TRACER STUDY FOR 1980-2001 GRADUATES OF FACULTY OF MEDICINE, MAKERERE UNIVERSITY

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EXECUTIVE SUMMARY

BACKGROUND TO THE TRACER STUDY

Makerere University having noted a trend of unemployment of its graduates through a number of avenues including previous tracer studies of graduates of Arts and Sciences, decided through the Planning and Development Department, to institute a tracer Study, for the graduates of the Faculty of Medicine.

The University was particularly concerned with the prevailing level of unemployment, whether the graduates of the Faculty of Medicine are adequately and appropriately prepared to meet the challenges in the market place of employment, and in particular, whether they are adequately prepared for self employment. The university wanted also, to find out whether there were gaps in the training knowledge and skills of its graduates that it churns out every year. In case such gaps exist, it wanted to know to what extent these affect the employability of the graduates or how this affects them in their performance at work.

To investigate this concern, the university sought and obtained financial support from Carnegie Foundation, to pay for this Tracer Study.

Having identified a suitable consultant through competitive bidding, the following specific tasks were assigned to be carried out:

i) Identify employment opportunities for faculty of medicine graduates
ii) Study the mobility patterns of faculty of medicine graduates
iii) Assess the adequacy of preparation of faculty of medicine graduates for labour market
iv) Evaluate the performance of graduates at the places of work, while identifying the difficulties they face and/or the factors that enhance/undermine their performance
v) Identify the training gaps (if any) so as to improve to the training of students in the faculty of medicine

vi) Propose feasible recommendations on how Makerere University can enhance the employment opportunities for her graduates by producing personnel relevantly trained for the needs of the nation

vii) Assess the prospects for self employment for the faculty of medicine graduates

The Tracing Process

Initially, addresses of various graduates were updated using institutional set ups like various professional council offices to which respective graduates are supposed to register, and use of large employing institutions.

We followed up the addresses and identified various graduates. We also used snow ball technique to trace colleagues of the initially identified graduates. Questionnaires were channeled to graduates either by direct contact and administration, or through postal mailing or through third parties or through e-mailing. Various mechanisms were put in place to improve on response rate.

In the end 356 graduates among all those who were traced, agreed to participate in the study. This covered graduates who completed their courses from 1980 through 2001 and the tracing exercise began from September 2004 through December 2004.

MAJOR FINDINGS AND RECOMMENDATIONS

The majority of our graduates were fully employed with a very tiny minority out of employment. All graduates of pharmacy were employed. Majority of the employed graduates had supplementary incomes from other sources like private businesses, consultancies and private practices.

The preparation of our graduates was fairly sufficient although a lot more is needed especially in areas of business management, finance management, entrepreneurial skills, and computer applications.

Several areas of study were found wanting especially computer applications, various sub disciplines of management, public relations and communications, research methods and a few others. These have to be introduced or enhanced where the faculty is beginning to introduce them or has already introduced them.

In-depth teaching methodology with practical skills approach through hands-on-learning together with problem based learning, and community based learning and service (COBES) should be integrated and enhanced.

A number of subjects, in particular, biochemistry and sociology were identified as not being very helpful. These should be re-packaged in structure and delivery to be more directed in application perspective rather than being generally theoretical.

Computer-based learning should be highly emphasized through all courses and all years of training.

Over the years, the waiting time before graduates get fully employed, is increasing and methods of recruiting into public and private service are increasingly becoming less transparent. Graduates must be trained to meet this challenge through improving their abilities to be self-reliant through job creation for self and others.

Government through the Ministries of Health and Public Service Commission should be advised to urgently create carrier pathway for Nurse graduates. Equally so, government should create incentives for rural-based graduates since majority of these dislike being posted to rural areas and yet this is where the majority of the population lives.

New courses, especially ones in private practice management should be introduced among others, and this should be as soon as possible.

CHAPTER ONE

1.0 INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

It has been observed in Uganda that there is a trend of rising unemployment of graduates of Makerere University in general and the Faculty of Medicine in particular. The unemployment is a concern of the parents/guardians, the University and the country as a whole. It is not known whether the graduates are not adequately and appropriately prepared to meet the challenges in the market place of employment, or whether there are gaps in skills and knowledge among these graduates, and to what extent if any, these affect their employment opportunities. Furthermore, it is not even known whether the graduates of Makerere University Medical School are adequately equipped for self-employment in this age and time of diminishing public/private service jobs. These and similar concerns call for concerted action by both government and universities.

The problem of unemployment is not limited to Makerere University graduates alone but many Universities in Africa as reflected in recent studies in Nigeria, Malawi, Ghana, Uganda, Kenya and Tanzania. It has been established that education has not been producing the types of skilled personnel or productivity capacities that have been expected. As a result, rising unemployment levels among University graduates and serious mismatch between higher education and the labour market has been noted with increasing concern (Schiefelbein and Farell, 1987).

In an effort to address the extent to which the problem of unemployment affects its own graduates in the Faculty of Medicine, Makerere University decided to engage consultants to carry out tracer studies of the graduates. It is therefore hoped that findings and recommendations in this study will go a long way in improving on the training skills and knowledge of the future graduates so that they are better prepared to meet the challenges of unemployment.

1.2 BACKGROUND

To address the concerns above, the university sought and received support from developing partners, in particular, Carnegie Foundation, who provided funds for this study.

The university advertised the study and through competitive bidding by submission of technical and financial proposals, a winner was identified (the study team).

Following that process, a negotiation meeting was held with Makerere University contracts committee and acceptable amount of money was offered by the university under terms that were agreed upon by the two parties which were subsequently spelt out in a contract. One of the agreed conditions, was for the consultants to diligently carry out the tracer study, analyse the data, interpret it and produce a report with appropriate findings and cogent recommendations. This report is therefore part of the process fulfilling the conditions in the terms of reference (TOR). The TOR spelt out, among other things the tasks or objectives that had to be achieved as indicated hereunder:

Tasks/Objectives of the study

These were to:

i) Identify employment opportunities for Faculty of Medicine graduates
ii) Study the mobility patterns of Faculty of Medicine graduates.
iii) Assess the adequacy of preparation of Faculty of Medicine graduates for the labour market.
iv) Evaluate the performance of graduates at the places of work while identifying the difficulties they face and/or the factors that enhance/undermine their performance.
v) Identify the training gaps (if any) so as to improve the training of the students in the Faculty of Medicine.

vi) Propose feasible recommendations on how Makerere University can enhance the employment opportunities for her graduates by producing personnel relevantly trained for the needs of the nation.

vii) Assess the prospects for self employment for the Faculty of Medicine graduates.

CHAPTER TWO

2.0 METHODOLOGY

Our original intention was to trace as many graduates as possible using different strategies. We intended to cover graduates who had completed their studies from 1980 through 2001. The main reasons for choosing this period was to capture three different periods of governance where policies differed and therefore affected employment opportunities. The 1980-1985 would capture the period generally under former Obote's system, while 1986 to 1994 would capture the earlier period of President Museveni's governance, and the 1994 through 2001 would capture the Decentralization Policy period all of which were thought to have impacted on employment opportunities of graduates in different ways.

2.1 Targeted Minimum Sample Size

We used the standard survey formula of Kish and Leishlie (1996) to calculate the sample size as follows:

$$n = \frac{Z^2(pq)}{d^2}$$

Where: n = sample size
Z = the value corresponding to the 95% level of confidence = 1.96
p = expected proportion of graduates who were willing to participate in the survey as a proxy of a proportion of graduates that were traceable = 30% (adopted from Mr. Kibirige Mayanja's tracer study of 1997)
q = (1-p) = 70%
d = The desired precision = 0.05

Substituting in the formula,

$$n = \frac{1.96^2 \times 0.3 \times 0.7}{0.05 \times 0.05}$$

n = 323 study graduates

Therefore, the minimum number of graduates that had to be traced were 323 although more graduates than this number were desirable.

Sampling

When the study was planned, we recognized that all the graduates in the intended cohort period of study of 1980-2001, were very much spread globally with a greater majority scattered in Uganda. We had no idea of their proportionate distribution by place and time.

While we calculated the minimum sample size we had to at least capture, our intention was to trace as many graduates as possible and the ideal was to trace all of them. This was of course, not possible.

While we adopted many tracing strategies, the main approach was hoped to hinge on the snow ball technique which we hoped would cover most areas where the graduates resided and worked which would therefore guarantee representativeness of whatever number we would trace in the exercise.

Indeed, out of the 56 districts in Uganda, we captured graduates in 40 districts some of which are in extreme corners of Uganda with difficult terrain like Bundibugyo, Adjuman, Kisoro, Moyo and even the war-torn areas of Kitgum, Gulu and Apac. The approach and nature of study could therefore not permit the usual sampling procedures done in different studies.

The distribution of the captured graduates by person, place and time, does however, attest to the fact that the respondents did indeed, represent the entire cohort in the study population.

2.2 Pilot Testing Tools

The questionnaires were pilot tested with staff on main campus and a few in Medical School and Mulago Hospital who were in the exclusion zone. Following that exercise, the questions were refined and made ready for the tracing exercise.

2.3 Updating Contact Address for Graduates

To get to as many graduates as possible we set about to obtain their addresses from various sources. Thus, offices of respective registrars for different professionals were visited since each graduate is required by law to register with his/her professional council. Some of these addresses had contact telephone numbers as well, which was an added advantage to the team.

We also approached focal institutions like hospitals which were thought to have large numbers of employees of particular professions to get lists of their staff and units in which various graduates worked, and requested for contact telephone numbers wherever possible.

In case of the nursing graduates, we also took advantage of the fact that the Makerere University Department of Nursing had a list and addresses of its graduates which we utilized in tracing some of them.

2.4 The Tracing Process for Graduates

The major approach involved using the identified addresses of the graduates in the updating exercise which helped us to trace them to their places of work. We then visited institutions where the graduates worked and after going through the normal routine of getting institutional permission to allow us interview their workers, the graduates were then physically approached and requested to participate in the survey after detailed explanations about the study and its purpose (See Appendix 2). The questionnaires were then directly administered to those who accepted or left behind with them for self administration which were then collected later in accordance with the wishes of the respondents.

The second approach was to post through the post office or to send by hand questionnaires to the graduates with enclosed pre-stamped envelope addressed to the Principal Consultant requesting that completed questionnaires be posted back to the address indicated on the envelope.

The third approach was requesting assistance of the District Directors of Health in each District to remind graduates under their care to return questionnaires either directly or through their offices to the investigating team in the Institute of Public Health.

To improve on response rate reminders were sent by post, including direct telephoning and sending of SMS messages wherever it was possible.

The fourth approach was the snow balling method where each contacted graduate was requested to provide addresses of any other graduates known to him/her on the basis of which those others, were traced.

The last method was using e-mail addresses of the few graduates whose addresses we managed to get with a request to relay the questionnaires to their colleagues and/or pass their e-mail addresses to the Principal Consultant. Unfortunately, this approach was not very successful.

2.5 The Field Survey

The actual survey started in August 2004 and ended in December 2004. A total of nine research assistants were recruited and trained on how to approach the whole exercise of administering the questionnaires. Potential candidates for research assistantship were selected based on previous experience of carrying out other field-based studies and on the general assessment of individual personality. Telephone contact numbers of the respondents were included on the questionnaires as a way of ensuring the possibility of cross-checking authenticity of information and further validation whenever necessary.

2.6 Experience in the field

A good number of graduates were very reluctant to participate in the survey. Many of these requested us to leave behind questionnaires ostensibly because they were very busy suggesting that completed questionnaires would be collected sometime later. In many cases, on subsequent visits, the questionnaires would not have been completed, or the respondents would, on many occasions not be available. A lot of time was wasted on this type of dilly-dallying by various graduates and research assistants had, on many occasions, to eventually give up. Others claimed there was a lot of personal information they did not want to divulge and that was even when they were told that data would be anonymous and confidentiality would be strictly observed. In some instances, officers in some establishments who were to give permission to members of the teams to access their employees would hardly be found in office on several visits yet no other official would be willing to give such permission.

For those where there was physical contact, the response was about 40% and the postal and other approaches, the response rate was about 20%.

All in all, it was found out that graduates of the medical professions are difficult to persuade to act as respondents in a survey of this nature. Majority of those contacted were very reluctant to complete the questionnaires.

2.7 Data Management and Analysis

The data was based on the 356 graduates who were traced and were willing to participate in the survey. Data was cleaned and coded, then entered in the computer using Epiinfo software.

It was then exported in SPSS Software and analysed. The main output were frequency tables of various variables, proportions and percentages, and a number of cross tabulations to find out relationships between different variables especially different types of graduates in respect of certain dependent variables of interest.

Information from key informants like the Dean of Medical School, the Deputy Director Mulago Hospital and others was used to correlate or augment the findings from the graduates or to help clear grey areas or to show the intended or planned direction by the Faculty of Medicine, and what employers or supervisors thought about our graduates.

Data output was then examined in light of the specific objectives of the survey, interpreted and conclusions and recommendations generated.

CHAPTER THREE

3.0 FINDINGS

3.1 Background to Choice of graduates

A total of 356 graduates were traced and agreed to fill our questionnaires. The results presented were generated from this number of respondents who graduated between 1980 through 2001 and consented to participate in the survey.

This period was chosen, because prior to 1980, there were no difficulties of getting employment once one successfully completed his/her course at the time unlike currently when graduates experience difficulties in getting employment.

Besides that, 1980-2001 represents three distinct periods of policy and government changes that could have affected employability of graduates at those periods. For example, prior to 1986, there was a post-Amin era under UPC government, followed by NRM era which introduced new policies, and even later in the 1990's introduced a new policy of decentralization.

3.2 General Characteristics of Respondents

The mean age of our respondents was 36.5 years with a range of 25 to 54 years. The greater majority (74%) of the graduates were males compared to 26% females. Majority of these (42.4%) were Protestants, followed by Catholics (36.8%) and the rest, belonged to other religions. Most of their parents (both mothers and fathers) had education beyond primary level and 20.5% of the parents who were unschooled were mothers, while 11.2% were fathers. The education of the parents to a significant level, must have played a big role in the education of these graduates especially given the fact that majority of the parents had had college or university education (25% of mothers and 29.5% of fathers).

The marital status was such that the majority of the graduates were married (58.9%) including 11.0% who were in stable relationship. Only 1.7% were separated or divorced while 2.2% were widowed , the rest single. Therefore majority were in stable social states if marriage can be taken as a proxy indicator of social stability.

The breakdown by courses, indicated graduates of Medicine as the majority (84.3%), followed by Nursing (6.7%), then Dental surgery (6.5%) and Pharmacy (2.5%). This distribution fairly reflected the periods of when each course was introduced in the Medical school and therefore higher relative numbers for older courses than the latest courses. The Medicine course being the oldest had the biggest number of graduates.

In terms of difficulties or otherwise of tracing graduates, it was easier to track more recent graduates than old ones. Thus, 66.3% of all the respondents had completed their studies 10 years ago, and the rest (33.7%) were more older graduates of earlier years.

The preponderance of male graduates was also noted in most courses except in Nursing and Pharmacy. Indeed, females were in greater majority in Nursing which is traditionally a lady's field. In spite of that, there were more female doctors than female nurses.

The gender distribution by courses was significantly different and the fact that males were much more than females reflects the usual favourable bias for male children in provision of education in our society. The statistical significance disappeared when we controlled for gender.

Table 1: Distribution by Course and Gender

Course	**Male**		**Female**		**Total**	
	N	**%**	**N**	**%**	**N**	**%**
Medicine	233	(77.8%)	67	(22.2%)	300	(84.3%)
Dental surgery	21	(91.3%)	2	(8.7%)	23	(6.5%)
Pharmacy	4	(44.4%)	5	(55.6%)	9	(2.5%)
Nursing	5	(20.8%)	19	(79.2%)	24	(6.7%)
Grand Total	**263**	**(73.8%)**	**93**	**(26.2%)**	**356**	

P-value = 0.0000

3.3 Employment Opportunities

Current employment status:

Currently 93.4% of all the graduates were in specific gainful employment and only 6.6% were unemployed. This is a relatively high level of employment. Those who were unemployed had spent an average period of 30 months on the streets while those employed had spent a range of 2 months to 8 months without any job. Fifty percent (50%) of unemployed had spent at least 24 months on the streets. Two and a half years on the streets for a highly professional person is very distressful and disappointing which calls for urgent solutions.

The course with the biggest relative proportion of the unemployed was dental surgery (13%) followed by Medicine (6.7%). The dental surgeons appear to have a relatively high unemployment rate because of the very expensive equipment they require to start private clinics which would otherwise provide self employment in the absence of other engagements. The courses whose graduates appeared to have no difficulty in securing employment were Pharmacy whose graduates were all employed with Nursing in the tow. But it has to be noted however, that Pharmacy and Nursing have recently been introduced in the medical school and student intake is very limited in numbers and therefore competition for available jobs is not as stiff as in other courses which have produced large numbers of graduates. There was no apparent bias in employment opportunities based on gender. The numbers of unemployed individuals that we are talking about is, however, relatively small.

Table 2: Distribution of graduates by Course and Employment Status

Course	**Employed**		**Unemployed**	
	Number	**%**	**Number**	**%**
Medicine	265	93.3	19	6.7
Dental Surgery	20	87.0	3	13.0
Pharmacy	9	100	0	0
Nursing	23	95.8	1	4.2

Table 3: Type of graduates by gender and employment status

	Male		Female	
Course	**Employed %**	**Unemployed %**	**Employed %**	**Unemployed %**
Medicine	97.7	2.3	94.7	5.3
Dental Surgery	85	14	100	0.0
Pharmacy	100	0.0	100	0.0
Nursing	100	0.0	94.7	5.3

3.4 Difficulties in Securing Employment

It is encouraging to note that the majority of our graduates (70%) did not experience any difficulty in securing jobs after internship (ref. figs 1, and 2, and table 4).

The major difficulties experienced by the minority were mainly due to lack of jobs and lack of information on the available jobs. Other less common reasons were postings to undesirable areas, or demand by potential employers of unrealistic work experiences or having to be supported by a "god-father" something that came to be known by the acronym of "technical know who".

While it is known that all the graduates of the different courses in Makerere Medical School have to undergo internship, only 95.2% had undergone internship in their relevant professions. Internship is a requirement for improving professional competence and for official recognition. But, on top of that, it acts as a form of employment immediately after graduation though for a limited period of time, since one has to look for full employment elsewhere on completion of internship training.

For those who did undergo internship, it took an average of one month from completion of their various courses to commencement of their internship and up to 12 months, all of them had entered their internship exercises.

Generally, there was no disparity between graduates of various courses in as far as time of internship was concerned.

Fig. 1: Experienced Difficulties in Applying for a Job

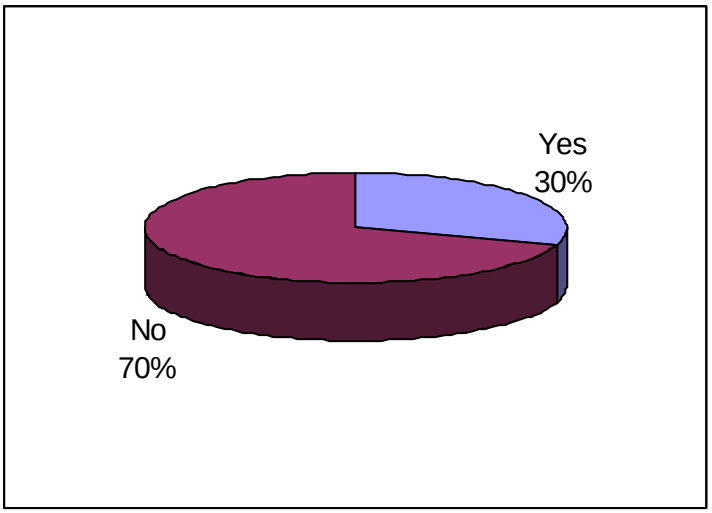
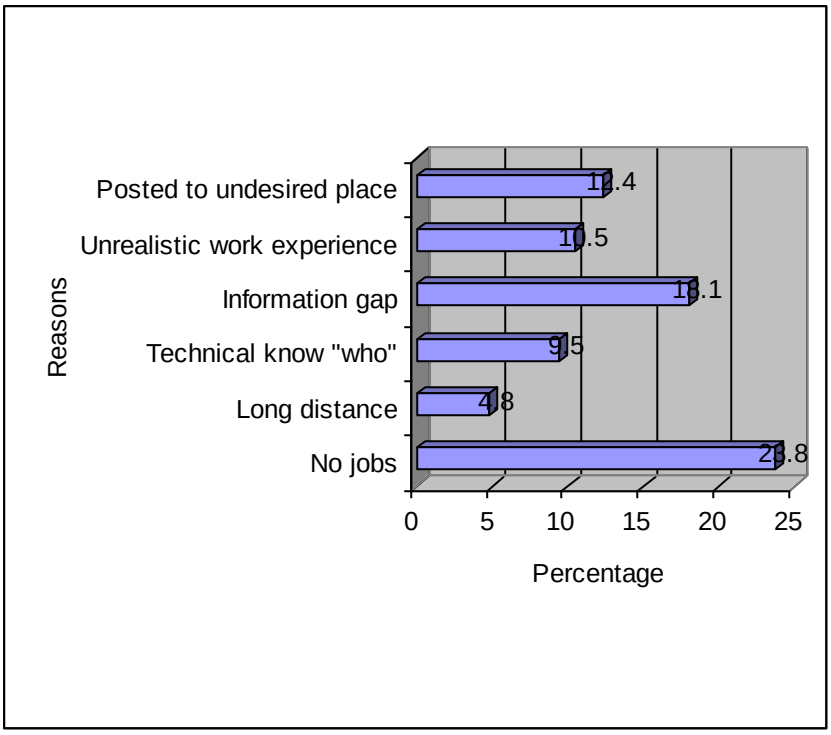


Fig. 2: Difficulties to Secure a Job



The various reasons that posed difficulties in securing employment are reflected in figure 2. Lack of jobs, lack of information and posting to undesired places were the most difficulties faced in a descending order of importance.

Table 4: Difficulty in Applying for Job by Gender

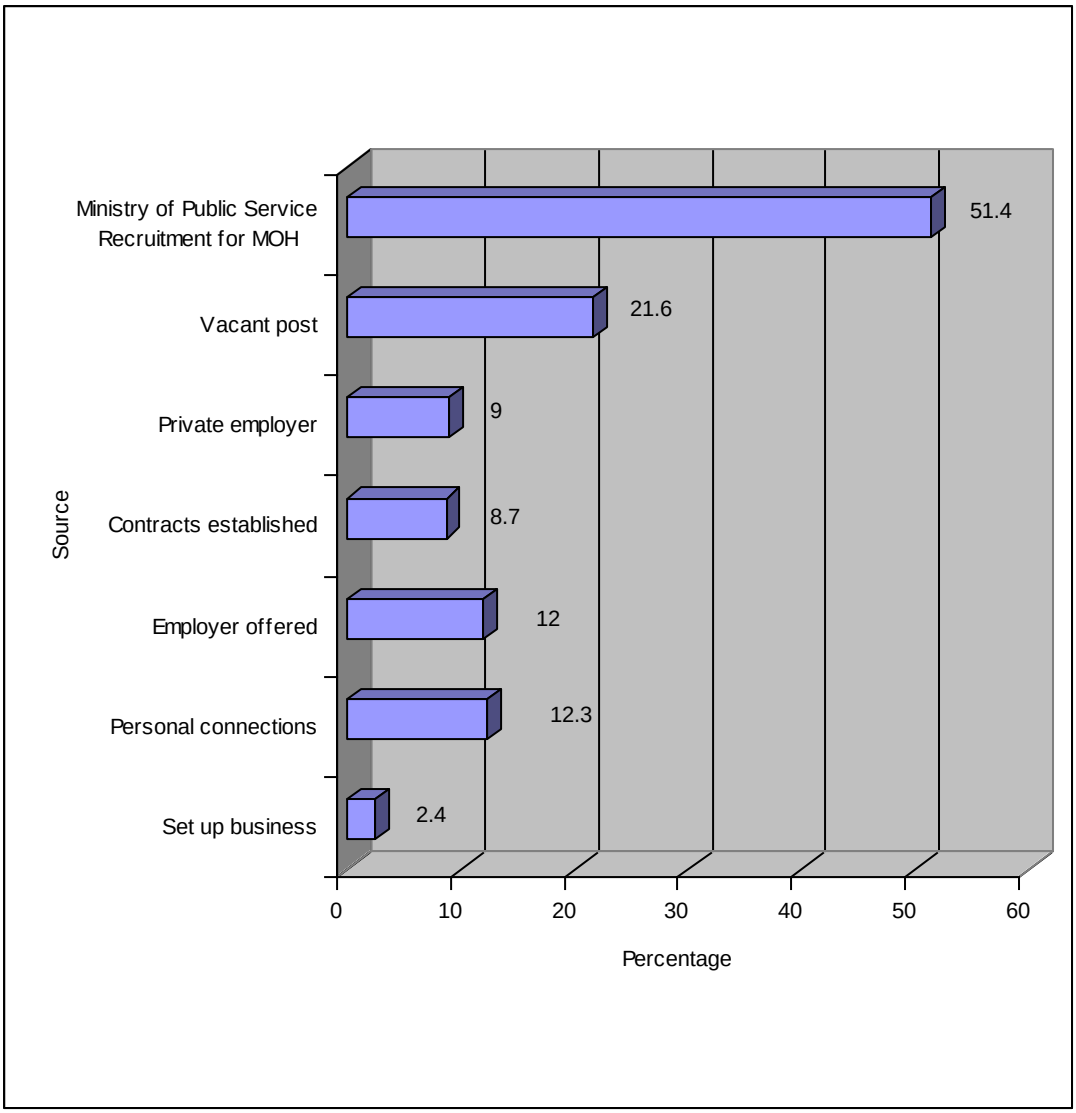
Difficulty	**Sex**	
	Male (%)	**Female (%)**
Yes	30.7	26.1
No	69.3	73.9
Total No of cases	100.0 264	100.0 92

p = 0.40526 (Not significant)

3.5 Methods Used to Obtain Initial Employment Over Time

Majority of the employed graduates (51.4%) were recruited through the Ministry of Public Service as the normal government route. The second big number of graduates got into vacant positions in various organizations (21.6%) followed by those (12.3%) who got jobs through "personal connections" which is a method plagued with corrupt tendencies (ref. to fig. 3 below).

Fig. 3: How The Jobs Were Obtained



Changes in Methods of Obtaining Employment Over Time

Table 5 below shows that methods of recruitment have changed over time. Before 1987, employment was mainly through public service but the picture changed dramatically in the period after 1995 where private employment, personal connections and others, feature prominently during the decentralization era. Personal connections are of particular significance because these imply unfair methods of obtaining employment.

Table 5: Method of Finding a Job

Method of finding job	Period			Number of graduates
	Before 1987 %	1987-1994 %	After 1995 %	
Ministry of public service	20.7	36.2	43.2	174
Vacant position	5.2	10.4	84.4	77
Private employment	0.0	19.4	80.6	31
Contacts established	0.0	6.1	93.9	33
Contacting employer	0.0	6.5	93.5	31
Employer offered	22.0	4.9	73.2	41
Personal connections	7.0	7.0	86.0	43

Time taken to secure employment after completion has been increasing with time.

Average times taken to secure employment after internship was widely varied among different course graduates. Medicine graduates had the longest mean period of 20 months, followed by Dental surgery, with an average of 9 months, Nursing had an average of waiting for 4.7 months and Pharmacy had virtually no waiting time before full employment. The graduates of medicine, were in the recent past, spending much longer times waiting to get employed mainly because doctors were less inclined to be posted to rural health centers at health center iv levels. Indeed ,at these levels vacancies were available but not filled.

The methods of getting recruited into employment have been changing over the years as has the waiting times after completion of courses. Graduates of Medicine, were spending an average of 4 months before full employment in the period before 1985, 10 months in the period 1986-1992, and 23 months in the period 1993 to 2001. There is information on other courses only in the 1993 through 2001 period which shows 18 months average waiting time for Dental surgery, 13 months for Nursing, and no waiting time for Pharmacy graduates.

Therefore, the trend is for graduates to spend longer times looking for employment for all courses except pharmacists whose market appears unsaturated for the present moment.

In other words, pharmacists are absorbed into job markets faster than the rest of the other graduates these days.

In view of the foregoing, there is need to prepare the graduates for self employment as an alternative to other forms of employment.

Table 6: Time Taken in Months to Secure a Job by Year of Completion

	Before 1985	**1986 - 1992**	**After 1993**
Medicine	4	10	23
Dental Surgery	-	-	18
Pharmacy	-	-	0
Nursing	-	-	13

Table 7: Waiting time in months After Internship to full Employment

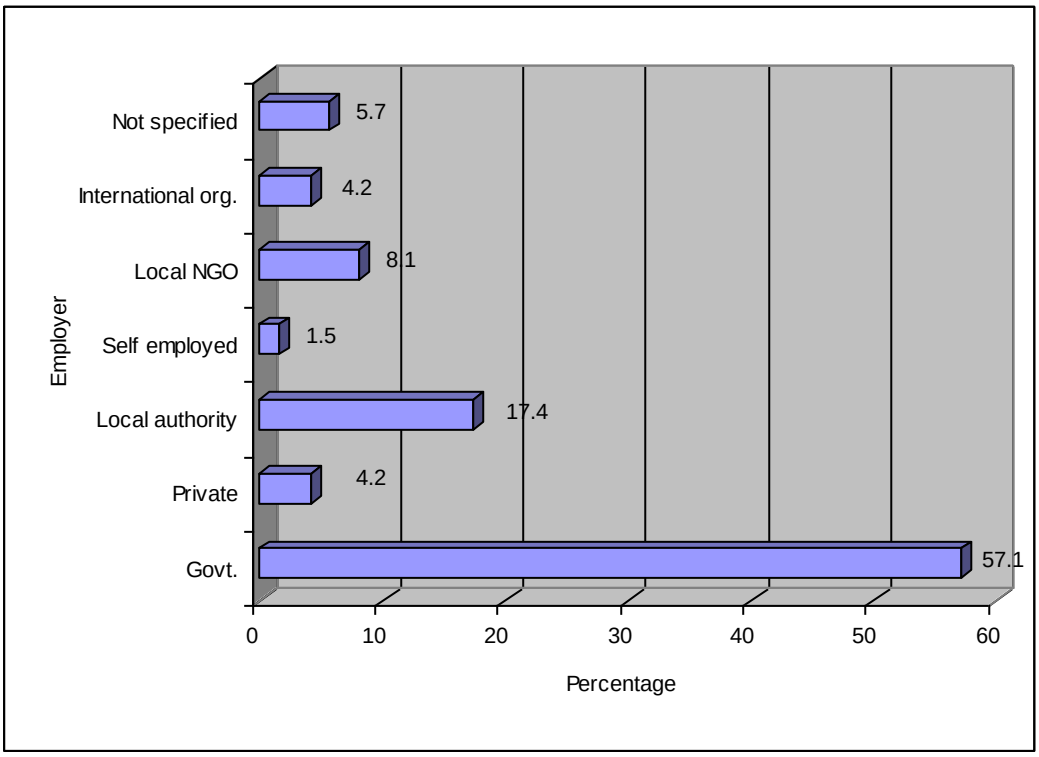
Course	**Average**	**Range**
Medicine	20	0 to 52
Dental Surgery	9	13 to 26
Pharmacy	0	0 to 0
Nursing	4.7	0 to 13
Overall	**5.9**	**1 to 12**

3.6 Opportunities of Employment by Place, Type of Employers (organizations) including Self Employment and Terms of Service

Most of the employed graduates (54.4%) were posted in urban settings while the rest (45.6%) were rural-based.

The major employer is government which catered for 57.1% of all employed graduates and this was followed by local authorities (17.4%) who also constituted an arm of government. The rest of the employing organizations were international organizations, Non-governmental organizations (NGOs), other private bodies, self employment and other small bodies under "non specified" (ref. to fig. 4).

Fig. 4: Current Employer



Pharmacists and Nurses were more in urban areas than doctors and dental surgeons in terms of their relative distributions.

Table 8: Location of Employed Graduates by Course

Course	Location				Number of graduates
	Rural		Urban		
	Number	%	Number	%	
Medicine	125	48.8	131	51.2	**256**
Dental Surgery	12	57.1	9	42.9	**21**
Pharmacy	2	22.2	7	77.8	**9**
Nursing	3	12.5	21	87.5	**24**
Total	**142**	**(45.5)**	**177**	**(55.5)**	**319**

The table below shows graduates in the specified employing organizations including major employers in a descending order: Government (63%), private organizations (33.8%), international organizations (3.9%) and self employment (2.6%). Only graduates of medicine and dental surgery were self employed but predominantly the latter. Of all dental graduates 20% were self employed compared to 6% graduates of medicine who were also in self employment. It is not clear why graduates of the rest of other courses were not in self-employment. Yet again, it is the medicine (4.2%) and dental surgery (13.0%) who were unemployed. The rest of graduates were employed.

It appears graduates of medicine and dental surgery were better equipped for self-employment.

The available terms of service were permanent terms (73.9%), contracts (23.1%), and self employed (3.9%). There was significant difference (P-value = 0.0002) between and among different graduates in different and same courses in as far as terms of service was concerned. This was also true for graduates in different and same courses in as far as types of organizations offering employment (P-value = 0.0053) were concerned. It is of interest to note that pharmacists (88.9%) were on contract and many of them (22.2%) in international organizations. Of particular interest, only pharmacists (22.2%) and medicine graduates (3.9%) were solely employed in international organizations

Fig. 5: Current Employment Status

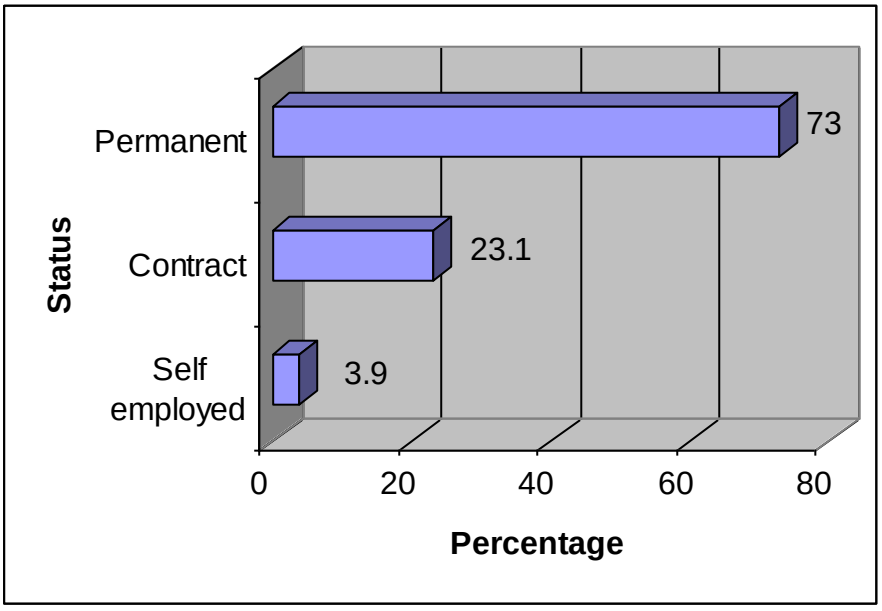


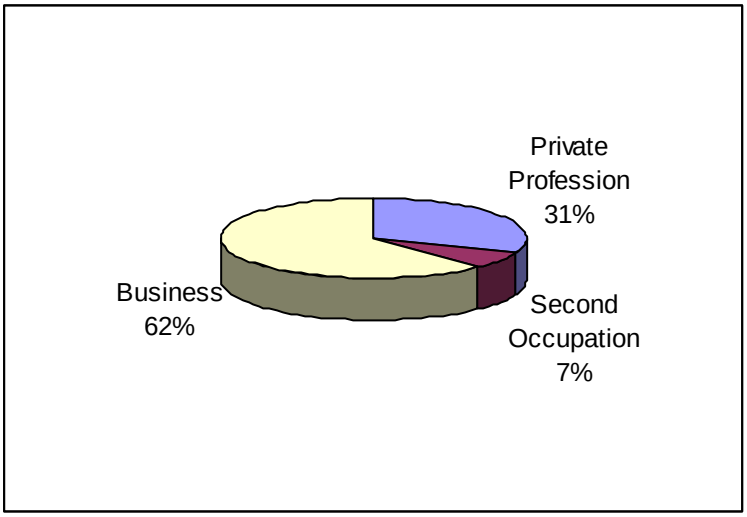
Table 9: Distribution by type of employer

Course	Govt.		Private		Self		Int. NGO		Total %	Num. graduates
	No	%	No	%	No	%	No	%		
Medicine	156	60.5	86	33.3	6	2.3	10	3.9	**100.0**	**258**
Dental surgery	14	70.0	4	20.0	2	10.0	0	0.0	**100.0**	**20**
Pharmacy	1	11.1	6	66.7	0	0.0	2	22.2	**100.0**	**9**
Nursing	15	62.5	9	37.5	0	0.0	0	0.0	**100.0**	**24**

Apart from the traditional employer, there were other employment opportunities that gave other gainful incomes. A significant number of graduates (62%) reported involvement in business, other private professions like consultancies (31%) and others. This calls for training of our students in business-related disciplines.

It is important to note that the dental surgeons were relatively more in self employment than other types of graduates.This is because dental surgeons are fewer and their services are highly specialized and lucrative with limited competition, unlike others who compete a lot among themselves for patients.

Fig. 6: Other Reported Gainful Activity



Business was popular generally among all the categories of graduates (See table below)

Table 10: Distribution of graduates in other gainful employments.

Course	**Second occupation %**	**Business %**	**Private Profession %**	**Total %**
Medicine	5.8	62.8	31.4	**100.0**
Dental surgery	12.5	75.0	12.5	**100.0**
Pharmacy	28.6	71.4	0.0	**100.0**
Nursing	20.0	20.0	60.0	**100.0**

3.7 Adequacy of Preparation of Graduates for Labour Market

Relatively large proportions of graduates were involved in second occupations, business and private professions, suggesting that they had developed capacity beyond their primary professions, to earn extra money. This could also be a survival mechanism since salaries were generally poor.

The wide spread of involvement in other economic activities apart from primary employment, suggests a reasonable degree of preparation for labour market; this being coupled with minimum degree of unemployment (3.4%) among all our respondents.

On being asked whether they were adequately trained for their current jobs, 92% answered in the affirmative, while 8% answered in the negative. This may be taken as a proxy indicator or index of adequacy in preparation for job market.The few respondents who claimed to have been inadequately prepared for their various jobs did not specify in which ways but the understanding was that they experienced some difficulties in responding to the requirements of their job descriptions at the beginning of assumption of duties.

3.8 Income Disparities among Graduates

Pharmacists had best incomes from both primary and secondary sources followed by medical doctors. The nurses had the least incomes both from primary and secondary sources. It appeared that male graduates in some professions were getting on average, more incomes than their female counterparts. This could have been due to higher relative proportional representation in senior positions since salary scales are not gender biased in Uganda.

Table 11: Median Monthly Incomes (Ug.shs) by Course and Gender

Course	Median Income	
	Male Female	**Female**
Medicine	915,000	837,000
Dental Surgery	924,000	715,000
Pharmacy	1,881,000	-
Nursing	1,309,000	654,000

Table 12: Median monthly incomes by course

Course	Primary Job income in Shs	Secondary Job income in Shs
Medicine	902,000	935,000
Dental surgery	924,000	280,000
Pharmacy	1,881,000	3,480,000
Nursing	677,000	250,000

3.9 Professional Progress, Performance at Work place and Utilization of Knowledge and Skills imparted in Medical School

In terms of professional development since initial graduation, only 43% of the graduates had obtained post graduate qualifications, while the rest remained at their 1st degree levels. Among all those with post graduate qualifications, 75% agreed that the undergraduate training had offered them a good foundation for their subsequent post graduate training, in contrast to 1.7% who said Makerere had offered them poor foundation in training. The very few who claimed poor foundation as a building block for post graduate studies implied the undergraduate courses had not been particularly helpful in building capacity for further studies that they undertook. Overall, however, these statistics lend credence to good preparatory training of the Makerere Medical School graduates for further academic and professional growth..

The commonest discipline of specialization (professional advancement) by our graduates was Public Health which occupied a 25.3% dominance over all other disciplines (See fig. 7 below).

Public Health appears to be very popular with the graduates because it is all embracing. No single nurse, pharmacist had taken up post graduate training in their primary professions. However, these are the newly introduced courses in the Medical School and may be the major reason for having not taken up post graduate studies in their respective disciplines.

Fig. 7: Most common area of specialization

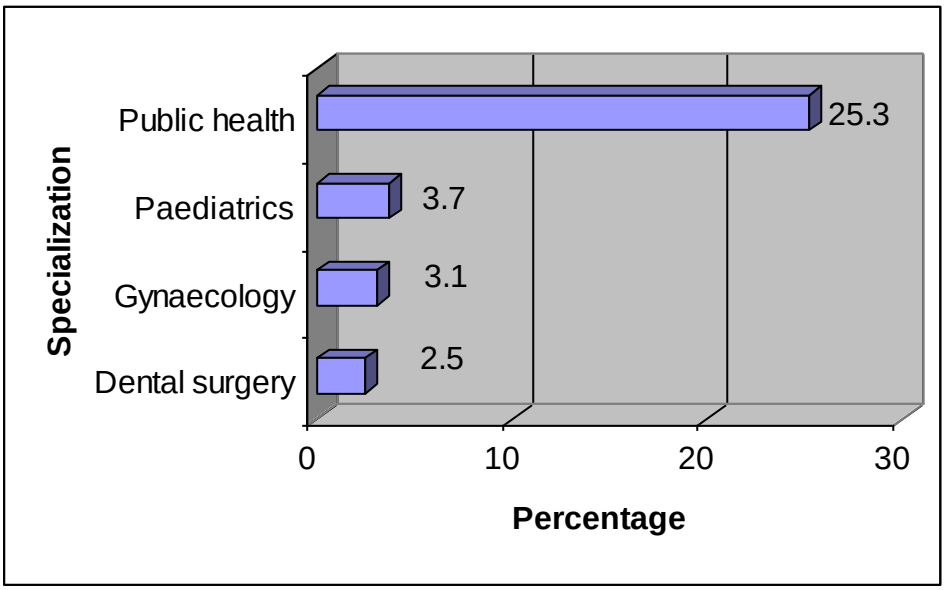


Table 13: Area of Specialization by Year of Completion

Area of Specialization	Year of Completion		
	Before 1985 %	1986-1992 %	After 1993 %
Public Health	46.3	45.3	17.2
Paediatrics	2.4	3.8	3.9
Gynecology	2.4	5.7	2.7
Dental Surgery	0.0	7.5	2.0
Nursing	0.0	0.0	0.0

NB. Public Health specialization appears to have declined over time though it remains the most popular. Popularity stems from the fact that it has wider scope of employment and is done by multi sectoral students unlike other courses which are discipline specific. However , the reasons for the decline of numbers specializing in Public health over time, are not clear.

One way of assessing graduates' performance is through promotions, among others. Thus, 34.6% of all our graduates had obtained promotions and when we take into account of the periods of entry and completion of courses, 50% of entrants before 1985 had been promoted, 40.7% in the 1986-1992 period had also been promoted, while only 18.4% of the 1993 and above period had been promoted. The high to low chances of promotion in a descending order of probability were medicine, dental surgery, pharmacy and nursing (See table 14).

Table 14: Promotion Status by course

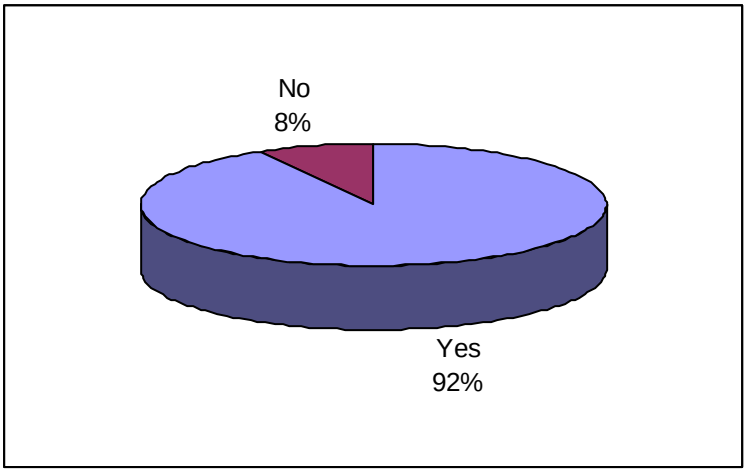
Course	**Promoted %**	**Not promoted %**
Medicine	37.0	58.1
Dental surgery	29.2	66.7
Pharmacy	8.7	69.6
Nursing	0.0	100.0

There wasn't a single promotion from nursing graduates. At the same time, all graduate nurses were fully employed unlike the rest from other courses.

The major reason why nurses were not promoted is because government has not yet structured a carrier pathway for nurse graduates since the inception of the Bachelor of Nursing Science program in the university.

In terms of whether or not the graduates were adequately trained for their current jobs, 92% said they were, and only 8% reported being inappropriately trained for their current jobs.

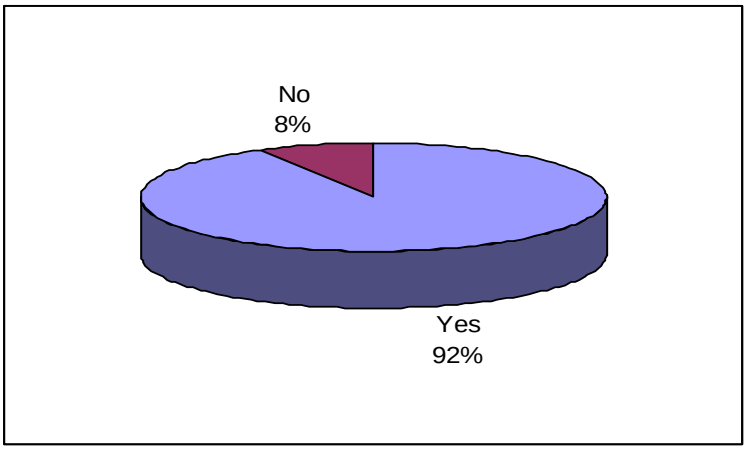
Fig. 8: Current Job Appropriate



The issue of adequacy of preparation of graduates and to what extent they do apply their acquired knowledge and skills is reflected in a 92% proportion of graduates who admitted that they do apply their learned knowledge and skills in their day to day tasks. Also, 77% of this proportion further indicated that they utilized between 60% to 100% of their learned knowledge and skills they picked in medical school (See Fig 9and 10).

The various respondents had a wide and varied scope of job descriptions requiring different types of knowledge and skills. In the same vein, skills and knowledge not utilized in both biochemistry and sociology were not asked for ,rather it was the content and applicability of subject content that respondents complained about. All these issues were extensive and were not specifically called for in the TOR and were therefore not probed for any further.

Fig. 9: Applying Knowledge and Skills



The degree of utilization of learned skills by graduates on their day to day tasks, was significantly different (P-value = 0.0000) between graduates of different courses. For example, majority of pharmacists (44.4%) utilized less than 20% of their learned knowledge and skills from Medical School. Again, only 50% of pharmacists admitted using learned skills. This is in contrast to graduates of the rest of other courses where majority applied learned skills and in any case, using more than 60% of their learned competencies.

It is instructive to note that most phamarcists in Uganda are involved mainly in dispensing related jobs which are ment for lower cadre professionals which therefore can not cover the more extensive knowledge and skills spectrum that these receive in their training ,and this is why they are forced to apply a small fraction of their skills. Industrialization in pharmaceutical production in future will address this problem.

This observation may suggest that the curriculum for pharmacy graduates may not be adequately suited for current job market. This impression would be wrong because most of the pharmacists that were interviewed were more or less doing dispensing of drugs rather than true pharmacy.

Medicine, dental surgery and nursing graduates were outstanding in the level to which they utilized their learned competencies. The biggest proportion utilized more than 80%

of their learned knowledge and skills. This suggests that these graduates are more or less adequately and relevantly prepared for the available jobs on the market.

Table 15: Application of Knowledge and Skills by course

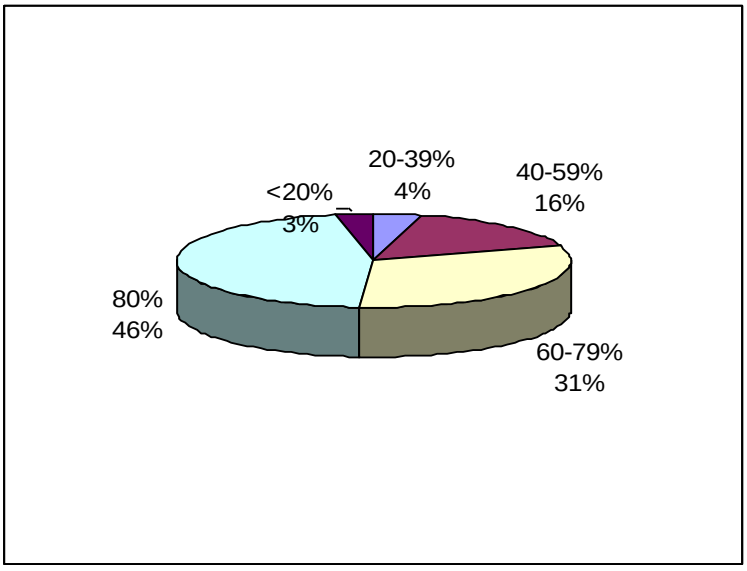
Course	Apply Skills (%)
Medicine	95.3
Dental Surgery	85.7
Pharmacy	50.0
Nursing	100.0

Table 16: Degree of Utilization of Knowledge by course

Course	Degree (%) of Utilization					
	<20%	20-39%	40-59%	60-79%	80+%	Not specified
Medicine	1.5	3.0	9.4	24.5	37.4	24.2
Dental Surgery	0.0	10.0	0.0	30.0	25.0	35.0
Pharmacy	44.4	0.0	11.1	11.1	11.1	22.2
Nursing	0.0	0.0	26.1	13.0	43.5	17.4

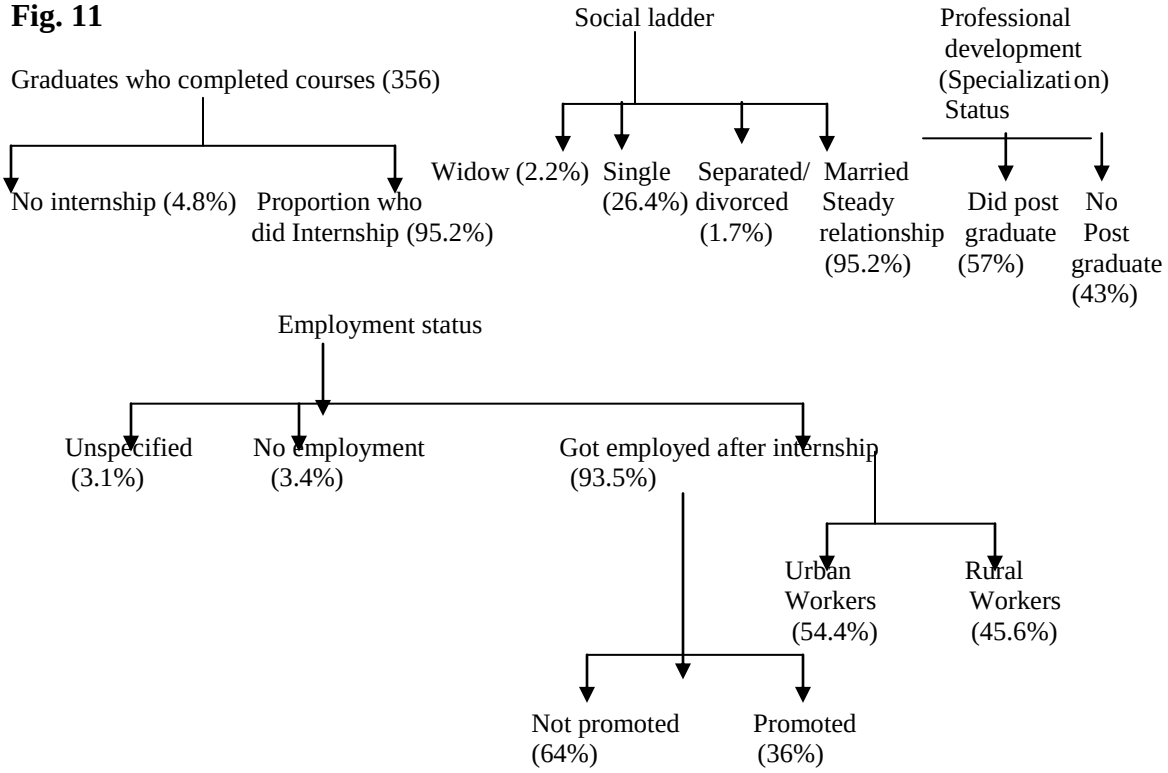
P = 0.0000

Fig. 10: Degree of Knowledge Utilization



3.10 Mobility Patterns of Graduates

Fig. 11



The mobility of graduates was traced right from the time of graduation to the present time. As the movement chart indicates, various parameters were considered, namely: proportion which did or did not do internship after completion of courses, employment status after internship, professional development through specialized training at post graduate level, promotional status, posting in urban or rural areas, and finally social mobility in terms of marital status.

The movement of graduates from completion of courses to internship in terms of waiting times has not changed much for all types of graduates averaging 2.6 months. Movement from completion of internship to full employment took, on average, 13 months of all courses' graduates. However, waiting times after internship have increasingly become longer before one can be employed. A case in point, is reflected in the fact that graduates of medicine used to wait for about 4 months to get employment before 1985, then 10 months in the 1986-1992 period, and 23 months during 1993-2001 period.

This means that for medical graduates, getting employed is becoming more and more difficult with time. This is also supported by the increasingly important method of securing employment through personal connections or "contacts established" as seen in table 3. This is in sharp contrast to the early 1980's when employment was regulated through the Public Service Commission under the Ministry of Public Service.

The overall average waiting times for different course graduates confirms this trend. The current average waiting time for medicine is 20 months, dental surgery 18 months, nursing 18 months and pharmacy no waiting time. It would appear that market place of the latter graduates is still much more favourable than the other courses we have noted earlier.

Mobility of graduates to rural or urban posting has different characteristics for graduates of different courses although the general tendency is in favour of urban posting. This is firmly reflected in proportions of nurses and pharmacists who had moved to urban areas as opposed to rural areas (refer to table 15 below).

Table 17: Distribution of graduates by location

Course	**Location**	
	Rural %	**Urban %**
Medicine	48.8	51.2
Dental Surgery	57.1	42.9
Pharmacy	22.2	77.8
Nursing	12.5	87.5

Table 18: Graduates by location and gender

Course	Male			Female		
	Rural %	Urban %	Total N	Rural %	Urban %	Total N
Medicine	47.5	52.5	221	31.7	68.3	63
Dental Surgery	57.1	42.9	21	0.0	100.0	2
Pharmacy	50.0	50.0	4	0.0	100.0	5
Nursing	0.0	100.0	5	15.8	84.2	19

3.11 Training gaps for Different Courses/Identified Competencies that would Enhance Performance or Employment Opportunities for Graduates

Respondents were asked to mention skills or disciplines that were not catered for in their undergraduate training and which would otherwise improve their performance at work.

The following fig. 11 and table 17, indicate relative frequencies of these disciplines/skills on their own and by courses. They also show specific skills that were needed in regard to enhancement of performance at work, or improvement of self employment or other employment opportunities.

The most important areas of training that were not covered during training, or were superficially covered are clearly indicated. In particular, management in its' different forms was outstanding as well as computer applications. A good proportion of graduates of dental surgery (21.7%) felt that they would have benefited from a moderate dose of training in general medicine. A proportion of graduates in all courses except pharmacy, felt that more in-depth training was lacking during their undergraduate days.This was about some lectures who tended to deliver superficial as opposed to deep and high level academic material to students.

All in all, disciplines that would improve performance at work and even employment opportunities that were not taught at undergraduate level in a general descending order of magnitude across courses were: Health management, computer applications, business

management, finance management, public relations, communications and research methods.

Fig. 12: Key Training disciplines/strategies lacking in medical school at time of training graduates

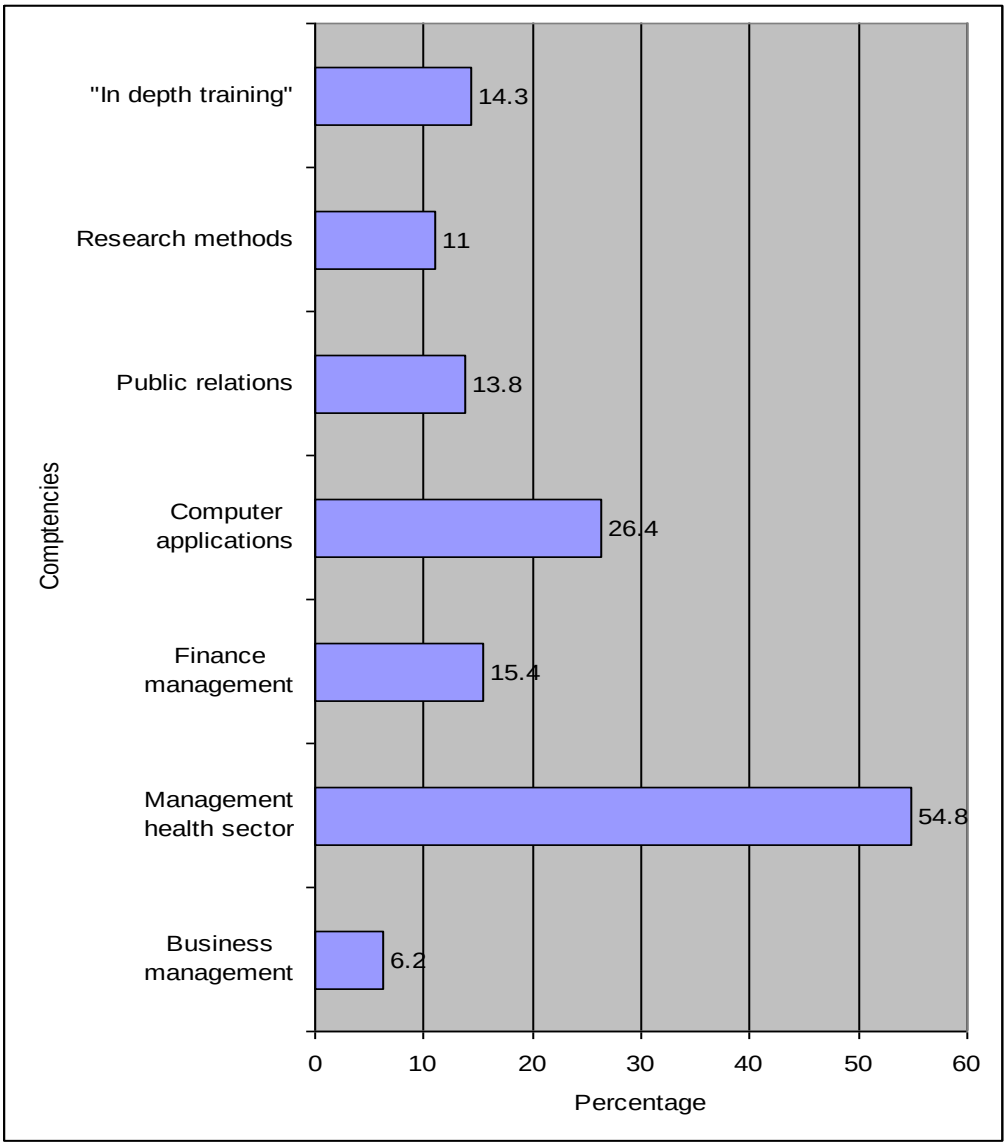


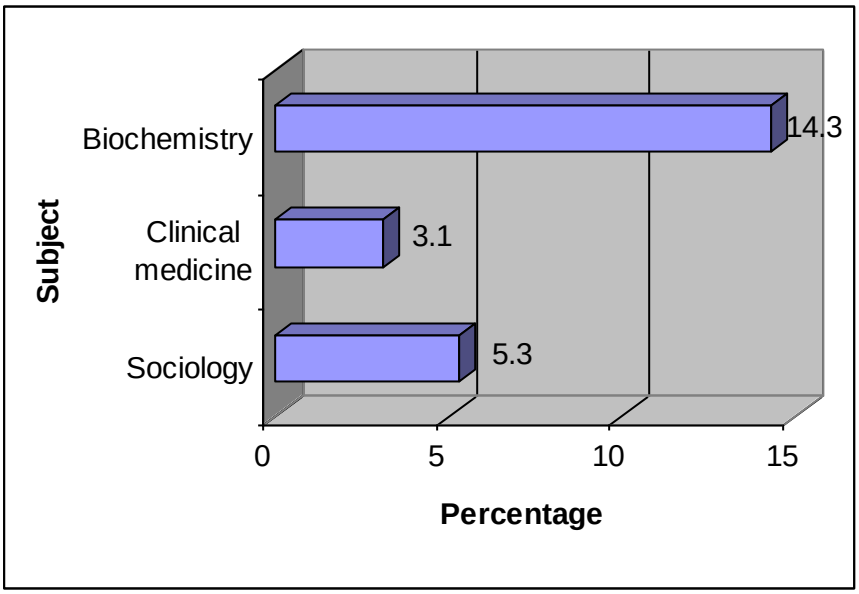
Table 19: Disciplines/Strategies that lacked in graduates' training but considered important

	Indepth Training %	Business Mgt %	Health Mgt %	Finance Mgt %	Computer Applications %	Public Relations %	Communications. %	Research methods %	General Medicine %
Medicine	13.7	5.3	58.5	18.0	26.8	14.8	6.3	10.6	3.2
Dental Surgery	8.7	13.0	30.4	4.3	26.1	17.4	17.4	0.0	21.7
Pharmacy	0.0	22.2	77.8	22.2	22.2	11.1	0.0	22.2	0.0
Nursing	16.7	0.0	37.5	4.2	16.7	8.3	0.0	25.0	0.0

The respondents were asked to name at least one subject which they were taught in medical school but was hardly applied in their day to day performance of their duties. Fig. 13 shows the distribution of such subjects.

The least used subject was biochemistry followed by sociology. Majority of graduates complained about the content and nature of teaching biochemistry.

Fig. 13: Least Applicable Subject



Graduates were asked whether or not they had ever experienced any technical difficulties when performing their work. A very significant proportion of graduates admitted having experienced technical difficulties at some point in time at their places of work. However, it was not specified whether such difficulties were related to training deficits or lack of appropriate equipment or deficient operational environment (ref. to table 16).

There were relatively higher proportions of dental and medicine graduates who experienced some technical difficulties more than graduates of other courses as reflected in the table above. It is difficult to infer what could have been specific causes of this, but given our history and hospital set up, this is more likely to be due to lack of appropriate equipment and poor working environment than lack of appropriate skills on the part of the graduates.

Table 20: Type of Graduates Who Ever Experienced Technical Difficulties in Performing Work

Course	Experienced Difficulty %	Did not experience difficulty %
Medicine	66.8	32.2
Dental Surgery	75.0	25
Pharmacy	22.2	77.8
Nursing	52.2	47.8

In-depth interview with the current Dean of Medical School, Prof. Sewankambo revealed the following new developments in teaching innovations and curriculum modifications.

When asked the following question, "In your experience as Dean of Faculty of Medicine, do you think the faculty has been adequately training undergraduate students to meet challenges of the market place over time?" The Dean had this to say:
"Certainly not." He further explained this by saying that the faculty had introduced Problem Based Learning (PBL) based on country assessment of their graduates which identified a number of deficits in their competencies. They found out that in a number of instances, graduates were not well prepared especially in managerial skills, planning, computer skills, professional business management of private practice and finance management, especially the costing aspect of private practice.

Asked what PBL was supposed to solve or achieve, the Dean observed that a number of graduates find themselves working independently in far away stations without supervision by seniors who would otherwise offer corrective advice from time to time.

he added that PBL is supposed to address this problem by encouraging graduates to continue seeking knowledge and to solve problems on their own with limited resources. It encourages a habit of continued learning especially learning on job.
However, there was no probing as to why the faculty had changed from the traditional to the PBL method of teaching and whether staff of the faculty had been adequately prepared for this change.

He further explained that among other innovations introduced recently, is the community based education and service (COBES) of the undergraduates. He explained that this prepares students to acclimatize themselves in communities similar to the ones in which they will serve when they eventually graduate. They are expected to learn how to deal with community leaders and other members of the community and in this way, it is hoped they will improve in their public relations approaches in the local communities.

When asked whether his graduates are adequately prepared for self-employment, the Dean observed that the graduates were not adequately trained for self-employment because they are not trained to think and behave in a "business-like" manner. He suggested that the faculty is thinking of orienting its 4^{th} and 5^{th} year students towards that way of thinking by introducing relevant subjects and practices through the community based education and service (COBES) program.
He further intimated that the faculty has introduced the disciplines of communication skills, counseling, computer applications and that in the latter case, all 1^{st} and 2^{nd} year students have been given hand held computers to improve on their capabilities.

As a way of improving employment opportunities for the graduates of Makerere Medical School, he suggested that in the near future, the faculty intends to introduce "Entrepreneurship" course which should address the unemployment problem. The faculty will offer it as an elective subject to 4^{th} year students.

Further benefits expected to accrue from PBL according to the Dean, will include production of graduates who are problem solvers, people who will learn on their own,

and people who can integrate theory to solve problems, people with ICT skills and people who can work as a team.

On community based education and service (COBES) as a new innovation, he suggested that this will enhance the students' research skills.

Asked what the faculty intends to do with subjects taught in the medical school but appear to be least applicable or not so useful in applications, the Dean suggested that these subjects will be made more interesting and applicable through linkage to institutions where they are applied.

3.12 Fringe Benefits and Job Satisfaction

Interestingly, a higher proportion of working graduates (52%) were not satisfied with their conditions of work compared to 48% who were satisfied. No reasons for either position were solicited for but poor working conditions like poor remuneration might be one of such reasons. This state of affairs is further supported by widespread evidence of secondary employments on top of primary jobs which suggests that there is need to supplement incomes from their primary jobs.

In spite of the above however, a number of fringe benefits were generally noted to be obtaining across all the courses. The commonest benefit was either a free house or housing allowance followed by free transport and health benefits as the figure below indicates:

Fig. 14: Fringe Benefits Reported by Respondents

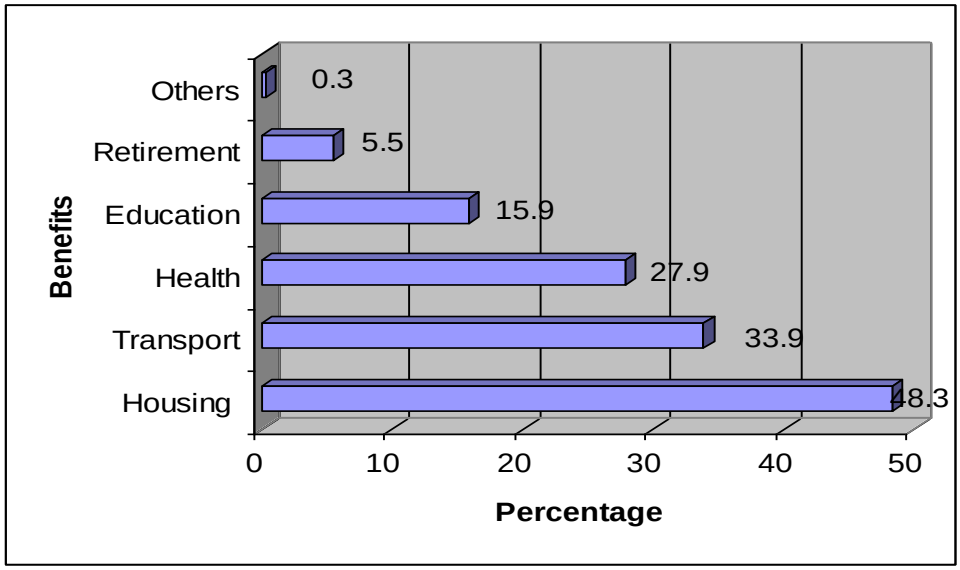


Table 21: Benefits by Urban/Rural

Fringe benefits	Location	Course			
		Medicine %	Dental surgery %	Pharmacy %	Nursing %
Housing	Urban	42.7	22.2	0.0	23.8
	Rural	64.0	58.3	0.0	33.3
Transport	Urban	64.0	58.3	0.0	33.3
	Rural	39.0	18.0	0.0	23.8
Health care	Urban	49.6	33.3	0.0	33.3
	Rural	24.5	18.2	0.0	19.0
Education	Urban	0.0	100.0	66.7	50.0
	Rural	18.2	28.6	61.9	41.7
Retirement	Urban	25.0	0.0	0.0	0.0
	Rural	18.2	0.0	14.3	8.3

The means of transport to place of work was mainly done using personal vehicles (45%), public means of transport was used by about 25%, while 15% used government vehicles, less than 5% used motor cycles, and the rest used other means.

Fig. 15: Means of Transport used to Workplace

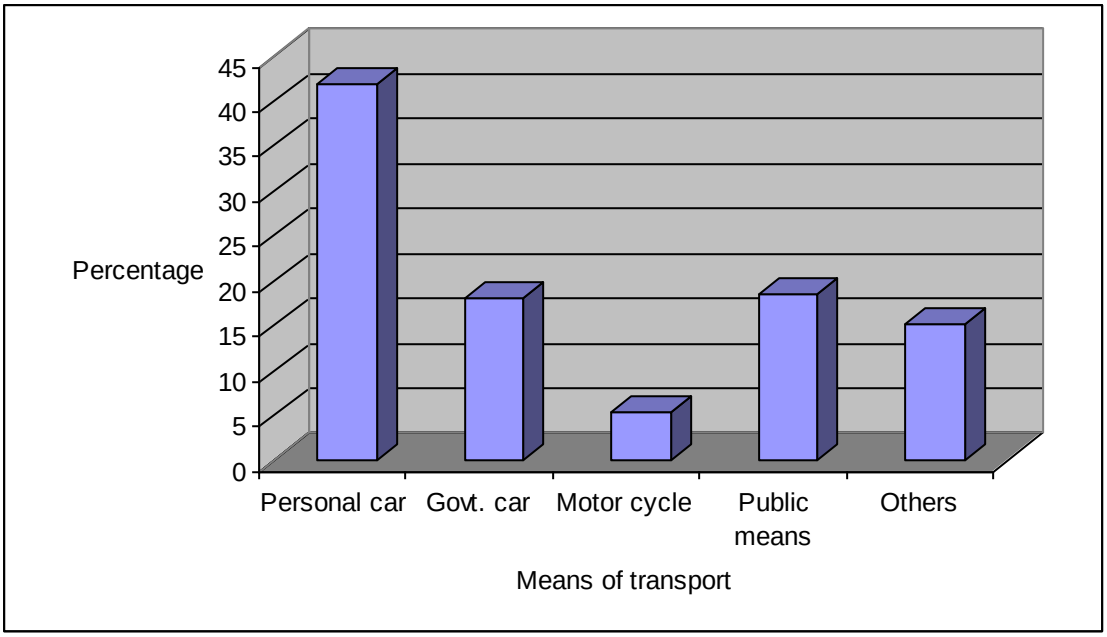


Table 22: Transport to Workplace by Rural/Urban

Transport means	**Rural (%)**	**Urban (%)**
Personal car	32.3	44.7
Government means	21.1	11.1
Motorcycle	6.0	4.5
Public means	40.6	39.7
Total	100.0	100.0

Majority of graduates of all courses (78.1%) admitted that they were adequately trained for self-employment and could have taken advantage of this especially if they had adequate capital on completion of their courses. Adequacy of training was admitted by 79.9% of medicine graduates, 73.9% of dental surgery, 66.7% of pharmacy and 66.7% of nursing. The fact that there is a minority in each discipline who claimed to have been inadequately prepared for self employment, suggests that there is room for improvement.

3.13 Adequacy of Training for Self Employment

Table 23: Type of graduate by Adequacy of Initial Qualifications

Course	Adequacy (%)	Number of graduates
Medicine	79.9	284
Dental Surgery	73.9	23
Pharmacy	66.7	9
Nursing	66.7	24

3.14 Employers/Supervisors' views about our graduates

The general view of the supervisors/employers about performance of the graduates was that, it was generally good. This performance had a trend of improvement over time since the 1980's. Fewer interns these days, are for example, forced to repeat their internship than previously. Repeating is usually due to professional incompetence, and/or lack of diligence to duty. So, general improvement has been noticed in these two major areas and in others.

The major area of weakness that has however, lately been observed, is in the poor attitude of our graduates towards work and in the aspect of social responsibility. This poor attitude is a product of many factors and not necessarily inadequate training in social responsibility during their undergraduate days.

There has been a tendency to absenteeism, late coming to duty, and disappearing from work. This tendency has been growing over time. Of late some graduates have developed petty habits demeaning the medical profession and this has been growing with time, again.

It was observed that pharmacy graduates have the worst attitude towards being posted up country and it was also observed that the supervision of pharmacy students is very weak compared to other undergraduates. They need to rotate through commercial pharmacy, industrial pharmacy and hospital pharmacy as part of skills development.

The continuing of compulsory lectures to pharmacy graduates by their council, interferes with their service delivery and imputes competency inadequacy among intern pharmacists. In the opinion of the supervisors, this practice is detrimental rather than being helpful.

When compared with graduates of other schools, ours are well rated in knowledge and skills vis-à-vis graduates of those other universities, although ours were regarded poor compared to Mbarara university graduates in terms of attitude to work generally.

Some supervisors felt that something has to be done to produce graduates with appropriate attitude to work. This could be through strengthening ethics teaching both in depth and length of time. In an effort to improve on attitude, other disciplines suggested were, forensic medicine, and principles of management to be introduced or strengthened. They decried the fact that students are no longer required to do and to attend post mortems in Mulago Hospital. This will negatively impact on rural based medical practitioners when called upon to perform post-mortems for legal purposes. Post-mortem attendances should be re-introduced and enforced.

Other necessary subjects include psychology in shaping attitudes, general studies to acquaint students with government operations, research and any other disciplines that can inculcate a sense of maturity and responsibility among our graduates.

A relatively high psychiatric morbidity has recently been observed among interns. This should be detected earlier during undergraduate training. Most of these are a direct consequence of alcoholism and drug addiction which should be picked and controlled much earlier during training.

CHAPTER FOUR

4.0 MAJOR CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

This survey attracted positive responses from 356 graduates from all the courses offered in the Faculty of Medicine. These were well spread over the country and a few others were outside Uganda - specifically from Rwanda. The spread over time and space suggests good representation of all other graduates. Therefore the observations made in this study are reasonably representative of the graduate population.

- As a general finding, a significant proportion (93.5%) of graduates were fully employed mainly in public sector, but local authorities and private organizations also absorbed an appreciable proportion of graduates. There is an increasing trend for private sector to employ graduates unlike in earlier years when the public service was almost the only major employer of graduates unlike in early 1980's when public service was almost a virtual employer.

- Pharmacy, nursing and medicine graduates were dominating employment in private organizations in a descending order.

- Only two disciplines of Medicine and Dental Surgery were represented in self employment, while Pharmacy and Medicine were also the only disciplines whose graduates were employed by International Organizations which were paying the best salaries compared to all other employing organizations. Overall, best paying employers were international organizations followed by private organizations while public sector offered least pay.

- Overall, there were varied opportunities for employment for all graduates although some had better chances of working in better paying organizations like the International organizations and private NGOs. At the present moment, there appears to be no fear of saturation of the market place for employment

particularly for pharmacy graduates although the general trend has been that it now takes longer to get employment after graduation over the years for the rest of the other graduates.

- Gender analysis with regard to employment opportunities showed no evidence of gender bias although a higher proportion of males than females faced more difficulties in securing their jobs. This difference was not statistically significant and the difficulties did not involve any gender related issues.

- There is evidence that our graduates have been reasonably prepared for the jobs for which they are operating although some important competencies like management, computer applications, public relations and communication were not taught during the course of their study periods. A significant proportion of the graduates were applying the knowledge and skills acquired in Medical School on day to day assignments at their work places. This is further evidence for good preparation for the types of work they were expected to do.

- Opportunities for self employment exist but have not been maximally exploited across board. Only graduates of medicine and dental surgery have got employed in this area, though to a limited extent. This area will increasingly become important if our graduates get entrepreneurship and business skills training in the near future.

- A small proportion of graduates experienced some difficulties in obtaining employment but these difficulties had nothing to do with their nature of training. These had to do with the nature of our society like requesting for unrealistic work experience for newly graduated persons, or lack of "technical know who" and similar situations.

- Majority of graduates were working in urban as opposed to rural areas and a higher proportion of female graduates as compared to males, worked in the urban settings. This was apparently due to more incentives given to those working in urban areas than rural areas. The only aspect where rural workers had advantage over urban workers, was in the use of government vehicles to go to their places of work. The disproportionate distribution of graduates in rural and urban areas could have been due to location of jobs or bias against working in rural areas as graduates regarded these as "distant" places or due to both.

- A number of areas of study that would improve employment opportunities and better performance at work have been identified. These areas were not receiving attention in the teaching curricula before, although some have recently been introduced or are in process of being introduced. These include various sub-disciplines of management, computer applications, communication, public relations, research methods, entrepreneurship and others.

- Some subjects which appear to be irrelevant in terms of daily applicability at work places and yet are taught, have also been pointed out - in particular, biochemistry and sociology. These need restructuring and repackaging both in content and in delivery.

- Graduates from all the courses were, to a differing degree, obtaining financial resources from secondary sources as opposed to primary employment. Indeed the medical doctors and pharmacists were on average, getting more income from secondary sources than their primary employment. In fact most of the secondary sources constituted a form of self-employment. Therefore, this is further evidence that opportunities exist for self-employment and these can be expanded if appropriate training programs are packaged for students during their undergraduate training. Related to primary and secondary sources of incomes, was a disparity between different types of graduates with pharmacists being

outstanding in getting highest average incomes from both sources while nursing graduates had least average incomes.

- Employers/supervisors noted that our graduates' performance is generally good indicating adequate training and skills development. However, their attitude to work was noted to be poor in terms of time of reporting to work and level of absenteeism. The level of social responsibility was also poor among a good number of our graduates compared to graduates of Mbarara university in attitudinal scores, ours came off worse generally.

4.2 RECOMMENDATIONS

- Subjects and disciplines aiming at imparting entrepreneurship knowledge and skills to the graduates should be incorporated in all the curricula for all disciplines in the faculty of medicine. This will improve their chances of employment both in public and private organizations besides improving capacity for self employment.

- Management disciplines should be introduced as soon as possible in all courses. These could cover business, finance, health management among others. This will further promote self employment and take into account that every graduate is a potential manager. These subjects were particularly singled out by the respondents as important areas of need and should therefore be incorporated in various curricula. This was also pointed out by employment organizations and supervisors of graduates.

- This being the computer age (ICT age), all our graduates should be computer literate to keep abreast with information technology developments and be able to compete for jobs in the global market and to improve accessibility to new knowledge through the internet and any other developments that may crop up in future. Therefore appropriate programmes in the computer applications should be introduced in the curricula of all the courses of Makerere University Medical

School. This means that appropriate equipment should be acquired as well. It is encouraging to learn from the current Dean of the School, that something in this direction is being done. However, a lot more needs to be done to scale the heights of Information Technology. One way of emphasizing the significance of computer applications and ICT-related competencies (knowledge, skills and appropriate attitudes) is to make them core subjects for all students in the faculty of medicine.

- Communication skills including Public Relations should be introduced in the various curricula. Graduates expressed the frustrations they experience when dealing with politicians and other community leaders with whom they deal. They need to be properly prepared to deal with these different types of people and how to communicate both technical and non-technical information to different audiences. Currently, they learn this by trial and error.

- Research methods has not had adequate attention at undergraduate level even at postgraduate level according to the respondents. Therefore, this subject should receive urgent attention and prominence in teaching.

- A number of respondents complained about the teaching approach being rather superficial. In-depth and probably more innovative approaches are therefore called for. Workshops for various groups of lecturers should be arranged to expose them to different methodologies of delivering lectures with emphasis on in-depth teaching. In this regard, the current problem-based learning approach is a welcome innovation but this should be mixed with other approaches to obtain optimum benefit for our graduates.

- Graduates of dental surgery felt that they needed to be taught a lot more of general medicine to enable them handle their tasks more professionally and from positions of informed knowledge. This is an area that should be addressed through curriculum restructuring. Equally important is the fact that 50% of

pharmacists did not apply learned knowledge and skills in their discipline. It is important to examine their curriculum and find out whether much of the learned stuff is irrelevant to market requirements. It is also equally important to examine their work environments as they could be doing more of a dispenser's work than that of pharmacists.

- Subjects that were least helpful like biochemistry and sociology should be re-examined in terms of content and relevancy in practical aspects of employment and even the way these subjects are taught. In general, all subjects should be re-examined for relevance and applicability in day to day use by graduates and how they can improve on self employment or other types of employment. In this regard, subjects like biochemistry and sociology should be repackaged in the revised curricula to make them relevant, useful and more interesting.

- There appears to be some bias against working in rural areas which was referred to as distant areas by some graduates. Students should be re-oriented to accept posting anywhere in the country. The program of community based education and service (COBES) will go a long way in improving this situation; it should be encouraged. Through this program graduates will develop adaptability to rural environment by learning through experience. Eventually, they will be desensitized against their bias for rural postings.

- To further encourage graduates work in rural areas, government as the biggest employer, should be persuaded to give allowances for rural postings as opposed to urban postings. Other incentives could include advantageous promotions or support for post graduate trainings for graduates based in rural areas.

- The nursing graduates hardly had any opportunity of promotions. This is partly due to the fact that government has not yet rationalized the professional carrier pathway of nurse graduates and this problem has been long standing. This is very frustrating and discouraging because it implies that government has not

recognized the new skills acquired by the nurse graduates as compared to the lower cadre nurses. Government through the Ministry of Health , Ministry of Public Service and Nursing Council should urgently deal with this problem by establishing different hierarchies of Nursing professional pathways similar to medical graduates where we have such levels as consultants, senior consultants and similar other levels.

- The approach to teaching undergraduates should lay more emphasis on practical skills than theoretical knowledge. This approach was also the expressed view of the Dean of Faculty of Medicine.

- A course unit in private practice should be introduced to impart relevant skills in management of private practices as business concerns. This may encourage more graduates to take private practice as a pathway for their employment rather than wait for months or years to get absorbed in government or other employment systems.

- In repackaging various curricula, the faculty of medicine should target attitudinal orientation to better graduates all round. Emphasis on ethical conduct, time management and social responsibilities should be emphasized among others. A more sense of maturity, self respect and professional responsibility should be inculcated in our graduates during training.

- The Government should be advised to expand levels of professional growth at districts for various medical disciplines to improve on growth opportunities. This is one way to encourage graduates to accept posting to upcountry stations. This will be in contrast to the current situation where most district graduates have no growth ladder.

- Continued forced lectures to intern pharmacists should be discouraged as it interferes with service delivery and creates a situation of inadequacy among these

graduates because they are the only ones subjected to these conditions. This is not the same as opposing continued medical education.

- Pharmacy students should be exposed much more to industrial, commercial and hospital pharmacies to gain on-hands-training for more skills development. The supervisors felt more senior teaching staff in the Department of Pharmacy are necessary than at the present time and recommended recruitment of such staff to the Department.

- Given the present impasse of not creating carrier path for Nurse graduates, it was recommended that in future, the creation of new courses for medically related professions, the Ministry of Health and of Public Service should both be involved so that a clear pathway can be created at an early stage to avoid the problems facing Nurse graduates.

- Undergraduate Nurses have not been given any Clinical Nurse tutors on wards by the university and yet, the ward-based Nurses who would give these tutorial services do not generally have degrees and are therefore not respected by the students from academic point of view. The university should create this cadre of ward trainers for Nurse students. These will provide both Nursing and tutorship services.

- Another study to review most and least applicable aspects of various disciplines particularly biochemistry and sociology is called for so as to identify specific areas for curriculum reform; this is very desirable now .This will help restructure the various courses to be more market oriented.

4.3 LIMITATIONS OF THIS SURVEY

1. Some competencies or disciplines were confused by the respondents. For example, public relations could very well be confused with communication or health management with business management, etc.
2. Information on time events could be biased due to memory loss.
3. Some data on incomes could have been untruthful in some cases because a number of respondents expressed embarrassment or refused to divulge the information.
4. Titles in different organizations were different with different scales and this made it difficult to compare movement from one position to another in a horizontal or vertical perspective.
5. There was a moderate non-response rate by individuals to whom questionnaires were handed which could have introduced some bias.
6. It was extremely difficult to get data on graduates who were working outside Uganda. An attempt to use known e-mail addresses of a few graduates did not yield much. It is important to note, in this regard that we were only able to trace a few graduates in Rwanda but not through e-mailing method but through direct tracing. Even then, we also experienced a lot of difficulties in evasion by some of the graduates we managed to trace.

CHAPTER FIVE

5.0 REFERENCES

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CHAPTER SIX

6.0 APPENDICES

APPENDIX 1 -TERMS OF REFERENCE (TOR)

Project Scope

AIM

The following activities will constitute the task:

i) Identify employment opportunities for faculty of medicine graduates
ii) Study the mobility patterns of faculty of medicine graduates
iii) Assess the adequacy of preparation of faculty of medicine graduates for labour market
iv) Evaluate the performance of graduates at the places of work, while identifying the difficulties they face and/or the factors that enhance/undermine their performance
v) Identify the training gaps (if any) to add to the training of faculty of medicine
vi) Propose feasible recommendations on how Makerere University can enhance the employment opportunities for her by producing graduates relevant to the nation
vii) Assess the prospects for self employment for the faculty medicine graduates

STUDY TASKS

i) Writing a proposal on tracer studies to ascertain the effectiveness and employment opportunities of Makerere University graduates of medicine
ii) Review of relevant literature
iii) Development of relevant study instruments i.e. questionnaires, interview schedules
iv) Testing of the research instruments
v) Propose and assess the relative effectiveness of the methodologies of tracing graduates

vi) Data collection

vii) Analysis of results

viii) Report writing

ix) Presentation of findings at stakeholders' workshop

x) Submission of a final report

Expected deliverables

i) An inception report - to be produced before commencement of data collection

ii) Draft report - to seek stakeholders' comments and to be discussed at the stakeholders' workshop which will be organized outside the study budget by the PDD

iii) Final report - one original plus nine (9) hard copies and (1) soft copy in Word 2000 or higher.

29th July 2004

Dear Graduates,

Re: Tracer Study of Graduates of the Faculty of Medicine, Makerere University

We kindly ask you to participate in a survey which is aimed at graduates of the faculty of medicine, Makerere University, who graduated between 1980 and 2001.

With the help of this survey we hope to attain a broad overview concerning the training adequacy, employment situation, occupation, and professional career of graduates from the faculty of medicine, Makerere University.

We assure you that your answers will only be used for scientific purposes in the framework of this survey. In the description of results of this survey, no identification of individual persons will be possible; your information will be TREATED strictly **CONFIDENTIALLY**.

The results of this study will be used to help the faculty of medicine re-examine and improve its' various curricula in light of the findings.

Therefore, your contribution is very important in that you are giving back something to Makerere University in general and the faculty of medicine in particular. You are also contributing to the university's motto "We build for the future."

Please return the completed questionnaire to the Institute of Public Health for the attention of Dr. David Ndungutse as soon as you complete the form to office 222, 2nd floor or email them to davidndungutse@yahoo.co.uk or ndungut@iph.ac.ug

For any questions on this study, please contact Dr. David Ndungutse on the email or telephone number indicated.

Thank you so much for your kind support.

Dr.David Ndungutse

TEAM LEADER
INSTITUTE OF PUBLIC HEALTH
MAKERERE UNIVERSITY
TEL NO: 077-425-924

APPENDIX 2 - QUESTIONNAIRE FOR GRADUATES

Please tick where applicable.

If a question is not applicable to you please write N/A and go to next question

A. PERSONAL INFORMATION

1. Name of respondent ……(**Optional**)
   (Contact) Tel no: ……
2. Survey no ……..
3. Gender 1 = Male 2 = Female
4. Date of birth …….
5. Nationality ……

6. Marital status
   1 = Single 2 = Separated 3 = Marriage 4 = Widowed
   5 = In steady relationship

7. Religious affiliation:
   1 = Catholic 2 = Protestant 3 = Moslem 4 = Other (Specify) _____
8. Highest level of education attained by your parents
   a) Mother:
   1= No education 2= Primary 3= Secondary/ vocational 4= College without degree 5= Bachelors degree 6= Higher degree 7= Do not know
   b) Father:
   1= No education 2= Primary 3= Secondary /vocational 4= College without degree 5= Bachelors degree 6= Higher degree 7= Do not know

B. UNIVERSITY EDUCATION

9. Year of entrance ……..

10. Year of completion: Date: _____/Month____/Year _____

11. Type of course of 1st degree in Makerere University – Faculty of Medicine
    1 = Medicine (MB.ChB) 2 = Dental Surgery (BDS) 3 = Pharmacy (B. Pharm) 4 = Nursing (BScN) 5 = Lab. Technology (B. Lab. T.)
    6 = Other (Specify) _____

12. Did you undergo internship after 1st degree?
    1 = Yes 2 = No 3 = Internship was not a requirement

13. How many months/weeks elapsed between completion and commencement of internship? _____

14. After internship, how long did it take you to get employment?_____

15. What is your employment status now?
1 = Employed 2 = Unemployed
If unemployed, for how long have you been like that? _____

16. Are there any difficulties you faced in applying/looking for employment?
1 = Yes 2 = No

17. If yes, list them
_____
_____

18. (For those whom internship was not required) – how long did it take you to get a job after qualifying? Yrs_____ Months _____ or no job up to now

19. Other post graduate Diploma/degree, please list them:
1. _____ Year obtained _____ Country? _____
2. _____ Year obtained _____ Country? _____
3. _____ Year obtained _____ Country? _____

20. Was the 1st degree in Makerere University a good foundation/relevant to your postgraduate training?
1 = Yes 2 = No

21. How did you get your first employment after graduation? *Multiple replies possible*
1 = Ministry of Public Service recruitment
2 = Application to vacant position
3 = Private Employment Agency
4 = Contacts established to employers through work experience in the course of study
5 = Contacting employers without knowing about a vacancy
6 = The employer offered me a vacancy
7 = I set up my own business/was self-employed
8 = Joining the enterprise of my parents/relatives
9 = Personal connections/contacts
10 = I am working for the same employer as I did before my studies
11 = I have not yet found employment
12 = Other …….

22. Is your training background at Makerere University Medical School appropriate for your current job?
1 = Yes 2 = No

23. If no, why?
_____

C. MOBILITY PATTERNS OF GRADUATES

Employer	Position held	District	Period from	To
1.				
2.				
3.				
4.				

24. Location of current employment
1 = Rural 2 = Urban 3 = N/A

25. Current employment status *multiple reply possible*
1 = permanently employed
2 = Employed on contract
3 = Self employed permanently
4 = Self employed temporarily
5 = Short term Job (less than one month)
6 = Temporary employment (pending interview)
7 = Unemployed
8 = Secured opportunity for further training

26. Do you think Makerere Medical School adequately trained you for available/potential jobs relevant to your qualification?
1 = Yes 2 = No

27. If no, what were training gaps that would have improved your employment chances?
_____
_____

28. Current employer
1 = Government
2 = Private enterprise
3 = Local authority
4 = Parastatal
5 = Co-operative
6 = Self employed
7 = Local NGO
8 = International Organization
9 = Other ……..

29. Area of specialization now, if any
a. …….
b. Not yet specialized …….

30. Assess the degree (%) of utilizing the knowledge you gained in your current employment
1 = <20%
2 = 20 – 39
3 = 40 – 59
4 = 60 – 79
5 = ≥ 80%

31. Do you have any other gainful activity? (Could be more than one)
1 = Second occupation
2 = Side jobs, honorarium, sales and business etc
3 = Private profession
4 = No
5 = Not applicable, I have my own business/I am self-employed

32. What is your average income per month from primary job and secondary activities? (In local and dollar currency)
a) **Primary Job income**

E.g. Ug. Shs	**US dollars equivalent**

b) **Secondary activities**

E.g. Ug. Shs	**US dollars equivalent**

33. Are you satisfied with your present job/employment?
1 = Yes 2 = No

34. Have you been/were you promoted since your initial employment?
1 = Yes 2 = No

35. If yes, the 1st promotion was after how many years of employment?
_____ Yrs

36. Do you apply knowledge and skills obtained in Makerere training background on your day to day work?
1 = Yes 2 = No

37. What kinds of fringe benefits do you receive? *Multiple reply possible*
1 = Housing (accommodation, grants for rent etc.)
2 = Transportation (company car, subsidies for transportation etc)
3 = Health (insurance, subsidies to costs incurred, etc)
4 = Education/training (subsidies for own or family members, etc)
5 = Retirement (pension, down-payment etc.)
6 = No fringe benefits
7 = Not applicable, I have my own business/I am self-employed
8 = Other _____

38. Which of the following means of transport do you use from home to office?
1 = Personal car
2 = Government/Company Car
3 = Motor cycle
4 = Public Transport
5 = Other …….

_____
_____

D. COURSE INFORMATION

39. What skills/competencies did Makerere **Not** provide during your 1st degree that would have improved our performance at your work?
i) _____
ii) _____
iii) _____

40. How would these improve your performance?
_____
_____
_____
_____

_____
_____
_____
_____
_____

41. What subjects/skills/competences did you miss at Makerere that could have improved your chances of employment?
    1._____
    2._____
    3._____

42. Name one subject/discipline which you studied in your 1st degree that was/is least helpful to you/hardly applicable in your day to day performance of your work

    _____

43. What do you think were training gaps in your course at Makerere University that would improve your performance in your work?

1. _____
2. _____
3. _____

44. Do you/did you at any one time experience technical difficulties in performance of your work?
    1 = Yes 2 = No

45. Was your initial qualification at Makerere Medical School adequate for self employment if you had capital?
    1 = Yes 2 = No

    If no, what was lacking in your training?

    _____
    _____

46. How do you think should Makerere University – Faculty of Medicine enhance employment opportunities for its graduates?
    1._____
    2._____
    3._____

47. Do you have any suggestions as to how the course should be restructured/improved?

    _____
    _____
    _____

APPENDIX 3 - IN DEPTH QUESTIONNAIRE FOR THE DEAN OF FACULTY OF MEDICINE

1. In your experience (as Dean, Lecturer, etc) do you think the Faculty has been adequately training its' undergraduate students to meet challenges of market place over time? Any Gaps, Knowledge and Skills?

2. Do you think they are adequately trained for self-employment?

3. There is current problem of unemployment of some of your graduates, do you think the type of training could be a contributory factor? if so to what extent or in what way?

4. Do you think there are disciplines the Faculty ought to have introduced to mitigate the above? E.g. Which ones?

5. The Faculty has adopted the PBL technique recently, what was this intended to address or to produce?

6. Some graduates have suggested a number of subjects that appear to be not very useful in their careers, what do you intend to do with such?

7. What recommendations would you like to suggest to improve employment opportunities for our graduates including self employment?

APPENDIX 4 - Question Guide for Key Informants

1. What is your general and specific view of the professional competency of our employees from Makerere University Medical School over time? (1980's through 1990's to date?

2. Is there a trend of improvement in performance or otherwise?

3. Are there some specific gaps you have observed with these graduates over the years?

4. Are there specific professionals (pharmacists, doctors, nurses) who appear to be better/worse prepared than others?

5. Is there any apparent difference in professional proficiency among the various professionals in cohort years of the groups of 1980's 1990's and 2000's reflecting possible different training time periods?

6. What areas of training of these groups (Doctors, nurses, pharmacists, dental surgeons) do you feel should be emphasized?

   Doctors: _____
   _____

   Nurses: _____
   _____

   Pharmacists: _____
   _____

   Dental surgeons: _____
   _____

7. Can you please, mention any skills or knowledge or specific attitude you have observed to be lacking/declining from your Makerere University graduate employees?

8. How do you rate them against graduates from universities e.g. Mbarara?

9. How do you think Makerere University should enhance employment opportunities and skills of its' students through crafting training programs?

10. Which programs would you suggest?

11. As an employer or supervisor what are your expectations of our graduates?

12. What is your general evaluation of our graduates relative to graduates of other universities working in your organization?

APPENDIX 5 - List of Study Team

Dr. David Ndungutse (Principal Consultant)

Prof. David Serwadda (Consultant)

Dr. Margaret Muganwa (Consultant)

APPENDIX 6 - List of Research Assistants

1. Mr. Geofrey Musinguzi
2. Dr. Musala Helen
3. Dr. Kayanja Faith
4. Mr. Moses Nkurunziza
5. Mr. Kintu Luwaga
6. Mr. Kisembo Godfrey
7. M/s Alobe Naome
8. M/s Hategeka Florence
9. Mr. Birungi Brian