

May 24, 1994

**REPORT TO MAKERERE UNIVERSITY FACULTY OF MEDICINE AND THE
INTERNATIONAL DEVELOPMENT RESEARCH CENTRE**

**Re: Health Sciences Education Rehabilitation (Uganda)
Evaluation Visit: April 7 - 21, 1994**

File 3-P-89-0125

Introduction

The review team consisted of Professor S. M. MacLeod (McMaster University, Hamilton, Canada), Professor R. Owor (Department of Pathology, Makerere University), and Professor J. A. Opolot (Faculty of Education, Makerere University). The team was joined by Dr. Y. Berhane from the Department of Public Health, University of Addis Ababa as an observer. Extensive preparations were made for the evaluation team visit by the staff at the IDRC Nairobi Office. We are particularly grateful to Ms. Jane Ogwapit and to Ms. Sandra Baldwin, the Health Sciences Division Director who took time off from her maternity leave to help with preparations for the evaluation. In Uganda, excellent arrangements were made by Mr. B. K. Muwanga, the Faculty IDRC Project Administrator, and by Dean Mugerwa of the Faculty of Medicine. Extensive written materials were provided by the Education and Research Unit, and we are grateful to Dr. E. Ovuga who was the principal author of most of the relevant documents. When this report is finalized, a copy of each of the documents provided to the evaluation team in Kampala will be lodged with the IDRC Nairobi Office. These documents will be forwarded through IDRC, Ottawa.

Mr. Muwanga, in particular, was exceptionally helpful in arranging the logistics of evaluation including visits to community centres and interviews with a wide range of staff and students. The key individuals interviewed by the evaluation team are listed in appendix 1. The evaluation team wishes to extend its thanks to all of those involved in arrangements for our visit, and especially for the hospitality and courtesy extended to us during our lengthy assessment procedure.

The evaluation procedure began with a briefing of Dr. MacLeod by IDRC Nairobi on April 5th and 6th. Subsequently, interviews and discussions were conducted continuously in Kampala during the period April 7th through 21st. A de-briefing interview was held in Nairobi on April 22nd among Dr. E. Rathgeber, Ms. Sandra Baldwin, and Drs. MacLeod and Berhane.

Background

The Makerere University Faculty of Medicine was established in 1923 and followed the traditional medical curriculum. Since 1980, degree courses in Dentistry, Pharmacy, and Nursing have been added to the Faculty so that it has become, in effect, a Faculty of Health Sciences. The Health

Sciences Education Rehabilitation Program originated with the declaration of Alma Ata, and the growing commitment of many medical schools, including Makerere University Faculty of Medicine in the early 1980s, to a primary health care orientation in their educational programs. During the period beginning in 1982, curriculum revision was actively discussed at Makerere under the leadership of then dean Professor Owor, and a curriculum committee which met once a term. The curriculum revision process was supported in the period 1982 through 1988 by AMREF and UNICEF. The work of that period culminated in a curriculum workshop held at Jinja in 1988. By that time, the details of a new community-oriented curriculum had been outlined and work was well advanced on a plan for reorientation of the undergraduate medical program at Makerere. The support from IDRC in 1989 provided the means for implementation of the new curriculum. The following evaluation is concerned with the evolution of the new curriculum in the period 1989 to the present. The evaluation team followed as much as possible the guidelines provided by IDRC with respect to Institution, Institutional Motivation, Environment, Performance, Governance and Capacity. Specifically, we attempted to address three major areas of interest to IDRC in relationship to sponsorship of the Health Sciences Education Rehabilitation Program:

- The curriculum itself and its current state of implementation.
- The role of the Education and Research Unit (ERU) in support of education and research at Makerere University.
- The impact of the Health Sciences Education Rehabilitation project on re-orientation of the educational program.

The Institution

The Makerere University Faculty of Medicine is defined by a number of internal and external relationships including those with the Ministry of Health, with Mulago Hospital, and with the parent university.

The relationship with the Ministry of Health is critically important to the Faculty of Medicine and has steadily improved during a period of intense review of the Ugandan National Health System and resetting of priorities. There are numerous examples of Ministry of Health employees who play key roles in advising the Faculty on government priorities. Drs. Kadama, Oketcho-Okoth and Kihumuro-Apuuli have been particularly prominent, but there are many others. Ministry of Health physicians also participate actively in several of the clinical teaching responsibilities of the Faculty of Medicine. Makerere University Faculty of Medicine must play an essential role in providing support to the Ugandan national health strategy, and particularly in support of the developing primary health care orientation and the coordination and conduct of research necessary to support restructuring of the health care system. There is ample evidence that the Ministry and the Faculty recognize their important complementary relationship, although communications are not always as direct as they should be. The current Minister of Health, Dr.

James Makumbi, has been unfailingly supportive of the Faculty's efforts at rehabilitation.

The Faculty also has a very close working relationship with Mulago Hospital with which it shares an educational environment. The main teachers of the Faculty of Medicine are also the leading physicians of Mulago Hospital in most cases, and the relationship appears to be an open and substantial one. The hospital director, Dr. L. Kaggwa, indicated his desire to streamline all relationships with the Faculty including the elimination of redundant committee structures. He also expressed a strong desire to work with the University in developing community outreach programs in both urban and rural health centres. Preliminary work has already been done with the Kawempe Health Centre, and this might serve as a good model for future interactions. Such a development would be highly complementary to the Faculty's need for more community-based teaching sites.

The Faculty's relationship with Makerere University is also very important. The Faculty of Medicine is the largest and most complex Faculty in the University, and the vice-chancellor, Dr. P. Ssebuwufu has indicated a strong interest in the Faculty's programs since his appointment in autumn 1993. He met with the evaluation team and emphasized his commitment to supporting the Dean's office in their efforts to strengthen the new community-oriented curriculum. In some cases, the rules and structures of the University have hindered the evolution of the Faculty of Medicine, but it was our impression that the vice-chancellor would be willing to discuss areas of concern with the Faculty, and to lay before Senate some suggestions for streamlining of procedures. In particular, the evaluation team was concerned about the lack of flexibility in Makerere University appointments which do not permit joint appointments or division of responsibility between different departments. This relatively rigid structure tends to hinder the development of research and to impede interdisciplinary educational initiatives.

In general, the relationship between faculty members and the University seems positive. Although there was a strike in February 1994 by faculty lecturers, it was settled very quickly (within two weeks) with a spirit of compromise by the University administration being much in evidence. In essence, there was a blending of faculty salary and supplementary allowances to increase total income for purposes of pension calculation. The total arrived at was then increased by 100% to yield a current salary which is still considered inadequate but greatly improved. The faculty members appear to be appreciative of the efforts made on their behalf by the University administration.

Institutional Motivation

We attempted to apply the framework for institutional evaluation that has been developed by IDRC to the Makerere University Faculty of Medicine although some of the questions raised are outside our current mandate. The framework is also difficult to apply to an institution such as Makerere which is heavily influenced by its external environment and therefore not fully autonomous. Nonetheless, we did estimate institutional motivation to be relatively weighted toward innovation. The level of entrepreneurial activity in the Faculty is limited with the result

that actions taken tend to be reactive. The research directions of the Faculty are very heavily weighted toward the applied end of the spectrum and, in our judgement, the institution is controlled by its environment rather than exerting independent control.

Institutional Environment

As noted above, the institution's external environment is defined largely by its network of relationships. There are, however, some obvious features of the internal environment that have changed since implementation of the IDRC project in 1989. Security in Uganda has continued to improve, and this has made the free movement of teachers and students much easier. There has been significant improvement in the facilities of the University and Faculty of Medicine during this period supported, for the most part, by donor agencies. Dramatic improvements have been made in the physical structure of Mulago Hospital, particularly with support from the World Bank First Health Project and from the African Development Bank. Although the supply of vehicles for support of educational programs has improved, most departments do not have access to a vehicle directly under their control. Again, although the Dean's office has vehicles provided by IDRC and the World Health Organization, these are not adequate for such a large Faculty. Other kinds of equipment are still in short supply, and this is particularly lamentable where learning resources are concerned. Students are not provided with sufficient access to laboratory supplies, books, journals, or computers to support their education.

There is a new spirit of openness evident at the Faculty of Medicine. This is most apparent in the active involvement of students in planning of their curriculum and related educational experiences. There has also been a very dramatic move to involve local government in the planning of community health centre use for teaching purposes. This was brought home to us dramatically in a visit to the Buikwe Community Health Centre where the local management committee was most forthright in describing the advantages and disadvantages of student involvement in their community (appendix 3).

As noted above, the University environment seems receptive to innovation in medical education. There is a feeling of stability and collegiality among University faculty members. Interactions with their government counterparts appear positive.

Problems in the institutional environment are related primarily to the availability of resources. There are numerous unfilled posts in the Faculty of Medicine (see attached staff list and estimation of unfilled posts, appendix 2). The attractions of a university post are limited at a time when, in spite of recent salary adjustments, university wages are not sufficient to support a family. As a result, many faculty are diverted from their academic responsibilities by the necessity of earning outside income.

Institutional Performance

The Faculty of Medicine has operated consistently throughout the current grant period. Student

satisfaction with the educational program is moderate, although there are numerous suggestions for improvements that could be made particularly with respect to the availability of learning resources, materials, and supplies. The students are also critical of laxity in the institution's insistence that teaching faculty fulfil all of their teaching responsibilities. In the view of the evaluation team, it is an inescapable conclusion that the major constraint on institutional performance relates to the shortage of sufficient financial resources to support the medical school program. This is being slowly corrected, but much room for improvement remains.

Faculty Governance

The Faculty of Medicine has clearly experienced some difficulty in coordinating its various activities and in implementing the new curriculum. In particular, it has proven difficult to integrate some of the proposed educational activities across departmental lines. It was apparent to the evaluation team that the curriculum coordinator, who was appointed as head of the Education and Research Unit (ERU) with responsibility for implementation of the new curriculum, lacked the necessary authority to assure optimal functioning of the educational program. The department chairmen appeared, in many cases, to be sceptical about the role of the Education and Research Unit. The Faculty Board which should have supported the decisions made by the ERU as an extension of the Dean's office sometimes opposed those actions, and the Dean and the Associate Dean failed to make it clear that the ERU was acting on their behalf.

The Dean's position in the current structure is relatively weak and his authority is compromised to some degree by his elected status (four-year term). While Dean Mugerwa is clearly well liked and respected by his faculty members, that does not always mean that they respond to the authority of his office.

The Faculty appears to enjoy considerable independence in its relationship with the University. The University Senate has been supportive of curriculum revisions within the Faculty and of the development of new curricula such as that for the BScN and MPH Programs. The concerns of the Faculty of Medicine seem to be adequately heard at the university level.

Institutional Capacity

The Institution appears to have appropriate capacity for further evolution. There are adequate posts in the Faculty, although many of these remain unfilled (appendix 2). If salary resources were adequate to attract faculty members to all of these positions, the staff complement should be sufficient. There is continuing need for upgrading of facilities, equipment, and supplies, particularly for support of the growing research capacity in the institution. The provision, for example, of a vehicle for support of community-based research activities would be beneficial and would strengthen the community orientation as a foundation of the educational program.

The Curriculum

There are a number of positive elements in the curriculum introduced in 1989. It is a very innovative document with a modern outlook which is highly congruent with the declared National Health Policy of Uganda. Its philosophy is in keeping with international trends of the past fifteen years toward increasing community orientation in medical education with an emphasis on primary health care and on independent learning models. The curriculum is comprehensive in its approach. It is well written and its learning objectives are very clear. It is evident that the philosophy of the curriculum has gained a high level of acceptance by students, by community members, by policy makers, and by some international agencies including the World Health Organization and UNICEF. The curriculum has helped the Faculty to attract outside support for education from other agencies in addition to IDRC. Particularly prominent supporters have included WHO, UNICEF, AMREF, The Rockefeller Foundation, and the Carnegie Foundation.

The curriculum places a laudable emphasis on acquisition of practical skills including basic skills in research methodology. It features early involvement of students in the community. Student participation and initiative are encouraged by the curriculum, and it has resulted in increasingly open communications between students and staff.

There are, however, also several negative features of curriculum implementation that were apparent to the review team. The communication of the philosophy underlying the new curriculum and the preparation of faculty members for implementation was generally inadequate. Although there was an interactive process leading to the announcement of the new curriculum, much of this seems to have been forgotten by faculty and there is a feeling that it was imposed from the top. The curriculum, as described, is costly, particularly for support of the community participation components, and apart from the IDRC project itself, there were inadequate resources available to the Faculty to support these changes. There were, furthermore, inadequate faculty numbers to support some of the innovative aspects of the new curriculum. Of particular concern is the lack of Faculty teaching resources for courses such as Sociology and Microbiology. The scarce learning resources available for support of the curriculum represent an ongoing problem. The library is inadequate and there are insufficient materials and supplies for laboratory courses. The state of physical repair of the lecture facilities is unacceptable by modern standards.

The implementation of the new curriculum has been impeded by frank resistance from some faculty members, particularly some senior members of clinical departments. The administration of the program from the Dean's office and the ERU has been inconsistent at times, and there have been frequent irregularities in timetabling.

The community experience of the students was compromised from the beginning because the community sites available were insufficient. It was evident early on that Buikwe would not suffice as a single site, and yet other available sites (e.g. Kasangati, Mpigi, Kiyeyi) have not been used. The effort to identify appropriate community teaching sites within reach of public transport has not yet been made. The availability of supplies and equipment at the Buikwe site has been inconsistent.

Appendix 4 was given to the evaluation team in the course of a visit to the Mpererwe Health Centre. This Centre has been developing rapidly with exemplary cooperation of the Faculty and the community. The medical students have been actively involved in the baseline survey of health status and priority needs as participants in the University Partnerships program sponsored in part by IDRC. The professor of anatomy, Dr. S. Luboga, has shown the benefits of academic involvement in this community program. The evaluation team felt that it was a model of what might be achieved in other similar settings close to Kampala once commitment to the community-oriented curriculum is bolstered.

Overall, the review team concluded that the Faculty has adopted the right curriculum for the 1990s, but has made several errors in the implementation of the curriculum. The Faculty reaction to the curriculum and to the process followed in its implementation was surveyed by a questionnaire, and this is presented as appendix 5.

In the course of faculty interviews, it became apparent that there were divergent views on the curriculum and its implementation. Direct feedback was sought through a questionnaire prepared by the evaluation team and circulated to all faculty members likely to be present in Kampala on Monday, April 18th. Despite a requirement for return within forty-eight hours, fifty responses were received representing approximately 65% of all those who had the opportunity to reply.

Replies indicate that a significant proportion of faculty members (56%) are not comfortable with their understanding of new curriculum objectives. Only a small minority (12%) feel that the ERU should take on a major role in coordinating the new curriculum. There is substantial support for the view that the Institute of Public Health should lead the process of coordination of community-oriented aspects in the new curriculum (50%).

Importantly, 72% of respondents supported the view that all departments should participate in community-oriented teaching. Only a minority (16%) saw the role of ERU as being very important.

There is a disturbingly prevalent view that students performed better in senior rotation after experiencing the old curriculum, and that the new curriculum has weakened the educational system (68%). Since the evaluation team felt that the new curriculum had been only partly implemented, these views were not seen as justified; however, the need for strong support to further implementation efforts is entirely apparent.

While 64% of respondents feel that "major" revision to the curriculum is required, the evaluation team believes that much of the concern relates to curriculum structure and timetable rather than to educational philosophy. There appears to be general support for community-based learning and this will be evident if communications, resource allocation, and faculty preparation can be improved.

Some of the logistical issues associated with the introduction of the new community-oriented

curriculum were reviewed by Okello et al in 1993, and their views and suggested solutions are included as appendix 6 to this report.

The Education Infrastructure

The education infrastructure is influenced by the relationship between departments and the Faculty as discussed briefly above. The departments remain relatively autonomous within the Makerere structure, and they make decisions based on departmental considerations alone in many cases. Given the fact that the departments are often understaffed, it is not surprising that they are limited in their willingness to share resources ranging from microscopes to vehicles. The Faculty Board has not been willing to assert its responsibility for coordination of departmental activities, and has been equally unwilling to delegate that responsibility to the ERU and/or the curriculum coordinator. This reluctance on the part of Faculty Board must be overcome if the School's educational program is to prosper.

The Education and Research Unit (ERU)

The ERU was established with the support of this project grant. Faculty reaction to the ERU is mixed as highlighted in the questionnaire results (appendix 5). There is a clear sense on the part of many faculty that ERU membership was not based on clear and open criteria. Many feel that the Unit had a "hidden agenda". It is not perceived to have been created merely as an extension of the Dean's office. The overall mandate of the ERU was unclear to many faculty members.

The ERU itself, consciously or unconsciously, concentrated on educational matters. Only limited attention was paid to research, particularly in the area of skills development. An appropriate slate of subcommittees was created but these did not, in several cases, become effective. The ERU clearly had a responsibility for enhancement of the Medical Illustration Department, but maximum use of the department was not made and its use by other faculty members has not been fully promoted. The director of the Medical Illustration Department estimates that there is still 50% unused capacity in his department.

The individuals in the ERU suffered from inadequate definition of their roles and responsibilities. This has been particularly a problem at times for the Faculty Project Administrator who has been asked to make decisions that go beyond his managerial mandate, including performance of duties of a Faculty Administrator. The Dean, Associate Dean, and Curriculum Coordinator should have made a greater effort to define the role of the ERU and its support staff. Their failure to do so has exposed the ERU to some hostility, and it has become contentious rather than supportive to the overall Faculty mission.

The ERU and Implementation of the Community Clerkship

There have been problems from the outset with the community clerkship. Because it was introduced at the beginning of the third medical year, some students were sent to the community

before they had any direct clinical experience in traditional disciplines. The timing of community clerkship rotations has been inconsistent ranging from a low of eleven days to a high of five weeks. The accommodation provided in Buikwe has been poor, and the students complain of poor food quality and some difficulty in obtaining appropriate supplies from the local landlord. The fifty bicycles that were provided for student use by this project have not always been kept in good repair and there are often inadequate working bicycles available to the students to allow home visiting.

The program has failed to assure adequate staff supervision for students in the field. The logistics of arranging transport for staff who were visiting the Buikwe site on a daily basis has been difficult at times.

The ERU did not act effectively to resolve questions arising about a possible faculty honorarium in support of days spent in Buikwe. All faculty interviewed complained that they received only 2500 shillings for a day spent at Buikwe. This is really the University allowance for lunch and was considered inadequate remuneration for the inconvenience and time expenditure involved. The ERU apparently voted eventually to provide an additional 2000 shilling supplement, but this does not appear to have been given to any of the faculty members interviewed.

The review team was also concerned about the environment for learning in Buikwe. There were inadequate laboratory materials, supplies, and equipment. Books were not available and, in fact, no study space with adequate lighting was provided for the students.

One particular concern of the review team relates to the misuse of equipment that was purchased under this project in 1990 for use at the Wakiso Health Centre. That Centre became non-operational and unusable for educational purposes. The equipment, worth at least \$8000 (US), was simply stored rather than being transferred to Buikwe where there were obvious needs.

In summary, the review team concluded, with regret, that the community clerkship as presently established, has not been successful. The ERU has failed to correct obvious deficiencies or to find external solutions to the problems that have been identified. It was our feeling that adequate resources were available within this project to provide a supplementary allowance to faculty members attending at Buikwe provided that they rendered a good service to the students. A stipend in the order of 20,000 shillings per teaching day would have been appropriate.

Learning Resources

The evaluation team was concerned that the learning resources available to Makerere students are insufficient. The library has continuing problems with understaffing and underfunding. Although resources were available within this project for the acquisition of books and journals, it appears that less than one-quarter of the available resource has been used. The Medical Illustration Department has been well funded but has been underutilized by staff and students. The availability of *HealthNet* in the Faculty has not been widely publicized to staff or students, and

consequently the Faculty has failed to capitalize sufficiently on this important resource. The review team endorses the commitment of IDRC and the Faculty to develop a Publication and Information centre as a way of assuring the flow of written learning materials to students. Although this development is clearly critical, the ERU and the Dean's office have not moved ahead quickly enough with implementation.

Research Infrastructure

There is a strong embryonic research program at Makerere University. We are told that the level of research activity is increasing annually, and the pattern of development over the past five years is currently being analyzed by Dr. David Okello of the CEU. It is particularly encouraging to note the success of programmatic research at Makerere, particularly in the Child Health and Development Centre, the Institute of Public Health, the Clinical Epidemiology Unit, the Human Reproduction Research Unit, and the Uganda Cancer Institute.

The full development of research activity has been impeded by the lack of a coordinating national health research policy or body, and the lack of a designated research coordinator at the Faculty level. The ERU failed to actively assume this role, and has not sought outside funding for support of research infrastructure.

The ERU is, however, commended for its success in staging three workshops in research methodology with the cooperation of the CEU. These workshops have clearly increased interest in research, but there are limited tangible results to date.

At an undergraduate level, it is clear that the importance of research is recognized in the new curriculum; however, the course in research methodology in Year I has been inconsistent, and there is some dispute about division of responsibility between the CEU and the IPH. While there is dramatic interest on the part of students in research involvement, particularly at a community level, this has not been specifically encouraged by the Faculty and no funds have yet been identified or attracted from outside donors for this purpose. We were told, however, that Rockefeller Foundation funding for an initial program is imminent. For optimal student involvement, it is clear that more research-relevant equipment is also needed, especially laboratory supplies, computers, and perhaps transport to facilitate community research.

Research on the part of postgraduate trainees has been encouraged by the current project, in particular through provision of computer facilities in the ERU that have been used by those preparing their M.Med. theses. This has been a very positive outcome of the ERU presence.

It was clear to the evaluation team that there is some redundancy among committees responsible for research, and we believe this could be solved through better research coordination and the appointment of an Associate Dean responsible for Research.

Several faculty indicated dissatisfaction with the Faculty's inability to protect time for research

involvement. We believe that this could be achieved through strong research coordination and specific delineation of expected faculty responsibilities in research. It is equally important that time be protected for postgraduate trainees who are expected to conduct research as part of their program in preparation for submission of an M.Med. thesis. We were told that these students often find it difficult to secure research time free of service responsibilities.

Project Management

The role of the ERU and the Dean's office in management of this project has been described above under education and research infrastructure. The evaluation team was also concerned with the role played by IDRC in this project. In our view, continuity has suffered because of past uncertainties about the future of the Nairobi office, and because of changes in personnel. It appears that there was no individual at IDRC who was consistently informed about this project during its lifetime, and this lack of continuity has compromised success. There has been inconsistent follow-up about some of the line items approved in the original budget, and there has been a failure to fully advise Makerere about their opportunities within the original project plan. For example, no regular statement of account has been made to Makerere about unspent balance remaining for those budget items that were under Centre control.

When requests were made by the Faculty for acquisition of materials and supplies for the Medical Illustration Department, or for books for the library, there appears to have been inconsistent follow-up by IDRC and poor communication. There was, for example, some confusion about the ordering of bicycles for the community project, and a mistake was made in the number of computers ordered for the Dean's office. While all of these problems may eventually be sorted out, they have blunted the impact of the project in the critical area of learning resource acquisition.

In the view of the evaluation team, IDRC should have provided stronger technical support to the Faculty of Medicine around curriculum implementation and some related matters, such as the securing of consultation concerning the development of a Publication and Information Centre.

Impact of Project

- It is our unanimous conclusion that in spite of the limitations noted above, the project has had a positive impact. Most notable is the increased openness in the relationship between students and faculty. Student initiative has been greatly encouraged, and they have become much more outspoken about the merits and demerits of their educational program. For example, see the baseline survey of health needs in Mpererwe (appendix 4) and the survey of graduating class attitudes included as appendix 7.
- The full implementation of the new community-oriented curriculum would have been impossible, in our view, without the support provided by IDRC to the Dean's office.

- Outcomes in community involvement have been highly positive. In particular, the increased contact of faculty and students through the Buikwe program have been beneficial.
- Because of the core support provided by IDRC to the Faculty, the Dean's office, and various departments, research programs have been successful in obtaining outside support from a variety of agencies including:
 - Rockefeller Foundation
 - Carnegie Foundation
 - UNICEF
 - SIDA
 - DANIDA
 - WHO
- The evaluation team felt strongly that future opportunities for the development of community-based teaching health centres should be explored with some urgency drawing heavily on the experience to date.
- The relationship of the Faculty of Medicine with the government and the Ministry of Health was greatly strengthened because of the demonstrable relevance of the new curriculum. This change in the undergraduate program has also positioned the Faculty well to participate in future planning of the Ugandan health system. They are particularly well attuned to the primary health care orientation which features heavily in the Second Health Project currently being finalized with the World Bank. Furthermore, the Faculty's experience with community teaching sites, such as Kasangati and Buikwe, places them in a good position to plan for a next generation of community teaching health centres. The current project has provided the foundation upon which application can be made for capital spending in support of necessary infrastructure for future community-based teaching in medicine and in other health professional disciplines.
- The new curriculum was designed to produce doctors equipped to meet future health service needs in Uganda but there is reason to doubt that this can be achieved unless:
 - more complete implementation of the new curriculum is achieved
 - better integration of basic science, clinical science, and community health education proves possible
 - career opportunities for Ugandan graduates are improved

The importance of the last point is underscored by the survey of 1994 graduates given to us by A. Kiberu and included here as appendix 7.

Sustainability of the Project

In the view of the evaluation team, the community-oriented curriculum has not yet achieved a position of sustainability . There are pressing issues of curriculum leadership, faculty preparation, and communications which must be addressed. There are inadequate funds available within the Makerere University system to support an extensive community-based experience in undergraduate medical education, let alone in other health professional disciplines. As noted elsewhere, there is an urgent need for diversification in the range of community-based educational sites available. The current costs associated with transport of faculty to Buikwe, and accommodation of students in that site cannot be sustained and more cost-effective alternatives must be sought including the use of community health centres within range of public transportation. The extreme shortage of learning resources, laboratory supplies, and teaching materials in community settings must be addressed if the community orientation of the curriculum is to be maintained. Conjoint planning is required between Makerere University and the Ugandan Ministries of Health and Education in order to identify future funding sources sufficient for maintenance of a community-based program. It was the view of the evaluation team that sustainability of the current program could not be achieved before 1999. Beyond that time, sustainability is possible given continued political security and a reasonable rate of growth in the Ugandan economy.

FINAL RECOMMENDATIONS

1. Reconfirm a faculty-wide commitment to community orientation in education and research programs in keeping with national health policy which emphasizes Primary Health Care and with international trend.
2. Develop administrative mechanisms with accountability to the Dean and Faculty Board sufficient to assure implementation of the agreed curriculum and to maximize integration of education and research across departmental boundaries.

Faculty Board should begin by taking the lead in assuring wide dissemination of the curriculum by:

- distributing copies of the document to all interested teachers and students as soon as possible.
 - conducting small and large discussion groups including at least one general faculty meeting.
 - improving communications about educational issues including publication of an education newsletter at least quarterly until the curriculum is stabilized.
 - distributing this evaluation report widely as a starting point for discussion.
3. Restructure the Dean's office so that responsibility for education and research is vested in 2 separate units each headed by an Associate Dean with direct accountability to the Dean and the Faculty Board. The Education and Research Unit (ERU) in its present form should be disbanded and personnel redistributed to serve the two Associate Deans with clear job descriptions and well-defined accountability.
 4. Define roles and responsibilities of the Associate Dean (Education) to include, at least, the following:
 - implementation and monitoring of the curriculum
 - chairmanship of an Education Committee
 - faculty development re teaching
 - monitoring of all final examinations re form and content
 - maintenance and analysis of academic records
 - promotion of multi-professionalism (nursing, dentistry, pharmacy, etc.)
 - maintenance of adequate learning resources (library, laboratories, equipment, computers, medical illustration, etc.)
 - liaison with relevant Ministries re health human resource planning and training
 - liaison with Mbarara Faculty of Medicine including possible exchanges of staff and students.

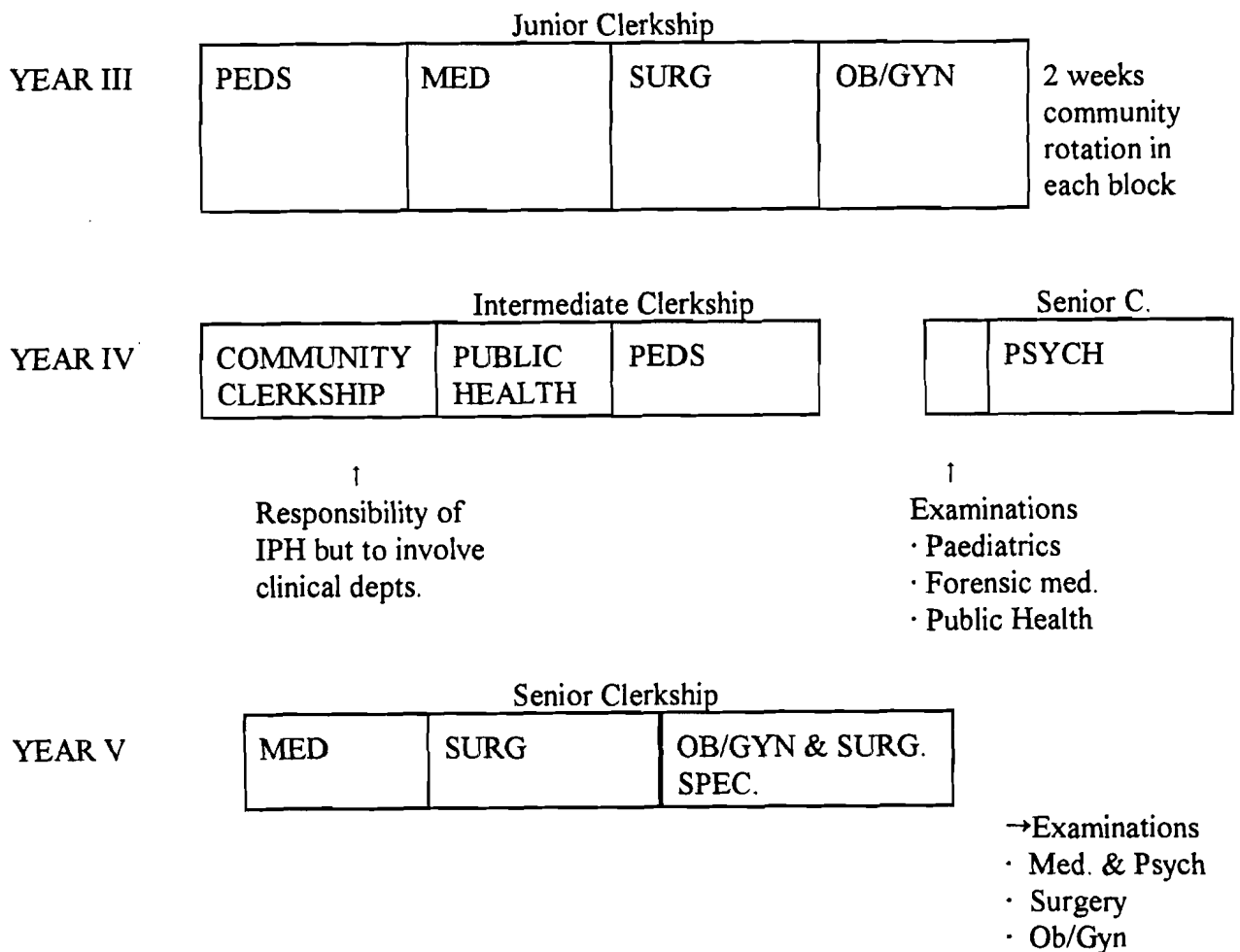
5. Define the roles and responsibilities of the Associate Dean (Research) to include, at least, the following:
- overall coordination of research within the faculty
 - liaison with research programs, e.g. CHDC, HRHU, IHPP, UCI, CEU
 - chairmanship of a Hospital-Faculty Research Committee
 - faculty development re research skills
 - encourage student involvement in research
 - assistance to all interested parties with proposal development and study design
 - advice to investigators seeking research funding
 - link to university and government research structures
 - research resource management (space and equipment)
6. The Faculty Board should examine a revised approach to the teaching of research and laboratory methods. A particular consideration should be given to establishment of a centralized microscopy laboratory. This resource could be shared by several disciplines in a cost-effective manner:
- haematology
 - histology
 - microbiology
 - pathology
7. The curriculum should be reviewed and reorganized before October 1, 1994. No major content change should be required but reorganization might attempt the following outcomes:
- | | | |
|----------|---|---|
| Year I | - | strengthening of community exposure in sociology and psychology |
| | - | improvement of research methodology course |
| Year II | - | enhancement of basic science teaching relevant to community priorities |
| Year III | - | consolidation of the junior clerkship within 4 terms to cover medicine/surgery/paediatrics/ob-gyn. Community experience for 2 weeks/term in total should be expected |
| | - | the community clerkship would be deferred until year IV |
| Year IV | - | creation of an intermediate clerkship to cover community clerkship, public health, and paediatrics in 10 weeks each. Teaching during the community clerkship rotation should be coordinated by the Institute of Public Health incorporating clinical departments in teaching and supervision. |

Year IV term 4 and Year V

- a consolidated senior clerkship to include medicine/surgery/ob-gyn/medical and surgical specialities/psychiatry as depicted in the model below

Figure 1. Model Clerkship Rotation in Year III, IV and V

Year I & II - As per curriculum



- The faculty is urged to consider adapting a semester system as a way of increasing flexibility in scheduling. Consolidated holiday periods should be used to encourage more community-based experience.

9. A task force should be struck as soon as possible with responsibility to review the community-based learning component of the faculty's programs and to develop a strategy for the next 5 years including:
 - suggestions for improvement of the Buikwe site including diagnostic and treatment facilities, transport within the district, and accommodation plus teaching space for students and supervisors.
 - plans for the development of a network of teaching health centres covering rural, semirural and urban settings.
 - plans to enlist support from MOH/MOLG/MOE for a health sciences teaching environment in community settings.
 - suggestions re cost-effective solutions to transport
 - identify donor agencies supportive of community-based learning and likely to be interested in partnership.
10. Revise the appointment and promotion systems in order to encourage greater variety in individual faculty contributions to education, research and service.
 - permit joint appointments
 - broaden criteria for promotion beyond publication record
 - Dean should be invited to the Appointments Board meetings whenever Faculty of Medicine positions are being considered.
11. A full evaluation of the impact of the new curriculum on overall student performance and on community health indicators in Buikwe and at other sites should be undertaken and repeated serially. A similar evaluation of outcomes at Mbarara University would be of great interest.
12. While external support will be needed during the next 5 years, the University must plan now to assume full responsibility for the sustainability of its health discipline programs.

APPENDICES

- 1) Evaluation Team Interviews
- 2) Complement of Academic Staff
Makerere University, Faculty of Medicine
- 3) Report to the Evaluation Team by Management Committee,
Buikwe Health Centre
- 4) Survey of Health Needs Mpererwe Health Centre: University Partnership Project
- 5) Curriculum/ERU Questionnaire and Survey Results
Makerere Faculty
- 6) Community-Oriented Education
Okello, Ovuga, Luboga
Reprint from Annals of Community-Oriented Education (1993)
- 7) Graduating Class Attitudes - Surveyed by
Medical Student Association (Mr. A. Kiberu)

INDIVIDUALS INTERVIEWED

APPENDIX 1

<u>Vice Chancellor</u>	Dr. P. Ssebuwufu
<u>Dean's Office</u>	Prof. J. Mugerwa Prof. W. Anokbonggo J. Bulikwadi (Senior Assistant Registrar)
<u>Librarian</u>	R. Kakembo
<u>ERU</u>	E. Ovuga B. Muwanga D. Guwatudde
<u>Medical Illustration</u>	W. Serumaga
<u>FACULTY OF MEDICINE</u>	G. Bukenya (IPH) D. Ndugutse (IPH) N. Sewankambo (Med) D. Okello (Med) C. Ndugwa (Peds) R. Mugerwa (Med) E. Mworozzi (Peds) E. Baingana Baingi (Microbiol) J. Arube Wani (Peds) J. Walumbe (Physiol) E. Katabira (Med) F. Mmiro (Ob-Gyn) J. Ssali (Surg) G. Rwegellera (Psych:Letter) C. Mubiru (Labs) J. Jitta (Peds) I. Kakande (Surg) S. Mbabali (NSG) M. Otim (Med) S. Luboga (Anatomy) J. Mafigiri (Kasangati)
<u>Mulago Hospital Director</u>	L. Kaggwa
<u>Ministry of Health</u>	P. Kadama , ADMS (Planning) V. Oketcho-Okoth, ADMS (Training) J. Kyabagu, First Commissioner (Planning) D. Kihumuro Apuuli (DMS)
<u>Mbarara University</u>	Prof. Y. Begumya, Dean, Faculty of Medicine

A further 12 faculty members presented to the Evaluation Team at an open meeting.

STUDENTS INTERVIEWED

MUMSA EXECUTIVE

S. Haumba
A Kiberu

YEAR I

F. Kakibira
R. Byaruhanga
E. Rutebembera

YEAR II

B. Kabugo
P. Olupot
G. Owor

YEAR III

J. Wabwire
J. Ekure
K. Kintu

YEAR IV

S. Bakeera
C. Baryomunsi
P.K.J. Kiwanuka-Mukiisi

YEAR V

J. Kananura
M. Lugenwa
D. Nyenje

A further 10 students presented to the Evaluation Team at an open meeting.

Appendix 2

MALERERE MEDICAL SCHOOL STAFF LIST AS AT APRIL 1994

DEPARTMENT ANAESTHESIA

ESTABLISHMENT	STAFF ON GROUND/STUDY LEAVE	QUALIFICATION
2 Professors	1. Vacant 2 Vacant	
1 Assoc. Professor	1 Vacant	
1 Senior Lecturer	1 Vacant	
2 Lecturers	1 Dr. W H Bukwirwa (Head) 1 Dr. J Tindiwebwa	MBChB, M.Med(MUK) MBChB, M.Med (MUK)
MINISTRY OF HEALTH		
1. Dr. C Mijumbi	Consultant	MBChB, M.Med(MUK)
2. Dr. Okello M		MBChB, M.Med(MUK)

DEPARTMENT OF ANATOMY

1 Professor	1 Vacant	
1 Assoc. Professor	1 Vacant	
2 Senior Lecturers	1 Dr.S Luboga (Head) 2 Vacant	MBChB M.Med, PhD(MUK)
	1. Dr. Okumu Achandere 2. Vacant 3. Vacant 4. " 5. "	MBChB, M.Med(MUK)
2 Ass. Lecturers	1. Dr. J Bataringaya 2 Vacant	MBChB (MUK)
Chief Technicians	1. Ms. R Naiga 2. Mr. D Kisitu	
Lecturer	Mr Hanman El Guiziry	MBChB, M.Sc
Visiting Professor	1 Prof. A Obuoforibo (WHO)	MBBS, PhD(Sheft MNI)
Teaching Assistant	1 Mr. G Ziraba	B.Sc (ANAT. ZOO) Hons

DEPARTMENT OF BIOCHEMISTRY

1. Dr. J F Carasco	B.Sc.M.Sc PhD(Protein)	Associate Professor & Head
2. Dr. E J P Fakonge	B.Sc.M.Sc.Ph.D (Nutrit.)	Associate Professor
3. Dr. M Halloway(Ms)	b.Sc, M.Sc Ph.D (Parast)	Associate Professor
4. Dr. G S Bimenya	B.Sc, M.Sc.(Clin.Bioche)	Senior Lecturer
5. Mr. A Rutesasira	B.Sc M.Sc (Clin. Bioche)	Senior Lecturer
6. Ms. R Baingana	B.Sc, M.Sc	Lecturer
7. Mr. E S Mukasa	Dip. MLT	Chief Technician

DEPARTMENT OF DENTISTRY

1. Dr. S Ecec	BDS (Lond), LDSRCS (Eng)	Associate Professor & Head
2. Dr. L M Muvazi	PDS, RCPS (Glasgow)	
3. Dr. A Kassin Mohamed		
4. Dr. Ali M Kameel Ibrahim	Visiting Doctor	
5. Dr. I Okullo	BDS	
6. Dr. J Magara	BDS, MDS	Assistant Lecturer
7. Dr. L B Korukiro	BDS	Lecturer
8. Dr. B M Murenga	BDS	Graduate Fellow
9. Dr. F Tirwoave	BDS	
10. Dr. Namayanja	BDS	Part time
11. Mr. A Kabunga	BDS	Part time Technician

DEPARTMENT OF E.N.T

1. Mr. E G Mugaddu	MBChB, FCS(SA), DLO(RCP&S)	Senior Lecturer & Head
2. Dr. S M Zaramba	MBChB, DLO, M.Med(FAMS)	Lecturer
3. Dr. A W B Tunvikirize	MBChB, M.Med (MUK)	Lecturer
4. Dr. R Jemba-Ssonko	MBChB, M.Med	

MINISTRY OF HEALTH

1. Dr. Natakande Kyambadde		
2. Dr. Byenkya Atwooki	MBChB(Cairo) ENT Spe(Bonn)M.O.	Special Grade
3. Dr. Bogach	First Category (USSR)	Government Consultant
4. Dr. Tunweheire G O	MBChB, M.Med (MUK)	Medical Officer Special Grade

INSTITUTE OF PUBLIC HEALTH

1. Dr. J T Makinda-Soupy D	MBChB, DPH (MUKIM), SOI, Contab MPH	Asso. Prof.
2. Dr. Gilbert E. Sulekwa	MBChB, DPH, MSc, PhD	Associate Professor & Head
3. Dr. J. Ndung'utse	MBChB, MPH	Senior Lecturer
4. Dr. D. Serwadda	MBChB, M.Med, MPH	"
5. Dr. Y. K. Konde-Dule	MBChB, DPH, MPH	"
6. Dr. C. Zirabanzuzaale	MBChB, DPH, MPH	Lecturer
7. Mr. M. Oryema-Balcoo	B.Sc, MPH	"
8. Dr. Kamugisha Alex	MBChB, DPH, M.Sc	Lecturer
9. Dr. Bazeyo M		Senior Lecturer
10. Dr. Baine O S		Lecturer
11. Dr. Olico-Oku	MBChB, DPH Masters in PHC Management	Lecturer
10. Ms. I. Kisile (SAA)		Administrative Ass.
11. Ms. I. Zinte		Social Worker

MEDICAL ILLUSTRATION

1. Mr. W. Serunaga	-	Senior Medical Illustrator
2. Mr. A. K. Kiwanuka	-	Senior Assistant Medical Illustrator

DEPARTMENT OF MEDICINE

1. Dr. M. A. Otia	MBChB, M.Med, FRCP M.D(MUK)	Professor
2. Dr. R. D. Mugerwa	MBChB, M.Med(MUK)	Associate Professor & Head
3. Dr. N. K. Sewankambo	MBChB, M.Med, MPH	Senior Lecturer
4. Dr. R. M. Kanya	MBChB, M.Med	Lecturer
5. Dr. E. Tebasoboke Katabira	MBChB (MUK), MRCP	Lecturer
6. Dr. Magid Kagimu	MBChB, M.Med (MUK)	"
7. Dr. D. Okello	MBChB, M.Med (MUK)	Senior Lecturer
8. Dr. (MRS) R. Mayanja-Kizza	MBChB, M.Med	Lecturer
9. Dr. O. J. Prees	MBChB, M.Med M.Trop. Med MD	Senior Lecturer
10. Mr. B. Okee	-	Chief Technician

MINISTRY OF HEALTH

1. Dr. C. Sezi	MBChB, FRCP	Government Consultant
2. Dr. E. Ddumba (S/Leave IPH)	MBChB, M.Med (MUK)	"
3. Dr. A. Nambuya	MBChB, M.Med (MUK)	"
4. Dr. E. Kigonya	MBChB, M.Med (MUK)	"
5. Mr. J. Adrigwe (S/Leave)	MBChB, M.Med (MUK)	"
6. Dr. G. Baingana	MBChB, M.Med (MUK)	Medical Officer Special Grade

DEPARTMENT MICROBIOLOGY

1. Dr. E J M Baingana-Baingi	MBChB, M.Med Path	Head & Senior Lecturer
2. Mr. E D Kerchan	AMLS	Chief Technician
3. Mr. H A Ococi Jungala	DMLT	Principal Technician
4. Dr. C F Najjuka	MBChB	Teaching Assistant
5. Dr. T O Aisu	MBChB, M.Med Path	Part Time Lecturer
6. Dr. Y Npairwe	MBChB MD	"

DEPARTMENT OBSTETRICS/GYNABCOLOGY

1. Dr. F A Mairo	MBChB BS (Bombay), FRCOG, FICS	Professor & Head
2. Dr. F Miremba	MBChB, M.Med Ph.D (MUK)	Senior Lecturer
3. Dr. A Karugaba	MBChB, M.Med (MUK)	"
4. Dr. J C Lule	MBChB, M.Med (MUK), M.Sc	Lecturer
5. Dr. A K Mugasa	MBChB, M.Med (MUK)	Lecturer
6. Dr. C Matovu	MBChB, M.Med (MUK)	Lecturer
7. Dr. H W Kakande	MBChB, M.Med (MUK)	Lecturer
8. Dr. J Musinguzi	MBChB, M.Med (MUK)	Senior Lecturer
9. Dr. S S Kagwa	MBChB, (MUK), MRCOG	Lecturer
10. Mr. C L Mubiru	-	Chief Technician
11. Mr. Daniel Mugenyi	-	Principal Technician

MINISTRY OF HEALTH

1. Mr. J A E Tanale	MBChB (MUK), MRCOG	Government Consultant
2. Mr. B R Bazira	MBChB, M.Med (MUK)	"
3. Mr. G Kikampikaho	MBChB, M.Med (MUK)	"
4. Mr. P Muganwa-Kinene	MBChB, M.Med (MUK)	"
5. Mr. S Kalisoke	MBChB, M.Med (MUK)	"
6. Ms. C Biryabarena	MBChB, M.Med (MUK)	"
7. Ms. C Nakabiito	MBChB, M.Med (MUK)	"
8. Dr. R Busingye	MBChB, (MUK)	"
9. Dr. P Odyek	MBChB, (MUK)	"
10. Dr. Ms. O Sentumbwe	MBChB (MUK)	"
11. Dr. N Katusiime	MBChB (MUK)	"

DEPARTMENT OF OPHTHALMOLOGY

1. Dr. A Medi Kawuna	MBChB(MUK), MCOphth. RCS, R.C.P., Momp.	Senior Lecturer & Head
2. Dr. F P Mwaka	MBChB (MUK), M.Med, DCBH,	Senior Lecturer
3. Dr. H Tibayungwa Kabuleeta	MBChB, M.Med, DCBH	Lecturer
4. Dr. Agaba-Ateenyi	MBChB, M.Med(Ophthal)	Lecturer

MINISTRY OF HEALTH

1. Dr. F Kvesigye	MBChB, M.Med	Government Consultant
2. Dr. C Majimbi	M.D	Special Grade

DEPARTMENT OF PAEDIATRICS

1. Dr. C M Ndugwa	MBChB, M.Med, DCH, DTM & H	Head & Associate Professor
2. Dr. J Sc Byarugaba (S/L)	MBChB, M.Med, Dip(Nutrit)	Senior Lecturer
3. Dr. G K Mukasa	MBChB (Bristol) M.Med	Senior Lecturer
4. Dr. J S Jitta	MBChB, M.Med	Senior Lecturer
5. Dr. Kenya-Mugisha	MBChB, M.Med	Lecturer
6. Dr. C A Karamagi	MBChB, M.Med	"
7. Dr. J W Arube-Wani	Dip. BA(SWASA) DIP (LAW) M.Phil, MPH	"
8. Dr. (Mrs) M McGregor	Scherman	
9. Mrs L Serunjogi	M.Sc	Nutritionist
10 Mr. J B Kiwanuka	-	Chief Technician
11. Dr. S Kiguli	MBChB, M.Med	Lecturer
12. Dr. G Ndeezi	MBChB, M.Med	Lecturer

MINISTRY OF HEALTH

1. Dr. G Zirembuzi	M.D (AIDA), M.Med	Senior Government Consultant
2. Dr. D Tindyebwa	MBChB, M.Med	"
3. Dr. Kataaha P	MBChB, M.Med, Ph.D	Government Consultant
4. Dr. E A Mworozzi	MBChB, M.Med	Medical Officer/Special Grade)
5. Dr. Oriokot	MBChB, M.Med, DTCH; cert B.Econ	"
6. Dr. E Kiboneka (Ms)	MBChB, M.Med	"
7. Dr. A Kekitinwa (Ms)	MBChB, M.Med	"
8. Dr. G Buwule (Ms)	MBChB, M.Med	"
9. Dr. P Lwabi	MBChB, M.Med	"

DEPARTMENT OF PATHOLOGY

1. Prof. J W Mugerwa	LMS, MD, DCP, D.Path.	Dean/Faculty of Medicine
2. Prof. R Owor	MBChB, MD, (FRC Path)	Professor
3. Dr. W Byarugaba	B.Sc, M.Sc, Ph.D (Human Genet)	Senior Lecturer
4. Dr. W N Vanukota	MD (JR) M.Med	Associate Professor /Head
5. Dr. B B Wabinga	MBChB, M.Med Cer Epid	Lecturer
6. Dr. M Odida	MBChB, M.Med	Lecturer
7. Mr. D. Sempala	-	Chief Technician
8. MR. Andrew Okwi	-	Principal Technician

MINISTRY OF HEALTH

1. Dr. J Nsereko-Mukasa	MBChB, M.Med	Medical Officer/Special Grade
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DEPARTMENT OF PHARMACY

1. Dr. Olwa Gdyek	B.Sc., M.Sc., Ph.D	Associate Professor
2. Mr. R Odor-Adome	B.Pharm. M.Sc	Senior Lecturer/Head
3. Dr. B Onegi	B.Pharm, Ph.D	Lecturer
4. Dr. D B Kasujja	B.Sc, Ph.D	"
5. Ms. E Kawulukusi	B.Pharm. M.Sc	"
6. Mr. Kakooko	B.Sc Dip(Plant Tex)Part time	"
7. Mr. Kavuma	B.Pharm M.Pharm(Hons)	Lecturer
8. Olowo Oteba Martin		Teaching Assistant
9. Kabogo Abbas		
10. Okecho Juliet		Teaching Assistant
11. Fred Sebisubi		Teaching Assistant

DEPARTMENT OF PHARMACOLOGY & THERAPEUTICS

1. Prof. W W Anokbonggo	MD, M.Sc, Ph.D	Professor & Head
2. Dr. Y Mawerere	MBChB, M.Sc	Senior Lecturer
3. Dr. C Okello	MBChB, M.Sc, FRCP	Lecturer
4. Dr. W J Ogwai-Okeng	MBChB, M.Sc	"
5. Mr. E Musoke	-	Chief Technician
6. Mr. S Otin-Okello	AIST -	Technician
7. Mr. S A Bbong	-	Assistant Technician

DEPARTMENT OF PHYSIOLOGY

1. Dr. J M Walunbe	MBChB,(MUK) M.Sc Lond NIAR(Chicago) Cert Nuc Med (Moscow)	Associate Professor & Head
2. Dr. J B Okullo	MBChB (MUK) M.Sc(Lond)	Lecturer
3. Dr. J N Kasolo	MBChB (MUK) M.Sc(MUK)	"
4. Dr. R Nakiboneka Mazzi	MBChB, M.Sc(MUK)	"
5. Dr. M Ebuk	MBChB, M.Sc (MUK)	
6. Dr. G O Olvata	MD	Teaching Assistant
6. Mr. A B Meyya	-	Chief Technician
7. Mr. C M Lwanga	-	"
8. Mr. R M Okel	-	"

DEPARTMENT OF PSYCHIATRY

1. Dr. G Rwegellera	LMS(BA) MBChB(BA) DPM M.Phil (Lond)	Associate Professor
2. Dr. E B L Ovuga	MBChB M.Med (MUK)	Senior Lecturer/Head
3. Dr. G Nakasi	MBChB M.Med (MUK)	Senior Lecturer
4. Dr. J Tugumisirize	MBChB M.Med (MUK)	Lecturer

5. Dr. J W Buga	BA(EA) Dip(Mental Health) (Lond) Dip(SWASA)(NUK) CQSW-(Lond)	Lecturer
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DEPARTMENT OF RADIOLOGY

1. Dr. H Kasozi	MD (France), D.M.R.D(Lond)	Associate Professor
2. Dr. Kigula Mugambe	MBChB, M.Med	Senior Lecturer
3. Dr. M G Kawooya	MBChB M.Med	Lecturer/Ag Head
4. Mr. P P Ddungu Matovu	B.Sc, M.Sc	Lecturer
5. Dr. D Iga-Matovu	MBChB, M.Med	Lecturer
6. Mr. Ausi Kavuna	MBChB, M.Med	Assistant Lecturer

DEPARTMENT OF SURGERY

1. Prof. J C Ssali	MBChB FRCS	Professor
2. Prof. A M Odonga	MBChB, FRCS	Professor
3. Prof. J Sekabunga	MBChB, FRCS	Professor
4. Dr. I Kakande	MBChB M.Med	Associate Professor/Head
5. Mr. F G Omaswa	MBChB, M.Med PRCS	Associate Professor
6. Mr. G R Nzarubara	MBChB, M.Med	Associate Professor
7. Mr. S Kijjambu	MBChB, M.Med	Lecturer
8. Mr. C Kayonga	MBChB M.Med	Lecturer
9. Mr. D B Mugisa	MBChB, M.Med	Lecturer
10. Mr. J B L Kateregga	MBChB, M.Med	Lecturer
11. Ms. O C Kobusingye	MBChB, M.Med	Lecturer

MINISTRY OF HEALTH

1. Mr. G W S Kanya	MBChB FRCS	Senior Government Consultant
2. Mr. J W M Kiryabwile	MBChB FRCS	•
3. Mr. L N Kaggwa	MBChB M.Med	Government Consultant
4. Mr. A M Gakwaya	MBChB M.Med	•
5. Mr. S Mutumba	MBChB M.Med	Medical Officer
7. Mr. S Kaggwa	MBChB M.Med	•
8. Ms. D Birabwa-Male	MBChB M.Med	•
9. Mr. P X A Sunday	MBChB M.Med	•
10. Dr. A N Kinala	M.D	•
11. Mr. B Moro	M.D. (Greece)	•
12. Mr. I Murrat	Ph.D	•
13. Mr. M Kisalu	M.D	•
14. Mr. Rwanasirabo	M.D	•

CHILD HEALTH AND DEVELOPMENT CENTRE

1. Dr. (Mrs) J Simwogerere Jitta	MBChB M.Med	Director
2. Mr. A K Mutumba		Administrative Assistant

DEPARTMENT OF COMMUNITY PRACTICE

1. Dr. S. Tunde MBChB M.Med Lecturer/ Head

B.Sc. NURSING

1. Mrs Sepocosa Mcabali URN, NT, MSN Lecturer/Ag. Head
 2. Mrs. Jemimah Mary Mutabaazi URN/M, DNT, BSN, MSN Lecturer
 3. Ms Alice Nkangi URN/M, DMT, MSN Lecturer

DEAN'S OFFICE

Prof. J W Mugerwa Dean
 Prof. W W Anokbonggo Associate Dean
 Ms. J Bulihwadi Senior Assistant Registrar
 Mrs Molly Katongole Senior Personal Secretary
 Ms. Monica M Kairamitwa Personal Secretary
 Ms. Regina Namutebi Secretary
 Mr. Gamaliel Ntege Clerk
 Mr. Isiah Manora Clerk

UNITS

CLINICAL EPIDEMIOLOGY UNIT

Dr. N Sewankambo
 Ms. A Sebina Zziwa
 Prof. J C Ssali
 Dr. J C Lule
 Dr. Kenya Mugisha
 Dr. J M Mugewa
 Dr. D Okello
 Dr. C Karamagi
 Ms. Rosalind Lubanga
 Ms. Christine Kusasira - Secretary

HUMAN REPRODUCTIVE UNIT

Prof. F A Muro
 Dr. F M Mirembe
 Mr Dan Bagenda - (Biostatistician)
 Mrs Josephine Bitatule (Bioshemist)

NUCLEAR MEDICINE

Prof. J. Walumbi - Hon. Director
Dr. Mulindwa Rwabaiingi - Medical Officer
Dr. Christine Watera - Medical Officer
Mr. R. Okel - Chief Technician
Mr. Crescent Byaruhanga - Technician
Mrs. Grace Sebatta - Assistant Technician

EDUCATION AND RESEARCH UNIT

Mr. B. K. Muwanga - Administrator
Mr. D. Guwatudde - Research Officer
Mr. J. Kiggundu - Financial Clerk
Mrs. Esther Okoth - Secretary
Mr. Abraham Kiberu - Machine Operator
Mr. Edward Bukulu - Driver
Mr. S. Serebe - Driver

(1)

BUIKWE HEALTH CENTRE,
P.O. BOX 107,
LUGAZI.

11th April, 1994.

The Team Leader and all Members of the Health Science Rehabilitation Project Evaluation Commission Officials of the Medical School Makerere, Ladies and Gentlemen.

APPENDIX 3

I take this opportunity on behalf of the Health Centre Staffs and the Health Centre Management Committee Members to warmly welcome you in Buikwe Health Centre. Please feel at Home.

This is one of the Government's Health Units in Mukono District which renders curative, promotive and preventive health services to its catchment population of 49,989 people by 1992 National population census. This centre started way back in the early 40's.

The Health Centre is run by the Ministries of Health and local Government respectively and of recent the Medical ~~Centre~~ School has come in with the Community clerkship.

HEALTH CENTRE CAPACITY:-

The Health Centre has the following beds:-

- i) 14 Maternity beds for admission and 2 Labour beds.
- ii) 18 In Patient admission beds for Surgical and Medical conditions Manageable at a Health Centre.
- iii) 8 Paediatric admission beds.

N.B. Most of these beds are in a bad state.

STUFF STRUCTURE:- The present Staffing stands as follows.

- 2 Clinical Officers (Medical Assistants)
- 3 Enrolled Midwives.
- 1. Enrolled Nurse.
- 1 Public Health Dental Assistant.
- 1 Public Health Assistant.
- 1 Leprosy Assistant.
- 1 Laboratory Assistant.
- 1 Entomological Laboratory Orderly.
- 8 Nursing Aids.
- 1 Sweeper/Porter.
- 2 Night Watch Men.
- TOTAL = 23.

DEPARTMENTS

- Out Patient Department.
- Laboratory Department.
- Maternity Department.
- Ante-natal, YOC and Family Planning Department.
- Community Based Health Care Department.

Dear Visitors the Health Centre currently is run with a number of Constraints of which I would like to bring them to your attention. NB These problems directly affect the students proper community clerkship.

1. ACCOMODATION: We can not accomodate the number of Staffs ~~in the~~ we have forcing us to accomodate some staffs in the meant to be ~~in~~ kitchens and stores. Even it is still impossible to accomodate the Medical Students during their clerkship here.
2. POOR TRANSPORT: Transport remains a big problem. Referred patients of which many are Emergenies can not be transported on spot. Even out reach activities like Immunisation, programming field activities for the Medical students and supervision is difficult because the 2 bicycles we have can hardly fulfill the above activities.
3. LACK OF SPACE: There is lack of space for the following activities.
 - i) Dental Services.
 - ii) Minor Theatre.
 - iii) Pharmacy / Drug Store.
 - iv) Family Planning Clinic room.

✓ COUNSELLING ROOM
The above activities are carried out but in poor inconviencing rooms which is not ideal for the students learning.
4. DRUGS SUPPLY: We currently receive 4 Drug kits but in Comparison with daily patient attendance its quite inadequate. It becomes even complicated when students have to go out with some drugs for case Management while carrying out home visitings, follow up etc.
5. LACK OF LIBRARY: There are no books for Reference for both the staffs and Medical Students.

WATER SHORTAGE: All the existing water tanks leak and yet the nearest water source is in a distancex of 2.5 Km. rendering a whole Health Unit with hardly any drop of water yet its one of the principle requirements which has to be available at any time.

7. POOR STATUS OF THE BUILDINGS:

Just as you witnessed immediately you set your sight on the buildings they urgently need to undergo a major rehabilitation and Renovation (However Amref ^{promised} to come and assist with the same with the Community's contribution of locally available materials which good enough are already at the site).

HEALTH UNIT MANAGEMENT COMMITTEE

It was set up in 1990 as a Government proposal to allow the Community to partly assist in the day to day Health ^{Unit} running. Also to assist in creating avenues ^{we} to solve some of the problems of H/Units which the Government could not solve wholly.

OUR HUMC OBJECTIVES

- i) Start up a cost sharing on patients as an Income Generating Activity.
- ii) Supplement on the H/Centre Staffs monthly incomes.
- iii) Supplement on the Essential Drugs we receive.
- iv) Construct some staff Quarters to accommodate 8 Staffs.
- v) Rent houses for Staffs.
- vi) Construct a new block to accommodate Family Planning, minor theatre, Drug Store and a counselling room.
- viii) Transport of Staff while on Official duties in form of fares.
- ix) Put up a new Laboratory in built room in the out-Patient building.

SUCSESSES: The above have been achieved to some extent with the exception of No's iv and vi which require a total tune of 7million Shillings (Uganda) to accomplish.

We're praying for well wishers to come to our rescue.

COMMUNITY CLERKSHIP BY MEDICAL STUDENTS

Prior to the Medical School coming, a CBHC programme had already been started with the assistance of AMREF. Presently it has trained.

- a) 78 Community Health Workers.
- b) 76 Traditional Birth Attendants.
- c) 5 Facilitators.
- d) 145 Health and water Committees at village, Parish and Sub/County levels including RCs executive Committees at the same levels.

The first batch of Medical students reported in February, 1992. Since then various groups do report according to the organisers time table.

**A SUMMARY OF THE BASELINE SURVEY CARRIED OUT BY
THE UNIVERSITY PARTNERSHIP PROJECT AT MPERERWE**

A baseline survey was carried out in the four parishes of Kanyanya, Kawempe II, Komamboga and Mpererwe. The study population were households within the four parishes and the objective of the study was to generate baseline information about the socio-demographic, health status, health needs and health problems of the people within the four parishes. The information generated would form a basis for intervention strategies in the area.

Summary of the findings

1. The majority of household members (60%), were below the age of 20 years, indicating that most residents in this community are relatively young people.
2. The education level of most members of the households was skewed to the primary and secondary levels, especially the female members of the households. A significantly higher number of females, in the school-going age was also found to be out of school than males. In all, 24% of the children in the school-going age (5-19 years old) were currently not attending any school.
3. Ninety-six percent of the households in the area reported to be using latrines for faecal disposal. Fifty-six percent of these households were sharing latrines between 2 to as many as 15 households, and 16% of the latrines were considered to be very dirty as urine and faeces had been deposited on the surface of the latrines.

Secondly, 65% of the households were using latrines which were within 10 metres from the residential buildings.

4. Twenty-nine percent of the households reported to be obtaining water from unprotected water springs and most of these households were from Komamboga and Kawempe II parishes.
5. The morbidity rates in the households were relatively high. In children below the age of 5 years, the general morbidity rate was about 43%. The most common complaints reported were fevers 23% (probably malaria), colds and coughs 18%, diarrhoeal diseases 8%, and others.

In household members at least 5 years old, the morbidity general rate was about 27%. Complaints reported from fevers, diarrhoeal diseases, abdominal pains to skin infections.

6. The proportion of children below five years, getting fully immunised was found to drop as the children grew older, so that less children are immunised against diseases immunisable at an older age, e.g. measles. This is thought to be the reason why the percentage of children dying from measles and tetanus was reported highest amongst children (32%).

7. Most of the young pregnant women (80%, with an average age of 19 years) were found not to be attending any form of antenatal care. In most cases it was their first pregnancy.

Seventy percent of the older pregnant women (with an average age of 23 years old) were using Mulago Hospital for antenatal care.

8. Most household heads had heard of AIDS (99%), and most of them knew most of the ways of how to avoid contracting HIV. However, it seems that there is still a knowledge gap about how the HIV virus is transmitted. This was evidenced by the finding that some household heads mentioned mosquitoes (7%), sharing eating utensils or toilets (6%) as means of transmitting the HIV virus.

CONCLUSIONS AND RECOMMENDATIONS

Observation

1. Twenty-four percent of the children in the age group 5 - 14 years are currently not in school.

2. There are appalling sanitary conditions in the area (no running water and many latrines are either dirty or were constructed very near to residential buildings).

3. There is lack of enough safe and clean water to many households, especially in the areas of Kozanboga and Ravenpe II parishes.

Implications

- Some of the children who have not gone to school may become a social problem to the community due to lack of skills which can enable them to be responsible citizens.

- It may be difficult for children with a low education background to appreciate some educational messages, for example the need for behavioral change towards sexual practices.

- Poor sanitary conditions contribute to high morbidity rates. This may be one of the main contributing factors to the high morbidity rate prevailing among the surveyed households of 40% among children under 5 years and 27% for household members at least 5 years old.

- Poor water supply is one of the biggest contributors to water-borne diseases. This may be another reason why there is high morbidity rate in the area, due to diarrhoea and signs of worm infestations.

Recommendations

- Universal free primary education should start right away in order to avert problems associated with illiteracy.

- NGOs working in this area should assist children who may have genuine reasons of having dropped out of school.

- Intensify adult literacy campaigns in various communities.

- City council authorities and NGOs working in this area should improve on the situation by constructing pit latrines and/or mobilise the people to do so in accordance with public health recommendations.

- Health education could initially be adopted as an intervention, persuasion, and community involvement.

- The National Water and Sewerage Corporation and NGOs assisting in the area of water supply, should extend their services in the area, to improve on the supply of safe and clean water. Initial effort could be devoted on the protection of water springs. Residents of the area could be mobilized to see what contribution they can afford to make towards this effort, as their participation will ensure proper maintenance of the water sources.

Observation

4. It seems that parents/guardians tend care less about taking their children to complete immunisation against diseases that are immunisable at an older age, e.g. measles.

5. Most young girls below the age of 20 who get pregnant do not seek antenatal care.

6. The heads of households' knowledge about AIDS and how to avoid contracting the HIV virus is fairly high although there is still some knowledge gap in a small proportion about how it is transmitted.

Sexual practices of the people in this area was not covered by this study.

Implications

- Children are at risk of contracting diseases that are immunisable at an older age like measles so that morbidity/mortality from such diseases may increase.

- Antenatal care has been found to be one of the contributing factors towards safe motherhood. Therefore, such young would-be mothers are at risk of maternal complication, or worse still maternal mortality.

- Lack of knowledge on how the virus is transmitted may lead to undesirable practices/behavior like stigmatization of those already infected and/or risky behavior which may put those who are not yet infected at risk.

Recommendations

- Health education about completing immunisation against the six killer diseases should be intensified. An appropriate time could be during antenatal care clinics and at the time of delivery.

- Kampala City Council should open up more immunisation centres in this area.

- Safe motherhood campaigns should be intensified in this community. Assistance could be sought from the Safe Motherhood Initiatives Project.

- The school curriculum should be improved to include issues of safe motherhood aimed at young girls who have reached puberty age.

- Investigation on knowledge, attitudes and practices about AIDS in this area should be carried out, especially among the youths.

- Education about AIDS in the area should be carried out.

QUESTIONNAIRE FOR FACULTY MEMBERS
MAKERERE UNIVERSITY, FACULTY OF MEDICINE

Rank _____ Sex: Male Female

Department (optional) _____

1. Have you ever seen the "new curriculum" document? Yes No
2. Do you have a clear understanding of the objectives of the new curriculum?
 Yes No
3. Who should take the role of coordinating the community-oriented education?
 Education and Research Unit
 Institute of Public Health
 The Dean/Assoc. Dean
 Other (specify) _____
4. What do you think is the major constraint in the implementation of the new curriculum? (You may check more than one)
 Resource
 Coordination
 Shortage of well qualified staff
 Inadequate support to the curriculum by the academic staff
 Communication
 Other (specify) _____
5. Do you believe that the involvement of all departments in the faculty is essential for the community based learning in the new curriculum?
 Yes No
6. How do faculty members view ERU?
 As an extension of the Dean's office
 As a support/administrative unit
 As an independent project in the faculty
7. Have you or your department ever got support from ERU? Yes No
8. How do you see the role of ERU in the faculty?
 Very important
 Important
 Somewhat important
 Not important
9. In general, how do you compare senior students with the new Vs the old curriculum?
 Old curriculum better
 No difference
 New curriculum better
10. Do you think the introduction of the new curriculum has weakened the teaching system. Yes No
11. Does the curriculum need revision?
 No Minor Major

Note : Please return the filled questionnaires to the office of The Evaluation Team through the Dean's secretary by Tuesday, 19th of April, 1994 before 4:00 PM, since some members of the evaluation team will leave the country soon.

Thankyou very much for your cooperation.
EVALUATION TEAM

FACULTY MEMBERS SURVEY RESULT
MAKERERE UNIVERSITY, FACULTY OF MEDICINE

Questionnaires distributed = 89

Total respondents = 50

Characteristics/Questions	Number	Percent
Rank: Professor	8	16
Assoc./Asst. professor	8	16
Lecturer	30	60
Others	3	6
Unspecified	1	2
Sex: Male	41	82
Female	9	18
Have you ever seen the "new curriculum" document?		
Yes	33	66
No	17	34
Do you have a clear understanding of the objectives of the new curriculum?		
Yes	22	44
No	28	45 56
Who should take the role of coordinating the community-oriented education?		
Education and Research Unit	6	12
Institute of Public Health	25	50
The Dean/Assoc. Dean	11	22
Others	8	16
What do you think is the major constraint in the implementation of the new curriculum? (You may check more than one)		
Resource	36	72
Coordination	18	28 36
Shortage of well qualified staff	16	28 32
Inadequate support to the curriculum by the academic staff	31	62
Communication	28	56

Contd

Characteristics/Questions	Number	Percent
Do you believe that the involvement of all departments in the faculty is essential for the community based learning in the new curriculum?		
Yes	36	72
No	14	28
How do faculty members view ERU?		
As an extension of the Dean's office	18	36
As a support/administrative unit	8	16
As an independent project in the faculty	19	38
Don't know	5	10
Have you or your department ever got support from ERU?		
Yes	11	22
No	31	62
Don't know	8	16
How do you see the role of ERU in the faculty?		
Very important	8	16
Important	14	28
Somewhat important	15	30
Not important	10	20
Don't know	3	6
In general, how do you compare senior students with the new versus the old curriculum?		
Old curriculum better	32	64
No difference	11	22
New curriculum better	3	6
Don't know	4	8
Do you think the introduction of the new curriculum has weakened the teaching system.		
Yes	34	68
No	12	24
Don't know	4	8
Does the curriculum need revision?		
No	2	4
Minor	14	28
Major	32	64
Don't know	2	4

COMMUNITY-ORIENTED EDUCATION

APPENDIX 6

Challenges of a New Community-Oriented Medical Curriculum. A Workshop to Identify Difficulties and Practical Solutions

David O. Okello, E.B.L. Ovuga and Samuel Luboga
Makerere Medical School
Kampala, Uganda

Abstract:

The new community-oriented medical education programme at Makerere University faces several logistical and philosophical problems. Although many of the logistical problems were expected at the inception of the programme, staff skepticism and criticism threatened to undermine the concept that led to the introduction of the new curriculum in 1989. Some members of the staff expressed the fear that the innovation was introduced when the medical school was not ready for such change. It is argued that the tutors in the programme lack experience in the new system. A remedial workshop is described.

Introduction

The Faculty of Medicine at Makerere University, Kampala, Uganda, adopted a community-oriented medical curriculum in 1989. The aim was to produce community-oriented doctors able and willing to serve their communities and deal effectively with health problems at primary, secondary and tertiary levels. (Hamad, 1991). This aim was to be achieved mainly by demonstrating to the students, through their involvement in community medicine, that adaptation to grass roots conditions can be carried out to benefit the health of the community. At the end of the training, the students are expected to demonstrate knowledge of the appropriate measures (promotive, preventive and curative) that can be used to identify and solve the health problems of individuals, families and communities (Omotara et al., 1992). In addition, the students should be able to assess the health of the community and to plan, manage and evaluate community health services. (Padonu, 1987).

Medical care in Uganda has for long been provided through hospitals, health centres (types I,II), dispensaries, maternity units, sub-dispensaries and aid posts. When fully staffed a health centre has a medical assistant (with three years training after completion of senior six secondary schooling), a qualified midwife and a nursing assistant; it provides elementary in-patient and out-patient care. A dispensary provides elementary curative care through a medical assistant and, in the case of a maternity unit, a trained midwife. Sub-dispensaries are manned by paramedical staff (with three year training after completing

Requests for reprints should be sent to D. Okello, Makerere Medical School, Box 7072, Kampala, Uganda.

senior six secondary schooling) and provide rudimentary curative care. Aid posts provide outpatient care through weekly or twice weekly visits by a paramedic. Usually each of the 38 districts in the country has at least one hospital. However, the bed-strength and the staff-size of the hospital varies from district to district. With this arrangement, some 27 percent of the population are within 5 km of the nearest health unit, while 57 percent are within 10 km. However, coverage is uneven, and not all have equal access. Limited coverage is largely a rural phenomenon, while urban populations have close proximity to hospital care.

Although this level of access to health care facilities might be regarded as reasonable for curative services, it has serious implications for preventive care. The majority of the population in Uganda has to walk at least two hours to a facility; a sick person or a mother carrying a child might take much longer. Distance may well influence the decision to seek preventive care.

The ratio of physicians to the population has been reduced by more than 50% in the last 25 years, from about one per 11,000 in 1965 to about one in 28,000 in 1991. The country has suffered from depletion of medical doctors, particular from the beginning of the 1970s, when more than 700 physicians left the country following the expulsion of Asians. Others left the country in the remaining decade, either to escape the civil war or for economic reasons.

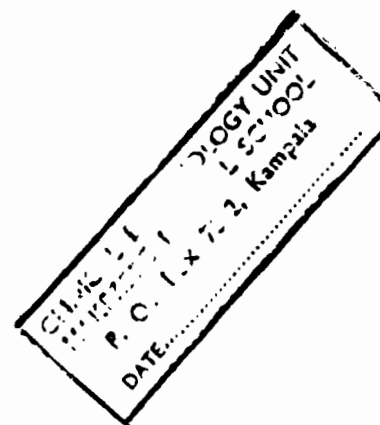
The medical school had an average annual intake of about 90 students during the past three years, with an average of 53 graduates annually at the end of the five year course.

Makerere Medical School has been the sole training centre for physicians in the country. It has six major basic sciences departments and ten clinical units. The teaching staff fluctuates but averages about ninety, although the total establishment is around 175 employed by the University (Table I). There are a number of other doctors in the teaching hospital, employees of the Ministry of Health, who also participate in teaching in the clinical departments.

Traditional medical care has been too expensive and provided services for only a small proportion of the population, those who managed to reach the health care institutions. Besides, it laid emphasis mainly on curative services. In view of the high maintenance cost of hospitals and shrinking resources for health care, the government is now developing a new health policy with the goal of health for all through a nation-wide network of preventive and curative health services with a self sustaining cost recovery system. Particular emphasis is placed on maternal and child health, environmental sanitation, provision of essential drugs, water supply, and health education. This new policy also emphasizes health care activities based on the health centre and in the community through the principles of primary health care. The goal of the system is to extend health coverage to all Ugandan citizens by the turn of the century through community participation.

Table I. Distribution of staff at Makerere medical school

Department	Numbers
Basic science teachers	27 (30%)
Biochemistry	7
Anatomy	4
Physiology	5
Microbiology	2
Pathology	5
Pharmacology	4
Clinical teachers	63 (70%)
Medicine	9
Obstetrics & gynaecology	10
Surgery	10
Paediatrics	8
Preventive medicine	8
Radiology	2
Anaesthesia	4
E.N.T.	3
Ophthalmology	4
Psychiatry	5
Total	90



The full establishment should be 175 basic science and clinical academics.

The new community-oriented medical education at Makerere is, therefore, in line with the new government health policy. The medical school went through a number of consultations with health policy makers to produce a curriculum that is community-oriented. An overview of the community aspects of the curriculum is shown in Table II.

Although there are precedents in other universities within the African region, the greatest problem with this project is the fact that it is totally new to Ugandan medical education. Knowledge about the nature of community programmes in Makerere is limited to the Department of Public Health and to the maternal child health (MCH) programmes in Paediatrics. Hence, this new experience faces several unforeseen problems. Some Faculty members have expressed lack of guidance from tutors, and sometimes, even about a tutor's lack of understanding of what is to be achieved by the students. Some tutors in the clinical departments cannot see the relevance of the community-based subject to the lecture

Table II. Outline of community-based clerkships

Year of study	Programme of activities	Nature of Student's Report	Period of Clerkships
1	Communication. Interview experience. Study life style of families and characteristics of community. Establish socio-economic status of average family. Work on appropriate assignment. Suggest provisional research ideas.	Interview experience. Expectations of interviewer. Expectations of interviewee. Lessons from interview. Construct age structure. Construct socio-economic structure of community.	5 weeks in the year
2	Study factors in health and disease. Environment and health. Culture and health. Traditional medicine. Work on appropriate assignment. Suggest provisional research ideas. Culture and health.	Man and the environment. Environment and disease. Culture and environment. Cultural basis of traditional medicine. Environmental basis of traditional medicine.	5 weeks in the year
3	Laboratory diagnosis. Trauma and emergency management. Primary surgical and orthopaedic procedures. Fluid replacement therapies. Home visits. Work on appropriate assignment.	Common laboratory diagnosis. Common causes of injury and emergencies. Experiences in trauma management. Prevention of injury. Formulate definite research project.	5 weeks in each term
4	Health promotion. Nutrition MCH and paediatrics conduct normal deliveries. Management and administration. project.	Problems facing MCH services. Nutritional problems. Problems in maintaining equipment. Work on research project.	5 weeks in each term
5	Clinical management in general medicine. Mental health services. Medico-legal aspects of clinical medicine. Work on appropriate research assignment. research project.	Issues in compliance. Drug side effects. Medical practice without technology. Ethical and forensic issues in medical practice. Home visits. Complete	5 weeks in each of two terms

programme in medicine. Because some of these tutors are quite senior and respected members of the Faculty, they have had a negative influence on the implementation of the programme.

In view of the persistent skepticism and criticism from some members of staff, a two day workshop was organised by the Faculty of Medicine to define the possible difficulties with the curriculum and the areas of misunderstanding, as well as to identify practical solutions. The workshop was held between 2-3 January, 1992 at a hotel just outside Kampala. This paper describes the proceedings of the workshop, problems identified and solutions proposed during the workshop.

Organisation of the Workshop

The idea of a workshop was initiated by the Education and Research Unit (ERU) of the Faculty, a unit that supervises and provides guidance for curriculum implementation and works directly under the Dean of the Medical School. Heads of departments were invited to send at least two senior members of staff to represent the views of their department. Thirty four of the ninety members of the teaching staff attended the workshop.

The workshop was set to run for two days, but the actual programme was to be covered in a single day. Participants were divided into two groups, each attending on different days, with 17 members per group. The ERU also invited six other persons from the Ministry of Health and the medical school who had experience of community-oriented education in institutions in other countries, to facilitate discussion at the workshop.

Method of Work

On each of the two days the programme started with presentations, conducted by the six facilitators, to sensitize the participants: :

1. An overview of the challenges facing the new curriculum.
2. Transition from hospital-based to community-oriented training.
3. Global, regional, national and Faculty policy on community-oriented medical training.
4. Community-oriented curriculum: the Nigerian experience.
5. Uganda Ministry of Health policy on community-oriented medical training.
6. Curriculum implementation: practical problems.
7. Child health & development center - Makerere Medical School: Community Experience.

Each presentation lasted about 15-20 minutes and was followed by 5 minutes for questions and clarifications. The participants were then split into three small groups of at least five members for further discussion of specific topics to answer the questions: Why is community-orientation necessary; What are the logistical problems; What can be done to overcome these problems?

The group discussions were given approximately one hour before the groups reconvened for an exhaustive and frank discussion of the ideas generated by the groups. This plenary

discussion was guided by the workshop facilitators and lasted for 2 hours on each day. A number of problems affecting the implementation of the new curriculum were identified, and some possible solutions were suggested.

Problems Identified

The discussion identified two types of problems philosophical objections against the community-oriented curriculum and practical problems for which solutions had to be sought.

Philosophical objections included:

1. Why not leave it to the Department of Public Health?
2. Training a doctor in this way will leave him less suitable for international needs.
3. Doctors produced by this programme will find it difficult to be recognised outside the country.
4. The programme will lower standards.
5. The programme may compromise biomedical knowledge.
6. The old curriculum is already overcrowded, addition of the new programme will only overload the undergraduate course.

Nine practical problems were identified

1. **Poor infrastructure.** It was acknowledged that the entire social and health system infrastructure had collapsed over the past decade due to political and social unrest in the country. This would adversely affect the implementation of the community-oriented curriculum.
 2. **Lack of appropriate arrangements for field work.** The meeting felt that many logistical requirements for students and staff in the field were not yet in place. Some of these requirements included adequate accommodation, transport, laundry facilities, food, allowances and field equipment.
 3. **An assured supply of drugs and other consumables.** Experience at the health centres had shown that the supply of drugs and other consumable was frequently erratic and unreliable; this would affect field work when essential supplies were not available.
 4. **Resistance by academics.** The academic members of staff are the major implementors of the programme. It was obvious that some colleagues were still questioning the relevance of the new curriculum. Others did not see how their disciplines would operate in the community.
 5. **Lack of experience in teaching/learning methods.** Many participants expressed fear of lack of knowledge of how to teach in the programme and had limited information about the methods available to them.
 6. **Limited information about the community-oriented curriculum.** Inadequate dissemination of information about the community-oriented curriculum and difficulties in interpreting the curriculum were cited as other reasons for misgivings about the curriculum.
 7. **Timing of the community clerkship.** Some participants were concerned that sending
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the students to the community before they had been exposed to clinical medicine would limit the ability of the students to serve the community.

8. Lack of reference texts and books for the curriculum.

9. Encroaching on the privacy of the community and the risk of overuse or community fatigue.

Solutions Proposed

1. Organise workshop for all Faculty members to ensure full understanding of the curriculum. It was clear that many members of staff were skeptical because they did not understand the curriculum. It was recommended that several meetings be held with individual departments to enable their members to discuss the curriculum in detail.

2. Training of trainers. It was also recommended that the Faculty should embark on training trainers to equip them with the necessary skills for teaching in the clerkships, including the techniques of student assessment in the new curriculum.

3. Put in place all the requirements for field work.

4. Increase community participation in the running of the programme.

5. Promote health centres as the foci of activities, rather than hospitals.

6. Work out a detailed budget for the implementation of the curriculum. The purpose was to define possible sources of funding and ensure the sustainability of the programme.

7. Encourage the Faculty to produce local teaching materials for community-based clerkships.

Conclusions

This workshop provided an opportunity for the academics to share their views on many fundamental issues that affect the smooth implementation of the new community-oriented medical education at Makerere Medical School. The main lesson from the workshop was that most members of staff felt insecure with the new curriculum because they had never had any formal training in how to teach in the community.

An evaluation of the acceptability of the curriculum after the workshop made it clear that many were willing to change their views once they were given training in the teaching skills for community clerkships. It also became clear that there was a need to organise similar workshops to involve as many of the remaining teaching staff as possible to provide an opportunity for better understanding.

Since the workshop the Faculty has embarked on a programme of training for trainers. The Faculty has also organised several focused discussions with various departments to try and resolve some of the philosophical objections.

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UNDERDEVELOPMENT AND PHYSICIAN MIGRATION IN UGANDA

INTRODUCTION

Beyond and above any individual push or pull force influencing migration or combination of such forces, is the overall international problem of unequal development which manifests itself in structural maladjustment and inner disequilibrium in both the country of immigration and that of emigration."

- A. Mijia, H. Piziviki and E. Royston - Physician and nurse migration - analysis and policy implications - WHO report 1979. Of relevance to African countries in the above statement is the observation that the biggest migration losses are sustained by developing countries and within that group, by countries at the lowest end of the development scale (Read underdeveloped countries) Most if not all African countries fall in the underdeveloped group.

Like many underdeveloped nations producing doctors, Uganda has been and still is experiencing a brain drain. It has been described as one of the largest exporters of doctors in Africa. Mejia et al observed that the poorer the country (GDP per capita \ll 500 US \$, the more unhealthy life expectancy \ll 61 years), the greater the need for health care, and the fewer the physician per unit of population, the greater is the emigration loss. Uganda (see attached socioeconomic and Health indicators), like all underdeveloped countries has very poor indicators.

In addition, Uganda like all underdeveloped African countries has a history of slavery, colonialising, foreign debt, dependence, exploitation, corruption, civil war, and militarism all of which contribute to underdevelopment and act as push factors, thus promoting emigration of Ugandan doctors.

Makerere University Medical School, once considered to be the best Medical institution in black Africa, still passes out good doctors who find little difficulty getting employment in other countries in spite of the withdrawal of recognition in 1976 by the General Medical Council, U.K. It has a very high grade point average entry requirement and still boasts a very good reputation. However it also suffers from budgetary constraints, a factor which has probably affected it in establishing the community oriented curriculum especially with respect to the motivation of its lecturers. As a result its attempt to make medical education in this country more relevant to the needs of this country may in the end not be so successful, due to all the above factors plus imbalances in production rates as a ratio of the economic base of the country.

In any case since the largest "consumer's" of Ugandan doctors are other African countries with similar problems, except the fact that they are more able, or more willing to pay their doctors better, changing the curriculum to a community oriented one will probably make Ugandan doctors more "marketable" in these African countries. There is an apparent imbalance between the supply and demand for doctors in Uganda. In real terms since the doctor, population ratio is very unfavourable 1:21,053 (national - 1991 UNICEF) and 1:81,000 Nebbi district - Monitor article) the price of doctors should be high. In reality a doctor in Uganda gets about 60 US \$. This means that the supply demand curve has to shift to keep only those doctors Uganda can keep. The surplus will and has left the country for "greener pastures" i.e where they can be afforded. It is therefore not surprising that of the 2,284 medical graduates produced by Makerere Medical school of whom 1,719 have been Ugandans, most are working abroad. By 1991 only 810 doctors were working in Uganda. This probably includes expatriates. A 1988 report of the Ministry of Health estimated that about 1500 Ugandan doctors were working abroad. Of those working abroad over 140 are working in the Republic of South Africa. The rest are in Southern Africa, the Middle East and USA. This study aimed at getting some responses from fifth year medical students (finalists) from Makerere Medical school and using them to predict emigration in this group. In order to be conclusive, one would have to follow them up a year later i.e after their internship.

Note: Other factors remaining constant the effect of the community oriented curriculum can be gauged by doing the same or a similar study of subsequent group of finalists every year.

Method

The students were surveyed by means of a questionnaire (self-administered). About 83% of the class (M.B Ch.B and BDS) were surveyed.

Results

See attached figures etc.

Conclusion

The results from this group show a high potential for emigration. Their decision with respect to family size i.e small, career paths i.e hospital based, or both hospital based and private degree of specialization etc show awareness of which of these are assets to mobility. The major reason for emigrating is poor pay and the main recipient country (prospective) is South Africa.

- 1 -

Response of fifth years (MUK)

Response of fifth years (MUK)	Percentage %		
	Female	Male	Total
Sex (63)	29.2%	70.8%	100.0%
Marital Status (65)			
- Single	84.2%	72.4%	89.2%
- Married	15.8%	8.7%	10.8%
Intend to marry (58)			
- Yes	93.8%	97.6%	96.8%
- No	6.3%	2.4%	3.4%
Intend to have children (No (64)			
a) 1-2	10.8%	20.0%	17.2%
b) 2-4	78.0%	64.4%	68.8%
c) >4	5.3%	13.3%	10.8%
d) None	5.3%	2.2%	3.1%
Intend to do internship (64)			
- Yes	100.0%	95.6%	98.8%
- No	0.0%	4.4%	3.1%
Intend to practice (65)			
- Yes	100.0%	95.7%	96.8%
- No	0.0%	4.3%	3.1%
Intend to work abroad (60)			
- Yes	38.8%	83.3%	70.0%
- No	61.1%	16.7%	30.0%
Reason for working abroad (35)			
- Further studies	75.0%	90.3%	88.6%
- Other	25.0%	6.5%	8.6%
- Other	0.0%	3.2%	2.8%
Intend to do postgraduate degree (65)			
- Yes	94.7%	93.5%	93.8%
- No	5.3%	6.5%	6.2%
Postgraduate studies degree (60)			
- Master	82.2%	93.0%	91.7%
- Ph.D	35.3%	38.5%	38.3%
In order to be efficient Doctors should be (65)			
a) Poor	0.0%	0.0%	0.0%
b) comfortable	57.8%	60.9%	60.0%
c) Rich.	30.8%	69.2%	40.0%
Type of practice (63)			
a) Hospital based	15.8%	22.7%	20.6%
b) Private practice	21.1%	8.1%	12.7%
c) Both	63.2%	68.2%	66.7%
Interns salary (65)			
a) Aware of amount	89.5%	97.6%	95.4%
b) Not well paid	100.0%	100.0%	100.0%
Medical Officers salary (63)			
a) Aware of amount	64.7%	73.8%	71.4%
b) Not well paid	80.0%	100.0%	88.0%

* Figure in brackets is number of respondents to questions.

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What doctor should be able to afford to be 'Comfortable'

Response (N=65)	Female	Male	Total
Car	89.5%	91.3%	90.8%
House	100.0%	100.0%	100.0%
School fees	94.7%	95.7%	95.4%
Clothers	26.3%	39.1%	35.4%
Travel/holidays	21.1%	19.6%	20.0%
Farm			
Food	5.3%	10.9%	9.2%
Investments	36.8%	34.8%	35.4%
Insurance	15.8%	26.1%	23.1%
Support extended family	10.5%	26.1%	21.5%
	15.8%	17.1%	16.9%

Means of fair salary for each category of sex (Medical Officer)

Sex	Obs	Total	Mean	Variance	Std. Dev.
F	17	12200000	717647.059	8.7E+0010	294714.468
M	46	39400000	856521.739	2.2E+0011	463993.378
Difference			138874-680		

Sex	Minimum	25% ile	Median	75% ile	Maximum	Mode
F	250,000	500,000	700,000	800,000	1500000	500000
M	400,000	500,000	800,000	1000000	2500000	800000

Means of fair salary for each category of sex (Intern).

Sex	Obs	Total	Mean	Variance	Std Dev.
F	18	6920000	38444.444	2.3E+0010	151277.782
M	46	23800000	517391.304	8.3E+0010	287946.251
Difference			-132946.860		

Sex	Minimum	25% ile	Medium	75% ile	Maximum	Mode
F	100000	300000	500000	500000	500000	500000
M	250000	300000	500000	500000	1500000	500000

Exchange Rate: 1 US \$ = 980 U Shs.

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END

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Countries respondents intend to practice in

Country	As Intern(63)-%			Medical Officers(58)-%		
	Female	Male	Total	Female	Male	Total
1. Uganda	100.0%	97.7%		94.7%	89.7%	91.4%
2. Tanzania	98.4%			0.0%	2.6%	1.7%
3. Any	0.0%	2.3%	2.3%	5.3%	0.0%	1.7%
4. South Africa		-		0.0%	5.1%	3.4%
5. Butswana		-		0.0%	2.6%	1.7%

Country those intending to work abroad before settling in Uganda intend to work in.

Country (N=38)	Female	Male	Total
Any	0.0%	36.4%	31.6%
South Africa	80.0%	42.4%	47.4%
Botswana	0.0%	9.1%	7.9%
Kenya	0.0%	3.0%	2.6%
Central African Republic	0.0%	3.0%	2.6%
Lesotho	0.0%	3.0%	2.6%
Saudi Arabia	0.0%	3.0%	2.6%
United Kingdom	20.0%	0.0%	2.6%

Fields of specialization (Prospective)

Field (N=60)	% Female	% Male	% Total
-Medicine	17.6%	34.9%	30.0%
-Surgery	23.5%	25.6%	25.0%
-Obs/Gyn.	23.5%	13.9%	16.5%
-Paediatrics	5.9%	14.0%	11.7%
-Public Health	23.5%	4.7%	10.0%
-Dentistry	5.9%	0.0%	1.7%
-Dermatology	0.0%	2.3%	1.7%
-Physiology	0.0%	2.3%	1.7%
-Paed + Public Health	23.5%	4.7%	10.0%

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END

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Country respondents intend to do postgraduate degree from

Country N = 61	Female	Male	Total
1. Uganda	11.1%	30.2%	24.6%
2. Any	61.1%	48.8%	52.5%
3. South Africa	27.8%	20.9%	23.0%

Hospitals respondents intend to practice in as:

Hospital	Interns (N=59)			Medical Officers (N=16)		
	Female	Male	Total	Female	Male	Total
1. Mulago	72.2%	58.5%	62.7%	20.0%	54.5%	43.8%
2. Mbale	0.0%	2.4%	1.7%	-	-	-
3. Arua	0.0%	4.9%	3.4%	-	-	-
4. Rubaga	16.7%	0.0%	5.1%	-	-	-
5. Others	5.6%	7.3%	6.8%	-	-	-
6. Private	5.6%	17.1%	13.6%	0.0%	9.1%	6.3%
7. Lacor	0.0%	4.9%	3.4%	0.0%	9.1%	6.3%
8. Upcountry	0.0%	2.4%	1.7%	0.0%	18.2%	12.5%
9. Nsambya	0.0%	2.4%	1.7%	0.0%	9.1%	6.3%
10. Jinja	-	-	-	0.0%	0.0%	18.8%
11. Kitovu	-	-	-	-	-	-
12. Meya (Tanzania)	-	-	-	20.0%	0.0%	6.3%

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END