



Republic of Namibia



Ministry of Health and Social Services

Concept and Guidelines for Medicine Use Assessment During Students' Rural Placements

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About the University of Namibia and the School of Pharmacy

The University of Namibia (UNAM) is a leading public higher education institution with a student population of close to 13,000 students each year. Academic programs at UNAM emanate from eight faculties and two schools: the Faculty of Agriculture and Natural Resources; Faculty of Economics and Management Science; Faculty of Education; Faculty of Engineering and Information Technology; Faculty of Humanities and Social Sciences; Faculty of Law; Faculty of Health Sciences, consisting of the School of Nursing and Public Health and the School of Medicine, School of Pharmacy; and the Faculty of Science. In 2006, UNAM was rated as the best higher education institution in Namibia by the Professional Management Review of South Africa and won a Golden Arrow Award. The previous year, the Geneva-based Foundation for Excellence in Business Practice nominated UNAM to receive its Gold Medal for Excellence in Business Practice. UNAM has graduated over 17,000 students who are serving the country in various sectors of the economy, with most occupying prominent positions in government and the private sector. The first group of 14 locally trained pharmacists graduated from Namibia's first and only School of Pharmacy (SoP) at UNAM in April 2015.

About SIAPS

The goal of the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program is to ensure the availability of quality pharmaceutical products and effective pharmaceutical services to achieve desired health outcomes. Toward this end, the SIAPS result areas include improving governance, building capacity for pharmaceutical management and services, addressing information needed for decision-making in the pharmaceutical sector, strengthening financing strategies and mechanisms to improve access to medicines, and increasing quality pharmaceutical services.

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ACRONYMS AND ABBREVIATIONS

# Dx	number of medicines dispensed
AMR	antimicrobial resistance
BPharm	bachelor of pharmacy
Div. PhSs	Division of Pharmaceutical Services
HF	health facility
ID	identification
MoHSS	Ministry of Health and Social Services
MSH	Management Sciences for Health
PEPFAR	President's Emergency Plan for AIDS Relief
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SoP	School of Pharmacy
SOP	standard operating procedure
UNAM	University of Namibia
UNAM-SoP	University of Namibia School of Pharmacy
USAID	United States Agency for International Development
WHO	World Health Organization

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INTRODUCTION

This document provides a background and basic guidance to medicine use data collection to be undertaken by UNAM-SoP second-year students during their placement in rural health facilities.

Background to the Medicine Use Indicator-Based Survey by UNAM-SoP Students

In 2012, UNAM-SoP introduced 4-week placements at health facilities located in rural communities for pharmacy students as part of their practical training. This placement is meant to provide the students with hands-on experience on the provision of pharmaceutical services at these facilities.

From the lessons learned from the students' 2012 placement experience, UNAM, from 2013, included data collection on pharmaceutical-related indicators aimed at building students' capacity to assess pharmaceutical service delivery at health facilities, to interact with other members of the health care team and patients, and obtain insights into the pharmaceutical management procedures. Through this exercise, students learn how to assess dispensing practices, including assessing client knowledge and satisfaction with information received about their medicines. These indicators are based on the global pharmaceutical management indicators developed by the World Health Organization (WHO).

Purpose/Benefits of the Field Medicine Use Assessment

Students learn about medicine use and assess pharmaceutical service delivery

- Provides an opportunity for students to interact with patients and health care providers at the health facilities
- Students learn and practice principles of data collection, basic data management, and presentation of findings
- Information generated will be used by: UNAM-SoP to inform all-around training of pharmacists; MoHSS to monitor and improve aspects of pharmaceutical service delivery including improving medicine use; stakeholders like the USAID-funded SIAPS to inform evidence-based programming for technical assistance to UNAM; and MoHSS for training of pharmaceutical personnel for improved pharmaceutical services in Namibia

Indicators to be Assessed in 2015

Focus will be on patient care indicators

- Percentage of patients who are Namibian (confirmed by ID document)

- Percentage of medicines dispensed out of those that were prescribed
- Percentage of patients who report satisfaction with information received about their medications
- Average time spent by outpatients at the health facility (HF)
- Percentage of patients who know how to take all of their medicines correctly
- Percentage of dispensed medicines that are correctly labelled (as per pharmacy standard operating procedures [SOPs]); this is a proxy indicator for HFs and health care workers implementing good dispensing standards for medicine dispensing

Significance of Findings

- Patient satisfaction with information about medicines is related to subsequent willingness to follow instructions and comply with medication regimens – an important aspect in medicine use for positive outcomes
- Patients' knowledge of their medicines impacts correct and consistent use of medicines, which has a bearing on treatment adherence and therapeutic effectiveness
- Good Dispensing Practices are vital for ensuring rational use of medicines and the containment of antimicrobial resistance (AMR)
- The percentage of medicines dispensed out of those that were prescribed gives an indication of the availability of medicines in the HF
- Duration of outpatients' visit to the facility may be linked to satisfaction with services received at the facility

METHODOLOGY

Data Collection Design

Sites: Data collection will be done at the MoHSS hospitals where the BPharm second-year students are placed for their rural placement.

Tools: UNAM-SoP in collaboration with MoHSS (Div. PhSs) and SIAPS developed a simplified tool to collect basic information on selected medicine use aspects.

Sample size: Each student is to obtain and assess 30 medicine use encounters (refer to data collection sheet).

Data collectors: UNAM-SoP BPharm students (second years)

Target respondents: Only patients who are over 18 years of age and have received services, including dispensed medicines, on the day of the interview will be eligible to participate in the assessment.

Data collection: Each second-year student will collect data from 30 patients, as part of training within his/her placement HF using the given standardised tool (refer to data collection sheet).

Data storage: Each student shall return the completed data collection form to the assigned lecturers at UNAM-SoP, who shall maintain custody of the tools for subsequent reference and additional analysis as desired.

Data analysis: Each student will perform basic data analysis on the data that they collect and present results mainly in the form of percentages. See table1 in this document for an illustration of how a summary of results should be presented.

Based on the indicator results in the table, the student should develop some conclusions and recommendations to share with the hospital in order to improve the use of medicines and strengthen prevention of AMR.

Data Collection: Procedural Considerations

- 1) Introduce yourself to the head of the facility
- 2) Ensure that he/she is aware of the data collection; share a copy of the letter from UNAM and MoHSS in case he/she is not aware
- 3) Request for consent to collect data at that facility

Selecting Respondents/Patients to Interview

- Patient should be an adult, over 18 years of age
- Patient should have received health services, including dispensed medicines, at that facility on the day of the assessment
- Interview both male and female patients

Conducting a Patient Interview

- 1) Randomly select patients who are leaving the pharmacy area
 - 2) Select adult patients (above 18 years) to engage as respondents
 - 3) Explain the purpose of the brief interview
 - 4) Get informed consent from each patient before collecting data
 - 5) Do NOT interview patients if they do not consent
 - 6) Fill in ALL columns of the data collection sheet
- **Column 1.** Write in the start time of interview. Use the 24-hour time format (e.g., 0800hrs for 8:00 a.m. and 1300hrs for 1:00 p.m.).
 - **Column 2a.** Ask the patient if they are carrying their ID or passport (request to see the ID/passport for verification); if Yes insert 1 in the column, if No insert 0.
 - **Column 2b.** If the patient has an ID document, determine if they are Namibian or not; if patient is Namibian then insert 1 in the column, if not Namibian insert 0.

Note well – ONLY mark in column 2b if the patient has an ID. If they have no ID then fill in “N/A” (for not applicable) in the space.
 - **Column 3.** Sex of the patient – insert 1 in column if patient is a male and 0 if female.
 - **Column 4.** Write the age of the patient in years.
 - **Column 5.** Determine the cadre of staff that dispensed the medicines to the patient. This can be determined from the signature on the patient passport or by asking the patient to indicate the dispenser.
 - **Column 6.** Ask the patient what time they arrived at the HF that day.
 - **Column 7a.** Check how many medicines were dispensed to the patient and write in the column below # Dx (number of medicines dispensed; see annex 1 for further description).

Note well – If a patient has been prescribed an injection and the injection has been administered already then that medicine should be counted as dispensed.

- **Column 7b.** Count how many medicines were prescribed in the prescription (from the passport) and write it in this column.
- **Column 8.** Ask the patient if they are happy with the information that they were given at the time they received their medicines. Be prepared to explain what you mean by this question. You may need to ask the patient if they feel they received all the information that they needed about their medicines and how to take them. If the patient says, yes, they are happy with the information they have been given, write 1 in this column, otherwise write 0.

Information expected to have been provided about the medicines includes:

- 1) The diagnosis
 - 2) Reason for the medication
 - 3) How MUCH of the medication the patient is supposed to take each time they take it
 - 4) How OFTEN the patient is supposed to take each medication
 - 5) For HOW LONG the patient is supposed to take each medication given
 - 6) Any special guidelines (e.g., after/before meals)
 - 7) The pharmacist's/dispenser's willingness to listen and respond to patient's questions/comments/ concerns about the medicines
- **Column 9.** Ask the patient how they will take each of the medicines that they have been given. The patient can read information on the label to answer this question. Ask separately about each medicine that the patient has received. If the patient can correctly tell you how to take each medicine then write 1 in this column, otherwise write 0.
 - **Column 10.** Check the labels on every medicine that the patient has received and assess whether all items are labelled correctly as per the dispensing SOPs and that they reflect the correct dosing schedule according to the prescription. If ALL medicines are labelled correctly then mark 1 in this column, otherwise mark a 0.

Note well – if a patient has been prescribed an injection and already had the injection administered then assume that this medicine was appropriately labelled.

Conducting a Patient Interview (continued from page 4)

- 7) Respect patients at all times; avoid answering phone calls during an interview
- 8) Check that all relevant columns of the sheet are filled before concluding with the patient
- 9) Thank patients for their time and responses
- 10) Keep the completed form safe from damage, loss, and unauthorized access

Note: Good quality data is important; each student's findings will be compared with other existing information as well as with that of fellow students.

Good quality data should be accurate, valid, reliable (based on given procedures), precise (have sufficient detail), complete (all sections of the tool are filled in), submitted in a timely manner, ethical (no manipulation of data), and kept confidentially and securely.

RESOURCES/MATERIALS

- Letter of introduction (from UNAM and MoHSS to head of the HF); have a copy for yourself and extra copy to give to the facility head if he/she did not receive one
- Data collection sheet
- Personal watch or cell phone (to know the time of each interview)
- Pharmaceutical SOPs (for understanding good dispensing practices)
- This concept/guidance note for reference

DATA MANAGEMENT, ANALYSIS, AND PRESENTATION

- Ensure that the data collection tool, once completed, is kept safely.
- Use the Summary of Results table at the end of this concept note to summarise the raw data that you have collected.
- Discuss the summarised results with your site supervisor:
 - Are they the results that you/your supervisor expected?
 - If not, why not?
 - What factors could have influenced the results you obtained?
 - Does the site supervisor have historical data for any of these indicators to be able to compare your results? The percentage of patients who received all of their medicines can be compared with one of the Pharmaceutical Management Information System indicators.
- Draw conclusions and recommendations from the summarised results and discuss these with your site supervisor.

REPORTING

Each student shall present a report of the medicine use survey as part of the rural placement (written) report; this will form part of students' assessment.

Include the following in the report:

- The process followed (method)
- Results
- Interpretation of results
 - Comparison to previous indicators
 - Constraints/limitations
- Recommendations

Each student shall include a summary of his/her findings and interpretation in his/her presentation to the HF managers (given on last day of placement) for evaluation and follow up.

UNAM-SoP management may conduct further analysis of the data and share results with MoHSS (Div. PhSs), SIAPS, and other stakeholders, as applicable. Results shall be disseminated in various fora for use in decision making.

SUMMARY OF RESULTS

Note well: Before summarising the results, combine the data from all the students who collected data at that same hospital.

Follow the steps below in order to aggregate the data correctly:

- 1) Add up the numbers in each of the following columns
 - a) Column 2a add up the ones to get figure (A)
 - b) Column 2b add up the ones to get figure (B)
 - c) Column 3 add up the ones to get figure (C)
 - d) Column 4 add up the ones to get figure (D)
 - e) Column 7a add up the numbers to get figure (E)
 - f) Column 7b add up the numbers to get figure (F)
 - g) Column 8 add up the ones to get figure (G)
 - h) Column 9 add up the ones to get figure (H)
 - i) Column 10 add up the ones to get figure (I)
- 2) Add together the results (A – I) from each student who collected data
- 3) For average time spent at the HF you will need to calculate the time spent at the HF per patient for each patient you interviewed. Once you have done this you can then work out the average time spent at the HF. Do the calculations in hours.
- 4) Once the calculations above have been done, the results from the data collection tool can easily be summarised in the table below.

Table 1. Summary of Results

Variables: Demographic information		Number	Percentage (%)
a) Total patients interviewed	Male (C)		
	Female (x-C)		
	Total	x	100
b) Average age of patients (in years)	(D/x)		
Variables: Indicators (see full description below table)			
i) Nationality of patient	Namibian (B)		
	Non-Namibian (x-(A+B))		
	No ID available (x-A)		
	Total	x	100
ii) Percentage of medicines dispensed out of those prescribed	Dispensed (E)		
	Prescribed (F)		100
iii) Percentage of patients satisfied with information received about medicines	Yes (G)		
	No (x-G)		
	Total	x	100
iv) Average duration of stay at the facility (in hours)	See point 3 above for how to calculate this		
v) Percentage of patients who know correct information about all their medications	Yes (H)		
	No (x-H)		
	Total	x	100
vi) Percentage of patients whose medicines are correctly labelled	Yes (I)		
	No (x-I)		
	Total	x	100

Note well – In Table 1 above, x equals the total number of patients who were interviewed by the students at that hospital.

For example: If there were two students at your placement site and both students collected data from 30 patients, then x will be 60.

Full Description of Indicators

- Percentage of patients who are Namibian
- Percentage of medicines dispensed out of those prescribed
- Percentage of patients who report satisfaction with information received about their medications
- Average duration of patient’s visit to the HF
- Percentage of patients assessed who know correct information about their medications
- Percentage of dispensed medicines whose label on the medicine contains all the information required for good dispensing practice as per pharmacy SOPs

CONCLUSIONS AND RECOMMENDATIONS

Students should develop conclusions from the results they obtained based on the data collection analysis.

Based on these conclusions, develop recommendations for what action the hospital can take to optimize the appropriate use of medicines.

ANNEX 1. DATA COLLECTION TOOL USED IN 2015

Data Collection Sheet for Calculation of Rural Attachment Indicators 1, 2, 3 & 4												
HEALTH FACILITY :			DATE:			DISTRICT:						
Question 1 (Q1) :		How many of the medicines prescribed did the patient receive? (write number Dispensed (# Dx) and Number Prescribed (# Rx))										
Question 2 (Q2) :		Is the patient satisfied with the information received with dispensing of their medication?										
Question 3 (Q3) :		Does the patient know how to take ALL of their medicines correctly?										
Question 4 (Q4) :		Does the label on ALL dispensed medicines contain all the information required for good dispensing practice										
	Column 1	Column 2		Column 3	Column 4	Column 5	Column 6	Column 7		Column 8	Column 9	Column 10
Case No.	Time of Interview	Has ID? (a) 1=yes; 0=no	Namibian? (b)	Sex 1=Male 0=Female	Age (Years)	Dispenser P/A, P or Other	Time of Arrival at HF	Answer Q1 (a) # Dx	# Rx (b)	Answer Q2 1=yes; 0=no	Answer Q3 1=yes; 0=no	Answer Q4 1=yes; 0=no
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4												
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30												
		(A)	(B)	(C)	(D)			(E)	(F)	(G)	(H)	(I)

ANNEX 2. ILLUSTRATIVE STUDENT ORIENTATION PROGRAM – ACTUAL PROGRAM USED IN 2015

School of Pharmacy, University of Namibia Induction for Pharmacy Placements 2015

Tuesday, 12 May

Time	Time allocation	Topic title	Presented by	Mode of delivery
11h30 - 12h00	30 mins	Session 1: Overview of the placement <ul style="list-style-type: none"> • Pharmacist in a rural setting • Competence-based approach • Professionalism & ethical • Student-directed learning • Responsible living 	Timothy (UNAM-SoP)	Lecture/ discussion
12h00 - 12h30	30 mins	Session 2: Organization the placements <ul style="list-style-type: none"> • Workbook activities • Role of the coordinators • Role of the site supervisor • Report write up and logins • Deadlines and assessments • Presentation of findings 	Jennie (UNAM-SoP)	Discussion Q&A
13h00 - 13h30	30 mins	Session 3: Organization of MoHSS services <ul style="list-style-type: none"> • Organization of health services • Functions of a hospital pharmacy • Pharmaceutical services in Namibia • Flow of medicines and information 	Qamar (MoHSS, Div. PhSs)	Lecture Q&A
13h30-14h00	30 mins	Session 4: Pharmacy tools/documentation <ul style="list-style-type: none"> • Electronic dispensing tools • SOPs, STGs, and Nemlist • Stock management/cards • Therapeutic committees 	Ester (UNAM-SoP)	Q&A
14h00-14h30	30 mins	Session 5: Medicine use survey <ul style="list-style-type: none"> • Overview of medicine use survey • Tools used in a medicine survey • Quality data collection process • Entering data into Excel 	Phulu (SIAPS)	Discussion /lectures
15h00 - 15h30	30 mins	Session 6: Practical exercise <ul style="list-style-type: none"> • Role play of the data collection • Dos and don'ts 		Discussion