Pharmaceutical Situation in Jamaica

WHO Assessment of Level II - Health Facilities and Household Survey

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Conflict of interest statement

None of the authors of this survey or anyone who participated or collaborated in any phase of the planning, field work, analysis or interpretation of the results had any competing financial or other interests.

Abbreviations and acronyms

ACP	African, Caribbean and Pacific
ARI	Acute respiratory infection
bd	*Bis die* (Latin for “twice a day”)
CIA	Central Intelligence Agency (of the United States of America)
CRDTL	Caribbean Regional Drug Test Laboratory
DHI	Development Human Index
DTCs	Drugs and Therapeutics Committees
EML	Essential Medicines List
EU	European Union
GDP	Gross domestic product
HCL	Health Corporation Limited
HFS	Health Facility Survey
IMCI	Integrated management of childhood illness
INN	International Non-proprietary Name
J$	Jamaican dollar
JADEP	Jamaica Drugs for the Elderly Program
mg	Milligrams
ml	Milliliter
MOH	Ministry of Health
NAF/ENSP/Fiocruz	Center for Pharmaceutical Policies/Sérgio Arouca National School of Public Health/Oswaldo Cruz Foundation (Núcleo de Assistência Farmacêutica/Escola Nacional de Saúde Pública Sérgio Arouca/ Fundação Oswaldo Cruz)
NGO	Non-governmental organizations
NHF	National Health Fund
NMP	National Medicines Policy
NPP	National Pharmaceutical Policy
ORS	Oral rehydration salts
PAHO	Pan American Health Organization
PIOJ	Planning Institute of Jamaica
RDU	Rational drug use
RHA	Regional Health Authority
RUM	Rational use of medicine
SES	Socioeconomic Status
SF	Survey Formulary
STATIN	Statistical Institute of Jamaica
STG	Standard Treatment Guidelines
STI	Sexually transmitted disease
tab	Tablet
td	Twice daily
UNDP	United Nation Development Program
UNICEF	United Nations Children’s Fund

URTI	Upper respiratory tract infection
US$	United States dollar
UTECH	University of Technology
UWI	University of the West Indies
UTI	Urinary tract infection
VEN List	Vital, Essential and Necessary List
WHO	World Health Organization

Foreword

In consonance with Ministry of Health's mandate of "Ensuring the provision of quality health services and to promote healthy lifestyles and environmental practices," I am honoured to present the results of the Pharmaceutical Situation Assessment in Jamaica. The publication report was developed with the technical and financial support from the collaboration of the Pan-American Health Organization/World Health Organization (PAHO/WHO), through the EU/WHO ACP Project "Partnership on Pharmaceutical Policies" and The Centre for Pharmaceutical Policies of the Oswaldo Cruz Foundation in Brazil, PAHO/WHO Collaborating Centre on Pharmaceutical Policies.

The publication report reflects the efforts of the Ministry to provide to the Jamaican citizens medicines of ensured quality and safety and to promote their rational use. The gaps identified are an important resource to inform the development of the National Pharmaceutical Policy. Importantly, it will facilitate the efforts of the Ministry of Health, its Agencies and related organizations, to continue improving the quality of care across the island.

Hon. Dr. Fenton Ferguson
Minister of Health

Executive summary

Country background - Health and pharmaceutical sector

The island of Jamaica lies about 885 km south of Miami, 145 km south of Cuba and 161 km west of Haiti and is located almost at the centre of the Caribbean Sea. It is the largest of the English-speaking Commonwealth Caribbean Islands, and the third-largest island in the region covering an area of 10,999 km^2. The island is divided into three counties and subdivided into 14 parishes.

The population of Jamaica in the year 2006 was 2,673,816. The population growth rate was 0.5% and the total fertility rate was 2.5% and females represented 50.7% of the population. The crude birth rate was 17.04 per 1,000 of population. Infant mortality rate was 19.99 deaths per 1,000 live births. Life expectancy at birth was 73.12 years and 32.5% of the population was below the age of 15 years. The average population density was estimated at 660 per square miles and 48% of the population lived in the rural areas.

Healthcare in Jamaica is provided by the Ministry of Health (MOH), the private sector and other non-governmental organizations. The health system offers primary, secondary, and tertiary care services. Approximately 38% of the population utilizes the public sector for ambulatory care, 57% use the private sector, and 5% use both sectors. Private hospitals only handle about 5% of total hospital services. Public hospitals handle the most complicated and costly cases.

The Standards and Regulation Division of the Ministry of Health (MOH), administers the Food and Drug Act of 1964, and Regulations of 1975, and thus provides the authorization for manufacturing, importation, distribution and use of pharmaceuticals. The Division ensures that all substances used as food, drugs, and cosmetics are efficacious, safe and of high quality. Jamaica does not have an officially adopted National Pharmaceutical Policy. There is a draft for submission to Parliament.

The first national essential medicines list—Vital, Essential, and Necessary (VEN) List of medicines—developed to guide the procurement and rational use of pharmaceuticals was published in 1988. It has undergone several subsequent reviews, on an average biannual basis and the last review was in December 2008. This document embraces the concept of rational drug use and serves as a guide to doctors, nurses, pharmacists, and students of these disciplines in the public health sector. The VEN List assists the maintenance of rational prescribing practices in public facilities. The third edition of the National Drug Formulary was issued in 1997.

Health Corporation Limited (HCL), a quasi-private company established in 1994 to ensure the efficient, cost-effective procurement and distribution of pharmaceuticals and medical supplies, has met approximately 70% of the essential needs of the public sector. In 2010, the HCL was merged with the National Health Fund (NHF). The public expenditure on medicines (2006/07) was 680,094,000 Jamaican dollars (J$) (US$ 7,654,406.30), representing J$ 254.35 (US$ 2.86) per capita. In 2007, there were 516 pharmacies [117 public (83 in operation), and 399 private], 9 private manufacturers and 23 medicines distributors (1 public and 22 private).

Study

The assessment of the pharmaceutical situation, Level II, was undertaken in Jamaica from July, 2009 to May, 2010 using a standardized methodology developed by the World Health Organization (WHO). The goal of the assessment was to evaluate the pharmaceutical situation in Jamaica using outcome indicators. More specifically, the study collected information on access, affordability and availability of key medicines and geographical accessibility of dispensing facilities and rational use of quality medicines, as well as some data on the quality of medicines at health facilities and pharmacies. All this information was then used to evaluate whether the goals set for the pharmaceutical sector are being achieved.

The study has two components, both indicators based: health facilities and households survey. In the first approach, data related to the pharmaceutical policy outcome was collected from public healthcare facilities, public and private pharmacies and the public warehouse that supply public facilities. In the second, data came from a survey conducted at household level.

Health facility survey

Methods

The survey was conducted in five areas: North Eastern Region, South East Region – A, South East Region – B, Southern Region and Western Region. In each survey area, 5 to 6 public health care facilities and 2 to 6 private pharmacies were surveyed. In the country 1 public warehouse was surveyed.

In each facility surveyed, a set of survey forms (Annex 2) was applied. The survey commenced following ethical approval from the Ministry of Health's Ethics Committee. Local health managers were contacted for specific local approval and cooperation. The country was divided into five survey areas with a team of workers for each one. Field teams comprised 19 data collectors each (pharmacy interns), selected according to the region to which they were assigned for rotation; and 5 supervisors (regional or senior pharmacists) who oversaw data collection and verified the quality of the data collected. Data collection methods included patient and health worker interviews after oral consent, check list guided observation and clinical and administrative documents review. Data collection took place between January 25 and March 19, 2010.

Data entry was performed using designed summary forms. Analysis was done using Excel® program.

Key results

Access

Overall access indicators show that key essential medicines are largely available in public health facilities (93.3%), warehouses that supply the public health system (100%) and private pharmacies (93.3%). The average length of stock-out duration in public health facilities was 23.1 days, whereas in the warehouse it was only 8.1 days, which indicate that this picture is not stable along time. Due to good availability, most prescribed medicines (76.7%) were found as dispensed in the cross sectional approach.

Concerning geographical accessibility, few of the patients interviewed at public dispensing facilities and private pharmacies have to travel more than one hour to reach the facility.

In treating common conditions [hypertension, diabetes, urinary tract infection (UTI), worm infestation] using standard regimens, the lowest paid government worker would need between 0.1 (diabetes) and 0.8 (hypertension)[1] days' wages to purchase lowest priced generic medicines from the private sector. In the private sector, once originator brands are chosen, costs are higher and the number of days' wages necessary to purchase treatment vary from 0.4 (worm infestation) to 5.2 (hypertension). In the public sector, the medicines are provided free of charge for all conditions chosen.

Data suggests that affordability of treatment for common primary health problems is a large problem when the medication is not available in the public facility, since the burden for the lowest paid public servant in terms of working days is high for common diseases like hypertension.

Quality and regulation

Ten percent of the public dispensaries had expired medicines. Storage conditions varied from 70% of adequacy in the storerooms of public health facilities to 90% of adequacy in warehouses supplying the public sector.

Most of the private pharmacies comply with the law that requires the presence of the pharmacist. On the other hand, only 65% of public dispensaries had a pharmacist present at the time of the visit. Though the profile of most of the health workers dispensing medicines was adequate, a minority of untrained staff was found in both private (11.5%) and public sector (10.3%) facilities. Prescribing is mostly done by doctors, but few prescribers have been recently trained in rational use of medicines.

Use of medicines

Antibiotics were prescribed to one in every three patients (33%), and injections to one in every 12 (8%). The use of International Non-proprietary Name (INN) in public health facilities was limited to only 41.9% of the prescription medicines. Standard Treatment Guidelines (STG) was available in less than half of public healthcare facilities (46.4%). Not every public health facility had the VEN List, since it was only available in about 1 in each three facilities (35.7%).

The selling of prescribed medicines without prescription does not seem to be a widespread practice. Most patients know how to take their medicines in the private pharmacies (90%), while in the public dispensaries that percentage is somewhat lower (73.3%).

Challenges and constraints

Most of the private pharmacies comply with the legal provisions set by the government, since pharmacists were found in most of them and the profile of health workers dispensing medicines was adequate. On the other hand, 35% of public dispensaries had no pharmacist at the time of the visit. The doctor is the most frequent prescriber found; nevertheless, the use of INN in public health facilities was lower than 50% and few prescribers have been recently trained in rational use of medicines.

1. Lowest daily government salary = J$ 642.86 = US$ 7.24 (US$ 1.00 = J$ 88.85).

In Jamaica, there is a high availability of medicines; nevertheless, the stock-out is still a problem to be faced. The storage conditions were, except in the warehouses, not adequate enough for the public health facilities and private pharmacies.

Although it is more likely to have a pharmacist dispensing in private pharmacies (96.2%) than in public pharmacies (65.5%), untrained staff are equally likely to be found in private pharmacies and public dispensaries (around one in ten dispensers in both cases).

The training of prescribers related to good prescribing practices, including the use of evidence, prescribing by the International Non-proprietary Name (INN) as well as the improvement of the availability and incentives for the use of the Standard Treatment Guideline (STG) and the Vital, Essential and Necessary (VEN) List are aspects that need to be considered as part of the rational use of medicines strategies.

The results of the survey showed high availability of medicines; however, affordability could be a concern for those citizens who would have to source their medication in private sector. The result also shows that managerial and economic policies concerning pharmaceuticals should be improved.

Household survey

Methods

The survey was conducted Jamaica in five survey areas: North-East, South East - A, South East - B, Southern and Western. Households were selected by intentional cluster sampling within defined distances from a reference public health care facility. The reference public health care facilities were selected among those participating in the Level II Facility Survey that was run in parallel. A total of 805 household respondents were interviewed by means of a structured questionnaire made up of 43 questions. Information about medicines kept at home, used during recent acute illness and prescribed for chronic diseases were collected. Data was also collected on behaviours of people confronted with acute or chronic conditions, their opinions about medicines, as well as on the demographic and socioeconomic situation of interviewed households. Data entry was performed with EpiData software and data analysis was conducted using Microsoft Excel®.

Key results

Characteristics of surveyed households

Respondents were selected to be the most knowledgeable persons about matters related to the health of household members. The majority of respondents were between 25 and 50 years old (6 in 10) had completed primary, secondary or high school (8 in 10). Around fifty percent of households spent up to J$ 26,000 (US$ 293) in total per household over 4 weeks.

About one third of households had incurred health expenditures over the past four weeks and around half of households reported at least one recent acute or one chronic condition. The most frequent symptoms of acute illness were related to cough, runny nose, sore throat or ear-ache. The most frequently reported chronic diseases were by far hypertension and diabetes.

Geographic access and availability of medicines

Overall, indicators of geographic access to medicines suggest that the majority of surveyed households live close to a public health care facility. Nevertheless, the majority of medicines, either found in households or obtained for an acute illness, came from a private pharmacy.

Nine in ten household respondents agreed that medicines are available at private pharmacies, while only one-third of household respondents agreed that medicines are at their public health care facility.

Affordability of medicines

Overall, indicators of affordability of medicines suggest that the price households pay for medicines in the private sector is an obstacle to accessing medicines, since 26% of people with chronic conditions reported not taking prescribed medicines because they could not afford the treatment. For acute conditions, the percentage of people not taking medicines because of financial reasons is 11%. For those who paid for medicines, the average cost of a prescription for acute illness was J$ 2,969 (US$ 33), with a maximum of J$ 100,000 (US$ 1,125). The average monthly cost of medicines for chronic diseases was J$ 1,900 (US$ 21), with a maximum of J$ 100,000 (US$ 1,125).

One quarter of people with acute health conditions reported having health insurance coverage for medicines. About half of the medicines used to treat chronic conditions were covered by health insurance.

Medicine use and medicines at home

About 69% of the households with children kept medicines at home. The average number of medicines found at home was 2.7. About three quarters of these medicines had an appropriate label, validity and a primary package in good condition, especially when obtained from private pharmacies.

Medicine use and acute illnesses

Almost 8 in 10 persons with an illness perceived to be very serious sought care and took prescribed medicines. The most common prescribers were doctors. The use of injections for acute illness was very low. The main reason given for not taking medicines was not following prescription.

Medicine use and chronic diseases

The number of people with chronic disease told to take medicines and who did not take them was 20%. The main reason given for not taking medicines was not following the prescription.

Opinions about quality of care and generics

Overall, half of respondents (52%) believed that the quality of services in their public health care facility was good and 41% of respondents did not know whether brand name medicines are better than generic medicines.

Challenges and constraints

Despite the high geographical accessibility and perception of availability of medicines in the public health facilities, as well as found in the HFS, the affordability with high private expenditure

on medicines is a challenge to be faced, as 26% of people with chronic conditions and 11% of people with acute conditions reported not taking prescribed medicines because they could not afford the treatment.

The perception of households related to the quality of the service in the public services and the quality of generics needs to be improved. The same applies to the need for adherence to the treatment of chronic conditions.

Recommendations

The development and official adoption of a National Pharmaceutical Policy is highly recommended to address the main challenges and constraints identified in the surveys. Affordability and price of medicines seems to be priority issues to be addressed. Another priority area is the quality assurance of products and services in the medicines distribution at the central medical store and dispensing facilities such as pharmacies, with the development of Good Practices.

Additionally, strategies for promoting the rational use of medicines, such as updating the VEN List based on the concept of Essential Medicines, the updating and strengthen of adherence to Therapeutic Formulary and STG as well as the promotion of Good Prescription Practices and the use of INN for prescribing and rational use of medicines for the public are very necessary.

Introduction

An assessment of the pharmaceutical situation was undertaken in Jamaica from July 2009 to May 2010 using a standardized methodology developed by the World Health Organization (WHO), to evaluate the pharmaceutical situation in Jamaica. The specific objectives were to provide data to measure outcomes on access, affordability and availability of key medicines and geographical accessibility of dispensing facilities and rational use of quality medicines, including some indication of the quality of medicines at health facilities and pharmacies and to get evidence based information if the pharmaceutical policy has achieved its goals.

In January-March 2010, fieldwork was conducted in public health facilities, private pharmacies, and in the public central medical store in Jamaica.

This study entitled "The Pharmaceutical Situation Assessment Level II" was conducted using the standardized methodology developed by the World Health Organization (WHO). It had two components: health facilities and household survey, both with an indicators based approach that provides systematic data on access and rational use of quality medicines through a facility-based survey.

The core indicators measure the most important information needed to understand the pharmaceutical situation in a country.

The study was intended to answer the following questions:

- Are medicines available and affordable in public and private dispensing facilities to treat common conditions at the primary care level?
- Do people have adequate geographical access to public and private dispensing facilities?
- Are there expired medicines in public and private dispensing facilities?
- Are medicines adequately stored and handled in public health facility dispensaries and public central medical store?
- Are medicines adequately prescribed, labelled and dispensed?
- Are patients informed on how to use their medicines?
- Are pharmacists present at dispensing facilities according to the law?
- Are pharmacists present at dispensing facilities?
- Which professionals are prescribing and dispensing?
- Do prescribers comply with good prescribing practices?

Country background[2]

Jamaica is a small-sized country, covering an area of 10,999 km^2. Nevertheless it is the largest of the English-speaking Commonwealth Caribbean Islands, and the third-largest island in the region, divided into three counties and subdivided into 14 parishes. Approximately two thirds of the country is made up of mountains and hills. In 2006, the total population was about 2.7 million with 53% of the population living in urban areas. The annual growth rate (1998-2008) was 0.7% (*1*).

Figure 1. Geographic location of all parishes of Jamaica

Jamaica is an upper middle-income country with a GDP of US$ 7,500 per capita. Less than 2% of the population lives on less than US$ 1/day (2000), and 13.3% live on less than US$ 2/day (2000). Of the total labour force, approximately 11.4% (2004) are unemployed, with 31.7% (2003) of these in a state of long-term unemployment (*2*, *13*). According to the most recent national census in 2001, the average number of people per household is 3.6 (*3*). In 2006, key contributors to morbidity and mortality are chronic, non-communicable lifestyle diseases such as malignant neoplasms, diseases of the circulatory system, endocrine and nutritional diseases; diseases of the respiratory system, injuries and accidents, infectious and parasitic intestinal diseases (*4*).

2. Information in this section comes from the following sources: The Statistical Institute of Jamaica (STATIN); the Planning Institute of Jamaica (PIOJ); Jamaica, Ministry of Health; Pan American Health Organization/World Health Organization (PAHO/WHO) Health Reports; United Nations Development Programme (UNDP); World Bank, World Development Indicators; CIA World Factbook; Jamaica, MOH. Pharmaceutical Assessment Level 1.

Table 1. Distribution of the Jamaica population, Jamaica, 2001-2009

Name	Census 2001	Estimate 2009	Annual growth	Area (km^2)	Population density (per km^2)	Capital
1. Clarendon	237,304	247,109	0.47	1,196	206.8	May Pen
2. Hanover	66,969	70,094	-0.42	450	143.4	Lucea
3. Manchester	186,788	191,378	0.56	830	235.4	Mandeville
4. Portland	80,201	82,442	-0.07	814	97.89	Port Antonio
5 & 6. Kingston and Saint Andrew	653,010	667,778	-0.25	431	1,261	Kingston
7. Saint Ann	167,227	173,830	0.50	1,213	143.8	Saint Ann's Bay
8. Saint Catherine	483,275	499,645	2.13	1,192	489.0	Spanish Town
9. Saint Elizabeth	146,296	151,484	-0.43	1,212	116.2	Black River
10. Saint James	175,793	184,854	0.52	595	308.4	Montego Bay
11. Saint Mary	111,474	114,591	-0.28	611	177.9	Port Maria
12. Saint Thomas	91,731	94,471	0.22	743	125.8	Morant Bay
13. Trelawney	73,049	75,799	-0.39	875	80.60	Falmouth
14. Westmoreland	139,336	145,335	0.19	807	175.1	Savanna la Mar
Jamaica	2,612,452	2,698,810	0.38	10,991	246.4	Kingston

Source: STATIN Jamaica; UNICEF.

General data are summarized in Table 2.

Table 2. General profile of Jamaica, 2008-2009

Aspect	Indicator		Source	Year
General data	Population 2,698,810		STATIN Jamaica	2009 est
	Rural population 47%		CIA World Factbook	2008
	Women	0.97 male/female	STATIN Jamaica	2009 est
	Under 14 years	27.6%	STATIN Jamaica	2009 est
	Over 65 years	8.5%	STATIN Jamaica	2009 est
Socioeconomic data	DHI	0,766	Human Development Resource	2009 est
	GDP	US$ 5.512 billion	STATIN Jamaica	2009 est
	GDP per capita	7,500	CIA World Factbook	2008 est
	Under poverty line	14,8%	CIA World Factbook	2003 est
	Unemployment rate	11.3%	STATIN Jamaica	2009 est
	Literacy rate (age 15 and over has ever attended school)	87,9%	CIA World Factbook	2003 est
General health data	Infant mortality rate	15.22 deaths/1,000 live births	CIA World Factbook	2009 est

Source: STATIN of Jamaica (5); CIA World Factbook (6); UNDP (7); PIOJ (11).

Health sector

Healthcare in Jamaica is provided by the Ministry of Health (MOH), the private sector and other non-governmental organizations. The health system offers primary, secondary, and tertiary care services. The Ministry of Health Head Office provides a policy making, steering and regulatory role, while the responsibility for the management and delivery of public health services in

the fourteen parishes has been delegated to the four decentralized Regional Health Authorities (RHAs).

The MOH is the primary public provider involved in the health sector. Ambulatory care at the community level is delivered through a network of approximately 322 health centres. The health centres range from type 1 to type 5 depending on the level of complexity of services offered, from maternal and child health services only in type 1 clinics, to curative, dental, STI, and mental health services in the others. Secondary and tertiary care is offered via 23 government hospitals and the teaching hospital of the University of the West Indies (UWI), with a combined capacity of 4,500-5,000 beds. Hospitals are classed as "A," "B," "C," or "Specialist," also depending on the level of complexity of the services offered (*8*).

Private health care is provided by general physicians and specialists, and by private laboratories, pharmacies, and hospitals. There are approximately eight private hospitals with a capacity of about 300 beds and 2,000 practicing physicians. Private pharmacies number about 399; private radiological diagnostic and treatment centres continue to grow in numbers and dominate this aspect of health care services. Non-governmental organizations also provide ambulatory health care, for an insignificant fee, targeting the poorer segments of the population (*9*).

Approximately 38% of the population utilizes the public sector for ambulatory care, 57% use the private sector, and 5% use both sectors. Private hospitals only handle about five percent of the total hospital services. The public hospitals handle the most complicated and costly cases (*9*).

There are no formal relationships between the public networks and the private sub-sector. Health sector reform seeks to promote public-private partnerships in a number of areas such as hospital care, pharmaceutical and diagnostic services.

The Ministry of Finance is the primary financier of public health services. Since 2008, public facilities are available and accessible to the entire population without a fee for service. Other sources of finance include bilateral/multilateral funding.

Pharmaceutical sector (*12*)

The Standards and Regulation Division of the Ministry of Health administers the Food and Drugs Act of 1964, and Regulations 1975, thus provides the authorization for manufacturing, importation, distribution and use of pharmaceuticals. The Division ensures that all substances used as food, drugs, and cosmetics are efficacious, safe and of high quality.

The first national essential medicines list, namely, Vital, Essential, and Necessary (VEN) list of medicines, was developed and published in 1988. It has undergone reviews subsequently, on an average biannual basis and the last review was in December 2008. This document embraces the concept of rational drug use and serves as a guide to doctors, nurses, pharmacists, and students of these disciplines as well as procurement in the public health sector. It is also expected to assist with the maintenance of rational prescribing practices. The third edition of the National Drug Formulary was issued in 1997. A national medicines policy has been drafted for submission to Parliament.

Although budgetary allocation for essential medicines has increased over the years, affordability remains a constant concern of the Government. To this end, there is a policy in place that

fosters the use of generic medicines. Additionally, the Jamaica Drugs for the Elderly Program (JADEP) was launched in 1996 to alleviate hardships experienced by elderly clients in obtaining medicines for diseases and the National Health Fund (NHF) was launched in 2003 to assist all residents of Jamaica to meet their cost of prescriptions for specific illnesses. There is also private sector participation in these programs of over 100 pharmacies, indicating good private/ public partnership. In 2008, the government introduced a national policy which abolished all user fees in all public health institutions. This national policy provides all medicines on the VEN list free of charge (i.e. patients do not pay out-of pocket for medicines) at public health care facilities. (Ministry of Health, Policy, Planning and Development Department).

Medicines and other health products (supplies and equipment) are largely imported, although there are a small number of manufacturers of medical supplies in the country.

The Health Corporation Limited (HCL), a quasi-private company, established in 1994 to ensure the efficient, cost-effective procurement and distribution of pharmaceuticals and medical supplies, over the years (up to 2000) has met approximately 70% of the essential needs of the public sector (*9*). It used to procure medicines for the public health pharmacies and the "Drug Serv" pharmacies (the retail arm of Health Corporation Ltd.) that provide medicines from the VEN list free of charge. In 2010, the HCL was merged with the NHF.

It is estimated that private funds currently finance 82% of pharmaceutical costs, but it is not clear what level of service these funds represents (*9*).

Table 3. Pharmaceutical indicators

Pharmaceutical Indicators	Public Sector	Private Sector	Total
Date of national medicines policy	Draft	Not applicable	-
Date of essential medicines list	1988 (latest revision 2008)	Not applicable	-
Date of national formulary	1980 (latest revision 1997)	1980 (latest revision 1997)	-
Annual medicines expenditure (2006/07)	J$ 680,094,000 (US$ 7,654,406.30)	-	-
Number of registered pharmacists (2007)	47	651	698
Number of pharmacies (2007)	117 no registration required (83 in operation)	399	516
Number of registered manufacturers (2007)	(Extemporaneous, individual and bulk preparations done at each pharmacy)	9	9
Number of registered distributors (2007)	1	22	23
Number of pharmacy technicians	52 (2006)	Not available	

Source: Ministry of Health. Standards & Regulation Division; Pharmacy Council of Jamaica.

National medicines policy and related policies

In Jamaica, there is not an officially adopted National Pharmaceutical Policy (NPP); however, a draft document exists since 1996. Nevertheless, the public health policies in the country have several provisions related to medicines as the following:

- A generic drug policy supported by law;
- An abolition of user fees policy which directly impacts pharmaceuticals in the public health sector;

- A policy enabling the provision for medicines for nine (9) disease conditions to the elderly 60 years and over at no cost for the medications (JADEP), and
- The NHF which provides medicines for sixteen (16) disease conditions to all Jamaicans on a co-payment basis.

Regulatory system

In Jamaica, there is a formal medicines regulatory authority (Pharmaceutical and Regulatory Affairs Department), which is funded through the regular budget from the government. Legal provisions are in place, requiring transparency and accountability and promoting a code of conduct in regulatory work. In Jamaica, there are legal provisions for marketing authorization. Over 12,000 medicinal products have been approved for marketing. A list of all registered products is publicly accessible.

Legal provisions are in place for the licensing of manufacturers/wholesalers and distributors/importers and exporters of medicines.

A quality management system with an officially defined protocol for ensuring the quality of medicines is in place in Jamaica and the country recently started a Pharmacovigilance programme. Medicine samples are tested for medicines registration and post-marketing surveillance.

Regulatory procedures are also in place for ensuring the quality of imported medicines. In 2006, 183 samples were quality tested, with 16 failing to meet quality standards. Jamaica has a national quality control laboratory and also uses the Caribbean Regional Drug Test Laboratory (CRDTL). Some additional information on regulation available:

- Legal provisions are in place for the licensing and practice of prescribers and pharmacies and pharmacists.
- There is by law an obligation to prescribe by generic name and brand names in the public and private pharmacies.
- Generic substitution is permitted by law in public and /private pharmacies
- There are no incentives to dispense generic medicines at public or private pharmacies.
- There are provisions in the medicines legislation/regulations covering promotion and/or advertising of medicines.
- Public and private medicine outlets are regularly inspected.

Medicines supply system

Public sector medicines procurement and distribution is the responsibility of the Ministry of Health. By the time of conduction of the survey, it was conducted through Health Corporation Limited (HCL), a quasi-private company established by the government in 1994. In 2010, the HCL was merged with the National Health Fund (NHF). Since then, the procurement of medicines for the public sector was assumed by the NHF. Public sector procurement is pooled at the national level (i.e. there is centralized procurement for the regions).

The following tender processes are used for public sector procurement:

- International competitive tender

- Negotiation/direct purchasing

There are no regulations for local preference in public sector procurement. Public sector procurement is limited to medicines on the VEN List and registration of medicines is a prerequisite for government purchase.

Medicines financing

The public expenditure on medicines (2006/07) was J$ 680,094,000 (US$ 7,654,406.30), representing J$ 254.35 (US$ 2.86) per capita (*10*).

There is a national policy to provide all medicines free of charge (i.e. patients do not pay out-of-pocket for medicines) at public health care facilities. Prescribers in the public sector never dispense medicines, while prescribers in the private sector occasionally dispense medicines.

In Jamaica, some of the population has public health insurance, which covers some medicines—JADEP and NHF. Some of the population has private health insurance, which covers all medicines.

Jamaica has no policy covering medicine prices that applies to the public sector, the private sector and non-governmental organizations. However, there are policies that relate to duties on imported raw materials and on imported finished pharmaceutical products. The government does not set the price of originator brand products nor generic products. The VEN List is not used for setting prices of medicines in the private sector. Setting prices is not part of market authorization. Jamaica does not have a national medicine price monitoring system for retail/patient prices. There are no regulations mandating retail/patient medicine price information to be made publicly accessible.

There are official written guidelines on medicine donations that provide rules and regulations for donors and provide guidance to the public, private and/or NGO (non-governmental organizations) sectors on accepting and handling donated medicines.

Rational use of medicines

Jamaica's VEN List was last updated in December 2008. It contains over 500 simple-substance formulations. The VEN List is the basis for public sector procurement and public insurance reimbursement. This is a fundamental element in the promotion of rational drug use and controlling health care cost. There is a committee responsible for the selection of products on the VEN List. The Health Ministry produces National Standard Treatment Guidelines (STG) for major conditions. These were last updated in 2006. All referral hospitals have drug and therapeutic committees as well as some general hospitals. Antibiotics are occasionally sold over the counter without a prescription.

The level I indicator suggests that Jamaica has the basic infrastructure to implement a National Medicines Policy (*11*), (Annex 1). There are areas in which managerial and economic policies will need improvements. The need to develop a medicine pricing policy is a concern as cost of medicines can impact access to medicines especially to the poor. It is therefore being recommended that the draft medicines policy document be revised and an implementation plan that sets out activities, responsibilities, budget and timeline be put in place.

Study design and methods

The model currently proposed by the WHO for worldwide monitoring and evaluation of pharmaceutical situation divides the evaluative approach into three levels or stages. The first two levels are applied ideally every four years. The first level is related to aspects pertaining to the organizational structure and process of the pharmaceutical sector. The second Level II focuses on outcomes rather than structures, and data is collected through surveys conducted in public and private health services (public health facilities, private pharmacies, and in public central medical store) and at the household level. The third level consists of studies that aim to describe specific aspects of the pharmaceutical sector (e.g., prices of medicines, procurement and supply, etc. (*12*).

Health facility survey

The survey with Level II indicators is a very important part of monitoring the pharmaceutical sector as they provide measures related to the outcomes and impact of strategic pharmaceutical programmes, namely: improved access, quality and rational use.

Access is measured in terms of the availability and affordability of essential medicines. Additionally, there is one indicator on geographical accessibility. Measuring the actual quality of medicines by testing samples can be expensive. Instead, the presences of expired medicines on pharmacy shelves as well as the adequate handling and conservation conditions employed are indicators of the quality of medicines available. Finally, rational use is measured by examining the prescribing and dispensing habits and the implementation of key strategies such as standard treatment guidelines (STG) and essential medicines lists (EML).

In Jamaica, from the four health regions, five “survey areas” were established for data collection. The major urban centre of Kingston and Saint Andrew (South East Region A) was considered as one survey area and Saint Ann, Portland and Saint Mary (North Eastern Region) was considered as representative of a low income area. The additional three areas were the remaining health regions into which the country is divided. This resulted in the following five survey areas:

1) North Eastern Region (low income area)
2) South East Region – A (major urban centre)
3) South East Region – B
4) Southern Region
5) Western Region

In each facility surveyed a set of survey forms (Annex 2) was applied. This allowed adequate information gathering to calculate the indicators.

As a joint decision with the Caribbean countries involved in this round of survey, price data was not addressed, because a specific price survey is planned to be conducted soon. Only data on affordability of treatment for tracer diseases was collected.

Verification of availability, stock-out and expired medicines were based on a list of key medicines, that were selected based on the first-line therapeutic choice to most common and important health conditions at the primary health care level (Box 1).

Box 1. Key medicines selected for the survey

Diseases/symptoms	Medicines (INN)	Dosage form in the VEN List
1. Hypertension	Hydrochlorothiazide	Tablets
2. Asthma	Salbutamol Inhaler	Canister
3. Diabetes mellitus	Metformin	Tablets
4. Diarrhoea	Oral Rehydration Salt	Salts
5. Upper respiratory tract infection	Amoxicillin	Capsules/suspension/injection
6. Urinary tract infection	Co-trimoxazole (Sulfamethoxazole + trimethoprim)	Tablets/suspension/injection
7. Pain/fever	Paracetamol	Tablets/syrup
8. Fungal skin infection	Clotrimazole	Cream
9. Worm infestation	Albendazole	Tablets/suspension
10. Bacterial conjunctivitis	Chloramphenicol Eye Drops	Liquid/drops
12. Allergy	Chlorpheniramine	Tablets/elixir/injection
13. Eczema	Hydrocortizone	Cream
14. Scabies	Gamma Benzene Hexachloride	Cream
15. Vaginal fungal infection	Clotrimazole	Pessaries

Affordability of treatment for adults and children as well as compliance of prescribers to recommended treatment protocol was performed considering tracer health conditions elected by the coordination team (Box 2).

Box 2. Tracer conditions for affordability and for compliance of prescribers to recommended treatment protocol/guideline

Tracer condition	Medication(s)	Treatment schedule	Total amount required
Worm infestation paediatric	Albendazole tab 400 mg	1 tab	1
Urinary tract infection paediatric	Co-trimoxazole vial 200 + 40	5 ml, bd, 7 days	70
Urinary tract infection adult	Co-trimoxazole tab 400 + 80 mg	2 tab, bd, 7 days	28
Hypertension	Enalapril 5 mg and Hydrochlorothiazide 25 mg	Enalapril 5 mg (1 tab, bd -30) and Hydrochlorothiazide 25 mg (1 tab, once daily)	60 + 30
Diabetes mellitus	Glibenclamide 5 mg and Metformin 500 mg	Glibenclamide 5 mg (1 tab, once daily), Metformin 500 mg (1 tab, td).	30 + 90
Tracer condition	**Medicines tracked**	**Rationale**	**Reference**
Non-bacterial diarrhoea in children under age 5 years of age	ORS, antibiotic, antidiarrhoeal and/or antispasmodic	Clinical guidelines specifically referred to correct rehydration of acute diarrhoea cases	Medicines use in primary care in developing and transitional countries: Fact Book summarizing results from studies reported between 1990 and 2006

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Box 2 (cont.)

Mild/moderate (outpatient) pneumonia in children under age 5	Amoxicillin	Pneumonia was defined as any type of lower respiratory tract infection that authors considered needing antibiotics.	Medicines use in primary care in developing and transitional countries: Fact Book summarizing results from studies reported between 1990 and 2006
Non-pneumonia acute respiratory tract infection (ARI) in patients of any age	Any antibiotic	Was defined as any type of URTI that authors of the studies considered not needing antibiotics. "Common cold" and "sore throat" cases were considered viral URTI, i.e. not needing antibiotics	Medicines use in primary care in developing and transitional countries: Fact Book summarizing results from studies reported between 1990 and 2006
Asthma – acute attack in children under age 5	Salbutamol inhaler AND Beclomethasone inhaler	Salbutamol inhaler AND Beclomethasone inhaler must be prescribed	Local protocol

Data collection methods included patient and health worker interviews after oral consent, check list guided observation and clinical and administrative documents review.

The survey was conducted after approval by the Ministry of Health. Local health managers were contacted for specific approval and cooperation.

The field team consisted of 19 data collectors (pharmacy interns), selected according to the region to which they were assigned for rotation; and 5 supervisors (regional or senior pharmacists) who oversaw data collection and verified the quality of the data collected.

A training course for data collectors and date entry personnel was conducted in July 2009 by the Ministry of Health with the support of PAHO and NAF/ENSP/FIOCRUZ. Training was repeated the week prior to commencement of data collection. Data collection took place between January 25 and March 19, 2010.

Box 3 summarizes the Level II indicators and lists the corresponding survey forms. Information on data collection and calculation can be found on the respective survey forms.

Box 3. Summary list of indicators and corresponding survey form used to collect the data

	Indicator	Survey form
Access		
1	Availability of key medicines in public health facility dispensaries, private drug outlets and warehouses supplying the public sector	1, 10, 15
2	Percent of prescribed medicines dispensed or administered to patients at public health facility dispensaries	6
3	Average stock-out duration in public health facility dispensaries and warehouses supplying the public sector	4, 16
4	Adequate record keeping in public health facility dispensaries and warehouses supplying the public sector	4, 16
5	Affordability of treatment for adults and children under 5 years of age at public health facility dispensaries and private pharmacies	3, 12
8	Average cost of medicines at public health facilities and private pharmacies	6, 14
9	Geographical accessibility of public health facility dispensaries and private pharmacies	6, 14
Quality		
1	Percent of medicines expired in public health facility dispensaries, private pharmacies and warehouses supplying the public sector	1, 10, 15

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Box 3 (cont.)

	Indicator	Survey form
2	Adequacy of storage conditions and of handling of medicines in public health facility dispensaries and warehouses supplying the public sector	5, 13, 17
Rational use of medicines		
1	Percent of medicines adequately labelled at public health facility dispensaries and private pharmacies	6, 14
2	Percent of patients informed on how to take medicines at public health facility dispensaries and private pharmacies	6, 14
3	Average number of medicines per prescription at public health facility dispensaries and public health facilities	6, 7
4	Percent of patients prescribed antibiotics in public health facilities	7
5	Percent of patients prescribed injections in public health facilities	7
6	Percent of prescribed medicines on the essential medicines list at public health facilities	7
7	Percent of medicines prescribed by generic name (INN) at public health facilities	7
8	Availability of standard treatment guidelines at public health facilities	8
9	Availability of essential medicines list at public health facilities	8
10	Percent of tracer cases treated according to recommended treatment protocol/guide at public health facilities	9
11	Percent of prescription medicines bought with no prescription	14
Other information		
1	Percent of facilities that comply with the law (presence of a pharmacist)	Section A, C
2	Percent of facilities with pharmacist, nurse, pharmacy aide/ health assistant or untrained staff dispensing	Section A, C
3	Percent of facilities with doctor, nurse, trained health worker/health aide prescribing	Section B
4	Percent of facilities with prescriber trained in RDU	Section B

After review of completed survey forms, data were typed in summary forms 1, 3-5 in Excel® provided by the WHO survey package. This program permitted indicator calculation.

As recommended by WHO methodology, indicator measures on each survey form were calculated manually and summaries were entered in an automated excel spread sheet.

Concerning analysis, data at the national level will be expressed as a median, followed by the percentiles 25 and 75. National median is only calculated if there is information from at least four facilities in the category (public or private facilities or warehouses). Data from patient interviews are only considered for health facilities with at least 10 interviews completed.

Limitations of the study

The study has been designed to provide a picture of the pharmaceutical situation in the whole country. The regions and facilities selected cumulatively represent the national situation. It was not intended to give a detailed analysis of the pharmaceutical sector, but to provide an overview of the national pharmaceutical situation, to help in policy analysis and in the design of appropriate interventions.

The sample sizes used are not statistically large enough to make inter-facility comparisons. For patient care indicators, for example, a minimum sample size of 100 would be necessary in order to make comparisons between facilities. This survey uses a sample size of 30. However, providing that majority of the data is collected and the results are statistically different, comparisons between geographic regions can be made. Regional comparisons may be of interest where

there is especially wide variation or contrasts, particularly with a group of related indicators. Regional comparisons should be done sparingly as not all geographic regions are represented and over-emphasizing the five survey areas included in the study may detract focus from the study's significance as a national survey.

Main difficulties experienced during field work and action taken

- There were inadequate tracer cases of mild to moderate pneumonia in children under 5 years (less than 50%), especially in health centres. Also the diagnosis of asthma in children was not documented in most of the patient records.
- In some health facilities, records (registers and patient dockets) needed to allow for retrospective sampling could not be located.
- In some facilities, information recorded in patient dockets were illegible and/or incomplete (i.e. drug names were written but dose and route of administration omitted).

  For 2 and 3 above, more time was spent at the facilities to obtain the requisite samples.
- There were very few or no patients at some private facilities and some public facilities for exit interviews. This was notable in the North Eastern Region.

Additional visits were made to the facilities, where applicable. However, in some situations additional visits did not produce good enough results and since there was no alternate site at which the study could have been conducted, these areas were omitted from the study.

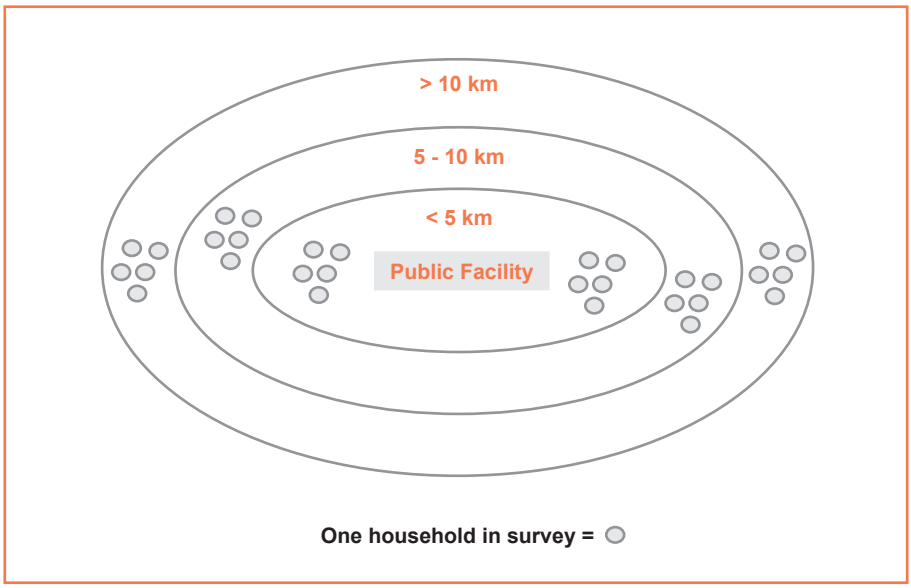
Household survey

This study was conducted using a standardized methodology developed by the World Health Organization (WHO), which investigates access to and use of medicines in randomly selected health care facilities and in clusters of nearby households.

The WHO methodology called for selecting 30 households per public health care facility participating in the health care facility survey.

Households were selected intentionally as follows. Beginning with the reference health care facility as a central reference point, the first two households were selected randomly in opposite directions and clusters of five households were then selected as follows: 2 clusters were within a 5 km radius from the facility, 2 clusters between 5 and 10 km from the facility, and 2 clusters beyond 10 km. A total of 6 household clusters surrounded each reference facility, as illustrated in Figure 2. After completing an interview with the respondent of the first household of each cluster (or scheduling one for a later time), data collectors skipped several households before selecting the next household. Not every household was able to participate in the survey; in such cases, the next household was chosen as a replacement.

Figure 2. Household sampling



Interviewers were trained to use judgment in selecting respondents. Respondents were selected if they met at least three of the following criteria:

- Main health care decision maker
- Most knowledgeable about health of household members
- Most knowledgeable about health expenditures of the household
- Most knowledgeable about health utilization by household members
- Designated care giver for sick household members

The survey team consisted of a survey coordinator and 20 data collectors. Data collectors were pharmacy students of the University of Technology (UTECH), Jamaica.

All survey personnel received training in the standard survey methodology, data collection and data entry procedures at a workshop held on 25-28 July 2009. As part of the workshop, a data collection pilot test was conducted in households which did not form part of the survey sample. Training was again conducted in the week prior to commencement of data collection. Data collection took place between January 14 and February 28, 2010.

An Excel spread sheet displaying quintiles of monthly household expenditures by number of household members in Jamaica was distributed to data collectors during the training workshop (Annex 3). This spread sheet was used to describe categories A, B, C, D, and E of Question 37 during interviews with household respondents.

All completed questionnaires at the end of each day/week of data collection were checked by the survey coordinator. Upon completion of the survey, the survey coordinator conducted a quality control check of all completed questionnaires prior to data entry.

Data collection was done using prescribed survey forms (Annex 2). EpiData software was used for data entry. The Pharmaceutical Policy Research Group from Harvard Medical School

provided the EpiData entry form created from the questionnaire, adapted by NAF/ENSP. Data entry personnel used this form which was provided by WHO.

Household EpiData records were exported into an Excel workbook containing macros and formulas that automatically generated the tables and figures contained in this report.

Main difficulties experienced during field work and action taken

- Geographical access: Some roadways were bad and some communities were in mountainous areas and difficult to reach by car.
- In some communities houses were few and far apart. In these situations, data collectors had to park their vehicles and walk into and around the communities.
- In some sampled communities especially in the Western region persons refused to participate, and those who participated refused to give information pertinent to the study. Because of the distance travelled and time spent in these areas and limited finances, these communities have to be omitted from the study.
- There were reasons to believe that some respondents were not being honest especially as it related to number of medicines in the home, level of education and finances.

Results and discussion

Results from the health facility survey are presented first, followed by results from the household survey, according to the group of indicators. Key issues are highlighted.

Health facility survey

Issues related to the field work

The location of the facilities surveyed is presented in Table 4.

Table 4. Characteristic of the surveyed facilities. Jamaica, May 2010

Region	Category of facility	Number of facilities	Number of outpatients interviewed
Region 1: North East	Hospital	3	90
	Health Centre	2	56
	Warehouse	-	
	Private Pharmacy	2	6
Region 2: South East - A	Hospital	1	13
	Health Centre	5	150
	Warehouse	1	
	Private Pharmacy	6	180
Region 3: South East - B	Hospital	3	70
	Health Centre	3	90
	Warehouse	-	
	Private Pharmacy	6	180
Region 4: Southern	Hospital	3	90
	Health Centre	3	90
	Warehouse	-	
	Private Pharmacy	6	180
Region 5: Western	Hospital	3	90
	Health Centre	3	90
	Warehouse	-	
	Private Pharmacy	6	180
Jamaica	Hospital	13	353
	Health Centre	17	476
	Warehouse	1	
	Private Pharmacy	30	726

The outpatients' exit interviews are presented in Table 5. People were approached when leaving public dispensaries or private pharmacies. Categories for age were: (1) Less than 5 years old; (2) 5-14 years old; (3) 15-59 years old, and (4) more than 60 years old.

Table 5. Characteristics of outpatients interviewed. Jamaica, May 2010

Category of health facilities	Number of outpatients interviewed	Female (%)	Age	%
Public health facility pharmacies	829	64.9	1) under 5 years	8.4
			2) older children	9.2
			3) adults	52.2
			4) over 60 years	29.8
Private Pharmacies or Retail Drug Outlet	726	66.3	1) under 5 years	9.8
			2) older children	8.1
			3) adults	54.5
			4) over 60 years	27.5
Total	1555	65.5	1) under 5 years	9.1
			2) older children	8.7
			3) adults	53.3
			4) over 60 years	28.7

- Key points:
  - The majority of outpatients interviewed were female (6 out of 10). This profile was homogeneous among health services and pharmacies.
  - About 1 in 10 was under 5, 1 in each 5 was adult, and 3 in each 10 were over 60 years old.

In Table 6 and Table 7 the dispenser and prescriber profile are presented respectively.

Table 6. Dispenser profile and compliance with the law, PSA-HFS Level II, Jamaica, May 2010

Professional dispensing during the visit	Public sector (%)	Private sector (%)
Pharmacist	65.5	96.2
Nurse	0.0	0.0
Pharmacy aide/ health assistant	100	65.4
Untrained staff	10.3	11.5
Facilities that comply with the law (presence of a pharmacist)	62.1	96.2

- Key points:
  - A pharmacist was found in almost all (>90%) private pharmacies, but only in 6 in each 10 public pharmacies.
  - It is more likely to have a pharmacist dispensing in private pharmacies (96.2%) than in public pharmacies (62.1%).
  - Untrained staff was found in 1 in each 10 private pharmacies or public pharmacies.

Table 7. Prescriber profile in the public sector, PSA-HFS Level II, Jamaica, May 2010

% Facilities where	Doctor (%)	Nurse (%)	Trained health worker/health aide (%)
Professionals present during the visit	96.6	24.1	0.0
Most senior professional present	96.6	3.4	0.0
Most senior professional attended RDU-related training within the previous year	41.0	0.0	NA

- Key points:
  - Physicians were found in almost all visited facilities.
  - Four in every 10 senior physicians declared having attended a rational use related training in the previous year.

Access

Access to health services or products can be understood as a combination of four dimensions: availability, geographical accessibility, affordability and acceptability. Acceptability was not addressed by this assessment. Concerning availability, as the key medicines list includes first choices for the most prevalent problems at the primary health care level; good results should be near to 100%. Reference for affordability calculation was the wage's day of the lowest paid public worker.

The recorded data of the general indicators for access revealed fairly good results (Table 8, Figure 4 and Figure 5). However, the stock-out period in public health facilities is a matter of concern.

The geographical accessibility to public health facilities is good, taking into consideration that the majority (60%), take less than 30 minutes to reach a healthcare facility.

Table 8. General indicators for availability and geographical accessibility, PSA-HFS Level II, Jamaica, May 2010

Indicator	National (median)	25th Percentile	75th Percentile
Availability			
Availability of key medicines in:			
▪ public health facility dispensaries (%)	93.3	93.3	100
▪ private drug outlets (%)	93.3	93.3	100
▪ warehouses supplying the public sector (%)	100	100	100
Prescribed medicines dispensed or administered to patients at public health facility dispensaries (%)	76.7	68.5	83.7
Average stock-out duration in:			
▪ public health facility dispensaries (days)	23.1	11.8	35.1
▪ warehouses supplying the public sector (days)	8.1	8.1	8.1
Adequate record keeping in:			
▪ public health facility dispensaries (%)	86.7	0.0	95.1
▪ warehouses supplying the public sector (%)	100	100	100

Continues on next page...

Table 8 (cont.)

Indicator	National (median)	25th Percentile	75th Percentile
Geographical accessibility			
Patients taking more than one hour to travel to:			
▪ public health facility dispensaries (%)	10.0	0.0	23.3
▪ private drug outlets (%)	6.7	0.0	16.7
Average transportation cost to the:			
▪ public health facility dispensaries (J$)	140.33	84.66	213.67
▪ private pharmacy (J$)	119.00	65.00	139.00
Average transport cost percentage of minimum daily salary:			
▪ public health facility dispensaries (%)	21.83	13.17	33.24
▪ private drug outlets (%)	19.00	10.00	22.00

Note: US$ 1.00 = J$ 88.85.

Figure 3. Availability of key medicines in public health facility dispensaries, in private pharmacies, and in public central medical store, PSA-HFS Level II, Jamaica, May 2010

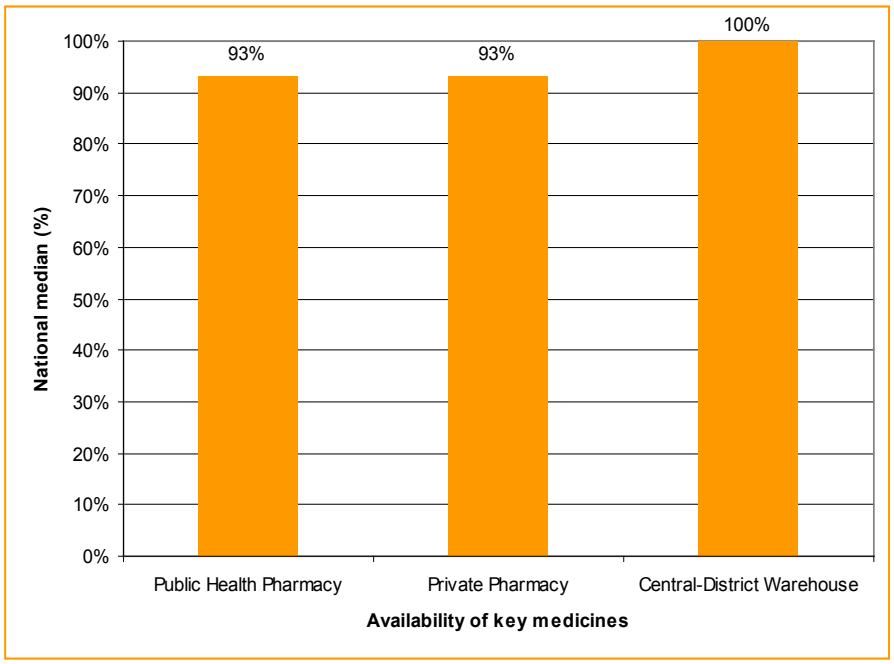
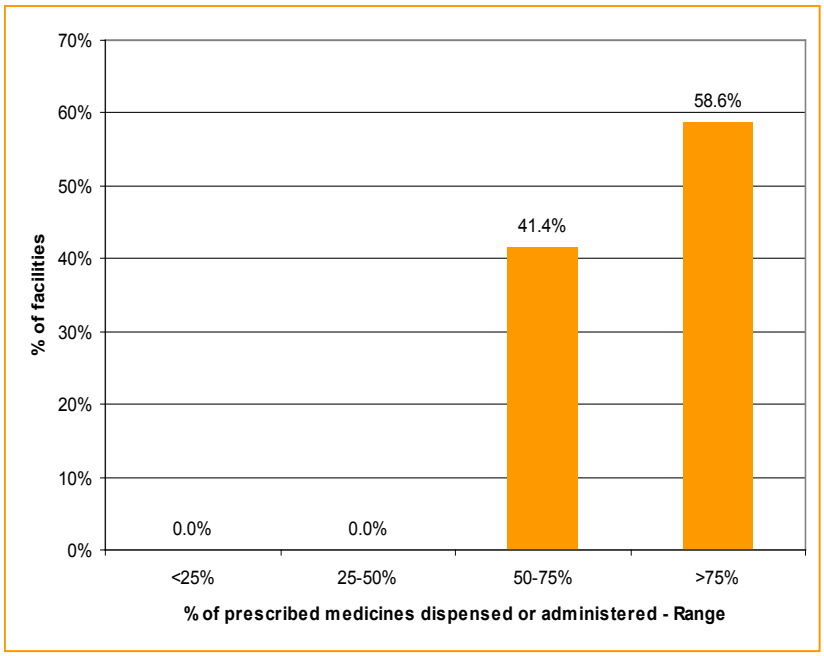
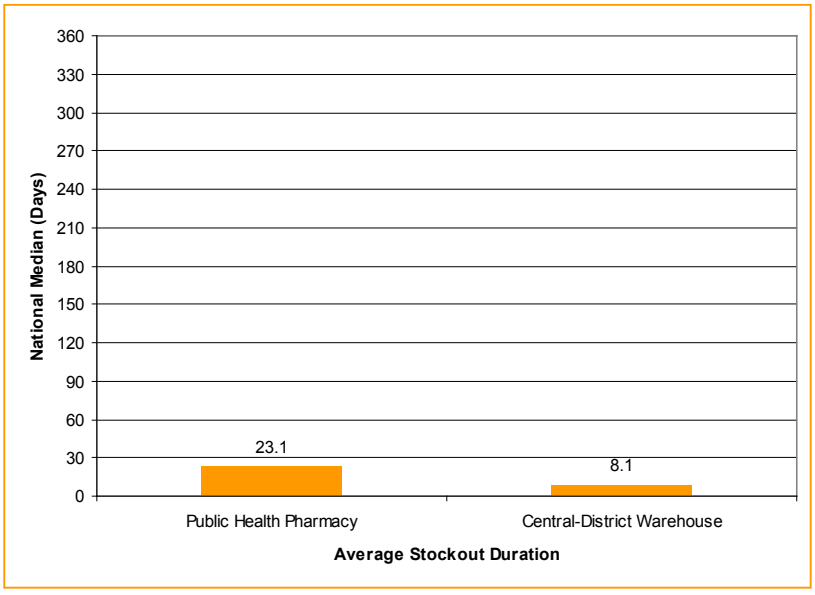


Figure 4. Distribution of facilities according to the percentage of prescribed medicines dispensed or administered, PSA-HFS Level II, Jamaica, May, 2010



- Key points:
  - The majority of health facilities (58%) dispense over three-quarter of the prescribed medicines.
  - One hundred percent of facilities dispense more than half of prescribed medicines.

Figure 5. Average stock-out duration in public health facility pharmacies and in public central medical store, PSA-HFS Level II, Jamaica, May 2010



- Key point on availability and geographical accessibility:
  - Key medicines were almost completely available at public pharmacies.

- Availability of key medicines was adequate in the private sector.
- Only one in every four public facilities dispensed more than 84% of prescribed medicines.
- Stock-out of key medicines is more likely to be found in public pharmacies than in public central medical store.
- In general, record keeping was adequate for most of the key medicine in most of the public pharmacies and warehouse.
- Geographical accessibility was good to public pharmacies and private pharmacies
- About five in ten patients spend more than 20% of their days' wage to arrive at the public pharmacy and private pharmacy.

Affordability

The affordability of treatment for 2 common conditions was estimated as the number of days' wages of the lowest-paid unskilled government worker needed to purchase medicines prescribed at a standard dose (Table 9).

For acute conditions, treatment duration was defined as a full course of therapy. The daily wage of the lowest-paid unskilled government worker used in the analysis was J$ 642.86 (US$ 7.24).

It should be noted that treatment costs refer to medicines only and do not include the additional costs of consultation and diagnostic tests.

Table 9. Number of days' wages of the lowest paid government worker needed to purchase standard treatments, PSA-HFS Level II, Jamaica, May 2010

Disease condition and "standard" treatment		Day's wages to pay for treatment			
		Public sector		Private sector	
Condition (Drug name, strength, dosage form)	Treatment schedule	Lowest price generic	Originator brand	Lowest price generic	Originator brand
Worm infestation (Albendazole tab 400 mg)	1 tab	0.0	0.0	0.2	0.4
Urinary tract infection adult (Co-trimoxazole tab 400 + 80)	2 tab, bd, 7 days	0.0	0.0	0.2	2.0
Urinary tract infection paediatric (Co-trimoxazole vial 200 + 40)	5 ml, bd, 7 days	0.0	0.0	0.4	1.1
Hypertension (Enalapril 5 mg tab + Hydrochlorothiazide 25 mg)	Enalapril: 1 tab, bd -30 days, Hydrochlorothiazide 1 tab, once daily -30 days	0.0	0.8	5.2	0.0
Diabetes mellitus (Glibenclamide 5 mg tab + Metformin 500 mg tab)	Glibenclamide: 1 tab, once daily -30 days, Metformin 1 tab, td -30 days	0.0	0.1	2.1	0.0

- Key points on affordability:
  - Medicines for the selected conditions are free of charge in the public sector.
  - In the private sector, treatment for hypertensions accounts for 80% of a day's wage if using lowest priced generic and 5.2 days using originator branded medicines.

Quality of medicines

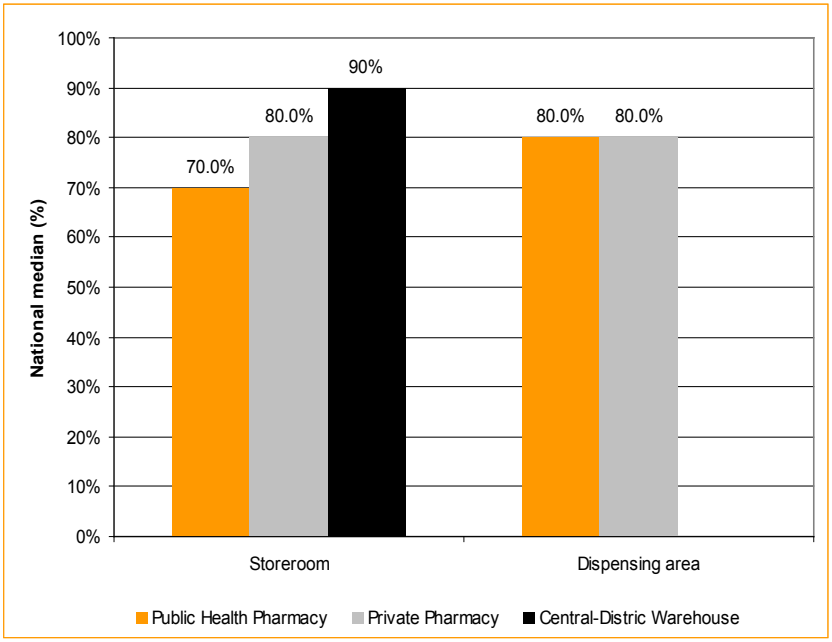
Since direct quality assessment of medicines is expensive and difficult to operate in such a survey, some proxy indicators were measured. Since key medicines selected to be verified in the study are supposed to be frequently used, and with a high turnover, to find out any expired medicines would be a very poor result. Storage conditions verified in this study are very basic quality standards.

The collected data show that expired medicines were found in one in ten public dispensaries; besides, the storage conditions were, except in the warehouses, not adequate enough for the public health facilities and private pharmacies (Table 10; Figure 6).

Table 10. General indicators for quality of medicines, PSA-HFS Level II, Jamaica, May 2010

Indicator	National (Median)	25th Percentile	75th Percentile
Percent of medicines expired in:			
▪ public health facility dispensaries	0.0	0.0	0.0
▪ private drug outlets	0.0	0.0	0.0
▪ public central medical store	0.0	0.0	0.0
Public Facilities with expired medicines (percentage of yes)	10.34		
Private Pharmacies with expired medicines (percentage of yes)	7.69		
Adequacy of storage conditions of medicines in:			
▪ storerooms of public health facility dispensaries	70.0	50.0	80.0
▪ dispensing rooms of public health facility dispensaries	80.0	70.0	80.0
▪ storerooms of private drug outlets	80.0	60.0	80.0
▪ dispensing rooms of private drug outlets	80.0	80.0	90.0
▪ storerooms of public central medical store	90.0	90.0	90.0

Figure 6. Adequacy of infrastructure of conservation conditions of medicines, PSA-HFS Level II, Jamaica, May 2010



- Key points on quality of medicines:
  - Expired medicines were found in one in each ten public dispensaries and one in each fourteen private pharmacies.
  - Adequacy of infrastructure for storage and conservation of medicines was good for warehouses (90%) and acceptable for public health pharmacies (70%).
  - Since the results show that conditions are sometimes not good, it is possible to infer that the quality of medicines provided in the country is of important concern with regards to the conservation conditions in this part of the supplying channel.

Rational use

According to WHO (*13*), the target for indicators measuring the extent of adequate labelling, proportion of prescribed medicines dispensed, adherence to treatment guidelines and availability of key medicines is ideally 100%. However, internationally valid standards for other indicators, such as average number of medicines per prescription, and the percentage use of antibiotics and injections, are more complex and have not been empirically established. Targets may require modification over time and between countries, but are currently recommended to be below 2, 30% and 20%, for the average number of medicines per prescription, percentage use of antibiotics and percentage use of injections, respectively. The optimal indicator values in these cases largely depend on disease patterns, policies and treatment guidelines and therefore may vary from country to country and over time.

Average number of medicines per prescription was addressed by two different methods: patient exit interview and retrospective prescription review.

The data presented concerning rational use of medicines (Tables 11 and 12) shows that prescription of antibiotics is high and the treatment of non-bacterial diseases with antibiotics is also high. These data show that less than 25% of prescription medicines are sold by the private pharmacies without prescription.

Table 11. General indicators for rational use, PSA-HFS Level II, Jamaica, May 2010

Indicator	National (Median)	25th Percentile	75th Percentile
Prescribing indicators			
Average number of medicines per prescription at public health facility dispensaries (SF 6)	4.0	3.0	4.0
Average number of medicines per prescription at public health facilities (SF 7)	2.9	2.4	3.0
Percent of patients prescribed antibiotics in public health facilities	33.4	30.0	50.8
Percent of patients prescribed injections in public health facilities	8.4	3.3	20.8
Percent of prescribed medicines on the essential medicines list at public health facilities	85.3	80.4	89.8
Percent of medicines prescribed by generic name (INN) at public health facilities	41.9	25.1	46.1
Patient care indicators			
Percent of medicines adequately labelled at:			
▪ public health facility dispensaries	100	92.2	100
▪ private pharmacy	95.5	91.2	98.6

Continues on next page...

Table 11 (cont.)

Indicator	National (Median)	25th Percentile	75th Percentile
Percent of patients know how to take medicines at:			
▪ public health facility dispensaries	73.3	63.3	84.6
▪ private pharmacy	90.0	76.7	96.7
Prescription medicines bought without prescription	0.0	0.0	0.0
Facility specific factors for the rational use of medicines	National percentage		
Availability of Standard Treatment Guidelines at public health facilities	46.4		
Availability of VEN list at public health facilities	35.7		

Table 12. Distribution of private pharmacies according to their results on % prescription medicines bought without prescription, Jamaica, May 2010

Range	Number of facilities	% of facilities
< 25%	25	100.0
25 - 50%	0	0.0
51 - 75%	0	0.0
> 75%	0	0.0
Total	25	100.0

Percentage of tracer cases treated according to recommended treatment protocol is presented in Table 13.

Table 13. Adherence of prescribers to recommended treatment guidelines, PSA-HFS Level II, Jamaica, May 2010

Indicator	Information source	Median	National Average	Standard Deviation
Non-bacterial diarrhoea in children under age 5	Total number of cases	260		
	Percentage of ORS	100	95.5	8.1
	Percentage of antibiotics	0.0	3.8	9.3
	Percentage of antidiarrhoeal and/or antispasmodic	0.0	3.0	9.1
Mild/moderate pneumonia in children under age 5	Total number of cases	114		
	Percentage of receiving any one first line antibiotic	0.0	30.2	38.7
	Percentage of receiving more than one antibiotic	0.0	2.2	5.9
Non-pneumonia ARI in patients of any age	Total number of cases	270		
	Percentage of antibiotics	85.0	76.2	28.2
Asthma – acute attack in children under age 5	Total number of cases	239		
	Percentage of receiving salbutamol and beclomethasone inhaler	52.8	54.4	25.5

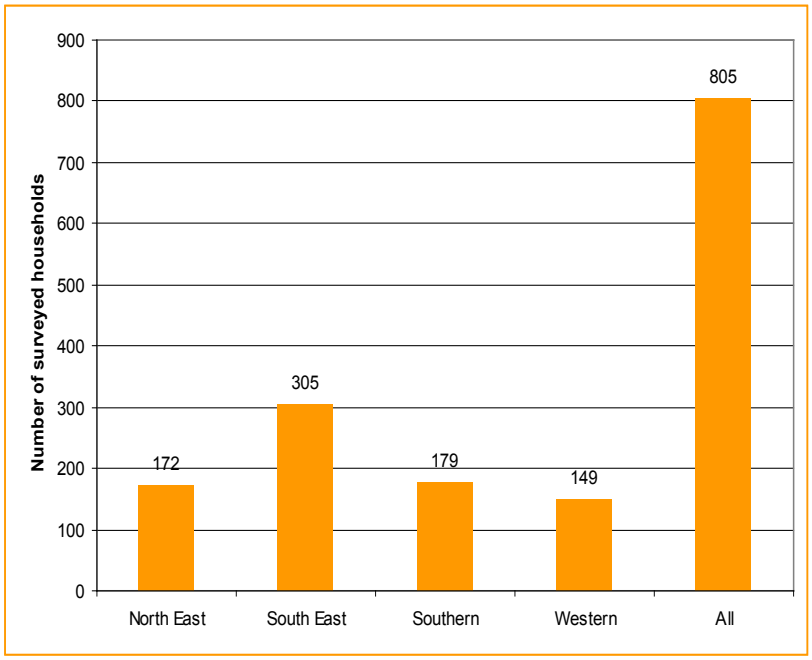
- Key points on rational use of medicines:
  - The average number of medicines per prescription was higher than the standard proposed by WHO with both methods in use.
  - In 1 in 4 health facilities half of the patients were prescribed an antibiotic.
  - One in four health facilities were above the desirable value of 20% of patients prescribed with an injection.
  - Half of health facilities showed about 80% of prescribed medicines on the VEN List.

- Only 41% of medicines were prescribed using INN (generic name).
- One in four medicines dispensed had problems on the label.
- Most of the patients knew how to use their medicines. However, in public dispensaries, 1 in 4 patients did not know how to take their medicines.
- Less than half of public health facilities (46.4%) did not have a copy of the standard treatment guideline.
- Only 1 in every 3 public health facilities (33%) had a copy of the VEN List.
- Prescribing practices in Jamaica showed to be problematic since 85% of patients with non-pneumonia ARI were prescribed an antibiotic.
- About half of children under 5 that had an asthma attack received salbutamol and beclomethasone.
- On average, 85% of medicines prescribed were included in the VEN List, indicating a fair adherence of physicians to this list, despite the fact that the list is not highly available in the public health facilities.
- The percentage of medicines adequately labelled was 100% and 95.5% at public health facility dispensaries and at private pharmacies respectively.

Household survey

The actual survey included data on 805 households, with distribution showed in Figure 7.

Figure 7. Number of surveyed households in each region, Jamaica, 2010



- Key points:
  - A total of 805 households participated in the survey.
  - The South East region (South East - A and South East - B) contributed with 305 households.

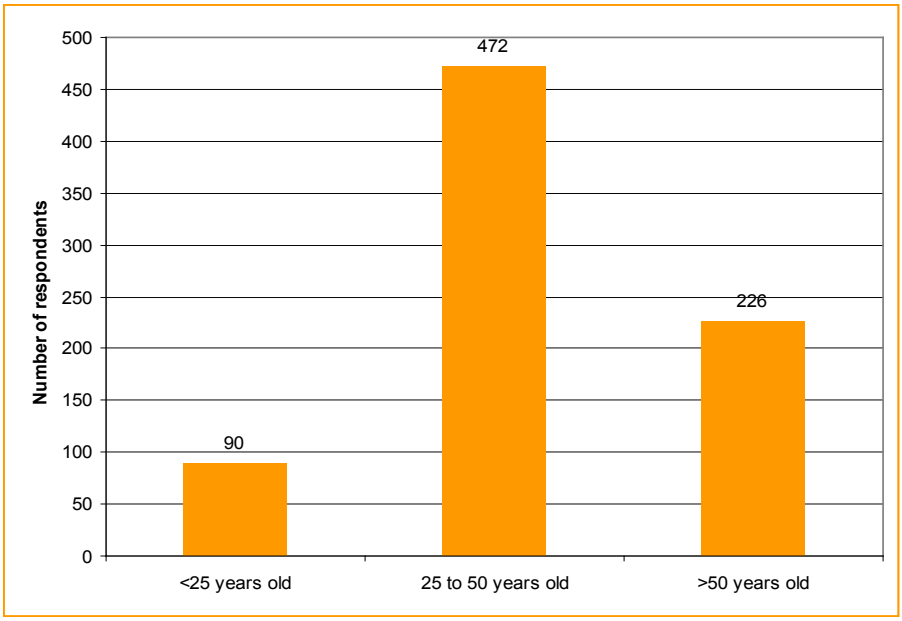
Characteristics of surveyed households

Understanding the characteristics of surveyed households is critical for assessing their representativeness at the country level. Interpretation of survey results depends on the location, size, composition and socioeconomic status of households, as well as characteristics of respondents and morbidity of the population included in the survey.

Respondents

Respondents were selected by data collectors because they are the household health care decision makers; therefore, the age and education of respondents provide information about the characteristics of the main health care decision makers in households. In addition, the profile of respondents is important to consider in the interpretation of their opinions. Figure 8 presents the age of respondents.

Figure 8. Age of respondents/health care decision makers, Jamaica, 2010



- Key points:
  - Data collectors interviewed the most knowledgeable person about matters related to the health of household members.
  - Six out of 10 respondents were between 25 and 50 years old.

Table 14 presents the highest level of education of the respondents.

Table 14. Education of respondents, Jamaica, 2010

Number of respondents	772 (805)
No formal schooling	28 (4%)
Some primary school	25 (3%)
Completed primary school	175 (23%)
Completed secondary school	176 (23%)
Completed high school or equivalent	262 (34%)

Continues on next page...

Table 14 (cont.)

Number of respondents	772 (805)
Completed college/pre university/university	85 (11%)
Completed post-graduate degree	21 (3%)
Not informed	33 (4.1%)

A total of 33 (4.1%) of the householders interviewed refused to provide information on their educational status.

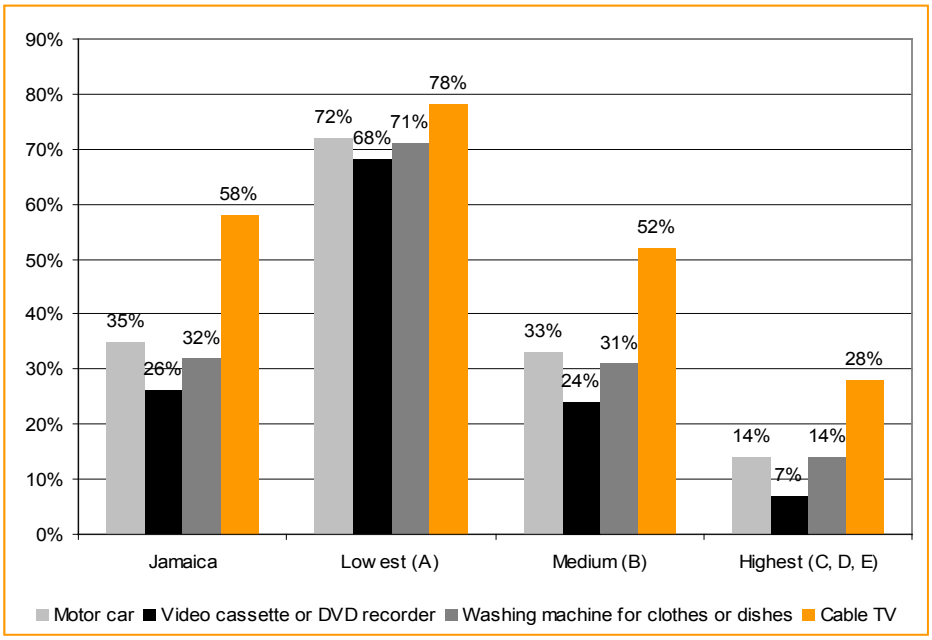
- Key points:
  - The majority of respondents received formal school education.
  - About 23% of respondents completed secondary school and 14% completed college education and more.
  - Seven percent had no formal education or had not completed primary school.

Household assets

Assets are an expression of socioeconomic status, complementary to household expenditures. The medicines survey collects information about 15 different items by asking a Yes/No question: "Does anyone in your household have such item?" Items are country-specific, i.e. each survey team creates a list of assets that best discriminates among socioeconomic strata in their country. Assets chosen by the Jamaica survey team were: bicycle, video camera, mobile/cellular or fixed phone, any subscriptions to magazines/newspapers, motor car, second home, video cassette or DVD recorder, washing machine for clothes or dishes, vacuum cleaner, refrigerator, computer and access to the internet / world wide web from home.

Figure 9 presents the percentage of households with selected assets at different levels of expenditures.

Figure 9. Household assets and levels of monthly (4 weeks) expenditures, Jamaica, 2010



- Key points:
  - Almost 94% of households had access to electricity and 72% to tap/running water (data not shown).
  - The percentage of households owning a car, a video cassette or DVD recorder, a washing machine for clothes or dishes and cable TV increased with the level of expenditures.

Household expenditures

In the survey direct information on food and health expenditures of households is collected. Providing an actual value of 4-wk total expenditures is optional. Recall periods of total and health expenditures are defined as the four previous weeks. Recall period of food expenditures is limited to the previous week: food expenditures results have been adjusted to take into account the difference in recall period. Discretionary expenditures are calculated as the difference between total monthly (four weeks - 4-wk) expenditures and 4-wk food expenditures.

Table 15 presents the mean, 25th percentile, median, and 75th percentile of household expenditures by surveyed households. The mean is the average value, sensitive to outliers, whereas the median is the 50th percentile, i.e. the value below which 50% of the values are positioned. The 25th and 75th percentiles are the boundaries of half of the values around the median, i.e. 50% of the values are within the 25th (lower quartile) and 75th (upper quartile) percentiles. The large difference between means and medians of expenditures in some cases is due to the presence of extreme outliers at the higher ranges of expenditures.

Table 15. Monthly household expenditures, Jamaica, 2010

Expenditures	Valid N (J$)	Mean (J$)	25th Percentile (J$)	Median (J$)	75th Percentile (J$)
4-wk hh total expenditures	496	35,735	17,500	26,000	45,000
1-wk hh food expenditures	744	4,895	3,000	4,000	6,000
4-wk discretionary expenditures (e.g. total - food)	496	16,361	2,000	9,000	20,000
4-wk hh health expenditures	273	3,814	800	2,000	4,000
4-wk hh hospital expenditures	6	3,017	1,150	2,050	5,500
4-wk hh medicine expenditures	235	2,625	600	1,500	2,915
4-wk hh other health expenditures	38	6,529	1,350	2,000	3,875
4-wk hh voluntary health insurance expenditures	52	3,041	800	1,900	2,825

Note: US$ 1.00 = J$ 88.85.

- Key points:
  - About 60% of households provided information on the total expenditure.
  - About one third informed health expenditures, from these about 86% had expenditure on medicines.
  - Health expenditure accounts for about 11% of total expenditure.
  - Medicines expenditure accounts about 69% of health expenditures.

Household socioeconomic status

Socioeconomic status (SES) is a key attribute of households, influencing their options and decisions about health care. In addition to collecting assets and expenditures data, socioeco-

nomic status can be estimated by asking respondents to choose which level of expenditures best matches what their household spends over a defined period of time.

The medicines survey identifies poor households by asking respondents to match their household expenditures with one of five pre-defined ranges (Annex 3). In Jamaica, the lowest range of expenditures was range A defined as spending less than J$ 8,300 (US$ 93) per person and per month. Range B corresponded to spending between J$ 8,300 and J$ 12,800 (US$ 93-144) per person and per month, range C to spending between J$ 12,801 and J$ 19,200 (US$ 145-216) per person and per month, range D to spending between J$ 19,201 and J$ 41,100 (US$ 217- 462) per person and per month. Range E was the highest possible range of expenditures, defined as spending more than J$ 41,100 (US$ 462) per person and per month. Respondents chose one of these five ranges of expenditures that corresponded to the monthly total expenditures of their household. Very few respondents identified their household in higher ranges. For this reason, this report displays households with expenditures in ranges C, D, and E as one group. Tables 16 and 17 present the characteristics of households and sources of income at different levels of SES, and in different areas.

Table 16. Characteristics of households, Jamaica, 2010

	4-week expenditures/person			
	Jamaica	Lowest (A)	Medium (B)	Highest (C, D, E)
Number of households	805	372	198	163
Household size	4	5	3	3
Total population	3209	1763	666	532
Percentage of households with children	53%	61%	51%	42%
Number of children per household with children	2	2	2	2
Number of children < 5 years of age per household with children	1	1	1	1
Percentage of households where someone earns money	84.7	83.1	90.9	89.0
Mean 4-wk total household expenditures (J$)	35,735	27,357	37,739	53,646
Mean 4-wk total household expenditures (US$)	402	308	425	604

Table 17. Sources of income and the job of the main earner in the household (household head), Jamaica, 2010

	4-week expenditures/person (%)			
	Jamaica	Lowest (A)	Medium (B)	Highest (C, D, E)
Self employed with employees	20	10	7	15
Private worker	18	28	32	30
Public worker civil servant	13	12	16	16
Agricultural labour	13	16	12	7
Self employed without employees	10	19	22	21
Retired with pension	5	5	3	6
Non-agricultural labour	2	1	3	3
Health worker	1	1	1	2
Other	6	8	5	3

- Key points:
  - Forty-six percent of respondents classified their household in the lowest SE quintile with 4-wk household expenditures averaging J$ 27,357.
  - Twenty percent of households spent > J$ 12,801 per person and per month. Wealthier households tended to have fewer children.
  - The 4-wk total expenditures average was J$ 35,735 per household.
  - Most household heads were declared to be a self employed with employees.

Household morbidity

The medicines survey collects information about household morbidity by asking respondents if a member of the household had acute illness within two weeks preceding the survey and if a member of the household has a chronic disease. If that is the case, data collectors collect health data on the youngest member with a recent acute illness and on the oldest member with a chronic disease. They also ask how many members had or have a recent acute illness or have a chronic disease.

Table 18 presents the prevalence of illnesses in surveyed households and Table 19 displays the average number of illnesses in households with a sick member, as well as the age and gender of members whose health information was collected.

Table 18. Prevalence of acute and chronic conditions, Jamaica, 2010

		At least one chronic disease		All
		Yes	No	
At least one recent acute illness	Yes	132 (16%)	108 (13%)	242 (30%)
	No	258 (32%)	303 (38%)	562 (70%)
All		390 (48%)	411 (51%)	0 (0%)

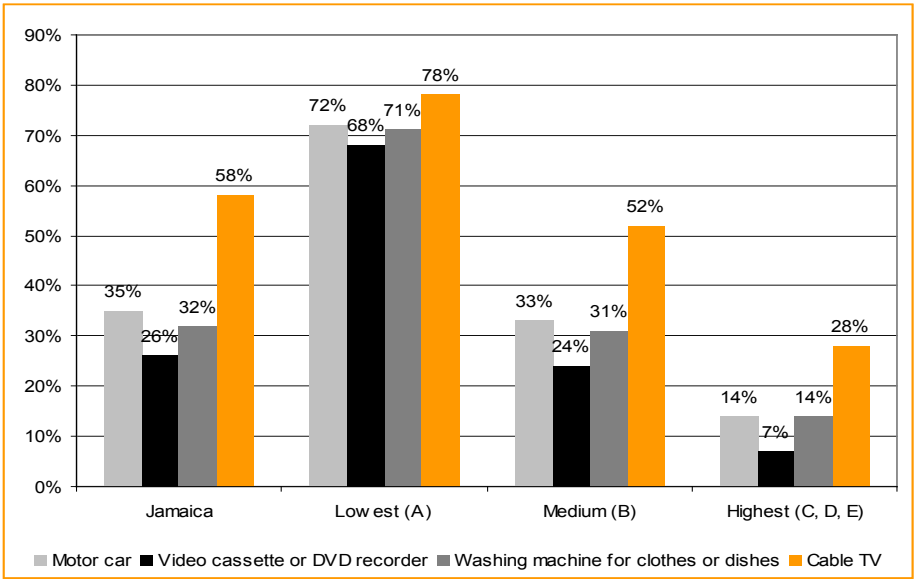
Table 19. Characteristics of acute and chronic conditions, Jamaica, 2010

Number of households with at least one recent acute illness	242
Average number of recent acute illnesses per household with at least one recent acute illness	1.5
Average age of youngest with recent acute illness	18 years
Percentage of youngest members with recent acute illness who are < 15	55
Percentage of youngest members with recent acute illness who are females	45
Number of households with at least one chronic disease	**390**
Average number of chronic diseases per household with at least one chronic disease	1.4
Average age of oldest with chronic disease	54 years
Percentage of oldest members with chronic disease who are above 50	59
Percentage of oldest members with a chronic disease who are females	49

- Key points:
  - About one third of sampled households reported not having health problems (38%) and 16% reported acute and chronic conditions.
  - About one third of households reported at least one recent acute illness (30%) or one chronic disease (48%).
  - A slightly higher percentage of men had acute or chronic conditions.

Figure 10 presents symptoms of recent acute illness, by severity as perceived by respondents.

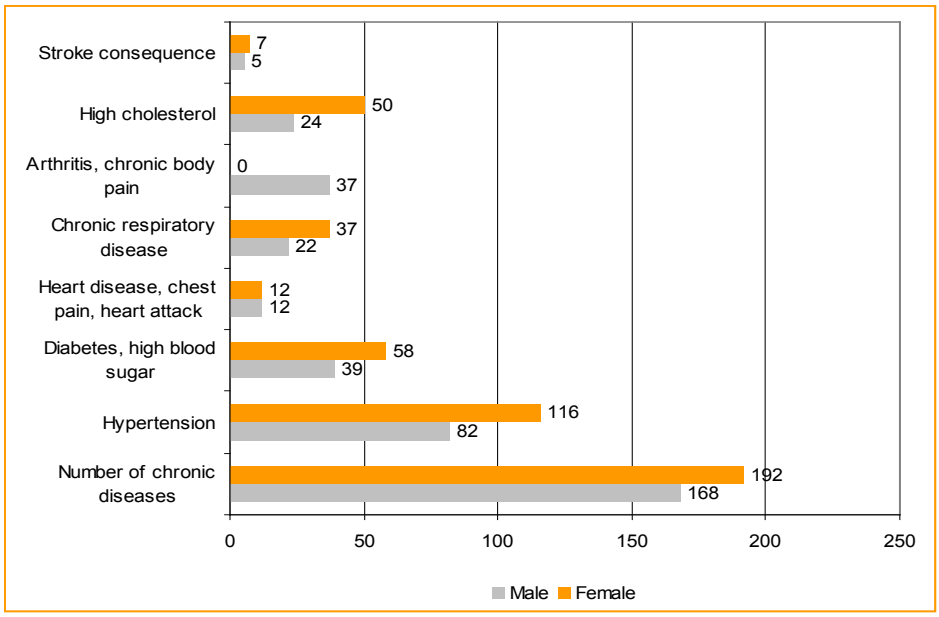
Figure 10. Reported symptoms and perceived severity of acute illness, Jamaica, 2010



- Key points:
  - Seven percent of reported recent acute illnesses were viewed as very serious by the respondents.
  - The most frequent symptoms reported were cough, runny nose, sore throat or ear ache.

Chronic conditions are documented as recalled by respondents as being previously diagnosed by a physician. Figure 11 presents reported chronic diseases, by gender.

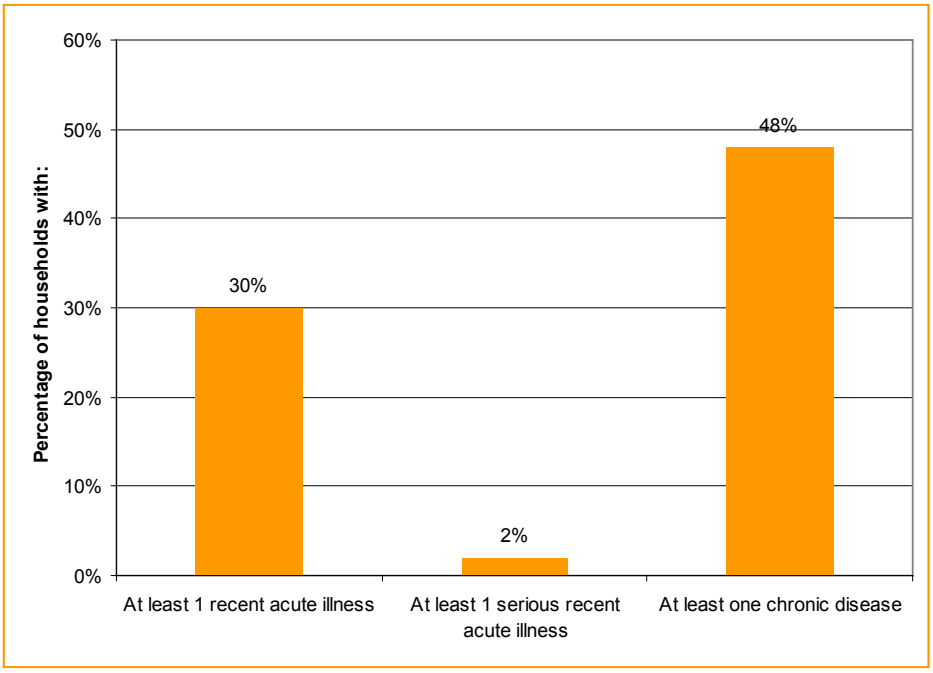
Figure 11. Most frequent chronic diseases by gender, Jamaica 2010



- Key points:
  - The most frequent reported chronic disease was by far hypertension.
  - The proportions of reported diabetes, high cholesterol and hypertension cases were higher in women.

Figure 12 presents the percentage of households with acute and chronic conditions in different survey areas.

Figure 12. Prevalence of illnesses, Jamaica, 2010



Geographic access and availability of medicines

Geographic access to public health facilities is an important indicator of equity in access to medicines.

Proximity to health care facilities

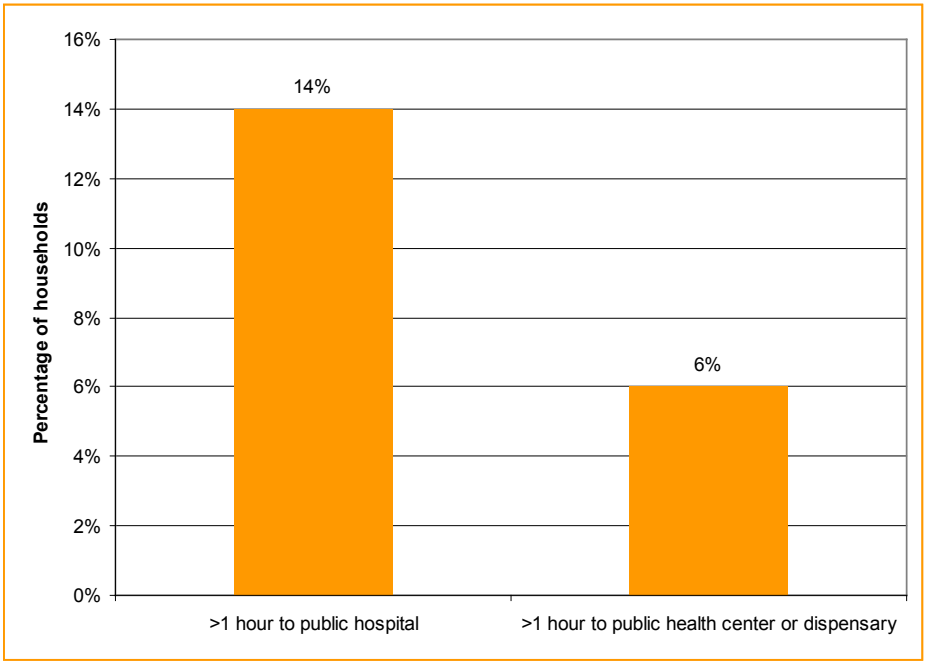
The medicines survey records the proximity of each household to different types of health care facilities, using the time to travel as unit of distance. Facilities are classified into the following categories: public hospital, private or NGO hospital, public health care centre or dispensary, private clinic or physician, traditional healer, private pharmacy, or drug seller. For each facility, options to choose from are less than 15 minutes, between 15 minutes and 1 hour, and over one hour of travel time.

Table 20 displays the proximity of households to any health care facility. Figure 13 presents the proportion of households at more than 1 hour from a public health hospital or public health care centre.

Table 20. Travel time to closest health care facilities in Jamaica, 2010

	Any health care facility	
Travel time < 15 min	634	79%
Travel time: 15 minutes to 1 hour	169	21%
Travel time >1 hour	3	0%
	Any public health care facility	
Travel time < 15 min	361	45%
Travel time: 15 minutes to 1 hour	433	54%
Travel time >1 hour	12	1%

Figure 13. Households far away from a public health care facility

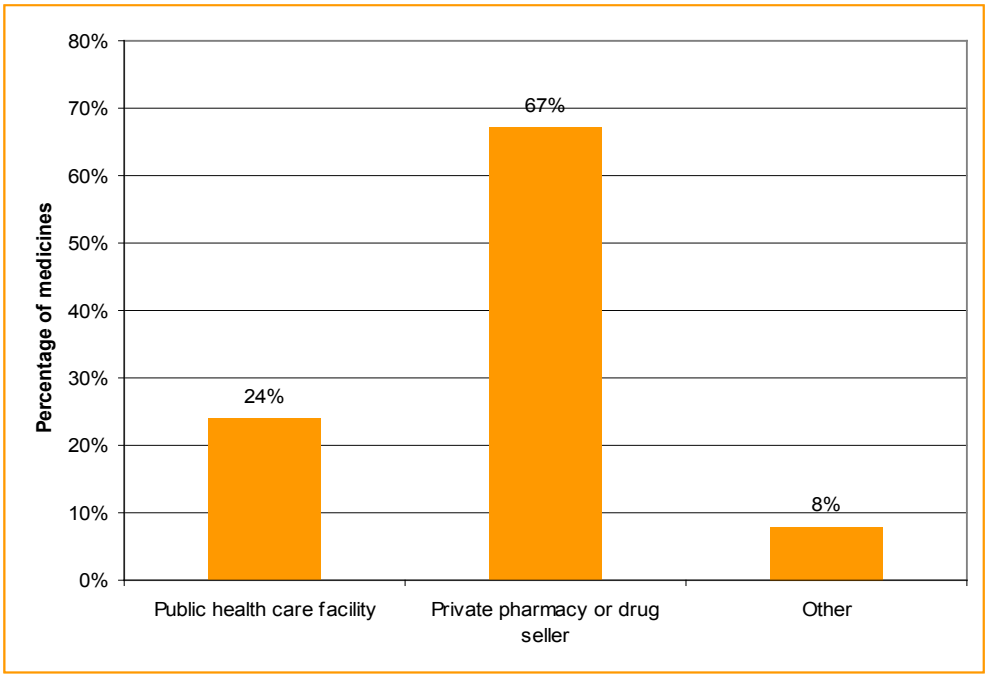


- Key points:
  - Overall, 14% of households were located at more than one hour of travel time from a public hospital.
  - No household was located more than one hour from any private health care facility.
  - One in twenty households was more than one hour from a public health centre.

Sources of medicines found in households

Figure 14 presents the percentage of medicines found in households that were obtained in different types of health care facilities, by surveyed area.

Figure 14. Sources of medicines found in households, Jamaica, 2010

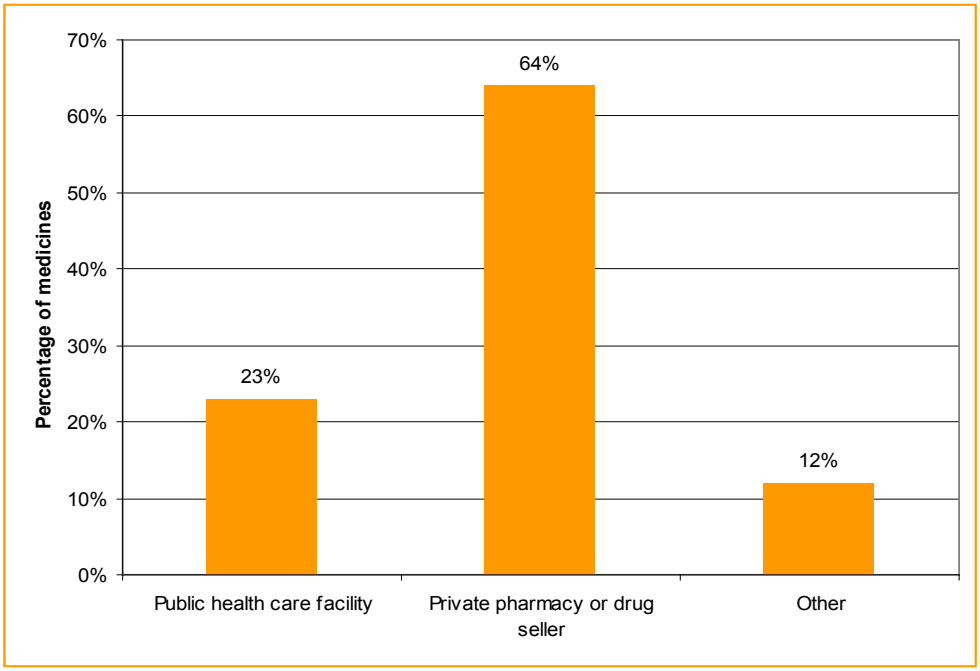


- Key points:
  - Around 67% of medicines found in households came from a private pharmacy or drug seller.

Sources of medicines in case of acute illness

Figure 15 presents the sources of medicines in case of acute illness, by surveyed area.

Figure 15. Sources of medicines taken for an acute illness, Jamaica, 2010



- Key points:
  - Sixty-four percent of medicines obtained for an acute illness came from a private pharmacy or drug seller.

Opinions about geographic access and availability of medicines

Table 21 presents the percentage of respondents who agreed with statements related to geographic access and availability of medicines.

Table 21. Opinions about geographic access and availability of medicines, Jamaica, 2010

	Agree	Don't know	Disagree
Number of respondents	800	800	800
Public health care facility closest to my household is easy to reach (%)	69	2	29
My household would use public health care facilities more if opening hours were convenient (%)	58	8	34
Public health care facility closest to my household usually has the medicines we need (%)	35	18	47
Private pharmacy closest to my household usually has the medicines my household needs (%)	90	4	6
Geographic access to medicines			
Households with at least one acute or chronic conditions			
Percent of respondents who say that distance from source of medicines is a reason for not taking medicines prescribed for a chronic disease (%)		2	
Percent of respondents who say that distance from source of medicines is a reason for not taking medicines prescribed for a chronic disease (%)		6	
Availability of medicines			
Households with at least one acute or chronic conditions			
Percent of respondents who say that availability of medicines in their public health care facility is a reason for not taking medicines prescribed for a recent acute illness (%)		17	
Percent of respondents who say that availability of medicines in their public health care facility is a reason for not taking medicines prescribed for a chronic disease (%)		9	

- Key points:
  - About 7 in 10 respondents were satisfied with the location of their public health care facility.
  - Nine in ten respondents agreed that medicines needed are available in private pharmacies.
  - One in three respondents agreed that medicines needed are available in public dispensaries.

Affordability of medicines

Affordability of medicines is a critical indicator of equity in access to medicines. The level of medicine insurance coverage and the actual cost of medicines for different conditions are important to consider when assessing the affordability of medicines. The percentage of households experiencing catastrophic expenditures during the month preceding the survey provides a useful account of the affordability of medicines in the surveyed population.

Cost of medicines for acute illnesses

In addition to collecting monthly household expenditures for medicines, information about the cost of prescriptions for recent acute illnesses is collected. Table 22 presents the cost of prescriptions for acute illnesses, by surveyed areas.

Table 22. Cost of prescription for a recent acute illness, Jamaica, 2010

	Jamaica
Number of households with at least one acute illness	242
Number of persons with recent acute illness who took medicines	188
Number of households who paid for the medicines	145
Average number of medicines by prescription	2
Average cost of one prescription when not free of charge	J$ 2,969
Maximum cost of one prescription	J$ 100,000

Note: US$ 1.00 = J$ 88.85.

- Key points:
  - The average number of medicines per prescription was 2.
  - For households who paid for medicines, the average cost of a prescription for acute illness was $J 2,969.
  - About eight in ten people with an acute condition took a medicine for this condition.

Cost of medicines for chronic diseases

The medicines survey also collects information about the price of medicines taken for chronic diseases. In this case, the monthly cost of each prescribed medicine is recorded.

Table 23 presents the monthly cost of medicines for chronic diseases, by surveyed areas.

Table 23. Monthly cost of medicines for a chronic disease, Jamaica, 2010

	Jamaica
Number of persons with chronic disease	390
Number of persons who take medicines	277
Number of persons who pay for medicines	158
Average number of medicines for a chronic disease	2
Average monthly cost of medicines for a chronic disease	J$ 1,900
Maximum monthly cost of medicines for a chronic disease	J$ 100,000

Note: US$ 1.00 = J$ 88.85.

Key points:

- The average number of medicines taken for a chronic disease was 2.
- For the households who paid for medicines, the average monthly cost of medicines for chronic diseases was $J 1,900.
- About 7 in ten people with a chronic condition are taking medicines.

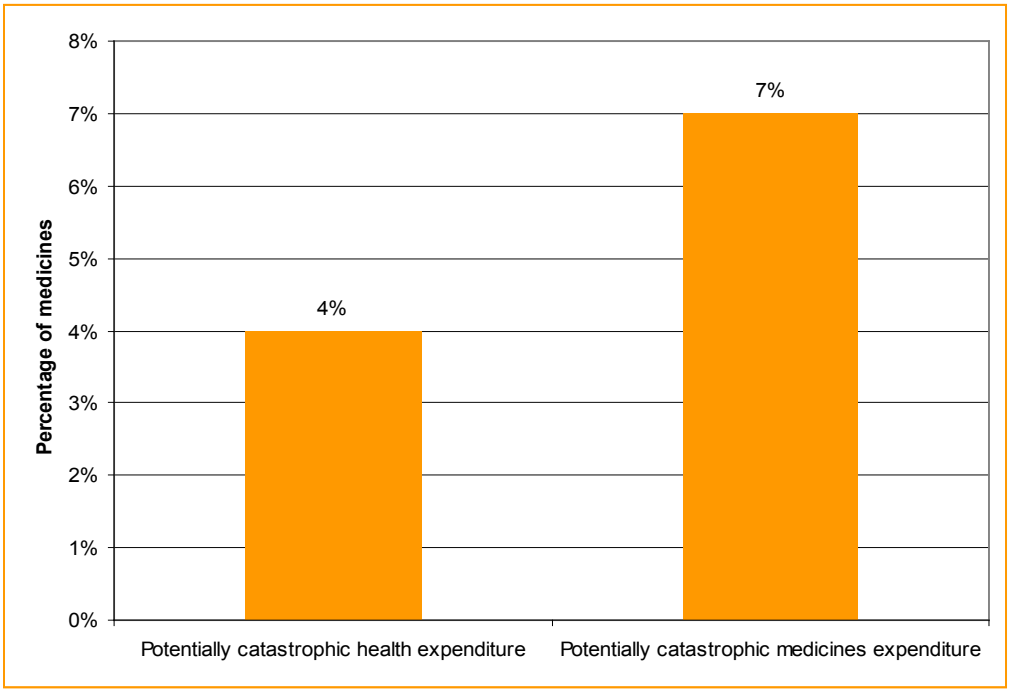
Potentially catastrophic expenditures related to medicines

Potentially catastrophic expenditures are payments that may push people into poverty. They can be expressed in different ways. In the survey, potentially catastrophic expenditures are calculated as expenditures are higher than 40% of discretionary expenditures (*17*). Catastrophic

expenditures were calculated in the group of 496 respondents who provided the actual amount of total expenditures by their household during the month preceding the survey.

Figure 16 presents the percentage of households with catastrophic expenditures related to medicines during the month preceding the survey.

Figure 16. Potentially catastrophic expenditures related to medicines in month preceding survey, Jamaica, 2010



Medicines free-of-charge and insurance coverage

Table 24 presents the percentage of households who receive medicines free-of charge and those with medicines insurance coverage.

Table 24. Medicines free-of-charge and insurance coverage

	Jamaica
Percentage of persons with recent acute illness who obtained medicines free of charge	23
Percentage of persons with chronic disease who receive medicines free of charge	31
Percentage of persons with recent acute illness and a health insurance covering medicines	23
Percentage of persons with chronic disease and a health insurance covering at least one medicine	42

- Key points:
  - About one third of people with chronic conditions received medicines free of charge.
  - About one quarter of people with acute conditions received medicines free of charge.
  - Medicines insurance coverage for chronic conditions was higher than for acute conditions (42% vs 23%).

Opinions about affordability of medicines

Table 25 presents the percentage of respondents who agreed with statements related to affordability of medicines.

Table 25. Opinions about affordability of medicines

	Agree	Don't know	Disagree
Number of respondents	800	800	800
My household can get free medicines at the public health care facility (%)	62	22	16
Medicines are more expensive at private pharmacies than at public health care facilities (%)	91	6	2
My household can usually get credit from the private pharmacy if we need to (%)	8	16	77
My household can usually afford to buy the medicines we need (%)	38	1	60
My household would obtain prescribed medicines if insurance reimbursed part of their cost (%)	66	13	21
In the past, my household had to borrow money or sell things to pay for medicines (%)	43	2	55

- Key points:
  - Two thirds of respondents agreed that they can obtain free medicines in public health care facilities.
  - Four in ten households reported having to borrow or sell items to pay for medicines in the past.

Medicines at home

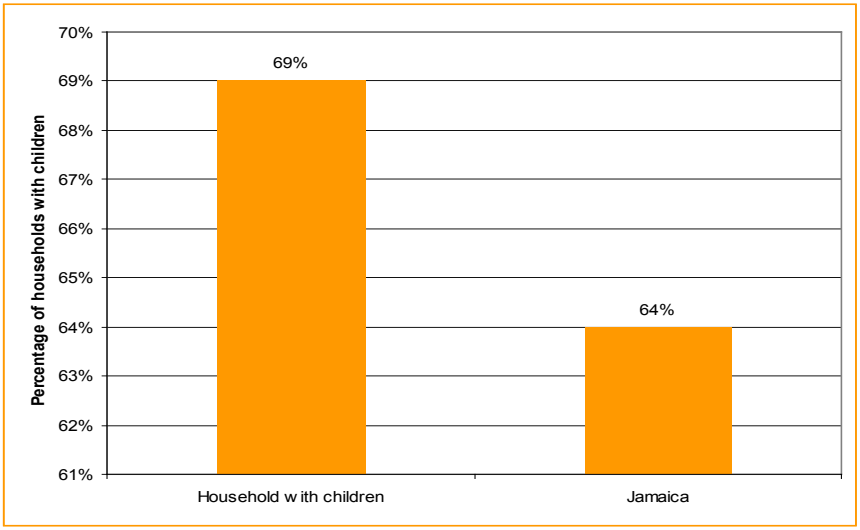
The objective of the medicines survey is to understand which medicines people access and use, who prescribes them, where they can be obtained, how much they cost and why people take or do not take them. Collecting information on medicines kept at home contributes to answering these questions.

In each household, data collectors ask to see all medicines that are kept at home, and record the name, source, reason for keeping each medicine, as well as the condition of their label and primary package. Medicines are entered in the data base with both their actual and generic names, and a code derived from the 15th WHO Model List of Essential Medicines (*14*).

Number of households where medicines could be found

Figure 17 presents the percentage of households where medicines were found.

Figure 17. Medicines in households and in households with children, Jamaica, 2010



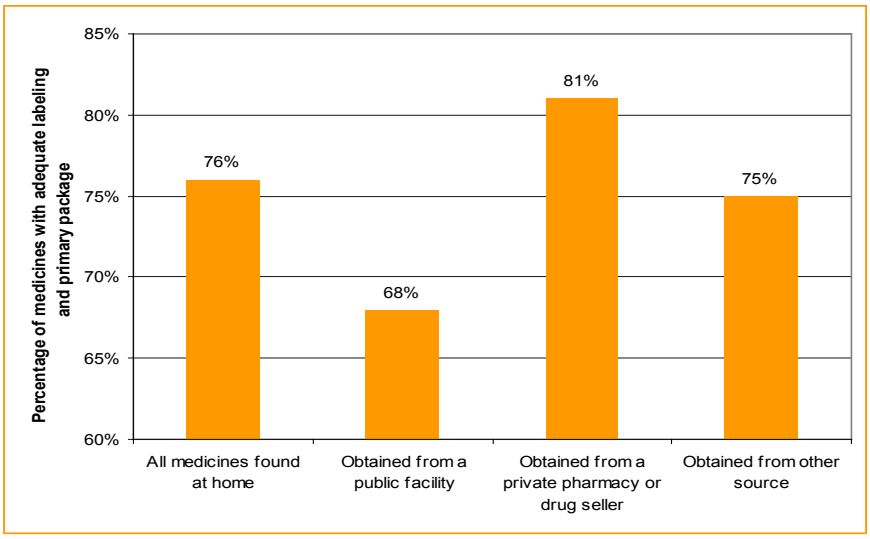
- Key points:
  - About 7 in 10 households with children kept medicines at home.
  - That percentage was slightly lower when all the households were concerned.

Labelling and packaging of medicines found in households

Labels of medicines found in households are considered acceptable by data collectors if they include medicine name, dose, and expiration date. Similarly, the primary package of a medicine is considered acceptable if it is an envelope or a closable container which contains only one medicine.

Figure 18 presents the percentage of medicines that had an acceptable label, primary package and validity, by source of medicine.

Figure 18. Percentage of home medicines with adequate label, primary package and validity, by source, Jamaica, 2010



Note: Other source indicated in Figure 18 represent friend or neighbor.

- Key points:
  - Overall, about one in four medicines found in households did not have a label, primary package or validity in good condition.
  - Medicines from public health care facilities were less likely to be appropriately labelled and kept in an adequate container than medicines from the private pharmacies

Use of medicines during acute illnesses

For each recent acute illness reported, data collectors recorded name, route of administration, prescriber, and source of each medicine taken for this illness. Medicines are entered in the data base with both their actual and generic names, and a code derived from the 15th WHO Model List of Essential Medicines.

Actions taken when an acute illness occurs

Table 26 presents the actions taken in case of recent acute illness.

Table 26. Actions taken for a recent acute illness, Jamaica, 2010

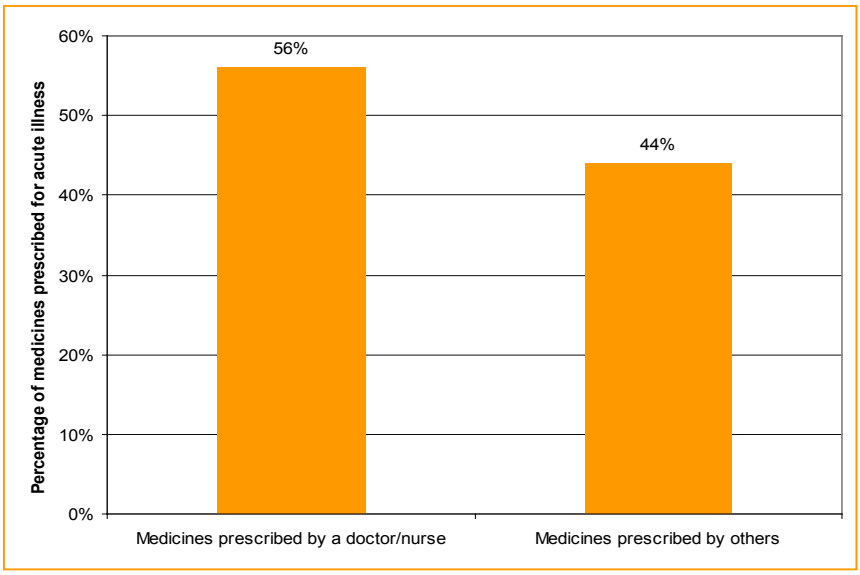
Sick persons with an acute illness perceived as very serious	18	Percentage
▪ Went for care and took all prescribed medicines	16	89
▪ Went for care and took some of the prescribed medicines	2	11
▪ Went for care but did not take any medicines	0	0
▪ Did not go for care	0	0
Sick persons with an acute illness perceived as moderately serious	**81**	**Percentage**
▪ Went for care and took all prescribed medicines	41	51
▪ Went for care and took some of the prescribed medicines	10	12
▪ Went for care but did not take any medicines	5	6
▪ Did not go for care	24	30
Sick persons with an acute illness perceived as not serious	**141**	**Percentage**
▪ Went for care and took all prescribed medicines	48	34
▪ Went for care and took some of the prescribed medicines	5	4
▪ Went for care but did not take any medicines	6	4
▪ Did not go for care	80	57
All sick persons with an acute illness	**240**	**Percentage**
▪ Went for care and took all prescribed medicines	105	44
▪ Went for care and took some of the prescribed medicines	17	7
▪ Went for care but did not take any medicines	11	5
▪ Did not go for care	104	43

- Key points:
  - About 90% of people with an illness perceived as a very serious acute illness sought care and took all prescribed medicines.
  - Four in ten people with an acute health condition took prescribed medicines.

Prescribers of medicines in case of acute illness

Figure 19 presents prescribers of medicines in case of acute illness, by different survey areas.

Figure 19. Prescribers of medicines in case of acute illness, Jamaica, 2010

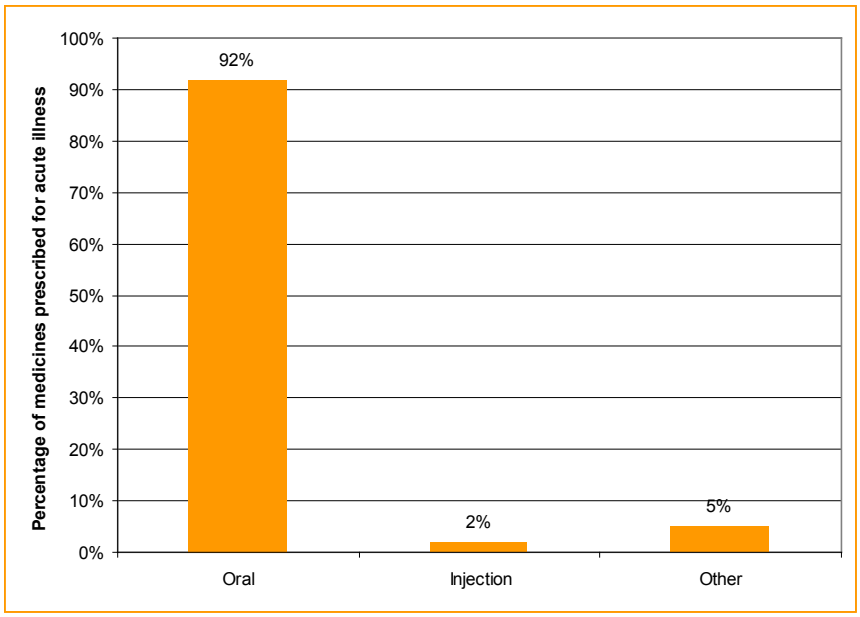


- Key points:
  - In case of acute illness, four in ten medicines were prescribed by non authorised people, like the person itself, friend, neighbor, pharmacist or drug seller.

Routes of administration of medicines prescribed for acute illness

Figure 20 presents the route of administration of medicines prescribed for acute illness, by different survey areas.

Figure 20. Route of administration of medicines prescribed for acute illness, Jamaica, 2010



- Key points:
  - In cases of acute illness, most prescribed medicines were taken orally

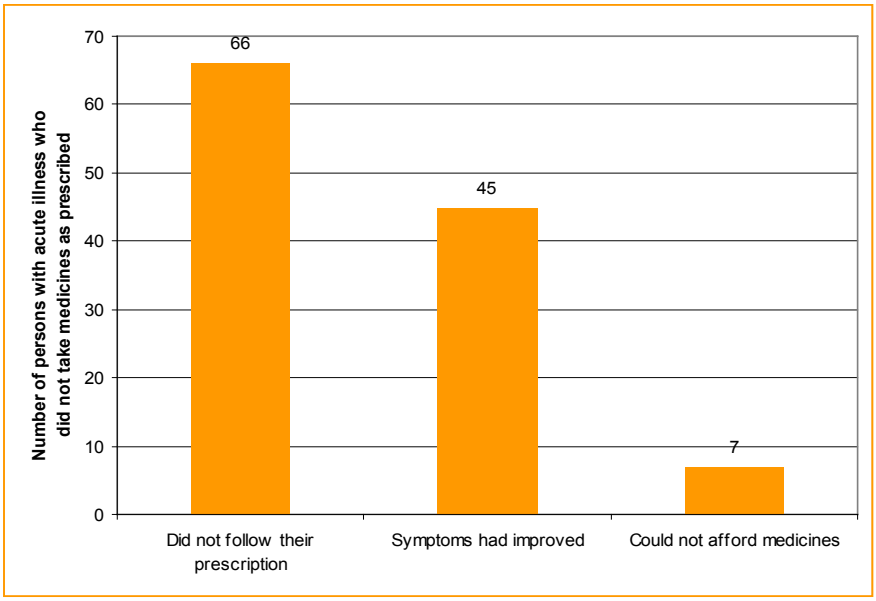
- The percentage of patients receiving injections was low.

Reasons for not taking medicines prescribed for acute illness

The medicines questionnaire includes a list of possible reasons that could explain why a person did not take prescribed medicines. If non-compliance is identified, this list is read to the respondent who chooses yes if he/she feels this reason explains why the medicine was not taken. Yes may be selected for several possible reasons.

Figure 21 presents the number of persons with acute illness who did not take the medicines as recommended, and the most frequent reasons chosen to explain non-compliance.

Figure 21. Reasons for not taking prescribed medicines for acute illness, Jamaica, 2010



- Key points:
  - Of the 242 surveyed individuals with an acute illness, 66 (26%) did not take medicines as prescribed.
  - The reason given by 45 patients (68%) for not taking their medicines was because the symptoms had improved.
  - Seven patients (11%) identified affordability of medicines as a reason for non-compliance.

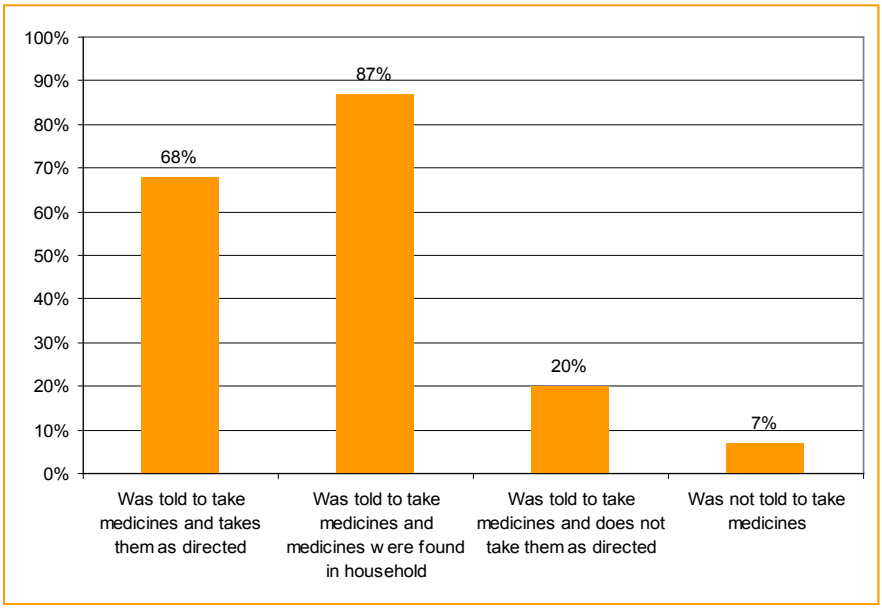
Use of medicines for chronic diseases

Three hundred and ninety households reported at least one chronic disease. In households with a person diagnosed with a chronic disease, data collectors record the name of each medicine prescribed to the person with a chronic disease, the condition for which it was recommended, the number of days of supply usually obtained, the usual cost for one month, and insurance coverage for every person with a chronic disease.

Actions taken when a chronic disease has been diagnosed

Figure 22 presents actions taken in case of chronic disease.

Figure 22. Actions taken for chronic diseases, Jamaica, 2010

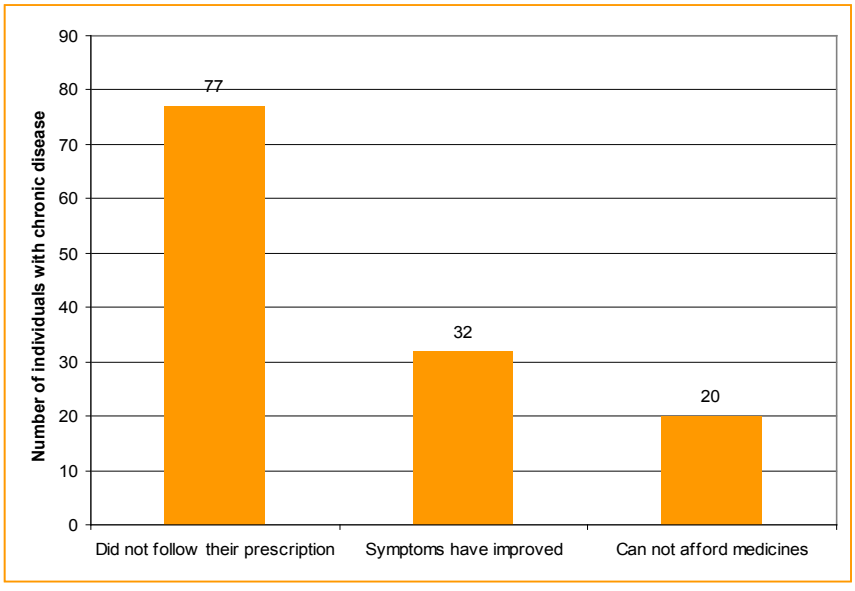


- Key points:
  - Around seven in ten persons with a chronic disease were told to take medicines and took them as directed.
  - Few individuals were diagnosed with a chronic disease and were not told to take medicines.

Reasons for not taking medicines prescribed for a chronic disease

Figure 23 presents the number of persons with chronic disease who did not take prescribed medicines as recommended.

Figure 23. Reasons for not taking medicines prescribed for a chronic disease, Jamaica, 2010



- Key points:
  - Of the 390 surveyed individuals with a chronic disease, 77 (20%) did not take medicines prescribed for the disease.
  - The reason most often given for not following the prescription was because symptoms had improved (32, 42%).
  - Twenty persons (26%) identified affordability as a reason for non-adherence.

Opinions about quality of care and generics

The medicines survey collects opinions of respondents about quality of care and generics. Statements describing opinions are read to respondents who are asked if they agree or disagree. Data collectors are instructed to tick the option "do not know" only if respondents are not sure or do not want to answer a particular question. Table 27 presents opinions of respondents about quality of care and generics.

Table 27. Opinions about quality of care and generics, Jamaica, 2010

	Agree	Don't know	Disagree
Number of respondents	798	798	798
The quality of services delivered at public health care facilities in my neighbourhood is good (%)	52	12	36
The quality of services delivered by private health care providers in my neighbourhood is good (%)	77	9	14
Brand name medicines are better than generic medicines (%)	37	41	22
Imported medicines are of better quality than locally manufactured medicines (%)	29	49	22

- Key points:
  - Forty one percent of respondents did not have an opinion about the quality of brand name medicines versus generic medicines.
  - Only half people agree that quality of services delivered at public health facilities in their neighbourhood is good, while 77% of them agreed that quality of services at private health facilities is good.

Key indicators of access and use of medicines

Availability of medicines

Table 28. Availability of medicines in households with at least one acute or chronic condition, Jamaica, 2010

Households with at least one acute or chronic conditions	Jamaica
Percentage of respondents who say that distance from source of medicines is a reason for not taking medicines prescribed for a recent acute illness	4
Percentage of respondents who say that distance from source of medicines is a reason for not taking medicines prescribed for a chronic disease	6

Affordability of medicines

Table 29. Affordability of medicines in households with at least one acute or chronic condition, Jamaica, 2010

Households with at least one acute or chronic conditions	Jamaica
Percentage of households where someone with a recent acute illness obtained medicines free-of-charge	23
Average cost of a prescription for acute illness for those who did not obtain medicines free-of-charge	J$ 2,969
Maximum cost of a prescription for acute illness for those who did not obtain medicines free-of-charge	J$ 100,000
Percentage of households where someone with a recent acute illness had medicines completely covered by a health insurance	23
Percentage of respondents who say that price was a reason for not taking medicines prescribed for a recent acute illness	27
Percentage of households with a chronic disease who obtain medicines for this disease free-of-charge	31
Average monthly cost of medicines for a chronic diseases when not obtained free-of charge	J$ 1,900
Maximum monthly cost of medicines for a chronic diseases when not obtained free-of charge	J$ 100,000
Percentage of households with someone with a chronic disease who has at least one medicine covered by a health insurance	42
Percentage of respondents who say that price is a reason for not taking medicines prescribed for a chronic disease	26

Mixed indicators

Table 30. Households with at least one acute or chronic conditions - Access to medicines - Mixed indicators, Jamaica, 2010

Households with at least one acute or chronic conditions	Jamaica
Percentage of households reporting a member with a recent serious illness who sought care outside home and took all prescribed medicines	89
Percentage of households where someone with a chronic disease was told to take medicines and takes them as directed	68
Percentage of households where someone with a chronic disease was told to take medicines and where medicines are found	87

Almost 8 in 10 persons with an illness perceived to be very serious sought care and took prescribed medicines. Three out of 10 persons with chronic disease do not take medicines as directed.

Table 31. Access to medicines in all households

All households	Jamaica
Percentage of households with medicines at home	64
Percentage of households with children and medicines at home	69
Average number of medicines kept at home	3
Percentage of medicines found at home and obtained from a public health care facility	24
Percentage of home medicines obtained from a public health care facility and with an adequate label and primary package	68
Percentage of respondents who agree that the quality of services delivered in public health care facilities is good	52
Percentage of respondents who agree that the quality of services delivered by private health care providers is good	77
Percentage of respondents who do not know if brand name medicines are better than generic medicines	41
Percentage of respondents who agree that brand name medicines are better than generic medicines	37
Percent of respondents who agree that imported medicines are of better quality than locally manufactured medicines	29%

About 69% of the households with children kept medicines at home. The average number of medicines found at home was 3. About three quarters of these medicines had an appropriate label, validity and a primary package in good condition, especially when obtained from private pharmacies.

Overall, half of respondents (52%) believed that the quality of services in their public health care facility was good. Forty-one pecent of respondents did not know whether brand name medicines are better than generic medicines.

Challenges and constraints

Despite the high geographical accessibility and perception of availability of medicines in the public health facilities, as well as found in the HFS, the affordability with high private expenditure on medicines is a challenge to be faced, as 26% of people with chronic conditions and 11% of people with acute conditions reported not taking prescribed medicines because they could not afford the treatment.

Even though the government has insurance programmes (JADEP and NHF) to cover medicines for all patients with chronic disease conditions, only half the respondents reported having insurance coverage.

One in four medicines found in the households did not have an appropriate label, validity and a primary package in good condition. The main reason given for not taking medicines was not following prescription. This gives an idea of dispensing practice standards.

The perception of households related to the quality of the service at the public services and the quality of generics needs to be improved. The same applies to the need for adherence to the treatment of chronic conditions.

Conclusions and recommendations

The Pharmaceutical Situation Assessment (PSA) survey provided a good overview of the availability of essential medicines in health facilities in Jamaica. The national average of the essential medicines needed to treat common illnesses being available in public health facilities was 93%. Even though medicines are provided free of cost in the public health facilities, there are some patients who have to source their medicines from private facilities. In these instances cost is a deterrent. This was noted in the household survey as 11% of sufferers of acute illnesses and 26% with chronic illnesses indicated that cost of medicines was a factor for their non-compliance and about half of medicines used to treat chronic conditions were covered by health insurance.

In addition to improving the management of the NHF and JADEP programmes, which are mechanisms provided by the government to allow for reduced cost of medicines for selected chronic diseases; there is a need for national pricing regulations to be developed and implemented to set the price of retail medicines.

The average stock-out duration (8.1 days and 23.1 days in central warehouse and public health facilities respectively) reported is an indication that the facilities studied had adequate supplies most of the time. This speaks to the reliability of the supply of these medicines and shows a good level of efficiency in management of medicine stocks. However, there is still the need to develop mechanisms for improvement so that medicines are in stock 100% of the time.

Strategies to increase availability of medicines in the public pharmacies from 93% to 100% are to be implemented. Strategies could include the introduction of regional warehouses as holding sites and computerized national logistics management information systems linking the warehouses to the pharmacies. This may even require an increase in budgetary allocation.

One out of every 10 public health facilities had one or more expired medicines on their shelves or elsewhere in the pharmacy. The storage conditions were, except in the warehouses, not adequate enough for the public health facilities and private pharmacies. Strategies to improve medicine storage conditions and the quality assurance system should be developed to ensure more than 90% availability of quality medicines everywhere in the country.

These strategies could include the refurbishing of the existing pharmacy structures to an acceptable established standard; the provision of modern equipment and the introduction of a maintenance schedules and standard operation check lists.

An integrated system is required to ensure that there are no expired drugs in health facilities. All pharmacies should be computerized and stocks rotated between facilities and across regions.

The study showed that 73% of public sector patients had knowledge of their medicines. This could be due to the fact that pharmacists were dispensers only 65% of the time. Thirty-two percent of chronic disease patients in the household study indicated that they do not take their medicines as directed. One in four medicines found in the households did not have an appropriate label, validity and a primary package in good condition.

Patient education about their medication is crucial to patient compliance and improved health outcomes. Dispensing is a technical activity and should be performed by trained professionals. Direct participation of a pharmacist in this process in the public sector should be included in policy especially as this is a legal requirement. Good pharmacy practice standards need to be developed and implemented.

Antibiotic (oral, injectables) prescribing was shown to be 33%. Injectables, including antibiotics, were 8%. The use of International Non-proprietary Name (INN) in public health facilities was limited to only 41.9% of the prescription medicines; Standard Treatment Guidelines (STG) were available in less than half of public healthcare facilities (46.4%) and the VEN List in just about a third (35.7%).

Therefore, the training of prescribers related to good prescribing practices, including the use of evidence, prescribing by the INN as well as the development of STG as well as improvement of the availability and incentives for the use of the existing STG and the VEN List are aspects that need to be considered as part of the RUM (rational use of medicines) strategies. Rational drug use concepts should be part of the education of all health professionals and part of on-going in-service training so as to reinforce the concepts to ensure sustained change. Quarterly training sessions could be coordinated through the Central and local Drugs and Therapeutics Committees (DTCs) in collaboration with Regional Education Officers as well as the dissemination of VEN List and STGs in the health facilities. In order to ensure that DTCs are functional and sustained they need to be established through policy decisions and supported (financially and technically).

Public policies should be developed and implemented for:

- Prescribing of generic medicines. This should be implemented in all public facilities supported by a strong, sustained programme for monitoring.
- A functional Medicines Information Centre with modern technology.
- Antibiotic use in the various categories of public institutions.

In the household study, 41% of respondents did not have an opinion about the quality of brand name medicines versus generic medicines; about half (52%) thought that the quality of services in the public sector was good; 67% of medicines in households were obtained from the private pharmacy or drug seller and the reason given most often for not taking medicines was not following prescription.

The perception of households related to the quality of the service at the public facilities and the quality of generics needs to be improved. The same apply for adherence to the treatment of chronic conditions. Appropriate use of medicines, in this instance, need to be promoted through the media and at public forum.

The assessment of Jamaica's pharmaceutical situation revealed areas of strengths and weaknesses, which need to be maintained or addressed. The result also shows that managerial and economic policies concerning pharmaceuticals should be improved.

A recommended path for the way forward is through the development and implementation of a National Pharmaceutical Policy, from the draft version and using the evidence provided by the survey, to address the main challenges and constraints. Finally an implementation plan for the policy that sets out activities, responsibilities, budget and timelines should be put in place.

Summary of recommendations

- The results can be used as evidence for the development of a National Pharmaceutical Policy, including a medicines pricing policy, strategies for strengthening the good practices and strategies for promoting RUM.
- Local (Hospital) Drugs and Therapeutics Committees should to be reactivated with financial and technical support from the Regional Health Authorities.
- An effective Logistics Management Information System/National Medicines Management Information System can be established with strong support for sustainability.
- At the National level, interventions for increasing the availability of medicines in health facilities including primary care can be implemented, including measures to avoid stock-outs in public health facilities and an efficient mechanism for inventory control.
- A system for monitoring and dissemination of the prices of essential medicines to consumers can be implemented, so as to ensure the availability of essential medicines to the consumers at the minimum possible prices in the private sector.
- Storage conditions in the public health facilities need to be improved.
- Develop and implement standards of practice that will ensure that pharmacists educate their patients about the proper use of medicines and the consequence of inappropriate or unnecessary use; and that dispensed medicines are properly labelled.
- Identify and implement strategies to adequately staff public sector pharmacies.
- Establish committees for the development of standard treatment guidelines for common disease conditions.
- The RUM strategies could include strengthening of mechanisms for the distribution of STGs and VEN List to all health facilities, promotion or related concepts to RUM as part of the training curricula of all health professionals and of on-going in-service training, to reinforce the concepts to ensure sustained change, development of good prescribing practices and appropriate antibiotic use in all facilities. Prescribing by generic name need to be implemented by law and also as a policy decision.
- Establish a functional Medicines Information Centre with modern technology could be a good resource for promoting RUM and support the implementation of strategies related to information, education and communication campaigns for improving the perception of households on the quality of generic medicines and the rational use of medicines in communities.
- The National Health Fund (NHF) should actively seek to increase the number of beneficiaries currently enrolled.

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Annex 1. Level I Questionnaire on structures and processes of country pharmaceutical situations

World Health Organization 2007

Introduction

Monitoring and assessing the pharmaceutical sector are important in determining if key pharmaceutical objectives are met: if people have access to essential medicines; if these medicines are safe, effective and of good quality and if these medicines are used properly. The Questionnaire on structures and processes of country pharmaceutical situations is a basic assessment tool that provides a rapid means of obtaining information on the existing infrastructure and key processes of the pharmaceutical sector, including national medicines policy, regulatory system, medicines supply system, medicines financing, production and trade and the rational use of medicines. The World Health Organization (WHO) asks all Member States to respond to the Questionnaire every four years in order to have up-to-date data on country, regional and global pharmaceutical situations as well as to enable comparisons over time.

How the data can be used

The data provided by the Questionnaire are made available on the internet at http://mednet.who.int. Currently, data from the 1999 and 2003 questionnaires, where approximately 120 and 140 countries responded respectively, can be consulted. Countries may also update, correct or amend their data on this site. Data for 2007 will be made available on the mednet website by the end of 2007.

Describing existing structures and processes of each country's pharmaceutical sector, these data may be used to:

- Track progress over time;
- Array achievements and limitations of country pharmaceutical structures and processes and potential strategies for addressing weaknesses;
- Compare results with those of other countries fostering a sharing of experiences and enabling identification of common sectoral strategies and approaches and
- Advocate for support of priority issues and collaboration on common goals among national stakeholders, policy makers, civil society, academia, donors and other partners.

WHO considers the information provided via this Questionnaire as official data from countries. WHO will use the data in developing the WHO medicines strategy, writing reports and publications and for reference purposes. WHO used data provided by countries in 1999 and 2003 in preparing *The World Medicines Situation* (2004) and *Using Indicators to Measure Country Pharmaceutical Situations: Fact Book on WHO Level I and Level II Monitoring Indicators* (2006).

The coordinator and respondents

In order to complete the Questionnaire, it is likely that the coordinator will need to gather data from a number of departments/divisions within the Ministry of Health, such as those responsible for policy, procurement and supply, financing, etc., as well as other ministries and agencies, including the Medicines Regulatory Authority, the Quality Control Laboratory, the department/agency responsible for trade and patents, the association/ministry responsible for training, etc. Which ministries, departments and agencies will need to be consulted will depend on the division of responsibilities in your country.

Instructions

- Provide your full name, position and contact details at the top of the Questionnaire so that we may contact you for any clarifications.
- Identify appropriate persons to complete each section of the questionnaire. Suggestions on which ministries, departments, agencies, etc. may be able to contribute to each section are provided at the beginning of the section.
- At the end of the questionnaire, include a list of all respondents contributing to the Questionnaire together with their contact details and the sections to which they contributed.
- When providing statistical information, please use national/local sources (e.g. local health statistical yearbook, drug accounts, information from the Medicines Regulatory Authority, etc.) if available. Utilize the most recent statistics.
- Make sure that the responses are as accurate as possible using available resources and calling upon knowledgeable respondents. In some cases, where exact figures are unavailable, it may be necessary to give your best estimate.
- Answer all the questions. Use “Don’t know” if you simply cannot provide/obtain the appropriate response/information.
- Explanations of the questions and definitions of terms and concepts used in the Questionnaire are provided in the right-most column of the questionnaire. If you require further clarification on any of the questions asked or the definitions used and/or more information on appropriate sources of information, please contact Dr. Daisy Carandang at *carandange@who.int*.
- Please forward the entire completed questionnaire as one file together with, where available, the:
  - National medicines policy
  - National essential medicines list
  - National standard treatment guidelines
  - Reports of national indicator studies of the pharmaceutical situation, rational use and/or access to medicines

  to Dr. Daisy Carandang by e-mail at *carandange@who.int* or by post at:

  Dr. Daisy Carandang
  WHO/TCM
  20 Avenue Appia
  1211 Geneva 27, Switzerland

Questionnaire on structures and processes of country pharmaceutical situations

Country: JAMAICA	Date (dd/mm/yyyy): 01/11/2007
Name of coordinator/principal respondent: PRINCESS OSBOURNE	E-mail address: osbournep@mohe.gov.jm
Position: DIRECTOR, STANDARDS & REGULATION	Postal address: 9TH FLOOR MINISTRY OF HEALTH OLD OCEANA HOTEL COMPLEX 2-4 KING STREET, KINGSTON, JAM. W.I.

Questions	Responses	Explanations
NATIONAL MEDICINES (DRUGS) POLICY (NMP) **Please consult the health ministry, medicines regulatory authority and/or medicine service in answering the questions in this section.**		
1.1 Is there a National Medicines Policy (NMP) document? *If no, skip to 1.4.*	☐Yes ☑No ☐Don't know	A national medicines (drug) policy document is a written expression of the government's medium to long term goals and priorities for the pharmaceutical sector and the main strategies for attaining them.
a) If yes, is it an official or draft document?	☐Official ☐Draft ☐Don't know	Mark "official" if the NMP document has been endorsed or officially adopted by the government otherwise mark "draft"
b) What year was it last updated?	Year _____	Indicate the year of last update whether the document is still in draft form or has been officially adopted.
1.2 Is there an NMP implementation plan that sets activities, responsibilities, budget and timeline?	☐Yes ☐No ☐Don't know	
a) If yes, when was it last updated?	Year _____	
1.3 Is the NMP integrated into or included in the published/official national health policy/plan?	☑Yes ☐No ☐Don't know	The national medicines policy is considered to be integrated into the national health policy/plan if the pharmaceutical sector priorities and strategies are specified in the health plan.
a) If yes, when was it last updated?	Year 2006-2010	
1.4 Has a national assessment/indicator study been conducted?	☑Yes ☐No ☐Don't know	
a) If yes, which topics have been studied and when was the most recent study covering each topic conducted:		
Overall pharmaceutical situation:	☑Yes ☐No ☐Don't know Year 2005	
Rational use/prescription audit:	☑Yes ☐No ☐Don't know Year ____	
Access (i.e. prices, affordability and/or availability) to medicines:	☐Yes ☑No ☐Don't know Year ____	

(cont.)

Questions	Responses	Explanations
1.5 Is there a code of conduct that applies to public officials and staff involved in pharmaceutical related activities or posts, such as persons working in pharmaceutical services, medicines regulation, procurement and supply of medicines and other pharmaceutical divisions of the health ministry?	☑Yes ☐No ☐Don't know	This means an officially adopted/ promoted document aimed at ensuring accountability and appropriate conduct, including transparency and good governance, that applies to public/ government officials and staff involved in pharmaceutical related activities or posts, such as those persons working in pharmaceutical services, medicines regulation, procurement and supply of medicines and other pharmaceutical divisions of the health ministry.
REGULATORY SYSTEM **Please consult the medicines regulatory authority in answering the questions in this section. Specific information regarding medicines tested for quality control purposes and monitoring of adverse drug reactions may need to be obtained from the quality control laboratory or the responsible agency/ department.**		
Regulatory authority		
2.1 Are there legal provisions establishing the powers and responsibilities of the medicines regulatory authority?	☑Yes ☐No ☐Don't know	This question is asking if there are legal provisions (or legislation) that describe the legal conditions under which the medicines regulatory authority should be organized and operate.
2.2 Is there an existing formal medicines regulatory authority?	☑Yes ☐No ☐Don't know	This question is asking if there is a formal regulatory body with existing staff and a specific budget for conducting relevant medicines (drug) regulatory functions. Mark "no" if medicines regulatory functions, such as registration and licensing, are performed on an ad-hoc basis by an office, group or department that performs other pharmaceutical service functions, such as supply management and procurement.
2.3 What are the sources of funding for the medicines regulatory authority:		
Regular budget from the government:	☑Yes ☐No ☐Don't know	
Fees from registration of medicines:	☐Yes ☐No ☐Don't know	Fees become part of the consolidated fund.
Other:	☐Yes ☐No ☐Don't know	
2.4 Are there legal provisions requiring transparency and accountability and promoting a code of conduct in regulatory work?	☑Yes ☐No ☐Don't know	This question is asking whether there are legal provisions (or legislation) requiring the regulatory authority to: ▪ Define its policies and procedures in writing and publish the written documentation, ▪ Give reasons for decisions to affected parties, ▪ Account for its conduct and actions to individuals or groups and ultimately to the public, and ▪ Follow a code of conduct in conducting its regulatory functions.

(cont.)

Questions	Responses	Explanations
2.5 Is the medicines regulatory authority involved in regional/international harmonization initiatives?	☑Yes ☐No ☐Don't know	Regional/international harmonization initiatives include the International Conference on Harmonization, regional harmonization on registration of medicines, etc. Regulatory authorities are considered to be involved in these initiatives if they participate in meetings that discuss common regulatory matters with representatives of regulatory authorities from other countries, use a regional harmonized regulatory standard, etc.
2.6 Is there a medicines regulatory authority website providing publicly accessible information on any of the following: legislation, regulatory procedures, prescribing information (such as indications, counter indications, side effects, etc.), authorised companies, and/or approved medicines?	☑Yes ☐No ☐Don't know	
Marketing authorization		
2.7 Are there legal provisions for marketing authorization?	☑Yes ☐No ☐Don't know	This question is asking if there are legal provisions (or legislation) that describe the legal conditions under which marketing authorization should be conducted. Marketing authorization is an official document issued by the medicines regulatory authority for the purpose of marketing or free distribution of a product after evaluation for safety, efficacy and quality and/or after registration of a product for marketing.
2.8 How many medicinal products have been approved to be marketed? *(count total number of unique dosage forms and strengths)*	Number over 12,000	Tablets, capsules, injections, elixirs and suppositories should be counted in different strengths. For example, if Paracetamol (Brand X) 250 mg and 500 mg have been approved to be marketed, they count as two medicinal products because they are two unique strengths. Paracetamol (Brand Y) 250 mg and 500 mg are another two unique products.
2.9 Is a list of all registered products publicly accessible?	☑Yes ☐No ☐Don't know	Registered products are medicine products that have been evaluated for quality, safety and efficacy and thence authorised for marketing. In order to be publicly accessible, it should be available on the web or to anyone contacting the responsible authority.
2.10 Is there a computerized registration system that facilitates retrieval of information on registered products?	☐Yes ☑No* ☐Don't know ** Electronic Database in development. 60% complete.*	This refers to a systematic medicines registration process that makes the information on registered products more readily accessible and more easily updated by the responsible officials.

(cont.)

Questions	Responses			Explanations
2.11 Is the WHO Certification Scheme certificate required as part of the marketing authorization process?	☑Yes	☐No	☐Don't know	The WHO Certification Scheme on the Quality of Pharmaceutical Products Moving in International Commerce guarantees, through the issue of a WHO-type certificate by the certifying authority, the quality of pharmaceutical products entering international commerce. It is a simple administrative procedure that enables importing countries to obtain information on whether a product has been authorized to be placed on the market in the exporting country, and assurance that the manufacturer has been found to comply with WHO standards of good manufacturing practice.
2.12 Is INN used in the registration of medicines?	☑Yes	☐No	☐Don't know	An INN (international non-proprietary name) is a common, generic name selected by designated experts to identify a new pharmaceutical substance unambiguously. INNs are recommended for worldwide use, destined to be unique and public property (non-proprietary).
2.13 Is there a functional formal committee responsible for assessing applications for registration of pharmaceutical products?	☑Yes	☐No	☐Don't know	Mark "yes" if there is a committee composed of experts and specialists who review dossiers and applications for registration of medicines.
Licensing				
2.14 Are there legal provisions for licensing of the following:				This question is asking if there are legal provisions (or legislation) that describe the legal conditions under which manufacturers, wholesalers and distributors and importers and exporters are subjected to evaluation against a set of requirements and issued a permit to operate (license) authorising them to undertake specific activities.
Manufacturers:	☑Yes	☐No	☐Don't know	
Wholesalers or distributors:	☑Yes	☐No	☐Don't know	A wholesaler is a company that buys goods from a manufacturer or importer and sells them to retailers. The wholesaler may be an agent for one company only or deal with products from several companies. Manufacturers may also be wholesalers for their own products. In some countries, pharmacies may also have a wholesaler license. Distributors include wholesalers, retail pharmacies and medicine outlets.
Importers or exporters of medicines:	☑Yes	☐No	☐Don't know	
Regulatory inspection				
2.15 Are there legal provisions to inspect premises and collect samples?	☑Yes	☐No	☐Don't know	This question is asking if there are legal provisions (or legislation) that describe the legal conditions under which physical inspections of premises are conducted, including the legal procedures, guidelines and criteria for inspections. Physical inspection includes collection of samples and testing/calibrating equipment.

(cont.)

Questions	Responses	Explanations
2.16 Are the following types of facilities inspected to check compliance with applicable requirements and are there written national guidelines/ checklists for the inspection:		
Manufacturers:	*Facilities inspected:* ☑Yes ☐No ☐Don't know *Written national guidelines/checklists:* ☑Yes ☐No ☐Don't know	
Wholesalers/distributors:	*Facilities inspected:* ☑Yes ☐No ☐Don't know *Written national guidelines/checklists:* ☑Yes ☐No ☐Don't know	
Importers/exporters:	*Facilities inspected:* ☑Yes ☐No ☐Don't know *Written national guidelines/checklists:* ☑Yes ☐No ☐Don't know	
Retail distributors/pharmacies:	*Facilities inspected:* ☑Yes ☐No ☐Don't know *Written national guidelines/checklists:* ☑Yes ☐No ☐Don't know	A retail distributor is a company that sells goods to consumers, e.g. a pharmacy or other medicines outlet. Many low- and middle-income countries have at least two different types of shops in which medicines can be purchased: pharmacies with a registered pharmacist and medicines stores, chemists or medicines outlets with paramedical or lay staff.
Control of narcotics and stupefiants		
2.17 Are there legal provisions for the control of narcotics, psychotropic substances and precursors?	☑Yes ☐No ☐Don't know	This question is asking if there are legal provisions (or legislation) that describe the legal conditions under which narcotics, psychotropic substances and precursors are controlled.
2.18 Is your country a signatory to the international convention on the control of narcotics, psychotropic substances and precursors?	☑Yes ☐No ☐Don't know	
Quality control		
2.19 Is there a quality management system in place?	☑Yes ☐No ☐Don't know	This question is asking if there is a an officially defined protocol for ensuring the quality of medicines, including testing of medicines to be registered, collection and testing of samples, reporting results, corrective actions to be taken when poor results are found and preventative measures to be taken to reduce future incidence of poor results.
2.20 Are medicine samples tested for the following regulatory purposes:		
Medicines registration:	☑Yes ☐No ☐Don't know	
Post-marketing surveillance:	☑Yes ☐No ☐Don't know	Post-marketing surveillance is testing medicine samples to assess the quality of medicines that have already been licensed for public use.

(cont.)

Questions	Responses	Explanations
2.21 In which of the following laboratories are samples tested:		This question is asking where medicine samples are tested. Mark "yes" if medicine samples are collected by or submitted to the listed laboratories for quality testing whether the testing is for purposes of registration, post-marketing surveillance and/or because the samples are suspected counterfeit/sub-standard medicines.
Government quality control laboratory:	☑Yes* ☐No ☐Don't know ** Major testing is also done by the Caribbean Regional Drug Testing Laboratory, a regional Q.A institution.*	
Local academic institutions:	☐Yes ☐No ☐Don't know	
Private laboratory:	☐Yes ☐No ☐Don't know	
Mini laboratories (district, regional):	☐Yes ☐No ☐Don't know	
Quality control laboratory in another country:	☑Yes ☐No ☐Don't know	
2.22 What is the total number of samples quality tested in 2006?	Number 183	This should include all samples tested whether in a quality assurance laboratory within the country or outside the country.
2.23 What is the total number of samples tested in 2006 that failed to meet quality standards?	Number 16	This should include all samples tested that failed to meet quality standards whether the testing was done in a quality assurance laboratory within the country or outside the country.
2.24 Are there regulatory procedures to ensure quality control of imported medicines?	☑Yes ☐No ☐Don't know	This question is asking if there are standard operating procedures for ensuring the quality of imported medicine, such as reviewing dossiers, product evaluation and testing of imported medicine products. This may include donated medicines.
2.25 Are there legal procedures for the recall and disposal of defective products?	☑Yes ☐No ☐Don't know	This question is asking if there are legal provisions (or legislation) and procedure under which defective products are recalled and disposed. Defective products are those that are found to be of poor quality and/or inadequately labelled.
Pharmacovigilance		
2.26 Are adverse drug reactions (ADR) monitored?	☑Yes ☐No ☐Don't know	Monitoring adverse drug reactions is the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other medicines-related problems.
a) If yes, at which of these health system levels are adverse drug reactions (ADR) monitored:		
Local level:	☐Yes ☐No ☐Don't know	Mark "yes" next to local level if data are submitted to the hospital or community level for assessment and action.
Regional level:	☐Yes ☐No ☐Don't know	Mark "yes" next to regional level if data are submitted to the regional or district level for assessment and action.
Central level:	☑Yes ☐No ☐Don't know	Mark "yes" next to central level if data are submitted to the national level for assessment and action.

(cont.)

Questions	Responses			Explanations
2.27 Does your country report ADRs to an international network or to the WHO Collaborating Centre for International Drug Monitoring?	☐Yes	☑No	☐Don't know	Mark "yes" if your country has reported cases of ADR to the WHO Collaborating Centre for International Drug Monitoring (Uppsala Monitoring Centre) or other international network at least once in the last five years.
Counterfeit medicines				
2.28 Are there any laws, regulations, programmes or procedures for detecting and combating counterfeit medicines?	☑Yes	☐No	☐Don't know	Programmes and procedures for detecting and combating counterfeit medicines may include active regular surveillance, official agreement with police authorities, involvement in national or international networks, etc. Counterfeit medicines are medicines, whether branded or generic, that are deliberately and fraudulently mislabelled with respect to identity and/or source or that have fake packaging. Counterfeit products may contain the correct ingredients or the wrong ingredients or may lack any, or sufficient, active ingredients. If your country has an alternate definition of counterfeit medicines, use that definition.
2.29 What sources of information are used to detect and combat counterfeit medicines:				
Reports from national authorities:	☑Yes	☐No	☐Don't know	"National authorities" refers to authorized groups providing data on a regular basis specifically for official use, such groups might include health facilities, professional organizations, etc.
Reports from specific/ad hoc studies:	☑Yes	☐No	☐Don't know	An ad hoc study is a "one-off" study completed outside a regular system of collecting information.
Reports from the pharmaceutical sector:	☑Yes	☐No	☐Don't know	"Reports from the pharmaceutical sector" primarily refers to reports from the pharmaceutical industry, whether brand or generic, local or multinational.
Reports from civil society/NGOs:	☑Yes	☐No	☐Don't know	"Reports from civil society/NGOs" refers to reports produced by civil society for its own purposes rather than specifically for official use. Civil society/NGOs (non-governmental organizations) are non-profit organizations, networks and voluntary associations including charities, community groups, faith-based organizations, professional associations, academia and trade unions.

(cont.)

Questions	Responses			Explanations
Dispensing and prescribing				
2.30 Are there legal provisions for the following:				This question is asking if there are legal provisions (or legislation) that describe the legal conditions under which prescribers and the practice of pharmacy are licensed. Licensing is a system that subjects all persons to evaluation against a set of requirements before they may be authorized to prescribe medicines/ practice pharmacy. It may include issuing an official permit and granting authorization to prescribe medicines/ practice pharmacy by either the governing authority or the body regulating the exercise of the profession.
Licensing and practice of prescribers:	☑Yes	☐No	☐Don't know	
Licensing and practice of pharmacy:	☑Yes	☐No	☐Don't know	
2.31 Is prescribing by generic name obligatory in the:				A generic name (international non-proprietary name - INN) is a non-proprietary or approved name rather than a proprietary or brand name under which a generic medicine is marketed. If prescribing by generic name is obligatory then prescribers are required to prescribe by generic name.
Public sector:	☐Yes	☑No	☐Don't know	
Private sector:	☐Yes	☑No	☐Don't know	
2.32 Is generic substitution permitted at:				Generic substitution is the practice of substituting a product, whether marketed under a trade name or generic name, by an equivalent product, usually a cheaper one, containing the same active ingredient at the dispensing level. Mark "yes" if either generic substitution is required or if the dispenser is allowed to make a generic substitution in at least some instances.
Public pharmacies:	☑Yes	☐No	☐Don't know	
Private pharmacies:	☑Yes	☐No	☐Don't know	
2.33 Are there incentives to dispense generic medicines at:				Incentives may include dispensing fees or mark-ups which provide financial incentive for dispensers to dispense lower-priced generic medicines.
Public pharmacies:	☐Yes	☑No	☐Don't know	
Private pharmacies:	☐Yes	☑No	☐Don't know	

(cont.)

Questions	Responses	Explanations
Promotion and advertising		
2.34 Are there provisions in the medicines legislation/regulations covering promotion and/or advertising of medicines?	☑Yes ☐No ☐Don't know	This question is asking if there are legal provisions (or legislation) that describe the conditions under which the promotion and/or advertisement of medicines may be conducted. Promotion and advertisement are activities that provide health workers and consumers with information about medicine products, particularly with the intent of encouraging health workers and consumers to use a particular product.
2.35 Who is responsible for regulating promotion and/or advertisement of medicines?	☐Industry (self-regulation) only ☑Government or national regulatory authority only ☐Co-regulation ☐Don't know	Mark "industry (self-regulation) only" if the pharmaceutical industry bears responsibility for regulating itself to ensure companies' practices of promoting and/or advertising medicines are in line with appropriate standards, whether the standards are explicitly defined or not, and government regulation is minimal. For example, in some countries companies police each other in terms of compliance to industry set guidelines. Mark "government or national authority only" if the government or national regulatory authority is responsible for enforcing written legal restrictions on the promotion and/or advertising of medicines and company (self-regulation) is minimal. Mark "co-regulation" if both industry (self-regulation) and the government or national regulatory authority contribute to regulating the promotion and/or advertisement of medicines.
a) If regulated by government, do regulations include any of the following:		
Pre-approval for advertisement and/or promotional materials:	☑Yes ☐No ☐Don't know	Pre-approval for advertisement and/or promotional materials means official approval of advertisements and/or promotional material must be obtained before they can be used.
Prohibition on advertising prescription medicines to the public:	☑Yes ☐No ☐Don't know	
Guidelines on advertising of non-prescription medicines:	☑Yes ☐No ☐Don't know	Guidelines on advertising of non-prescription medicines means there may be some restrictions on advertising non-prescription medicines to the public, such as in promoting therapeutic claims.

(cont.)

Questions	Responses	Explanations
2.36 Are civil society/NGOs included in surveillance of promotion and/or advertisement of medicines?	☐Yes ☑No ☐Don't know *Civil Society may report*	Mark "yes" if civil society/NGOs actively monitor and report unethical/illegal practices regarding the promotion and/or advertisement of medicines and that this involvement is recognized/requested by the medicines regulatory authority, e.g. though a written memorandum of understanding. Normal consumer/public complaints that are not part of a government request for or recognition of civil society/NGO involvement should not be counted in this question Civil society/NGOs (non-governmental organizations) are non-profit organizations, networks and voluntary associations including charities, community groups, faith-based organizations, professional associations, academia and trade unions.
3. MEDICINES SUPPLY SYSTEM **Please consult the agency/department responsible for the procurement and supply of medicines in answering the questions in this section.**		
3.1 Is public sector procurement pooled at the national level (i.e. there is centralised procurement for the regions/provinces)?	☑Yes ☐No ☐Don't know	Mark "yes" if public sector procurement is centralised and medicines are procured for the entire public sector by a national procurement body even if in some instances, such as cases of stock outages, public sector facilities procure medicines through other means.
3.2 Who is responsible for public sector medicines procurement and distribution:		
Ministry of Health:	*Procurement:* ☑Yes* ☐No ☐Don't know ** Agency established by the MOH specifically for procurement and distribution "Don't know."* *Distribution:* ☑Yes ☐No ☐Don't know	
Non-governmental organization (NGO):	*Procurement:* ☐Yes ☑No ☐Don't know *Distribution:* ☐Yes ☐No ☐Don't know	Mark "yes" for non-governmental organization (NGO) if government funds or foreign contributions are allocated to NGOs to procure or distribute medicines for the public sector. Non-governmental organizations (NGOs) are non-governmental, non-profit organizations, networks and voluntary associations including charities, community groups, faith-based organizations, professional associations, academia and trade unions.
Private institution contracted by the government:	*Procurement:* ☐Yes ☑No ☐Don't know *Distribution:* ☐Yes ☐No ☐Don't know	Mark "yes" for private institution contracted by the government if the government contracts or makes an agreement with a private entity to procure or distribute medicines for the public sector, e.g. if an agreement is made with a private company to distribute medical items and supplies to public sector district warehouses and health facilities.

(cont.)

Questions	Responses	Explanations
Individual health institutions:	*Procurement:* ☐Yes ☑No ☐Don't know *Distribution:* ☐Yes ☐No ☐Don't know	
3.3 What type of tender process is used for public sector procurement and what is the percentage of the total cost for each:		Competitive tender is a procedure for procuring medicines, which puts a number of suppliers into competition. Purchasing is done on the basis of quotations submitted by suppliers in response to a public notice.
National competitive tender:	☐Yes ☑No ☐Don't know _____% (Percentage of total cost)	National competitive tender is open to all or a limited number of local suppliers only.
International competitive tender:	☑Yes ☐No ☐Don't know Includes local manufacturers _____% (Percentage of total cost)	International competitive tender is open to all or a limited number of local and international suppliers though sometimes conditions give preference to either local or international suppliers.
Negotiation/direct purchasing:	☑Yes ☐No ☐Don't know _____% (Percentage of total cost)	In negotiation/direct purchasing the buyer approaches one or a small number of suppliers and either buys at the quoted prices or bargains for a specific service arrangement.
3.4 Is there a tender board/committee overseeing public sector procurement?	☑Yes ☐No ☐Don't know	This question is asking if there is a board or committee responsible for overseeing public sector procurement which is composed of members who are not staff/ officials of the government procurement agency. A tender is a procedure for procuring medicines by seeking quotations from suppliers in response to a public notice.
a) If yes, are the key functions of the procurement office and those of the tender committee clearly separated?	☑Yes ☐No ☐Don't know	
3.5 Does public sector medicines procurement use the WHO Prequalification system?	☑Yes ☐No ☐Don't know	The WHO Prequalification Programme is a service provided by the World Health Organization (WHO) to facilitate access to medicines that meet unified standards of quality, safety and efficacy for HIV/ AIDS, malaria and tuberculosis. The growing list of products (i.e. medicines) and manufacturers that have been found to meet the set requirements can be used by anyone bulk purchasing medicines, including countries.

(cont.)

Questions	Responses	Explanations
3.6 Is public sector procurement limited to medicines on the Essential Medicines List (EML)?	☑Yes ☐No ☐Don't know	An Essential Medicines List (EML) is a government-approved selective list of medicines or national reimbursement list. Essential medicines are those that satisfy the priority health care needs of the population. They are selected with due regard to disease prevalence, evidence on efficacy and safety, and comparative cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality, and at a price the individual and the community can afford.
a) If yes, are there provisions for purchasing medicines not on the Essential Medicines List?	☑Yes ☐No ☐Don't know	This question is asking if public sector procurement is in general limited to medicines on the EML, are there guidelines to procure non-EML medicines (e.g. emergency medicines, high cost medicines, medicines for special conditions etc.).
3.7 Did your country participate in a pooled procurement scheme with at least one other country for at least one of the last two procurement cycles?	☐Yes ☑No ☐Don't know	
4. MEDICINES FINANCING **Please consult the budget/ finance division of the health ministry and/or the pharmaceutical supply group in answering the questions in this section. The hospital/health facility service and/or the national social and insurance services may also need to be consulted.**		
4.1 What is the total public or government expenditure for medicines in US$ for the most recent year for which data are available?	US$ _____ Year 2006/2007	This question is asking for the total amount the government has spent on medicines, including government allotment, health ministry expenditure, donor contributions channelled through the government, etc.
4.2 Is there a national policy to provide at least some medicines free of charge (i.e. patients do not pay out-of-pocket for medicines) at public primary care facilities?	☑Yes ☐No ☐Don't know	If medicines are provided for free but patients must pay service fees, mark "yes" here. If some facilities provide medicines for free but there is not a consistent national policy that applies to all primary public health facilities, mark "no" here. If there is a national policy to provide medicines for free at primary public health facilities, but facilities are not required to abide by the policy and not all facilities provide medicines for free, mark "no" here.
a) If yes, which of the following are free at public primary care facilities:		
All medicines:	☐Yes ☑No ☐Don't know	
Malaria medicines:	☑Yes ☐No ☐Don't know	
Tuberculosis medicines:	☐Yes ☑No ☐Don't know	
Sexually transmitted diseases medicines:	☐Yes ☑No ☐Don't know	

(cont.)

Questions	Responses	Explanations
HIV/AIDS-related medicines:	☐Yes ☑No ☐Don't know	
At least one vaccine:	☑Yes ☐No ☐Don't know	
b) Which of the following types of patients receive medicines for free:		
Patients who cannot afford them:	☑Yes ☐No ☐Don't know	
Children under 5 years of age:	☑Yes ☐No ☐Don't know	
Older children:	☑Yes ☐No ☐Don't know	Mark "yes" if children over 5 years of age receive medicines for free, regardless of the age limit, for example mark "yes" if children under 12 receive medicines for free.
Pregnant women:	☐Yes ☑No ☐Don't know	
Elderly persons:	☐Yes ☑No* ☐Don't know ** Persons 60 years old and over receive drugs for 9 chronic conditions at minimal cost.*	
4.3 Which fees are commonly charged in public primary care facilities:		
Registration/consultation fees:	☑Yes ☐No ☐Don't know	Registration and consultation fees are fees patients must pay for seeing a health professional for a health check-up and/or diagnosis regardless of whether or not medicines are prescribed.
Dispensing fees:	☐Yes ☑No ☐Don't know	A dispensing fee is a fixed fee that pharmacies are allowed to charge per prescribed item or per prescription instead of or in addition to a percentage mark-up. The dispensing fee is paid to the dispenser and is in addition to the cost of the medicine. Both the dispensing fee and the cost of the medicine may be paid in part or whole by the patient, insurer or government.
Flat fees for medicines:	☑Yes ☐No ☐Don't know	Mark "yes" if either a flat fee for medicines or a flat fee per medicine item is commonly charged. A flat fee for medicines is a fee which remains the same irrespective of the number of medicines or the quantity of each medicine dispensed. Thus, for example, a patient receiving 3 medicines would pay the same as one receiving 1 medicine. Also a patient receiving 20 tablets of one medicine would pay the same as a patient receiving 100 tablets each of 2 medicines. A fee per drug item is a fee where the patient pays one set fee per each medicine irrespective of the number of units (tablets) of that medicine dispensed. Thus, for example, a patient receiving one medicine would pay $1 and a patient receiving 2 medicines would pay $2 and a patient receiving 3 medicines would pay $3 and so on. However, a patient receiving 10 tablets of one medicine would pay the same as a patient receiving 100 tablets of one medicine.

(cont.)

Questions	Responses	Explanations
Flat rate co-payments for medicines:	☑Yes ☐No ☐Don't know	A flat rate co-payment is a fixed amount that a patient must pay either per medicine or per prescription to cover part of the cost of medicines, the other part being paid by an insurer or government.
Percentage co-payments for medicines:	☑Yes* ☐No ☐Don't know ** National Health Fund only*	A percentage co-payment is a fixed percentage of the cost of prescribed medicines that a patient must pay to cover part of the cost of medicines, the other part being paid by an insurer or government. The amount a patient pays will depend on the medicine and the number of units of that medicine prescribed.
4.4 Is revenue from fees or the sale of medicines used to pay the salaries or supplement the income of public health personnel in the same facility?	☐Always ☐Frequently ☐Occasionally ☑Never ☐Don't know	Mark "yes" if any percentage of collected fees or medicines sales is used to pay salaries, expenses and/or in any way supplement the income of public health personnel in the same facility.
4.5 Do prescribers dispense medicines?	**Public sector** ☐Always ☐Frequently ☐Occasionally ☑Never ☐Don't know **Private sector** ☐Always ☐Frequently ☑Occasionally ☐Never ☐Don't know	In answering this question, mark the degree of frequency doctors or other authorised prescribers dispense medicines in the public and private sectors irrespective of laws permitting or disallowing authorised prescribers to dispense medicines.
4.6 What proportion of the population has health insurance?	☐All ☑Some ☐None ☐Don't know ☐All ☑Some ☐None ☐Don't know	Health insurance is any prepayment scheme for health care costs additional to but excluding subsidies funded through the health ministry budget. The purpose of questions 4.6 and 4.7 are to identify how much protection the population has against exposure to the cost of medicines at the time people are sick. This includes: Prepaid financing and Public funding through the (prepaid) health ministry budget.
4.7 Are medicines covered by health insurance?	☐All ☑Some ☐None ☐Don't know ☐All ☐Some ☐None ☐Don't know	
4.8 Is there a policy covering medicine prices that applies to the public sector, the private sector, or non-governmental organisations?	**Public sector** ☑Yes ☐No ☐Don't know **Private sector** ☐Yes ☑No ☐Don't know **NGO** ☐Yes ☑No ☐Don't know	In some countries, NGOs, such as faith-based missions, provide non-profit or not-for-profit health services. The third column should be completed by ticking any policies applicable to this sector. Non-governmental organizations (NGO) are non-governmental non-profit organizations, networks and voluntary associations including charities, community groups, faith-based organizations, professional associations, academia and trade unions.

(cont.)

Questions	Responses	Explanations
a) If yes, which of the following policies covering medicine prices apply:	**Public sector** ☐Yes ☑No ☐Don't know **Private sector** ☐Yes ☐No ☐Don't know **NGO** ☐Yes ☐No ☐Don't know	
Maximum wholesale mark-up:	**Public sector** ☐Yes ☑No ☐Don't know **Private sector** ☐Yes ☐No ☐Don't know **NGO** ☐Yes ☐No ☐Don't know	A wholesale mark-up is a certain percentage added to a purchasing price to cover the cost and profit of the wholesaler.
Maximum retail mark-up:	**Public sector** ☐Yes ☑No ☐Don't know **Private sector** ☐Yes ☐No ☐Don't know **NGO** ☐Yes ☐No ☐Don't know	A retail mark-up is a certain percentage added to a purchasing price to cover the cost and profit of the retailer.
Duty on imported raw pharmaceutical materials:	**Public sector** ☐Yes ☐No ☐Don't know **Private sector** ☐Yes ☐No ☐Don't know **NGO** ☐Yes ☐No ☐Don't know	A duty/tax on imported raw pharmaceutical materials is a fee assessed by customs or other responsible national authority on imported starting materials, reagents, intermediates, process aids, and solvents intended for use in the production of intermediates or active pharmaceutical ingredients.
Duty on imported finished pharmaceutical products:	**Public sector** ☐Yes ☑No ☐Don't know *Exempt except competitor external to CARICOM* **Private sector** ☐Yes ☑No ☐Don't know *Exempt except competitor external to CARICOM* **NGO** ☐Yes ☑No ☐Don't know *Not applicable to all*	A duty/tax on imported finished pharmaceutical products is a fee assessed by customs or other responsible national authority on medicinal products that require no further processing and are already in their final containers.
4.9 Is a national medicine prices monitoring system for retail/patient prices in place?	**Public sector** ☐Yes ☑No ☐Don't know **Private sector** ☐Yes ☑No ☐Don't know **NGO** ☐Yes ☑No ☐Don't know	A national medicine prices monitoring system for retail/patient prices is any means of regularly tracking and comparing over time retail/patient medicine prices in the public, private and/or NGO sectors.

(cont.)

Questions	Responses	Explanations
4.10 Are there regulations mandating retail/patient medicine price information to be made publicly accessible?	**Public sector** ☐Yes ☑No ☐Don't know **Private sector** ☐Yes ☑No ☐Don't know **NGO** ☐Yes ☑No ☐Don't know	In order for retail/patient medicine price information to be considered publicly accessible, one or more of the following or similar measures should be taken: prices should be available on the web or to anyone contacting the responsible authority, prices should be periodically published in national newspapers or official publications, prices should be posted in health facilities/pharmacies, etc.
4.11 Are there official written guidelines on medicine donations that provide rules and regulations for donors and provide guidance to the public, private and/or NGO sectors on accepting and handling donated medicines?	**Public sector** ☑Yes ☐No ☐Don't know **Private sector** ☑Yes ☐No ☐Don't know **NGO** ☑Yes ☐No ☐Don't know	Countries may have differing definitions for medicine donations which may include not only products but also monetary gifts earmarked for a particular product from a named source (e.g. manufacturer, organization or other country).
5. PRODUCTION AND TRADE **Please consult the medicines regulatory authority, the patent office and/or the trade ministry in answering the questions in this section.**		
5.1 What is the medicines production capability in the country:		Mark "yes" next to each of the types of medicine production that currently occur in your country.
Research and development of new active substances:	☐Yes ☑No ☐Don't know	
Production of pharmaceutical starting materials:	☐Yes ☑No ☐Don't know	
Formulation from pharmaceutical starting materials:	☑Yes ☐No ☐Don't know	
Repackaging of finished dosage forms:	☑Yes ☐No ☐Don't know	
5.2 Are patents granted on pharmaceutical products by the national patent office?	☑Yes ☐No ☐Don't know	A patent is an exclusive right awarded to an inventor to prevent others from making, selling, distributing, importing or using the invention, without license of authorization, for a fixed period of time, such as 20 years. This may be granted by the national patent office or, for smaller countries, a regional patent office representing several countries may grant the patent.
5.3 If your country is a member of the World Trade Organization (WTO), has national legislation been modified to implement the TRIPS Agreement?	☐Yes ☑No ☐Don't know ☐Country not a member of WTO	Countries who are member of the World Trade Organization (WTO) should adapt national legislation to include the minimum standards of protecting and enforcing intellectual property rights, including those for patents, required under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement).
a) If a WTO member, has your country used the following available transitional periods to implement the TRIPS Agreement:		TRIPS provides transitional periods during which countries are required to bring their national legislation and practices into conformity with its provisions.

(cont.)

Questions	Responses	Explanations
Article 65:	☐Yes ☑No ☐Don't know	Under Article 65 of the TRIPS Agreement: Transitional Arrangements: No Member shall be obliged to apply the provisions of the Agreement before the expiry of a general period of one year following the date (WIPO note 1 January 1995) of entry into force of the WTO Agreement. A developing country Member is entitled to delay for a further period of four years from the date of application, as defined in paragraph 1, of the provisions of this Agreement other than Articles 3, 4 and 5.
Article 66:	☐Yes ☑No ☐Don't know ☐Country not an LDC	Under Article 66 of the TRIPS Agreement: Least-Developed Country Members: In view of the special needs and requirements of least-developed country Members, their economic, financial and administrative constraints, and their need for flexibility to create a viable technological base, such Members shall not be required to apply the provisions of this Agreement, other that Articles 3, 4 and 5, for a period of 10 years from the date of application as defined under paragraph 1 of Article 65. The Council for TRIPS shall, upon duly motivated request by a least-developed country Member, accord extensions of this period.
Doha declaration (Article 7):	☐Yes ☑No ☐Don't know	Under the Doha declaration, the transitional period is extended until 2016.
5.4 Which of the following TRIPS flexibilities have been incorporated into national legislation as applies to pharmaceuticals:		
Compulsory licensing provisions:	☐Yes ☑No ☐Currently being discussed ☐Don't know	Compulsory licensing is when the judicial or administrative authority is allowed by law to grant a license, without permission from the holder, on various grounds of general interest (absence of working, public health, economic development, and national defense).
Government use:	☐Yes ☑No ☐Currently being discussed ☐Don't know	Government use is when the administrative authority is allowed to grant a license, without permission from the holder, for public health needs.
Parallel importing provisions:	☐Yes ☑No ☐Currently being discussed ☐Don't know	Parallel importation is importation, without the consent of the patent-holder, of a patented product marketed in another country either by the patent-holder or with the patent-holder's consent. Parallel importation enables promotion of competition for the patented product by allowing importation of equivalent patented products marketed at lower prices in other countries.
The Bolar exception:	☐Yes ☑No ☐Currently being discussed ☐Don't know	The Bolar exception is an early working provision whereby generic pharmaceutical manufacturers are allowed to use patented inventions for the purpose of obtaining marketing approval prior to patent expiration.

(cont.)

Questions	Responses	Explanations
6. RATIONAL USE OF MEDICINES **Please consult the health ministry (hospital division), professional bodies and/or the education ministry in answering the questions in this section.**		
6.1 Is there a national Essential Medicines List (EML)?	☑Yes ☐No ☐Don't know	A national Essential Medicines List is a government-approved selective list of medicines or national reimbursement list from which most prescriptions should be made. Essential medicines are those that satisfy the priority health care needs of the population. They are selected with due regard to disease prevalence, evidence on efficacy and safety, and comparative cost-effectiveness.
a) If yes, how many unique medicine formulations does the national EML contain?	Number 350	Count similar formulations registered or approved as different products as one formulation, for example Brand X 500 mg Paracetamol tablets and Brand Y 500 mg Paracetamol tablets are counted as one formulation whereas Brand X 250 mg Paracetamol tablets and Brand X 500 mg Paracetamol tablets are counted as two formulations.
b) How many paediatric formulations are included in the:		
National EML:	Number _____	
Separate Paediatric EML:	Number Not separate ☑No separate paediatric EML	Some countries have a separate list of essential medicines for paediatrics.
c) When was the national EML last updated?	Year 2004; revision for completion June 2008	
d) Is the national EML being used in the following:		Mark "yes" if the EML is currently being used.
Public sector procurement:	☑Yes ☐No ☐Don't know	
Public insurance reimbursement:	☑Yes ☐No ☐Don't know	
Private insurance reimbursement:	☐Yes ☑No ☐Don't know	
e) Is there a committee responsible for the selection of products on the national EML?	☑Yes ☐No ☐Don't know	This refers to a formally recognised committee with members of different expertise and from different agencies/ organizations.
6.2 Are the following types of standard treatment guidelines (STG) produced by the health ministry for major conditions?	**National STG** ☑Yes ☐No ☐Don't know **Hospital level STG** ☐Yes ☑No ☐Don't know **Primary care STG** ☐Yes ☑No ☐Don't know	Mark "yes" if the health ministry or similar national authority produces a collection of treatment guidelines covering prevalent/ common disease conditions in the country for use at the national, hospital or primary care levels. If treatment guidelines are produced separately for each disease/condition or organ system, mark "no".
a) If yes, when were the STGs last updated?	**National STG** Year 2006 **Hospital level STG** Year _____ **Primary care STG** Year _____	

(cont.)

Questions	Responses	Explanations
6.3 Are there standard treatment guidelines for key paediatric illnesses?	☐Yes ☑No ☐Don't know	Mark "yes" if the health ministry or similar national authority produces a collection of treatment guidelines covering prevalent/ common paediatric disease conditions, whether it is a stand alone document or a chapter/section of the national, hospital or primary care STG. Mark "no" if paediatric treatment guidelines are produced separately for each disease or condition.
6.4 Is there a National Medicines Formulary Manual?	☑Yes ☐No ☐Don't know	A formulary is a manual containing clinically oriented summaries of pharmacological information about selected medicines. The manual may also include administrative and regulatory information pertaining to the prescribing and dispensing of medicines. A national formulary generally concentrates on available and affordable medicines that are relevant to the treatment of diseases in a particular country.
a) If yes, when was it last published/ reviewed?	Year 1997	
b) Does it cover only medicines on the national EML?	☐Yes ☑No ☐Don't know	
6.5 Are the following prescribing issues part of the basic curricula in most health training institutions for:		This question is asking whether most or major government-recognized institutions training health professionals require students to be instructed in the following areas: An Essential Medicines List is a government-approved selective list of medicines or national reimbursement list from which most prescriptions should be made. Standard Treatment Guidelines are developed by the health ministry or similar national authority. They are a collection of treatment guidelines covering prevalent/common disease conditions in the country for use at the national, hospital or primary care levels. Problem-based pharmacotherapy is a problem-based practical approach to teaching prescribing. Rational prescribing, or appropriate prescribing, assures that patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community.

(cont.)

Questions	Responses	Explanations
Doctors:	**Essential Medicines List (EML)** ☐Yes ☑No ☐Don't know **Standard Treatment Guidelines (STG)** ☐Yes ☐No ☐Don't know **Problem-based pharmaco-therapy** ☐Yes ☐No ☐Don't know **Rational prescribing** ☐Yes ☐No ☐Don't know	
Nurses:	**Essential Medicines List (EML)** ☐Yes ☑No ☐Don't know **Standard Treatment Guidelines (STG)** ☑Yes ☐No ☐Don't know **Problem-based pharmaco-therapy** ☐Yes ☐No ☐Don't know **Rational prescribing** ☐Yes ☐No ☐Don't know	
Pharmacists:	**Essential Medicines List (EML)** ☐Yes ☑No ☐Don't know **Standard Treatment Guidelines (STG)** ☑Yes ☐No ☐Don't know **Problem-based pharmaco-therapy** ☐Yes ☐No ☐Don't know **Rational prescribing** ☐Yes ☐No ☐Don't know	
Pharmacy assistants:	**Essential Medicines List (EML)** ☐Yes ☑No ☐Don't know **Standard Treatment Guidelines (STG)** ☐Yes ☑No ☐Don't know **Problem-based pharmaco-therapy** ☐Yes ☑No ☐Don't know **Rational prescribing** ☐Yes ☑No ☐Don't know	
Paramedical staff:	**Essential Medicines List (EML)** ☐Yes ☐No ☑Don't know **Standard Treatment Guidelines (STG)** ☐Yes ☐No ☑Don't know **Problem-based pharmaco-therapy** ☐Yes ☐No ☑Don't know **Rational prescribing** ☐Yes ☐No ☑Don't know	
6.6 Are there obligatory, non-commercially funded continuing education programs that include use of medicines for:		A continuing education programme is a programme based on regular workshops, seminars and/or in-service training which provides all prescribers and dispensers with refresher courses on medicine issues.

(cont.)

Questions	Responses	Explanations
Doctors:	☑Yes ☐No ☐Don't know	
Nurses/midwives/paramedical staff:	☑Yes ☐No ☐Don't know	
Pharmacists:	☑Yes ☐No ☐Don't know	
Pharmacy aides/assistants:	☐Yes ☑No ☐Don't know	
6.7 Is there a public or independently funded, nationally accessible (e.g. by phone) medicines information centre or service that provides information on demand to:		A medicines information centre or service is an organization within or outside the health ministry which collects and provides objective information on medicines to health personnel and the public. Objective information should be understood as information produced by independent scientific sources without any support from the pharmaceutical industry or private firms involved in the medicines sector. The medicines information centre/service may perform additional tasks.
Prescribers:	☑Yes ☐No ☐Don't know	Located at the Scholl of Pharmacy. Not accessible by phone.
Dispensers:	☑Yes ☐No ☐Don't know	Located at the Scholl of Pharmacy. Not accessible by phone.
Consumers:	☑Yes ☐No ☐Don't know	
6.8 Have there been any public education campaigns about rational medicines use in the previous two years conducted by the health ministry, a non-governmental organisation, or academia on the following topics:		Mark "yes" if there has been any effort to inform the public (e.g. through radio programmes, newspaper articles/ announcements, public gatherings, etc.) about any of the listed rational medicines use issues. The focus of these efforts may include the importance of patients receiving medications appropriate to their clinical needs, the dangers of over-prescribing, the dangers of inappropriate dosing, etc.
Use of antibiotics:	☑Yes ☐No ☐Don't know	
Use of injections:	☐Yes ☑No ☐Don't know	
Other rational medicine use topics/ issues:	☐Yes ☑No ☐Don't know	
6.9 How often do the following personnel prescribe prescription-only medicines at the primary health care level in the public sector:		
Doctors:	☐Always ☑Frequently ☐Occasionally ☐Never ☐Don't know	
Nurses/midwives/paramedical staff:	☐Always ☐Frequently ☐Occasionally ☑Never ☐Don't know	Not allowed.

(cont.)

Questions	Responses	Explanations
Pharmacists/pharmacy aides/ assistants:	☐Always ☐Frequently ☐Occasionally ☑Never ☐Don't know	Not allowed.
Personnel with <1 month formal health training:	☐Always ☐Frequently ☐Occasionally ☐Never ☑Don't know	Formal health training includes any government recognized training programme on health issues.
6.10 Is there a national programme and/ or multidisciplinary body, involving government, civil society and professional bodies, which monitors and promotes the rational use of medicine?	☑Yes ☐No ☐Don't know	
6.11 Is there a mandatory requirement to organize/develop drugs and therapeutics committees?	☑Yes ☐No ☐Don't know	Mark "yes" if there is a mandatory requirement for facilities/areas to organise/develop drug and therapeutics committees and positive incentives exists for those that have drug and therapeutics committees and disincentives exist for those that do not. If there is a requirement, but no incentives or disincentives mark "no" here. A drugs and therapeutics committee is a group of people established and officially approved by the health ministry and/or health facility management that promotes the safe and effective use of medicines in the area or facility under its jurisdiction.
6.12 What proportions of hospitals and regions have drugs and therapeutics committees:		A drugs and therapeutics committee is a group of people established and officially approved by the health ministry and/or health facility management that promotes the safe and effective use of medicines in the area or facility under its jurisdiction. In answering this question, please use the following approximations: All = more than 90% Most = 61-90% Half = 40-60% Few = 10-39% None = less than 10%
Referral hospitals:	☐All ☐Most ☑Half ☐Few ☐None ☐Don't know	Referral hospitals are tertiary care centres which include major hospitals offering a full range of services, including specialty units, and specialty hospitals dedicated to specific types of patients, e.g. paediatrics, or specific range of conditions, e.g. oncology. While referral hospitals (tertiary care centres) may provide secondary or even primary care, their main function is to provide a referral service for secondary care centres (general hospitals) in all the main subspecialties.

(cont.)

Questions	Responses	Explanations
General hospitals:	☐All ☑Most ☐Half ☐Few ☐None ☐Don't know	General hospitals are secondary care centres, which usually include acute medical, surgical, paediatric and obstetric services but do not include specialist services such as oncology, cardiac or neurological surgery etc. While general hospitals may have 1-2 units providing sub-specialist tertiary care, they do not have a full range of such services, and their main function is to provide a referral service for the primary health care centres and a direct service to the population under their jurisdiction and they do not generally have specialist units.
Regions/provinces:	☐All ☐Most ☐Half ☐Few ☐None ☐Don't know	For regions/provinces, mark the proportion of regions/provinces with a drug and therapeutics committee that promotes the safe and effective use of medicines in all facilities (hospital and primary health care) in the region/ province.
6.13 Is there a national strategy to contain antimicrobial resistance?	☑Yes ☐No ☐Don't know	A national strategy is a written plan supported/spearheaded by a national/ central authority and officially endorsed by the government.
6.14 Is there a national reference laboratory to coordinate epidemiological surveillance of antimicrobial resistance?	☑Yes ☐No ☐Don't know	Mark "yes" if there is a national laboratory to which health facilities submit reports on antimicrobial resistance that monitors and reports on antimicrobial resistance in the country and coordinates and reports on any response. If there is no national laboratory, but reports on antimicrobial resistance are submitted to a regional laboratory, also mark "yes".
6.15 Is there a funded national inter-sectoral task force to coordinate the promotion of appropriate use of antimicrobials and prevention of spread of infection?	☐Yes ☑No ☐Don't know *Education programmes for health professionals. Funded from health budget.*	This question is asking if there is a formal committee or other body of representatives of public, private and NGO or mission sectors that oversees efforts to improve appropriate use of antimicrobials and prevent spread of infection. This may include developing and evaluating codes of practices at health facilities and/or education programmes for health professionals and/ or consumers.
6.16 How frequently are the following types of medicines sold over the counter without any prescription:		This question is asking how often antibiotics and injections which require a prescription to be dispensed are sold without a prescription, regardless of laws prohibiting such practice.
Antibiotics:	☐Always ☐Frequently ☑Occasionally ☐Never ☐Don't know	This is however illegal and there is monitoring by the Pharmacy Council Inspectorate for compliance.

(cont.)

Questions	Responses	Explanations
Injections:	☐Always ☐Frequently ☐Occasionally ☐Never ☑Don't know	As above.

List of respondents

Name	Position	Address	E-mail	Section(s) completed
Princess Thomas Osbourne	Director, Standards & Regulation	2-4 King Street Kingston, Jamaica, West Indies	osbournep@mohe.gov.jm	
Cynthia Lewis Graham	Scientific Officer	As above	grahamc@mohe.gov.jm	
Lucette Cargill	Government Chemist	Hope Gardens Kingston 7, Jamaica West Indies	Crdtl1@cwjamaica.com	

Annex 2. Level II Survey Forms

Survey Forms 1–17

Survey Forms		Number of copies needed for:			Total number of copies needed ***
		Training*	Field Test*	Survey**	
Section A	**Public health facility pharmacies/dispensaries**	10	10	30	50
SF 1	Percentage of key medicines available	10	10	30	50
	Percentage of medicines expired				
~~SF 2~~	~~Affordability of treatment for tracer conditions~~ - not to be applied: fees are not charged in PHCF for medicines	~~10~~	~~10~~	~~30~~	~~50~~
~~SF 3~~	~~Affordability of treatment for adults and children under 5 years of age (pneumonia with no hospitalization)~~	~~10~~	~~10~~	~~30~~	~~50~~
SF 4	Average stock-out duration	10	10	30	50
	Adequate record keeping				
SF 5	Adequate conservation conditions and handling of medicines at storeroom and dispensing area	10	10	30	50
SF 6	Average number of medicines per prescription	10	10	30	50
	Percentage of medicines dispensed or administered				
	Percentage of medicines adequately labelled				
	Percentage of patients know how to take medicines				
	Average cost of medicines				
	Geographical accessibility to dispensing facilities				
Section B	**Public health facilities**	10	10	30	50
SF 7	Average number of medicines per prescription	10	10	30	50
	Percentage of patients prescribed antibiotics/ injections				
	Percentage of prescribed medicines on Essential Medicines List				
	Percentage of medicines prescribed by INN				
SF 8	Availability of Standard Treatment Guidelines	10	10	30	50
	Availability of Essential Medicines List				
SF 9	Percentage of tracer cases treated according to recommended treatment protocol/guide	10	10	30	50
Section C	**Private pharmacies/drug outlets**	10	10	30	50
SF 10	Percentage of key medicines available	10	10	30	50
	Percentage of medicines expired				
SF 11	Affordability of treatment for tracer conditions	10	10	30	50
~~SF 12~~	~~Affordability of treatment for adults and children under 5 years of age (pneumonia with no hospitalization)~~	~~10~~	~~10~~	~~30~~	~~50~~
SF 13	Adequate conservation conditions and handling of medicines at storeroom and dispensing area	10	10	30	50

(cont.)

Survey Forms		Number of copies needed for:			Total number of copies needed ***
		Training*	Field Test*	Survey**	
SF 14	Average number of medicines purchased	10	10	30	50
	Percentage of prescription medicine bought without prescription				
	Percentage of medicines adequately labelled				
	Percentage of patients know how to take medicines				
	Average cost of medicines				
	Geographical accessibility of dispensing facilities				
Section D	**Central/regional/district warehouses supplying the public sector**				
SF 15	Percentage of key medicines available	10	10	5	25
	Percentage of medicines expired				
SF 16	Average stock-out duration	10	10	5	25
	Adequate record keeping				
SF 17	Adequate conservation conditions and handling of medicines at storeroom	10	10	5	25

Notes:

* Note each data collector should be provided one copy of each survey form for use during training and another copy of each form for use during the field test.

** Copies of survey forms for the actual survey should not be completed until after the country-specific items have been introduced.

*** Add up to 36 copies per form depending on the number of private or NGO health facilities surveyed.

Country Pharmaceutical Situation – Level II
Summary of instructions for field procedures

(Print on the other side of page 1 – cover)

Materials required in field

- Survey forms (The cover sheet of the survey forms packet lists the number of copies to be reproduced)
- Calendar 2008 and 2009
- Pen, pencils, erasers, rulers, pencil sharpener
- Calculator
- Clipboard
- Briefcase or folder (if possible, waterproof)
- Plastic folders to separate filled the kits of survey forms
- Endorsement letter
- Identification card
- Additional materials that could be helpful: National Medicines List, Brand name ↔ Generic List, National Pharmaceutical Guidelines (STG) or photo copy of the cover
- Per diem or transport costs
- Personal items: waterproof coat, repellent and etc.

Main procedures
At the geographical area (region, province, district)

1. Confirm that all necessary authorisations/endorsement letters from the relevant authorities has been received. Check on local logistics and security issues.
2. Identify the location of the facilities and the most efficient way and sequence to cover all of them.

At the facility level (public health facility and private drug outlet)

1. Take an initial tour of the facility and talk with key staff to understand the flow of patients and the existence and location of records to review.
2. Determine the best order to complete the all the survey forms and the allocation of data collector to complete the forms.
3. Decide whether to do retrospective or prospective sampling for survey forms based on the availability and accessibility of records. Survey form 6 and survey form 14 will always use prospective sampling.
4. Confirm the availability and accessibility of records
   - Location of general outpatient encounter records
   - Patient records
   - Stock records
5. For retrospective sampling identify the study period to be covered

Additional instructions are needed

- Data collector behaviour
- Approaching and interviewing people (professionals and patients)
- Time control
- Completeness and accuracy in filling the forms
- Objective reporting of data (good or bad)
- Ethics and confidentiality

Section A: Public health facility pharmacies/dispensaries *(Survey Forms 1-6)*

Survey Forms	Indicators
SF 1	Percentage of key medicines available Percentage of medicines expired
SF 2	Affordability of treatment for tracer conditions
SF 4	Average stock-out duration Adequate record keeping
SF 5	Adequate conservation conditions and handling of medicines at storeroom and dispensing area
SF 6	Average number of medicines per prescription Percentage of medicines dispensed or administered Percentage of medicines adequately labelled Percentage of patients know how to take medicines Average cost of medicines Geographical accessibility to dispensing facilities

General information: Public health facility pharmacy/dispensary

Facility _____ **Date** _____

Region _____ **Investigator** _____

Location _____

_____

1) Does the law require a pharmacist to be present during hours of operation of public/government pharmacies/drug outlets?

☑ Yes ☐ No

2) Is a pharmacist present at the time of the visit?

☐ Yes ☐ No

Interpretation of the answers 1 and 2 (above).

1 ☐ complies with the law (if items 1 and 2 are both Yes)
2 ☐ does not comply with the law (if item 1 Yes and item 2 No)
~~3 ☐ no requirement for pharmacist presence (if item 1 No)~~

3) Who is dispensing during the time of visit? *(check all that apply)*

☐ Pharmacist (1=Yes; 0=No) ☐ Pharmacy aide/health assistant (1=Yes; 0=No)

☐ Nurse (1=Yes; 0=No) ☐ Untrained staff (1=Yes; 0=No)

Survey Form 1: Public health facility pharmacy/dispensary

Public Health Facility Pharmacy
Facility #_____
(1-36)

Indicators
Percentage of key medicines available
Percentage of medicines expired

Facility _____ **Date** _____

Region _____ **Investigator** _____

Key medicines to treat common medical conditions [A]	In stock Yes=1, No=0 [B]	Expired medicines on shelves Yes=1, No=0 [C]
1. Albendazole Tablet/Suspension		
2. Amoxicillin Suspension/Capsules		
3. Chloramphenicol Ear Drops		
4. Chlorpheniramine Tablet/Elixir		
5. Clotrimazole Cream		
6. Clotrimazole Pessaries		
7. Co-trimoxazole Suspension/Tablets		
8. Ferrous Sulphate Tablets		
9. Gamma Benzene Hexachloride Cream		
10. Hydrochlorothiazide		
11. Hydrocortizone Cream		
12. Metformin Tablets		
13. Oral Rehydration Salt		
14. Paracetamol Tablets/Elixir		
15. Salbutamol Inhaler		
	[B^1] = Sum of B =	**[C^1] = Sum of C =**
	[B^2] = % in stock = $B^1 \div 15 \times 100$ =	**[C^2] = % expired = $C^1 \div B^1 \times 100$ =**

Notes:

[A] The same lists of 15 key medicines should be identified at the national level and preprinted on the survey forms.

[B] Mark "1" if any quantity of any dosage form of the medicines is in stock in the facility on the day of the visit. Mark "0" if the medicine is not available in stock. Add the total at the bottom [B^1]. Calculate the percentage in stock [B^2] by dividing the total in stock [B^1] by 15 and multiplying by 100.

[C] For all the 15 listed key medicines in stock, check if any of the stock is expired. If any amount of a medicine has an expiry problem, mark "1" for yes. Do not count expired medicines stored in a separate area for destruction. Add the total at the bottom [C^1]. Calculate the percentage expired [C^2] by dividing the total expired [C^1] by the total number of medicines in stock [B^1] and multiplying by 100.

Survey Form 4: Public health facility pharmacy/dispensary

Public Health Facility Pharmacy
Facility #_____ (1-36)

Indicators
Average stock-out duration
Adequate record keeping

Facility _____ **Date** _____

Region _____ **Investigator** _____

Key medicines to treat common medical conditions	Records cover at least 6 months within the past 12 months Yes=1, No=0	Only collect data for medicines with records covering at least 6 months within the past 12 months		
		Number of days out of stock	Number of days covered by the review (from 180 to 365 days)	Equivalent number of days of stock-out per year [E] = C x 365 ÷ D
[A]	[B]	[C]	[D]	[E]
1. Albendazole Tablet/Suspension				
2. Amoxicillin Suspension/Capsules				
3. Chloramphenicol Ear Drops				
4. Chlorpheniramine Tablet/Elixir				
5. Clotrimazole Cream				
6. Clotrimazole Pessaries				
7. Co-trimoxazole Suspension/Tablets				
8. Ferrous Sulphate Tablets				
9. Gamma Benzene Hexachloride Cream				
10. Hydrochlorothiazide				
11. Hydrocortizone Cream				
12. Metformin Tablets				
13. Oral Rehydration Salt				
14. Paracetamol Tablets/Elixir				
15. Salbutamol Inhaler				
	[B^1] = Sum of B =			**[E^1] = Sum of E =**
	[B^2] = % adequate records = B^1 ÷ 15 x 100 =			
[F] = Average number of stock-out days = E^1 ÷ B^1 =				

Notes:

[A] The list of 15 key medicines identified for *Survey Form 1* should also be pre-printed on this form.

[B] Go through the stock cards and indicate which medicines have records covering at least 6 months within the previous 12 months. Add the total at the bottom [B^1]. Calculate the percentage of medicines with adequate records [B^2] by dividing the number of medicines with records covering at least 6 months [B^1] by 15 and multiplying by 100.

[C] The review should cover 6-12 months. Go through the stock cards covering the review period. Indicate the number of days each medicine was not available or marked "0" on the card. A medicine is considered in stock if any quantity of it is available in generic or branded form.

[D] Indicate the number of days actually reviewed for each medicine. On the back side of this SF there is an auxiliary form you can use to totalize stock-out days.

[E] Compute the equivalent number of stock-out days per year for each medicine by multiplying the number of days out of stock [C] by 365 and dividing by the number of days covered by the review [D]. Write the total number of stock-out days [E^1].

[F] Calculate the average number of stock-out days by dividing the total number of stock-out days [E^1] by the total number of medicines reviewed [B^1].

Example:

Key medicines to treat common medical conditions	Records cover at least 6 months within the past 12 months Yes=1, No=0	Only collect data for medicines with records covering at least 6 months within the past 12 months		
		Number of days out of stock	Number of days covered by the review (from 180 to 365 days)	Equivalent number of days of stock-out per year [E] = C x 365 ÷ D
[A]	[B]	[C]	[D]	[E]
Cotrimoxazole	1	90	180	182.5
Paracetamol	1	30	365	30
Amoxicillin	0			
	[B^1] = Sum of B = 2			**[E^1] = Sum of E =** 212.5
	[B^2] = % adequate records = B^1 ÷ 15 x 100 = 66.7			
[F] = Average number of stock-out days = E^1 ÷ B^1 = 106.25				

Auxiliary Survey Form 4: Public health facility pharmacy/dispensary

To summarize stock-out days (print in verse of SF 4)

Key medicines to treat common conditions	*Stock-out days*												
	Jul 08	*Aug 08*	*Sep 08*	*Oct 08*	*Nov 08*	*Dec 08*	*Jan 09*	*Feb 09*	*Mar 09*	*Apr 09*	*May 09*	*Jun 09*	*Total [C]*
1. Albendazole Tablet/Suspension													
2. Amoxicillin Suspension/Capsules													
3. Chloramphenicol Ear Drops													
4. Chlorpheniramine Tablet/Elixir													
5. Clotrimazole Cream													
6. Clotrimazole Pessaries													
7. Co-trimoxazole Suspension/Tablets													
8. Ferrous Sulphate Tablets													
9. Gamma Benzene Hexachloride Cream													
10. Hydrochlorothiazide													
11. Hydrocortizone Cream													
12. Metformin Tablets													
13. Oral Rehydration Salt													
14. Paracetamol Tablets/Elixir													
15. Salbutamol Inhaler													

Survey Form 5: Public health facility pharmacy/dispensary

Public Health Facility Pharmacy
Facility #_____
(1-36)

Indicator
Adequate conservation conditions and handling of medicines at storeroom and dispensing area

Facility _____ **Date** _____

Region _____ **Investigator** _____

Checklist*	Storeroom True=1, False=0	Dispensing Area/ Room True=1, False=0
	[A]	[B]
1. There is a method in place to control temperature (e.g. roof and ceiling with space between them in hot climates, air conditioners, fans, etc.).		
2. There are windows that can be opened or there are air vents.		
3. Direct sunlight cannot enter the area (e.g. window panes are painted or there are curtains/blinds to protect against the sun).		
4. Area is free from moisture (e.g. leaking ceiling, roof, drains, taps, etc.).		
5. There is a cold storage in the facility		
6. There is a regularly filled temperature chart for the cold storage		
7. Medicines are not stored directly on the floor.		
8. Medicines are stored in a systematic way (e.g. alphabetical, pharmacological).		
9. Medicines are stored first-expiry-first out (FEFO).		
10. There is no evidence of pests in the area.		
11. Tablets/capsules are not manipulated by naked hand.		
	[A^1] = Sum of A =	**[B^1] = Sum of B =**
	[A^2] = Score = A^1 ÷ 10 x 100 =	**[B^2] = Score = B^1 ÷ 10 x 100 =**

Notes:

[A] Indicate "1" if all parts of the statement are true for the storeroom and "0" if any part of it is false. Sum the total number of true statements in [A^1]. Calculate the score for the storeroom [A^2] by dividing the sum of true statements [A^1] by 10 and multiplying by 100. For smaller facilities without specific storeroom is recommend to repeat the figures in column [B].

[B] Indicate "1" if all parts of the statement are true for the dispensing room and "0" if any part of it is false. Sum the total number of true statements in [B^1]. Calculate the score for the dispensing room [B^2] by dividing the sum of true statements [B^1] by 10 and multiplying by 100.

** It may be necessary to look elsewhere in the facility for some of the criteria (e.g. refrigerator).*

Survey Form 6: Public health facility pharmacy/dispensary patient care exit interview

Public Health Facility Pharmacy

Facility #_____ (1-36)

Indicators	
Average number of medicines per prescription	Percentage of patients who know how to take medicines
Percentage of medicines dispensed or administered	Average cost of medicines
Percentage of medicines adequately labelled	Geographical accessibility to facilities

Facility _____ **Date** _____

Region _____ **Investigator**_____

Patient sex M/F	Age 1) Less than 5 years 2) 5 – 14 years 3) 15 – 59 years 4) more than 60	Number of medicines prescribed	Number of medicines dispensed or administered	Number of medicines adequately labelled	Patient knows how to take medicines Yes=1, No=0	~~Amount patient paid for the medicines~~	How long did it take to the patient to go to the health facility today? 1) <30min; 2) 31min-1h; 3) > 1h	How much did he/ she spent to come here
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								
11.								
12.								
13.								
14.								
15.								
16.								
17.								
18.								
19.								
20.								
21.								
22.								
23.								

Patient sex M/F	Age 1) Less than 5 years 2) 5 – 14 years 3) 15 – 59 years 4) more than 60	Number of medicines prescribed	Number of medicines dispensed or administered	Number of medicines adequately labelled	Patient knows how to take medicines Yes=1, No=0	~~Amount patient paid for the medicines~~	How long did it take to the patient to go to the health facility today? 1) <30min; 2) 31min-1h; 3) > 1h	How much did he/ she spent to come here
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]
24.								
25.								
26.								
27.								
28.								
29.								
30.								
[A^1] = Sum cases =	[B^1] = Sum of 1 = [B^2] = Sum of 2 = [B^3] = Sum of 3 = [B^4] = Sum of 4 =	[C^1] = Sum of C =	[D^1] = Sum of D =	[E^1] = Sum of E =	[F^1] = Sum of F =	[G^1] = Sum of G =	[H^1] = Sum of 1 = [H^2] = Sum of 2 = [H^3] = Sum of 3 =	[I^1] = Sum of I =
[A^2] = Sum females =		[C^2] = Average number of medicines = $C^1 \div A^1$ =	[D^2] = % dispensed = $D^1 \div C^1 \times 100$ =	[E^2] = % adequately labelled = $E^1 \div D^1 \times 100$ =	[F^2] = % know how to take medicines = $F^1 \div A^1 \times 100$ =	[G^2] = Average cost = $G^1 \div$ total patient =		[I^2] = Average transport cost = $I^1 \div$ total responses =
[A^3] = % females = $A^2 \div A^1 \times 100$ =								[I^3] = Average transport cost to minimum daily salary = [I^2] ÷ [J]
[J] = Lowest daily government salary (divide weekly salary by 7 or monthly salary by 30) = 642.86								

Notes:

Interview 30 patients leaving the dispensing area/pharmacy (only patients older than 16 years). Ask if the interviewee is looking for medicines for his/her use or for someone else. If the caregiver is looking medicines for someone else, ask for whom, trying to identify the link. If (1) the interviewee is the patient itself or (2) the interviewee is the caregiver, tell him/her briefly the purpose of the interview, the estimated time to answer (3-5 minutes) and main expectation of the interview (look into the prescription, look the medicines and ask some questions). Once the interviewee share his/her consent, follow with the interview. In any case, be kind, respectful and thankful.

Obtain the sex and age of the patient, not those of the person obtaining the medicine. Use the number of patients/cases able to respond to corresponding questions as denominators for (C, F, G, H, I).

[A] Record the number of cases [A^1] and the number of females [A^2]. Calculate the percentage of females by dividing the total number of females [A^2] by the total number of cases [A^1] and multiplying by 100.

[B] Record the age of the patient. Indicate (1) less or equal to 5 years of age, (2) older children under 15; (3) adults & (4) seniors over 60. Sum the total of patients for each age classes [B^{1-4}].

[C] Record the number of medicines prescribed for each patient. Combination medicines in one dosage form count as one medicine. Sum the number of medicines prescribed for all patients [C^1]. Calculate the average number of medicines prescribed [C^2] by dividing the number of medicines prescribed [C^1] by the number of cases [A^1]. Investigator should pay particular attention to the fact that medicines prescribed separately may be dispensed as a combination and vice versa (e.g. Lamivudine/Zidovudine = Lamivudine + zidovudine). The standardized drugs that exist as a single preparation should be considered as a single drugs, however where individual moieties exist as independent preparations the combined preparation should be considered as separate drugs.

[D] Record the number of medicines dispensed or administered to each patient. Sum the total number [D^1]. Calculate the percentage of medicines dispensed [D^2] by dividing the number of medicines given to all patients [D^1] by the total number of medicines prescribed [C^1] and multiplying by 100.

[E] Record the number of medicines labelled with at least the name of the medicine, strength, dosage and quantity.* Count only medicines meeting ALL criteria. Sum the total [E^1]. Calculate the percentage of medicines adequately labelled [E^2] by dividing the total number of adequately labelled medicines [E^1] by the total number of medicines dispensed [D^1] and multiplying by 100.

[F] Determine if patient (or the caregiver) knows how to take all medicines dispensed (patient knows name and dosage of all dispensed medicines).* Mark "1" only if patient can correctly state how ALL medicines should be taken and "0" otherwise. Sum the total [F^1]. Calculate the percentage of patients who know how to take all medicines [F^2] by dividing the total number who know how to take all medicines [F^1] by the total number interviewed [A^1] and multiplying by 100.

**Criteria for [E] and [F] can be adjusted as relevant to the surveyed population*

[G] Not to be record in Jamaica, since patients are not charged for medicines in Public Health Care Facilities.

[H] Record the time it took the patient to get to the facility. Indicate the codes 1-3. Sum the total of patients in each category [I^{1-3}].

[I] Note travel cost in local currency. Sum the total amount [I^1]. Calculate the average transport cost [I^2] by dividing the amounts paid for transport [I^1] by the total number interviewed persons able to respond. To calculate the = Average transport cost to minimum daily salary [I^3], divide the average transport cost by the minimum daily salary [J].

[J] = Lowest daily government salary (divide weekly salary by 7 or monthly salary by 30).

Section B: Public health facilities *(Survey Forms 7–9)*

Public Health Facility

Facility #_____
(1-36)

Survey Forms	Indicators
SF 7*	Average number of medicines per prescription Percentage of patients prescribed antibiotics/injections Percentage of prescribed medicines on Essential Medicines List Percentage of medicines prescribed by INN
SF 8	Availability of Standard Treatment Guidelines Availability of Essential Medicines List
SF 9	Percentage of tracer cases treated according to recommended treatment protocol/guide

** For SF 7: Use only general outpatient records. Do not select patients from well-child visits, pre and post-natal visits, specialist consultations, or even separate clinics for adults and paediatric cases because treatment practices are different.*

General information: Public health facility

Facility _____ **Date** _____

Region _____ **Investigator** _____

Location _____

_____

1. Who is prescribing during the time of visit? (check all that apply)*

   ☐ doctor (1=Yes; 0=No)

   ☐ nurse (1=Yes; 0=No)

   ☐ trained health worker/health aide (1=Yes; 0=No)

   1.1. Who is the most senior prescriber?

      ☐ doctor (1=Yes; 0=No)

      ☐ nurse (1=Yes; 0=No)

      ☐ trained health worker/health aide (1=Yes; 0=No)

2. Has the most senior prescriber named in #1.1 attended Rational Drug Use (RDU)-related training within the last year? (Note: RDU curriculum can include any of the following: rational prescribing, essential medicine concept, use of Integrated Management of Childhood Illness (IMCI) or other clinical guidelines.)

   ☐ Yes (=1) ☐ No (=0)

** If there are several prescribers, interview one, choosing the most senior prescriber.*

Survey Form 7: Public health facility: Rational medicine use - Prescribing indicator form

Public Health Facility

Facility #_____

(1-36)

Indicators
Average number of medicines per prescription
Percentage of prescribed medicines on EML
Percentage of patients prescribed antibiotics/injections
Percentage of medicines prescribed by INN

Facility _____ **Date** _____

Region _____ **Investigator** _____

Type R/P	Age 1) Less than 5 years 2) 5 – 14 years 3) 15 – 59 years 4) more than 60	Patient sex (M/F)	Number of medicines prescribed	Antibiotic prescribed Yes=1, No=0	Injection prescribed Yes=1, No=0	Number of prescribed medicines on EML	Number of medicines prescribed by INN
	[A]	[B]	[C]	[D]	[E]	[F]	[G]
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							
21.							
22.							
23.							
24.							
25.							
26.							
27.							
28.							
29.							
30.							
[A] = Sum cases =		[B^1] = Sum of females =	[C^1] = Sum of C =	[D^1] = Sum of D =	[E^1] = Sum of E =	[F^1] = Sum of F =	[G^1] = Sum of G =
[A^{1+2}] = Sum of paediatric cases = (1) + (2) =		[B^2] = % of females = $B^1 \div A^1 \times 100$ =	[C^2] = Average number of medicines = $C^1 \div A^1$ =	[D^2] = % receiving antibiotics = $D^1 \div A^1 \times 100$ =	[E^2] = % receiving injections = $E^1 \div A^1 \times 100$ =	[F^2] = % EML = $F^1 \div C^1 \times 100$ =	[G^2] = % INN = $G^1 \div C^1 \times 100$ =
[A^p] = % of paediatric cases = $A^{1+2} \div A \times 100$ =							

(cont.)

Type R/P	Age 1) Less than 5 years 2) 5 – 14 years 3) 15 – 59 years 4) more than 60	Patient sex (M/F)	Number of medicines prescribed	Antibiotic prescribed Yes=1, No=0	Injection prescribed Yes=1, No=0	Number of prescribed medicines on EML	Number of medicines prescribed by INN
	[A]	[B]	[C]	[D]	[E]	[F]	[G]

Notes:

From outpatient treatment records, select 30 patients seen within the last 12 months (R = retrospective sampling). If records are not available, select 30 patients currently being treated (P = prospective sampling). Sample can combine R and P. Mark "R" if patient was selected retrospectively and "P" if patient was selected prospectively.

[A] Record the age of the patient. Indicate (1) less or equal to 5 years of age, (2) older children under 15; (3) adults & (4) seniors over 60. Sum the total of patients for each age classes [A^{1-4}]. Record the number of cases [A] and the number of paediatric cases [A^{1+2}]. Calculate the percentage of paediatric cases by dividing the total number of paediatric cases [A^{1+2}] by the total number of cases [A] and multiplying by 100.

[B] Record the number of females [B^1]. Calculate the percentage of females by dividing the total number of females [B^2] by the total number of cases [A^1] and multiplying by 100.

[C] Record number of medicines (INN, generic and/or brand) prescribed. Combination medicines in one dosage form count as one medicine. Totalize the number of medicines prescribed [C^1]. Calculate average number of medicines prescribed [C^2] by dividing number of medicines prescribed [C^1] by number of cases [A^1].

[D] Record "1" if patient was prescribed any antibiotics and "0" otherwise. Total the cases receiving antibiotics [D^1]. Calculate percentage of cases with antibiotics [D^2] by dividing number of cases with antibiotics [D^1] by number of cases [A^1] and multiplying by 100.

[E] Record "1" if patient was prescribed any injections and "0" otherwise. Total the cases receiving injections [E^1]. Calculate percentage of cases receiving injections [E^2] by dividing number of cases with injections [E^1] by number of cases [A^1] and multiplying by 100. Vaccines and contraceptives should not be considered.

[F] Record number of prescribed medicines on the national Essential Medicines List (EML). Total the number of prescribed medicines on the EML [F^1]. Calculate the percentage of prescribed medicines on the EML [F^2] by dividing the number of medicines on the EML [F^1] by the number of medicines prescribed [C^1] and multiplying by 100.

[G] Record number of medicines prescribed by INN. Total the number of medicines prescribed by INN [G^1]. Calculate percentage of medicines prescribed by INN [G^2] by dividing number of medicines prescribed by INN [G^1] by number of medicines prescribed [C^1] and multiplying by 100.

Survey Form 8: Public health facility: Essential medicine information

Public Health Facility

Facility #_____
(1-36)

Indicators
Availability of Standard Treatment Guidelines (STG)
Availability of Essential Medicines List (EML)

Facility _____ **Date** _____

Region _____ **Investigator** _____

Standard Treatment Guidelines (STG) available	**Yes=1, No=0 [A]**
~~STG for pneumonia (as part of combined STG publication or disease specific STG document)~~ – do not exist in Jamaica	
STG for Diabetes Mellitus and Hypertension (as part of combined STG publication or disease specific STG document)	[A[1]] =
~~[A[1]] = Both STGs are present =~~	
Essential Medicines List (EML) updated within last 5 years available	**Yes=1, No=0 [B]**
National EML	
~~Provincial/District EML~~	
~~Facility-specific EML~~	
~~Other EML (describe):~~	
[B1] = At least one current EML is present =	

Notes:

[A] Identify the second required STG at the national level and preprint on the form. This should be for an important disease in the region, e.g. malaria in endemic areas or hypertension. Provide the data collectors with a copy of the cover of document they will have to look for. Check to see if there is a copy of each of the STGs either as part of a combined STG publication or a disease-specific STG document. Record "1" if the facility is able to present a copy of the document and "0" if the facility is unable to present the document. If both STGs are present record "1" in [A[1]] otherwise record "0".

[B] Record "1" next to each type of EML updated within the last 5 years that is physically present in the facility. If the facility is unable to present the document or if the EML presented has not been updated in the last 5 years, record "0". If any current EML is available, mark "1"in [B[1]], otherwise record "0".

Survey Form 9: Public health facility

Public Health Facility
Facility #_____
(1-36)

Indicator
Percentage of tracer cases treated according to recommended treatment protocol/guide

Facility _____ **Date** _____

Region _____ **Investigator** _____

Tracer conditions and medicines prescribed	Use of medicines by case Yes=1, No=0										Total number of cases	Number of cases prescribed medicine	% of cases prescribed medicine [E] = D ÷ C x 100
[A]	[B]										[C]	[D]	[E]
	1	2	3	4	5	6	7	8	9	10			
Non-bacterial diarrhoea in children under age 5													
ORS	1												
Antibiotic	0												
Antidiarrhoeal and/or antispasmodic	1												
Mild/moderate (outpatient) pneumonia in children under age 5													
[A[1]] 1st line antibiotic(s) in national STG: _____													
Amoxicillin	1												
Prescribed >1 antibiotic	1												
Non-pneumonia acute respiratory tract infection (ARI) in patients of any age													
Any antibiotic													
[A[1]] Optional tracer condition 1: Asthma – acute attack in children under age 5													
Salbutamol inhaler AND Beclomethasone inhaler													
[A[2]] Optional tracer condition 2:													

Notes:

[A] At the national level, identify and preprint on the form the first line antibiotic(s) mentioned in the national STG for pneumonia [A[1]]. If data on treatment of other important local conditions is desired, preprint on the form the optional tracer conditions [A[1] and [2]] and the medicines that will be used to measure recommended or non-recommended practices.

[B] From general adult or paediatric outpatient records, select 10 patient encounters with each target condition. If possible, choose only single diagnosis encounters. Use the auxiliary from on the verse of this SF to take note of each sampled case. Write "1" or "0" for each case selected to indicate whether or not each target medicine was prescribed.

[C] Sum the total number of cases in each row.

[D] Sum the total number of cases in each row that were prescribed the target medicine.

[E] For each row, calculate the percentage of patients receiving each medicine [E] by dividing the total number of cases that were prescribed each medicine [D] by the total number of cases [C] and multiplying by 100.

Auxiliary Survey Form 9: Public health facility pharmacy/dispensary

To annotated medical recorders that need be asked for reviewing (to print in verse of SF 9)

Non-bacterial diarrhoea in children under age 5			
Number of outpatient record	**Date**	**Number of outpatient record**	**Date**
1		6	
2		7	
3		8	
4		9	
5		10	

Mild/moderate (outpatient) pneumonia in children under age 5			
Number of outpatient record	**Date**	**Number of outpatient record**	**Date**
1		6	
2		7	
3		8	
4		9	
5		10	

Non-pneumonia acute respiratory tract infection (ARI) in patients of any age			
Number of outpatient record	**Date**	**Number of outpatient record**	**Date**
1		6	
2		7	
3		8	
4		9	
5		10	

[A2] Optional tracer condition 1: Asthma – acute attack in children under age 5			
Number of outpatient record	**Date**	**Number of outpatient record**	**Date**
1		6	
2		7	
3		8	
4		9	
5		10	

[A2] Optional tracer condition 2			
Number of outpatient record	**Date**	**Number of outpatient record**	**Date**
1		6	
2		7	
3		8	
4		9	
5		10	

Section C: Private pharmacies/drug outlets *(Survey Forms 10–14)*

Private Pharmacy
Facility #_____
(1-36)

Survey Forms	Indicators
SF 10	Percentage of key medicines available Percentage of medicines expired
SF 11	Affordability of treatment for tracer conditions
SF 13	Adequate conservation conditions and handling of medicines conditions at storeroom and dispensing area
SF 14	Average number of medicines purchased Percentage of prescription medicine bought without prescription Percentage of medicines adequately labelled Percentage of patients know how to take medicines Average cost of medicines Geographical accessibility of dispensing facilities

General information: Private pharmacy/drug outlet

Facility _____ **Date** _____

Region _____ **Investigator** _____

Location _____

_____

1. Does the law require a pharmacist to be present during hours of operation of private pharmacies/drug outlets?

   ☑ Yes ☐ No

2. Is a pharmacist present at the time of the visit

   ☐ Yes ☐ No

Interpretation of the answers 1 and 2 (above).

1 ☐ complies with the law (if items 1 and 2 are both Yes)
2 ☐ does not comply with the law (if item 1 Yes and item 2 No)
~~3 ☐ no requirement for pharmacist presence (if item 1 No)~~

3) Who is dispensing during the time of visit? *(check all that apply)*

☐ Pharmacist (1=Yes; 0=No) ☐ Pharmacy aide/health assistant (1=Yes; 0=No)

☐ Nurse (1=Yes; 0=No) ☐ Untrained staff (1=Yes; 0=No)

Survey Form 10: Private pharmacy/drug outlet

Private Pharmacy
Facility #_____
(1-36)

Indicators
Percentage of key medicines available
Percentage of medicines expired

Facility _____ **Date** _____

Region _____ **Investigator** _____

Key medicines to treat common medical conditions	In stock Yes=1, No=0	Expired medicines on shelves Yes=1, No=0
[A]	[B]	[C]
1. Albendazole Tablet/Suspension		
2. Amoxicillin Suspension/Capsules		
3. Chloramphenicol Ear Drops		
4. Chlorpheniramine Tablet/Elixir		
5. Clotrimazole Cream		
6. Clotrimazole Pessaries		
7. Co-trimoxazole Suspension/Tablets		
8. Ferrous Sulphate Tablets		
9. Gamma Benzene Hexachloride Cream		
10. Hydrochlorothiazide		
11. Hydrocortizone Cream		
12. Metformin Tablets		
13. Oral Rehydration Salt		
14. Paracetamol Tablets/Elixir		
15. Salbutamol Inhaler		
	[B^1] = Sum of B =	**[C^1] = Sum of C =**
	[B^2] = % in stock = B^1 ÷ 15 x 100 =	**[C^2] = % expired = C^1 ÷ B^1 x 100 =**

Notes:

[A] The same lists of 15 key medicines used for Survey Form 1 should be pre-printed on the survey forms.

[B] Mark "1" if any quantity of any dosage form of the medicine is available in the pharmacy on the day of the visit. Mark "0" if the medicine is not physically available. Add the total at the bottom [B^1]. Calculate the percentage in stock [B^2] by dividing the total in stock [B^1] by 15 and multiplying both by 100.

[C] For all the 15 listed key medicines in stock, check if any of the stock is expired. If any amount of a medicine has an expiry problem, mark "1" for yes. Do not count expired medicines stored in a separate area for destruction. Add the total at the bottom [C^1 & F^1] . Calculate the percentage expired [C^2] by dividing the total expired [C^1] by the total number of medicines in stock [B^1] and multiplying by 100.

Survey form 11: Private pharmacy/drug outlet

Private Pharmacy/ drug outlet
Facility #_____
(1-72)

Indicator
Affordability of treatment for tracer conditions

Facility _____ **Date** _____

Region _____ **Investigator** _____

INN Strength *(unit)*	Product Origin	Brand or generic product name(s)	Manufacturer	Pack size	Retail price of one pack for consumer *(local currency)*	Consumer retail unit price (4 digits) *(local currency)*
[A]	**[B]**	**[C]**	**[D]**	**[E]**	**[F]**	**[G] = [F]÷[E]**
1. Albendazole tab 400 mg	Innovator Brand	**Zentel**	GSK			
	Generic (lowest price)					
2. Co-trimoxazol 200 + 40 mg/5 ml	Innovator Brand	**Bactrim**	Roche	ml		
	Generic (lowest price)			ml		
3. Co-trimoxazol tab 400 + 80 mg	Innovator Brand	**Bactrim**	Roche			
	Generic (lowest price)					
4. Enalapril tab 5 mg	Innovator Brand	**Vasotec**	MSD			
	Generic (lowest price)					
4. Hydrochlorothiazide tab 25 mg	Innovator Brand	**None (most expensive)**	None			
	Generic (lowest price)					
5. Glibenclamide tab 5 mg	Innovator Brand	**Daonil**	Pfizer			
	Generic (lowest price)					
5. Metformin tab 500 mg	Innovator Brand	**Glucophage**	Bayer			
	Generic (lowest price)					

Notes:

[A] Medicines of choice for tracer conditions previously defined. These products should be referred by their INN. Dosage forms and strength should also be pre defined. Dosage forms include: "cap/tab" (medicines administered as normal release capsules or tablets), "millilitre" (orally administered liquids, suspensions, topical solutions, eye drops, and injections in liquid form), "gram" (powder for injection, eye ointments, topical creams and ointments), "dose" (medicines administered through inhalers or nebulizers), "MR tab" (modified release tablets, "MR cap" for modified release capsules) and "pessary" or "suppository".

[B] Indicates which information must be taken in the row – innovator or lowest price generic.

[C] Pre fill with the name of the innovator of each medicine (grey cells). If in the field the lowest price corresponds to a branded generic, this brand name should be written in the blank cell, in the correspondent line. Note only those products currently available in stock.

[D] Pre fill with the manufactures of innovators. In the field, include the corresponding manufacturers for generics. Note only those products currently available in stock.

[E] Different pack sizes are used in the countries, and unit prices vary by pack size. Write the pack size for which the price in column [F] is required (e.g. If the package contains 12 capsules or 12 tablets, note 12; if the vial contains 100ml, note 100; if the inhaler contains 200 doses, note 200).

[F] Must correspond to the retail price of one pack paid by the consumer.

[G] Consumer retail unit price. If price data are not available, mark N/A. For each product, determine the unit price in local currency paid out-of-pocket by patients. If patients receive the medicine free-of-charge or pay a fixed fee, leave the two cells blank.

Survey Form 13: Private pharmacy/drug outlet

Private Pharmacy
Facility #_____
(1-36)

Indicator
Adequate conservation conditions and handling of medicines at storeroom and dispensing area

Facility _____ **Date** _____

Region _____ **Investigator** _____

Checklist*	Storeroom True=1, False=0	Dispensing Area/ Room True=1, False=0
	[A]	**[B]**
1. There is a method in place to control temperature (e.g. roof and ceiling with space between them in hot climates, air conditioners, fans, etc.).		
2. There are windows that can be opened or there are air vents.		
3. Direct sunlight cannot enter the area (e.g. window panes are painted or there are curtains/blinds to protect against the sun).		
4. Area is free from moisture (e.g. leaking ceiling, roof, drains, taps, etc.).		
5. There is a cold storage in the facility		
6. There is a regularly filled temperature chart for the cold storage		
7. Medicines are not stored directly on the floor.		
8. Medicines are stored in a systematic way (e.g. alphabetical, pharmacological).		
9. Medicines are stored first-expiry-first out (FEFO).		
10. There is no evidence of pests in the area.		
11. Tablets/capsules are not manipulated by naked hand.		
	[A^1] = Sum of A =	**[B^1] = Sum of B =**
	[A^2] = Score = A^1 ÷ 10 x 100 =	**[B^2] = Score = B^1 ÷ 10 x 100 =**

Notes:

[A] Indicate "1" if all parts of the statement are true for the storeroom and "0" if any part of it is false. Sum the total number of true statements in [A^1]. Calculate the score for the storeroom [A^2] by dividing the sum of true statements [A^1] by 10 and multiplying by 100. For smaller facilities without specific storeroom is recommend to repeat the figures in column [B].

[B] Indicate "1" if all parts of the statement are true for the dispensing room and "0" if any part of it is false. Sum the total number of true statements in [B^1]. Calculate the score for the dispensing room [B^2] by dividing the sum of true statements [B^1] by 10 and multiplying by 100.

** It may be necessary to look elsewhere in the facility for some of the criteria (e.g. refrigerator).*

Survey form 14: Private pharmacy/drug outlet - Exit interview

Public Health Facility Pharmacy
Facility #_____
(1-36)

Indicators	
Average number of medicines purchased	Average cost of medicines
Percent of patients know how to take medicines	Percentage of medicines adequately labelled
Percentage of prescription medicines bought without prescription	Geographical accessibility of facilities

Facility _____ **Date** _____

Region _____ **Investigator**_____

Patient sex M/F F=1, M=0	Age 1) Less than 5 years 2) 5 – 14 years 3) 15 – 59 years 4) more than 60	Number of medicines purchased	Number of prescription medicines purchased	Number of prescription medicines purchased without prescription	Number of medicines adequately labelled	Patient knows how to take medicines Yes=1, No=0	Amount patient paid for purchased medicines	How long did it take to the patient to get to the health facility today? 1) <30min; 2) 31min-1h; 3) > 1h	How much did it cost him/her to come here
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
21.									
22.									
23.									

Patient sex M/F F=1, M=0	Age 1) Less than 5 years 2) 5 – 14 years 3) 15 – 59 years 4) more than 60	Number of medicines purchased	Number of prescription medicines purchased	Number of prescription medicines purchased <u>without</u> prescription	Number of medicines adequately labelled	Patient knows how to take medicines Yes=1, No=0	Amount patient paid for purchased medicines	How long did it take to the patient to get to the health facility today? 1) <30min; 2) 31min-1h; 3) > 1h	How much did it cost him/her to come here
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	
24.									
25.									
26.									
27.									
28.									
29.									
30.									
[A^1] = Sum customers =	[B^1] = Sum of 1 = [B^2] = Sum of 2 = [B^3] = Sum of 3 = [B^4] = Sum of 4 =	[C^1] = Sum of C =	[D^1] = Sum of D =	[E^1] = Sum of E =	[F^1] = Sum of F =	[G^1] = Sum of G =	[H^1] = Sum of H =	[I^1] Sum of 1 = [I^2] Sum of 2 = [I^3] Sum of 3 =	[J^1] = Sum of I =
[A^2] = Sum females =		[C^2] = Average number of medicines purchased by customers = $C^1 \div A^1$ =	[D^2] = Average number of prescription medicines purchased by customers	[E^2] = % of prescription medicines bought without prescription = $E^1 \div D^1 \times 100$ =	[F^2] = % adequately labelled = $E^1 \div C^1 \times 100$ =	[G^2] = % know how to take medicines = $G^1 \div A^1 \times 100$ =	[H^2] = Average cost = $H^1 \div$ total patient A^1 =		[J^2] = Average transport cost = $I^1 \div$ total responses =
[A^3] = % females = $A^2 \div A^1 \times 100$ =									[J^3] = Average transport cost to minimun daily salary = [J^2] ÷ [K] =
[K] = Lowest daily government salary (divide weekly salary by 7 or monthly salary by 30) =									

Notes:

[A&B] Interview 30 patients leaving the dispensing area/pharmacy. Obtain the sex and age of the patient, not those of the person obtaining the medicine. Use the number of patients/cases able to respond to corresponding questions as denominators for (C, G, H, J).

[A] Record the number of cases [A^1] and the number of females [A^2]. Calculate the percentage of females by dividing the total number of females [A^2] by the total number of cases [A^1] and multiplying by 100.

[B] Record the age of the patient. Indicate 1) less or equal to 5 years of age, 2) for older children, 3) for adults & 4) if equal or more then 60. Sum the total of patients in each category [B^{1-4}].

[C] Record the number of medicines purchased by each customer. Combination medicines in one dosage form count as one medicine. Sum the total number [C^1]. Calculate average number of medicines purchased [C^2] by dividing number of medicines purchased [C^1] by number of customers [A^1].

[D] Record the number of prescription medicines purchased. Note: these are mainly antibiotics, antihypertensive, anti-diabetics, asthma, etc.

[E] Record the number prescription medicines (antibiotics, antihypertensive, medicines for diabetes, asthma, and etc.) bought without prescription. Sum the number of prescription medicines bought without prescription [E^1]. Calculate % of prescription medicines bought without prescription [E^2] by dividing total number of prescription medicine bought without prescription [E^1] by total number of medicines purchased [D^1] and multiplying by 100.

[F] Record the number of medicines labelled with at least the name of the medicine, strength, dosage and quantity. Count only medicines meeting both criteria. Sum the total [E^1]. Calculate the percentage of medicines adequately labelled [F^2] by dividing the total number of adequately labelled medicines [F^1] by the total number of medicines purchased [C^1] and multiplying by 100.

[G] Determine if the customer who has purchased the medicines (or an adult accompanying a paediatric patient) knows how to take all medicines dispensed. Mark "1" only if customer can correctly state how ALL medicines should be taken (name of medicine and dosage) and "0" otherwise. Sum the total [G^1]. Calculate the percentage of customers who know how to take all medicines [G^2] by dividing the total number who know how to take all medicines [G^1] by the total number interviewed [A^1] and multiplying by 100.

[H] Record the amount each patient paid out-of-pocket for all medicines received at the facility. Check with a receipt if possible. Sum the total amount [H^1]. Calculate the average medicines cost by dividing the amounts paid for medicines [H^1] by the total number interviewed able to respond.

[I] Record the time it took to the patient to get to the facility. Indicate the codes 1-3. Sum the total of patients in each category [I^{1-3}].

[J] Note travel cost in local currency. Sum the total amount [J^1]. Calculate the average transport cost [J^2] by dividing the amounts paid for transport [J^1] by the total number interviewed persons able to respond. To calculate the average transport cost to minimum daily salary[J^3], divide the average transport cost by the minimum daily salary [K].

Section D: Central/regional/district warehouses supplying the public sector *(Survey Forms 15–17)*

Central/district warehouse
Facility #_____
(1-5)

Survey Forms	Indicators
SF 15	Availability of key medicines Percentage of medicines expired
SF 16	Average stock-out duration Adequate record keeping
SF 17	Adequate conservation conditions and handling of medicines

Facility _____ **Date** _____

Region _____ **Investigator** _____

Location _____

_____

Survey Form 15: Central/regional/district warehouse supplying the public sector

Central/district warehouse
Facility #_____
(1-5)

Indicators
Percentage of key medicines available
Percentage of medicines expired

Facility _____ **Date** _____

Region _____ **Investigator** _____

Key medicines to treat common medical conditions [A]	In stock Yes=1, No=0 [B]	Expired medicines on shelves Yes=1, No=0 [C]
1. Albendazole Tablet/Suspension		
2. Amoxicillin Suspension/Capsules		
3. Chloramphenicol Ear Drops		
4. Chlorpheniramine Tablet/Elixir		
5. Clotrimazole Cream		
6. Clotrimazole Pessaries		
7. Co-trimoxazole Suspension/Tablets		
8. Ferrous Sulphate Tablets		
9. Gamma Benzene Hexachloride Cream		
10. Hydrochlorothiazide		
11. Hydrocortizone Cream		
12. Metformin Tablets		
13. Oral Rehydration Salt		
14. Paracetamol Tablets/Elixir		
15. Salbutamol Inhaler		
	[B^1] = Sum of B =	**[C^1] = Sum of C =**
	[B^2] = % in stock = $B^1 \div 15 \times 100$ =	**[C^2] = % expired = $C^1 \div B^1 \times 100$ =**

Notes:

[A] The same lists of 15 key medicines should be identified at the national level and preprinted on the survey forms.

[B] Mark "1" if any quantity of any dosage form of the medicines is in stock in the facility on the day of the visit. Mark "0" if the medicine is not available in stock. Add the total at the bottom [B^1]. Calculate the percentage in stock [B^2] by dividing the total in stock [B^1] by 15 and multiplying by 100.

[C] For all the 15 listed key medicines in stock, check if any of the stock is expired. If any amount of a medicine has an expiry problem, mark "1" for yes. Do not count expired medicines stored in a separate area for destruction. Add the total at the bottom [C^1]. Calculate the percentage expired [C^2] by dividing the total expired [C^1] by the total number of medicines in stock [B^1] and multiplying by 100.

Survey Form 16: Central/regional/district warehouse supplying the public sector

Central/district warehouse

Facility #_____ (1-5)

Indicators
Average stock-out duration and Adequate record keeping

Facility _____ **Date** _____

Region _____ **Investigator** _____

Key medicines to treat common medical conditions	Records cover at least 6 months within the past 12 months Yes=1, No=0	Only collect data for medicines with records covering at least 6 months within the past 12 months		
		Number of days out of stock	Number of days covered by the review (from 180 to 365 days)	Equivalent number of days of stock-out per year [E] = C x 365 ÷ D
[A]	[B]	[C]	[D]	[E]
1. Albendazole Tablet/Suspension				
2. Amoxicillin Suspension/Capsules				
3. Chloramphenicol Ear Drops				
4. Chlorpheniramine Tablet/Elixir				
5. Clotrimazole Cream				
6. Clotrimazole Pessaries				
7. Co-trimoxazole Suspension/Tablets				
8. Ferrous Sulphate Tablets				
9. Gamma Benzene Hexachloride Cream				
10. Hydrochlorothiazide				
11. Hydrocortizone Cream				
12. Metformin Tablets				
13. Oral Rehydration Salt				
14. Paracetamol Tablets/Elixir				
15. Salbutamol Inhaler				
	[B^1] = Sum of B =			**[E^1] = Sum of E =**
	[B^2] = % adequate records = B^1 ÷ 15 x 100 =			
[F] = Average number of stock-out days = E^1 ÷ B^1 =				

Notes:

[A] The list of 15 key medicines identified for *Survey Form 1* should also be pre-printed on this form.

[B] Go through the stock cards and indicate which medicines have records covering at least 6 months within the previous 12 months. Add the total at the bottom [B^1]. Calculate the percentage of medicines with adequate records [B^2] by dividing the number of medicines with records covering at least 6 months [B^1] by 15 and multiplying by 100.

[C] The review should cover 6-12 months. Go through the stock cards covering the review period. Indicate the number of days each medicine was not available or marked "0" on the card. A medicine is considered in stock if any quantity of it is available in generic or branded form.

[D] Indicate the number of days actually reviewed for each medicine. On the back side of this SF there is an auxiliary form you can use to totalize stock-out days.

[E] Compute the equivalent number of stock-out days per year for each medicine by multiplying the number of days out of stock [C] by 365 and dividing by the number of days covered by the review [D]. Write the total number of stock-out days [E^1].

[F] Calculate the average number of stock-out days by dividing the total number of stock-out days [E^1] by the total number of medicines reviewed [B^1].

Example:

Key medicines to treat common medical conditions	Records cover at least 6 months within the past 12 months Yes=1, No=0	Only collect data for medicines with records covering at least 6 months within the past 12 months		
		Number of days out of stock	Number of days covered by the review (from 180 to 365 days)	Equivalent number of days of stock-out per year [E] = C x 365 ÷ D
[A]	[B]	[C]	[D]	[E]
Cotrimoxazole	1	90	180	182.5
Paracetamol	1	30	365	30
Amoxicillin	0			
	[B^1] = Sum of B = 2			**[E^1] = Sum of E =** 212.5
	[B^2] = % adequate records = B^1 ÷ 15 x 100 = 66.7			
[F] = Average number of stock-out days = E^1 ÷ B^1 = 106.25				

Auxiliary Survey Form 16: Public health facility pharmacy/dispensary

To summarize stock-out days (print in verse of SF 16)

Key medicines to treat common conditions	*Stock-out days*												
	Jul 08	*Aug 08*	*Sep 08*	*Oct 08*	*Nov 08*	*Dec 08*	*Jan 09*	*Feb 09*	*Mar 09*	*Apr 09*	*May 09*	*Jun 09*	*Total [C]*
1. Albendazole Tablet/Suspension													
2. Amoxicillin Suspension/Capsules													
3. Chloramphenicol Ear Drops													
4. Chlorpheniramine Tablet/Elixir													
5. Clotrimazole Cream													
6. Clotrimazole Pessaries													
7. Co-trimoxazole Suspension/Tablets													
8. Ferrous Sulphate Tablets													
9. Gamma Benzene Hexachloride Cream													
10. Hydrochlorothiazide													
11. Hydrocortizone Cream													
12. Metformin Tablets													
13. Oral Rehydration Salt													
14. Paracetamol Tablets/Elixir													
15. Salbutamol Inhaler													

Survey Form 17: Central/regional/district warehouse supplying the public sector

Public Health Facility Pharmacy
Facility #_____
(1-36)

Indicator
Adequate conservation conditions and handling of medicines

Facility _____ **Date** _____

Region _____ **Investigator** _____

Checklist*	Storeroom True=1, False=0
	[A]
1. There is a method in place to control temperature (e.g. roof and ceiling with space between them in hot climates, air conditioners, fans, etc.).	
2. There are windows that can be opened or there are air vents.	
3. Direct sunlight cannot enter the area (e.g. window panes are painted or there are curtains/ blinds to protect against the sun).	
4. Area is free from moisture (e.g. leaking ceiling, roof, drains, taps, etc.).	
5. There is a cold storage in the facility	
6. There is a regularly filled temperature chart for the cold storage	
7. Medicines are not stored directly on the floor.	
8. Medicines are stored in a systematic way (e.g. alphabetical, pharmacological).	
9. Medicines are stored first-expiry-first out (FEFO).	
10. There is no evidence of pests in the area.	
	[A^1] = Sum of A =
	[A^2] = Score = A^1 ÷ 10 x 100 =

Notes:

[A] Indicate "1" if all parts of the statement are true for the storeroom and "0" if any part of it is false. Sum the total number of true statements [A^1]. Calculate the score for the storeroom [A^2] by dividing the sum of true statements [A^1] by 10 and multiplying by 100.

** It may be necessary to look elsewhere in the facility for some of the criteria (e.g. refrigerator).*

Annex 3. Rounded ranges of household expenditures

Expenditure Ranges for Four Weeks by Household Size, Jamaica, 2009

Number of household members	Range A	Range B	Range C	Range D	Range E
1	<8300	8300-12800	12801-19200	19201-41100	>41100
2	<16500	16500-25500	25501-38500	38501-82200	>82200
3	<24800	24800-38300	38301-57700	57701-123300	>123300
4	<33000	33000-51000	51001-77000	77001-164400	>164400
5	<41300	41300-63800	63801-96200	96201-205500	>205500
6	<49500	49500-76500	76501-115400	115401-246600	>246600
7	<57800	57800-89300	89301-134700	134701-287700	>287700
8	<66000	66000-102000	102001-153900	153901-328800	>328800
9	<74300	74300-114800	114801-173200	173201-369900	>369900
10	<82500	82500-127500	127501-192400	192401-411000	>411000
11	<90800	90800-140300	140301-211600	211601-452100	>452100
12	<99000	99000-153000	153001-230900	230901-493200	>493200
13	<107300	107300-165800	165801-250100	250101-534300	>534300
14	<115600	115600-178500	178501-269400	269401-575400	>575400
15	<123800	123800-191300	191301-288600	288601-616500	>616500
16	<132100	132100-204000	204001-307800	307801-657600	>657600
17	<140300	140300-216800	216801-327100	327101-698700	>698700
18	<148600	148600-229500	229501-346300	346301-739800	>739800
19	<156800	156800-242300	242301-365600	365601-780900	>780900
20	<165100	165100-255000	255001-384800	384801-822000	>822000
21	<173300	173300-267800	267801-404000	404001-863100	>863100
22	<181600	181600-280500	280501-423800	423801-904200	>904200
23	<189800	189800-293300	293301-442500	442501-945300	>945300
24	<198100	198100-306000	306001-461800	461801-986400	>986400
25	<206300	206300-318800	318801-481000	481001-1027500	>1027500
26	<214600	214600-331500	331501-500200	500201-1068600	>1068600
27	<222900	222900-377300	344301-519500	519501-1109700	>1109700
28	<231100	231100-357000	357001-538700	538701-1150800	>1150800
29	<239400	239400-369800	369801-558000	558001-1191900	>1191900
30	<247600	247600-382500	382501-577200	577201-1233000	>1233000

Annex 4. Description of indicators - Health facility survey

Indicator	Purpose/Rationale
Availability of key medicines in public health facility dispensaries, private drug outlets and public central medical store.	To measure current availability of key medicines to treat common health problems in public health facility dispensaries, private drug outlets and warehouses. Essential medicines to treat common diseases should be available in all these facilities, especially in public sector facilities providing health services for the poor. Physical availability is a basic measure of access to essential medicines. See pages 29–30 for guidance on selecting key medicines for this study.
Percentage of prescribed medicines dispensed or administered to patients at public health facility dispensaries.	To measure the degree to which facilities are able to provide needed medicines.
Stock-out duration at public health facility dispensaries and public central medical store.	To measure availability over the past 12 months of key medicines to treat common health problems. An adequate logistic system ensures that essential medicines remain in stock at all times.
Percentage of adequate record keeping at public health facility dispensaries and public central medical store.	To determine the extent to which stock records are maintained. The presence of adequately maintained and accurate stock records contributes to proper management, estimation of needs and the reorder of medicines.
Affordability of treatment for adults and children under 5 years of age at public health facility dispensaries and private drug outlets.	To measure affordability of basic pharmaceutical treatment as an indicator of access to essential medicines. In most developing countries, a majority of the population pays for treatment out-of-pocket. Affordability is expressed as the ratio of the cost of treating moderate pneumonia another condition to a standard unit of measure. For this survey, the lowest daily government salary is used. Countries may also identify an optional second unit of measure (e.g. poverty line, basket of food, etc.).
Average selling cost of medicines public health facilities and private drug outlets.	To measure average cost paid by patient for medicines at public health facilities and private drug outlets as an indicator of access to essential medicines. In most developing countries, a majority of the population pays for treatment out-of-pocket.
Percentage of patients taking more than one hour to travel to the facility.	To assess geographic accessibility in terms of how long does it take the patients to get to the pharmacy they get their medicines.
Average transportation cost to the facility.	To assess geographic accessibility in terms of how much does it cost to the patients to get to the pharmacy they get their medicines.
Presence of expired medicines in public health facility dispensaries, private drug outlets and public central medical store.	To determine if expired medicines are being distributed or sold. In some countries, expired medicines are distributed or medicines are allowed to go out of date on pharmacy shelves. See page 29–30 for guidance on selecting key medicines for this study.
Adequacy of conservation conditions and handling of medicines in public health facility pharmacies/dispensaries, private drug outlets and central/regional/district public central medical store.	To determine status of conservation conditions and handling of medicines in public sector facilities, both of which are factors that affect quality of medicines.
Percentage of medicines adequately labelled at public health facility dispensaries.	To assess quality of dispensing practice. If medicines are to be used properly, they should be labelled appropriately by the person dispensing them.
Percentage of patients know how to take medicines at public health facility dispensaries.	To assess if patients have adequate knowledge of how to take their medicines.

(cont.)

Indicator	Purpose/Rationale
Average number of medicines prescribed in public health facilities.	To determine prevalence of polypharmacy, which is one measure of unnecessary prescribing.
Percentage of patients prescribed antibiotics in public health facilities (Survey Form 7).	To determine prevalence of antibiotic prescribing, since over-prescribing of antibiotics is one common type of inappropriate medicine use.
Percentage of patients prescribed injections in public health facilities.	To determine prevalence of injection use, since over-prescribing of injections is one common type of inappropriate medicine use
Percentage of prescribed medicines on the essential medicines list at public health facilities.	To measure the degree to which prescribing practice conforms to the national essential medicines list (EML). The essential medicines concept is one of the main strategies being promoted in medicines policy. More and more countries are formulating national EMLs. For most, this should be the basis for all public medicines procurement and prescribing.
Percentage of medicines prescribed by generic name (INN) at public health facilities.	To measure the degree to which prescribing practice conforms to the principles of generic prescribing.
Availability of standard treatment guidelines at public health facilities.	To determine if prescribers have available to them the key source of therapeutic information they need in daily practice.
Availability of EML at public health facilities.	To determine if prescribers and/or dispensers have available to them the key source of pharmaceutical information that should be the basis for all medicine prescribing and dispensing.
Percentage of tracer cases treated according to recommended treatment protocol/guide.	To measure quality of care for common conditions with clear recommended treatment protocols. Adherence to recommended protocols can be measured by checking if tracer diseases are treated appropriately. Such recommendations might include use of ORS for watery diarrhoea in children, use of the recommended antibiotic for mild pneumonia or non-use of antibiotics for simple ARI. The survey form has space for countries to track additional conditions, if desired.
Percentage of prescription medicines bought without prescription.	To determine if costumers are purchasing and dispensers are selling prescription medicines without prescription. The existence of a prescription (and therefore a medical encounter) as the source of (prescription) medicine seeking behaviour should be the basis for all medicine dispensing as a way to promote rational use of medicines.
Percentage of facilities that comply with the law (presence of a pharmacist).	To determine if facilities comply with the law (presence of a pharmacist where the law requires).
Percentage of facilities with pharmacist, nurse, pharmacy aide/ health assistant or untrained staff dispensing.	To determine the profile of the health professionals that dispenses medicines in health facilities and private drug outlets.
Percentage of facilities with doctor, nurse, trained health worker/health aide prescribing	To determine the profile of the health professionals prescribing in health facilities.
Percentage of facilities with prescriber trained in RDU	To determine if the most senior health professionals prescribing in health facilities were trained in RDU.
Percent of households with no medicines at home.	To investigate aspects of access to and use of medicines at home. An excessive amount of medicines at home may lead to irrational use of them. By the other side, the absence of medicines may be linked to lack of access, what may be better evidenced when stratified by income level. Differences among quintile allow inferences on inequity.Generally elderly people use a higher number of medicines.Households with children are more likely to keep medicines for future use, and, because of this to have medicines at home even if no one is sick.
Percent of household medicines from different sources.	To investigate the relative importance of different sources of medicines to households. Is expected the predominant sources fit with the NMP orientations. Also, to find out the main sources orients the need of policies (p.eg inspection, definition of functioning standards, training of staff) focusing them.

(cont.)

Indicator	Purpose/Rationale
Percent of households reporting a serious acute illness who did not seek care with a health professional and did not take any medicines.	To assess access to medicines among those who did not seek for health care at the time of a serious acute illness, what indicates lack of access to health care and lack of access to medicines.
Percent of households reporting an acute serious illness who sought and received care outside with a health professional the home but did not take any medicines.	To assess access to medicines among those who sought and received care at the time of a serious acute illness.
Percent of households reporting an acute serious illness who sought and received care outside the home with a health professional but did not take all medicines as recommended/ prescribed.	To assess appropriate use of medicines among those who had access to medicines at the time of a serious acute illness.
Percent of respondents who agree that opening hours of public health care facilities are convenient.	Perception about convenience of opening hours may influence utilization and access to care and medicines.
Percent of respondents who agree that sick person/care giver decided against taking medicines as prescribed for an illness (*acute, chronic, by illness*) for one or more reasons related to acceptability.	To measure how acceptability may influence medicine utilization, what means behavioural o culture reasons.
Percent of respondents who agree that previous adverse effects is a reason for not taking a medicine as prescribed for a reported illness (*acute, chronic, by illness*).	To measure how tolerability influence medicine utilization. This indicator allows to estimate the magnitude of the problem according to people perception, since they declare not to take medicines for this reason.
Percent of persons with reported illnesses (*acute by illness*) who are treated with injections.	To evaluate one aspect of rational use of medicines. The injectable administration via is always more dangerous then others and should only be used when really indicated. Since current standard as 20% proposed by WHO refers to primary health care and here any level of care may be addressed interpretation should be done with caution. Indeed, in this moment it is very important to calculate this indicator at household level in order to create evidence to establish adequate standard concerning this approach.
Percent of respondents who agree that quality of medicines purchased at medicine retailers (*private pharmacy, drug seller*) is better than at public health care facilities	Perceptions about quality of medicines may influence utilization. In many middle and low countries medicines provided by the public system are perceived of low quality by general people, what may influence medicines use and medicines seeking behaviour.
Percent of respondents who agree that locally made medicines are of lesser quality.	Perceptions about quality of medicines may influence utilization. In many middle and low countries medicines locally made are perceived of low quality by general people, what may influence medicines use and medicines seeking behaviour.
Average number of medicines at home.	To investigate aspects of access to and use of medicines at home. An excessive amount of medicines at home may lead to irrational use of them. By the other side, the absence of medicines may be linked to lack of access, what may be better evidenced when stratified by income level. Differences among quintile allow inferences on inequity. Generally elderly people use a higher number of medicines. Households with children are more likely to keep medicines for future use, and, because of this to have medicines at home even if no one is sick.

(cont.)

Indicator	Purpose/Rationale
Percent of household medicines by category of person who prescribed or recommended them.	To investigate who prescribed or recommended medicines available at home. Data allows to identify origin of prescription/recommendation according to sectors (public/private) and authorised professionals/lay people. Importance of specific informal prescribers that constitutes problems in some countries, e.g., private pharmacies may also be identified. Stratification allows assessing of differential behaviour among these prescribers in relation to OTC and medicines from the EML (e.g. are authorised prescribers more adherent to EML? are lay people prescribing prescription medicines?). Severe acute and chronic health problems are more likely to require professional care and less likely to be solved with OTC medicines.
Percent of antibiotics kept for future use.	To investigate aspects of rational use of medicines available at home.Systemic use antibiotics are always prescription medicines and the incorrect use is linked to emergence of resistance and treatment failure.
Percent of antimalarials kept for future use.	To investigate aspects of rational use of medicines available at home. National epidemic level for malaria and national guidance on treatment should be considered to interpret the indicator. Depending on the epidemic level it is advisable that people keep first line treatment at home.
Percent of household medicines with adequate label.	To investigate on aspect of rational use of medicines and quality of care. Items verified are the minimum to assure medicines identification and validity.
Percent of household medicines with adequate primary packaging.	To investigate one aspect of rational use of medicines and quality of care. Despite other conditions are also important, primary package is fundamental to preserve medicines specifications and identification.
Percent of households with a chronically ill person who was never told to take medicines (*overall, by illness*).	To investigate overall access to care and medicines for chronic illnesses. As chronic ill people are only consider in this approach if they have already been told by a doctor to have the illness, a high percentage of people never been told to take medicines indicates lack of access or quality of health care.
Percent of households with a chronically ill person prescribed medicines who does not take recommended medicines regularly (*overall, by illness*).	To investigate regular access to and use of medicines in chronic illnesses. Not to take medicines regularly may be linked to access or adherence.
Percent of medicines taken for a reported illness (*acute, chronic, by illness*) that were recommended by a doctor or other qualified healthcare provider.	To investigate rational use of medicines in various conditions. The performance of this indicator may be linked to access to health care and prescription behaviour.
Percentage of people referring the use of herbal for a reported illness (acute, chronic disease).	This indicator allows to estimate the importance and acceptance of herbal medicines by the population
Average household medicine expenditures as percent of total expenditures.	To determine the overall financial burden of medicines on households, in relation to total expenditures. The indicator allows assessing of the magnitude of total household expenditures committed with medicines.
Average household medicine expenditures as percent of non-food expenditures.	To determine the financial burden of medicines as a proportion of non-food (discretionary) expenditures in households. This indicators allows to calculated catastrophic expenditure on medicines.

(cont.)

Indicator	Purpose/Rationale
Average household medicine expenditures as percent of total health expenditures.	To determine the financial burden of medicines as a proportion of health expenditures in households. Differences among quintiles express inequity level. Different policies targeting different groups of population should be considered t the interpretation.
Average annualized health expenditures per person.	To determine the annual level of health expenditures per person. Differences among quintiles indicate inequity.
Average annualized medicine expenditures per person.	To determine the annual level of medicine expenditures per person. Differences among quintiles indicates inequity.
Average household medicine expenditures for a reported illness (*acute, chronic, by illness*) as percent of total expenditures in a 4-week period.	To determine financial burden of expenditures on medicines for a reported illness.
Percent of households with insurance coverage for any of the medicines prescribed for a reported illness (acute, chronic, by illness).	To determine the extent of insurance coverage of medicines in households.
Percent of respondents who agree that price is a reason for not taking medicines prescribed for a reported illness (acute, chronic, by illness).	To measure cost as a barrier to medicines access.
Percent of households who can get free medicines at public health care facilities.	Free medicines may increase access. Differences among quintiles allows assessment if goals that are established in the NMP are being met.
Percent of households who agree that medicines are more affordable at public health care facilities than at private pharmacies.	Perception about affordability may influence utilization.
Percent of households who can get credit for medicines at medicine retailers (*private pharmacies, drug sellers*).	Possibility of getting credit to buy medicines may influence patterns of utilization and access.
Percent of households who had to borrow money or sell assets in the past to pay for medicines.	To assess how the cost of medicines affects household economic status and poverty risk.
Percent of respondents who agree that lack of availability of medicines at point of distribution (*public health care facility, private pharmacy or drug seller*) is a reason for not taking medicines as prescribed for a reported illness (*acute, chronic, by illness*).	To measure perception about availability of medicines. This indicator intend to assess if availability is perceived by people as problem not to take medicine and if the problem has different magnitude concerning to acute or chronic conditions.
Percent of respondents who agree that medicines are available at point of distribution (*public health care facility, private pharmacy, drug seller*).	Perceived availability of medicines in health care facilities may be a barrier to utilization and access.
Percent of households located > 1h ~~5 km~~ from the closest provider of medicines.	To measure the distance to public health care facilities. Living more than 1 hour walking distance from a public health care facility may impact access to medicines. Catherine, do you have any evidence on this distance? Why 1h. In Brazil we found people start be concerned to distance over 30 minutes travel.
Percent of households located > 1h from the point of distribution of medicines prescribed for a reported illness (*acute, chronic, by illness*).	To measure distance from the actual source of medicines. Having to travel more than 1 hour walking distance to obtain medicines may impact access to medicines.
Percent of respondents who declare that distance from source of medicines is a reason for not taking a medicine as prescribed for a reported illness (*acute, chronic, by illness*).	To measure geographic access as a perceived barrier to not access all needed medicines.Results according to kind of illness (acute, chronic, specific illness) have different potential hazard. In serious acute illness people probably were in need to access medicines quickly, may be in life threatening situations. In chronic conditions people generally requires the same medicines continuously and any barrier to access declared is probably faced frequently.
Percent of respondents who agree that location of public health care facilities is convenient.	Perception about convenience of health care facilities may influence utilization and access to medicines.

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Indicator	Purpose/Rationale
Percent of households who visited a formal source of health care at the time of acute illness.	To assess access to and utilization of public health care facilities during acute illness. The indicator allows the assessment of the number of people with acute illnesses who are looking for care and also whether they are doing this in facilities that are planned in the national health policy.
Percent of respondents who are satisfied with quality of services delivered by local health care facilities	Perception of quality of care may influence utilization
Percent of respondents who prefer private health care providers over public health care facilities	Preferences related to private vs. public providers may influence utilization. Which question is this?

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