

Pharmaceutical human resources assessment tools

Essential Medicines and Pharmaceutical Policies
&
Human Resources for Health



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Introduction

The crucial role of Human Resources for Health (HRH) in health systems has not been fully appreciated until recently with the advent of the HIV/AIDS crisis which has contributed to the HRH crisis in many countries. Many health programmes including the pharmaceutical sector have consistently experienced shortages of suitable personnel as one of the major constraints in not accomplishing intended objectives of their national medicines as well as health policies. This state of affairs if left unchecked especially in developing countries which have the highest disease burden, will definitely affect the achievement of the Millennium Development Goals (MDGs).

The health workforce crisis is characterized by the following facts (1):

- Globally, there is a critical shortage of Health Workers (HW). The shortage is more critical in developing countries, especially in sub-Saharan Africa, but it is also reported from developed countries.
- Many countries experience skill imbalances, resulting in the fact that the present workforce is unable to respond to local health needs. A great number of highly qualified professionals compared to a small number of lower level cadres impedes delegation of tasks and therefore wastes resources. Furthermore, highly qualified professionals can easily migrate as their skills are in demand in developed countries.
- Geographical mal-distribution of HW is present in most countries. HW are often concentrated in urban settings whereas rural and remote locations lack basic health care. Additionally, in some countries there is a mal-distribution of HW with a great number working in the private sector compared to the public sector. This accelerates inequity within the health system, as the poorer population has little access to private health care for financial reasons.
- Especially in developing countries, poor working environments further worsen the situation. HW are not motivated due to inadequate and delayed salaries, lack of incentives and career prospects, frequent shortages of drugs, equipment and supplies. Low remuneration of HW in the public sector might result in dual practice, promoting and selling of medicines as an income generating activity and demands of illegal payment for services.
- Lack of reliable information on size, distribution and skills of the health workforce often makes responding to the crisis and strategic planning of human resources more difficult.

According to the International Pharmaceutical Federation (FIP), pharmacists represent the third largest healthcare professional group in the world (2). Availability of trained pharmaceutical human resources is of critical importance in meeting national and global health goals, and thus requires special attention (3). The development, production, distribution and appropriate utilization of medicines, as well as the attendant functions of regulation, operational research, training, etc., are of central importance in maintaining a

healthy population. The absence of pharmacists and pharmaceutical personnel therefore has implications on the functioning of a health system (4).

Scaling up access to essential medicines is critical to the prevention of millions of deaths a year. However, WHO estimates that one third of the global population lacks regular access to essential medicines. A recent WHO report for example found that in the public sector, generic medicines are only available in 34.9% of facilities, and on average cost 250% more than the international reference price. In the private sector, those same medicines are available in 63.2% of facilities, but cost on average about 650% more than the international reference price (5). The delivery of essential medicines to save lives and reduce suffering is therefore assured only with the availability of appropriate health workers who provide pharmaceutical services to the population.

Similarly, the growing challenge of counterfeit and sub-standard medicines is a threat to public health; shortage of pharmaceutical personnel, their inequitable distribution and service provision by un-authorized personnel are factors that create fertile ground for the growth of this problem. To ensure that only quality and authorized products are made available to the population, it requires functional and well-resourced pharmaceutical supply and regulatory systems, with adequate numbers of trained personnel.

Despite their critical importance, information about the total workforce in the pharmaceutical sector is however not available. Most data on public health service providers mainly show the number of doctors and nurses but are usually silent about those who are dedicated to the delivery of medicines in both the public and private sectors. Such information is critical not only in the planning but also in the delivery of services. It has been reported that the ratio of health workers to population correlates with health outcomes such as maternal, infant and under-five mortality rates as well as with coverage of health services like immunization and births attended by trained personnel(1).

The lack of comprehensive data on pharmaceutical personnel and health workforce in the pharmaceutical sector is a gap in national Human Resources policies. Consequently, national plans and budgets fail to adequately provide for the required investment in training, deployment and continuous development of pharmaceutical personnel as a social and economic priority. There is therefore a need for countries to develop the necessary evidence base to support appropriate pharmaceutical Human Resources policies and strategies.

Assessment tool objectives

These tools were developed with the intention of supporting key stakeholders at national level to develop evidence based pharmaceutical human resources development strategies and plans. Drafted, piloted and revised by WHO with the input of national, regional and international pharmaceutical sector and human resources for health experts and key stakeholders, the tools have been found to generate the core data requirements to support comprehensive situational analysis of pharmaceutical human resources. These tools should be considered as working drafts and they will be further reviewed and improved with future use, feedback on the use of these tools and suggestions for improvements are welcome. These tools were also developed with the view that they should be adapted to the national context and thus should be carefully reviewed by country assessment teams for relevance, applicability and revised accordingly.

2.1 Purpose and application of assessment findings:

The assessment serves as a situational assessment and thus the first stage of a four stage cyclical process for human resources for health development as described in the HRH Action Framework (website: <http://www.capacityproject.org/framework/action-cycle/#situational-analysis>). Data compiled as a result of using all five tools can be used to build a comprehensive evidence base on pharmaceutical human resources to aid planning. The ways in which collected data can applied to planning may vary between countries but at minimum it should serve to provide descriptive information about the pharmaceutical human resources labour market in terms of its availability, production, distribution, attrition and shortages. Human resources planning should identify a relevant and core set of indicators measured in this assessment for monitoring and evaluation. Countries should repeat this situational assessment to inform each human resources for health planning cycle (eg – every 4 or 5 years).

2.2 Assessment aim:

To conduct a pharmaceutical human resources situation analysis that quantifies available pharmaceutical human resources and identifies key human resource issues to inform human resources for health planning.

2.3 Objectives:

The assessment comprises of five tools (Forms A – E) which each have a specific set of objectives. The specific objectives of each form are described below. Countries using these tools should first consider which assessment objectives are of interest and adapt the tools accordingly, in some instances this may require that only part of the tools are used. The full set of tools and specific objectives have been provided as a guide and it is intended that assessment teams will further adapt these to their needs.

Form A: Baseline pharmaceutical human resources assessment

1. To identify cadres that provide pharmaceutical services
2. To identify facilities that offer pharmaceutical services or undertake pharmaceutical functions
3. To describe ownership policies for each facility type offering pharmaceutical services
4. To identify licensing requirements of cadres and facilities providing pharmaceutical services
5. To quantify the number of facilities offering pharmaceutical services by type and sector
6. To quantify trends in workforce levels and workforce supply for the past 10 years
7. To determine the gender distribution of each cadre
8. To quantify the number of foreign trained and foreign workforce in each cadre
9. To quantify the practice distribution of each cadre by facility type and sector
10. To determine regional distribution of the pharmaceutical workforce by cadre and proportions serving the urban and rural areas
11. To identify the number of positions filled and vacant, and the projected workforce requirements within the public sector
12. To determine whether job descriptions exist for each cadre within the public sector
13. To quantify the number of retirements, dismissals, resignations and recruitments by cadre
14. To identify the number of letters of good standing requested per year over the past 5 years for migration purposes
15. To identify the public sector salary ranges for pharmacists by setting and level
16. To identify the existence of and the scope of strategic pharmaceutical human resources plans
17. To catalog the human resource development strategies that have been implemented over the past 5 years and are planned for the next 5 years by cadre

Form B: Pharmacy Education Providers

18. To ascertain basic descriptive information about the institution, its accreditation status and types of programs it offers
19. To identify the accessibility of computers, internet and reference materials by academic faculty/staff and students
20. To quantify the academic faculty/staff workforce by qualification, level and department
21. To determine the salary ranges for academic faculty/staff by level
22. To quantify the academic faculty/staff attrition and recruitment levels and number of vacancies
23. To identify the sources of funding for the institution and proportion of the budget that is derived from each source
24. To identify the pre-service education and training programs offered by the institution, their entry requirements and enrolment descriptive
25. To identify the post-graduate education and training programs offered by the institution, their entry requirements and enrolment descriptive
26. To identify the continuing education programs offered by the institution and the number of enrolments

Form C: Health facilities

27. To determine the employee demographics in health facilities
28. To identify the pharmaceutical services provided and cadres responsible for providing each service
29. To identify policies regarding recruitment, salary increases, performance management and support for further training and education for pharmaceutical cadres
30. To quantify the level of attrition and recruitment in each facility
31. To examine the number of vacancies and reasons for unfilled positions in each facility

Form D: Pharmaceutical manufacturers, wholesalers and medical stores

32. To determine the employee demographics in pharmaceutical manufacturers, wholesalers and medical stores
33. To identify the pharmaceutical functions conducted and cadres responsible for undertaking each function
34. To identify policies regarding recruitment, salary increases, performance management and support for further training and education for pharmaceutical cadres
35. To quantify the level of attrition and recruitment in each facility
36. To examine the number of vacancies and reasons for unfilled positions in each facility

Form E: Job satisfaction

37. To identify relationships between demographics and job satisfaction
38. To analyze incentive structures for different cadres and workplace types
39. To identify the prevalence of performance management practices
40. To explore trends in salary payment delays
41. To examine workplace safety and harassment by workplace types
42. To identify future trends in attrition
43. To describe the general level of job satisfaction
44. To examine job satisfaction traits

Form E incorporates an adapted version of the validated Job Satisfaction Survey (JSS), PE Spector, 1994.

3. Objectives-specific indicators

The table below summarizes the indicators relevant to each tool and links these to the specific objectives. These indicators also provide some guidance for analysis and suggestions on how the data can be analysed and presented. The list of indicators is not exhaustive and where possible, should be supplemented by and integrated with the appropriate set of indicators used in national level for broader human resources for health monitoring systems. Guidance for the development and use of indicators for human resources is available through the publication 'Monitoring the building blocks of health systems: a handbook of indicators and their measurement strategies (WHO, 2010)':

http://www.who.int/healthinfo/systems/WHO_MBHSS_2010_section2_web.pdf

Baseline Assessment of Human Resources in the country (form A)	
Objectives	Indicators
1. To identify cadres that provide pharmaceutical services	<ul style="list-style-type: none"> List of cadres providing pharmaceutical services in the country and descriptions of their level of training
2. To identify facilities that offer pharmaceutical services or undertake pharmaceutical functions	<ul style="list-style-type: none"> List of facilities for the country that offer pharmaceutical services or undertake pharmaceutical functions
3. To describe ownership policies for each facility type offering pharmaceutical services	<ul style="list-style-type: none"> Description of ownership policies for facilities
4. To identify licensing requirements of cadres and facilities providing pharmaceutical services	<ul style="list-style-type: none"> Description of professional and facility regulations for licensure
5. To quantify the number of facilities offering pharmaceutical services by type and sector	<ul style="list-style-type: none"> Proportion of each facility type of the total Density of facilities per 10,000 population by facility type
6. To quantify trends in workforce levels and workforce supply for the past 10 years	<ul style="list-style-type: none"> Percentage change over 10 years in workforce levels and supply by pharmaceutical cadre Density of pharmaceutical human resources per 10,000 population by cadre
7. To determine the gender distribution of each cadre	<ul style="list-style-type: none"> Proportion of females for each pharmaceutical cadre
8. To quantify the number of foreign trained and foreign workforce in each cadre	<ul style="list-style-type: none"> Proportion of foreign trained and foreign workforce of the total pharmaceutical human resources by cadre

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9. To quantify the practice distribution of each cadre by facility type and sector	<ul style="list-style-type: none"> • Density of each pharmaceutical cadre per 10,000 population by facility type • Proportion of each pharmaceutical cadre by facility type and sector
10. To determine regional distribution of the pharmaceutical workforce by cadre and proportions serving the urban and rural areas	<ul style="list-style-type: none"> • Density of each pharmaceutical cadre per 10,000 population by region/district • Proportion of each cadre serving urban and rural areas in comparison to population residing in urban and rural areas
11. To identify the number of positions filled and vacant, and the projected workforce requirements within the public sector	<ul style="list-style-type: none"> • Proportion of total available positions (filled + vacant) that are vacant by pharmaceutical cadre • Percentage difference in projected requirements compared to total available positions (projected/total x 100) and currently filled positions (projected/filled x 100) by pharmaceutical cadre
12. To determine whether job descriptions exist for each cadre within the public sector	<ul style="list-style-type: none"> • List of cadres where job descriptions exist in the public sector
13. To quantify the number of retirements, dismissals, resignations and recruitments by cadre	<ul style="list-style-type: none"> • Attrition rate by pharmaceutical cadre (total attrition per annum/total workforce x 100) • Recruitment rate by pharmaceutical cadre (total recruited per annum/total workforce x 100) • Proportion of attrition due to each form of attrition by pharmaceutical cadre
14. To identify the number of letters of good standing requested per year over the past 5 years for migration purposes	<ul style="list-style-type: none"> • Description of 5 year trend in number of letters of good standing requested
15. To identify the public sector salary ranges for pharmacists by setting and level	<ul style="list-style-type: none"> • Description of salary ranges by setting and level
16. To identify the existence of and the scope of strategic pharmaceutical human resources plans	<ul style="list-style-type: none"> • Description of scope of strategic pharmaceutical human resources plans and gaps
17. To catalog the human resource development strategies that have been implemented over the past 5 years and are planned for the next 5 years by cadre	<ul style="list-style-type: none"> • Description of human resource development strategies implemented over the past 5 years and planned in the future
Assessment of education providers (form B)	
Objectives	Indicators
18. To ascertain basic descriptive information about the institution, its accreditation status and types of programs it offers	<ul style="list-style-type: none"> • Pharmacy education providers list by education level • Total enrolment capacity of education providers by cadre trained • Proportion of education providers with national and international partnerships with other higher education institutions • Proportion of education providers that are accredited

19. To identify the accessibility of computers, internet and reference materials by academic faculty and students	<ul style="list-style-type: none"> • Proportion of education providers with access to different types of educational resources
20. To quantify the academic faculty/staff workforce by qualification, level and department	<ul style="list-style-type: none"> • Total academic faculty/staff workforce by type of cadre trained • Proportion of academic faculty by qualification level and expertise area (department)
21. To determine the salary ranges for academic faculty	<ul style="list-style-type: none"> • Mean salary ranges by cadre trained, job level and public and private sectors
22. To quantify the academic faculty/staff attrition and recruitment levels and number of vacancies	<ul style="list-style-type: none"> • Attrition rate per annum by education provider (attrition/total workforce x 100) • Recruitment rate per annum by education provider (recruitment/total workforce x 100) • Vacancy rate per annum by education provider (vacancies/total filled and unfilled positions x 100)
23. To identify the sources of funding for the institution and proportion of the budget that is derived from each source	<ul style="list-style-type: none"> • Mean proportions of funding sources by education level
24. To identify the pre-service education and training programs offered by the institution, their entry requirements and enrolment descriptive	<ul style="list-style-type: none"> • List of education programs offered by education level • Summary of entry requirements for different education programs • Attrition rate from graduating cohort (graduated/enrolled x 100) • Enrolment rate (applicants/enrolled x 100)
25. To identify the post-graduate education and training programs offered by the institution, their entry requirements and enrolment descriptive	<ul style="list-style-type: none"> • List of post-graduate programs by education level • Summary of entry requirements by type of program • Number of students enrolled in post-graduate programs by education level
26. To identify the continuing education programs offered by the institution and the number of enrolments	<ul style="list-style-type: none"> • Proportion of education providers offering continuing education programs • Summary of course content and length • Description of the number individuals enrolled in continuing education programs over the past 3 years
Assessment of human resources at health facility level (form C)	
Objectives	Indicators
27. To determine the employee demographics in health facilities	<ul style="list-style-type: none"> • Proportion of the workforce by cadre • Proportion of the workforce by age group • Proportion of the workforce by gender • Proportion of the workforce that are regular or temporary employees

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<p>28. To identify the pharmaceutical services provided and cadres responsible for providing each service</p>	<ul style="list-style-type: none"> • Proportions by facility type that provide different pharmaceutical services • Proportion of facilities with non-pharmaceutical cadres providing pharmaceutical services • Correlation between types of pharmaceutical services provided and cadres employed
<p>29. To identify policies regarding recruitment, salary increases, performance management and support for further training and education for pharmaceutical cadres</p>	<ul style="list-style-type: none"> • Proportion of each facility type with job descriptions by pharmaceutical cadre • Proportion of each facility type with performance based management • Percentages of each facility type increasing salaries for each criterion
<p>30. To quantify the level of attrition and recruitment in each facility</p>	<ul style="list-style-type: none"> • Mean attrition rate for each pharmaceutical cadre by facility type (attrition/total workforce x 100) • Mean recruitment rate for each pharmaceutical cadre by facility type (recruited/total workforce x 100)
<p>31. To examine the number of vacancies and reasons for unfilled positions in each facility</p>	<ul style="list-style-type: none"> • Mean proportion of each facility type with pharmaceutical cadre vacancies • Percentages of facilities citing main reasons for positions remaining vacant
<p>Assessment of human resources at manufacturers and wholesalers (form D)</p>	
<p>Objectives</p>	<p>Indicators</p>
<p>32. To determine the employee demographics in pharmaceutical manufacturers, wholesalers and medical stores</p>	<ul style="list-style-type: none"> • Proportion of the workforce by cadre • Proportion of the workforce by age group • Proportion of the workforce by gender • Proportion of the workforce that are regular or temporary employees
<p>33. To identify the pharmaceutical functions conducted and cadres responsible for undertaking each function</p>	<ul style="list-style-type: none"> • Proportions by facility type that provide different pharmaceutical services • Proportion of facilities with non-pharmaceutical cadres providing pharmaceutical services • Correlation between types of pharmaceutical services provided and cadres employed
<p>34. To identify policies regarding recruitment, salary increases, performance management and support for further training and education for pharmaceutical cadres</p>	<ul style="list-style-type: none"> • Proportion of each facility type with job descriptions by pharmaceutical cadre • Proportion of each facility type with performance based management • Percentages of each facility type increasing salaries for each criterion
<p>35. To quantify the level of attrition and recruitment in each facility</p>	<ul style="list-style-type: none"> • Mean attrition rate for each pharmaceutical cadre by facility type • Mean recruitment rate for each pharmaceutical cadre by facility type

36. To examine the number of vacancies and reasons for unfilled positions in each facility	<ul style="list-style-type: none"> • Mean proportion of each facility type with pharmaceutical cadre vacancies • Percentages of facilities citing main reasons for positions remaining vacant
Job satisfaction of human resources in the pharmaceutical sector (form E)	
Objectives	Indicators
37. To identify relationships between demographics and job satisfaction	<ul style="list-style-type: none"> • General job satisfaction levels by gender, age group, level of education, cadre, and length of work experience
38. To analyze incentive structures for different cadres and workplace types	<ul style="list-style-type: none"> • Proportion of cadres receiving different types of incentives • Proportion of employees in each workplace type that receive different incentives
39. To identify the prevalence of performance management practices	<ul style="list-style-type: none"> • Proportion of respondents with a job description • Proportion of job descriptions cited to accurately represent the respondent's roles and responsibilities • Proportion of respondents that undergo performance review
40. To explore trends in salary payment delays	<ul style="list-style-type: none"> • Proportion of respondents that have received a delay in salary by facility type • Average length of delay in salary by facility type • Correlation between length of delay in salary by level of job satisfaction
41. To examine workplace safety and harassment by workplace types	<ul style="list-style-type: none"> • Proportion of employees by facility type that have reported harassment and lack of safety in the workplace environment
42. To identify future trends in attrition	<ul style="list-style-type: none"> • Proportion of respondents that plan to change jobs within the next two years by facility type (overall and by different demographics) • Most commonly cited sector of intended employment
43. To describe the general level of job satisfaction	<ul style="list-style-type: none"> • General level of job satisfaction according to Job Satisfaction Survey (JSS) by cadre and employment facility type
44. To examine job satisfaction traits	<ul style="list-style-type: none"> • Score for each aspect of job satisfaction according to JSS by cadre and employment facility type

4. Methods

4.1 Selection of research team

For effective data collection, a research team should be assembled and investigators trained in the use of each form. Data collection should be conducted in phases as described in Section 3.3. The research team should also clarify with their national authorities if ethical approval is required for this assessment.

A national coordinator will be selected and will work in collaboration with the Ministry of Health. S/he should have a sound knowledge of the country's pharmaceutical and human resources for health situation. This person should be of integrity and must have gained respect of colleagues in the Ministry of Health with whom s/he will be working. Ideally they would be a pharmacist. Furthermore, they must have easy access to relevant departments in the Ministry of Health, the professional body or Pharmacy Council and the major faculties of pharmacy in the country.

A total of 12 data collectors would be needed. Two data collectors will be required for each geopolitical area. Data collectors should be pharmacists, pharmacy technicians or people with social sciences qualification, good literacy and numeracy skills. An external consultant may be needed depending on the country's situation to analyse and interpret the data and publish the findings.

4.2 Training of data collectors

Training should be carried out over three days to give the data collectors a better understanding on how to gather information in a coordinated manner across the research team. The activities to be carried out during the training will be as follows:

- Day 1 Briefing on survey forms A - E
- Day 2 Field test of survey form C and E. Facilities for the field test should be selected prior to the training and official letters sent by the MoH focal point to inform these facilities to arrange dates for interviews. Form E should be administered to at least 2-3 staff in each of the visited facilities.
- Day 3 Data entry for forms C and D and debriefing. Recommendations to address any problems identified in data collection and entry

4.3 Data collection

Data collection should take place over two phases. Sampling is necessary for Phase II (Forms C, D and E)

Surveys can also be self-administered if it is not possible for a data collector to physically be present. Data collectors should ensure that all interviewees receive the relevant Information Sheet that provides background information about the assessment.

Phase 1: Forms A and B

1. Identification of potential data sources and interviewees. Set up of interview appointments for data collection.
2. Follow investigator instructions on the forms.
3. Conduct baseline assessment (Form A) in collaboration with Ministry of Health and pharmacy professional bodies (eg – Pharmacy or Health Professions Council, Pharmaceutical Society).
4. Conduct survey of all pharmacy education providers using Form B. Survey form can also be self-administered. Administer Form E to all pharmacists and pharmaceutical technicians and assistants that are working for pharmacy education providers and that are available at the time of the visit.
5. Document the number of pharmacy education providers surveyed and number responding to ascertain the response rate.
6. Use baseline assessment to identify sampling frame for Forms C and D (as per sampling protocol described in section 3.4).

Phase 2: Forms C, D and E

1. Select facilities where you will conduct the survey (see 3.4- Sampling protocol)
2. Code each facility for use in data entry and analysis (where possible, number the forms with these codes).
3. Follow investigator instructions on the forms.
4. Conduct facility level surveys in collaboration with facility managers, chief pharmacists, human resources managers. More than one contributor per facility may be required to obtain data. Survey can also be self-administered if investigator cannot be physically present.
5. Administer form E to all pharmaceutical personnel (Pharmacists, Pharmaceutical Technicians and Assistants, and Pharmacy Aides) present in the sampled facilities at the moment of the visit.
6. Document the number of facilities surveyed and the number responding to ascertain the response rate.

4.4 Sampling Protocol for forms C, D and E

4.4.1 Developing a frame and determining total number of facilities to be sampled

Information collected on the total number of facilities providing pharmaceutical services by facility type through form A (question 8) should be used to develop a sampling frame of facilities to collect information on form C. In the table below, enter the total number of each type of facility according to the following categories:

Facility type	Total number in the country
Pharmaceutical wholesalers	
Pharmaceutical manufacturers	
Medical stores	
Public sector hospitals	
Other public sector facilities	
Private sector hospitals	
Other private sector facilities	
Private retail pharmacies	
Private medicines outlets	
Other (if applicable)	

Using the table below, for each facility type, identify the minimum required sample size in order for the sample to be statistically representative. The sample size table is based on calculations which factor in a desired confidence level of 95% and confidence interval of $\pm 5\%$ (online sample size calculator, National Statistical Service of Australia website: www.nss.gov.au). As can be seen in the table, the minimum sample size required becomes less as a proportion of the total as the total number of facilities increases. Use the closest next row up if your exact number of facilities is not listed in the table. You can also use the website (www.nss.gov.au) to calculate your minimum required sample size

Minimum sample size table:

Total number	Sample size						
5	4	175	120	425	202	1,750	315
10	9	200	132	450	208	2,000	323
20	19	225	142	500	218	2,500	333
30	27	250	152	600	235	3,000	341
40	36	275	160	700	240	4,000	351
50	44	300	169	800	260	5,000	357
75	63	325	170	900	270	10,000	370
100	79	350	183	1,000	278	50,000	382
125	94	375	190	1,250	294	100,000	383
150	108	400	196	1,500	306	500,000	384

Enter the sample size required for each facility type in the table below. Add these together to obtain the total sample size:

Facility type	Total number in the country	Minimum sample size
Pharmaceutical wholesalers		
Pharmaceutical manufacturers		
Medical stores		
Public sector hospitals		
Other public sector facilities		
Private sector hospitals		
Other private sector facilities		
Private retail pharmacies		
Private medicines outlets		
Other (if applicable)		
Total number of facilities		

4.4.2 Selecting 6 geographical areas

A mix of socio-economic and geo-political scenarios should be represented in your sample. For this purpose, it is advised to select 6 geo-political areas in the country. Purposefully select the area with the capital city, the most rural or lowest income generating area and area with the economic city if this is not the same as the capital city. Then select the remaining 4 or 3 areas randomly.

Some areas in the country may be excluded due to security concerns or other logistics constraints. If the latter is the case, please indicate it in the methodology section of your report since this may have an influence on the results and may signify that your conclusions may not hold for the whole countries.

4.4.3 Selecting Facilities for form C & D

Based on the total number of facilities to be sampled in the whole country, you can determine how many facilities of each type should be selected for each area. This will be the number of facilities to be sampled for the whole country divided by 6. E.g. if the total number of retail pharmacies to be sampled in the country is 111, then the number to be sampled in each area would be $111/6=18.5$; round to the next number, which in this case would be 19. If there are an insufficient number of facilities in any given area to obtain this sample, increase the number of facilities to be surveyed in an area with more facilities.

Once you have determined the number of facilities in each area, you need to randomly select the facilities to run the survey. In order to do so, you need a list of facilities of each type that are present in the area. Each facility should be numbered.

There are many ways in which to randomly select facilities. One way is to use online sites that generate random numbers within a range (eg - <http://www.random.org/integers/>). Another way is to manually select facilities using the following method. Once you have the list you need to calculate the sampling interval, which depends on the total number of facilities and the number to be chosen. For example, if there are 300 public facilities and you need to select 10, then the sampling interval will be $300/10=30$. You will then pick a number between 1 and 30, for instance 11. After that, you will select the 11th facility on the list, then you will add your sampling interval and select the 41st facility on the list and continue like this until you have 10 public health facilities. You then repeat the process for all types of facilities.

If you cannot obtain the list for a type of facilities (e.g. private retailers and outlets), visit all the facilities of this kind that are close to other facilities you are visiting until you have reached the desired number of facilities. If there are not enough facilities of one kind in one geographical area, extend the list to include the closest facilities in a neighboring area.

4.4.4 Form E

Form E should be given to all pharmacists, pharmaceutical technicians and assistants and pharmacy aides that are present in the selected facilities when the survey is conducted. This includes both facilities where form C is used (facilities providing pharmaceutical services) and facilities where form D is use (wholesalers, manufacturers).

5 Data entry and analysis

5.1 Data entry

Forms A – E:

1. Enter all data into the spreadsheet according to the template instruction. Each facility level survey should be labeled with an identifying number (code) which is present on the completed survey as well as entered into the spreadsheet (rather than the name of the facility). Keep a facility code sheet with both the name and code of the facility for reference.
2. Validate the data in the spreadsheet by checking all questions for Forms A and B. For forms C, D and E check 10% of responses. For example, this means 18 questionnaires for form C (if given to 180 facilities), 3 questionnaires for form D (if given to 30 establishments). For form E, the number of questionnaires to be checked is total number of responses/10. Use an online site that generates random numbers within a range to select which questionnaires (by their numerical code) to check for each form (eg - <http://www.random.org/integers/>).
3. Document all inaccuracies in the error template of the spreadsheet. Correct all errors. If level of errors is high (for example, greater than 5%), there may be a need to recheck all responses.
4. Transfer data for forms B,C,D, E into statistical software such as Epi Info, or SPSS. All data must be in numerical form (ie – no words) for SPSS.

5.2 Data analysis

Forms A – E:

1. Quantitatively analyze data according to the indicator descriptions for each objective of the forms.
2. Use statistical software to calculate whether differences between groups are statistically significant (chi squared tests, t-tests).
3. Use statistical software to identify correlations between different variables within the dataset where applicable.

Guidance for the analysis of job satisfaction scores (Job Satisfaction Survey (JSS), PE Spector, 1994.) are available on this website:

<http://shell.cas.usf.edu/~pspector/scales/jsspag.html>.

6 Using assessment findings to inform human resources planning

It is important for assessment findings to be used to inform future pharmaceutical human resources planning that is integrated into broader human resources for health planning. This requires findings to be appropriately reported, disseminated and used. Key findings should be summarized and presented in an Assessment Report which describes the assessment objectives, methods, results, conclusions and recommendations to address issues identified in the assessment. It may be useful to also present findings in a short executive summary or factsheet which can be easily disseminated to stakeholders. Consider organizing a multi-stakeholder forum to discuss findings and identify strategies to address major pharmaceutical human resources issues through interactive focus groups. A two to three day forum may be required to identify the major human resources issues based on the assessment, define strategic objectives that respond to these issues, and activities that address these. The forum should also identify opportunities and barriers to the implementation of activities and identify key stakeholders and their roles. These components can be collated to develop a strategic framework for pharmaceutical human resources to inform broader human resources for health strategic plan development. Further guidance and tools to support human resources for health planning are available on this site:

<http://www.who.int/hrh/tools/planning/en/index.html>.

7. References

- (1) Joint Learning Initiative. Human resources for health: Overcoming the crisis. Cambridge, MA: Harvard University Press; 2004.
- (2) Chan XH, Wuliji T. 2006 FIP Global Pharmacy Workforce and Migration Report. 2006.
- (3) 2009 FIP Global Pharmacy Workforce Report. The Hague: International Pharmaceutical Federation (FIP); 2009.
- (4) Dayrit MM, Dolea C. The health workforce crisis - where are the pharmacists? International Pharmacy Journal 2006;20(1).
- (5) United Nations. Delivering on the global partnerships for achieving the Millennium Development Goals; MDG gap task force report. 2008.

Glossary

Actively practicing:

Individuals that are employed in the pharmaceutical sector or an area relating to pharmaceutical service provision, education, policy, planning, regulation or research.

Academic faculty:

The professors, teachers, and lecturers of a university, college or school.

Accreditation:

The process whereby an association or agency grants public recognition to an organization, site or program that meets certain established qualifications or standards, as determined through initial and periodic evaluations.

Attrition:

Workforce exit from a workplace or the labour market. Forms of attrition include retirement, dismissal, resignation, and migration. Also used to describe exist of enrolled students in education programs due to drop out, fails and program changes.

Biomedical laboratory scientists and related professionals:

Those who conduct tests, experiments, laboratory analyses and field research in areas such as genetics, immunology, pharmacology, toxicology, physiology, bacteriology and virology to solve human health and environmental problems. Occupations included in this category typically require university-level study in a life sciences field.

Cadre:

Professionally distinct group of the workforce defined by their roles and level of responsibility and competency.

Career structure:

Planned set of differentiated steps, posts or jobs through which one can progress professionally within a specific position or across positions over time.

Community health workers:

Provide health education, referral and follow up, case management, and basic preventive health care and home visiting services to specific communities. Occupations included in this category normally require formal or informal training and supervision recognized by the health and social services authorities. Examples of national occupation titles included here are: community health officers, community health-education workers, community health aides, family health workers, community health visitors and health extension package workers.

Compounding:

Preparation, mixing, assembling or packaging of a medicine.

Credential:

Documented evidence of professional or educational qualifications (examples include: degree, diploma, and certification).

Dispensing:

To label from stock and supply a clinically appropriate medicine to a patient or care giver and to advise on safe and effective use.

Drug information:

The provision of technical information by pharmaceutical companies to healthcare providers and health facilities on medicines, such as the indications, drug interactions, side effects, mechanism of action, dosages, formulations, administration.

Education and training:

The process by which an individual is equipped with the knowledge, skills and attitudes needed to produce the kind of performance necessary to achieve health services objectives.

Entry requirements:

Minimum academic, language, experiential, motivational and other requirements necessary in order to be considered an applicant to the program.

Extraterritorial organizations and bodies:

Includes international organizations such as the United Nations and its specialized agencies, regional bodies, diplomatic and consular missions, etc.

First stage of tertiary education:

Programmes having an advanced educational content, the successful completion of which provides the participants with a labour-market relevant qualification as pharmacist. Cumulative theoretical duration of at least 2 years, although typically they are of 4 or more years (e.g. B.Sc., B.Pharm, Pharm.D.).

Foreign:

Non-citizens or non-nationals of your country.

Foreign trained:

Individuals that have trained outside of your country. Includes nationals of your country as well as non-nationals.

Higher education:

Includes institutions providing post-secondary non-tertiary and tertiary education, including granting of qualifications in pharmacy.

Hospitals:

Includes general and specialized hospitals providing short- or long-term medical, diagnostic and treatment services, chiefly directed to inpatients.

Inventory management:

The appropriate storage of medicines and management of stock to ensure adequate supply and minimize expiration.

Internship:

A form of supervised mandatory practice experience required following graduation from pre-service education and prior to licensure (also known as registration period).

License:

A credential issued by a government or regulatory body that indicates that the holder is in compliance with minimum mandatory requirements necessary to practice in a particular profession or occupation. (Similar term: **Registration**).

Manufacturing:

Manufacture of medicinal active substances to be used for their pharmacological properties in pharmaceuticals and medical products. Includes: (1) manufacturing biological and medicinal products; (2) processing (i.e., grading, grinding, and milling) botanical drugs and herbs; (3) isolating active medicinal principals from botanical drugs and herbs; and (4) manufacturing pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

Medical stores:

Facility which is primarily responsible for the storage and distribution of pharmaceuticals and medical products to health facilities. May also be responsible for procurement.

Medicines information and advice:

The provision of technical information on medicines, such as the indications, drug interactions, side effects, mechanism of action, dosages, formulations, administration. Includes counseling patients to improve appropriate use, minimize adverse effects and optimize efficacy.

Medicines use review:

Assessment of patients' therapy to improve their understanding, identify adverse effects and propose solutions; improve adherence; and the clinical and cost effectiveness of medicines.

Newly licensed/qualified:

Individuals who have entered the labour market for the first time.

Nursing and midwifery associate professionals:

Provide basic nursing and personal care for people who are physically or mentally ill, disabled or infirm, and others in need of care due to potential risks to health including before, during and after childbirth. They generally work in support of implementation of health care, treatment and referral plans established by medical, nursing, midwifery or other health professionals. Occupations included in this category typically require knowledge and skills obtained as the result of post-secondary study in nursing or midwifery; in some cases, extensive on-the-job training may substitute for the formal education. Examples of national occupations classified here are: assistant nurse, enrolled nurse, practical nurse, assistant midwife.

Nursing and midwifery professionals:

Those who plan, provide and evaluate treatment, support and care services for people who are in need of such care due to effects of ageing, injury, illness or other physical or mental impairment, or potential risks to health including before, during and after childbirth. Occupations included in this category typically require knowledge and skills obtained as the result of study in nursing or midwifery at a higher educational institution. Examples of national occupations classified here are: nurse practitioner, clinical nurse, public health nurse, nurse anaesthetist, professional nurse, professional midwife.

Other health facilities:

Includes establishments other than hospitals providing general or specialized medical consultation and treatment, such as outpatient clinics.

Paramedical practitioners:

Provide advisory, diagnostic, curative and preventive medical services more limited in scope and complexity than those carried out by medical doctors. They work autonomously or with limited supervision of medical doctors, and apply advanced clinical procedures for treating and preventing diseases, injuries and other physical or mental impairments common to specific communities. Occupations included in this category normally require completion of tertiary-level training in theoretical and practical medical services. Examples of national occupations classified here are: clinical officer, physician assistant, primary care paramedic, surgical technician, Feldscher.

Performance management:

Process of optimizing productivity and quality of work of the workforce.

Pharmaceutical manufacturer:

Establishments primarily engaged in one or more of the following: (1) manufacturing biological and medicinal products; (2) processing (i.e., grading, grinding, and milling) botanical drugs and herbs; (3) isolating active medicinal principals from botanical drugs and herbs; and (4) manufacturing pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

Pharmaceutical services:

All service rendered by pharmaceutical staff to support the provision of pharmaceutical care. Beyond the supply of pharmaceutical products, pharmaceutical services include information, education, and communication to promote public health, the provision of medicines information and counselling, regulatory services, education and training of staff.

Pharmaceutical technicians and assistants:

Pharmaceutical technicians and assistants perform a variety of tasks associated with dispensing medicinal products under the guidance of a pharmacist, or other health professional. Occupations grouped in this category typically require knowledge and skills obtained as the result of study in pharmacy services at a higher educational institution. Examples of national occupation titles classified here are: pharmaceutical technician, pharmaceutical technologist, pharmaceutical assistant.

Pharmaceutical wholesaler:

Buys goods from a manufacturer or importer and sells it to retailers, institutional or professional users or to other wholesalers.

Pharmacists:

Pharmacists store, preserve, compound, test and dispense medicinal products and counsel on the proper use and adverse effects of drugs and medicines following prescriptions issued by medical doctors and other health professionals. They contribute to researching, preparing, prescribing and monitoring medicinal therapies for optimizing human health. Occupations included in this category normally require completion of university-level training in theoretical and practical pharmacy, pharmaceutical chemistry or a related field. Examples of national occupation titles classified here are: hospital pharmacist, industrial pharmacist, retail pharmacist, dispensing chemist.

Pharmacovigilance:

Detection, assessment, understanding and prevention of adverse effects arising from medicines use.

Pharmacy aids:

Performs simple and routine tasks such as labeling drugs, chemicals and other pharmaceutical preparations and replenishing stock on shelves. Occupations included here generally do not require extensive pharmaceutical knowledge or training.

Pharmacy education provider:

Higher education institutions responsible for delivering pre-service education and training for pharmaceutical cadres. May also administer post-graduate programs and continuing education.

Physicians (medical doctor):

Those who study, diagnose, treat and prevent illness, disease, injury, and other physical and mental impairments in humans through application of the principles and procedures of modern medicine. Occupations included in this category require completion of a university-level degree in basic medical education plus postgraduate clinical training or equivalent.

Post-graduate education:

Training that occurs after the individual has graduated from an undergraduate program. Has a defined beginning and end. Usually leads to the award of a qualification.

Prescribing:

To designate or order the use of medicines.

Pre-service education:

Training that occurs before an individual is legally able to practice pharmacy independently.

Private medicines outlets:

Outlets based in the community which sell a restricted set of medicines and medical products without prescription, such as vendors, kiosks, drug stores and sellers.

Private retail pharmacies:

Privately owned pharmacies that provide pharmaceutical services including dispensing, advising on and sales of prescription and non-prescription medicines and medical products.

Procurement:

The processes involved in identifying and securing adequate supplies of medicines at affordable prices with an appropriate standard of quality. It includes all activities related to the management of the medicines supply chain.

Quality assurance and quality control (pharmaceuticals):

A system of processes and assessments in pharmaceutical manufacturers to ensure quality and integrity of pharmaceutical and medical products.

Recruitment:

Process of searching for personnel to enter a particular job or position.

Reference books:

Books to which you can refer for authoritative facts. Eg – Martindale, pharmacopoeia.

Regular employees:

Employees with fixed-term (specified date of termination) and non fixed term contracts (contracts without limits of time where contract can only be terminated for specified causes).

Regulatory affairs:

Area of work in pharmaceutical companies that seeks to ensure compliance of pharmaceuticals and medical products with legal and regulatory frameworks.

Research and development:

Empirical investigations that improve existing and develop new pharmaceutical innovations, technologies and compounds.

Research grants:

Awarded for research purposes by research councils, foundations etc.

Salary structure:

Hierarchy of job types and grades and the associated compensation and benefits.

Sales representatives:

A pharmaceutical company employee who regularly visits physicians and office practices, providing information on the company's products.

Scope of practice:

The range of professional tasks and functions that a practitioner can perform as specified by legislation, rules, or regulations; the boundaries within which a practitioner may practice.

Second stage of tertiary education:

Programmes providing sufficient qualifications for gaining entry into advanced research programmes and professions with high skills requirements, including programmes leading to a Master's degree.

Stakeholder:

Any individual, group, or organization that has an interest or involvement in a particular activity, set of activities or outcome.

Temporary employees:

Includes employees that are casual workers and those with short-term employment. Casual workers are workers who have an explicit or implicit contract of employment which is not expected to continue for more than a short period. Workers in short-term employment are workers who hold explicit or implicit contracts of employment which are expected to last longer than the period used to define casual workers, but shorter than the one used to define regular employees.

Therapeutic drug monitoring:

The regular measurement of serum levels of drugs requiring close 'titration' of doses in order to ensure that there are sufficient levels in the blood to be therapeutically effective, while avoiding potentially toxic excess.

Third stage of tertiary education:

Programmes leading to the award of an advanced research qualification, entailing advanced study and original research (e.g. Ph.D.).

Tuition fees:

Paid by the student to undertake programs offered by the institution. Includes continuing education fees.

Unemployed:

Does not have a job but is available and actively looking for work.

Wholesaling:

The resale (sale without transformation) of pharmaceuticals and medical products to health facilities, pharmacies, outlets, or involves acting as an agent or broker in buying or selling products.

Workforce supply:

The entry of new workforce into the labour market.

References:

Some of the definitions in this glossary have been obtained and adapted from the following sources:

1. 2006 International Pharmaceutical Federation (FIP) Global Pharmacy Workforce and Migration Report: www.fip.org/hr
2. FIP Global Hospital Pharmacy Conference Glossary (2009):
[http://ajhp.highwire.org/cgi/reprint/66/5 Supplement 3/s67](http://ajhp.highwire.org/cgi/reprint/66/5_Supplement_3/s67)
3. FIP Quality Assurance Framework for Pharmacy Education (2008):
<http://www.fip.org/files/fip/Global%20Framework%20Final%20Draft.pdf>
4. World Bank. Human resources for health glossary:
<http://www.hrresourcecenter.org/node/1080>
5. Salary structure: <http://www.businessdictionary.com/definition/salary-structure.html>
6. International Labour Organization International classification of Status in Employment:
<http://www.ilo.org/public/english/bureau/stat/download/res/icse.pdf>
7. United Nations. International standard classification of all economic activities (ISIC). Revision 4.2008.
8. International Labour Organization. International Standard Classification of Occupations (ISCO-08). Group definitions: Occupations in Health. Draft 4 April 2009.

Annexes

Information sheet Form A: Baseline pharmaceutical human resources assessment

Background:

The Ministry of Health and the World Health Organization are conducting an assessment on human resources for the pharmaceutical sector. This assessment aims to improve data on pharmaceutical human resources and form the basis of policy recommendations for human resources planning.

Interview description:

We have approached you to assist in this assessment by providing baseline information on the pharmaceutical workforce in your country. This includes gathering details regarding the description, distribution and details of pharmaceutical workforce planning and policies in your country.

Confidentiality and information security:

Participation in this assessment is completely voluntary and participants may withdraw at any time without prejudice or negative consequences. All information will be kept secure and confidential. The assessment team will have access to the information arising from this interview. Information which could potentially identify participants will not be published or disclosed outside of the assessment team.

For further information please contact:

Name:

Position:

Address:

Phone:

Email:

Form A:

Baseline pharmaceutical human resources assessment

Ministry of Health, professional and regulatory bodies

Investigator instructions

Investigator name	
Investigator email	
Investigator phone	
Date assessment commenced	Click here to enter a date.
Date assessment completed	Click here to enter a date.

1. Identify information sources and potential contributors (eg – Ministry of Health and its agencies, regulatory bodies, Pharmacy Council, Pharmacy Associations etc).
2. Complete the **Information sheet for baseline pharmaceutical assessment** with the details of the relevant contact and provide a copy to every contributor.
3. Refer to the definitions to clarify the information requested in this form (defined terms are underlined).
4. Gather information from identified data sources. Document the data sources for each question.
5. Follow the instructions for each question and complete all sections of the form including the year of the data and data source (body/institution that has provided the information) where applicable.
6. If response is unknown, not applicable or is an estimate, enter the relevant abbreviation in the response key.

Part 1 General information

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

1. Pharmaceutical cadres in your country.

Please complete the table below. Tick and describe those that apply.

Data source:

Cadre (tick cadres that apply and describe)	Credential (list below)	Minimum period of education (months)	Minimum period of internship (months)
1.1 <input type="checkbox"/> Pharmacist			
1.2 <input type="checkbox"/> Pharmaceutical technicians and assistants (describe cadres which fit into this category below)			
Cadre:			
Cadre:			
Cadre:			
1.3 <input type="checkbox"/> Pharmacy aids (describe cadres which fit into this category below)			
Cadre:			
Cadre:			

2. Pharmaceutical cadre licensure (or registration) requirements.

Please complete the table.

Data source:

Cadre	Licensure requirement (tick)	Complete for cadres which are licensed	
		Licensing body (list)	Period of license validity (complete one)
2.2 Pharmacist	<input type="checkbox"/> Yes <input type="checkbox"/> No		year(s) or <input type="checkbox"/> indefinite
2.3 Pharmaceutical technicians and assistants (list cadres below from 1.2)			
Cadre:	<input type="checkbox"/> Yes <input type="checkbox"/> No		year(s) or <input type="checkbox"/> indefinite
Cadre:	<input type="checkbox"/> Yes <input type="checkbox"/> No		year(s) or <input type="checkbox"/> indefinite
Cadre:	<input type="checkbox"/> Yes <input type="checkbox"/> No		year(s) or <input type="checkbox"/> indefinite
2.4 Pharmacy aids (list cadres below from 1.3)			
Cadre:	<input type="checkbox"/> Yes <input type="checkbox"/> No		year(s) or <input type="checkbox"/> indefinite
Cadre:	<input type="checkbox"/> Yes <input type="checkbox"/> No		year(s) or <input type="checkbox"/> indefinite

3. Pharmaceutical manufacturers, wholesalers and medical stores and operating licenses.

Please complete the table.

Data source:

Facility type	Tick if applicable to your country	Tick if operating license required	Complete for facilities which are licensed	
			Licensing body	Period of operating license validity (<i>complete one</i>)
3.1 Pharmaceutical wholesalers	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
3.2 Pharmaceutical manufacturers	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
3.3 Medical stores	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite

4. Types of facilities offering pharmaceutical services and operating license requirements.

Please complete the table.

Data source:

Type of facilities offering pharmaceutical services	Tick if applicable to your country	Tick if operating license required	Complete for facilities which are licensed	
			Licensing body	Period of operating license validity (<i>complete one</i>)
4.1 Public sector hospitals	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
4.2 Other public sector health facilities	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
4.3 Private sector hospitals	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
4.4 Other private sector health facilities	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
4.5 Private retail pharmacies	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
4.6 Private medicines outlets	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite
4.7 Other (<i>describe</i>):	<input type="checkbox"/>	<input type="checkbox"/>		year(s) or <input type="checkbox"/> indefinite

5. Pharmacy ownership policies

5.1 Are there financial and/or non-financial incentives to open private pharmacies in rural areas?

Yes No

5.1a If yes describe:

5.2 Is ownership of more than one private pharmacy permitted? Yes No

5.2 a If yes, how many pharmacies can be owned by an individual or group?

Unlimited number of pharmacies Limited number (specify):

5.3 What proportion of private retail pharmacies are independently owned? %

6. Legal scope of practice for each cadre. Please tick the roles that are within the legal scope of practice for each cadre.

Data source:

Cadre	Prescribing	Administra tion of medicines	Procurement	Inventory management	Compounding	Dispensing	Medicines information and advice	Therapeutic drug monitoring	Pharma- cogvigilance	Medicines use review
6.1 Pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2 Pharmaceutical technicians and assistants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3 Pharmacy aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4 Physicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5 Clinical officers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6 Nurses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7 Midwives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.8 Nurse assistants										
6.9 Laboratory technicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.10 Community health workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments on Part 1: General information on the pharmaceutical sector

Part 2 Total number of facilities

Response key

U	Unknown
N/A	Not applicable
*	Estimate

7. Total number of pharmaceutical manufacturers, wholesalers and medical stores in your country.

Please complete the table.

Facility type	Number	Year of data	Data source
7.1 Public sector pharmaceutical manufacturers			
7.2 Public sector pharmaceutical wholesalers			
7.3 Public sector medical stores			
7.4 Private sector pharmaceutical manufacturers			
7.5 Private sector pharmaceutical wholesalers			
7.6 Private sector medical stores			

8. Total number of facilities offering pharmaceutical services in your country.

Please complete the table.

Sector	Facility type	Number	Year of data	Data source
Public sector	8.1 Public sector hospitals			
	8.2 Other public sector health facilities			
	8.3 Total public sector health facilities			
Private sector	8.4 Private sector for profit hospitals			
	8.5 Private sector not for profit hospitals			
	8.6 Other private sector for profit health facilities			
	8.7 Other private sector not for profit health facilities			
	8.8 Private retail pharmacies			
	8.9 Private medicines outlets			
Other	8.10 Other (<i>describe</i>):			
Total	8.11 Total number of facilities			

Comments on Part 2: Total number of facilities

Part 3 Total number of pharmaceutical human resources

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

9. Number of pharmaceutical human resources over time.

Please complete the table.

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Data source
Pharmacists											
9.1 Total licensed (number)											
9.2 Total actively practicing (number)											
9.3 Total newly licensed (number)											
Pharmaceutical technicians and assistants											
9.4 Total number											
9.5 Total newly qualified (number)											
Pharmacy aids											
9.6 Total number											
9.7 Total new pharmacy aids (number)											

10. Gender distribution by cadre.

Please complete the table.

Cadre	Male (number)	Female (number)	Year of data	Data source
10.1 Licensed pharmacists				
10.2 Pharmaceutical technicians and assistants				
10.3 Pharmacy aids				

11. Age group distribution by cadre.

Please complete the table.

Cadre	<30 years	30 – 49 years>	>50 years	Year of data	Data source
11.1 Licensed pharmacists					
11.2 Pharmaceutical technicians and assistants					
11.3 Pharmacy aids					

12. Foreign trained and foreign pharmaceutical human resources by cadre.

Please complete the table.

Cadre	Foreign trained (number)	Foreign (number)	Year of data	Data source
12.1 Licensed pharmacists				
12.2 Pharmaceutical technicians and assistants				
12.3 Pharmacy aids				

Comments on Part 3: Total number of pharmaceutical human resources

Part 4 Practice distribution of pharmaceutical human resources

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

13. Practice distribution of pharmacists.

Please complete the table.

Sector	Practice area	Number	Year of data	Data source
Public	13.1 Public sector hospitals			
	13.2 Other public sector health facilities			
	13.3 Public administration			
	13.4 Public pharmaceutical manufacturer			
	13.5 Public pharmaceutical wholesaler			
	13.6 Public medical stores			
	13.7 Subtotal public sector			
Private	13.8 Private sector for profit hospitals			
	13.9 Private sector not for profit hospitals			
	13.10 Other private sector for profit health facilities			
	13.11 Other private sector not for profit health facilities			
	13.12 Private retail pharmacies			
	13.13 Private medicines outlets			
	13.14 Private pharmaceutical wholesalers			
	13.15 Private pharmaceutical manufacturers			
	13.16 Private medical stores			
13.17 Subtotal private sector				
Other	13.18 Higher education			
	13.19 Extraterritorial organizations and bodies			
	13.20 Other (<i>describe</i>):			
	13.21 Subtotal other			
Not active	13.22 Unemployed			
	13.23 Inactive			
	13.24 Subtotal not active			
13.25 Total (sum of all subtotals)				

14. Practice distribution of pharmaceutical technicians and assistants.*Please complete the table.*

Sector	Practice area	Number	Year of data	Data source
Public	14.1 Public sector hospitals			
	14.2 Other public sector health facilities			
	14.3 Public administration			
	14.4 Public pharmaceutical manufacturer			
	14.5 Public pharmaceutical wholesaler			
	14.6 Public medical stores			
	14.7 Subtotal public sector			
Private	14.8 Private sector for profit hospitals			
	14.9 Private sector not for profit hospitals			
	14.10 Other private sector for profit health facilities			
	14.11 Other private sector not for profit health facilities			
	14.12 Private retail pharmacies			
	14.13 Private medicines outlets			
	14.14 Private pharmaceutical wholesalers			
	14.15 Private pharmaceutical manufacturers			
	14.16 Private medical stores			
	14.17 Subtotal private sector			
Other	14.18 Higher education			
	14.19 Extraterritorial organizations and bodies			
	14.20 Other (<i>describe</i>):			
	14.21 Subtotal other			
Not active	14.22 Unemployed			
	14.23 Inactive			
	14.24 Subtotal not active			
14.25 Total (sum of all subtotals)				

15. Practice distribution of pharmacy aids.*Please complete the table.*

Sector	Practice area	Number	Year of data	Data source
Public	15.1 Public sector hospitals			
	15.2 Other public sector health facilities			
	15.3 Public administration			
	15.4 Public pharmaceutical manufacturer			
	15.5 Public pharmaceutical wholesaler			
	15.6 Public medical stores			
	15.7 Subtotal public sector			
Private	15.8 Private sector for profit hospitals			
	15.9 Private sector not for profit hospitals			
	15.10 Other private sector for profit health facilities			
	15.11 Other private sector not for profit health facilities			
	15.12 Private retail pharmacies			
	15.13 Private medicines outlets			
	15.14 Private pharmaceutical wholesalers			
	15.15 Private pharmaceutical manufacturers			
	15.16 Private medical stores			
15.17 Subtotal private sector				
Other	15.18 Higher education			
	15.19 Extraterritorial organizations and bodies			
	15.20 Other (<i>describe</i>):			
	15.21 Subtotal other			
Not active	15.22 Unemployed			
	15.23 Inactive			
	15.24 Subtotal not active			
15.25 Total (sum of all subtotals)				

Comments on Part 4: Practice distribution of pharmaceutical human resources

17. Rural and urban distribution of pharmacies and pharmaceutical human resources.

Please complete the table (each row should add up to 100%).

	Rural (%)	Urban (%)	Year of data	Data source
17.1 Public sector pharmacies (<i>all types</i>)				
17.2 Private retail pharmacies (<i>all types</i>)				
17.3 Pharmacists				
17.4 Pharmaceutical technicians and assistants				
17.5 Pharmacy aids				

Comments on Part 5: Geographical distribution

Part 6 Public sector pharmaceutical human resources

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

18. Projected requirements and positions filled and vacant in public sector health administration.

Please complete the table.

Cadre	Ministry of Health headquarters			State, regional and district management			Year of data	Data source
	Required (number)	Filled (number)	Vacant (number)	Required (number)	Filled (number)	Vacant (number)		
18.1 Pharmacists								
18.2 Pharmaceutical technicians and assistants								
18.3 Pharmacy aids								

19. Projected requirements and positions filled and vacant in public sector health facilities.

Please complete the table.

Cadre	Hospitals			Other facilities			Year of data	Data source
	Required (number)	Filled (number)	Vacant (number)	Required (number)	Filled (number)	Vacant (number)		
19.1 Pharmacists								
19.2 Pharmaceutical technicians and assistants								
19.3 Pharmacy aids								

20. Projected requirements and positions filled and vacant in public sector health agencies.

Please list the agencies in the top row and complete the table.

Cadre	Agency:			Agency:			Year of data	Data source
	Required (number)	Filled (number)	Vacant (number)	Required (number)	Filled (number)	Vacant (number)		
20.1 Pharmacists								
20.2 Pharmaceutical technicians and assistants								
20.3 Pharmacy aids								

21. Job descriptions in the Ministry of Health.

Tick cadres they exist for.

Pharmacists Pharmacy technicians and assistants Pharmacy aids or None

Comments on Part 6 : Public sector pharmaceutical human resources

Part 7 Attrition of pharmaceutical human resources

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

22. Attrition of public sector pharmaceutical human resources over the last 12 months. *Please complete the table.*

Cadre	Attrition (number)			Recruited (number)	Year of data	Data source
	Retired	Resignations	Dismissals			
22.1 Pharmacists						
22.2 Pharmaceutical technicians and assistants						
22.3 Pharmacy aids						

23. Number of letters of good standing requested per year. *Please complete the table.*

Cadre	2005	2006	2007	2008	2009	Data source
23.1 Pharmacists						
23.2 Pharmaceutical technicians and assistants						
23.3 Pharmacy aids						

Comments on Part 7: Attrition of pharmaceutical human resources

Part 8 Public sector salaries

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

24. Annual pre-tax salary range of public sector pharmacists in local currency.

Please complete the table.

Local currency:

Employment area		Lower	Upper	Year of data	Data source
Public administration	24.1 Entry level (eg – pharmacist)				
	24.2 Mid level (eg – specialist pharmacist)				
	24.3 High level (eg – chief/head/director)				
Health Agencies	24.4 Entry level (eg – pharmacist)				
	24.5 Mid level (eg – specialist pharmacist)				
	24.6 High level (eg – chief/head/director)				
Hospitals	24.7 Entry level (eg – pharmacist)				
	24.8 Mid level (eg – specialist pharmacist)				
	24.9 High level (eg – chief/head/director)				
Other health facilities	24.10 Entry level (eg – pharmacist)				
	24.11 Mid level (eg – specialist pharmacist)				
	24.12 High level (eg – chief/head/director)				

Comments on Part 8: Salaries

Part 9 Human resources planning

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

25. Is there a national strategic plan for human resources for health development?

Yes No

If yes, please attach a copy of the plan.

25.1 If yes, state the time period for the strategic plan: year to year

26. Is there a national strategic plan for pharmaceutical human resource development?

Yes No

If yes, please attach a copy of the plan.

26.1 If yes, state the time period for the strategic plan: year to year

26.2 If yes, is the pharmaceutical human resource strategic plan part of the human resources for health strategic plan?

Yes No or Not applicable

26.3 Contents of the pharmaceutical human resources strategic plan. *Please tick the content areas that are included in the plan.*

Data source:

Cadre	Work-force supply	Recruitment	Retention	Career structure	Salary structure	Performance management	Education and training	Continuing education	Projection of human resource needs
26.4 Pharmacists	<input type="checkbox"/>								
26.5 Pharmaceutical technicians and assistants	<input type="checkbox"/>								
26.6 Pharmacy aids	<input type="checkbox"/>								

27. Strategies for pharmaceutical human resource development.

Please complete the table.

Data source:

Strategy	Implemented within the last 5 years for the following cadres (<i>tick boxes that apply</i>)	Plans to implement in next 5 years for the following cadres (<i>tick boxes that apply</i>)
27.1 Determine national pharmaceutical human resource needs (eg – projection of current and/or future requirements)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.2. Increase the production (training) of pharmaceutical human resources	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids

Pharmaceutical human resources assessment tools

	<input type="checkbox"/> None of the above	<input type="checkbox"/> None of the above
27.3 Offer unconditional scholarships for training	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.4 Offer scholarships for training on condition of public sector service for a minimum period	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.5 Offer scholarships for training on condition of rural public sector service for a minimum period	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.6 Expand the roles and responsibilities of cadres	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.7 Mandatory minimum public sector service period	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.8 Mandatory minimum rural public sector service period	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.9 Active recruitment of foreign human resources	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above

27.10 Public sector salary increase	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.11 Public sector financial incentives for service in rural areas (eg – allowances, loans)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.12 Non-financial incentives for rural public sector service (eg – study leave, CPD courses, professional support)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.13 Performance based human resources management (eg – recognition and promotion on basis of performance)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.14 Free medical care for staff (eg – free insurance, no user fees)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.15 Allow concurrent public and private sector practice (eg – public sector worker can own or work in a private practice)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above
27.16 Establish regularly updated national human resource information system (eg – brings together data on human resource levels, sector and geographic distribution, trends etc)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <input type="checkbox"/> None of the above

Comments on Part 9: Human resources planning

Information sheet Form B: Pharmacy education providers

Background:

The Ministry of Health and the World Health Organization are conducting an assessment on human resources for the pharmaceutical sector. This assessment aims to improve data on pharmaceutical human resources and form the basis of policy recommendations for human resources planning.

Interview description:

All training institutions have been approached for this assessment. We have selected your training institution and approached you to assist in this assessment by providing information on the pharmacy education and training programs offered.

Confidentiality and information security:

Participation in this assessment is completely voluntary and participants may withdraw at any time without prejudice or negative consequences. All information will be kept secure and confidential. The assessment team will have access to the information arising from this interview. Information which could potentially identify participants and training institutions will not be published or disclosed outside of the assessment team.

For further information please contact:

Name:

Position:

Address:

Phone:

Email:

Form B: Pharmacy education providers

Investigator instructions

Investigator name	
Investigator email	
Investigator phone	
Date assessment commenced	Click here to enter a date.
Date assessment completed	Click here to enter a date.

1. Identify all pharmacy education providers (for all cadres) and organize interviews in advance.
2. Complete the **Information sheet for pharmacy education providers** with the details of the relevant contact and provide a copy to every contributor.
3. Complete one separate form for each education provider.
4. Refer to the definitions to clarify the information requested in this form (defined terms are underlined).
5. Follow the instructions for each question and complete all sections of the form including the year of the data and data source (body/institution that has provided the information) where applicable.
6. If response is unknown, not applicable or is an estimate, enter the relevant abbreviation in the response key.

Part 1 General information

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

1. Institution details.

Please complete the table.

1.1 Pharmacy education provider name (eg – Faculty, Department)	
1.2 Institution name (eg – College, University)	
1.3 Institution address (physical location)	
1.4 Education and training of (tick all that apply)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids
1.5 Contributor(s) name and position	
1.6 Contributor(s) contact email and phone	

2.1 Pharmacy education provider is a (tick one):

- Unit Department School, faculty, college
 Other (describe):

2.2 Pharmacy education provider is situated within a (tick all options that apply):

- Medical school, faculty or college Health sciences school, faculty or college
 Other (describe):

or

- None of the above, provider is a stand alone institution

2.3 Year in which the pharmacy education provider was established:

2.4 Total number of enrolled students (for pre-service and post-graduate programs):

2.5 Number of formal collaborative partnerships currently in existence with other higher education institutions within your country:

2.6 Number of international formal collaborative partnerships currently in existence with other higher education institutions:

3. Institution type and accreditation status.

Complete the table. Tick options that apply.

Data source:

3.1 Institution type (tick one)	<input type="checkbox"/> Public sector <input type="checkbox"/> Private for profit <input type="checkbox"/> Private not for profit
3.2 Accreditation status (tick one)	<input type="checkbox"/> Accredited <input type="checkbox"/> Not accredited <input type="checkbox"/> Accreditation not required

4. Types of programs offered.

Please complete the table. Tick the types of programs offered at this institution.

Data source:

Cadre trained	Education and training programs			
	Pre-service	Post-graduate	Continuing education	Other(<i>list</i>)
4.1 Pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.2 Pharmaceutical technicians and assistants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4.3 Pharmacy aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Comments on Part 1: General information on the pharmaceutical sector

Part 2 Educational resources

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

5. Is there free internet access for academic faculty/staff?
 Yes No
6. Is there free internet access for students?
 Yes No
7. Do academic faculty/staff and students have access to medical and pharmaceutical scientific and professional journals published within the past 12 months?
 Yes No
8. Do academic faculty/staff have access to medical or pharmaceutical reference books published within the past 24 months?
 Yes No
9. Do students have access to medical or pharmaceutical reference books published within the past 24 months?
 Yes No
10. Which of the following literature databases does the institution subscribe to:
(tick all options that apply)
- International Pharmaceutical Abstracts (IPA)
 Pubmed/Medline
 Web of Science or None of the above.
 Web of Knowledge
 HINARI
 Other (*list*):

Comments on Part 2: Educational resources

Part 3 Academic faculty/staff

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

11. Academic faculty/staff. Please complete the table.

Only count each academic staff member once in the breakdown by highest qualification.

Data source:

Department (<i>list</i>)	Total number of academic faculty/staff	Academic faculty/staff by highest qualification:							
		Post-secondary non-tertiary education		First stage of tertiary education		Second stage of tertiary education		Third stage of tertiary education	
		Full-time	Part-time	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
11.1									
11.2									
11.3									
11.4									
11.5									
11.6									
11.7									
11.8									
11.9									
11.10									

12. Academic faculty/staff attrition and recruitment. *Please complete the table.*

Data source:

Academic faculty/ staff level	Total (number)	Retired (number)	Resignations (number)	Dismissals (number)	Vacancies (number)	Recruited (number)	Year of data
12.1 Entry level (eg – teaching assistant, junior lecturer)							
12.2 Mid level (eg – senior lecturer)							
12.3 High level (eg – professor/head)							

13. Annual pre-tax salary range of academic faculty/staff in local currency. *Please complete the table.*

Data source:

Local currency:

Academic faculty/staff level	Lower	Upper	Year of data
13.1 Entry level (eg – teaching assistant, junior lecturer)			
13.2 Mid level (eg – senior lecturer)			
13.3 High level (eg – professor/head)			

Comments on Part 3: Academic faculty/staff

Part 4 Financial resources

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

14. Sources of funding.

Please complete the table.

Data source:

Funding sources for the last academic year budget Year:	Proportion of budget (%)
14.1 Government	
14.2 Tuition fees	
14.3 Research grants	
14.4 Grants and donations from pharmaceutical industry	
14.5 Grants and donations from professional bodies	
14.6 Grants and donations from extraterritorial organizations and bodies	
14.7 Other (<i>list</i>):	
14.8 Other (<i>list</i>):	

Comments on Part 4: Financial resources

Part 5 Pre-service education and training programs

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

15. Does this institution offer pre-service programs?

Yes No

If yes, complete Part 5

16. Pre-service pharmacy education and training programs offered by the institution and entry requirements.

Please complete the table.

Program name (list)	Credential awarded (list)	Graduating cadre (list)	Education level (tick)	Entry requirements (describe)
16.1			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.2			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.3			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.4			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.5			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.6			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.7			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.8			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	
16.9			<input type="checkbox"/> Post-secondary non-tertiary <input type="checkbox"/> First stage tertiary	

17. Pre-service pharmacy education and training programs offered by the institution.

Please complete the table based on programs listed in question Tick options that apply.

Data source:

Local currency:

Program name (list)	Program length (months)	Part time study permitted (tick)	Distance study permitted (tick)	Tuition fees per annum (local currency)	Current annual intake (number)	Full scholarships available per annum (number)	Most recent graduating cohort			Institutional autonomy to increase enrolment (tick)
							Year:			
							Applicants (number)	Original intake (number)	Graduates (number)	
Post-secondary non-tertiary education										
17.1		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
17.2		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
17.3		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
17.4		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
Post-secondary first stage tertiary education										
17.5		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
17.6		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
17.7		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
17.8		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
17.9		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>

Comments on Part 5: Pre-service education and training programs

Part 6 Post-graduate education and training programs

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

18. Does this institution offer post-graduate programs?

Yes No

If yes, complete Part 6. If no, skip to Part 7.

19. Post-graduate pharmacy education and training programs offered by the institution and entry requirements.

Please complete the table.

Program name (list)	Credential awarded (list)	Graduating cadre (list)	Education level (tick)	Entry requirements (describe)
19.1			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.2			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.3			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.4			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.5			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.6			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.7			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.8			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.9			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.10			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.11			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	

Program name (list)	Credential awarded (list)	Graduating cadre (list)	Education level (tick)	Entry requirements (describe)
19.12			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.13			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.14			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.15			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.16			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.17			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	
19.18			<input type="checkbox"/> Second stage tertiary <input type="checkbox"/> Third stage tertiary	

20. Post-graduate pharmacy education and training programs offered by the institution.

Please complete the table based on programs listed in question 15. Tick options that apply.

Data source: Local currency:

Program name (list)	Program length (months)	Part time study permitted (tick)	Distance study permitted (tick)	Tuition fees per annum (local currency)	Current annual intake (number)	Full scholarships available per annum (number)	Most recent graduating cohort Year:			Institutional autonomy to increase enrolment (tick)
							Applicants (number)	Original intake (number)	Graduates (number)	
Second stage tertiary education										
20.1		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.2		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.3		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.4		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.5		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.7		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.8		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.9		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.10		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
Third stage tertiary education										
20.11		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.12		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.13		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.14		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.15		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.16		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.17		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>
20.18		<input type="checkbox"/>	<input type="checkbox"/>							<input type="checkbox"/>

Comments on Part 6: Post-graduate education and training programs

Part 7 Continuing education programs

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

21. Does this institution offer continuing education programs? Yes No

If yes, complete Part 7

22. Continuing education pharmacy programs offered by the institution and entry requirements. *Please complete the table.*

Program name (list)	Target cadre (tick)	Program length (hours)	Number enrolled		
			2007	2008	2009
22.1	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			
22.2	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			
22.3	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			
22.4	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			
22.5	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			
22.6	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			
22.7	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			
22.8	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(list):			

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22.9	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.10	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.11	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.12	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.13	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.14	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.15	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.16	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.17	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.22	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.20	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				
22.20	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants	<input type="checkbox"/> Pharmacy aids <input type="checkbox"/> Other(<i>list</i>):				

Comments on Part 7: Continuing education programs

Information sheet Form C: For Health facilities

Background:

The Ministry of Health and the World Health Organization are conducting an assessment on human resources for the pharmaceutical sector. This assessment aims to improve data on pharmaceutical human resources and form the basis of policy recommendations for human resources planning.

Interview description:

We have selected your facility and approached you to assist in this assessment by providing information regarding demographics of your employees, pharmaceutical services, and human resources management policies.

Confidentiality and information security:

Participation in this assessment is completely voluntary and participants may withdraw at any time without prejudice or negative consequences. All information relating to the identity of participants and facilities will be kept secure and confidential. The assessment team will have access to the information arising from this interview. Information which could potentially identify participants or health facilities will not be published or disclosed outside of the assessment team.

For further information please contact:

Name:

Position:

Address:

Phone:

Email:

Form C: Health facilities

Investigator instructions

Investigator name	
Investigator email	
Investigator phone	
Date assessment commenced	Click here to enter a date.
Date assessment completed	Click here to enter a date.

1. Identify health facilities as per sampling protocol.
2. Enter the health facility's details in the coding sheet. Use the facility code for data entry and analysis.
3. Complete the **Information sheet for health facilities** with the details of the relevant contact and provide a copy to every contributor.
4. Refer to the definitions to clarify the information requested in this form (defined terms are underlined in this form).
5. Follow the instructions for each question and complete all sections of the form including the year of the data and data source (body/institution that has provided the information) where applicable.
6. If response is unknown, not applicable or is an estimate, enter the relevant abbreviation in the response key.

Basic health facility information

1. Contact information and basic details. *Please complete the table below.*

1.1 Health facility name	
1.2 Health facility address (<i>physical location</i>)	
1.3 Facility type (<i>tick option that applies</i>)	<input type="checkbox"/> Public sector hospitals <input type="checkbox"/> Other public sector health facilities <input type="checkbox"/> Private sector for profit hospitals <input type="checkbox"/> Other private sector for profit health facilities <input type="checkbox"/> Private sector not for profit hospitals <input type="checkbox"/> Other private sector not for profit health facilities <input type="checkbox"/> Private retail pharmacies <input type="checkbox"/> Private medicines outlets
1.4 Pharmaceutical cadres employed (<i>tick all that apply</i>)	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <i>Do not complete Part 3 if no pharmaceutical cadres are employed by the facility</i>
1.5 Contributor(s) name and position	
1.6 Contributor(s) contact email and phone	

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

Part 1 Employees

2. Health workforce cadres employed by this health facility.

Please complete the table.

Cadre	Total (number)	Gender (number)		Age group (number)			Contract type	
		Female	Male	<30 years	30–49 years	>50 years	Regular	Temporary
2.1 Pharmacists								
2.2 Pharmaceutical technicians and assistants								
2.3 Pharmacy aids								
2.4 Physicians								
2.5 Paramedical practitioners								
2.6 Nursing and midwifery professionals								
2.7 Nursing and midwifery associate professionals								
2.8 Biomedical laboratory scientists and related professionals								
2.9 Community health workers								
2.10 Others (<i>list</i>):								

Comments on Part 1: Employees

Part 2 Pharmaceutical services

3. Pharmaceutical services provided at this facility. *Please complete the table. Tick all options that apply.*

	Prescribing	Administration of medicines	Procurement	Inventory management	Compounding	Dispensing	Medicines information and advice	Therapeutic drug monitoring	Pharmacovigilance	Medicines use review
3.1 Services offered by this facility										
<i>Tick if offered</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadre providing services at this facility										
3.2 Pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3 Pharmaceutical technicians and assistants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4 Pharmacy aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5 Physicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6 Paramedical practitioners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7 Nursing and midwifery professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8 Nursing and midwifery associate professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9 Biomedical laboratory scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10 Community health workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Others (<i>list</i>):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments on Part 2: Pharmaceutical services

Part 3 Human resources management

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

4. Is your facility directly responsible for the recruitment of pharmaceutical human resources?

Yes No

If no, which of the following are responsible? *Tick option that applies*

- 4.1 Ministry of Health
4.2 Regional health authority
4.3 District health authority
4.4 Other (*list*):

5. Does your facility have job descriptions for pharmaceutical cadres? Yes No

If yes, tick all that apply

- 5.1 Pharmacists or Not applicable (cadre not employed)
5.2 Pharmaceutical technicians and assistants or Not applicable (cadre not employed)
5.3 Pharmacy aids or Not applicable (cadre not employed)

6. Does this facility assess the performance of pharmaceutical cadres? Yes No

If yes, how is performance assessed? *Tick all that apply*

- 6.1 Against job descriptions
6.2 Against performance targets
6.3 Against competency frameworks or standards of practice
6.4 Other (*describe*):

7. Which of the following are included in the criteria for pay increases at this facility?

Tick all that apply.

- 7.1 Years worked
7.2 Further education and training
7.3 Performance
7.4 Responsibilities
7.5 Other (*list*):

8. How many hours are usually worked per week by pharmaceutical cadres?

State number of hours

- 8.1. Pharmacists: or Not applicable

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8.2. Pharmaceutical technicians and assistants: or Not applicable

8.3. Pharmacy aids: or Not applicable

9. Does this facility provide support to pharmaceutical cadres for further training and education?

Yes No

If yes, indicate forms of support provided to each pharmaceutical cadre. *Tick all that apply.*

Cadre	In-service training	Financial support for conference attendance	Financial support for training and education	Paid study leave	Unpaid study leave	Other (describe)
9.1 Pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9.1 Pharmaceutical technicians and assistants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9.3 Pharmacy aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Attrition of pharmaceutical cadres over the past year.

Please complete the table.

Cadre	Retired (number)	Resignations (number)	Dismissals (number)	Recruited (number)	Year of data
10.1 Pharmacists					
10.2 Pharmaceutical technicians and assistants					
10.3 Pharmacy aids					

11. Does this facility have any unfilled positions (vacancies) at present? Yes No

If yes, state the reason why the position(s) have remained unfilled:

11.1 No applications received

11.2 Unsuitable candidates

11.3 Recruitment embargo

11.4 Other (describe):

Comments on Part 3: Human resources management

Information sheet Form D: For pharmaceutical manufacturers, wholesalers and medical stores

Background:

The Ministry of Health and the World Health Organization are conducting an assessment on human resources for the pharmaceutical sector. This assessment aims to improve data on pharmaceutical human resources and form the basis of policy recommendations for human resources planning.

Interview description:

We have selected your facility and approached you to assist in this assessment by providing information regarding demographics of your employees, pharmaceutical services, and human resources management policies.

Confidentiality and information security:

Participation in this assessment is completely voluntary and participants may withdraw at any time without prejudice or negative consequences. All information relating to the identity of participants and facilities will be kept secure and confidential. The assessment team will have access to the information arising from this interview. Information which could potentially identify participants and facilities will not be published or disclosed outside of the assessment team.

For further information please contact:

Name:

Position:

Address:

Phone:

Email:

Form D:

Pharmaceutical manufacturers, wholesalers and medical stores

Investigator instructions

Investigator name	
Investigator email	
Investigator phone	
Date assessment commenced	Click here to enter a date.
Date assessment completed	Click here to enter a date.

1. Identify pharmaceutical manufacturers, wholesalers and medical stores as per sampling protocol.
2. Enter the facility's details in the coding sheet. Use the facility code for data entry and analysis.
3. Complete the **Information sheet for pharmaceutical manufacturers, wholesalers and medical stores** with the details of the relevant contact and provide a copy to every contributor.
4. Refer to the definitions to clarify the information requested in this form (defined terms are underlined).
5. Follow the instructions for each question and complete all sections of the form including the year of the data and data source (body/institution that has provided the information) where applicable.
6. If response is unknown, not applicable or is an estimate, enter the relevant abbreviation in the response key.

Basic facility information

1. Contact information and basic details.

Please complete the table below.

1.1 Facility name	
1.2 Facility address <i>(physical location)</i>	
1.3 Facility type <i>(tick option that applies)</i>	<input type="checkbox"/> Public sector pharmaceutical manufacturer <input type="checkbox"/> Public sector pharmaceutical wholesaler <input type="checkbox"/> Public sector medical stores <input type="checkbox"/> Private sector pharmaceutical manufacturer <input type="checkbox"/> Private sector pharmaceutical wholesaler <input type="checkbox"/> Private sector medical stores
1.4 Pharmaceutical cadres employed <i>(tick all that apply)</i>	<input type="checkbox"/> Pharmacists <input type="checkbox"/> Pharmaceutical technicians and assistants <input type="checkbox"/> Pharmacy aids <i>Do not complete Part 3 if no pharmaceutical cadres are employed by the facility</i>
1.5 Contributor(s) name and position	
1.6 Contributor(s) contact email and phone	

Part 1 Employees

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

2. Cadres employed by this facility. *Please complete the table.*

Cadre	Total (number)	Gender (number)		Age group (number)			Contract type	
		Female	Male	<30 years	30 – 49 years	>50 years	Regular	Temporary
2.1 Pharmacists								
2.2 Pharmaceutical technicians and assistants								
2.3 Pharmacy aids								
2.4 Physicians								
2.5 Paramedical practitioners								
2.6 Nursing and midwifery professionals								
2.7 Nursing and midwifery associate professionals								
2.8 Biomedical laboratory scientists and related professionals								
2.9 Others (<i>list</i>):								

Comments on Part 1: Employees

Part 2 Pharmaceutical functions

3. Pharmaceutical functions performed at this facility. Please complete the table. Tick all options that apply.

	Procurement	Inventory management	Manufacturing	Quality assurance and quality control	Regulatory affairs	Drug information	Sales representatives	Wholesaling	Research and development
3.1 Function performed by this facility									
<i>Tick if performed</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadre providing services at this facility									
3.2 Pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3 Pharmaceutical technicians and assistants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4 Pharmacy aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5 Physicians	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6 Paramedical practitioners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7 Nursing and midwifery professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8 Nursing and midwifery associate professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9 Biomedical laboratory scientists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10 Others (<i>list</i>):	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments on Part 2: Pharmaceutical services

Part 3 Human resources management

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

4. Is your facility directly responsible for the recruitment of pharmaceutical human resources?

Yes No

If no, which of the following are responsible? *Tick option that applies*

4.1 Ministry of Health

4.2 National office

4.3 Regional office

4.4 Other (*list*):

5. Does your facility have job descriptions for pharmaceutical cadres? Yes No

If yes, tick all that apply

a. Pharmacists or Not applicable (cadre not employed)

b. Pharmaceutical technicians and assistants or Not applicable (cadre not employed)

c. Pharmacy aids or Not applicable (cadre not employed)

6. Does this facility assess the performance of pharmaceutical cadres? Yes No

If yes, how is performance assessed? *Tick all that apply*

6.1 Against job descriptions

6.2 Against performance targets

6.3 Against competency frameworks or standards of practice

6.4 Other (*describe*):

7. Which of the following are included in the criteria for pay increases at this facility?

Tick all that apply.

d. Years worked

e. Further education and training

f. Performance

g. Responsibilities

h. Other (*list*):

8. How many hours are usually worked per week by pharmaceutical cadres?

State number of hours

- i. Pharmacists: or Not applicable
 j. Pharmaceutical technicians and assistants: or Not applicable
 k. Pharmacy aids: or Not applicable

9. Does this facility provide support to pharmaceutical cadres for further training and education?

- Yes No

If yes, indicate forms of support provided to each pharmaceutical cadre. *Tick all that apply.*

Cadre	In-service training	Financial support for conference attendance	Financial support for training and education	Paid study leave	Unpaid study leave	Other (describe)
9.1 Pharmacists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9.1 Pharmaceutical technicians and assistants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9.3 Pharmacy aids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

10. Attrition of pharmaceutical cadres over the past year.

Please complete the table.

Cadre	Retired (number)	Resignations (number)	Dismissals (number)	Recruited (number)	Year of data
10.1 Pharmacists					
10.2 Pharmaceutical technicians and assistants					
10.3 Pharmacy aids					

11. Does this facility have any unfilled positions (vacancies) at present? Yes No

If yes, state the reason why the position(s) have remained unfilled:

- 11.1 No applications received
 11.2 Unsuitable candidates
 11.3 Recruitment embargo
 11.4 Other (describe):

Comments on Part 3: Human resources management

Information sheet Form E: Job satisfaction

Background:

The Ministry of Health and the World Health Organization are conducting an assessment on human resources for the pharmaceutical sector. This assessment aims to improve data on pharmaceutical human resources and form the basis of policy recommendations for human resources planning.

Survey description:

We have randomly selected you to provide your perspective on job satisfaction and pharmaceutical human resource issues. This information will be used to develop an understanding of roles and working conditions.

Confidentiality and information security:

Participation in this survey is completely voluntary and participants may withdraw at any time without prejudice or negative consequences. All information will be kept secure and confidential. The research team will have access to the data collected in this study. Information which could potentially identify respondents and facilities will not be published or disclosed outside of the research team.

For further information please contact:

Name:

Position:

Address:

Phone:

Email:

Form E: Job satisfaction

Investigator instructions

Investigator name	
Investigator email	
Investigator phone	
Date assessment commenced	Click here to enter a date.
Date assessment completed	Click here to enter a date.

1. Identify facilities as per protocol and disseminate the survey to all pharmaceutical cadres present in the facility.
2. Enter the facility's details in the coding sheet. Use the facility code for data entry and analysis.
3. Complete the **Information sheet for job satisfaction** with the details of the relevant contact and provide a copy to every contributor.
4. Refer to the definitions to clarify the information requested in this form.
5. Responses in this survey should be given with regard to the facility in which this survey is being conducted and not other facilities where the contributor may be employed.
6. Follow the instructions for each question and complete all sections of the form.
7. If response is unknown, not applicable or is an estimate, enter the relevant abbreviation in the response key.

Basic facility information

1. Facility type and basic details. Please complete the table below.

<p>1.1 Facility type (Tick one)</p>	<p><i>Health facility:</i></p> <p><input type="checkbox"/> Public sector hospitals</p> <p><input type="checkbox"/> Other public sector health facilities</p> <p><input type="checkbox"/> Private sector for profit hospitals</p> <p><input type="checkbox"/> Other private sector for profit health facilities</p> <p><input type="checkbox"/> Private sector not for profit hospitals</p> <p><input type="checkbox"/> Other private sector not for profit health facilities</p> <p><input type="checkbox"/> Private retail pharmacies</p> <p><input type="checkbox"/> Private medicines outlets</p> <p><i>Pharmaceutical manufacturer and wholesaler:</i></p> <p><input type="checkbox"/> Public sector pharmaceutical manufacturer</p> <p><input type="checkbox"/> Public sector pharmaceutical wholesaler</p> <p><input type="checkbox"/> Public sector medical stores</p> <p><input type="checkbox"/> Private sector pharmaceutical manufacturer</p> <p><input type="checkbox"/> Private sector pharmaceutical wholesaler</p> <p><input type="checkbox"/> Private sector medical stores</p>
<p>1.2 Facility address (physical location)</p>	
<p>1.3 Pharmaceutical cadres employed in this facility (tick all that apply)</p>	<p><input type="checkbox"/> Pharmacists</p> <p><input type="checkbox"/> Pharmaceutical technicians and assistants</p> <p><input type="checkbox"/> Pharmacy aids</p>

Part 1 Basic information

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

2. Cadre.

Please tick one.

Pharmacist Pharmaceutical technician or assistant Pharmacy aid

Other (describe):

3. Gender. *Please tick one.*

Male Female

4. Age group.

Please tick one.

<30 years 30 - 49 years >50 years

5. Residential status in this country.

Please tick one.

Citizen Permanent resident Other

6. Qualifications.

Please tick all options that apply.

- Secondary school (eg – high school)
- Post-secondary non-tertiary (eg – diploma, certificate)
- First-stage tertiary (eg – entry level degree: BPharm, MPharm, PharmD)
- Second-stage tertiary (eg – Masters degree)
- Third-stage tertiary (eg – PhD degree)
- Other (*describe*):

7. Total length of pharmaceutical work experience to date.

Please complete.

Years Months

Comments on Part 1: Basic information

Part 2 The workplace

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

8. **Contract type.** *Please tick one.*

- Regular Temporary

9. **Number of hours usually worked per week.** *Please complete.*

Hours

10. **Total length of employment in this facility to date.** *Please complete.*

Years Months

11. **Pharmaceutical roles you perform in this facility.**

Tick options that apply in your current position.

- | | |
|---|--|
| <input type="checkbox"/> Prescribing | <input type="checkbox"/> Administration of medicines |
| <input type="checkbox"/> Procurement | <input type="checkbox"/> Inventory management |
| <input type="checkbox"/> Compounding | <input type="checkbox"/> Dispensing |
| <input type="checkbox"/> Medicines information and advice | <input type="checkbox"/> Therapeutic drug monitoring |
| <input type="checkbox"/> Pharmacovigilance | <input type="checkbox"/> Medicines use review |
| <input type="checkbox"/> Manufacturing | <input type="checkbox"/> Quality assurance and quality control |
| <input type="checkbox"/> Regulatory affairs | <input type="checkbox"/> Drug information |
| <input type="checkbox"/> Sales | <input type="checkbox"/> Wholesales |
| <input type="checkbox"/> Research and development | <input type="checkbox"/> Education and training |
| <input type="checkbox"/> Other (<i>describe</i>): | |

12. **Do you have a job description for your position?** *Please tick.*

- Yes No

12.1 If yes, which of the following statements best describe your job description?

Please tick one.

- My job description accurately describes my current roles and responsibilities.
- I undertake roles and responsibilities beyond what is described in my job description.
- My job description includes roles and responsibilities which I do not undertake.

13. **Is your job performance reviewed at least once a year?** *Please tick.*

- Yes No

If yes, is your performance measured: *Please tick.*

- 13.1 against a job description? Yes No
- 13.2 against performance targets? Yes No
- 13.3 against competency frameworks or standards of practice? Yes No

13.4 in other ways? *Describe.*

14. Employment incentives.

Tick all that apply in your current position.

- | | |
|--|--|
| <input type="checkbox"/> Free healthcare for myself (only) | <input type="checkbox"/> Free healthcare for myself and my family |
| <input type="checkbox"/> Partial healthcare coverage for myself (only) | <input type="checkbox"/> Partial healthcare coverage for myself and family |
| <input type="checkbox"/> Free housing or housing allowance | <input type="checkbox"/> Food allowance |
| <input type="checkbox"/> Transportation allowance | <input type="checkbox"/> School fees allowance for children |
| <input type="checkbox"/> Paid study leave | <input type="checkbox"/> Unpaid study leave |
| <input type="checkbox"/> Sponsored education and training | <input type="checkbox"/> Pension |
| <input type="checkbox"/> Paid sick leave | <input type="checkbox"/> Paid annual leave |

15. Does your workplace permit you to undertake continuing education or professional development activities (training, seminars, workshops) during work hours?

- Yes No

16. Have you ever experienced a delay in your pay in your current position?

- Yes No

16.1 If yes, what is the average length of the delay? *Please complete.*

Days

17. Do you feel that your workplace provides a safe environment (secure, healthy, risk-free) for you to perform your roles and responsibilities?

- Yes No

18. Have you ever experienced any form of harassment (verbal/physical/psychological) in this workplace from:

Please tick.

- | | | |
|---------------------------------|------------------------------|-----------------------------|
| 18.1 senior member(s) of staff? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 18.2 other member(s) of staff? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| 18.3 clients or patients? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

19. Have you ever experienced any sexual harassment in this workplace?

Please tick.

- Yes No

Comments on Part 2: Pharmaceutical services

Part 3 Future intentions

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

20. Do you intend to change your job within the next two years?

- Yes No Unsure

If yes, which sector of employment do you wish to change to? *Tick one.*

- Public sector administration or management
- Public sector hospital or health facility
- Private for profit hospital or health facility
- Private not for profit hospital or health facility
- Private retail pharmacy or medicines outlets
- Pharmaceutical manufacturer or wholesaler
- Education, training or research institution (University, College, Institute)
- Extraterritorial organizations and bodies (international organizations, non-governmental organizations)

21. Do you plan to migrate abroad within the next two years?

- Yes No

21.1 If yes, what period of time do you plan to remain abroad for?

- < 2 years >2 years

Comments on Part 3: Future intentions

Response key	
U	Unknown
N/A	Not applicable
*	Estimate

Part 4 Job satisfaction

Adapted from the Job Satisfaction Survey (JSS), PE Spector, 1994.

Tick the response that best reflects your opinion.

	Disagree very much	Moderately disagree	Disagree slightly	Agree slightly	Moderately agree	Agree very much
22. I feel I am being paid a fair amount for the work I do.	<input type="checkbox"/>					
23. There is really too little chance for promotion on my job.	<input type="checkbox"/>					
24. My supervisor is quite competent in doing his/her job.	<input type="checkbox"/>					
25. I am not satisfied with the benefits I receive in my job.	<input type="checkbox"/>					
26. When I do a good job, I receive the recognition for it that I should receive.	<input type="checkbox"/>					
27. Many of our rules and procedures make doing a good job difficult.	<input type="checkbox"/>					
28. I like the people I work with.	<input type="checkbox"/>					
29. I sometimes feel my job is meaningless.	<input type="checkbox"/>					
30. Communications seem good within my workplace.	<input type="checkbox"/>					
31. Salary raises are too few and far between.	<input type="checkbox"/>					
32. Those who do well on the job have a fair chance of being promoted.	<input type="checkbox"/>					

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	Disagree very much	Moderately disagree	Disagree slightly	Agree slightly	Moderately agree	Agree very much
33. My supervisor is unfair to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. The benefits we receive are as good as most other employers offer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. I do not feel that the work I do is appreciated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. My efforts to do a good job are seldom blocked by bureaucracy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. I find I have to work harder at my job because of the incompetence of people I work with.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. I like doing the things I do at work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. The goals of this workplace are not clear to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. I feel unappreciated by the employer when I think about what they pay me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. People get ahead as fast here as they do in other places.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. My supervisor shows too little interest in the feelings of subordinates.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. The incentive package we have is equitable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. There are few rewards for those who work here.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45. I have too much to do at work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46. I enjoy my coworkers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47. I often feel that I do not know what is going on with the workplace.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48. I feel a sense of pride in doing my job.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49. I feel satisfied with my chances for salary increases.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Disagree very much	Moderately disagree	Disagree slightly	Agree slightly	Moderately agree	Agree very much
50. There are incentives we do not have which we should have.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
51. I like my supervisor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
52. I have too much paperwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
53. I don't feel my efforts are rewarded the way they should be.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
54. I am satisfied with my chances for promotion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
55. There is too much bickering and fighting at work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
56. My job is enjoyable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
57. Work assignments are not fully explained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing this survey. Please hand in completed surveys to the data collector.