of conduct, fee payment, and the formation of an association of healers.

Recognizing acute manpower shortages in the modern health sector, the MOH has sought out areas and extent of cooperation. Cooperation implies a better working relationship between the two health sectors whereby appropriate referrals between the sectors become more routine, certain of the traditional healers' skills are upgraded, and the cultural sensitivity of modern health care workers is increased.

A recent survey<sup>12</sup> showed that 98 percent of healers would like better cooperation between themselves and doctors and nurses. The researchers recommended that training seminars for healers be undertaken. The MOH, through the Health Education Center, began a series of short seminars for healers in the four districts over the next 5 years with an emphasis on curative rather than preventive medicine. Some training in the use of oral rehydration therapies has been undertaken, and the Public Health Unit has experimented with making RHM training sessions open to local healers who wish to upgrade their skills, yet still remain traditional healers.

The MOH is continuing an active effort to further assess areas of possible cooperation and to initiate and implement cooperative efforts.

We touched upon relations between traditional healers and nurses in our interviews with nurses. In response to our questioning, some clinic nurses indicated that they were receiving referrals from traditional healers.<sup>13</sup> Many Community Health

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<sup>12</sup>Edward C. Green and Lydia Makhubu, "Traditional Healers in Swaziland: Toward Improved Cooperation Between the Traditional and Modern Health Sectors" New York: International Human Assistance Programs, Inc., June 1983).

<sup>13</sup>Edward C. Green and Lydia Makhubu, "Traditional Healers in Swaziland: Toward Improved Cooperation Between the Traditional and Modern Health Sectors" New York: International Human Assistance Programs, Inc., June 1983).



Committees have traditional healers as active members. Joint seminars for clinic nurses traditional healers have been held. Traditional healers also work as Rural Health Motivators.

What seems important here is that although some mutual antagonism and some competition continue to exist between these two very different factions, steps are being taken to bridge the gap and create cooperation.

### 3.3 Community Participation

Community participation is an essential principle that distinguishes the primary health care approach, and it is part of the clinic nurses' responsibilities to promote this community involvement. The clinic nurse is supposed to work as a change agent and health team leader.

Swaziland is one of the most traditional countries in all of Africa. Since so much power in the past has rested with the traditional chiefs, many people believe that a key to changes in health care delivery rests with bringing the chiefs into the process.

An understanding of community organization and the local power hierarchy is important because it is in this arena that decisions are made, including those relating to health and health

services. It is this interlinked process that must be used to bring about change.

The rural population in Swaziland do not live in, nor are they attached to, villages. They live in dispersed homesteads (umuti)--small family groups whose members live together in consequence of being close kin. The head of the homestead is simply the head of the family group.

These homesteads form clusters that have a clear sense of belonging together and coming under the authority of a certain leader, or subchief (indvna). Such communities are named and have more or less definite boundaries. The total area coming under a chief comprises several of these local communities. A recent survey found that roughly 50-75 homesteads make up the average community.<sup>14</sup> There are 200-220 chieftancies in Swaziland.

Leadership at the local level consists basically of chiefs, subchiefs, and chief's runners (bagyinni). Chiefs have delegated authority from the regency, and they in turn delegate authority to subchiefs and runners. Chieftancy is hereditary, and indvuna tends to be quasi-hereditary, although tindvuna are appointed by the chief.

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<sup>14</sup>Green, "Community Mobilization for Health and Development in Swaziland," Health Education Unit, Ministry of Health, Swaziland, September 1983.

Decision-making tends to be top-down and chiefs exercise a great deal of power. However, the system is complex and considerations such as clan, royal lineage, and tribal descent play a role. There are local checks and balances on the chiefs' power by the traditional kinship system. In general, Swazi society exhibits a blend of authoritarianism and egalitarianism.

Nonformal, traditional local leadership includes traditional healers and "native son" elders who have deep roots in the community and a wide knowledge of customs and local history.

Informal, nontraditional influence is often exercised by businessmen, civil servants, school teachers, and church leaders, especially if they are native to the community. All communities have a traditional council (libandla), either a chief's or subchief's; and some areas have an inkhundla, or council of several chiefs. Council membership may be by appointment or election. The councils of both chiefs and subchiefs deal with development-related matters such as constructing a clinic. Once decisions are made, elections may be held to select committees (by combinations of appointments and popular vote) to implement decisions, such as selecting a clinic site or raising money for clinic construction.

In a community survey conducted in 1983, it was found that all communities surveyed had committees that deal with

development-related activities.<sup>15</sup> Many had health or clinic committees, as well as other committees with health functions. The existence of these committees has been interpreted as providing a potential for community mobilization on health matters.

In the CHP survey, the investigators reported that 12 of the 15 clinics they surveyed had a Community Health Committee. In 11 cases the clinic health nurse participated in the meetings. Another finding was that sometimes the chief is a member, but usually he is represented by the indvuna. Frequently school teachers and traditional healers are members. Four of the twelve clinics with Community Health Committees had women as committee members.

The area of community cooperation which nurses mentioned most often to us during site visits was the collection of a surcharge of 20¢ on clinic visits. One clinic we visited had a member of the health committee seated in the clinic to collect this fee. In other clinics the nurse reported that she herself collected this fee and then turned it over to the community. The funds gathered through surcharges are used in various ways by the community; for example, for clinic construction or maintenance, or for securing additional help in running the clinic.

It was suggested to us that it was not realistic to expect the nurse to work directly through the chiefs or subchiefs. Although she is dependent on this line of authority and power for support for her clinic, she is not free to approach them directly or to maintain regular contact as this would be wrongly interpreted. We were not able to explore the process by which nurses have tried to generate community participation, but nurses' inclination to pursue this area varied widely. In general, however, there appeared to be little interaction of nurses with community committees.

The potential in this area, however, appears to be significant. Nurses are accorded substantial status in Swaziland; they are respected members of the community. The CHP evaluation reported that all community groups said that the clinic nurses' participation, either actively or as advisers in projects--such as participation in Community Health Committee, environmental or water supply projects, health education at schools, and agricultural development projects--would be much appreciated. The CHP evaluation saw in these activities potential for community self-reliance.

On the other hand, Green reported that ad hoc committees, e.g., those that are organized solely to raise money for a specific building, are easier to sustain than those that deal with recurrent, on-going problems such as preventive health care.

In discussions with nurses on our clinic visits, they reported that they do work with communities in a variety of ways, but these outreach activities appear to be very limited. Time, logistics, lack of knowledge in community motivation and organization all work to influence the degree and kind community participation.

Recently there has been an effort to enlist community support in the supervision of Rural Health Motivators. The suggestion was that clinic nurses would provide technical supervision while the community would provide field supervision. We are not aware of any assessments covering the success of such joint efforts.

#### 3.4 The Potential for Community Financial Self-Reliance

Issues of financing of health care at the community level have become increasingly salient. A number of trends discussed in other sections of this report clearly indicate that the cost of health services is rising. Increased costs for greater numbers of better trained service providers, and increased government subventions to the mission sector are only two of numerous areas in which costs are rising as the government moves to expand the national health care system.

The ability of the community to pay a larger proportion of the cost of delivering MOH services is supported by a number of

observations. First, there is a tradition of private payment for health care. Traditional healers obtain their payments directly from the patient or the patient's kin. These fees are substantially higher than those charged by government health units, and traditional healers have no difficulty attracting clients from among the poorest of rural Swazis.

Mission health facilities have commanded significantly higher fees than government healer facilities prior to the recent fee restructuring initiated by the MOH, yet demand for their services has always been higher.

Furthermore, almost all homesteads participate in income earning activities of some form.<sup>16</sup> Outward appearances notwithstanding, the homestead economy has been closely integrated with the modern economy since the rapid agro-industrial expansion of the domestic economy that began in the 1930s. Rural homesteads in Swaziland, unlike the case of Lesotho which has become primarily a labor reserve for South Africa, have integrated the opportunities offered by the modern economy. About one-fifth of the population (one-third of the adult population) is in paid wage work. Most of these are employed in the private sector, which within Swaziland accounts for three-quarters of all jobs.

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<sup>16</sup>Fion deVletter et al., The Swaziland Rural Homestead, (Swaziland: Social Science Research Unit, University of Swaziland, July 1983).

Among these employed are 4.4 percent working outside Swaziland, mainly in South Africa. In all, 80 percent of the homesteads receive some income from the modern sector.

According to the clinic nurses with whom we spoke, the payment of clinic fees did not exceed the capacity of most community members. For those in need of care who are truly indigent, care is provided free. The chief may certify to the nurse if some household is unable to pay. Furthermore, nurses indicated that payment in kind was also feasible.

The ability to pay, however, is not necessarily reflected in a willingness to pay increased cost for government health services. Among the factors playing a role here are (1) the perceived quality of the services provided, (2) the perceived value of the kind of services provided, (3) the perceived fairness of charges, and (4) continuity with past payment practices.

Recent experience sheds light on some aspects of the above. During 1984, the decision was made to "rationalize the health services fee structure."<sup>17</sup> This decision stemmed primarily from the GOS's desire to bridge the gap between fees charged by the government and those charged by mission health facilities. Mission fees were about 50 percent higher than government fees.

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<sup>17</sup>Yaw Adu-Boahene, Health Services Fee Structure Rationalization and Government Financial Relationship With Mission Sector Health Services, Health Planning and Management Project (New York: International Human Assistance Programs, Inc., February 1984).

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The short-run effort of the equalization of charges between government and mission health care has been a drop in demand for government health services and an increase in demand for mission health services. Health care at mission facilities is judged by the population at large to be of better quality, not least because of their more reliable drug supply.

#### 4. CONCLUSIONS

The delivery of rural health services in Swaziland is dependent upon a complex rural health infrastructure which remains substantially undeveloped. The health personnel trained under this project represent but one component, albeit an important one, in that system. The potential for the graduates of SIHS to play a significant role in improving rural health services is dependent upon changes in many parts of the system. Without further changes to promote outreach there is little chance for significant improvement in rural health status.

There are a number of features of the HMT project, as it has been implemented, that appear inconsistent with the health sector survey that underlay the project or with the original project proposal. These features are noted and questions regarding their significance are raised.

The health sector analysis conducted in 1974 held that if the rural infrastructure was to be truly extensive--given the

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financial constraint imposed by the size of the recurrent budget --it would be necessary to incorporate the use of auxiliary personnel into its development. Therefore it was recommended that two types of nurses be trained-- 4-year trained registered nurses who could take charge of rural services, and 2-year trained auxiliary nurses that could be employed for roughly half the cost of the registered nurses. It was further proposed that the Government of Swaziland take over the responsibility for the training of registered nurses at a new school to be constructed either in Mbabane or Hlatikulu. Auxiliary nurse training could be accomplished at R.F.M. hospital.

In recognition of the level of resources required to support a cadre of highly trained nurses, the health sector analyst, Oscar Gish, made the following recommendation:

"(It is) . . . proposed that a level of nurse be trained that could be employed for roughly half the cost of the present registered nurse. . . (It is) . . . possible to employ about two auxiliary nurses for each registered nurse."

He warned, "too much attention cannot be paid to setting right the career and salary structure of auxiliary cadres. Many otherwise admirable schemes have failed on these scores."

It was Gish's recommendation that the output of registered nurses during the decade following his study should be not

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greater than the number required to replace those leaving the service which he judged to be no more than 12-14 registered nurses per year. On the other hand, he recommended that the output of the nurse auxiliary school should be about 35 each year, requiring an intake of approximately 40-45 per annum. Gish stated optimistically, "if the programme could be gotten underway by 1976 (the major bottleneck would be the development of the nursing school in Mbabane to which the present RFM students would transfer) there could be an output of 270 auxiliary nurses by 1985." (p. 34)

In fact, the SIHS in Mbabane is well established. The number of their graduates far exceeded Gish's recommendations. Furthermore, far from instituting a new program for training 2-year auxiliary nurses, the NNC at RFM has continued to train 4-year registered nurses. Currently proposals have been set forth to upgrade the quality of their 4-year training to make it more competitive with the training provided at SIHS, not eliminate it. (Check on how many auxiliaries are being trained, and where). And, predictably, there has been significant pressure on the Department of Establishments and Training to increase the level and number of positions available for registered nurses.

Clearly in relation to the health sector analysis conducted by Gish, there has been an overproduction of highly trained nurses and an underproduction of auxiliary health personnel. The

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WHO program for training health assistants that filled a critical role, and that Gish assumed would continue to produce health assistants, was terminated long ago. And, although the HMT project clearly stated that "there will be a large number of trained health assistants" produced under this project (p. 43) this component was not only left out during the project, but SIHS is vehemently opposed to the development of a capability in SIHS to train health assistants in the future.

The fact that two institutions now exist to train 4-year nurses, and that none exists to train the much larger number of sorely needed auxiliary nurses and health assistants, constitutes an acute dilemma for the Swazi health system.

That the objectives of the project were skewed during implementation in the direction of increased training for higher level health professionals at the expense of the needs of the health system as a whole is also evident in the training of faculty for the SIHS. Project documents called for preparing SIHS faculty at the B.S. in Nursing Education level. In fact, these training slots were allocated to nurses well into their careers, many of whom already had B.S. in Nursing degrees. The result is a faculty, many well-trained at the M.S. level, unsatisfied with the grading of their positions and nearing the age of retirement.

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APPENDIX H

SIHS NURSING CURRICULUM FORMAT  
FORMAL TEACHING HOURS

Course	Year and Trimester Hours								
	1-1 <sup>a</sup>	1-2	1-3	II-1 <sup>b</sup>	II-2	II-3	III-1 <sup>c</sup>	III-2	III-3
Psychology and Mental Health	20	20	20						
Anatomy and Physiology (Lecture 90, Lab 90)	60	60	60						
Chemistry (Lecture 16, Lab 14)	10	20	-						
Physics (Lecture 20, Lab 10)	-	10	20						
Introduction to Microbiology (Lecture 12, Lab 8)	20	-	-						
Nursing Ethos	10		10						
Preventive/Promotive Health and Family Planning <sup>d</sup>	10	10	10	-	15	18			
Nursing Science and Art (General year 1, Assessment year 2, Pathophysiol. years 2 and 3)	40	50	40	56	75	27	30	60	30
Pharmacology	-	10	10	-	15	18			
Nutrition/Dietetics (Includes Lecture and Lab)	30	-	-	-	-	-			
Physical Assessment	<u>20</u>	<u>25</u>	<u>20</u>	-	-	-			
Total hours	220	225	220						
Sociology				-	25	9			
Parasitology				14	20	9			
Pharmacotherapeutics				15	-	18			
Midwifery				<u>60</u>	<u>-</u>	<u>-</u>			
Total hours				145	150	99			
Community Health							20	20	20
Ward Administration							10		
Psychiatric Nursing							10	50	-
Medical Legal Aspects							-	-	<u>20</u>
Total hours							70	130	70

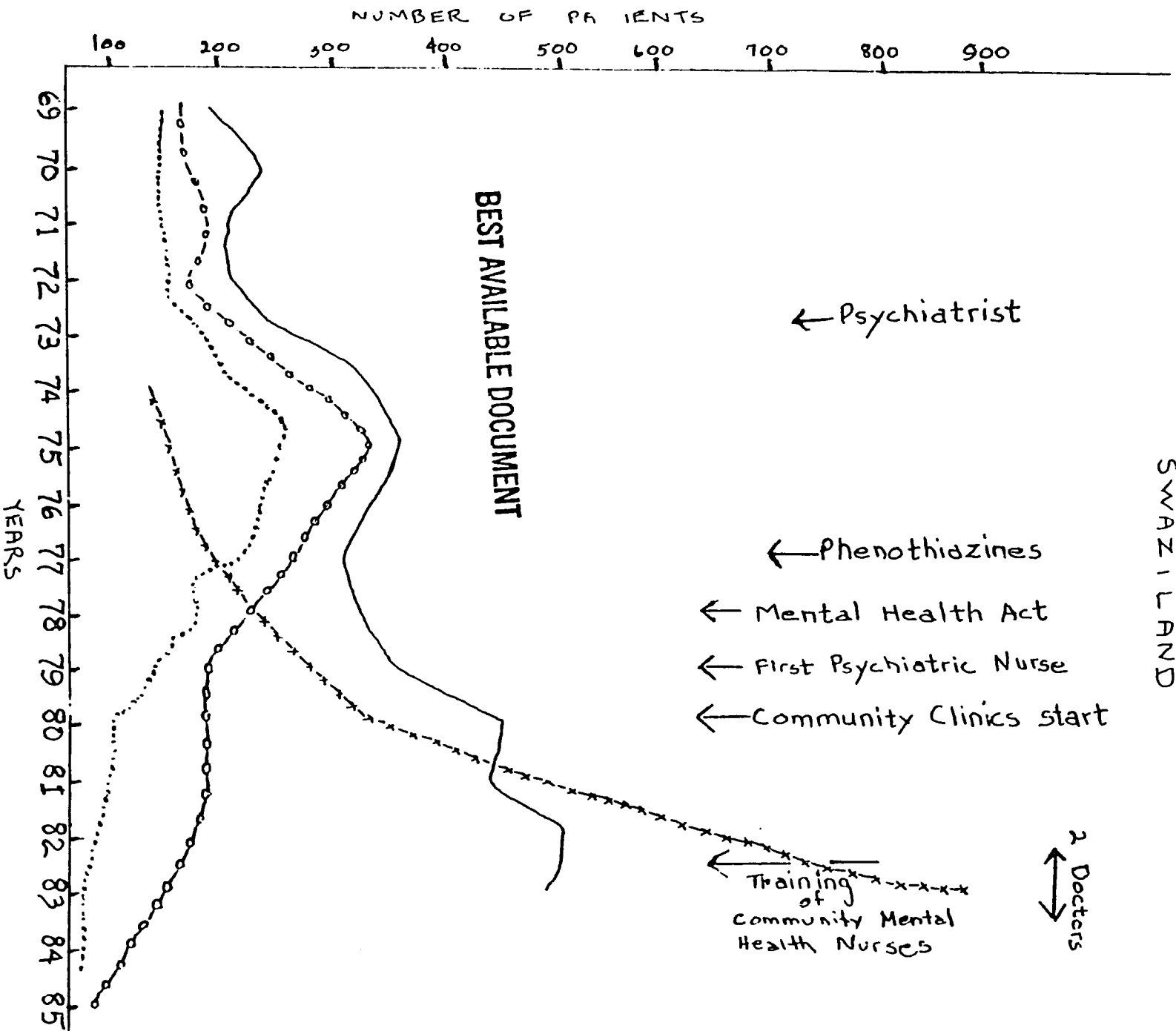
<sup>a</sup>Year I, 14.5 weeks/trimester, 14 class sessions/week; plus laboratory and clinical experience 744 hours.

<sup>b</sup>In year II, class sessions are reduced to not more than 11 per week and laboratory and clinical experience are increased to 1,072 hours.

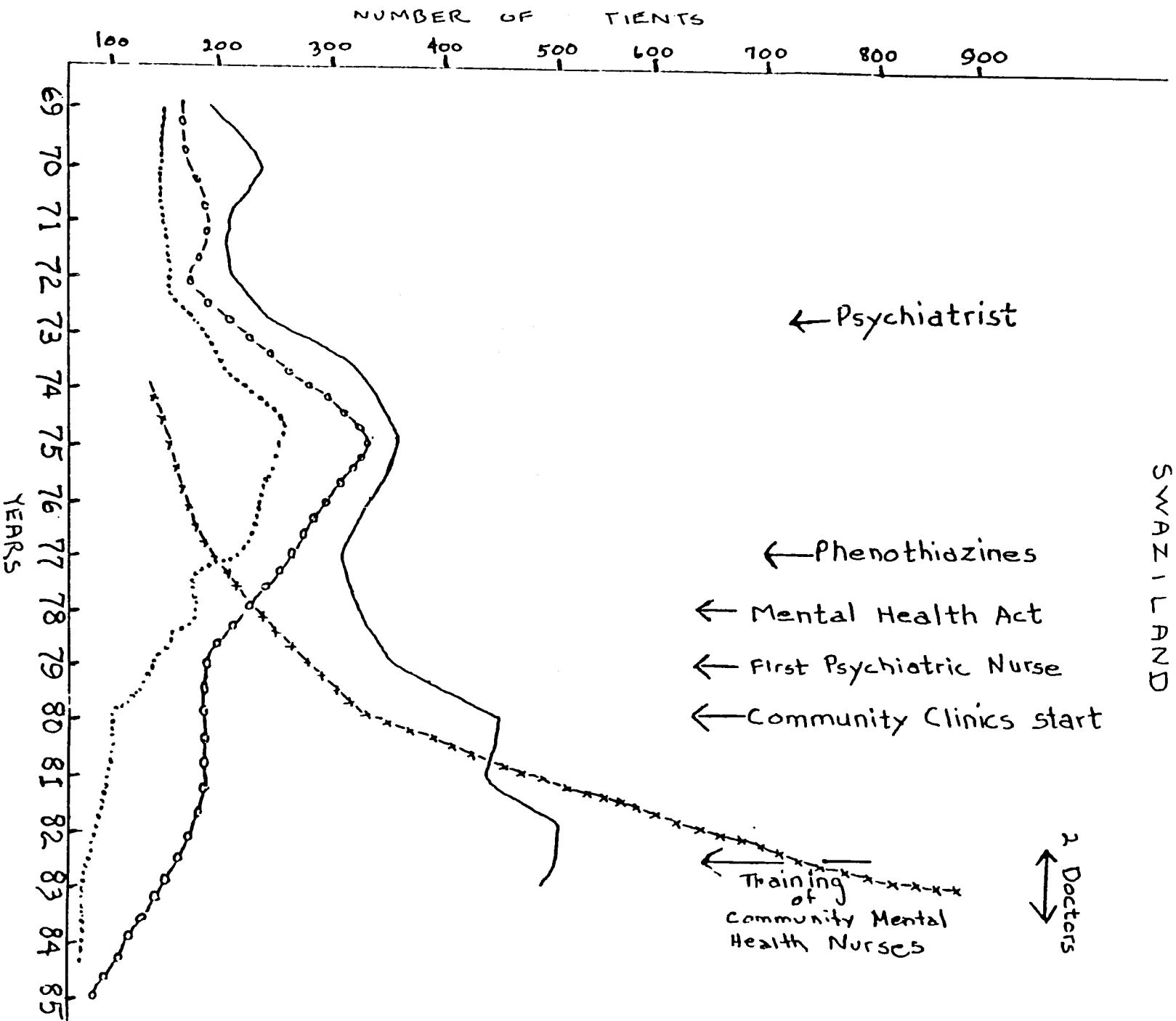
<sup>c</sup>In year III, class sessions are reduced further and clinical experience increased to 1,376 hours.

<sup>d</sup>In addition to class sessions, Preventive and Promotive Health and Family Planning includes trips to health facilities, schools, and community health projects.

TABLE 1-1  
DEVELOPMENT OF  
MENTAL HEALTH SERVICES  
OF  
SWAZILAND



Source: Dr Elizabeth Guinness  
\* "Chronicity" over 1 year at Matsapa Mental Hospital



Source: Dr Elizabeth Guinness  
\* "Chronicity" over 1 year at Matsapa Mental Hospital

APPENDIX K

People Contacted

USAID/Swaziland (Mbabane)

- Robert Huesmann, Mission Director
- Charles DeBose, Regional Health and Population  
Development Officer
- Scott E. Smith, Program and Project Development Officer
- Mary Pat Selvaggio, Assistant Health and Population  
Development Officer

Ministry of Health

- Tim Zwane, Principal Secretary
- Ruth Tshabalala, Acting Director of Medical Services
- Maggie Makhubu, Chief Nursing Officer
- Mrs. Edith Ntiwane, Matron, Public Health Unit
- David Alt, Advisor, Personnel Unit
- Dale Herman, Advisor, Health Statistics Unit
- Lucy Gilson, Advisor, Health Planning Unit



Department of Establishments and Training

-- E.M. Hlophe

Institute of Health Sciences

-- Nestor Dlamini, Principal Tutor

-- Staff

-- Students

Mbabane Government Hospital

-- Senior Matron

-- Dr. Nasser Khaygam, Director

-- Staff

Mbabane Public Health Unit

-- Staff

Siphofaneni Clinic

-- Staff

Sinceni Clinic

-- Staff

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Sithobela Health Center

-- Dr. Wilfred Owen, Director, and Staff

Mhlosheni Clinic

-- Staff

Nhlangano Clinic

-- Staff

Hlatikulu Hospital

-- Staff

Hlatikulu Clinic

-- Staff

Good Shepherd Hospital

-- Matron Miriam Dlamini

-- Staff

Good Shepherd Hospital Out-Patient Clinic

-- Staff

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Good Shepherd School for Nurse Assistant

- Tutor
- Justina Khalesla
- Staff

Siteki Public Health Unit

- Staff

Piggs Peak Hospital

- Matron Eunice Khoza
- Staff

Ntonjeni Clinic

- Staff

Mkhuzweni Clinic

- Staff

Havelock Asbestos Mine Clinic

- Dr. J.T. Dlamini, Director

Matsapha Mental Health Hospital

-- Dr. E. Guinness

Raleigh Fitkin Memorial Hospital

-- Dr. Paul Wardlaw, Previous Medical Director

-- Mr. Bert Friesan, Administrator

-- Dr. David Falk, Medical Director

Nazarene Nursing College

Project HOPE

-- Evelyn Acheson

IHAP

-- Kess Hottle

Sam Hynd, Previous Minister of Health

University of Swaziland

-- Mango Russell, SSRU

-- Cathy Connolly, SSRU

-- Joshua Mugenyi, Department of Political Science and  
Public Administrations

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