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ISN 92315

CONSULTANCY REPORT

ON

REVIEW AND REVISION OF

CURRICULUM OF

THE DISPENSERS' PROGRAMME

AND RELATED TRAINING RESOURCES

* * *

15 - 29 MAY 1993

MINISTRY OF HEALTH
Central Medical Stores,
Matsapa, Swaziland

Report Prepared By:

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May 1993

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EXECUTIVE SUMMARY

Project Hope funded a Curriculum Consultancy to the Pharmacy Dispenser Programme, Swaziland Ministry of Health, 15 - 29 May 1993. Project Hope has provided assistance to the Programme since it was re-started in 1991 and the first class of eight students will graduate in June 1993.

Based on Matching Grant Phase-Over-Activities and the Detailed Implementation Plan for Materials Management, the consultancy was to review and revise the curriculum and related training resources of the Dispensers' Programme.

The scope of work (Annex 10.1) was formulated by the Chief Pharmacist, Mrs C.T. Sibiyi and Acting Programme Director, Dr. M.Edmondson. The consultant was Mrs G.N. Mothibe, Head, Pharmacy Technician Training Programme, National Health Training College, Maseru, Lesotho.

The Methodology used was:

- * reading the current curriculum;
- * observing facilities for training at Central Medical Stores and three practical training facilities (two hospitals and one Health Centre);
- * interviewing individuals who train and/or supervise the students;
- * interviewing groups of people - the educators at Swaziland Institute of Health Sciences, and the eight students who had just finished their training;
- * using questionnaires to collect data from tutors and supervisors.

The findings of the consultancy included that:

- * the curriculum needed a few additions and changes on the content of subjects, and needed to add a whole section of Academic Rules and Regulations.
- * there is chronic shortage of pharmacy staff at all levels of the pharmacy cadre, thus the programme is run by part-time lecturers only.
- * there is a shortage of support resources like books, laboratory and classroom space, raw materials for laboratory practicals.
- * policy issues regarding the dispensers - their numbers, training, academic upgrading and employment was not clear, and the written policy on this was lacking.
- * the Swaziland Institute of Health Sciences had the willingness to consider the affiliation of this programme after the Ministry of Health addresses certain policy issues.
- * in general most people preferred a move towards a Diploma programme for Pharmacy Technicians.

Recommendations made included:

- * setting policy issues in motion urgently;
- * creating as soon as possible a post for a pharmacist to head the Dispenser Training Programme;
- * the students that start classes in 1993 should be the last group to enter the Dispensers' Programme (certificate). In the meantime, a study should be conducted to look at the feasibility of upgrading the Dispensers' Programme to a Pharmacy Technician Programme (diploma).
- * formulating Academic Rules and Regulations for the Programme;
- * incorporating Microbiology practicals;
- * changing identified areas of content to create more balance in the programme.

1. SCOPE OF WORK

The scope of work was drawn up by the Chief Pharmacist at the Ministry of Health and the Acting Programme Director of Project Hope (Swaziland). Details of this are shown on Annex 10.1.

2. BACKGROUND INFORMATION

The Swaziland Ministry of Health is committed to the World Health Organisation's goal of Health for All by the Year 2000, using as the main strategy Primary Health Care. Among the objectives to achieve this goal is the training of health personnel. (1)

The Pharmacy sector within the Ministry of Health comprises of pharmacists and dispensers, with the latter having been trained in Swaziland. The Dispenser training, which was done mainly on the job with some formal lectures, was suspended in 1979. However, as the population increased and Health facilities were expanded, and while some dispensers retired, there was a chronic shortage of dispensers until in 1991 the Ministry decided to re-start the programme.

Donor funding was sought, and Project Hope assisted in re-starting and in updating the Dispenser Course Curriculum.

The curriculum layout produced by Project Hope Pharmacy Educator was not accepted by the Swaziland Institute of Health Sciences (SIHS) because of certain requirements that were not fulfilled. A meeting was held with the principal of SIHS for further clarification of their requirements. The content of the curriculum needed some revision. This was done as follows:

1) The introduction and programme objectives were added to the curriculum.

2) A statement of the philosophy behind the curriculum was written and added to the curriculum

3) The references were rearranged to meet the specified requirements and citation format. (2)

It was against this background that the Ministry of Health with donor assistance from Project Hope engaged this consultancy to review and revise the curriculum of the Dispensers' Course and to look at related training resources.

Project Hope's assistance to this programme ends 30 June 1993.

2.

3.

METHODOLOGY

The Methodology used was:

- * reading the current curriculum;
- * observing facilities for training at Central Medical Stores and three practical training facilities (two hospitals and one Health Centre);
- * interviewing individuals who train and/or supervise the students;
- * interviewing groups of people - the educators at Swaziland Institute of Health Sciences, and the eight students who had just finished their training;
- * using questionnaires to collect data from tutors and supervisors.

4.

ITINERARY

The final itinerary followed over the two weeks was as indicated on Annex 10.2 after a certain measure of flexibility had been allowed on the original schedule.

5. FINDINGS AND CONCLUSIONS

5.1. DISPENSERS' CURRICULUM.

- 5.1.1. The Dispensers' Programme philosophy and objectives are in line with the Swaziland's Ministry of Health's goal of attaining Health of All by the year 2000, using Primary Health Care as the main strategy.
- 5.1.2. Entry requirements of 5 'O' Levels with a good pass in any 2 science subjects, and a pass in Maths and English means that the programme will attract students who can handle the level of pharmaceutical science training that the programme demands.
- 5.1.2.1. The addition that a credit in these subjects would be an added advantage in that:
- students of a higher calibre will be attracted;
 - some of the students graduating from this programme will have the necessary entry qualifications for higher training if they should so wish.
- 5.1.2.2. Science subjects for entry requirements should be declared.
e.g. Chemistry, Physics, Biology, Combined Science. Subjects like Human and Social Biology or Nutrition etc may not be what the programme needs for science background.
- 5.1.3 COURSE CONTENT:
- This is very well detailed, and is in a format of a good educational document. However, in places it seems to be drawn to accommodate the current limited resources of the training site i.e. Central Medical Stores (CMS).
- 5.1.3.1. There is a lot more emphasis on practicals related to Thin Layer Chromatography (TLC) than other pharmaceutical practicals. As much as the quality control laboratory has TLC systems in place, other aspects of quality control are already planned eg tests for impurities and thus TLC should be balanced with these.
- 5.1.3.2. MP110 MICROBIOLOGY AND PARASITOLOGY
- This would best be given in second year after students have had physiology. A practical component of not more than 20 hours (10x2 hour sessions) would enhance students' appreciation of the need for cleanliness and use of different waters for pharmaceutical titrations.

4.

Examples

- showing presence of bacteria in the environment using nutrient agar.
- presence of microbes in liquid pharmaceutical preparations.
- reduction of microbial content by filtration, heating, boiling, and use of detergents.

5.1.3.3. P210 PHYSIOLOGY

The prerequisite for this does not match the content. This course would best be done in the first year in place of Microbiology and Parasitology, still carrying 45 hours.

5.1.3.4 MODULE VI

This should also indicate lectures on "Liver and Kidney in diseased states".

5.1.3.5 MODULE VII

This should also indicate lectures on "special circumstances for repeat prescriptions".

5.1.3.6. ACADEMIC REGULATIONS

This is one important component that is inadequately addressed in the curriculum. Reference is made to

- the pass mark of 50%
- supplementing if one subject is failed.

5.2. RESOURCES

5.2.1 Staff:

There is a chronic shortage of staff to support the Dispensers' Programme. This was observed both at CMS for class work, in hospitals and clinics for practicals.

- The Chief Pharmacist with an office in Mbabane, and the Acting Senior Pharmacist who is in charge of Central Medical Stores are the part-time lecturers for the course. A guest lecturer from the AIDS programme, who is a nurse, is also used. There is no full-time lecturer.

5.

- In the hospitals there are no more than 4 possible supervisors at the most. Mbabane hospital has one pharmacist and three dispensers, (at the time of the consultancy one was sick and one on leave).

Dvokolwako Health Centre (with 29 beds) has one dispenser.

- Central Medical Stores (CMS) has 4 dispensers who supervise students.

5.2.2 Classroom space and laboratories:

One CMS office room is used as the classroom (this may have been the greatest factor for taking 8 students only).

This same room is converted to a laboratory when it is time for pharmaceutical compounding. One chalk board is available in this room.

The CMS quality control laboratory acts as the practice room for Thin Layer Chromatography (TLC) practicals.

There are no other classroom support resources like flip charts, overhead projectors, etc.

5.2.3 Literature:

- 5.2.3.1. At CMS there are no standard text books for students. There are a few references like Merck Index, EDLIZ (Zimbabwe's essential Drug List), management books and some old editions of pharmacology books. Lecturers use their own books, from the time they themselves were students. Consequently there is a lot of text book notes photo-copying.

There are no journals or MIMS, (Monthly Index of Medical Supplies) or any demonstration models.

- 5.2.3.2. In the hospitals there are no reference books except one British Pharmacopoeia in Mbabane.

* In Dvokolwako, once the dispenser was challenged by the students about the combination of the drugs on a prescription. They resolved that by asking the doctor who still did not satisfy the students, but they had to close the subject! The simplest of Pharmacology textbooks would have sufficed for information for students, and confidence for the supervisor.

6.

5.2.4 Pharmaceutics Raw Materials;

Very old stock collected from the hospitals was used for laboratory practicals. There is only enough glassware to share for the practicals. There is one electric balance.

5.3. **LECTURES AND PRACTICALS (FIELD WORK)**

Two hospitals and one Health Centre were visited.

5.3.1 Mbabane hospital was found to be very busy, seeing about 250 outpatients per day and serving a 300 bed hospital. The 3 dispensers are constantly dispensing. The pharmacist is fully occupied in the office and helping with dispensing, supervising, ordering and managing stores.

At the time of the consultancy the students had gone through their studies so their supervision could not be observed BUT the numbers of staff must have been a great constraint for adequate supervision. The programme of training that the pharmacist and dispensers follow to train the students at least covers all the dispensary sections i.e. dispensing area, stores and a bit of compounding.

5.3.2. In Hlathikhulu, on the day of the visit the pharmacist was on day off but agreed to come in to work to talk to us. The two dispensers were far too busy to give any reasonable interview.

Note: One dispenser runs the outpatient dispensary and the other the inpatient side.

Their general opinion was that student field work would be much more adequately done with more staff and books.

They have a programme of training of students which includes:

- storage of drugs in alphabetical order
- storage of narcotics
- storage of thermolabile preparations
- storage of gases

- inventory control
- disposal of expired drugs

- Extemporaneous preparation

- Dispensing including dispensing of narcotics
- Prepacking

7.

5.3.3. In Dvokolwako a dispenser was in charge and was happy with the training except for lack of books to refer students to. This being a smaller dispensary, her programme of training was that she demonstrated to students the work as she went along her normal routine.

The state of the store indicated that she (unlike in the hospitals) had a bit more time to keep the place clean and organised.

5.4. AFFILIATION

The programme would like to affiliate to the Swaziland Institute of Health Sciences (SIHS), to give academic credibility to the course, and for sustainability.

In this regard meetings have been held in the past but not much follow-up afterwards. The latest meeting clarified the position for both sides.

5.4.1. Prerequisites for discussing such an affiliation were noted as follows:

5.4.1.1. that a full-time lecturer be appointed to head the programme;

5.4.1.2. that a clear policy be drawn regarding

- The numbers of dispensers needed by the Ministry of Health;
- The numbers to be trained each year;
- The number of years the course is to go on;
- If there are plans for upgrading it to a Diploma course;
- If posts will be created commensurate with these plans.

5.4.2 The SIHS has plans to become a faculty of the University of Swaziland.

5.4.2.1. The university will consider hosting certificate courses if they meet the needs of the country.

5.4.2.2. Government policy is that certificate students do not get scholarships. So if the SIHS became a university faculty the dispenser students (if affiliation went through) would have to continue looking for their own funds.

5.4.3 As part of the activities to address policy issues regarding dispensers, the Chief Pharmacist has already submitted the Pharmacy Manpower Development document to the Manpower Planning Committee.

8.

5.4.4 Places for tertiary education in Swaziland are limited. Hence the course will have students of higher qualification than the minimum 5 'O' levels entry requirements. Thus plans for academic upgrading should be considered.

5.4.5 With the above issues addressed, in principle SIHS can consider the affiliation of the Dispenser Course.

5.5. GENERAL

5.5.1 Students gave prepared presentations on topics from pharmacology, pharmaceuticals and dispensing. (Annex No. 10.4). The clarity of the principles presented showed a very good understanding of what the students had been taught. (The small number of 8 was indeed an advantage for tutor-student relationship).

5.5.2 Evaluation of the practical experience is done using a form filled by the supervisor. Half the form records achievement or non-achievement by the student; and the other half quantifies ability of the student. However, it does not provide for overall grading of the practical experience.

5.5.3 The application form has all the information necessary to decide on the students' application. (Annex 10.6)

5.5.4 At present there are only 8 unfilled posts for dispensers, 7 of these likely to be filled by the students just finished. In this respect, the chief pharmacist has made applications for more posts.

5.6. RESULTS OF TASK ANALYSIS OF DISPENSERS

A task analysis of practicing dispensers, and the anticipated task analysis of the new granduands was done using a questionnaire. (Annex 10.5)

5.6.1 Four Tutors and Guest lecturers, and 5 (out of 14) dispensers filled the questionnaire.

5.6.2 The results showed that current dispensers cover almost all tasks expected of the pharmacy department. Even in facilities where there is a pharmacist, dispensers have to occasionally take responsibility for the pharmacist's tasks when she/he is off.

The only visible task not done by dispensers is authorising orders at CMS.

9.

* Equating this finding with the curriculum of dispensers, all the courses and hours given are thus necessary. Yet, even greater knowledge would be expected for the cadre to take on these responsibilities with the kind of professional and ethical competence expected in the fight for Health for all by year 2000.

5.7. The government's Establishment Register has a regulation that only holders of a Diploma and higher qualifications enter the civil service at Grade 14 and above. The dispensers (with certificates) were put at Grade 14 inadvertently. Since they could not be demoted, this was left as such because of their long service and experience. The new graduands will be filling the already established Grade 14 posts.

This information gave more reason to think towards a Diploma Technician Course whose graduands would enter service at grade 14 in line with the rest of the civil service.

6.

LIMITATIONS

The staff shortage in hospitals and Health Centres meant that it was not easy to have a continuous interview with the interviewee. In Hlathikhulu, in particular, only a few comments were obtained from the dispenser. The pharmacist gave a good interview (probably because she was on day off).

There were no other limitations in the work of the consultancy.

7.

RECOMMENDATIONS

7.1 POLICY ISSUES

Policy issues to support and sustain the course should be addressed, viz:

- 7.1.1 A clearly drawn out plan for the pharmacy cadre:
- dispensers,
 - technicians,
 - pharmacists.

This should indicate :

- the numbers needed by the country;
- the numbers to be trained and
- the creation of posts commensurate with these needs and plans.

7.1.2 A pharmacist with either Bachelor's or Master's degree should be appointed full-time lecturer and head of the dispensers' programme.

7.2 CURRICULUM

The current curriculum needs to be improved by changing the following areas:

7.2.1 MP110 Microbiology and Parasitology

- * To be given in second year after students have understood physiology.
- * A practical component of not more than 20 hours (10x2 hour sessions) would enhance students' appreciation of the need for cleanliness and use of different waters for pharmaceutical titrations.

Examples

- showing presence of bacteria in the environment using nutrient agar.
- presence of microbes in liquid pharmaceutical preparations.
- reduction of microbial content by filtration, heating, boiling, and use of detergents.

7.2.2 P210 PHYSIOLOGY

To be done in the first year in place of Microbiology and Parasitology, still carrying 45 hours.

7.2.3. MODULE VI

Indicate lectures on "Liver and Kidney in diseased states".

7.2.4 MODULE VII

Indicate lectures on "special circumstances for repeat prescriptions".

7.2.5 The following academic regulations are recommended:

Academic Regulations:

- a) Attendance for classes and practicals is mandatory and no student should be allowed to sit examinations if he or she misses more than a certain stipulated percentage of classes e.g. 10%.
- The level stipulated should be guided by the philosophy and objectives of the programme.
- b) Minimum number of continuous assessments should be indicated. The purpose of the final or resultant continuous assessment mark should be clarified. For example passing the continuous assessment could be made a prerequisite to writing the end of year examinations or the mark is weighted against the examination mark and assists borderline students.
- In this respect, the purpose of the continuous assessment mark would be guided by the format and nature of the assessments, and the objective of the assessment.
- c) In subjects with a laboratory practical component, it should be indicated if the two components are treated independently for assessment and examination purposes or their marks are combined to give a subject mark.
- The suggested system for the dispensers' course would be to combine the marks since the laboratory component does not carry many hours.
- c) 1. The laboratory practical mark should be weighted against the theory mark. With the few hours spent on practicals, a weighting giving theory a greater percentage is suggested, e.g. 70% : 30%, theory: practical.
- d) Grading of the overall examination average is strongly suggested. If for other reasons this is not preferred, this should also be declared that the students either Fail or Pass and why they are not graded.

Otherwise a general system for such a programme would be:

49% and below	Fail and Supplement
50 - 64%	Pass
65 - 74%	Merit or Credit
75 - 100%	Distinction or Honours

This is not standard and the programme can set out its own system.

12.

- d) 1. The grading system encourages student performance, and differentiates good students for future academic development.

It also acts as another parameter to evaluate the programme.

- e) Failures, Supplementaries and Repeats:

The fate of unsuccessful students in examinations should be declared, and very clearly. (Serious problems between students and institutions have arisen in this area!)

1. Since the programme allows one supplement, declare that a student who fails two or more subjects shall be disqualified from the programme.

* Much as the above regulation is acceptable, it is rather steep for a certificate level.

A recommendation of 2 subjects supplemented should be considered.

2. Declare that no student is allowed to repeat, but may re-apply at future intakes.

- f) Examinations:

1. Examination rules and regulations should be set out covering:

- who sets the examination questions;
- who types the examination questions;
- how long before the examinations should the questions be ready;
- where the examination questions are stored up to the time of writing;
- procedures on the examination day covering invigilation; times students come into the exam room and leave the room; books, notes, tables etc that they may bring.
- any other security measures for examinations.

2. External examiner(s) strongly recommended to give academic credibility to the course by:

- monitoring quality of the course;
- giving constant evaluation of both the course and the tutors.

13.

The external examiner(s) can be drawn from the pharmacy discipline in the region.

Ideally, out-of-country is always preferred, but an interim measure could be a pharmacist in-country not employed by the Ministry of Health and with no vested interests in the students.

7.3 RESOURCES

Resources to support the dispensers' programme to be purchased or planned for right away:

- 7.3.1 Standard text books like the ones on Annex 10.7 to be purchased. Among these, at least the British Pharmacopoeia Vol 11 1988 should be in every hospital.
- 7.3.2. Raw materials for pharmaceuticals and microbiology practicals should be purchased in preparation for the new intake. The range of these can easily be drawn up from the formulae of the practicals to be done.

7.4 LECTURES

- 7.4.1 Use of guest lecturers need not be confined to Ministry of Health employees only, Pharmacists and other experts from Mission Hospitals may be invited in the spirit of cooperation.
- 7.4.2. Classroom space has to be created at CMS, with a laboratory fitted with laboratory equipment like
 - balances (light and heavy)
 - glassware - cylinders, pipettes, etc.
 - a distiller for distilled water;
 - a fridge
 - incubator
 - autoclave
 - heater
 - other laboratory requirements that may be added according to the practicals' needs.

These two rooms may be built attached to or detached from CMS building. In the meantime, the current arrangement may be used.

- 7.4.3 A secure cupboard is required for the CMS library to which only the head of the programme has access. Consequently a system of lending books to students and guest lecturers should be set up.

14.

7.4.4 An overhead projector to be purchased.

** This, and other programme resources, can also be used for practising dispensers' workshops.

7.5 FIELD PRACTICALS

For adequate field practicals supervisions, a minimum of 3 dispensers and a pharmacist is required in each of the 3 hospitals outside Mbabane; and 4 dispensers at Mbabane.

7.6 UPGRADING OF PRACTICING DISPENSERS

Ongoing training for dispensers in the field should be carried out using workshop and seminar methods. Following topics to be covered:

- * Drug Supply Management;
- * Personnel and Financial Management;
- * New trends and Protocols in Drug Therapy;
- * Primary Health Care
- * Communication Skills.

7.7 FUTURE OF THE PROGRAMME

7.7.1 A new intake of Dispenser students to be admitted in June/July 1993.

7.7.2 The students that start classes in 1993 should be the last group to enter the Dispensers' Programme (certificate).

7.7.3 A study should be conducted to look at the feasibility of upgrading the Dispensers' Programme to a Pharmacy Technician Programme (diploma).

7.7.4 The 1993 group of dispenser graduands to be recalled when the diploma is offered for a year of upgrading to diploma (only those who qualify academically of course).

The older dispensers from the 1970's training may be considered if they meet the academic requirements.

8.

ACKNOWLEDGEMENTS

The consultant would like to extend her greatest appreciation to the Ministry of Health of Swaziland for all the support and encouragement that made it very pleasant to undertake and complete this consultancy. Special thanks go to Project Hope not only for funding this consultancy but for all its support of Health projects in various ways.

A big thank you to the Chief Pharmacist, Mrs C.T. Sibiya; the Acting Project Hope (Swaziland) Director, Dr. M. Edmondson for facilitating the consultancy and their constant support all the way; and the Acting Senior Pharmacist at the Central Medical Stores, Mr. S. Banda who was always there when needed.

Special thanks go to the following people who generously gave their time to be interviewed, to fill questionnaires, to attend meetings and provide secretarial and administrative assistance for the consultancy:

Ministry of Health:

Principal Secretary	Mr. C. Mkhonta
Chief Nursing Officer	Mrs N. Shongwe
Deputy Chief Nursing Officer	Mrs E. Dlamini
Senior Health Planner	Mr. R. Shongwe
Senior Health Administrator	Mr. M. Hlophe
Director of Health Services	Dr. J. Mbambo

The educators at the Swaziland Institute of Health Sciences:

Principal	Mrs M. Mathunjwa
Deputy Principal	Mrs R.L.L. Manana
Kellogg Consultant	Dr. M. Makhubu

Pharmacy Staff at Mbabane Hospital:

Pharmacist	Mr. V. Kapasa
Dispensers	Mr. B. Dlamini
	Mr. N. Bhembe
	Ms E. Dlamini

Pharmacy staff at Hlathikhulu:

Pharmacist	Mrs. M. Mijere
Senior Dispenser	Mr. Z. Khumalo
Dispenser	Miss L. Tsabedze

16.

Dispenser at Dvokolwako: Mrs G. Dlamini

Dispenser at Pigg's Peak: Ms S. Shabangu

Dispensers at Central Medical Stores:

Senior Dispenser : Mr L. Ndzabukelwayo
Dispensers: Mrs J. Dube

Mr J. Dlamini
Quality Control Dispenser: Miss J.F. Dladla

Individuals interviewed:

Chief Nursing Officer Mrs N. Shongwe
Deputy Chief Nursing Officer Mrs E. Dlamini
Under Secretary for Health Prince Phuhlaphi
Training Officer Mrs K. Mavuso
Chief Pharmacist Mrs C.T. Sibiya
Acting Senior Pharmacist Mr. S. Banda

Courtesy call to USAID Health Project Manager Mrs A. Sampson

Students of the Dispensers Course:

Miss Z. Nhleko
Miss T. Gamedze
Mr. P. Magongo
Mr. E. Kunene
Mr. M. Dlamini
Mr. Musa Dlamini
Mr. C. Khumalo
Mr. H. Mkhathshwa

Support Staff at Project Hope (Swaziland) office.

Administrative Assistant Mr. M. Shongwe
Secretary Miss S. Malinga

Team at Debriefing Meeting at Ministry of Health

Principal Secretary Mr. C. Mkhonta
Under Secretary Prince Phuhlaphi
Deputy Director of Health Services Dr. Q.Q. Dlamini
Chief Nursing Officer Mrs N. Shongwe
Deputy Chief Nursing Officer Mrs E. Dlamini
Training Officer Mrs K. Mavuso
Senior Accountant Mrs N. Masuku
Acting Project Hope Director Dr. M. Edmondson
Chief Pharmacist Mrs C.T. Sibiya
Acting Senior Pharmacist Mr. S. Banda

9.

REFERENCES

1. Ministry of Health Policy, July 1993
2. Materials Management Activities - from January 1993 to April 1993 by Thuli Sibiya

A N N E X E S

SCOPE OF WORK

PROGRAM : **SWAZILAND**
POSITION : **CURRICULUM CONSULTANT - DISPENSER PROGRAMME**
DURATION : **MAY 15 - 29, 1993**

The scope of work was formulated by the Chief Pharmacist, MOH, and the Acting Program Director, Project Hope, based on Matching Grant Phase-over-Activities and the Detailed Implementation Plan for Materials Management.

1. Review and revise, as necessary, the Dispenser Programme curriculum including objectives, content, teaching methods, learning experiences including practicum, and evaluation strategies.
2. Assess the adequacy of resource support to the Dispenser Programme. (Personnel, educational facilities and equipment - classrooms, library, practicum sites and teaching/learning materials.
3. Assist Chief Pharmacist and Senior Pharmacist to conduct follow-up evaluation and identify training needs of practising dispensers.
 - a) Interview supervisors, students and practising dispensers to identify problem areas and areas for improvement.
 - b) Recommend specific workshop topics to meet identified training needs of practising dispensers.
 - c) Assist in developing an evaluation tool (questionnaire) for supervisors, students and colleagues.
4. Make written recommendations regarding the feasibility of affiliating the Dispenser Programme with the Swaziland Institute of Health Sciences.
 - a) Meet with appropriate persons from relevant organizations - Ministry of Health, Swaziland Institute of Health Sciences.
 - b) Obtain in writing, details of all activities necessary to begin the proposed affiliation process.
5. Submit a final written report including recommendations.

PHARMACY DISPENSERS' PROGRAMMECONSULTANTS' ITINERARY

MAY 15-29, 1993

CONSULTANT: Mrs Gertrude Mothibe, National Health Training College, MASERU, Lesotho.

SATURDAY MAY 15 Arrival

SUNDAY MAY 16 Reading of Documents

MONDAY MAY 17 AM: Courtesy visits
 Reviewing itinerary and scope of work
 Principal Secretary
 Director of Health Services
 Senior Health Administrator
 Health Planner
 Chief Nursing Officer
 Deputy Chief Nursing Officer
PM: Principal, Swaziland Institute of Health Science.
 Tour of Mbabane Government Hospital, Pharmacy Department.
 Interview with Pharmacist.

TUESDAY MAY 18 AM: Central Medical Stores Tour and Interviews with students and Dispensers
PM: Design and finalisation of Task Analysis Questionnaires.

WEDNESDAY MAY 19 AM: Distribution of Questionnaires.
 Interviews with Chief Pharmacist and Senior Pharmacist.
AM - PM: Field visit to Dvokolwako Health Centre.
 Interview with Dispenser Supervisor.

THURSDAY MAY 20 Reading and Report writing
 (Holiday)

FRIDAY	MAY 21	<u>AM:</u> Student class presentations of prepared tutorials. <u>AM - PM:</u> Field visit to Hlathikhulu Hospital. Interviews with pharmacist and dispensers.
SATURDAY	MAY 22	Report writing
	AND	
SUNDAY	MAY 23	
MONDAY	MAY 24	<u>AM:</u> Meeting with USAID Health Project Manager - Mrs. Anita Sampson (Mr. S. Banda to Pigg's Peak with Questionnaires) <u>PM:</u> Meeting with SIHS educators.
TUESDAY	MAY 25	<u>AM:</u> Report writing and typing. <u>PM:</u> Analysis of Questionnaires.
WEDNESDAY	MAY 26	<u>am:</u> Debriefing on preliminary report to Dispenser Programme Faculty. <u>PM:</u> Meeting with Chief Nursing Officer, Under Secretary, Training Officer, Ministry of Health
THURSDAY	MAY 27	<u>AM:</u> Debriefing on tentative report to Ministry of Health team. <u>PM:</u> Discussion of report
FRIDAY	MAY 29	Finalisation of report
SATURDAY	MAY 29	Departure.

PRACTICAL EVALUATION

Year 1
Hospital site

Student----- Date-----

The following items will be graded as satisfactory or unsatisfactory. The student is able to:

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1. calculate maximum/minimum stock levels
2. maintain tally card current
3. conduct actual stock inventory and adjust tally card to actual stock
4. prepare requisitions correctly
5. check deliveries in
6. add items in correct order to existing inventory
7. retrieve drugs and supplies correctly from store room
8. check expiration dates of drugs
9. identify stock to return to CMS
10. inspect nursing units for excess/old stock
11. issue ward stock
12. issue stock to individual patients
13. pre-pack solid and liquid dose forms correctly
14. state correct storage requirements of drugs
15. maintain controlled drug register
16. enter inventory data into computer

General items for evaluation. Grade as:
1 = excellent or yes, 5 = poor or no

- | | |
|--|-----------|
| 1. student is neat and clean | 1 2 3 4 5 |
| 2. accepts supervision well | 1 2 3 4 5 |
| 3. easy to work with | 1 2 3 4 5 |
| 4. uses work time well | 1 2 3 4 5 |
| 5. punctual and reliable | 1 2 3 4 5 |
| 6. accepts criticism/learns from mistakes | 1 2 3 4 5 |
| 7. exhibits self-control | 1 2 3 4 5 |
| 8. has positive attitude | 1 2 3 4 5 |
| 9. student is honest and trustworthy | 1 2 3 4 5 |
| 10. able to ask for help when necessary | 1 2 3 4 5 |
| 11. works at appropriate speed | 1 2 3 4 5 |
| 12. able to interact and converse well with
co-workers and/or patients. | 1 2 3 4 5 |

General comments:

Student strenghts:

Student weakness:

Signed:-----

FINAL TUTORIAL

The following students will present a discussion to the class on the topics assigned to them on Friday 21st May, 1993. The class and Tutor after presentation may ask questions to the presenters. The aim of this tutorial presentation is to evaluate understanding of the course.

	TOPIC OF DISCUSSION	DATE AND TIME OF PRESENTATION
CASINO KHUMALO	Methods of sterilization 1. Dry and moist heat 2. Radiation and chemicals	21/5/93 Duration 25 minutes
PHINEAS MAGONGO	Penicillins are a group of anti-infective agents. Discuss mode of action Differentiate Pen VK, amoxycillin, ampicillin, cloxacillin	21/5/93 Duration 25 minutes
MXOLISI DLAMINI	Demonstrate to class how you would go about with this compounding prep. How many millilitres of a 1:400w/v stock solution should be used to make 4 litres of a 1:2000w/v solution.	21/5/93 Duration 10 minutes

S.M. BANDA
PHARMACIST

SWAZILAND GOVERNMENT
CENTRAL MEDICAL STORES
DISPENSING COURSE

Curriculum Consultancy

Questionnaire for supervisors and dispensers

Please assist in giving information on anticipated tasks of completers of the above course by filling in this questionnaire.

Name:

Centre where you work,

Town:

Position:

1. What are your specific tasks in your present position? Please list under relevant sections, leave blank sections outside your current scope.

(a) Drug Store: -

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.....
.....

(b) Dispensing area:

.....
.....
.....

(c) Compounding area:

.....
.....
.....

(d) In-Patients:
(Including specialised wards eg TB wards etc)

.....
.....
.....

(e) Casualty department: -

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.....

(f) Specialised clinics eg hypertension, diabetic, MCH etc :-

.....
.....
.....

(g) Laboratory, X-ray, physiotherapy etc departments: -

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.....
.....

(h) EPI activities:

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.....
.....

(i) Serving Satellite clinics: -

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.....
.....

(j) In relation to incomplete or problematic prescriptions: -

.....
.....
.....

(k) Hospital Management : -

.....
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.....

(l) Periodical Professional Meetings or Training of other professionals: -

.....
.....
.....

(m) Revenue Collection: -

.....
.....
.....

(n) Other (specify): -

.....
.....
.....

2. When the Pharmacy Dispensers who are being currently trained graduate, will you be needing any in your facility?

Yes ()

No ()

Please tick.

If you tick Yes, go to No 3 and subsequent questions.

If you tick No, briefly explain why, then go to No 5 only.

3. What specific tasks will the new employees (course completers) be expected to perform?

(a) Drug Stores: -

(b) Dispensing area:

(c) Compounding area:

(d) In-Patients :-

(e) Casualty department: -

(f) Specialised clinics eg hypertension, diabetic, MCH etc: -

(g) Laboratory, X ray, physiotherapy etc departments :-

(h) EPI activities :-

(i) Serving Satellite clinics: -

(j) In relation to incomplete or problematic prescriptions: -

(k) Hospital Management: -

(l) Periodical Professional Meetings or Training of other professionals: -

(m) Revenue Collection:

(n) Other (specify): -

4. Are there any additional tasks that the completers would be expected to perform if all desired support systems were in place? eg quality control facilities, computers etc. Please list.

Ideal system

Task

Ideal system	Task
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-----	-----
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5. What other facilities, within Swaziland, outside the Ministry of Health do you think can employ Pharmacy Dispensers?

Mission Hospitals	()
Private Sector, Chemists	()
Doctors	()
Drug Wholesalers	()

Other (specify)

6. Are any of the tasks so far listed likely to be moved away from the Dispenser or other higher Pharmacy cadres (degree, diploma) are brought into the service?
Please list.

THANK YOU FOR YOUR TIME.

OFFICES HELD IN SCHOOL: _____

OFFICES HELD IN COMMUNITY: _____

MEMBERSHIP IN CLUBS OR OTHER ORGANIZATION: _____

PROFESSIONAL QUALIFICATION:

<u>NAME OF TRAINING INSTITUTIONS</u>	<u>DATE</u>	<u>CERTIFICATE REGISTRATION NO.</u>
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_____	_____	_____
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_____	_____	_____
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EMPLOYMENT

<u>EMPLOYER</u>	<u>ADDRESS</u>	<u>POSITION HELD</u>	<u>TYPE OF WORK</u>	<u>DATESS</u>
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_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____
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_____	_____	_____	_____	_____
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CHARACTER REFERENCES

GIVE NAMES AND ADDRESSES OF ONE TEACHER AND TWO OTHER RESPONSIBLE ADULTS (NOT RELATIVES) WHO KNOW YOU WELL AND WHO CAN ATEST TO YOUR CHARACTER.

1) NAME: _____

ADDRESS: _____

2) NAME: _____

ADDRESS: _____

3) NAME: _____

THE INFORMATION GIVEN ON THIS FORM IS TRUE TO THE BEST OF MY KNOWLEDGE

DATE: _____ SIGNATURE: _____

BOOKS AND JOURNALS FOR PHARMACY STUDENTS
(DISPENSER TRAINING)

1. Dispensing for Pharmaceutical Students by Cooper and Gunn
2. British Pharmacopoeia Vol I and II 1988 editions,
by Pharmaceutical Press UK
3. Pharmaceutical Codex latest edition by Pharmaceutical Press,
UK.
4. The Extra Pharmacopoeia by Martindale.
5. Pharmacological Basis of Therapeutics by Goodman and Gilman.
6. Medical Dictionary.
7. Clinical Pharmacology by Laurence and Bennett.
8. Pharmacology for Nurses by Trounce latest edition.
9. Pharmaceutical Practicals Vol I and II.
10. Pharmaceutical Microbiology latest edition by G. Hugo.
11. Microbiology Practicals for Pharmacy Students by G. Hugo.
12. Pharmaceutics Handbook by Pharmaceutical Society of Great
Britain latest edition.
13. Pharmaceutical Calculations by Longmans (RSA).
14. Merck Index
15. Drug Supply Management by various authors.
16. Pharmacy Tutorials by Cooper and Gunn.
17. Questions and Answers in Pharmacology Pocket Book by
Longmans (RSA).
18. Pharmacy Law for South Africa.
19. Pharmaceutical Journal, monthly from the Pharmaceutical
Society of Great Britain - subscription.
20. MIMS (Monthly Index of Medical Supplies), monthly from RSA -
subscription.