

UGANDA: DISTANCE EDUCATION PROGRAMMES OF THE MINISTRY OF HEALTH

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1 BACKGROUND

The Ministry of Health in Uganda runs a Health Manpower Development Centre situated in Mbale in Eastern Uganda. The centre was established in 1985 and is responsible for the training needs of Health workers in Uganda. The health workers include doctors, nurses, health inspectors, medical assistants, traditional birth attendants and nursing aides. The health workers acquire skills and knowledge during their preparatory conventional courses. However, over time such skills and knowledge become inadequate and sometimes obsolete, partly as a result of the dynamic changes that occur in medical care and the constant introduction of new drugs. The health workers therefore require retraining to cope with their work and to assist in the dissemination of knowledge and skills to their clients (patients). This continuing education is best offered through non-formal methods.

The aim of the Health Manpower Development Centre is to upgrade on-the-job workers of different cadres and levels of training. There are about 11,054 workers in 95 government and NGO hospitals, 96 health centres and 907 dispensaries and sub-dispensaries according to Omwanganye (1998b). The goal is to build human resource

capacity at all levels without disrupting the delivery of services to clients.

1.1 Socio-economic context of the study

Uganda, situated in East Africa, is among the least developed countries in the world. Its surface area is 241,000 square kilometres, with a population of 21 million which is growing at a rate of 2.8 (see World Bank, 2000).

Prior to the 1970s, Uganda was characterised by political stability and high rates of economic growth. Its health system was described as the best in Sub-Saharan Africa (World Bank, 1993). Since 1970, however, Uganda has had a history of political insecurity, civil war and economic decline, and is currently among the least developed countries in the world.

As a result education has suffered, with inadequate provision for school-age children. 40 per cent of school-age children do not go to school at all, while many of those entering primary schools are much older. About 60 per cent of those who enter primary school drop out without completing the primary cycle, and about 90 per cent of those who complete the primary cycle do not proceed to secondary schools. According to the Government White

Paper (1992: 10) the government is fully aware of, and gravely concerned about, the situation.

The structure of the health system, made up of a network of health centres and smaller units, still exists in Uganda, but with inadequate facilities and personnel. During the military rule of Idi Amin Dada (1971-1979), many Asian health professionals left Uganda following the declaration of the economic war, which forced them out of the country.

The country's insecurity and decline in economic productivity continued to lead to a brain-drain of trained Ugandans in all fields, leaving a gap in the economic and social welfare in the country. The performance of the health personnel who remained in the country deteriorated due to poor pay, lack of supervision for maintenance of standards and progressive deterioration of the training institutions (Bukenyi, 1998).

The socio-economic constraint of the declining economy also led to the emergence of 'pseudo health workers', who had very little knowledge and skills in the health field, who filled the gap left by health professionals who had fled the country. Ward maids and dressers, for example, used the rudimentary knowledge they had picked up, and offered a service quite below acceptable standards.

The fall of Idi Amin in 1979 did not immediately lead to political stability. The relatively peaceful rule of Yoweri Museveni from 1986 to the present brought about socio-economic recovery. Despite the high rate of economic growth, however, the social sector still needs support. The social indicators of growth are still below World Bank requirements. The fertility rate is 7.3, the crude death rate is 20 per 1,000, and is elevated by AIDS. The school enrolment rate is 74 per cent of children of primary school age. Of these, 65 per cent are boys and 35 per cent are girls (World Bank, 1993). (The enrolment has slightly increased, however, since the

declaration of Universal Primary Education in 1997.) The illiteracy rate among the female population is still comparatively high. In 1998, 46 per cent of females of 15 years and over were illiterate, compared to 24 per cent of males of 15 years and over.

The poor social indicators are a reflection of a low level of human welfare and resources, which Uganda must alleviate by investing in people in order to achieve sustained long-term growth. According to the Ministry of Health (1997: 46):

'The underlying problem of Uganda is the serious dilapidation of its health system – the state of disrepair, the infrastructure, the low levels of key professional personnel and the return to high levels of controllable diseases all of which call for a re-building of the system.

There is high infant mortality rate (97:1000), low life expectancy (45 years), high maternal mortality and unreduced endemic diseases.'

Uganda's performance in the health sector, therefore, is greatly affected by the country's low income and low domestic resource mobilisation. The resources available to meet the urgent social challenges are limited, and are greatly affected by the measures of the Structural Adjustment Policies, introduced to alleviate economic decline in Sub-Saharan Africa. These measures, for example, forbid the operation of a deficit budget.

In addition, the economic recession and growing debt burdens mean that insufficient emphasis is placed on education and health. This has greatly affected the operation of the formal and non-formal education sectors of which the Health Manpower Development Unit is a part.

Thus whereas the process of structural adjustment has supported the improvement in

economic conditions, some parts of the population, particularly those in rural areas, have not benefited from the economic growth of the past decades.

The Ugandan government public expenditure budget falls short of the many urgent public demands, including that of providing free primary education to four children per household. This has greatly affected the share of public expenditure available for health. The government spends US \$2 per person per annum in this area. The private expenditure therefore outweighs government expenditure on all health services.

The continuing education budget for both conventional and distance training for the Ugandan Ministry of Health is small taking into account Ministry of Health policy. Among the long-term priorities of the Ministry of Health, however, is continuing education for all health workers, particularly those in rural areas. Continuing education is mostly non-formal, to enable health workers to study as they work.

Conventional training is also inadequate. Although the Ministry of Health offers several training opportunities in its training institutions spread all over the country, the numbers admitted are very small, as indicated in Table 1.

With a population of over 20 million people in Uganda the number of personnel prepared for health services in the country is clearly inadequate.

1.2 Current health situation in Uganda

A survey of the current health situation in Uganda clearly indicates a need for training of healthcare workers as well as members of the public.

The Draft Health Policy document (Ministry of Health, 1996: 13) indicates that in Uganda ten

well-known and largely preventable diseases account for around 75 per cent of life years lost to premature death. The following alone account for 60 per cent:

- parental and maternal related conditions (20.4 per cent)
- malaria (14.4 per cent)
- pneumonia (10.5 per cent)
- AIDS (9.1 per cent)
- diarrhoea (8.4 per cent).

If the diseases are preventable, then training of health workers and members of the public helps. Distance learning therefore can play a part because it can reach large numbers, with a limited number of trained tutors.

The Human Development Report (UNDP, 1996) shows a number of development indicators that have had a major influence on health skills in Uganda:

- the process of structural adjustment, which has supported the improvement in economic conditions. However, while many have benefited from this process, there have also been losers and some of the population have not benefited substantially from the economic growth of the past decade
- inequality of income – per capita income in the North remains less than half of that in the Central Districts
- malnutrition, which still affects 23.3 per cent of children
- per cent of population with access to sanitation – 48 per cent during the period 1990-95
- low enrolment rate in education (25 per cent in 1980, 41 per cent in 1990 and 51 per cent in 1992) and low adult literacy rate (41 per cent in 1970, 60 per cent in 1993).

Table 1: Health courses offered by the Ugandan government

Category of course	Course	Intake
Allied health (Paramedical) basic courses	1. Medical Laboratory Technology	10
	2. Radiography	10
	3. Physiotherapy	10
	4. Environmental Health Sciences (Health Inspectors)	25
	5. Clinical Officers' Course (Medical Assistants)	120
	6. Orthopaedic Technology Course	10
	7. Pharmacy Technician Course	10
	8. Orthopaedic Officers Course	10
	9. Public Health Dental Assistants Course	15
	10. Medical Entomology Course	10
	11. Medical Laboratory Technician	15
	12. Environmental Health Assistants	30
Nursing basic course	1. Comprehensive Nursing	40
	2. Registered/General Nursing/Psychiatry/Midwifery	60
	3. Enrolled/General Nursing/Psychiatry/Midwifery	40
	4. Occupational Therapy Training Courses	36
Post basic courses	Health Services Management course	35
	Health Tutors' Course	10
	Horizontal General Nursing	85
	Psychiatry	15
	General Nursing/Midwifery	85
	Public Health	10
	Psychiatric Clinical Officers' Course	10
	Anaesthetic Officers' Course	10
	Ophthalmic Clinical Officers' Course.	10

The quality of government health facilities is low compared to NGO facilities. The latter have a far higher utilisation figure, despite often charging relatively high fees. This is because government facilities:

- are less likely to have drugs and other equipment and materials available when patients attend
- are often staffed by better trained personnel but lack incentives to provide appropriate treatments and diagnosis
- have less convenient opening hours. Absenteeism is rife and key staff are often not in post despite the fact that government staff are better paid than their NGO counterparts.

1.3 Distance education in Uganda

In the past in Uganda, those people who wanted to obtain a General Certificate of Education or a secretarial or accountancy qualification mostly studied by distance education. There is very little documentation on this, though many Ugandans benefited from it.

The use of distance education is now increasing in Uganda. Both formal and non-formal programmes are in place. The Ministry of Education uses radio and television to provide access to quality teaching throughout the country and also to improve methods of teaching.

Short distance education courses, tailor-made to suit particular circumstances and particular needs, are becoming popular.

The most successful formal programmes have been those concerning in-service training for primary school teachers. The Mubende Integrated Teacher Education Project (MITEP) ran from 1991 to 1995, with 830 teachers obtaining a Grade III Teacher Training Certificate. The Northern Integrated Teacher Education Project (NITEP) ran from 1991 to 1998, with 3,000 participants obtaining a Grade III Teacher Training Certificate. Current projects include the Teacher Development and Management Services project (TDMS) which focuses on training untrained and under-trained teachers in rural areas. The Ugandan Government, USAID and the World Bank support this project.

The most active non-formal distance education programmes are those run by the Health Manpower Development Centre of the Ministry of Health. The programmes focus on childcare, AIDS, first aid, environmental health and other community issues. The Centre receives most of its resources from donors (AMREF, Irish Aid, Canadian International

Development Agency (CIDA) and the European Community (EC)).

Another non-formal project is the Community-based Child Care Open Learning Pilot Project, which was run by Save the Children Fund, a UK-based charity. This project used mainly printed study materials and focus group discussions. The programme has ceased for the time being, probably because of lack of staff. This programme, though in its infancy, is likely to lead to improved community health and better child-rearing practices.

World Links for Development is another important distance education programme that targets secondary school teachers and students, to use the internet to get access to world-wide sources of knowledge.

2 THE DISTANCE EDUCATION PROGRAMMES OF THE UGANDAN MINISTRY OF HEALTH

In 1979, AMREF carried out a survey to establish the need for training in the health sector in Uganda. This was part of the health rehabilitation programme, after the fall of the dilapidating regime of Idi Amin. AMREF was instrumental in setting up a Distance Education Unit in Uganda following its experience in Kenya. The Distance Education Unit was set up in the Health Manpower Development Centre (HMDC), established to cater for the training needs of health workers in Uganda. The centre is located in Mbale in Eastern Uganda.

2.1 Objectives of the Health Manpower Development Centre and Distance Education Unit

The HMDC aims to provide continuing education or in-service training for health workers as an integral part of their professional development. The overall goal is

to improve the health of the people of Uganda through improved performance of health workers.

According to Omwangangye (1998b:3) the aims of the Distance Education Unit are to:

- provide continuing education to health workers through self-directed learning materials
- offer correspondence courses and radio programmes that do not disrupt health workers' work schedules
- supplement other methods of continuing education
- build human resource capacity at all levels of the health sector.

2.2 Target groups

The distance education programmes aim to provide continuing education to health workers who work in government and NGO hospitals, dispensaries, health centres and sub-dispensaries. Specifically these are:

- District Medical Officers, doctors and their teams – nurses, medical assistants, chemists, midwives, clinical officers and nursing aides
- District Health Visitors
- Health Inspectors
- District Assistant Drug Inspectors
- District Officers in charge of control of tuberculosis and leprosy.

2.3 Enrolment

Enrolment is open to all health workers. Each applicant fills in a form, which is assessed by the Co-ordinator at a Co-ordinating Centre. If found to be eligible, the health worker is enrolled and is given an identification number.

As of April 1996, there were 3,287 health workers enrolled on distance education

courses, which represented 30 per cent of health workers in Uganda. Of these, 70 per cent were rural health workers working as medical assistants, enrolled nurses, midwives and nursing aides.

By 1998, 5,500 health workers had enrolled since the start of the programme and of these 994 were active learners. The completion rate ranges from 11 to 35 per cent. There are no examinations. Students are deemed to have completed the course if they have completed the course units and attempted the assignments.

2.4 The curriculum

The following courses are offered:

- Child Health
- Community Health
- Communicable Diseases
- Immunisation
- Environment Health
- Management of Rural Health Facilities
- Management of Essential Drugs
- Mental Health
- Family Planning and Healthcare Delivery.

The curricula are developed in workshops attended by health workers, who are based in areas identified by district needs assessments. Most of the courses, therefore, are tailored to the needs of learners in the districts.

2.5 Delivery mode

The principal mode of teaching/learning is print. The relevant course manuals and a study guide for learners are packed and dispatched to the learner. The course manuals consist of course units, and each unit consists of learning objectives, a pre-test, in-text activities, an assignment and a post-test.

The printed materials are developed in workshops, whose members include course writers drawn from the medical field and editors also drawn from the health sector. Officials from the AMREF Distance Education Unit in Nairobi train the members.

The assignments are chosen from a range of options and are not paced. Assignments can be submitted at any time. The learners are supposed to attempt and submit the assignments and send them to a Marking Centre for correction. The pre-test tests the knowledge of the learner prior to embarking on a distance education course, and the post-test evaluates what knowledge and skills the learner has acquired after completing the course.

In addition to printed materials, radio programmes are developed at the Health Manpower Development Centre and are transmitted by Radio Uganda, the national radio. The radio programmes benefit not only learners but also interested health workers and members of the public.

Face-to-face sessions are conducted to supplement the printed materials and radio programmes, and these are organised by the Co-ordinator when necessary.

2.6 Organisation and administration of the distance learning programmes

The National Office of the Health Manpower Development Centre at Mbale is the Co-ordinating Office. The Co-ordinating Office's roles are to:

- initiate distance learning activities in the district in liaison with the Director of District Health Services and ensure implementation of these activities
- lobby for funds to support distance learning activities

- provide training, supervision and advice to staff working within the programme
- write and disseminate reports
- organise the review of curricula and materials
- carry out programme monitoring and evaluation.

District level Co-ordinating Units, headed by the District Medical Officers, are situated in Fort Portal (Kabarole), Kapchorwa, Kasese, Masaka, Mbale, Hoima, Masindi, Kibale and Kabale. Their roles are to:

- provide continuing education in the district using distance learning methods
- initiate distance education activities in the district
- lobby for resources to support the programme
- provide support and supervision for staff in the unit (Tutors and Co-ordinators)
- write and disseminate reports
- ensure the smooth running of the programme in the district by providing support to learners.

2.7 Tutoring and student support

Medical personnel involved in other health worker training activities in district training institutions carry out tutoring. They conduct face-to-face sessions in the districts, mark scripts and support students. Each tutor is supposed to mark a maximum of 500 scripts.

Staff involved in tutoring are continually upgraded in distance education skills to enable them run the programmes properly. This is done through workshops and supervisory visits.

Students take only one course at a time. The following support is offered to them:

- feedback on assignments by tutors
- visits at their places of work to provide on-site support.
- residential meetings (face-to-face sessions).

The Health Manpower Development Centre undertakes to identify sponsors for residential face-to-face sessions. The funds are used to pay tutors.

2.8 Assessment

The assessment system for the programme is liberal. The participants are given certificates of attendance for each course completed. No grades are given.

2.9 Financing of the distance education programmes

The distance education courses require a lot of initial capital to set them up. Different donors have contributed, and still contribute, to the setting up and running of distance education centres. These include.

- Irish Aid
- Health Sector Support Programme of the World Bank
- United States Agency for International Development (USAID)
- European Development Fund/Rural Health Programme (EDF)
- United Nations Children's Fund (UNICEF)
- Danish International Development Agency (DANIDA)
- Ministry of Health Uganda (support in the form of salaries, housing and recurrent expenditure).

3 THE STUDY

The Ministry of Health Manpower Development Centre in Uganda has been carrying out training of health workers as part of their continuing education using both distance education and conventional methods since 1989. It was important, therefore, to develop a comprehensive documentation of the distance learning programmes in order to show the effectiveness and potential of distance education in upgrading medical personnel as compared to other approaches.

3.1 Rationale

Evaluation is an essential tool for the management of change in any project. Skills training, apprenticeships and non-formal education programmes in areas including health, agriculture, environmental issues, family life and other social issues can be carried out through a variety of methods, one of them being distance education. It was important, therefore, to determine whether distance education was effective compared to other methods. This would be achieved by carrying out an in-depth analysis of the distance education methods used in the continuing education programme of the Ministry of Health.

3.2 Aims and objectives of the study

The aims of this case study were to:

- identify major constraints and problems in the use of distance education in the continuing education programme of the Ministry of Health
- assess the cost-effectiveness of the programme
- assess the pedagogical effectiveness and sustainability of the programme
- establish indicators that will determine the constant monitoring of the programme

- identify changes in practices as a result of improving the training of health workers through distance education.

3.3 Guiding questions

The following research questions provided a framework for the study:

1. To what extent have the aims and objectives of the distance education programmes in place been met, and to what extent have the expected outcomes been achieved?
2. To what extent have the distance education courses benefited health workers?
3. How satisfactory were the media and teaching methods used?
4. How effective were the administration and management procedures?
5. What was the relationship between entry requirements, retention and performance of the learners on the programme?
6. Was there any visible impact of the Health Manpower Development Centre distance education programmes?
7. How was sustainability of the programmes related to local, national and international institutions?
8. Was staff development adequate and effective?

4 LITERATURE REVIEW

4.1 Distance education in Uganda

Distance education programmes are not new in Uganda. Correspondence education has been taking place in Uganda since the 1960s, with many Ugandans enrolling on courses in Britain to obtain General Certificates of Education or accountancy qualifications. There is very little documentation on the organisation and management of those courses, since most of them were done out of individual initiative.

Some documentation of distance education courses from the late 1960s is, however, available. Sentongo (1998) reports that, in 1967, **The People**, The Ugandan weekly newspaper, published a four-page Correspondence Education Supplement, containing 30-week courses on communication, elements of government and economics. These were written and administered by the Department of Extra-Mural Studies of Makerere University College, Uganda.

Robinson (1996) points out that in 1969, Mr Albert Kaye was seconded to the Centre for Continuing Education, formally the Extra-Mural Department, consisting of Media, Communication and Correspondence Units, to run teacher training projects using correspondence. The project, Robinson observed, was not well documented, and was not evaluated to any extent, leaving policy makers, planners and teacher educators uncertain as to the achievements and limitations of the project and the lessons learnt from it.

Sentongo (1998) reports that in 1975, the Makerere Intermediate Certificate was introduced and was offered to working adults who wanted to improve their general education. Economics, mathematics and English courses were offered. Another course, the Clerical Entrance Certificate Course, was introduced to assist those who intended to sit for clerical entrance examinations. A Certificate in Adult Studies, Sentongo continues, replaced the Intermediate Certificate, and a full-time Diploma in Adult Studies was also introduced.

The 1990s saw the emergence of a number of distance education programmes, one of which was the Mubende Integrated Teacher Education Project (MITEP). It took place from 1991 to 1995, with the aims of improving the quality of primary education in the Mubende District as well as evaluating the feasibility and

cost-effectiveness of distance education in order to assess its worth as a model for replication throughout Uganda. According to the Evaluation Report of this project (Robinson, 1996) the project achieved the following.

- It provided evidence that distance education methods can work for upgrading primary teachers to Grade III Certificate level in Uganda. (34 per cent of those who enrolled completed the course).
- It increased access to training and qualifications.
- It created a resource of learning materials which had otherwise been lacking.
- It raised awareness of the possibilities of distance education as a means of training teachers.

When the participants were asked for their preferred mode of study if further study opportunities arose, and were given three options (distance education; a two-year full-time course; or a course taught at colleges only in school holidays), 76 per cent of the students named distance education as their first choice.

The proposal to start the External Degree Programme of Makerere University (Makerere University, 1990) indicates that in 1989, UNESCO organised an International Conference on Education. During the conference, it was noted that the rate at which knowledge and skills become obsolete demands that post-secondary education should provide various forms of recurrent and refresher education. All those who already possess a basic university diploma or professional qualification should be given the opportunity to undertake refresher courses, specialised training or retraining without the need to interrupt their professional activities. Those who have reached the end of their professional career, and all adults who have sufficient free time, should be given the chance to remain in touch with the world of science, new technologies and culture, so that they may

continue to take an active part in the development of their society.

4.2 Distance education characteristics, challenges and constraints

Distance education is known for its flexibility, but most importantly for its cost-effectiveness. In the AMREF Proposal for Support (Ngatia, 1996: 3) this argument is supported by showing how far distance education has proved cost-effective in the training of health workers as follows:

'Distance learning is relatively inexpensive, costing about US \$120 per student for the full menu of eight courses compared to operational level courses of two weeks which cost US \$440 per student and Mid Level Managers' courses which cost US \$1,240 per student.'

The AMREF evaluation report of the distance education programme in Uganda (AMREF, 1998) further pointed out why non-formal distance education was required for health workers. The report points out that all health workers require continuing education for one or more of the following reasons.

- Untrained health workers require a mixture of knowledge, skills and attitudes in order to perform their tasks well.
- There is a tendency for health workers to forget what they learnt during their basic training.
- There are new areas of knowledge and skills that health workers need to be trained in.
- Some health workers have taken on new assignments for which they were not prepared in their basic training.

Omwangangye (1998a) described the distance education programme for health workers in Uganda as one which entails health workers

studying by correspondence, a self-directed learning where health workers study as they work and a method which, besides being cost-effective, has a wider coverage.

To be successful, distance education requires constant support to tutors and learners. Omwangangye (1998a: 5) shows the support given to health workers as they study at a distance as follows.

‘While carrying on with the courses, (usually one course at a time) learners are assisted to study their courses to successful completion by tutors giving prompt feedback on learners’ assignments, visiting learners in their work stations to provide on-site support, and conducting two-day residential meetings with learners to address among other, relevant practical aspects of the courses (face-to-face tutorials).’

5 METHODOLOGY OF THE STUDY

A case study approach was used, which aimed at an in-depth study of the distance education programme of the HMDC of the Ministry of Health. The case study enabled the In-Country Researcher to spell out the unique characteristics of the programme, its achievements and constraints, and the impact it had made on the communities.

5.1 Target population

The target population of the study included all the 319 actively involved in the programme as managers and learners and were distributed as follows:

1. learners on the programme (266)
2. tutors on the programme (30)
3. Ministry of Health officials who are responsible for policy and planning of the programmes (3)

4. the Director of the HMDC (1)
5. the Co-ordinator of the distance education programmes of the various courses (1)
6. Co-ordinators of the Marking Centres (15)
7. the Directors of organisations that had collaborative working relationships with the programme (AMREF, EDF, Irish Aid) (3).

5.2 Sampling procedure

Active learners were selected by means of stratified random sampling. A list of all learners was compiled and divided into strata such as nurses, medical assistants, health workers, health inspectors and nursing aides, dispensary owners and so on. From each stratum, a 30 per cent sample was selected using simple random sampling procedures to yield a total sample of 80 active learners.

In all categories of those involved in the programme (learners and managers) the researcher intended to get at least 30 per cent sample (response rate).

5.2.1 Graduates and drop-outs

The evaluator aimed at reaching 30 per cent of the drop-outs, and at least 30 per cent of those who had completed. However, due to the difficulties involved in tracing these categories of respondents, no response was sought from them and they were therefore not included in the sample.

5.2.2 Programme managers

These included those in categories 2 and 3 above. Officials from the Ministry of Health and directors of other organisations were purposively selected depending on availability. The Co-ordinators of Marking Centres were also purposively selected from areas where no study had been conducted earlier during in-house monitoring and evaluation exercises. Tutors on the programme were selected using simple random sampling procedures. Therefore, the 30 per cent sample was

composed of ten tutors on the programme, an official from the Ministry of Health, the Co-ordinator of distance education programmes, five co-ordinators of marking centres, the Director of the Health Manpower Development Centre and the Director of AMREF giving a total of 19 respondents from this category.

The entire sample, therefore, was composed of 80 active learners and 19 managers, giving a total of 99 respondents.

5.3 Sources of information

Information was sought from:

- annual reports of the distance education programme, workshop reports, and any other records available
- official policy documents
- learners' record cards
- District Health Officials' reports and needs assessment documents
- documents of Programme Managers of NGOs involved in the programme
- documents of representatives of donors
- rural residents who benefited from the programme and selected key informants.

Community mapping of resources to show available economic potential and the health status of the Ugandan people, as well as a review of available documents, were carried out.

5.4 Data collection procedures

Data was collected using both quantitative and qualitative techniques, depending on the nature of the information required.

To document the programme's activities, the following methods were used:

- review of quarterly reports

- discussions with implementing staff
- conversational interviews and limited observations to investigate perceptions of the programme among beneficiaries and staff
- focus group discussions, particularly among the learners, to obtain their views of the programme.

A list of indicators was developed and used by the In-Country Researcher, based on the procedure agreed after the Commonwealth of Learning training workshop. The interview schedules and questionnaires were based on the research questions which had been tested and were successfully used by Dodds and Mayo (1992). The In-Country Researcher worked closely with the Distance Education Programme Manager of the HMDC, who had a medical training background and had been involved in distance education since 1989.

5.4.1 Quantitative information

Questionnaires were used to collect information from current learners, those who did not complete and those who completed their courses. They were also used to help the Evaluator to review various aspects of the programmes – learner characteristics, management characteristics, costs, sustainability, impact. The questionnaires were administered personally by the In-Country Researcher, through workshops organised by the Marking Centre Co-ordinators in the district where learners were based.

Interviews were conducted personally by the In-Country Researcher with staff and managers of the HMDC, policy makers and donors. The interviews were recorded using a cassette recorder.

5.4.2 Qualitative information

In collecting qualitative data, the In-Country Researcher carried out:

- focus group discussions with active learners, those who had not completed and those who had completed courses
- interviews with key informants, including Supervisors and Co-ordinators of Centres.

The focus group discussions were conducted in groups of ten. The In-Country Researcher conducted the interviews with approval from relevant officials. Both the focus group discussions and interviews were recorded using a cassette recorder.

6 FINDINGS OF THE CASE STUDY

6.1 Aims and objectives of the distance education programmes

The information concerning the aims and objectives of the distance education programmes of the Ministry of Health was sought through questionnaires, interviews and a review of documents, with personnel working with the programme.

The documents reviewed reveal that the overall aim of the distance education programme was to improve the health of the people of Uganda through improved performance of healthcare workers, by providing continuing education through distance learning (Omwangangye, 1998a; Ngatia, 1996). The aim was to be achieved through:

- providing continuing education to health workers through self-directed learning
- offering correspondence courses and radio programmes that did not disrupt learners' work schedules.

- supplementing other methods of continuing education
- building human resource capacity at all levels of the health sector.

After identifying the objectives of the distance education programme, the In-Country Researcher set out to establish the extent to which these objectives had been met.

6.1.1 Providing continuing education

There are an estimated 11,054 health workers in Uganda, working in 95 government and NGO hospitals, 96 health centres and 907 dispensaries and sub-dispensaries, according to Omwangangye's paper presented in 1998 on distance and non-formal education. A large number of these health workers – including registered or enrolled nurses, clinical officers and medical officers – have had some basic training.

However, there are also a large number of untrained health workers, called 'nursing aides', working in most rural health units and sometimes running them, who have learnt their skills on the job. The majority of the nursing aides interviewed had had at least three years of secondary school education. These nursing aides appear to be among the greatest beneficiaries of the distance education courses. Table 2 shows the types of health workers enrolled on the programme. Mbale District is used as a representative sample.

As Table 2 shows, the nursing aides are the most active participants on this programme. They are the ones with the lowest level of education, yet they run the up-country hospitals. The challenges before them are great, as they have to keep up-to-date with developments in the rapidly changing medical field. The clinical officers and nursing sisters are highly educated, but they need managerial skills as well as community-based training, which is not highly emphasised in their pre-service formal training.

Table 2: Health workers enrolled on the distance education programme in Mbale District

Type of health worker	Number
Medical assistants	22
Clinical officers	47
Nursing sisters	81
Nurses	72
Midwives	89
Health inspectors	31
Health visitors	17
Nursing aides	137
Total	496

The total enrolment as at April 1999 was 5,946. This shows that out of the estimated 11,056 health workers, 54 per cent were enrolled on either one or two courses or had completed the courses. This therefore shows a commitment to the provision of continuing education through distance education as indicated in the objectives.

6.1.2 Learning without disrupting work schedules

On the issue of offering continuing education without disrupting learners' work, the questionnaire responses and focus discussions were all positive. All those who responded to the questionnaires indicated that the courses allowed them to do their professional duties and learn at the same time.

Some qualitative answers explaining how they found the course were as follows.

- They are a key to memory.
- They remind me of what I do not understand well.
- The courses are easy to grasp.
- They assist me to do my work well.

- They better my capability to deliver health work in this changing scientific world.

All indicated that they found the courses flexible and compatible with their work.

6.1.3 Supplementing other methods of continuing education

The distance education courses have supplemented greatly other forms of continuing education. In a focus group discussion, health inspectors and other primary care students revealed that many new approaches, techniques, drugs or conditions that they were not taught about in their basic training are being covered in the courses. They cited the example of community mobilisation in the immunisation course.

6.1.4 Building human resource capacity in the health sector

There is also evidence that the courses have built human resource capacity in the health sector. This is especially the case in the remote areas of the country where, due to the prevailing adverse socio-economic conditions, highly educated health personnel tend to avoid being posted. Generally the nursing

aides have greatly benefited from the courses and are practising what they learn as they work. In a focus group discussion, one nursing aide commented: 'We know now how to control cholera spread and we do not fear to handle cholera patients'.

6.1.5 How far have the objectives been met?

It seems, therefore, that most of the objectives may have been met to a great extent. What is not yet clear, and which would need a rather intensive study, is the extent to which the overall aim of improving the health of the people of Uganda has been achieved.

From the discussions carried out, the course participants told of improved health in the communities where they worked. For example:

'I have taught the people about ways of controlling malaria – for example, by slashing around their houses and getting rid of empty vessels that harbour mosquitoes. As a result malaria has decreased. I learnt this from the course in communicable diseases.'

'I have managed to mobilise my village mates to immunise the children and to finish all doses. I learnt this from the course on immunisation.'

However, considering that the distance education programme currently operates in only ten of the 40 districts of Uganda, the impact on the country as a whole can only be regarded as minimal.

6.2 How have the distance education courses benefited health workers?

The research revealed various benefits derived from the courses. The main ones cited were as follows.

- The learners apply immediately what they learn. The courses are practical compared to the theoretical courses learners underwent during their formal training.

- 'The course is able to boost knowledge, to keep me in the cycle of reading and to execute my duties amicably'.
- 'I have gained knowledge from one course and have been able to apply it to other areas of health. For instance, I have learnt community health, but it includes all other areas of health such as child health, environmental health and immunisation'.
- 'There is new knowledge gained and a lot reminded'.

Generally, the distance education programmes have enabled health workers who would not otherwise have benefited from any continuing education due to costs involved to refresh their knowledge and to acquire new knowledge. One participant in a focus group exclaimed: 'The course is free – it has helped us', indicating that the participants so far are bearing no costs and that that is a great benefit to them. The Co-ordinator of one of the Marking Centres said learners benefit as 'they keep abreast with basic and current updates in the provision of health care'.

6.3. How satisfactory are the media and teaching methods used?

Print and radio are the main media used in the distance education programmes. Various teaching methods are used during face-to-face sessions, including discussions, lectures, group work and practicals. Each of these media were examined to determine how effective they were in delivering the educational messages.

6.3.1 Printed study materials

Table 3 shows findings from the questionnaires on how satisfied learners are with different aspects of the printed course materials.

As Table 3 indicates, the study materials were rated highly, with none of the variables being rated as poor. When asked to explain how the study materials had benefited them, participants gave the following replies.

Table 3: Learners' ratings of printed materials

Variable	Number of learners rating materials as			
	Very good	Good	Fairly good	Poor
Readability	3	4	-	-
Lay out & format	1	6	-	-
Illustrations	4	2	1	-
Language level	4	3	-	-
Relevance to course	4	3	-	-

- 'They provide much of the knowledge I seek in answering the assignments.'
- 'Reminds me what I don't understand well as I work.'
- 'It has been very good because there were no hard words during my studying.'
- 'They have been assisting me to do my work well.'

Personal study of the materials by one of the researchers confirmed that the materials were well written and simple to understand. They were not too difficult, despite the fact that the researcher herself was not a medical trainee.

Despite high ratings for the study materials, some weaknesses were noted. For example, the materials included a reference to a table which did not exist and was necessary for answering one of the assignments. Some incorrect page references were also noted – learners were asked to read certain pages but found the relevant materials on different pages.

Learners felt that the materials could be improved by being updated to suit varying (dynamic) situations. The Co-ordinator said that the materials have been reviewed and updated, but have not yet been reprinted. She was sure there would be an improvement in

the tutor-marked assignments and in-text activities.

6.3.2 Face-to-face sessions

From the questionnaire responses, it is clear that attendance at face-to-face sessions is very irregular, with no respondents claiming to attend sessions often, and most stating that they attend sessions rarely or not at all.

The focus group discussions, however, revealed that face-to-face sessions are rarely arranged. They are not a regular feature of the course, and some learners complete a course without ever attending any face-to-face sessions.

In one focus group, it was discovered that a team from Mbale (the headquarters) still runs the face-to-face sessions even in remote areas of the country. This explains the rare nature of the sessions. Some students said they wanted more opportunities to attend face-to-face sessions.

The Co-ordinator of the programme confirmed poor attendance at face-to-face sessions, blaming it on learners' other commitments. She felt that regular face-to-face sessions should be compulsory. She also pointed out that the face-to-face sessions depend to a large extent on the availability of donor funds. In the absence of such funds, the sessions simply do not take place. The sessions are costly, she said,

requiring payment of allowances to tutors and learners.

In a workshop organised for Co-ordinators, the discussion concerning face-to-face showed the necessity of these sessions, but the issue revolved around availability of staff and funds.

70 per cent of the 80 learners interviewed agreed that the face-to-face sessions are organised. The Co-ordinator of the programme revealed that learners are invited to two-day sessions to address practical aspects of their courses. Between 30 and 60 of the learners, the Tutors of particular courses, the Co-ordinator and Clerks, and staff from health units where practicals may take place are invited to the sessions. Learners, Tutors and the National Co-ordinator, the Co-ordinator explained, evaluate the sessions at the end. The instruments used to evaluate the sessions include questionnaires answered by the learners and a checklist used by the Central Facilitator. The Tutors informally evaluate the sessions and inform the Co-ordinator.

The benefits of the face-to-face sessions according to the learners are numerous. Below are some of their responses to the open question asked in their questionnaire as to what they like most about face-to-face sessions:

- enable sharing of experiences
- allow for brain-storming
- relevant correction
- bring us together with Tutors and we share experiences
- open discussion and experiences
- sharing experiences, meeting new friends and Tutors.

The major complaint about face-to-face sessions was that they were too short. The Co-ordinator also confirmed that the time was limited for some skills. All of them indicated

that face-to-face sessions should continue to be part of the programme.

As far as study groups are concerned, this is a new concept for learners and groups are rarely organised. The explanation may be that since the learners do not undergo any formal examinations, they do not panic about their studies and discussions that do take place among learners are just casual.

6.4 Effectiveness of administration and management

The interviews with the Co-ordinator of the programme revealed that she has overall responsibility for all distance education programmes in the country and is apparently overworked. She is responsible for planning, implementing, supervising, staff monitoring, and evaluation of progress of the programme. She is also responsible for the development of the course materials, and compiles returns and reports on activities carried out.

Through observation and interviews with her, her 'one-woman administration' appears to be effective. She has obviously tirelessly uplifted the quality of the course materials. She has also imparted skills of tutoring to the Tutors, including supporting and counselling learners at a distance and marking scripts.

The Director of HMDC's comments on administration and management were quite useful. As far as status is concerned, the distance education programme is fully incorporated into the existing in-service training programme. The Director and Tutors are employees of the Ministry of Health, and the distance education courses are fully recognised as an integral part of the continuing education for health workers.

The Director pointed out that since the inception of the programmes, more Co-ordinators and Tutors have been co-opted. Decentralisation of the programmes is slowly

taking shape and record keeping will improve with computerisation and decentralisation.

On some observed weaknesses of the administration, the Director said that the delivery of course materials is slow and unreliable and requires improvement. Communication with Co-ordinators from various Distance Education Units also ought to be strengthened.

6.5 Retention and completion rates

On the question of basic qualifications for the learners, the Director said that professional basic training in nursing and medicine was a requirement. Retention and performance could not necessarily be based on qualifications but more on commitment and the learner's work schedule. The learners are employees with districts and the emphasis is put on skills. Performance is therefore judged on skills, which could not be attributed entirely to distance education since there are other forms of continuing education such as supervision, short courses and so on.

The Director indicated that the open nature of enrolment had some effect on completion rates. Tutors also pointed out that some units are difficult and discourage learners. The learners also hinted at this when they said that some of them (nursing aides) were not allowed to do some of the courses they would have like to do, such as Communicable Diseases, and they are restricted to Immunisation.

The fact that the certificates the learners obtain at the end of the courses are not recognised and cannot not be used for promotion or increment in salaries, or as an entry requirement for other formal courses, greatly affects retention of learners, the Director observed. However, on a dissemination workshop of the evaluation report, the Commissioner of Health hinted that plans were underway to recognise the certificate. The Director of the HMDC thought

that the courses should be structured according to different types of health worker. Doctors, medical assistants, nurses and nursing aides all studied from the same manuals and their levels of understanding were quite different. He was also of the view that non-recognition of the certificate attained was a major contributor to the non-completion of courses.

The Director also attributed non-completion of courses to poor monitoring of learners due to limited staff.

6.6 Visible impact of the distance education programme

The researcher did not have the chance to observe in practice the improved skills of learners who underwent courses. However, the formative evaluation of the courses by a medical doctor indicated improved skills.

The focus group discussion with the learners indicated things they could do after studying the courses. Some of their responses were as follows.

- I can treat malaria better. I know the dosage.
- I have cleared misconceptions about immunisation by educating the public and they are responding well.
- I know the approach towards the community if I am to mobilise them for any health programme.
- I have shown members of the public how to control malaria by slashing the grass, burning the waste, shutting doors during evening hours.
- I now know the proper site to inject.
- I have gained more knowledge in the prescription and administration of drugs.
- I am now more acquainted with the medical language and can interpret prescribed medicine.

The impact of the programme is also illustrated by the following.

- The focus group revealed that the medical doctors are very interested in the courses on management of a Health Centre, since many are posted in up-country centres as District Medical Officers without managerial skills. With time, the impact is likely to be felt over a wide area in Uganda.
- The learners, since they are based in the villages, are able to share their knowledge on subjects such as nutrition and communicable diseases.
- Changes in the handling of patients (customer care) after enrolment on the course were noted in interviews with people in charge of Health Centres and in certain documents.
- The Director of the HMDC pointed out that, according to test evaluations done, there were definite improvements in performance.
- Many health workers have enrolled, and there is interest for the courses among health workers of all levels.

6.7 Costs and sustainability

Sustainability of the HMDC distance education courses is a big issue. At present they are almost 95 per cent donor funded. The Ministry of Health in Uganda provides funds for staff salaries, vehicles and a venue to house distance education staff. Donors pay the costs of:

- materials production
- staff allowances during face-to-face sessions
- transport for the National Co-ordinator and Tutors
- provision of reference books
- technical support.

The Director of HMDC had no idea of the initial capital. All he knew was that it was a combination of Irish Aid and AMREF contributions. Subsequent costs include staff allowances and printing of materials. The cost of instruction per student per course, according to the Director, is US \$4, including three- and six-month courses. According to him the distance education courses are ten times cheaper than conventional courses.

Currently learners do not pay anything for the courses. The only cost for them is on posting assignments to be marked. The Director cited financial problems as the major constraint of the programme, and suggested that recognition after completion of courses would induce health workers to pay for the courses.

Tutors are paid a token figure of Ug Shs 20,000 (US \$14) per month, and 500 Ug Shs (US \$0.35) for marking an assignment. Yet they are expected to send in learner returns each month, account for funds and submit supervision reports on top of their normal government duties. This leads to poor motivation among Tutors.

Steps that have been taken to institutionalise the major components of the programme, and thus ensure sustainability, include:

- using Tutors who are already employed in the hospitals, districts or institutions
- requesting learners to pay for the courses, if certificates are officially recognised.

7 CONCLUSIONS AND RECOMMENDATIONS

Uganda has inadequate health facilities and health personnel. Performance of existing personnel depends to a great extent on retraining them to update their knowledge and acquire new skills. The distance education courses of the Ministry of Health, Uganda have developed in line with the Ministry's vision of

providing continuing education to keep health workers abreast with changes in the health field and to enable them to upgrade their skills. This objective has to a large extent been met, considering the large number of health workers who have enrolled on the distance education courses.

Distance education has the advantage of training health workers on-the-job, and enables them to practise as they learn, applying immediately the knowledge they have gained. The DE programme can reach a large number of health workers, and its impact is felt within communities and in the country as a whole. The researcher observed that even those learners who had not completed the courses were proud of what they had achieved so far, and were able to apply what they had learnt to the benefit of the community.

However, the extent to which those who enrol on the course gain new skills and improve their performance should be carefully monitored to assess the effectiveness of the courses.

7.1 Demand for and relevance of the courses

The DE courses are in demand for various reasons, including keeping learners up-to-date, refreshing their knowledge, and upgrading learners' skills, which they apply immediately while on the job. Learners, for example, have been able to contribute to the control of some of the endemic diseases such as cholera. The courses are therefore valuable to individual health workers and to the population at large.

It is also worth noting that many of the health workers in the rural health units are nursing aides, who do not have formal training and lack the necessary qualifications to join formal health training programmes. The open nature of entrance to the DE courses has enabled them to have access to up-to-date knowledge

and skills which they would not otherwise have gained. They in turn pass knowledge and skills on to the community, improving the health of the people of Uganda. There is evidence that those nursing aides who have completed the course perform better in health units. There is therefore a need to continue with the programme and to encourage all health workers to enrol on the courses to improve the service they provide to their clients.

7.2 Learner support

The main problem with the programme relates to learner support and supervision, which suffers from inadequate funds and shortage of personnel. Due to lack of support and supervision, many health workers enrolled on the programme have failed to complete on time. For distance education to be a cost-effective means of training large numbers of health workers, there must be a supervision and support system in place to enable them to complete the course. It is therefore important to obtain funding to provide adequate support.

Communication is difficult in Uganda, and the researcher concludes that the nearer learners are to a Co-ordinating Centre, the better. Establishing Co-ordinating Centres in the districts has led to a reduction in the loss of study materials, more effective support and increased completion rates.

7.3 Study materials

Printed study materials have proved to be very helpful. They provide up-to-date knowledge for health workers and are used for reference after learners have completed the course. Since they are written in a simple, easy-to-read format, they help all levels of health workers, whether they are following the course or not. 72 per cent of learners ranked the printed materials as the most useful media used on the DE courses.

7.4 Radio programmes

The radio programmes are of great value to the community and to the learners. They discuss common health problems and offer solutions, and supplement knowledge gained from other media. The problem with the radio programmes is that they are broadcast at a time when listenership is limited, and on a national radio station whose reception is also limited to areas near the capital city. Broadcasting the same programmes on FM radio in local areas would increase listenership and increase the impact of the radio programmes in the communities and the country as a whole.

7.5 Assessment and accreditation

The DE programme does not involve examinations. Achievements are measured by means of a post-test, which is attempted by the learner after studying all the course units and after passing two assignments. 57.5 per cent of learners regarded this method of assessment as good, 21.3 per cent saw it as fair, while 21.3 per cent did not respond, an indication that the method of assessment may need revision.

Learners completing the programme receive a certificate of attendance. However, both the administrators of the programme and the learners felt that the certificate had its limitations. It is not recognised for promotion or for increment in salary. It is therefore important to develop the courses to the level of awarding a certificate that can be recognised for promotion or for an increment in salary, or as a relevant qualification for admission on a formal course.

7.6 Costs and sustainability

It has been found out that it costs less to train a health worker through distance education than through conventional means. The cost so far calculated is US \$152 for distance education and US \$400 for the same menu of courses but offered through residential seminars. Since there are an estimated 11,056 health workers and the residential courses cater for only 50 learners per course per seminar, which are offered once or twice a year, the DE courses have the advantage of reaching a greater number of health workers at a lower cost.

This programme is donor funded, which means that funds are limited and can be slow to come. This has limited the spread of the programme to all parts of the country. Also, until recently, the programme has been run, and funds disbursed, centrally. Steps are under way to decentralise the programme to district level, but funding is still a problem due to scarce resources in the districts.

Awareness has been created among health workers of the advantages of the DE courses. The courses should therefore not to be dropped because of lack of funds, and all efforts should to be made to ensure the sustainability of the programme. Participation of the districts and of learners themselves in funding the programme should be encouraged. An appeal is being made to the Government of Uganda to develop a curriculum that would lead to a recognised certificate on completion of the courses, which would encourage learners to pay for the courses.

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