TANZANIA SERVICE AVAILABILITY AND READINESS ASSESSMENT (SARA) 2012

FINAL REPORT

JULY 2013

Foreword

The Tanzania "Service Availability and Readiness Assessment" provides a snapshot of the current status of health service provision in Mainland Tanzania in 2012. The study used an international standard questionnaire instrument and indicators. Data were collected from a sample of districts and health facilities to provide a representative portrayal of health services in the country as a whole. The survey provides estimates of general health care availability and readiness, as well as detailed assessments of specific areas of health care provision.

The publication represents a major contribution to effective monitoring of health service delivery in the country. As well as filling an immediate information gap, the survey provides a "baseline" situation assessment against which future progress may be judged. The report also responds to the increased demand for accountability by publishing objective measures of service delivery capability. In highlighting areas of strength and weakness, the report will aid health planners and managers to prioritise effort and allocate resources.

It is my hope that this report will be used by all stakeholders in the health sector in order to raise standards of service delivery. We look forward to repeating the survey in the near future to assess the results of our collective efforts.

On behalf of the Ministry of Health and Social Welfare, I express appreciation to the Global Fund to fight AIDS, Tuberculosis and Malaria for providing the financial support required for this study and to the Ifakara Health Institute for providing technical and editorial support to conduct the survey and produce the report.

Hon. Dr. Hussein Mwinyi
MINISTER OF HEALTH AND SOCIAL WELFARE

Acknowledgements

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Ifakara Health Institute (IHI) conducted the survey, analysed the data and prepared the report for publication. Honorati Masanja and Paul Smithson authored the final report. Appreciation is also due to health facility personnel, HMIS Coordinators and Council Health Management Teams in all of the sample districts for recording and compiling the data on which this survey was based. The final report benefited from critical review of an earlier draft by the Ministry of Health and Social Welfare and by SARA experts at the World Health Organisation, Geneva.

Overall coordination of the exercise was provided by the Monitoring and Evaluation Section of the Ministry of Health and Social Welfare.

Finally, we acknowledge the financial support of the Global Fund to fight AIDS, Tuberculosis, and Malaria, without which the study would not have been possible.

Dr. D. Mmbando
Chief Medical Officer

Executive Summary

The 2012 Service Availability and Readiness Assessment (SARA) for Tanzania was conducted to help monitor health care delivery capability. Field work for the survey was conducted in three rounds: the first in May-June, the second in July-August 2012 and the final round in December 2012. Data analysis and report preparation commenced in September 2012. A final round of data analysis and report editing was conducted in January-February 2013.

The survey was conducted in a nationally-representative sample of 27 districts, with a target sample of 1908 health facilities and a final sample of 1297 health facilities, representing more than 18% of all health facilities in the country. The sample comprised non-government as well as government health facilities and results were stratified by facility level, operating authority, ownership and urban/rural areas. Response completeness was lower than anticipated, particularly in districts with a large number of facilities.

General availability of health services was assessed by comparing the total number of health facilities on the master list (not total interviewed) with the total population (projected) in the sample districts. Overall, there were 1.5 health facilities per 10,000 population, ranging from a minimum of 0.6 in Geita to a maximum of 6.0 in Sumbawanga.

Across the 1297 health facilities sampled, there were 8838 professional health workers, equivalent to 7.1 core health personnel per 10,000 population. 67% of all personnel worked in government health facilities, 14% in mission/faith-based facilities and 18% in private-for-profit facilities. Overall, 69% of the workforce was stationed in urban areas and 31% in rural areas. Medical doctors made up 6% of the workforce sampled, non-physician clinicians accounted for 32%, nurses 48% and midwifery professionals made up the remaining 14%.

The general service readiness index (GSR) is a composite measure that combines results from five modules of: amenities; equipment; standard precautions for infection prevention; diagnostics; and medicines & commodities. The overall GSR score was 42. Of the five domains, the score was highest for equipment (70) while all other domains score below 50 (Fig. 1). Private health facilities had a higher general service readiness score than government facilities and also exceeded the GSR score on each of the five domains (Fig. 2).

Figure 1: General service readiness by domain

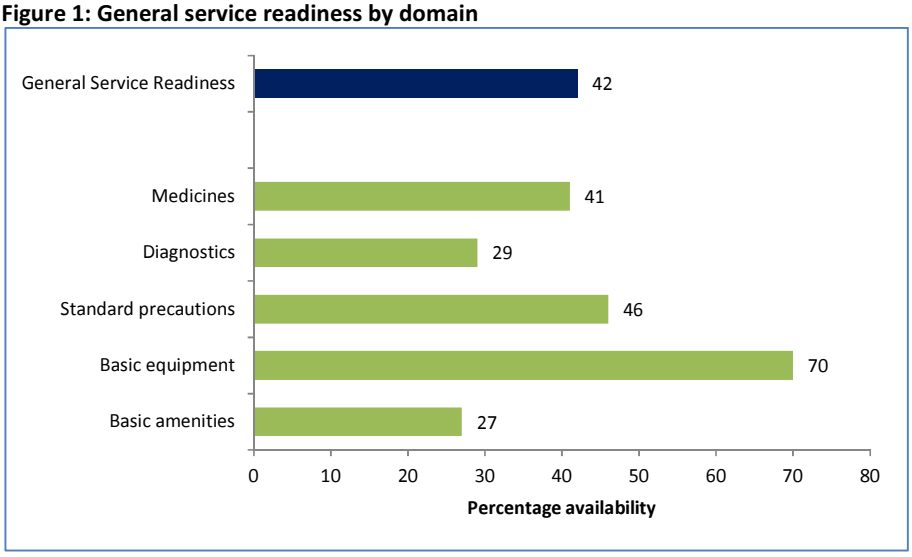
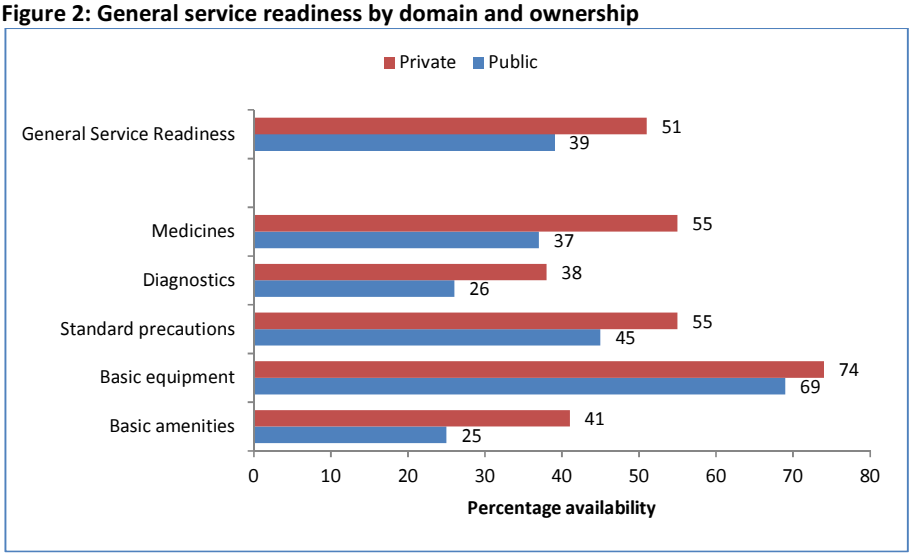


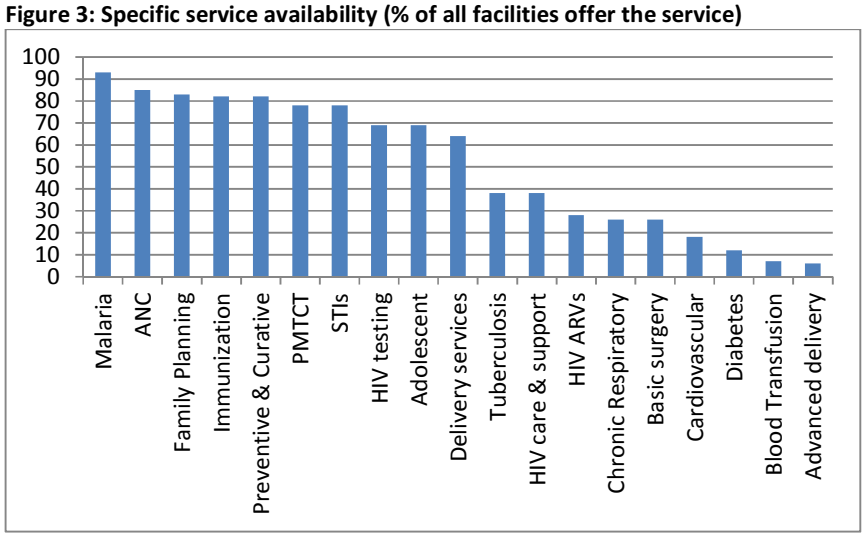
Figure 2: General service readiness by domain and ownership



Availability and readiness was assessed for 19 areas of specific service provision. "Availability" signifies the percentage of all facilities in the sample that said that they offered the specific service in question. "Readiness" is a composite measure and was restricted to the sub-set of facilities that offered the service. The component "domains" that make up the readiness score differ from service to service, but generally include: Staff & training; Equipment; Medicines & Supplies, and Diagnostics. A readiness score of 50 signifies that, on average, half of the facilities that offered the service had each of the requisite inputs for delivering that service.

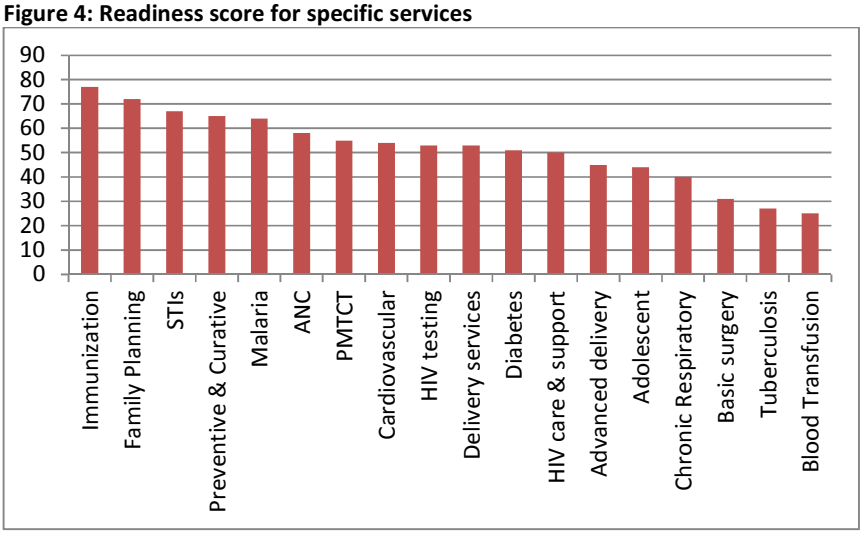
"Availability" varies considerably. Some services (such as curative and preventive services for children under five) are expected to be provided in almost all health facilities. Other more specialist services would only be expected to be provided by a minority of health facilities. Malaria services, ANC, family planning, child immunization and preventive and curative child health services were available in 80% or more of all facilities in the sample. PMTCT, sexually transmitted infection services were available in 78% of all facilities in the sample. Services that were available in less than 30% of facilities included antiretroviral therapy for HIV, basic surgery, cardiovascular and chronic respiratory infection services, diabetes services, blood transfusion and advanced delivery services (Figure 3).

Figure 3: Specific service availability (% of all facilities offer the service)



Having said this, the facilities that claim to offer any given service ought to have the requisite skilled personnel, guidelines, equipment, diagnostics and supplies. Figure 4 shows readiness scores for each of the nineteen specific services included in this survey, in descending order of readiness.

Figure 4: Readiness score for specific services



Readiness score for specific service provision did not exceeded 80/100 for any the specific services in 2012. Child immunization and family planning were the two services with readiness score above 70%. STI services, preventive and curative child health, ANC and malaria had readiness scores between 64 and 67. Specific services with the lowest readiness scores were basic surgery (31), tuberculosis (27), blood transfusion (25) and antiretroviral services for HIV (21). The remaining nine specific services had scores ranging from 40 (chronic respiratory disease services) to 55 (PMTCT).

Examination of the pattern of domain scores across different specific services revealed no clear pattern. For example, availability of at least one staff members, with requisite training and guidelines varied from 10/100 (basic surgery) to 70/100 (child immunisation), while scores for equipment ranged from 11/100 (HIV counselling and testing) to 91/100 (family planning). Thus we are not able to conclude that there is a problem with equipment (or diagnostics, or staff, or supplies) across all service areas. Instead, the deficits tend to vary from service to service. The reader is therefore urged to examine readiness assessment for each specific service in order to understand the factors contributing to the readiness score in that particular instance.

The report provides an important insight into service availability and readiness – both for health care in general and for a range of specific services. It is our hope that the information provided may enable stakeholders, planners and managers to identify more clearly the deficits that need to be addressed in order to achieve higher scores in future.

Table of Contents

List of Tables

List of Figures

Acronyms

3TC	Lamivudine
ABC	Abacavir
ACT	Artimisinin combination therapy
AIDS	Acquired immune deficiency syndrome
ALT	Alanine aminotransferase
ANC	Antenatal care
ARI	Acute respiratory infection
ART	Antiretroviral therapy
ARV	Antiretroviral
BCG	Bacillus Calmette-Guérin
BEmOC	Basic emergency obstetric care
BP	Blood pressure
BPEHS	Basic package of essential health services
CBC	Complete blood count
CD4	Cluster of differentiation 4
CHC	Community health centre
CHP	Community health post
CEmOC	Comprehensive emergency obstetric care
CRD	Chronic respiratory disease
CVD	Cardiovascular disease
d4T	Stavudine
D&C	Dilation and curettage
DBS	Dried blood spot
DHS	Demographic and health survey
DOTS	Directly Observed Treatment - Short course
DTP	Diphtheria tetanus pertussis
EFV	Efavirenz
EPI	Expanded programme on immunization
FBO	Faith based organization
FP	Family planning
GSR	General service readiness
HepB	Hepatitis B
HiB	Haemophilus influenzae type B
HIV	Human immunodeficiency virus
HMIS	Health management information system
IHFAN	International Health Facility Assessment Network
IHI	Ifakara Health Institute
IMCI	Integrated management of childhood illness
IMEESC	Integrated management of emergency and essential surgical care
IMPAC	Integrated management of pregnancy and childbirth
IPT	Intermittent preventive treatment
ITN	Insecticide treated net
IUD	Intrauterine device
IV	Intravenous
LLIN	Long-lasting insecticide treated net
M&E	Monitoring and evaluation
MCH	Maternal and child health
MDG	Millennium development goal
MDR-TB	Multiple drug-resistant tuberculosis

MNCH	Maternal, neonatal and child health
MoHSW	Ministry of Health and Social Welfare
MVA	Manual vacuum aspiration
NCD	Non-communicable disease
NGO	Non-governmental organization
NVP	Nevirapine
OI	Opportunistic infection
OPV	Oral polio vaccine
ORS	Oral rehydration solution
PCV	Pneumococcal conjugate vaccine
PMI	President's malaria initiative
PMTCT	Preventing mother-to-child transmission
PHU	Peripheral health unit
RDT	Rapid diagnostic test
SAM	Service availability mapping
SARA	Service availability and readiness assessment
SAVVY	Sample vital registration with verbal autopsy
SP	Sufadoxine pyrimethamine
SPA	Service provision assessment
SPD	Sentinel Panel of Districts
STI	Sexually transmitted infection
TB	Tuberculosis
TT	Tetanus toxoid
TSPA	Tanzania service provision assessment
USAID	United States Agency for International Development
WHO	World Health Organization
ZDV	Zidovudine

1 Introduction

1.1 The SARA Instrument

The Service Availability and Readiness Assessment (SARA) follows a standard methodology developed by the World Health Organisation in collaboration with the United States Agency for International Development (USAID). SARA tools were designed as a systematic set of tracer indicators to assess service availability and readiness, thereby filling a critical gap in measuring and tracking progress in health system strengthening. According to WHO, "*The SARA methodology builds upon previous and current approaches designed to assess service delivery including the service availability mapping (SAM) tool developed by WHO, and the service provision assessment (SPA) tool developed by ICF International under the USAID-funded MEASURE DHS project (monitoring and evaluation to assess and use results, demographic and health surveys) project, among others. It draws on best practices and lessons learned from the many countries that have implemented health facility assessments as well as guidelines and standards developed by WHO technical programmes and the work of the International Health Facility Assessment Network (IHFAN).*" Previous assessments of service availability in Tanzania used these earlier methodologies and are therefore not directly comparable to the findings of the current survey. The Service Availability Mapping (SAM) exercise was carried out with technical assistance of the WHO in 2005/6 while the Tanzania Service Provision Assessment 2006 (TSPA) was carried out by MOHSW and the National Bureau of Statistics and Macro International Inc.

1.2 Sample and sample weights

The sample for this survey comprised all districts in the Sentinel Panel of Districts (SPD). This is a panel of 23 districts, plus an additional four districts where demographic sentinel surveillance systems are in operation (Rufiji, Kilombero, Ulanga, Kigoma Urban). The SPD district sampling was conducted by the National Bureau of Statistics using a two-stage, population-weighted probability sample to assure a nationally representative sample of districts that also permitted stratification by zone and by urban/rural area. Sampling weights were included during statistical analysis to account for district's selection probability in a multistage sample design. Probability of a district to be included in a zone was calculated as number of districts selected over total number of districts in a zone. Sampling weights at first stage were calculated as a reciprocal of the probability of a district to be included in SAVVY sample. Since all health facilities in selected districts had equal chances of being included, no sampling weights were incorporated at second stage. It should be noted that results presented in the tables are the number of observations (unweighted counts) whereas results presented as percentages are based on weighted observations.

The overall sample of 27 districts had an estimated total population (2012) of 12.4 million, representing 27% of the total (estimated) Tanzania mainland 2012 population of 45.9 million. The total number of facilities (1908) in the SARA target sample represents approximately 27% of the estimated 7000 health facilities in Mainland Tanzania. Specialist, referral and national hospitals are omitted from the SPD facility sample and are therefore NOT represented in the results presented here, although regional hospitals are included. The total number of facilities in the sample districts is presented in Table 1.1. The target sample numbered 1908 health facilities. Data were collected at 1311 facilities, representing 60% of the target sample. Fourteen facilities had to be dropped in the final analysis due to inability to match it to facility identity, leaving a final total sample number of 1297. Of the 597 facilities where data were not collected, over half (310) were in the Dar es Salaam districts of Temeke,

Ilala and Kinondoni. A further 146 facilities were not covered in the districts of Sumbawanga, Kasulu and Mbozi. Reasons for lower response rate in these districts include the large number of facilities, highly dispersed (difficult to reach) facilities. In one case (Kasulu) illness of the enumerator precluded completion of data collection, while in another (Mbozi) time constraints meant that the deadline for commencing data analysis closed before data collection had been completed. The response completeness rate for this first SARA is certainly lower than ideal. However, we are of the view that the drop out will not seriously bias the results, except to say that private clinics are probably under-represented in our final sample. For future SARA exercises it will be important to have a realistic timeline for fieldwork, analysis and reporting so that data gaps can be followed up and higher reporting completeness can be attained.

Table 1.1 Response rate and data completeness

Total facilities, Facilities Interviewed and Final Sample for data analysis				
District/Municipal/Town/City Council	Total Facilities per Master list (1)	Facilities Interviewed (2)	Facilities included in final dataset for analysis (3)	Overall response rate (3/1)
Arusha Municipal	63	61	61	97%
Babati District	40	42	42	78%
Bagamoyo District	74	63	63	85%
Geita District	54	48	48	88%
Ilala Municipal	164	103	103	63%
Iringa Municipal Council	36	26	26	72%
Kahama District	59	60	60	95%
Kasulu District	85	38	38	45%
Ujiji (Kigoma Urban)	21	20	20	95%
Kilombero District	54	46	45	83%
Kilosa District	76	52	52	68%
Kinondoni Municipal	247	81	80	32%
Kondoa District	73	60	60	82%
Mbozi District	69	25	25	36%
Moshi Rural	74	66	66	89%
Mtwara Urban District	21	19	19	90%
Muleba District Council	42	37	37	88%
Musoma District	62	56	54	68%
Ruangwa	29	26	26	90%
Rufiji District	70	60	60	86%
Singida Rural	60	50	50	83%
Songea Municipal Council	27	23	23	85%
Sumbawanga District Council	123	68	68	55%
Tanga City Council	59	51	51	86%
Temeke Municipal	136	53	51	38%
Ulanga District	53	35	35	66%
Uyui District	37	34	34	92%
Total	1908	1311	1297	68%

1.3 Data Collection and Analysis

A three days training of data collectors was organized to orient participants on how to use the data collection tools. Two data collectors from each district received training. A participatory teaching and learning approach was used that included presentations with question and answer sessions and practice on understanding and filling in the questionnaires. Each district team visited health facilities and administered data collection questionnaires to respective facility in-charges or the person responsible for respective specific services. Supervisors from the MOHSW and IHI went to all districts to provide supervision and reviewed data collection for completeness and quality.

Table 1.2 Questionnaire Modules

Questionnaire Modules Administered		
Module Serial No.	Description	Administered
100	SERVICES AVAILABLE	√
200	STAFFING	√
300	SERVICE UTILISATION	√
400	INFRASTRUCTURE	√
500	AVAILABLE SERVICES	√
600	INFECTION CONTROL PRECAUTIONS	√
700	FAMILY PLANNING	√
800	ANTENATAL	√
900	PMTCT	√
1000	OBSTETRIC & NEWBORN	√
1100	CHILD IMMUNISATION	√
1200	CHILD PREVENTATIVE & CURATIVE CARE	√
1300	ADOLESCENT HEALTH	√
1400	HIV COUNSELLING & TESTING	√
1500	HIV TREATMENT	√
1600	HIV CARE & SUPPORT	√
1700	SEXUALLY TRANSMITTED INFECTIONS	√
1800	TUBERCULOSIS SERVICES	√
1900	MALARIA SERVICES	√
2000	NON-COMMUNICABLE DISEASE SERVICES	√
2100	SURGICAL SERVICES	√
2200	BLOOD TRANSFUSION	√
3000	DIAGNOSTICS	√
3100	HAEMOTOLOGY	x
3200	PARASITOLOGY	x
3300	BACTERIOLOGY	x
3400	VIROLOGY	x
3500	OTHER	x
3600	MYCOLOGY	x
3700	BLOOD GROUP SEROLOGY	x
3800	IMAGING	x
4000	MEDICINES & COMMODITIES	x
5000	INTERVIEWER'S OBSERVATIONS	x
Notes: √ administered x not administered (optional modules, mostly applicable to higher-level hospitals)		

Data cleaning was performed using sql management studio. Thereafter data were transferred into Stata software for analysis. The data analysis protocol used was an adaptation of the

SARA WHO program. The summary of questionnaire modules administered is shown in Table 1.2, below. For the most part, the standard SARA questionnaires were administered without any modification.

1.4 Data Limitations

An important limitation was observed in the standard SARA questionnaire instruments. Different standard questionnaires are administered to smaller (without inpatient) and larger (with inpatient) facilities. The questionnaires differ not only in the number of modules, but also in the range of variables included in specific modules as well as the variable labels. Combining data from the two sets of questionnaires require laborious re-mapping of variable labels. In several instances, variables were available only in the large facility questionnaire. In these cases, some of the column details are not available for the small facilities (comprising the majority of the sample), making it impossible to re-stratify the analysis by ownership or urban/rural and leaving some columns blank in the tables.

A second limitation was the absence of unique facility identifiers for all health facilities in the database. Without unique identifiers, it becomes very difficult to combine data from different rounds of data collection in case facility names have been entered differently. We were unable to match data collected from 14 facilities from the 1311 facilities that were interviewed

1.5 Interpretation of results

The sample used here should approximate to a representative sample of health facilities in Tanzania mainland and should be reasonably representative in terms of level of health facility, public/private ownership, and urban/rural area. However, it is important to note that these figures on service availability and readiness should NOT be interpreted as representative of what an average patient/client encounters. This is because share of total patient-encounters delivered by public/private provider or lower/higher level facility differs according to specific services. For example, according to the DHS 2010, over 90% of all ANC visits take place at government or faith-based facilities, and a similar pattern pertains for EPI. In these cases, the characteristics of government facilities would provide a better guide to patient experience than readiness of private facilities. Similarly, the majority of patients on anti-retroviral therapy obtain this from hospitals, not lower level health facilities – so the availability and readiness of ARV in hospitals provides a better indication of service readiness encountered by the average patient.

More generally, the reader should always bear in mind that overall indices refer to a mixture of facilities – public and private, small and large. The results should therefore not be interpreted simply as a performance measurement of public services. If this is what government and development partners would like to see in future, it is recommended that SARA indices be calculated on a sample restricted to government facilities plus those facilities (eg parastatal, faith-based) that receive government financing, supplies and supervision.

2 Service availability

This section provides an overview of the composition of the final sample of health facilities, stratified by facility type (level), managing authority, ownership and residence (urban/rural). Table 2.1.1 shows that 84% of health facilities in the survey were dispensaries, 11% were health centres, 4% were hospitals and <1% were MCH clinics.

2.1 Health infrastructure

71% of facilities were owned and operated by government. 87% of these government health facilities were dispensaries. Private for profit facilities made up 18% of the sample (12 hospitals, 30 health centres and 191 clinics/dispensaries). Faith-based plus other not-for-profit facilities accounted for 141 facilities (11% of the sample), including 109 dispensaries, 14 health centres, 17 hospitals and one MCH clinic.

Table 2.1.1 Distribution of health facilities by facility type

Number of facilities by type of facility, according to managing authority and owner

Background characteristic	District/ Provincial hospital	Health centre	Dispensary	Maternal/child health clinic	Total
Managing authority					
Government/Public	23	93	800	7	923
Mission/Faith based	17	14	100	1	132
NGO/Not-for-profit	0	0	9	0	9
Private-for-profit	12	30	191	0	233
Ownership					
Public/Govt.	23	93	800	7	923
Private	29	44	300	1	374
Residence					
Rural	19	73	749	3	844
Urban	33	64	351	5	453
Total	52	137	1100	8	1297

For the sample as a whole, 65% of health facilities were located in rural areas and 35% in urban areas – close to the 70:30 urban:rural distribution of the population as a whole. The urban/rural distribution of facilities varies by ownership (Table 2.1.2).

Table 2.1.2 Distribution of health facilities by residence

Percent distribution of health facilities by residence, according to level of service, managing authority, and owner

Background characteristic	Percent Rural	Percent Urban	Number of facilities
Level of service			
Dispensary	77	24	1100
Health Centre	60	40	137
MCH Clinic	46	54	8
Hospital	47	54	52
Managing authority			
Government/Public	84	16	923
Mission/Faith based	64	36	132
NGO/Not-for-profit	56	44	9
Private-for-profit	18	83	233
Ownership			
Public/Govt.	84	16	923
Private	39	61	372
Total	73	27	1297

84% of government facilities were rural, whereas the converse was true for private health facilities (39% rural, 61% urban). This point is important to bear in mind for interpretation of later tables. More than half of facilities in the "urban" category are either private non-profit or private-for-profit, whereas only 12% of rural health facilities were private.

Facility density provides a simple summary measure of the availability of health care outlets (irrespective of ownership or type). Table 2.1.3 shows health facility density for the full target sample of health facilities (ie all health facilities that exist on the master list, whether or not they were included in the final SARA sample). The full target sample is used here because the final sample would otherwise under-represent facility density and variable response rates across districts would skew the findings. The results illustrate a very wide range of facility density across districts, ranging from a minimum of 0.6 facilities per 10,000 population in Geita to 6 per 10,000 in Sumbawanga. It should be borne in mind that this measure takes no account of sparse population distribution. As a rule, more densely populated areas tend to have fewer, busier health facilities while sparsely distributed districts have more facilities with lower workloads. The mean number of health facilities per 10,000 population was 1.5 facilities.

Table 2.1.3 Density of health facilities

Number of health facilities per 10 000 population			
Background characteristic	Population [2011]	Number of Health facilities	Total number of health facilities per 10 000 population
District			
Arusha City	371,288	63	1.7
Babati DC	322,775	40	1.2
Bagamoyo DC	227,673	74	3.3
Geita DC	856,075	54	0.6
Ilala Municipal	795,209	164	2.1
Iringa MC	161,051	36	2.2
Kahama	815,175	59	0.7
Kasulu	631,314	85	1.3
Kilombero	390,157	54	1.4
Kilosa	587,967	76	1.3
Kinondoni	1,354,004	247	1.8
Kondoa	508,304	73	1.4
Mbozi DC	681,969	69	1.0
Moshi Rural	462,085	74	1.6
Mtwara MC	122,588	21	1.7
Muleba	480,705	42	0.9
Musoma DC	419,962	62	1.5
Ruangwa	146,470	29	2.0
Rufiji DC	236,618	70	3.0
Singida DC	486,901	60	1.2
Songea DC	175,660	27	1.5
Sumbawanga DC	203,535	123	6.0
Tanga MC	298,881	59	2.0
Temeke MC	964,919	136	1.4
Ujiji (Kigoma Urb.)	279,470	21	0.8
Ulanga DC	229,846	53	2.3
Uyui	227,488	37	1.6
Total	**12,438,089**	**1,908**	**1.5**

2.2 Health workforce

Table 2.2.1 shows the number of clinical staff per 10,000 population, divided into medical doctors, non-physician clinical personnel and nursing/midwifery professionals. Overall, there were 7.1 health professionals per 10,000 population. This figure is an underestimate of the actual total because the final sample of health facilities (1297) was less than the total number of facilities on the master-list (1908), whereas the population denominator represents the entire population of the sample districts.

Nonetheless, it is striking to find that the number of health professionals found in urban facilities numbered 6103 (69% of the total) compared to 2736 (31%) in rural health facilities. This is in spite of the fact that roughly 70% of the population lives in rural areas. Thus health worker density in urban areas is roughly five times that in rural areas in this sample. Indeed the higher drop-out rate of reporting in urban than in rural areas means that the urban bias in personnel is probably even more skewed. It should, however, be borne in mind that hospitals – which naturally account for a large share of health workers are almost exclusively located in urban areas, while rural facilities are overwhelmingly dispensaries, with correspondingly smaller staff compliment. As regards the composition of the professional health workforce of 8349 in our sample, 468 (6%) were medical doctors (counting part-time medical personnel as 0.5 person-equivalent), compared to 2862 (32%) non-physician clinical staff and 4620 (48%) nurses and 1248 (14%) midwives. Government health facilities accounted for 67% of health professionals, private non-profit 14% and private-for-profit facilities 18%.

Table 2.2.1 Health workforce density

Density of core health professionals per 10 000 population, according to level of service, managing authority, owner and residence

Background characteristic	Population	Generalist medical doctors	Specialist medical doctors	Generalist medical doctors-part time	Specialist medical doctors-part time	Non-physician clinicians	Nursing professionals	Midwifery professionals	Core health personnel per 10 000 population (1)(2)
Level of service									
Dispensary	12,438,089	40	10	9	1	1562	1262	514	2.7
Health Centre	12,438,089	30	15	3	2	590	841	178	1.3
MCH Clinic	12,438,089	256	6	3	3	104	357	123	0.7
Hospital	12,438,089	78	15	3	2	606	1767	433	2.3
Managing authority									
Government/Public	12,438,089	303	10	9	3	1823	2984	808	4.8
Mission/Faith based	12,438,089	41	12	7	3	314	638	231	1.0
NGO/Not-for-profit	12,438,089	0	0	0	0	15	12	9	0.0
Private-for-profit	12,438,089	60	24	11	5	711	626	200	1.3
Ownership									
Public/Govt.	12,438,089	303	10	9	3	1823	2984	808	4.8
Private	12,438,089	101	36	17	7	1039	1276	440	2.3
Rural	12,438,089	24	4	2	1	1022	1230	454	2.2
Urban	12,438,089	380	42	24	9	1840	3030	794	4.9
Total	12,438,089	404	46	26	10	2862	4260	1248	7.1

(1) Core health personnel include physicians, non-physician clinicians, nursing professionals, and midwifery professionals. This includes part-time physicians who are given the value of 0.5 in the scoring.
(2) Figures exclude national, referral and specialist hospitals

3. General service readiness

This section discusses general characteristics of health facilities that signify their "general readiness" to provide health care services. These are broken down into five categories. Section 3.1 examines general amenities such as electricity supply, clean water, sanitation etc. Section 3.2 discusses availability of items of basic medical equipment. Section 3.3 looks at equipment and procedures for standard precautions to prevent infections. Section 3.4 examines diagnostic capabilities for common tests. Section 5 describes the availability of key medicines. In Section 3.6 these five "domains" are combined into a score of "readiness" by taking the arithmetic mean of the percentage of health facilities having each of the component variables.

3.1 Basic amenities

Table 3.1.1 describes the proportion of facilities with basic amenities, stratified by facility type (level), operating authority, ownership and residence.

Table 3.1.1 Availability of facilities with basic amenities elements

Percentage of health facilities with power, improved water source, room with auditory and visual privacy, sanitation facilities, communication equipment, computer with internet, and emergency transportation, according to level of service, managing authority, and residence

Background characteristic	Power source (1)	Improved water source (2)	Room with auditory and visual privacy (3)	Improved sanitation facilities (4)	Communication equipment (5)	Computer with internet/email (6)	Emergency transport (7)	Basic amenities mean score (a)	Percent of facilities with all 7 elements	Total number of facilities
Level of service										
Dispensary	16	41	15	19	36	6	42	26	0	1100
Health Centre	41	57	12	22	61	26	70	42	0	137
MCH Clinic	52	63	25	25	63	50	75	50	0	8
Hospital	67	83	21	15	79	68	77	58	0	52
Managing authority										
Government/Public	12	35	10	23	34	6	49	25	0	923
Mission/Faith based	38	76	21	8	62	29	58	43	0	132
NGO/Not-for-profit	29	83	33	0	50	50	17	38	0	9
Private-for-profit	61	68	33	10	54	21	34	39	0	233
Ownership										
Public/Govt.	12	35	10	23	34	6	49	25	0	923
Private	50	71	29	9	57	25	42	41	0	374
Residence										
Rural	11	31	6	25	33	4	51	23	0	844
Urban	49	70	31	10	54	25	40	40	0	453
Total	21	45	15	19	40	12	47	27	0	1297

Notes:

1) Facility is connected to a grid, facility routinely has had power during normal working hours, there has not been a break in power for more than 2 hours in the past 7 days OR facility has functional generator with fuel/battery

(2) Water source via piped, public tap/standpipe, tubewell/borehole, protected dug well, protected spring, or rainwater, onsite or within 500 meters

(3) Private room or screened off area available in the main service area (usually the general outpatient service area), a sufficient distance from sites where providers/clients routinely may be, so that a normal conversation can be held without being overheard,

and without the client being observed.

(4) Sanitation facilities including flush/pour flush to piped sewer system or septic tank or pit latrine, pit latrine (ventilated improved pit (VIP) or other) with slab, or composting toilet

(5) Functioning communication equipment such as landline telephone, cellular telephone, or shortwave radio available at all times onsite. This will not include private cell phones unless the facility reimburses for cost of phone calls or payphones outside the facility.

(6) Functioning computer and access to email/internet within the facility working on the day of the survey.

(7) Functioning vehicle with fuel routinely available for emergency transportation.

(a) The mean percentage of basic amenities items available (power source + improved water source + room with auditory and visual privacy + improved sanitation facilities + communication equipment + computer with internet/email + emergency transport) / 7

For all categories of health facility, the lowest score was for computer with internet/email connectivity (12%) – perhaps not surprising since the vast majority of facilities were rural dispensaries, and only 21% of all facilities had power supply. Of more concern was presence of consulting rooms with auditory and visual privacy (15%) and availability of suitable sanitation facilities (19%).

Moreover, availability of improved sanitation facilities did not differ much between lower level and higher facilities, although government facilities scored better than private facilities on this criterion. Power supply, safe water supply, transport and computer / communication facilities all showed a steep gradient between lower level facilities (low frequency) and higher level health facilities. Power supply was only present in 67% of hospitals and 41% of health centres.

For many basic amenities, urban facilities fared better than rural facilities although this was not the case for availability of emergency transport or sanitation facilities (where frequency was higher in rural facilities). Overall, the basic amenities score (mean for each of the seven elements) reached only 58 for hospitals, 42 for health centres and 26 for dispensaries. No single health facility in the entire sample of 1297 had all of the seven basic elements.

3.2 Basic equipment

Six items of basic equipment for primary health care were included in the survey. The results are presented in table 3.2.1, including the overall “mean equipment score” and the percentage of health facilities that had all six items of basic equipment.

Overall, nearly one quarter of health facilities in the sample possessed all six elements of equipment, and the mean basic equipment score across all facilities was 73%. The percentage of facilities possessing all six items of equipment rose across facility level – from 17% of dispensaries, to 41% of health centres and 67% of hospitals.

For most items of equipment, urban facilities scored marginally better than rural facilities and private facilities tended to score somewhat higher than government facilities. NGO facilities in particular scored highly on the equipment indicators. Among the items of equipment, the one which was notably lacking was light source in dispensaries (26%) and health centres (48%).

Table 3.2.1 Availability of basic equipment

Percentage of health facilities with functional basic equipment on day of interview, according to level of service, managing authority, owner and residence

Background characteristic	Adult scale	Child/ infant scale	Thermo-meter	Stetho-scope	Blood pressure apparatus	Light source	Basic equipment mean score (b)	Percent of facilities with all 6 elements	Total number of facilities
Level of service									
Dispensary	81	73	80	86	84	26	72	17	1100
Health Centre	85	85	81	87	86	48	79	41	137
MCH clinic	85	100	85	100	100	69	90	54	8
Hospital	86	80	86	86	91	73	84	67	52
Managing authority									
Government/Public	80	75	79	86	84	25	72	18	923
Mission/Faith based	82	78	86	89	84	40	77	32	132
NGO/Not-for-profit	98	85	84	98	98	84	91	56	9
Private-for-profit	87	70	84	88	91	47	78	35	233
Ownership									
Public/Government	80	75	79	86	84	25	72	18	923
Private	85	74	85	89	88	45	78	34	374
Residence									
Rural	80	75	79	86	83	22	71	15	844
Urban	86	75	85	89	91	52	80	40	453
Total	82	75	81	87	85	30	73	22	1297

Notes:

(b) The mean percentage of basic equipment items available (adult scale + child/infant scale + thermometer + stethoscope + BP apparatus + light source) / 6

3.3 Standard precautions for infection prevention

Infection prevention is an essential aspect of basic health care as well as specialized services. Ordinarily, all health facilities should possess all of the items described in table 3.3.1 below. In practice, the average score for infection prevention (mean of the % of facilities that satisfied each of the criteria) was only 45.

Among individual elements, the lowest score (11%) was found for "safe final disposal of infectious waste". Similarly, although appropriate storage for sharps waste was available in two thirds of facilities, safe final disposal of sharps was available in less than half of health centres and less than a third of dispensaries. The availability of sterilization equipment was also surprisingly low.

More than one in five of the 1100 dispensaries were reported not to have disinfectant, over two thirds lacked medical masks or gowns, while four fifths did not have eye protection. Scores for health centres were generally superior to dispensaries but even here the overall score was only 52 (compared to 43 for dispensaries and 68 for hospitals). Even the most basic infection prevention of all (soap and water) was available at only 50% of dispensaries, 47% of health centres and 56% of hospitals. The very low frequency of facilities possessing each of these basic elements for infection prevention should be a cause for serious concern.

Table 3.3.1 Availability of standard precautions for infection prevention elements

Percentage of health facilities with basic standard precautions for infection prevention elements on day of interview, according to level of service, managing authority, owner and residence

Background characteristic	Sterilization equipment (1)	Safe final disposal of sharps (2)	Safe final disposal of infectious wastes (3)	Appropriate storage of sharps waste (4)	Appropriate storage of infectious waste (5)	Disinfectant	Disposable or auto-disable syringes	Soap and water OR alcohol based hand rub	Latex gloves	Medical masks	Gowns	Eye protection	Guidelines for standard precautions	Standard precautions mean score (6)	Total number of facilities
Level of service															
Dispensary	18	27	12	68	46	78	86	50	65	29	30	19	34	43	1100
Health Centre	42	47	4	59	48	70	88	47	60	50	53	42	48	52	137
MCH clinic	67	69	18	57	41	81	69	10	56	67	51	67	54	53	8
Hospital	78	86	6	62	46	86	94	56	59	75	82	70	79	68	52
Managing authority															
Government/Public	15	23	12	67	43	78	86	48	63	30	29	21	38	43	923
Mission/Faith based	41	49	6	68	48	70	88	49	65	46	41	33	41	50	132
NGO/Not-for-profit	56	70	7	71	71	86	86	71	56	73	73	59	35	62	9
Private-for-profit	56	52	8	63	57	81	89	62	68	43	57	33	31	54	233
Ownership															
Public/Government	15	23	12	67	43	78	86	48	63	30	29	21	38	43	923
Private	49	51	7	66	54	76	88	56	66	46	51	34	36	52	374
Residence															
Rural	11	23	11	65	39	74	84	45	61	29	27	20	38	40	844
Urban	56	50	10	72	65	88	93	63	73	47	55	35	38	57	453
Total	23	30	11	67	46	77	87	50	64	33	34	24	38	45	1297

Notes:

(1) Autoclave or dry heat sterilizer and heat source available and functioning if machine is not electric (e.g., wood or gas present for the autoclave).
(2) Disposal of sharps by incineration, open burning in a protected area, dump without burning in protected area, or removed offsite with protected storage. If disposal method is an incinerator, it must be functioning and have fuel available.
(3) Disposal of infectious wastes by incineration, open burning in a protected area, dump without burning in protected area, or removed offsite with protected storage. If disposal method is an incinerator, it must be functioning and have fuel available.
(4) Sharps box
(5) Waste receptacle (pedal bin) with lid and plastic bin liner
(c) The mean percentage of standard precautions t items available (sterilization equipment + safe final disposal of sharps + safe final disposal of infectious wastes + appropriate storage of sharps waste + appropriate storage of infectious waste + disinfectant + disposal or auto-disable syringes + soap and water OR alcohol based hand rub + latex gloves + medical masks + gowns + eye protection + guidelines for standard precautions) / 13

3.4 Diagnostic capacity

This section examines the availability of a selection of basic diagnostic tests. Capacity to conduct all of these tests would normally be expected at general hospitals and most health centres, while diagnostic capabilities at dispensaries normally are limited to rapid tests.

Table 3.4.1 summarises the results, stratified by facility type, operating authority, ownership and residence. Recalling that almost 85% of facilities in the sample were dispensaries, it is not surprising to find that diagnostic capabilities for the sample as a whole were very low, with a mean availability score for all items of 29%. Malaria and HIV diagnostic capacity were the highest with 74% and 70% respectively of all facilities in the sample.

More surprising was the relatively low score for diagnostics in hospitals. Overall, the hospital diagnostics mean score was 46. For all but 4 (malaria, HIV, syphilis and dried blood spot test) of the 12 tests, less than half of the hospitals in the sample had the diagnostic capability. The two tests with lowest availability in hospitals were for liver function (ALT and creatinine, 4%) and TB microscopy (6%).

86% of health centres were observed to have testing capability for HIV; 55% could perform dried blood spot; 56% could test for syphilis, and 81% could test for malaria. All other tests were available in less than one third of health centres. At dispensary level at least four out of five dispensaries lacked diagnostic capability except for malaria (73%), HIV (67%), syphilis (48%) and dried blood spot (31%)

Private facilities generally had higher scores for diagnostics availability than government facilities and urban facilities had more diagnostic capabilities than rural ones.

Table 3.4.1 Diagnostic capacity

Percentage of health facilities with capacity to conduct the test onsite and with appropriate equipment, according to level of service, managing authority, owner and residence

Background characteristic	Haemoglobin (1)	Blood glucose (2)	Malaria diagnostic capacity (3)	Urine dipstick- protein (4)	Urine dipstick-glucose(5)	HIV diagnostic capacity (6)	DBS collection (7)	TB microscopy (8)	Syphilis rapid test (9)	General microscopy (10)	Urine test for pregnancy (11)	ALT and creatinine (12)	Diagnostics mean score (d)	Total number of facilities
Level of service														
Dispensary	18	12	73	19	17	67	31	5	48	14	24	3	27	1100
Health Centre	28	21	81	34	33	86	55	12	56	23	33	7	39	137
MCH Clinic	38	0	88	25	25	88	63	13	50	25	13	0	35	8
Hospital	31	35	81	37	47	85	71	21	58	40	44	10	46	52
Managing authority														
Government/Public	16	8	75	16	15	75	39	6	48	11	19	3	27	923
Mission/Faith based	28	28	82	33	31	71	34	10	44	21	40	6	36	132
NGO/Not-for-profit	33	11	78	33	33	44	11	11	56	33	44	22	34	9
Private-for-profit	28	28	66	34	33	49	24	5	53	34	42	5	33	233
Ownership														
Public/Government	16	8	75	16	15	75	39	6	48	11	19	3	28	923
Private	28	28	72	34	32	57	27	7	50	29	41	6	34	374
Residence														
Rural	14	6	76	13	12	72	32	6	44	8	16	2	25	844
Urban	31	27	71	36	35	66	41	7	59	32	43	8	38	453
Total	20	14	74	21	20	70	35	6	49	16	26	4	29	1297

Notes:

(1) Ability to conduct test onsite and presence of colorimeter, haemoglobinometer, or hemocue.

(2) Ability to conduct test onsite and presence of glucometer and glucometer test strips.

(3) Ability to conduct RDT test onsite and presence of malaria RDT test kit or ability to conduct malaria smear test onsite and presence of light microscope, slides, and stain.

(4) Ability to conduct test onsite and presence of urine protein test strips.

(5) Ability to conduct test onsite and presence of urine glucose test strips.

(6) Ability to conduct RDT test onsite and presence of HIV RDT test kit or ability to conduct ELISA test onsite and presence of ELISA washer, ELISA reader, incubator, and specific assay kit.

(7) Ability to conduct test onsite and presence of filter paper for DBS.

(8) Ability to conduct test onsite and presence of microscope, slides, and stain.

(9) Ability to conduct test onsite and presence of syphilis RDT test kit.

(10) Ability to conduct test onsite and presence of microscope, slides, and slide covers.

(11) Ability to conduct test onsite and presence of urine pregnancy RDT test kit.

(12) Ability to conduct test onsite and presence of blood chemistry analyzer

(d) The mean percentage of basic diagnostic tests available (haemoglobin + blood glucose + malaria diagnostic capacity + urine dipstick- protein + urine dipstick- glucose + HIV diagnostic capacity + DBS collection + TB microscopy + syphilis RDT + general microscopy + urine test for pregnancy + ALT and creatinine) / 12

3.5 Essential tracer medicines

Across the full sample of health facilities, the mean score for medicines availability was 41. Medicines availability was superior in urban areas than rural areas, and private providers had higher medicine availability than government facilities. Hospitals had better overall medicines availability than lower level facilities.

There was substantial variation in availability of fourteen specific tracer items. 100% of facilities had paracetamol in stock. Other items that were widely available were ciprofloxacin (80%) and co-trimoxazole (77%). Another four items (amoxicillin, ceftriaxone, diazepam and diclofenac) were available at between 46% and 62% of all facilities. The remaining seven essential tracer medicines were in stock in one fifth or less of all facilities. The scarcest of this group of medicines was simvastatin (for lowering cholesterol & trygliceride to reduce risk of heart attack and stroke), found at only 3% of all facilities.

Table 3.5.2 Availability of essential tracer medicines

Percentage of health facilities with core essential medicines in stock on day of interview, according to level of service, managing authority, owners and residence.

Background characteristic	Amitriptyline 25mg cap/tab	Amoxicillin 500mg cap/tab	Atenolol 50mg cap/tab	Captopril 25mg cap/tab	Ceftriaxone 1g/vial injection	Ciprofloxacin 500mg cap/tab	Co-trimoxazole 8+40mg/ml suspension	Diazepam 5mg cap/tab	Diclofenac 50mg cap/tab	Glibenclamide 5mg cap/tab	Omeprazole 20mg cap/tab	Paracetamol 24m1/ml suspension	Salbutamol 0.1mg/dose inhaler	Simvastatin 20mg cap/tab	Medicines mean score (e)	Total number of facilities
Level of service																
Dispensary	8	57	11	10	62	80	76	45	54	16	16	100	18	3	40	1100
Health Centre	20	57	24	19	62	81	84	50	57	24	26	100	19	4	45	137
MCH Clinic	30	44	30	30	85	100	98	44	30	39	16	100	23	16	49	8
Hospital	60	70	56	57	78	88	88	66	74	73	60	100	62	19	68	52
Managing authority																
Government/Public	9	55	8	7	60	77	73	41	51	12	9	100	15	2	37	923
Mission/Faith based	23	69	30	29	70	91	89	62	70	35	46	100	34	5	54	132
NGO/Not-for-profit	0	70	14	0	98	98	84	43	70	41	14	100	55	0	49	9
Private-for-profit	19	60	41	36	70	91	91	62	62	45	53	100	40	9	57	233
Ownership																
Public/Government	9	55	8	7	60	77	73	41	51	12	9	100	15	2	37	923
Private	20	65	35	31	71	91	90	62	66	41	49	100	37	7	55	374
Residence																
Rural	7	54	7	7	59	78	74	41	50	11	9	100	14	1	37	844
Urban	26	65	35	29	72	85	86	61	67	40	44	100	37	9	54	453
Total	12	57	15	13	62	80	77	46	55	19	18	100	20	3	41	1297

Notes:

(e) The mean percentage of medicines available (Amitriptyline + Amoxicillin + Atenolol + Captopril + Ceftriaxone + Ciprofloxacin + Co-trimoxazole + Diazepam + Diclofenac + Glibenclamide + Omeprazole + Paracetamol + Salbutamol + Simvastatin) / 14

3.5 General Service readiness

Five "domains" (amenities, equipment, infection prevention, diagnostics and medicines) are brought together in table 3.5.1 into a "general service readiness" (GSR) score. This score is presented for each stratum in the analysis: level of facility, operating authority/owner and rural/urban. Overall, the GSR score for the sample was 42.

Among the five domains, the highest score was for basic equipment (70). The lowest domain scores were for basic amenities (27) and diagnostics (29). It should be recalled that both of the latter attributes include amenities (e.g. electricity, computer with email) and diagnostics (e.g. microscopy, liver function) that would not usually be expected to be present at dispensaries – representing the bulk of the facility sample. By contrast infection prevention precautions would be expected to be present at facilities of all levels and this relatively low score (46) is a concern. Overall, general service readiness was higher in hospitals (65) than in health centres (50) or dispensaries (40).

The comparison of GSR index by operating authority, owner and rural/urban is more difficult to interpret in a meaningful way because of the differing sample composition in each of these strata. Notwithstanding this proviso, it is noteworthy that general service readiness was lower in government facilities (39) than faith-based (50) or private-for-profit (52). GSR in urban facilities was 54, compared to rural facilities (38).

Table 3.5.1 General service readiness

Health facility general service readiness standards, according to level of service, managing authority, ownership and residence

Background characteristic	Basic amenities mean score (a)	Basic equipment mean score (b)	Standard precautions mean score (c)	Diagnostics mean score (d)	Medicines mean score (e)	General service readiness index (1)	Total number of facilities
Level of service							
Dispensary	26	69	46	25	40	40	1100
Health Centre	42	77	53	49	45	50	137
MCH clinic	50	77	61	60	49	54	8
Hospital	58	83	72	70	68	65	52
Managing authority							
Government/Public	25	69	45	26	37	39	923
Mission/Faith based	43	76	54	42	54	50	132
NGO/Not-for-profit	38	97	73	40	49	54	9
Private-for-profit	39	71	54	36	57	52	233
Ownership							
Public/Government	25	69	45	26	37	39	923
Private	41	74	55	38	55	51	374
Residence							
Rural	23	68	42	23	37	38	844
Urban	40	75	57	40	54	54	453
Total	**27**	**70**	**46**	**29**	**41**	**42**	**1297**

Notes:

(1) The mean of the five domain scores (basic amenities mean score, basic equipment mean score, standard precautions for infection prevention mean score, diagnostics mean score, and essential medicines mean score) (a + b+ c +d +e) / 5

4. Service specific availability and readiness

Survey instruments to assess availability and readiness to provide nineteen specific services were administered for the following services:

- Family planning services
- Antenatal care services
- Delivery services (normal delivery and basic emergency obstetric care)
- Routine child immunization
- Preventive and curative services for children under five years of age
- Adolescent health services
- Malaria services
- Tuberculosis diagnosis and treatment
- HIV counseling and testing
- HIV/AIDS care and support
- Antiretroviral prescription and client management
- Prevention of mother-to-child transmission of HIV (PMTCT)
- Sexually-transmitted infections services
- Diabetes services
- Cardiovascular disease services
- Chronic respiratory disease management
- Basic surgical services
- Advanced delivery
- Blood transfusion services

As mentioned previously under Methods, the standard survey instruments for smaller facilities (representing the majority of facilities in this sample) were significantly shorter and less detailed than questionnaire instruments for larger facilities. Even after reconciling and mapping equivalent questionnaire items, there was a a small number of data elements that could not be reconciled across the two questionnaires. This shortcoming of questionnaire design meant that some characteristics included in the specific service readiness tables could not be calculated. Future SARA surveys should learn from these deficiencies and adapt questionnaire design accordingly so that all of the requisite data can be gleaned from all levels of facility.

4.1 Family Planning

Family planning is one of the key elements for maternal health, child health and reproductive rights. For each facility, the survey assessed whether or not the service was offered; availability of contraceptives and surgical methods; availability of trained staff and guidelines and essential minimum equipment and supplies.

Family planning methods differ in their technical requirements. Dispensaries are expected to offer oral contraceptives and condoms. Health centres and hospitals, in addition to oral contraceptives and condoms, can offer surgical and IUCD contraceptives depending on the available infrastructure and expertise. Surgical/permanent contraception is largely restricted to hospitals.

Availability of specific FP methods by various strata is depicted in table 4.1.1. Over two thirds (70%) of all health facilities offered family planning services, and a similar proportion offered at least two modern methods of contraception. The most common methods available were combined oral contraceptives and male condoms.

Table 4.1.1 Family planning service availability

Percentage of health facilities offering family planning services, according to level of service, managing authority, ownership and residence

Background characteristic	Combined oral contraceptives	Progestin-only contraceptives	Combined injectable contraceptives	Progestin-only injectable contraceptives	Male condoms	Female condoms	IUCD	Implant	Cycle beads for standard days method	Emergency contraceptive pills	Male sterilization	Female sterilization	Offers family planning services	Offers at least two modern methods of FP	Total number of facilities
Level of service															
Dispensary	67	61	36	53	67	7	12	18	23	40	4	5	82	69	1100
Health Centre	81	78	47	68	80	22	48	57	40	64	13	21	94	81	137
MCH clinic	97	98	68	82	82	37	67	67	37	45	51	67	100	98	8
Hospital	53	50	31	48	53	18	39	45	32	82	25	28	72	53	52
Managing authority															
Government/Public	83	76	46	65	83	10	19	26	29	52	7	9	95	84	923
Mission/Faith based	19	17	10	15	16	3	11	12	13	14	3	3	42	20	132
NGO/Not-for-profit	50	50	21	50	50	0	29	29	21	35	14	21	64	50	9
Private-for-profit	28	23	13	23	27	9	15	15	18	21	5	8	47	28	233
Ownership															
Public/Government	82	76	46	64	83	10	18	26	29	52	7	9	95	84	923
Private	24	21	12	20	23	6	14	14	16	18	5	6	46	25	374
Residence															
Rural	75	68	44	59	75	9	14	21	22	44	6	7	90	76	844
Urban	51	48	21	41	49	11	27	31	36	42	8	11	65	52	453
Total	68	63	37	54	68	9	18	23	26	43	6	8	83	70	1297

Notes:

Government operated health facilities (84%) were much more likely to offer FP services than other categories of service provider In descending order of prevalence, oral pills, condoms, progestin-only and injectables were the most common methods available in government facilities.

It is interesting to note that the availability of modern contraceptive methods (other than IUCD, implants, female condoms and sterilization) was generally higher in health centres than in hospitals (possibly because a number of the hospitals were operated by faith-based providers). Faith-based facilities were the least likely to offer FP services (22%). 29% of private for profit facilities offered some form of FP services and 28% had at least two modern methods available.

Among the sub-set of 1071 facilities that offered FP services, the availability of key inputs such as staff, guidelines, equipment and commodities is described in Table 4.1.2. Apparatus for measurement of blood pressure was available at 91% of facilities. By contrast, only 54% of the facilities had at least one staff member trained in family planning and approximately 7 out of 10 had guidelines on FP. NGO or not-for-profit facilities fared slightly better on trained staff, while government facilities were more likely to possess guidelines.

Table 4.1.2 Family planning services

Among health facilities offering family planning services, the percentage with trained staff, guidelines, equipment, and medicines and commodities, according to level of service, managing authority, owner and residence (n=1,071)

Background characteristic	At least one trained staff family planning	Guidelines available family planning	Blood pressure apparatus	Combined oral contraceptive pills	Injectable contraceptives	Condoms	Total number of facilities offering family planning services
Level of service							
Dispensary	43	57	88	79	74	88	896
Health Centre	54	54	90	78	75	92	128
MCH clinic	37	69	100	98	98	100	8
Hospital	53	71	95	74	76	87	39
Managing authority							
Government/Public	48	62	89	81	77	91	877
Mission/Faith based	20	31	86	53	51	70	57
NGO/Not-for-profit	55	78	100	78	67	100	5
Private-for-profit	31	26	88	61	59	72	132
Ownership							
Public/Government	48	62	89	82	77	91	877
Private	27	30	88	58	56	72	194
Residence							
Rural	43	59	88	78	74	89	757
Urban	52	52	92	80	75	87	314
Total	45	57	89	79	75	88	1071

Notes:

The overall readiness index for provision of family planning services, limited to those facilities that offer the service, is presented in table 4.1.3. Overall readiness to provide family planning services was (72%) and was similar across the different facility levels except for ownership where private facilities had 55% compared 75% for government. Staff and training domain scored the lowest with just half (51%) of the facilities having at least one staff trained in the provision of family planning services plus requisite guidelines. Hospitals were more likely to have staff compared to health dispensaries and clinics.

Table 4.1.3 Readiness to provide family planning services

Among health facilities offering family planning services, the percentage with trained staff, guidelines, equipment, and medicines and commodities, according to level of service, managing authority, owner and residence (n=1,071)

Background characteristic	Staff and training (1)	Equipment (2)	Medicines and commodities (3)	Readiness to provide family planning services (4)	Total number of facilities offering family planning services
Level of service					
Dispensary	50	88	80	72	896
Health Centre	54	90	82	74	128
MCH clinic	53	100	98	84	8
Hospital	62	95	79	76	39
Managing authority					
Government/Public	55	89	83	75	877
Mission/Faith based	25	86	58	52	57
NGO/Not-for-profit	67	100	82	80	5
Private-for-profit	28	88	64	56	132
Ownership					
Public/Government	55	89	83	75	877
Private	29	88	62	55	194
Residence					
Rural	51	88	81	72	757
Urban	52	92	81	73	314
Total	51	89	81	72	1071

Notes:

(1) The mean percentage of items available in staff and training (staff trained in FP + guidelines FP) / 2

(2) The mean percentage of items available in equipment (blood pressure apparatus) / 1

(3) The mean percentage of items available in medicines and commodities (combined oral contraceptive + injectable contraceptive + male condoms) / 3

(4)The mean percentage of FP items available in all domains (staff trained in FP + guidelines FP + blood pressure apparatus + combined oral contraceptive + injectable contraceptive + male condoms) / 6

4.2 Antenatal care services

Antenatal services are offered at all levels of health facility and (according to the DHS) a majority of pregnant women obtain these services from local dispensaries and health centres. Since ANC is free, the government providers are by far the majority provider of ANC services in Tanzania.

As table 4.2.1 below shows, 85% of all health facilities offered ANC services. This proportion was significantly higher in public facilities than in private, while private-for-profit outlets were least likely to offer the service.

By level of health facility, there was little difference in proportion offering ANC services, except for MCH clinics (where ANC services were nearly universal). All the basic ANC elements i.e. iron and folic supplementation, IPT and tetanus toxoid vaccination were available in more than two thirds of the facilities, whatever the level. The proportion of these items was highest in MCH clinics, followed by health centres, hospitals and lastly dispensaries.. A similar pattern obtained for ability to monitor hypertensive disorders of pregnancy. For all ANC elements, availability was higher in rural facilities than urban facilities.

Table 4.2.1 Antenatal care service availability

Percentage of health facilities offering antenatal care services, according to level of service, managing authority, owner and residence

Background characteristic	Iron supplementation	Folic acid supplementation	IPT	Tetanus toxoid vaccination	Monitoring for hypertensive disorder of pregnancy	Offers antenatal care services	Total number of facilities
Level of service							
Dispensary	68	71	70	71	58	84	1100
Health Centre	77	78	81	79	81	95	137
MCH clinic	98	98	98	98	82	100	8
Hospital	76	79	79	76	72	90	52
Managing authority							
Government/Public	79	83	81	82	69	94	923
Mission/Faith based	53	53	57	58	55	71	132
NGO/Not-for-profit	35	35	21	29	7	52	9
Private-for-profit	28	28	28	26	26	43	233
Ownership							
Public/Government	79	83	82	82	69	95	923
Private	39	40	41	40	38	56	374
Residence							
Rural	77	81	80	80	66	94	844
Urban	50	50	51	50	48	63	453
Total	70	72	72	72	61	85	1297

Notes:

Table 4.2.2 examines the availability of specific inputs for ANC, among the sub-set of facilities that offered the service. Apparatus for measurement of blood pressure was most likely to be available, while half of the facilities had at least one trained staff member. 6 out of 10 facilities had ANC guidelines with MCH clinics and hospital having 98% and 75% respectively. The ability for facilities to conduct tests onsite for haemoglobin and urine

dipstick-protein was very low across all levels. In contrast commodity availability (iron/folic acid supplementation, and TT vaccine) was quite high in all levels of service, managing authority, ownership and residence.

Table 4.2.2 Antenatal care services

Among health facilities offering antenatal care services, the percentage with trained staff, guidelines, equipment, diagnostics, and medicines and commodities, according to level of service, managing authority, owner and residence (n=1,071)

Background characteristic	At least one trained staff antenatal care	Guidelines available antenatal care	Blood pressure apparatus	Haemoglobin test (1)	Urine dipstick-protein test (2)	Iron tablets	Folic acid tablets	Tetanus toxoid vaccine	Total number of facilities offering antenatal care services
Level of service									
Dispensary	48	59	88	7	14	81	93	91	889
Health Centre	59	55	89	13	31	77	87	88	128
MCH clinic	68	98	100	10	23	98	100	100	46
Hospital	65	75	93	26	40	86	99	99	8
Managing authority									
Government/Public	51	62	88	7	14	82	92	91	867
Mission/Faith based	54	57	82	12	30	76	93	94	96
NGO/Not-for-profit	28	55	96	13	13	68	100	100	5
Private-for-profit	30	21	94	15	34	68	93	87	103
Ownership									
Public/Government	51	63	88	7	14	82	92	91	867
Private	44	43	87	13	31	73	93	92	204
Residence									
Rural	50	63	87	7	13	80	91	90	786
Urban	50	48	94	14	31	82	97	95	285
Total	49	60	88	8	17	81	92	91	1071

Notes:

(1) Ability to conduct test onsite and presence of colorimeter, haemoglobinometer, or hemocue.

(2) Ability to conduct test onsite and presence of urine protein test strips.

Table 4.2.3 provides an overall readiness summary for ANC services based on staff and training, equipment, diagnostics, medicine and commodities. Overall readiness score for ANC (among the facilities that offered the service) was 58%. The medicines/commodities and equipment domains scored highest (81% and 88% respectively) whereas the staff domain was 55% and the diagnostics domain only 13%. Overall ANC readiness was similar across owner/operator and rural/urban. ANC readiness at hospitals and MCH clinics was somewhat higher than health centres of dispensaries.

Table 4.2.3 Readiness to provide antenatal care services

Among health facilities offering antenatal care services, the percentage meeting service readiness requirements for providing antenatal care services, according to level of service, managing authority, owner and residence (n=1,071)

Background characteristic	Staff and training (1)	Equipment (2)	Diagnostics (3)	Medicines and commodities (4)	Readiness to provide antenatal care services (5)	Total number of facilities offering antenatal care services
Level of service						
Dispensary	53	88	10	81	57	889
Health Centre	57	90	22	77	60	128
MCH clinic	83	100	16	98	74	46
Hospital	70	93	33	86	70	8
Managing authority						
Government/Public	57	88	11	83	59	867
Mission/Faith based	56	82	21	75	58	96
NGO/Not-for-profit	41	96	13	68	51	5
Private-for-profit	25	94	24	66	49	103
Ownership						
Public/Government	57	88	11	83	59	867
Private	43	87	22	71	54	204
Residence						
Rural	56	87	10	81	58	786
Urban	49	93	22	82	60	285
Total	55	88	13	81	58	1071

Notes:

(1) The mean percentage of items available in staff and training (staff trained in ANC + guidelines ANC) / 2

(2) The mean percentage of items available in equipment (blood pressure apparatus) / 1

(3) The mean percentage of items available in diagnostics (haemoglobin + urine dipstick-protein) / 2

(4) The mean percentage of items available in medicines and commodities (iron tablets + folic acid tablets + tetanus toxoid vaccine) / 3

(5) The mean percentage of ANC items available in all domains (staff trained in ANC + guidelines ANC + blood pressure apparatus + haemoglobin + urine dipstick-protein + iron tablets + folic acid tablets + tetanus toxoid vaccine) / 8

4.3 Delivery services: Emergency obstetric and new born care

Obstetric services for normal deliveries are expected at all health centres and general hospitals. In addition, some dispensaries provide service for normal deliveries. All facilities that conduct these services would normally be expected also to provide basic emergency obstetric care services, while according to WHO guidelines, a facility providing comprehensive emergency obstetric care (see section 4.18) should be available for every 50,000 population.

Among this sample of facilities, 64% offered delivery services. The proportion was considerably higher in rural (76%) than urban (33%), probably reflecting the larger number of private clinics among the urban sample. Stratified by facility type, between 76% and 82% of higher level facilities (health centres, MCH clinics, hospitals) provided delivery services, compared to 62% of dispensaries. Government facilities were much more likely to offer the service (74%) than mission (49%), NGO (35%) or private-for-profit (21%) facilities. However, the proportion of facilities that offered all components required for basic emergency obstetric care was very much lower. Only one third (20% out of 62%) of dispensaries and half of health centres (39% out of 78%) had capability to provide all BEmOC signal functions. By contrast, nearly all of the MCH clinics and hospitals offering delivery services also offered all BEmOC signal functions.

Table 4.3.1 Percentage of facilities offering basic obstetric and newborn care services (N=1297)

Percentage of health facilities offering delivery services, according to level of service, managing authority, owner and residence (N=1297)

Background characteristic	Parenteral administration of antibiotics (a)	Parenteral administration of oxytocic drugs (b)	Parenteral administration of anti-convulsants (c)	Assisted vaginal delivery (d)	Manual removal of placenta (e)	Manual removal of retained products (f)	Neonatal resuscitation (g)	Basic emergency obstetric care (1)	Offers delivery services	BEmOC (7 signal functions)	Total number of facilities
Level of service											
Dispensary	64	58	35	64	58	52	46	20	62	20	1100
Health Centre	81	73	56	79	78	71	73	39	78	39	137
MCH clinic	98	98	82	100	100	98	100	82	82	82	8
Hospital	85	85	79	88	83	83	86	74	76	74	52
Managing authority											
Government/Public	75	67	43	76	70	63	56	26	74	26	923
Mission/Faith based	56	54	35	55	49	45	46	25	49	25	132
NGO/Not-for-profit	35	35	21	35	35	21	35	7	35	7	9
Private-for-profit	28	27	23	27	24	22	25	18	21	18	233
Ownership											
Public/Government	75	67	43	75	70	63	56	26	74	26	923
Private	41	39	28	39	36	32	35	20	34	20	374
Residence											
Rural	77	70	44	77	71	63	58	26	76	26	844
Urban	39	36	27	37	35	33	33	21	33	21	453
Total	67	61	40	67	61	56	51	25	64	25	1297

Notes: (1) Basic emergency obstetric care facilities are those that offer all interventions a-g.

Table 4.3.2 describes the availability of key inputs among the subset of health facilities (N=786) that offered normal delivery services. Overall, items with highest availability were diazepam (91%), delivery packs and skin disinfectant (85%), antibiotic eye ointment (84%), intravenous fluids (79%), gloves (75%), injectable uterotonic (75%) and partograph (67%). Emergency transport was available at 52% of facilities that offered normal delivery services. By contrast, eight of the inputs were available at between 12% and 35% of facilities, including such basic items as examination light (29%), suction apparatus (35%), MVA (12%) and vacuum aspiration/D&C (14%). Only one in five facilities had at least one staff training in integrated management of pregnancy and childbirth (IMPAC) or the IMPAC guidelines.

Among the 40 hospitals providing normal delivery services, availability of key inputs was generally high (more than three quarters of facilities). However, for selected indicators the frequency was lower, specifically IMPAC guidelines (48%) and examination light (37%).

At the health centre and dispensary level, availability of key inputs was rather lower. Among health centres, less than one third had MVA, vacuum aspiration and D&C or neonatal bag and mask. At dispensary level availability of these same items ranged from just 6% (MVA) to 15% (neonatal bag and mask).

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Table 4.3.2 Delivery services

Among health facilities offering delivery services, the percentage with trained staff, guidelines, equipment, and medicines and commodities, according to level of service, managing authority, owner and residence (n=786)

Background characteristic	At least one trained staff IMPAC (5)	Guidelines available IMPAC (5)	Emergency transport	Examination light	Delivery pack (1)	Suction apparatus	Manual vacuum extractor	Vacuum aspirator and D&C kit	Neonatal bag and mask	Partograph	Gloves	Antibiotic eye ointment for newborn	Injectable uterotonic (2)	Injectable antibiotic (3)	Magnesium sulphate	Diazepam injectable	Skin disinfectant$	Intravenous solution with infusion kit(4)	Total number of facilities offering delivery services
Level of service																			
Dispensary	13	15	47	24	82	30	6	7	15	67	72	84	72	63	28	91	83	77	633
Health Centre	44	42	71	37	94	46	26	28	32	78	83	80	85	77	53	94	90	84	107
MCH clinic	62	26	81	81	100	62	62	62	81	81	100	100	100	100	81	81	81	100	6
Hospital	66	48	84	37	100	83	82	85	90	95	96	95	96	96	88	99	100	81	40
Managing authority																			
Gov't/Public	20	20	51	27	84	31	10	11	18	68	74	84	73	63	34	92	85	78	670
Mission/FBO	23	22	63	46	94	62	30	32	41	84	85	84	89	87	41	91	81	92	64
NGO/Not-for-profit	19	19	0	60	60	60	60	19	60	59	60	100	100	100	60	100	60	100	3
Private-for-profit	27	27	60	32	90	45	31	34	43	71	76	89	81	90	48	83	88	83	49
Ownership																			
Public/Gov't	20	20	51	27	84	31	10	11	18	68	74	84	73	63	34	92	85	78	670
Private	24	24	60	42	92	56	32	32	42	79	81	86	87	88	43	89	83	90	116
Residence																			
Rural	16	18	49	26	83	33	10	11	18	67	73	83	73	63	31	90	84	77	636
Urban	45	34	72	49	96	47	29	32	41	84	88	90	89	88	59	99	95	91	150
Total	20	20	52	29	85	35	12	14	21	69	75	84	75	67	35	91	85	79	786

Notes:
(1) Delivery pack OR cord clamp, episiotomy scissors, scissors/blade to cut cord, suture material with needle, AND needle holder
(2) Oxytocin
(3) Broad-spectrum- generally gentamicin or penicillin AND ampicillin
(4) Normal saline or Ringers Lactate, AND Dextrose 5%
(5) IMPAC = integrated management of pregnancy and childbirth

Table 4.3.3 summarises the four domains for readiness to provide delivery services for the subset of facilities that offered such services. The lowest domain score for all facility types (and for both government and non-government facilities) was for trained staff and guidelines. Overall, one fifth of facilities (20%) had trained staff/guidelines and this is principally due to the very low score on this domain among dispensaries. Unsurprisingly, the equipment score was highest among hospitals, somewhat lower among MCH clinics/health centres, and lowest at dispensaries. A similar pattern prevailed for medicines & commodities. The overall readiness score was highest (88%) among hospitals and lowest (49%) among dispensaries. Government facilities scored lower than private ones, while scores for urban facilities excluded rural facilities.

Table 4.3.3 Readiness to provide delivery services

Among health facilities offering delivery services, the percentage meeting basic service readiness requirements for providing basic delivery services, according to level of service, managing authority, owner and residence (n=786)

Background characteristic	Staff and training (1)	Equipment (2)	Medicines and commodities (3)	Readiness to provide delivery services (4)	Total number of facilities offering delivery services
Level of service					
Dispensary	14	39	71	49	633
Health Centre	43	55	80	64	107
MCH clinic	44	79	89	79	6
Hospital	57	89	96	88	40
Managing authority					
Government/Public	20	42	73	51	670
Mission/Faith based	23	60	81	64	64
NGO/Not-for-profit	19	49	88	61	3
Private-for-profit	27	54	80	61	49
Ownership					
Public/Gov't	20	42	73	51	670
Private	24	57	81	63	116
Residence					
Rural	17	41	72	50	636
Urban	40	60	87	68	150
Total	20	44	74	53	786

Notes:

(1) The mean percentage of items available in staff and training (staff trained in IMPAC + guidelines IMPAC) / 2

(2) The mean percentage of items available in equipment (emergency transport + examination light + delivery pack + suction apparatus + manual vacuum extractor + vacuum aspirator or D&C kit + neonatal bag and mask + partograph + gloves) / 9

(3) The mean percentage of items available in medicines and commodities (antibiotic eye ointment for newborn + injectable uterotonic + injectable antibiotic + magnesium sulphate + diazepam + skin disinfectant + intravenous solution with infusion set) / 7

(4) The mean percentage of delivery items available in all domains (staff trained in IMPAC + guidelines IMPAC + emergency transport + examination light + delivery pack + suction apparatus + manual vacuum extractor + vacuum aspirator or D&C kit + newborn bag and mask + partograph + gloves + antibiotic eye ointment for newborn + injectable uterotonic + injectable antibiotic + magnesium sulphate + diazepam + skin disinfectant + intravenous solution with infusion set) / 18

4.4 Child immunisation services

Routine vaccination constitutes the key strategy for success in reducing vaccine-preventable diseases and mortality. Table 4.1.1 shows the percentage of four key antigens i.e. measles, DPT-Hib+HepB, Polio and BCG that are delivered routinely in facilities. 91% of government facilities provided the service. Routine child immunization availability was very much lower at non-government facilities (mission/FBO, NGO and private-for-profit: 59%, 35%, 25% respectively). Overall 73% of facilities in the sample offered routine child immunization.

Table 4.4.1 Child immunization service availability

Percentage of health facilities offering child immunization services either in the facility or as outreach, according to level of service, managing authority, ownership and residence

Background characteristic	Routine measles immunization	Routine DPT-Hib+HepB immunization	Routine polio immunization	Routine BCG immunization	Offers child immunization services	Total number of facilities
Level of service						
Dispensary	72	72	71	72	80	1100
Health Centre	80	80	80	80	95	137
MCH clinic	84	84	98	98	100	8
Hospital	76	76	76	76	90	52
Managing authority						
Government/Public	84	84	84	84	91	200
Mission/Faith based	59	59	59	59	72	34
NGO/Not-for-profit	35	35	35	35	52	2
Private-for-profit	25	25	25	25	35	80
Ownership						
Public/Government	84	84	84	84	91	200
Private	41	41	41	40	52	116
Residence						
Rural	82	82	81	81	90	844
Urban	50	50	51	51	59	453
Total	73	73	73	73	82	1297

Notes:

Among facilities that offered routine child immunisation, the percentage that had key inputs (staff, equipment, commodities) is described in Table 4.4.2, below. The results indicate that nearly all facilities had cold box or vaccine carrier, disposable syringes and sharps containers, and the four key child vaccines. The availability of refrigerator, sharps container, single use syringe was high and similar in all facility levels but was lower in private compared to government facilities. . The percentage of facilities with at least one trained staff and guidelines for EPI was 74% and 66% percent respectively.

Table 4.4.2 Child immunization services

Among health facilities offering child immunization services, the percentage with trained staff, guidelines, equipment, and medicines, according to level of service, managing authority, ownership and residence (n=1,029)

Background characteristic	At least one trained staff EPI	Guidelines available EPI	Cold box with ice packs	Refrigerator	Sharps container	Single use syringes	Measles vaccine	DPT-Hib+HepB vaccine	Polio vaccine	BCG vaccine	Total number of facilities offering child immunization services
Level of service											
Dispensary	74	67	79	76	79	79	81	80	80	77	850
Health Centre	73	58	77	83	76	74	78	78	77	77	126
MCH clinic	84	69	98	98	98	98	84	84	98	98	8
Hospital	76	72	82	82	82	82	86	86	86	79	45
Managing authority											
Government/Public	77	69	82	81	82	81	83	83	82	79	838
Mission/Faith based	69	59	69	66	70	70	73	73	71	69	96
NGO/Not-for-profit	68	55	68	55	68	68	68	68	68	68	5
Private-for-profit	48	30	55	52	55	55	57	57	57	56	90
Ownership											
Public/Government	77	69	82	81	82	81	83	83	82	79	838
Private	62	49	65	62	64	65	67	67	66	64	191
Residence											
Rural	75	68	79	78	79	79	81	81	81	77	760
Urban	73	56	78	77	78	78	78	77	77	75	269
Total	74	66	79	78	79	79	81	80	80	77	1029

Notes:

Table 4.4.3 provides an overall readiness score for routine child immunisation based on the three domains of staff & training, equipment and commodities. Overall readiness score for immunisation was 77%, with relatively small differences across level of service, operating authority or residence. The "equipment" domain had the lowest score, due to the anomalous results for the refrigerator question mentioned above.

Table 4.4.3 Readiness to provide child immunization services

Among health facilities offering child immunization services, the percentage meeting service readiness requirements for providing child immunization services, according to level of service, managing authority, owner and residence (n=1,029)

Background characteristic	Staff and training (1)	Equipment (2)	Medicines and commodities (3)	Readiness to provide child immunization services (4)	Total number of facilities offering child immunization services
Level of service					
Dispensary	70	78	79	77	850
Health Centre	66	78	77	75	126
MCH clinic	76	98	90	91	8
Hospital	74	82	84	81	45
Managing authority					
Government/Public	73	81	82	80	838
Mission/Faith based	64	69	71	69	95
NGO/Not-for-profit	62	65	68	66	5
Private-for-profit	39	54	57	52	90
Ownership					
Public/Government	73	81	82	80	838
Private	55	64	66	63	191
Residence					
Rural	72	79	80	78	760
Urban	64	77	77	75	269
Total	70	79	79	77	1029

Notes:

(1) The mean percentage of items available in staff and training (staff trained in EPI + guidelines EPI) / 2

(2) The mean percentage of items available in equipment (cold box with ice packs + refrigerator + sharps container + single use syringes) / 4

(3) The mean percentage of items available in medicines and commodities (measles vaccine + DPT-Hib+HepB vaccine + polio vaccine + BCG vaccine) / 4

(4) The mean percentage of child immunization items available in all domains (staff trained in EPI + guidelines EPI + cold box with ice packs + refrigerator + sharps container + single use syringes + measles vaccine + DPT-Hib+HepB vaccine + polio vaccine + BCG vaccine) / 10

4.5 Child health services: preventative and curative care

Most health facilities are supposed to provide preventive and curative care for children. This was borne out in the table 4.5.1, which found that 82% of the whole sample provides such services. This mean was pulled down by the lower likelihood (35%) of provision of curative and preventive services for under-fives in private-for-profit facilities. Government health facilities (91%) were the most likely to provide preventive and curative services for under-fives, followed by faith-based health facilities. All eight MCH clinics provided services for under-fives, as did 90% of hospitals, 95% of health centres and 80% of dispensaries. Overall availability of the service elements was similar, except for ORS and zinc supplementation for children with diarrhoea, which was somewhat lower.

Table 4.5.1 Preventative and curative care for children under 5 service availability

Percentage of health facilities offering preventative and curative care services for children under 5, according to level of service, managing authority, owners and residence [N=1297]

Background characteristic	Diagnosis/ treat malnutrition	Vitamin A supplemen-tation	Iron supplemen-tation	ORS and zinc supplemen-tation to children with diarrhea	Child growth monitoring	Offers preventative and curative care for U-5s	Total number of facilities
Level of service							
Dispensary	82	82	81	74	80	80	1100
Health Centre	88	84	84	79	85	95	137
MCH Clinic	100	100	100	100	100	100	8
Hospital	92	86	88	92	83	90	52
Managing authority							
Government/Public	90	90	88	78	88	91	200
Mission/Faith based	70	73	74	72	69	72	34
NGO/Not-for-profit	50	42	56	56	56	52	2
Private-for-profit	56	50	54	58	46	35	80
Ownership							
Public/Government	90	90	88	78	88	91	200
Private	62	60	63	65	57	52	116
Residence							
Rural	89	90	87	77	87	90	844
Urban	67	64	67	69	62	59	453
Total	83	83	82	75	80	82	1297

Table 4.5.2 examines the availability of staff, guidelines, equipment and commodities for the provision of preventive and curative services to under-fives among the 1029 facilities offering child preventive and curative care services.

The availability of at least one staff trained in IMCI was 44% overall. Presence of trained personnel was similar across all levels of facility. Presence of staff trained in IMCI was lowest in non-governmental facilities in which only one quarter had trained personnel. IMCI guidelines were available in 57% of government facilities but in only 40% of faith-based and 18% of private-for-profit health facilities. Availability of trained staff and guidelines for growth monitoring was even lower than for IMCI, although a large majority of facilities did have a child

weighing scale. With the exception of dispensaries, other health facilities had no equipment for measuring the length/height of children.

For the most part, thermometer, stethoscope, growth chart, ORS, antibiotics, paracetamol, vitamin A and anti-helminth drugs were widely available in all categories of facility, albeit slightly less so at dispensaries. Haemoglobin testing was available in just over a third of the hospitals and MCH clinics, but was found in much fewer lower level facilities. Ability to test for parasites in stool samples was present in 37% of the hospitals, but only 10% of dispensaries.. Among the commodities, zinc tablets were the least likely to be available, particularly at dispensaries (52%) and health centres (56%).

Table 4.5.2 Preventative and curative care services for children under 5

Among facilities offering preventative and curative care services for children under 5, the percentage with trained staff, guidelines, equipment, diagnostics, and medicines, according to level of service, managing authority, ownership and residence (n=1,127)

Background characteristic	At least one trained staff IMCI	Guidelines available IMCI	At least one trained staff growth monitoring	Guidelines available growth monitoring	Child scale	Length/height measuring equipment	Thermometer	Stethoscope	Growth chart	Haemoglobin (1)	Test parasite in stool (2)	Malaria diagnostic capacity (3)	ORS packet	Amoxicillin syrup/suspension	Co-trimoxazole syrup/suspension	Paracetamol syrup/suspension	Vitamin A capsules	Me-/albendazole cap/tab	Zinc tablets	Total number of facilities offering preventative and curative care for U5s
Level of service																				
Dispensary	40	51	29	33	75	43	81	87	73	16	10	40	87	78	75	100	89	92	52	946
Health Centre	48	51	41	44	84	0	82	87	82	27	20	49	82	79	84	100	88	91	56	127
MCH Clinic	45	69	67	45	100	0	85	100	85	34	18	56	100	85	98	100	100	100	54	8
Hospital	71	73	73	54	78	0	84	84	88	37	35	52	100	93	93	100	99	100	91	46
Managing authority																				
Gov't/Public	47	56	36	38	76	44	80	87	77	17	10	42	86	76	74	100	90	92	49	870
Mission/Faith based	23	40	19	31	77	0	84	87	69	24	19	46	94	94	92	100	91	94	77	109
NGO/Not-for-profit	28	96	41	13	96	0	68	96	68	41	41	96	96	96	96	100	68	96	68	5
Private-for-profit	16	14	17	10	76	0	87	94	56	30	28	33	94	94	95	100	86	95	75	143
Ownership																				
Public/Gov't	47	56	36	38	76	44	80	87	77	17	10	42	86	76	74	100	90	92	50	870
Private	21	30	18	22	77	0	85	91	63	27	23	43	94	94	93	100	88	95	76	257
Residence																				
Rural	45	57	33	38	75	32	79	86	76	14	9	41	86	77	74	100	89	92	52	792
Urban	31	32	31	27	80	51	87	92	69	36	26	46	90	88	87	100	89	93	61	335
Total	42	52	33	35	76	36	81	87	75	19	12	42	87	79	77	100	89	92	54	1127

Notes:

(1) Ability to conduct test onsite and presence of colorimeter, haemoglobinometer, or hemocue.

(2) Ability to conduct general microscopy/wet mounts onsite and presence of microscope, slides, and covers.

(3) Ability to conduct malaria RDT onsite OR ability to conduct malaria smear test onsite and presence of microscope, slides, and stain.

Table 4.5.3 provides the composite readiness score for each category of health facilities, representing the mean of the component domains (staff/training, equipment, diagnostics, medicines and commodities). Hospitals scored consistently higher than lower-level health facilities, although MCH clinics also did well on all criteria except staff and diagnostics. Health centres scored 68% overall – having relatively high scores for medicines and equipment, but lower scores on staff and diagnostics. The readiness of dispensaries to provide curative and preventive services for under-fives were slightly lower than health centres (65%), mainly due to their lower scores on the diagnostics and staff domains. Overall readiness scores did not differ greatly by managing authority, public/private or rural/urban categories of health facility.

Table 4.5.3: Readiness to provide preventative and curative care services for children under 5

Among health facilities offering preventative and curative care services for children under 5, the percentage meeting service readiness requirements for providing preventative and curative care services, according to level of service, managing authority, owner and residence (n=1,127)

Background characteristic	Staff and training (1)	Equipment (2)	Diagnostics (3)	Medicines and commodities (4)	Readiness to provide preventative and curative care services for U5s (5)	Total number of facilities offering preventative and curative care for U5s
Level of service						
Dispensary	38	63	22	82	64	946
Health Centre	46	67	32	83	68	127
MCH Clinic	57	74	36	91	75	8
Hospital	68	67	41	97	79	46
Managing authority						
Government/Public	44	64	23	81	65	870
Mission/ Faith based	28	64	30	91	68	109
NGO/Not-for-profit	44	66	59	88	77	5
Private-for-profit	15	62	30	91	65	143
Ownership						
Public/Government	44	64	23	81	65	870
Private	23	63	31	91	67	257
Residence						
Rural	43	64	21	82	64	792
Urban	30	66	36	87	68	335
Total	40	64	24	83	65	1127

Notes:

(1) The mean percentage of items available in staff and training (staff trained in IMCI + guidelines IMCI + trained staff growth monitoring + guidelines growth monitoring) / 4

(2) The mean percentage of items available in equipment (child/infant scale + length/height measuring equipment + thermometer + stethoscope + growth chart) / 5

(3) The mean percentage of items available in diagnostics (haemoglobin + parasite in stool + malaria diagnostic capacity) / 3

(4) The mean percentage of items available in medicines and commodities (ORS packet + amoxicillin + co-trimoxazole + paracetamol + Vitamin A + me-/albendazole + zinc) / 7

(5) The mean percentage of curative care and growth monitoring items available in all domains (staff trained in IMCI + guidelines IMCI + trained staff growth monitoring + guidelines growth monitoring + child/infant scale + length/height measuring equipment + thermometer + stethoscope + growth monitoring + haemoglobin + parasite in stool + malaria diagnostic capacity + ORS packet + amoxicillin + co-trimoxazole + paracetamol + Vitamin A + me-/albendazole + zinc) / 19

4.6 Adolescent health services

906 out of 1297 (70%) health facilities in the sample offered adolescent health services (Table 4.6.1). The figure was lowest for private-for-profit and NGO health facilities and higher in government facilities and faith-based facilities. . Adolescent health service availability was lower in dispensaries than at higher levels of health facilities. Service availability was higher in rural facilities than urban facilities.

Table 4.6.1 Adolescent health service availability

Percentage of health facilities offering adolescent health services, according to level of service, managing authority, owner and residence

Background characteristic	Offers adolescent health services	Total number of facilities
Level of service		
Dispensary	65	1100
Health Centre	89	137
MCH Clinic	85	8
Hospital	82	52
Managing authority		
Government/Public	75	200
Mission/Faith based	69	34
NGO/Not-for-profit	51	2
Private-for-profit	31	80
Ownership		
Public/Government	75	200
Private	49	116
Residence		
Rural	73	844
Urban	57	453
Total	70	1297

Table 4.6.2 sets out the percentage of facilities with specific service inputs (staff, guidelines, commodities, HIV testing) among the 906 facilities that offered adolescent health services.

None of the facilities reported having specific guidelines available for adolescent health services. Availability of at least on staff member trained in adolescent health service provision was generally low, ranging from only 16% among dispensaries to 32% for health centres and 48% for hospitals. Availability of staff trained in HIV prevention care and treatment for adolescents was only marginally higher and only 54% offered HIV counselling and testing for adolescents.

Condoms were widely available in all categories of health facility except faith-based facilities. HIV testing and counselling was more likely to be available in MCH clinics and hospitals, but was also found in half (51%) of dispensaries.

Table 4.6.2 Adolescent health services

Among health facilities offering adolescent health services, the percentage with trained staff, guidelines, medicines, and adolescent health services, according to level of service, managing authority, owner and residence (n=906)

Background characteristic	At least one trained staff provision of adolescent health services	Guidelines available service provision to adolescents	Staff providing family planning services trained in adolescent sexual and reproductive health	Staff providing HIV testing and counselling services trained in prevention, care, and management for adolescents	Condoms	Facility offers family planning services to adolescents	Facility offers HIV testing and counselling services to adolescents	Total number of facilities offering adolescent health services
Level of service								
Dispensary	16	0	27	35	88	74	51	599
Health Centre	32	0	42	51	91	78	64	105
MCH Clinic	62	0	25	60	100	97	97	7
Hospital	48	0	43	76	79	59	76	38
Managing authority								
Government/Public	21	0	33	40	94	83	56	596
Mission/Faith based	12	0	10	36	50	19	47	74
NGO/Not-for-profit	42	0	42	28	70	42	57	3
Private-for-profit	26	0	24	37	82	51	35	76
Ownership								
Public/Government	21	0	33	40	94	83	56	596
Private	18	0	16	36	61	30	43	153
Residence								
Rural	15	0	26	34	88	75	52	510
Urban	38	0	45	58	88	71	63	239
Total	20	0	30	39	88	74	54	906

Notes:

Table 3.6.3 presents "service readiness" scores by category for the 906 facilities offering adolescent health services. Overall service readiness across this sub-sample was 44%. The score was somewhat higher in government facilities (47%) than private facilities (29%). MCH clinics had the highest score (63%), hospitals and health centres scored 54% and 51% respectively, while dispensaries scored 41%.

The low overall readiness scores for adolescent health are partly because no facilities had specific guidelines on adolescent health services. Dispensaries, representing 599/906 (66%) of the sub-sample, also had low likelihood of having at least one staff trained in adolescent health.

Table 4.6.3 Readiness to provide adolescent health services

Among health facilities offering adolescent health services, the percentage meeting service readiness requirements for providing adolescent health services, according to level of service, managing authority, owner and residence (n=906)

Background characteristic	Staff and training (1)	Medicines and commodities (2)	Adolescent health services (3)	Readiness to provide adolescent health services (4)	Total number of facilities offering adolescent health services
Level of service					
Dispensary	19	88	62	41	599
Health Centre	31	91	71	51	105
MCH Clinic	37	100	97	63	7
Hospital	42	79	67	54	38
Managing authority					
Government/Public	23	94	70	47	596
Mission/Faith based	14	50	33	25	74
NGO/Not-for-profit	28	70	49	40	3
Private-for-profit	22	82	43	37	76
Ownership					
Public/Government	23	94	70	47	596
Private	17	61	37	29	153
Residence					
Rural	19	88	63	41	510
Urban	35	88	67	52	239
Total	22	88	64	44	906

Notes:

(1) The mean percentage of items available in staff and training (staff trained in provision of adolescent health services + guidelines service provision to adolescents + staff providing FP services trained in adolescent sexual and reproductive health + staff providing HIV counselling and testing services trained in HIV/AIDS prevention, care, and management for adolescents) / 4

(2) The mean percentage of items available in medicines and commodities (condoms) / 1

(3) The mean percentage of items available in adolescent health services (HIV testing and counselling to adolescents)/1; FP services for adolescents omitted)

(4) The mean percentage of adolescent health items available in all domains (staff trained in provision of adolescent health services + guidelines service provision to adolescents + staff providing HIV counselling and testing services trained in HIV/AIDS prevention, care, and management for adolescents + condoms + HIV testing and counselling to adolescents) / 5; staff trained in FP for adolescents and FP services for adolescents omitted.

4.7 Malaria

Malaria has been and continues to be the major cause of outpatient attendance, inpatient admission and deaths in most age groups. However, in recent years, the National Malaria Control Program in collaboration with other stakeholders such as Global Fund, US President's Malaria Initiative (PMI), UNICEF and others have made major progress in reducing the burden in vulnerable groups i.e. children and pregnant women. Strategies employed have included prompt diagnosis and treatment of malaria with effective drugs, free distribution of insecticide treated nets, intermittent preventive treatment during pregnancy, indoor residual spraying and strengthening the monitoring and evaluation surveillance systems to support localized control.

Of the 1292 facilities in this sample, 93% offered malaria diagnosis and/or treatment services (Table 4.7.1). 9 out of 10 dispensaries and hospitals offered the services while availability at health centres and MCH clinics was universal. Private-for-profit facilities where somewhat lower compared to other managing authorities. Government and rural based facilities fared well with 95% of each offering the services compared to private (79%) and urban facilities (85%). Malaria diagnosis verification (66%) and IPT (72%) scored lower than other service elements.

Table 4.7.1 Malaria service availability

Percentage of health facilities offering malaria services, according to level of service, managing authority, owner and residence [N=1297]

Background characteristic	Malaria diagnosis	Malaria diagnosis verification	Malaria treatment	IPT	Offers diagnosis or treatment of malaria	Total number of facilities
Level of service						
Dispensary	86	64	86	70	92	1100
Health Centre	87	80	88	81	99	137
MCH clinic	98	98	98	98	100	8
Hospital	83	83	80	79	91	52
Managing authority						
Government/Public	89	67	89	81	95	923
Mission/Faith based	76	65	79	57	93	132
NGO/Not-for-profit	64	43	71	21	100	9
Private-for-profit	78	65	77	28	79	233
Ownership						
Public/Government	89	67	89	81	95	923
Private	77	64	78	41	86	374
Residence						
Rural	88	67	88	79	95	844
Urban	81	66	82	51	87	453
Total	86	66	86	72	93	1297

Notes:

Table 4.7.2 shows availability of specific inputs (personnel, guidelines, diagnostics, medicines) for malaria services among the subset of 1209 facilities that offered malaria diagnosis and treatment services.

Nearly eight out of ten facilities had a first line antimalaria drug in stock at the time of survey. A similar proportion had the capacity to diagnose malaria using either RDT or microscopy. SP for IPTp was in stock in 78% of hospitals and we found similar proportions in dispensaries and health centers. Almost all the MCH clinics had SP in stock during the survey. . Paracetamol was available in 82% of facilities. The "availability of ITN" described here may be misleading and it is certainly lower (61% of all facilities) than would be expected. The questionnaire was modified to include *either ITNs or vouchers*, but it may not have been understood fully by enumerators or respondents. 60% of all facilities had at least one staff member trained in diagnosis and treatment of malaria. The proportion of government facilities that had staff trained in diagnosis and treatment of malaria was double that of private facilities. Proportion of facilities with staff trained in IPTp was marginally lower. 60% of facilities had guidelines for diagnosis and treatment of malaria while less than half (45%) had guidelines for IPTp. Overall, rural facilities were better prepared and equipped to offer malaria services than urban facilties.

Table 4.7.2 Malaria services

Among health facilities offering malaria services, the percentage with trained staff, guidelines, diagnostics, and medicines, according to level of service, managing authority, ownership and residence (n=1,209)

Background characteristic	At least one trained staff diagnosis and treatment of malaria	Guidelines available diagnosis and treatment of malaria	At least one trained staff IPT	Guidelines available IPT	Malaria diagnostic capacity (1)	First-line antimalarial in-stock (2)	Paracetamol cap/tab	IPT drug (3)	ITN (4)	Total number of facilities offering malaria services
Level of service										
Dispensary	58	60	36	44	74	77	82	78	61	1017
Health Centre	60	57	42	47	79	74	79	77	63	136
MCH clinic	68	84	68	69	86	98	98	98	84	8
Hospital	58	65	56	55	81	79	82	79	60	48
Managing authority										
Government/Public	66	66	41	50	75	78	82	79	69	879
Mission/Faith based	43	48	39	42	79	72	81	78	44	124
NGO/Not-for-profit	21	29	14	29	84	57	64	35	14	9
Private-for-profit	24	30	13	10	67	73	79	76	24	197
Ownership										
Public/Government	66	66	41	50	75	79	82	79	69	879
Private	33	39	26	26	74	72	79	75	34	330
Residence										
Rural	66	67	39	51	76	76	83	77	68	556
Urban	35	40	31	24	72	78	79	78	40	161
Total	59	60	37	45	75	77	82	78	61	1209

Notes:

(1) Ability to conduct malaria RDT onsite and presence of RDT test kit OR ability to conduct malaria smear test onsite and presence of microscope, slides, and stain.

(2) Artemisinin-based combination therapy (ACT) or other country specific

(3) Sulfadoxine + Pyrimethamine (SP)

(4) ITNs or vouchers available for distribution

Table 4.7.3 shows readiness to provide malaria services, representing the mean percentage of facilities across each of three domains: staff & training, diagnostics and medicines & commodities. For the facility sample as a whole, readiness to provide malaria services was 64%. Domains that scored the highest were "diagnostics" category (RDT or microscopy available) at 75% and medicines (first line antimalarial, paracetamol, IPT drug and ITNs) at 74%. The percentage of facilities with trained staff and guidelines for malaria services was 50% overall – this score has been pulled down by the lower percentages in private (31%) as compared to government (56%) facilities.

Table 4.7.3 Readiness to provide malaria services

Among health facilities offering malaria services, the percentage meeting service readiness requirements for providing malaria services, according to level of service, managing authority, ownership and residence (n=1,209)

Background characteristic	Staff and training (1)	Diagnostics (2)	Medicines and commodities (3)	Readiness to provide malaria services (4)	Total number of facilities offering malaria services
Level of service					
Dispensary	49	74	74	63	1017
Health Centre	51	79	73	64	136
MCH clinic	72	86	94	83	8
Hospital	59	81	75	68	48
Managing authority					
Government/Public	56	75	77	67	879
Mission/Faith based	43	79	69	58	124
NGO/Not-for-profit	23	84	43	39	9
Private-for-profit	19	67	63	44	197
Ownership					
Public/Government	56	75	77	67	879
Private	31	74	65	51	330
Residence					
Rural	56	76	76	67	556
Urban	33	72	69	53	161
Total	50	75	74	64	1209

Notes:

(1) The mean percentage of items available in staff and training (staff trained in diagnosis and treatment of malaria + guidelines diagnosis and treatment of malaria + staff trained in IPT + guidelines IPT) / 4

(2) The mean percentage of items available in diagnostics (malaria diagnostic capacity) / 1

(3) The mean percentage of items available in medicines and commodities (first-line antimalarial in-stock + paracetamol + IPT drug + ITN) / 4

(4) The mean percentage of malaria items available in all domains (staff trained in diagnosis and treatment of malaria + guidelines diagnosis and treatment of malaria + staff trained in IPT + guidelines IPT + malaria diagnostic capacity + first-line antimalarial in-stock + paracetamol + IPT drug + ITN) / 9

4.8 Tuberculosis

TB services are provided in Tanzania using the DOTS strategy. Owing to scant diagnostic capability, lower level facilities are expected to refer patients with suspected TB for diagnosis. Once diagnosis is confirmed, the patient is supposed to receive their treatment from the nearest health facility.

Table 4.8.1 shows the proportion of facilities offering TB diagnosis and treatment. Overall, 528/1297 (38%) of facilities offered TB services. The proportion was higher among government than private facilities. There was a clear difference between hospitals and health centres (76% and 79% respectively), as compared to dispensaries (33%). Private for profit facilities and NGO facilities were also less likely to offer TB services – no doubt because these services are provided free in government clinics and hospitals. No difference was observed in the proportion of facilities offering TB services between rural and urban areas.

Table 4.8.1 Tuberculosis service availability

Percentage of health facilities offering tuberculosis services, according to level of service, managing authority, ownership and residence

Background characteristic	TB diagnosis	TB diagnostic method	TB treatment	TB treatment strategy	Offers TB services	Total number of facilities
Level of service						
Dispensary	20	21	18	13	33	1100
Health Centre	40	39	38	21	79	137
MCH Clinic	38	38	38	16	67	8
Hospital	43	40	33	13	76	52
Managing Authority						
Government/Public	25	25	22	15	43	923
Mission-FBO	22	22	18	12	44	132
NGO Not for Profit	28	28	28	21	21	9
Private for Profit	15	16	13	9	17	233
Ownership						
Public/Government	25	25	22	15	43	923
Private	19	19	16	11	29	374
Residence						
Rural	22	22	19	15	40	844
Urban	28	27	26	12	39	453
Total	24	23	21	14	38	1297

For the subset (n=528) of facilities that offered TB services, the detailed aspects of service availability are described in table 3.8.2. Dispensaries were least likely (23%) to have at least one staff member trained in the diagnosis and treatment of TB. Availability of trained staff was also surprisingly low in health centres (40%) and hospitals (39%). The pattern was very similar for the availability of staff trained on HIV/TB co-infection, while the proportion with staff trained in management of multi-drug resistant TB was somewhat lower. Guideline availability was very low across all categories of health facilities, and this was true for diagnosis/treatment, HIV/TB co-infection, MDR TB and TB infection control.

TB microscopy was available at only a third of hospitals offering TB services, 16% of health centres and in less than one out of ten dispensaries. HIV diagnostic capability and proactive diagnosis of HIV among TB clients was more commonly available. All first line TB medications were available in 60% of health facilities offering TB services, ranging from over half (52%) in dispensaries to 78% and 89% in health centres and hospitals, respectively.

Table 4.8.2 Tuberculosis services

Among health facilities offering tuberculosis services, the percentage with trained staff, guidelines, diagnostics, and medicines, according to level of service, managing authority, ownership and residence (n=528)

Background characteristic	At least one trained staff diagnosis and treatment of tuberculosis	Guidelines available diagnosis and treatment of tuberculosis	At least one trained staff management of HIV & TB co-infection	Guidelines available management of HIV & TB co-infection	At least one trained staff MDR-TB	Guidelines available MDR-TB treatment	At least one trained staff TB infection control	Guidelines available TB infection control	TB microscopy (1)	HIV diagnostic capacity (2)	System for diagnosis of HIV among TB clients	All first line TB medications	Total number of facilities offering tuberculosis services
Level of service													
Dispensary	23	4	23	10	17	15	21	11	6	80	30	52	377
Health Centre	40	0	38	0	35	7	39	8	16	87	35	78	105
MCH Clinic	58	0	58	0	58	0	43	0	23	100	58	100	5
Hospital	39	4	39	8	35	10	58	10	32	95	52	89	41
Managing Authority													
Government/Public	29	4	29	8	24	13	28	11	9	83	34	64	419
Mission-FBO	22	2	26	8	15	13	22	10	16	76	29	46	56
NGO Not for Profit	32	0	32	0	0	0	32	0	32	100	32	32	2
Private for Profit	27	2	26	2	24	11	27	2	8	84	27	46	51
Ownership													
Public/Government	29	4	29	8	24	13	28	11	9	83	34	64	419
Private	24	2	26	6	17	12	24	8	14	79	28	46	109
Residence													
Rural	23	3	23	7	18	10	21	8	10	79	31	57	353
Urban	43	5	44	9	36	20	44	15	12	92	38	70	175
Total	28	3	28	7	23	13	27	10	10	83	33	60	528

Notes:

(1) Ability to conduct TB microscopy test on-site and presence of microscope, slides, and stain.

(2) Ability to conduct HIV RDT onsite and the presence of HIV RDT test kit OR ability to conduct ELISA test onsite with ELISA washer, ELISA reader, incubator, and specific assay kit.

(3) Isoniazid and pyrazinamide and rifampicin and ethambutol or combinations to meet first-line TB treatment

Overall readiness scores for provision of TB services for the 528/1297 facilities said to provide TB services are presented in table 3.8.3. The overall readiness score was just over a quarter of all facilities at 27%. Government facilities readiness to provide TB services was slightly higher than faith-based, not-for-profit and private-for-profit facilities which had same scores. Scores were generally lowest on the staff/training/guidelines domain and highest on the medicines and commodities domain. Hospital and MCH clinics readiness for TB service provision (38% and 43%) was substantially higher than readiness of dispensaries (24%). TB service readiness was higher among urban facilities than rural facilities.

Table 4.8.3 Readiness to provide tuberculosis services

Among health facilities offering tuberculosis services, the percentage meeting service readiness requirements for providing tuberculosis services, according to level of service, managing authority, ownership and residence (n=528)

Background characteristic	Staff and training (1)	Diagnostics (2)	Medicines and commodities (3)	Readiness to provide tuberculosis services (4)	Total number of facilities offering tuberculosis services
Level of service					
Dispensary	16	38	51	24	377
Health Centre	21	46	78	32	105
MCH Clinic	29	60	100	43	5
Hospital	24	60	89	38	41
Managing Authority					
Government/Public	18	42	63	28	419
Mission-FBO	15	40	46	24	56
NGO Not for Profit	12	55	32	24	2
Private for Profit	15	40	46	24	51
Ownership					
Public/Government	18	42	63	28	419
Private	15	40	46	24	109
Residence					
Rural	14	40	57	24	353
Urban	27	47	70	36	175
Total	18	42	60	27	528

Notes:

(1) The mean percentage of items available in staff and training (staff trained in diagnosis and treatment of tuberculosis + guidelines diagnosis and treatment of tuberculosis + staff trained in management of HIV & TB co-infection + guidelines HIV & TB co-infection + staff trained in MDR-TB + guidelines MDR-TB + staff trained in TB infection control + guidelines TB infection control) / 8

(2) The mean percentage of items available in diagnostics (TB microscopy + HIV diagnostic capacity + system for diagnosis of HIV among TB clients) / 3

(3) The mean percentage of items available in medicines and commodities (all first line TB medications) / 1

(4) The mean percentage of tuberculosis items available in all domains (staff trained in diagnosis and treatment of tuberculosis + guidelines diagnosis and treatment of tuberculosis + staff trained in management of HIV & TB co-infection + guidelines HIV & TB co-infection + staff trained in MDR-TB + guidelines MDR-TB + staff trained in TB infection control + guidelines TB infection control + TB microscopy + HIV diagnostic capacity + system for diagnosis of HIV among TB clients + all first line TB medications) / 12

4.9 HIV counselling and testing

Counselling and testing for HIV was scaled up rapidly following the adoption of the first HIV/AIDS care and treatment plan in 2003. These services are expected to be available at all hospitals and health centres and at most dispensaries.

In practice (Table 4.9.1), counselling and testing was found to be available at only two thirds of dispensaries, while the percentage of health centres and hospitals offering the service was 89% and 82% respectively. Counselling and testing was more likely to be offered by Government facilities (75%) than private for profit (31%), NGO (51%) or faith-based facilities (69%). The lower proportion in urban facilities probably reflects the relatively larger share of private facilities.

Table 4.9.1 HIV counselling and testing service availability

Percentage of health facilities offering HIV counselling and testing services, according to level of service, managing authority, owner and residence

Background characteristic	Offers HIV counselling and testing services	Total number of facilities
Level of service		
Dispensary	65	1100
Health Centre	89	137
MCH Clinic	85	8
Hospital	82	52
Managing authority		
Government/Public	75	923
Mission/Faith based	69	132
NGO/Not-for-profit	51	9
Private-for-profit	31	233
Ownership		
Public/Government	75	923
Private	49	374
Residence		
Rural	73	844
Urban	57	453
Total	69	1297

Notes:

The presence of key inputs (trained staff, guidelines, space, diagnostics, condoms) for those facilities said to be offering HIV counselling and testing (N=906) is set out in table 4.9.2. Overall, only one in ten health facilities had a room with auditory and visual privacy for conducting HIV counselling and testing. The proportion was only slightly higher in private facilities and in MCH clinics.

Diagnostic kits / equipment to conduct HIV tests on site were available in most health facilities (range 82%-100%). The presence of diagnostic capacity was similar in public and private facilities but was higher in urban compared to rural areas. Condom availability was also generally high (70% of all health facilities), with the striking exception of faith-based facilities – where only 27% had condoms available.

Less than half of all facilities (44%) had at least one trained staff member to conduct counselling and testing, mainly because of the scarcity of staff at dispensaries (38%) that made up the majority of the facility sub-sample. Availability of trained staff was somewhat higher in health centres (62%) and highest in hospitals (83%). There was little difference by ownership. Availability of guidelines was higher in MCH clinics, then hospitals and lastly dispensaries. It is also apparent that 60% of private for profit facilities that offered counselling and testing lacked the relevant guidelines.

Table 4.9.2 HIV counselling and testing service

Among health facilities offering HIV counselling and testing services, the percentage with trained staff, guidelines, equipment, diagnostics, and medicines, according to level of service, managing authority, owner and residence (n=906)

Background characteristic	At least one trained staff HIV counselling and testing	Guidelines available HIV counselling and testing	Room with visual and auditory privacy	HIV diagnostic capacity (1)	Condoms	Total number of facilities offering HIV counselling and testing services
Level of service						
Dispensary	38	55	10	82	70	734
Health Centre	62	68	13	90	73	122
MCH Clinic	60	80	17	82	82	7
Hospital	83	76	14	100	67	43
Managing authority						
Government/Public	43	59	10	84	76	720
Mission/Faith based	47	60	14	85	27	92
NGO/Not-for-profit	41	42	0	70	57	5
Private-for-profit	39	40	21	84	65	89
Ownership						
Public/Government	43	59	10	84	76	720
Private	45	53	16	84	41	186
Residence						
Rural	37	56	8	82	70	639
Urban	67	67	19	90	73	267
Total	44	58	11	84	70	906

Notes:

(1) Ability to conduct HIV RDT onsite and the presence of HIV RDT test kit OR ability to conduct ELISA test onsite with ELISA washer, ELISA reader, incubator, and specific assay kit.

Overall readiness to provide counselling and testing services for the subset (906/1297) offering the service is presented in table 4.9.3. Overall readiness stood at just over half (53%). Readiness was highest in MCH clinics and was also higher in public facilities than private facilities. The low scores on "equipment" (room with audio/visual privacy) depressed overall scores for readiness to provide HIV counselling and testing.

Table 4.9.3 Readiness to provide HIV counselling and testing services

Among health facilities offering HIV counselling and testing services, the percentage meeting service readiness requirements for providing HIV counselling and testing services, according to level of service, managing authority, owner and residence (n=906)

Background characteristic	Staff and training (1)	Equipment (2)	Diagnostics (3)	Medicines and commodities (4)	Readiness to provide HIV counselling and testing services (5)	Total number of facilities offering HIV counselling and testing services
Level of service						
Dispensary	47	10	82	70	51	734
Health Centre	65	13	90	73	61	122
MCH Clinic	70	17	100	81	68	7
Hospital	80	14	92	64	66	43
Managing authority						
Government/Public	51	10	83	76	55	720
Mission/Faith based	54	14	85	27	46	92
NGO/Not-for-profit	42	0	70	57	42	5
Private-for-profit	39	21	83	65	50	89
Ownership						
Public/Government	51	10	83	76	55	720
Private	49	16	84	41	48	186
Residence						
Rural	46	8	82	70	50	639
Urban	67	19	90	72	63	267
Total	51	11	84	70	53	906

Notes:

(1) The mean percentage of items available in staff and training (staff trained in HIV counselling and testing + guidelines HIV counselling and testing) / 2

(2) The mean percentage of items available in equipment (room with visual and auditory privacy) / 1

(3) The mean percentage of items available in diagnostics (HIV diagnostic capacity) / 1

(4) The mean percentage of items available in medicines and commodities (condoms) / 1

(5)The mean percentage of HIV counselling and testing items available in all domains (staff trained in HIV counselling and testing + guidelines HIV counselling and testing + room with visual and auditory privacy + HIV diagnostic capacity + condoms) / 5

4.10 HIV Care and Support services

HIV care and support services include treatment of opportunistic infections and palliative care. Overall, 38% of facilities offered these services. HIV care and support services were more likely to be found at government facilities than faith-based, and the lowest availability was among non-governmental/not for profit providers. Service availability was substantially higher at MCH clinics (98%) and health centres (74%) as compared to less than a third of dispensaries. The service elements that were least likely to be found were: treatment for karposi's sarcoma (8%); IV treatment for fungal infection and protein supplementation (11% each); and preventive treatment for TB (15%).

Table 4.10.1 HIV care and support service availability

Percentage of health facilities offering HIV care and support services, according to level of service, managing authority, and region, [N=1297]

Background characteristic	Treatment of opportunistic infections	Provision of palliative care	IV treatment of fungal infections	Treatment for Kaposi's sarcoma	Nutritional rehabilitation services	Provide/prescribe fortified protein supplementation	Care for paediatric HIV/AIDS patients	Provide/prescribe preventative treatment for TB	Preventative treatment for opportunistic infections	Provide/prescribe micronutrient supplementation	Family planning counselling	Provide condoms	Offers HIV care and support services	Total number of facilities
Level of service														
Dispensary	22	20	5	4	17	8	18	10	22	19	27	27	31	1100
Health Centre	66	55	33	24	45	22	58	42	64	57	66	66	74	137
MCH Clinic	67	67	51	51	67	21	67	51	67	51	82	82	98	8
Hospital	65	62	62	47	61	39	64	41	64	65	66	56	72	52
Managing authority														
Government/Public	34	30	12	9	26	12	29	18	33	29	39	40	43	923
Mission/Faith based	19	18	12	10	15	9	18	8	20	19	16	12	30	132
NGO/Not-for-profit	0	0	0	0	0	0	0	0	0	0	14	14	7	9
Private-for-profit	11	8	5	3	7	3	7	7	12	11	14	13	17	233
Ownership														
Public/Government	34	30	12	9	26	12	29	18	33	29	39	40	43	923
Private	14	12	8	6	10	6	12	7	15	14	15	12	23	374
Residence														
Rural	30	25	10	7	21	10	23	14	26	23	33	32	38	844
Urban	35	30	14	11	26	14	29	19	36	33	35	35	38	453
Total	39	26	11	8	23	11	25	15	29	25	33	33	38	1297

Notes:

Among the 526 facilities that provided HIV care and support services, the availability of key service inputs is depicted in table 4.10.2.

Among the hospitals, at least one trained staff was available in three quarters of facilities and a similar proportion (72%) had guidelines for HIV care and treatment. All other inputs were available in 64% to 100% of hospitals. At health centre level, 7 out of 10 facilities had at least one trained staff and HIV care and support guidelines and about two thirds had systems for

screening TB in HIV patients. However, palliative care guidelines were available in 55% of health centres. With the exception of condoms, the percentage of dispensaries having each of these inputs was somewhat lower, particularly for system for diagnosis of TB among HIV positive clients and intravenous treatment for fungal infection.

Table 4.10.2 HIV care and support services

Among health facilities offering HIV care and support services, the percentage with trained staff, guidelines, diagnostics, and medicines, according to level of service, managing authority, owner and residence (n=526)

Background characteristic	At least one trained staff clinical management HIV & AIDS	Guidelines available clinical management HIV & AIDS	Guidelines available palliative care	System for diagnosis of TB among HIV+ clients	Intravenous solution with infusion set	IV treatment fungal infection	Co-trimoxazole	All first line TB medications (1)	Palliative care pain management (2)	Condoms	Total number of facilities offering HIV care and support services
Level of service											
Dispensary	32	36	27	20	63	13	65	44	57	87	380
Health Centre	71	66	55	64	78	35	78	80	77	94	100
MCH Clinic	54	68	39	54	84	68	84	68	68	100	7
Hospital	75	72	64	75	100	79	82	89	82	77	39
Managing authority											
Government/Public	45	48	38	35	68	21	70	56	64	92	421
Mission/Faith based	45	41	27	37	77	43	64	54	63	48	45
NGO/Not-for-profit	0	0	0	0	100	0	0	100	0	100	1
Private-for-profit	32	25	15	21	75	25	62	48	60	81	59
Ownership											
Public/Government	45	48	38	35	68	22	70	56	64	93	421
Private	40	34	22	30	76	35	63	52	62	62	105
Residence											
Rural	36	38	33	29	67	19	63	50	56	88	336
Urban	66	65	44	50	76	37	86	71	84	90	190
Total	44	46	36	35	69	24	69	56	63	88	526

Notes:

(1) Isoniazid and pyrazinamide and rifampicin and ethambutol or combinations to meet first-line TB treatment

(2) Country specific treatment of choice for high level oral pain medication e.g. codeine, demerol, diclofenac

Table 4.10.3 provides overall readiness scores for provision of HIV care and support services. This was based on the presence of 10 items. Overall, half of the facilities were ready to provide HIV care and treatment services. Hospitals readiness score was the highest compared to other levels with 8 out of 10 being ready to provide these services. Diagnostics domain scored the lowest with just over one third of the facilities having the capacity to diagnose TB among HIV positive clients compared to staff and training and medicines and commodities domains. Readiness score at government facilities (51%) was marginally higher than at private facilities (46%).

Table 4.10.3 Readiness to provide HIV care and support services

Among health facilities offering HIV care and support services, the percentage meeting service readiness requirements for providing HIV care and support services, according to level of service, managing authority, ownership and residence (n=526)

Background characteristic	Staff and training (1)	Diagnostics (2)	Medicines and commodities (3)	Readiness to provide HIV care and support services (4)	Total number of facilities offering HIV care and support services
Level of service					
Dispensary	32	20	55	42	380
Health Centre	64	64	74	67	100
MCH clinic	54	54	79	69	7
Hospital	71	75	85	80	39
Managing authority					
Government/Public	43	35	62	51	421
Mission/Faith based	38	37	58	49	45
NGO/Not-for-profit	0	0	50	27	1
Private-for-profit	24	21	59	43	59
Ownership					
Public/Government	44	35	62	51	421
Private	32	30	58	46	105
Residence					
Rural	36	29	57	45	336
Urban	59	50	74	64	190
Total	42	35	62	50	526

Notes:

(1) The mean percentage of items available in staff and training (staff trained in clinical management of HIV/AIDS + guidelines clinical management of HIV/AIDS + guidelines palliative care) / 3

(2) The mean percentage of items available in diagnostics (system for diagnosis of TB among HIV+ clients) / 1

(3) The mean percentage of items available in medicines and commodities (IV solution with infusion set + IV treatment fungal infection + co-trimoxazole + first line TB medications + palliative care pain management + condoms) / 6

(4) The mean percentage of HIV care and support items available in all domains (staff trained in clinical management of HIV/AIDS + guidelines clinical management of HIV/AIDS + guidelines palliative care + system for diagnosis of TB among HIV+ clients + IV solution with infusion set + IV treatment fungal infection + co-trimoxazole + first line TB medications + palliative care pain management + condoms) / 10

4.11 ARV prescription and client management services

Anti-retroviral therapy provision was scaled up rapidly after 2004, beginning with the larger (hospital) facilities. Overall, 28% out of 1297 health facilities offered ARV treatment services. Unsurprisingly, there was a steep gradient according to level of health facility. For hospitals, MCH clinics and health centres, more than two thirds provided the service. By contrast, only one fifth of dispensaries offered ARV prescription and/or treatment follow-up.

Table 4.11.1 Antiretroviral prescription and client management

Percentage of health facilities offering antiretroviral prescription and/or client management services, according to level of service, managing authority, owner and residence

Background characteristic	Antiretroviral prescription	Provide treatment follow-up services for persons on ART	Offers antiretroviral prescription or antiretroviral treatment follow-up services	Total number of facilities
Level of service				
Dispensary	17	17	20	1100
Health Centre	38	35	70	137
MCH Clinic	38	38	82	8
Hospital	33	26	72	52
Managing authority				
Government/Public	21	21	30	923
Mission/Faith based	21	21	30	132
NGO/Not-for-profit	28	28	7	9
Private-for-profit	15	12	15	233
Ownership				
Public/Government	21	21	30	923
Private	18	17	22	374
Residence				
Rural	18	18	25	844
Urban	28	26	34	453
Total	20	20	28	1297

Notes:

Table 4.11.2 reports on the availability of key inputs among the 394 facilities that offered ARV services. Among the hospitals, trained staff and guidelines were present in half of the facilities with a similar proportion (48%) of the three first line anti-retrovirals in stock. Viral load/CD4 could be measured at only one quarter of hospitals, while renal and liver function tests were available in only 14% of hospitals. None of the hospitals conducted complete blood counts

Availability of trained staff and guidelines for ARV was similar between health centres and dispensaries, and the three first line anti-retroviral drugs were in stock at 37% of health centres and 33% of dispensaries. Very few health centres were able to carry out diagnostic tests for kidney/liver function and CD4/viral load. These diagnostic capabilities tests were much lower at dispensary level.

Among the entire sub-sample of 394 facilities, only 3 had the capability to carry out full blood count.

Table 4.11.2 Antiretroviral prescription and client management services

Among health facilities offering antiretroviral prescription and client management services, the percentage with trained staff, guidelines, diagnostics, and medicines, according to level of service, managing authority, owner and residence (n=394)

Background characteristic	At least one trained staff ART prescription and management	Guidelines available antiretroviral therapy	Complete blood count (CBC) (1)	CD4 or viral load (2)	Renal function test (3)	Liver function test (4)	Three first line antiretrovirals (5)	Total number of facilities offering antiretroviral prescription and client management
Level of service								
Dispensary	44	45	1	6	4	4	33	257
Health Centre	44	36	0	17	3	7	37	93
MCH Clinic	47	47	0	28	9	0	47	6
Hospital	50	46	0	26	14	14	48	38
Managing authority								
Government/Public	46	44	1	11	3	5	37	294
Mission/Faith based	43	41	0	18	11	10	34	44
NGO/Not-for-profit	100	34	0	100	100	100	100	1
Private-for-profit	33	100	4	7	7	7	21	55
Ownership								
Public/Government	46	44	1	11	3	5	37	294
Private	40	39	1	15	11	10	30	100
Residence								
Rural	38	36	1	10	1	2	30	216
Urban	58	57	0	15	11	13	47	178
Total	45	42	1	11	5	6	36	394

Notes:

(1) Ability to conduct CBC test offsite OR onsite with functioning haematological counter and stain.

(2) Ability to conduct CD4 or viral load offsite OR onsite with functioning CD4 counter and specific assay kit/assay specific automated system, centrifuge, vortex mixer, and pipettes

(3) Ability to conduct renal function test offsite OR onsite with functioning specific assay kit, centrifuge, and biochemistry analyzer

(4) Ability to conduct liver function test offsite OR onsite with functioning specific assay kit, centrifuge, and biochemistry analyzer

(5) Country specific first line treatment regimen

Table 4.11.3 summarises the readiness scores for ARV prescription and client management. Among the three component domains, the lowest scores were for diagnostics. Availability of staff/guidelines and drugs shows a gradient by facility level, with higher level facilities being more likely to have these attributes. Consequently, the readiness score was substantially higher in hospitals (28%), and somewhat lower in health centres and dispensaries (20%).

Table 4.11.3 Readiness to provide antiretroviral prescription and client management services

Among health facilities offering antiretroviral prescription and client management services, the percentage meeting service readiness requirements for providing antiretroviral prescription and client management services, according to level of service, managing authority, owner and residence (n=394)

Background characteristic	Staff and training (1)	Diagnostics (2)	Medicines and commodities (3)	Readiness to provide antiretroviral prescription and client management services (4)	Total number of facilities offering antiretroviral prescription and client management
Level of service					
Dispensary	45	4	33	20	257
Health Centre	40	7	37	20	93
MCH Clinic	47	9	47	25	6
Hospital	48	13	48	28	38
Managing authority					
Government/Public	45	5	37	21	294
Mission/Faith based	42	10	34	23	44
NGO/Not-for-profit	100	75	100	86	1
Private-for-profit	34	6	21	16	55
Ownership					
Public/Government	45	5	37	21	294
Private	39	9	30	21	100
Residence					
Rural	37	3	30	17	216
Urban	57	10	47	29	178
Total	44	6	36	21	394

Notes:

(1) The mean percentage of items available in staff and training (staff trained in ART prescription and management + guidelines antiretroviral therapy) / 2

(2) The mean percentage of items available in diagnostics (complete blood count + CD4/Viral load + renal function test + liver function test) / 4

(3) The mean percentage of items available in medicines and commodities (first line antiretrovirals) / 1

(4) The mean percentage of antiretroviral prescription and client management items available in all domains (staff trained in ART prescription and management + guidelines antiretroviral therapy + complete blood count + CD4/Viral load + renal function test + liver function test + three first line antiretrovirals) / 7

4.12 Preventing mother-to-child transmission (PMTCT) of HIV/AIDS

Services for the prevention of mother-to-child transmission of HIV were introduced in Tanzania in 2002 and scaled-up rapidly between 2004 and 2008. The service is expected to be available at all general hospitals and health centres and at most dispensaries. PMTCT comprises a range of interventions, including counselling and testing, prophylactic treatment for both mother and newborn, counselling on infant feeding and family planning.

The scores for availability of these various component services were remarkably uniform (Table 4.12.1). 92% of hospitals offered each of the service elements and the proportion was almost the same for health centres. Approximately two thirds of dispensaries offered each of the elements and three quarters were said to offer PMTCT services of some sort. Out of the whole sample, (78%) offered PMTCT services. PMTCT service availability was very much lower in private (50%) as compared to government (87%) facilities.

Table 4.12.1 Preventing mother-to-child transmission of HIV

Percentage of health facilities offering prevention of mother-to-child transmission of HIV services, according to level of service, managing authority, owner and residence

Background characteristic	HIV counselling and testing to HIV+ pregnant women	HIV counselling and testing to infants born to HIV+ pregnant women	ARV prophylaxis to HIV+ pregnant women	ARV prophylaxis to newborns born to HIV+ pregnant women	Infant and young child feeding counselling	Nutritional counselling for HIV+ women and their infants	Family planning counselling to HIV+ women	Offers services for the prevention of mother-to-child transmission of HIV	Total number of facilities
Level of service									
Dispensary	70	69	65	64	67	68	68	75	1100
Health Centre	85	83	83	84	83	84	81	90	137
MCH Clinic	100	100	100	85	100	100	100	100	8
Hospital	85	85	85	85	85	85	85	92	52
Managing authority									
Government/Public	81	80	77	77	79	80	80	87	923
Mission/Faith based	64	63	56	55	60	61	55	69	132
NGO/Not-for-profit	21	21	21	21	21	21	7	21	9
Private-for-profit	29	27	26	25	25	26	29	35	233
Ownership									
Public/Government	81	80	77	77	79	80	80	87	923
Private	44	43	39	39	41	41	40	50	374
Residence									
Rural	79	78	74	74	77	77	77	85	844
Urban	55	54	51	50	51	52	53	59	453
Total	72	71	68	67	70	71	70	78	1297

Among the subset of facilities offering PMTCT (Table 4.12.2), more than two thirds had at least one staff member trained in PMTCT. As observed before, availability of rooms with visual and auditory privacy was marginally lower in all levels. In this respect, government facilities scored

lower than private facilities. Guidelines for PMTCT and infant/young child feeding were present in 79% and 69% of facilities respectively. Diagnostic capability for HIV in adults was present in 79% of facilities, but diagnosis of HIV in the newborn was found in only 38% - mainly because this was found in only a third of the dispensaries. Nevirapine syrup was available at 69%-76% of higher level facilities, but only 46% of dispensaries. Presence of zidovudine syrup was somewhat lower than nevirapine in all facility types. Some form of maternal ARV prophylaxis was found in more than two thirds of health centres and 85% of hospitals, and close to half of dispensaries (45%). It should be noted that the options included in the maternal ARV prophylaxis question *excluded* mono-therapy.

Table 4.12.2 Preventing mother-to-child transmission of HIV services

Among health facilities offering prevention of mother-to-child transmission of HIV services, the percentage with trained staff, guidelines, equipment, diagnostics, and medicines, according to level of service, managing authority, ownership and residence (n=990)

Background characteristic	At least one trained staff PMTCT	Guidelines available PMTCT	At least one trained staff infant and young child feeding	Guidelines infant and young child feeding	Room with visual and auditory privacy	HIV diagnostic capacity for adults (1)	DBS for diagnosing newborn HIV (2)	Zidovudine syrup	Nevirapine syrup	Maternal ARV prophylaxis (3)	Total number of facilities offering prevention of mother-to-child transmission of HIV
Level of service											
Dispensary	68	77	61	66	12	77	32	29	46	45	816
Health Centre	83	86	76	81	18	88	60	50	71	70	120
MCH Clinic	85	89	82	85	14	85	54	47	69	67	8
Hospital	86	85	85	86	15	88	75	54	76	85	46
Managing authority											
Government/Public	73	80	66	70	11	79	39	32	50	50	804
Mission/Faith based	59	76	53	61	21	81	41	33	53	49	92
NGO/Not-for-profit	100	32	32	32	0	100	32	32	32	100	2
Private-for-profit	64	71	56	64	34	77	22	40	51	42	92
Ownership											
Public/Government	73	80	66	70	11	79	39	32	50	50	804
Private	61	73	54	62	25	79	34	36	52	47	186
Residence											
Rural	69	79	62	68	9	76	34	29	48	45	719
Urban	80	81	72	72	28	88	52	46	60	68	271
Total	71	79	64	69	13	79	38	32	50	50	990

Notes:

(1) Ability to conduct HIV RDT onsite and the presence of HIV RDT test kit OR ability to conduct ELISA test onsite with ELISA washer, ELISA reader, incubator, and specific assay kit.

(2) Ability to conduct test onsite and presence of filter paper for DBS.

(3) Maternal prophylaxis: Option A: AZT, NVP, and 3TC; Option B: AZT + 3TC + LVP or AZT + 3TC + ABC or AZT + 3TC + EFV or TDF + 3TC (or FTC) + EFV

Table 4.12.3 provides summary readiness scores of the various facility groups, based upon mean score across the component domains. Among facilities offering PMTCT, mean readiness to do so

was only 55%. This is mainly attributable to the lower score among dispensaries, which comprised over 80% of the subsample – and this in turn was due to poorer scores among dispensaries for the equipment and medicines domains.

Among health centres, MCH clinics and hospitals, readiness scores ranged from 68% to 73%. All facility types had lower scores on the "equipment" domain – which in this case refers back to the scarcity of facilities that have consulting rooms with visual and auditory privacy.

Table 4.12.3 Readiness to provide prevention mother-to-child transmission of HIV services

Among health facilities offering prevention of mother-to-child transmission of HIV services, the percentage meeting service readiness requirements for providing prevention of mother-to-child transmission of HIV services, according to level of service, managing authority, ownership and residence (n=990)

Background characteristic	Staff and training (1)	Equipment (2)	Diagnostics (3)	Medicines and commodities (4)	Readiness to provide PMTCT services (5)	Total number of facilities offering PMTCT services
Level of service						
Dispensary	68	12	55	40	51	816
Health Centre	82	18	74	64	68	120
MCH Clinic	85	14	69	69	68	8
Hospital	86	15	81	63	73	46
Managing authority						
Government/Public	72	11	59	44	55	804
Mission/Faith based	62	21	61	45	53	92
NGO/Not-for-profit	49	0	66	55	49	2
Private-for-profit	64	34	50	44	52	92
Ownership						
Public/Government	72	11	59	44	55	804
Private	63	25	57	45	52	186
Residence						
Rural	69	9	55	41	52	719
Urban	76	28	70	58	65	271
Total	71	13	58	44	55	990

Notes:

(1) The mean percentage of items available in staff and training (staff trained in PMTCT + guidelines PMTCT + staff trained in infant and young child feeding + guidelines infant and young child feeding) / 4

(2) The mean percentage of items available in equipment (room with visual and auditory privacy) / 1

(3) The mean percentage of items available in diagnostics (HIV diagnostic capacity for adults + DBS for newborns) /2

(4) The mean percentage of items available in medicines and commodities (zidovudine syrup + nevirapine syrup + maternal ARV prophylaxis) / 3

(5) The mean percentage of prevention of mother-to-child transmission of HIV items available in all domains (staff trained in PMTCT + guidelines PMTCT + staff trained in infant and young child feeding + guidelines infant and young child feeding + room with visual and auditory privacy + HIV diagnostic capacity for adults + DBS for newborns + zidovudine syrup + nevirapine syrup + maternal ARV prophylaxis) / 10

4.13 Sexually transmitted infections

Out of the 1297 facilities, 1038 (80%) offered services for STIs. Three quarters of dispensaries, 92% of health centres and 88% of hospitals, and all of the 8 MCH clinics included in the sample provided such services. In all facility categories, a similar proportion answered in the affirmative for diagnosis and for treatment of STIs. Government and NGO facilities were more likely to provide STI services than faith-based or private-for-profit facilities.

Table 4.13.1 Sexually transmitted infections

Percentage of health facilities offering sexually transmitted infection services, according to level of service, managing authority, ownership and residence

Background characteristic	Diagnosis of STIs	Prescribe treatment for STIs	Offers services for sexually transmitted infections	Total number of facilities
Level of service				
Dispensary	67	65	75	1100
Health Centre	73	74	92	137
MCH Clinic	85	86	100	8
Hospital	63	57	88	52
Managing authority				
Government/Public	71	69	84	923
Mission/Faith based	56	52	64	132
NGO/Not-for-profit	98	98	80	9
Private-for-profit	57	55	50	233
Ownership				
Public/Government	71	69	84	923
Private	58	55	57	374
Residence				
Rural	68	66	82	844
Urban	67	65	67	453
Total	68	66	78	1297

Table 4.13.2 describes the actual availability of trained personnel, guidelines, diagnostics and medical supplies for prevention and treatment of STIs among the 1038 facilities that offered the service. Although nearly half of hospitals had at least one staff trained in STI diagnosis and management, this was much less common in health centres (33%) or dispensaries (36%). More than half of the facilities at all levels were more likely to have guidelines on STI management than they were to have skilled staff.

Syphilis testing was available in approximately half (49%) of the hospitals, 5 out of 8 MCH clinics and 56% of health centres but this capability was absent for more than half of dispensaries. Condoms were available in almost all the different facilities levels ranging from 84% in dispensaries to 100% in MCH clinics. Availability of drugs for STI treatment (Metronidozole, Ciprofloxacin, Ceftriaxone) was reasonable good. Metronidozole was available in all facilities during the time of the survey.

Table 4.13.2 Sexually transmitted infections services

Among health facilities offering sexually transmitted infection services, the percentage with trained staff, guidelines, diagnostics, and medicines, according to level of service, managing authority, owner and residence (n=1,038)

Background characteristic	At least one trained staff diagnosis and treatment of STIs	Guidelines available diagnosis and treatment of STIs	Syphilis rapid test	Condoms	Metronidazole cap/tab	Ciprofloxacin cap/tab	Ceftriaxone injectable	Total number of facilities offering sexually transmitted infection services
Level of service								
Dispensary	36	55	47	84	100	78	63	856
Health Centre	33	53	56	92	100	82	63	128
MCH Clinic	38	69	59	100	100	100	85	8
Hospital	46	59	49	80	100	93	82	46
Managing authority								
Government/Public	37	57	48	91	100	77	61	790
Mission/Faith based	33	51	49	48	100	93	71	91
NGO/Not-for-profit	44	62	44	79	100	97	97	7
Private-for-profit	32	37	54	68	100	95	79	150
Ownership								
Public/Government	37	57	48	91	100	77	61	790
Private	33	45	51	58	100	94	75	248
Residence								
Rural	35	56	44	86	100	77	59	699
Urban	39	51	66	81	100	88	79	339
Total	36	55	49	85	100	79	64	1038

Table 4.13.3 provides the overall readiness scores, representing the mean availability across three domains (staff, diagnostics, medicines). For the entire sub-sample (n=1038) readiness to provide STI diagnosis and treatment was 67%. This was higher in NGO and not for profit facilities (75%) compared to government, faith-based and private which were similar in overall readiness. Differences in STI service readiness across levels of facility were surprisingly small: 66% in dispensaries, 68% in health centres and 74% in hospitals. There was no major difference in STI service readiness between urban and rural areas.

Table 4.13.3 Readiness to provide sexually transmitted infections services

Among health facilities offering sexually transmitted infection services, the percentage meeting service readiness requirements for providing sexually transmitted infection services, according to level of service, managing authority, owner and residence (n=1,038)

Background characteristic	Staff and training (1)	Diagnostics (2)	Medicines and commodities (3)	Readiness to provide sexually transmitted infection services (4)	Total number of facilities offering sexually transmitted infection services
Level of service					
Dispensary	45	47	81	66	856
Health Centre	43	56	83	68	128
MCH Clinic	54	49	96	77	8
Hospital	53	59	89	74	46
Managing authority					
Government/Public	46	48	82	67	790
Mission/Faith based	42	49	78	64	91
NGO/Not-for-profit	52	44	94	75	7
Private-for-profit	35	54	86	66	150
Ownership					
Public/Government	47	48	82	67	790
Private	39	51	82	65	248
Residence					
Rural	46	44	81	65	699
Urban	45	66	87	72	100
Total	45	49	82	67	1038

Notes:

(1) The mean percentage of items available in staff and training (staff trained in STI diagnosis and treatment + guidelines STI diagnosis and treatment) / 2

(2) The mean percentage of items available in diagnostics (syphilis rapid test) / 1

(3) The mean percentage of items available in medicines and commodities (condoms + metronidazole + ciprofloxacin + ceftriaxone) / 4

(4) The mean percentage of STI items available in all domains (staff trained in STI diagnosis and treatment + guidelines STI diagnosis and treatment + syphilis rapid test + condoms + metronidazole + ciprofloxacin + ceftriaxone) / 7

4.14 Diabetes diagnosis and treatment

248 facilities (180 dispensaries, 44 health centres, 2 MCH clinics and 22 hospitals) offered diabetes diagnostic and treatment services – representing only one fifth of all facilities in the sample.

41% of hospitals offered the service, but only a quarter of health centres and 9% of dispensaries. Diabetes services were more likely to be found at facilities operated by private-for-profit organisations than government health facilities. Diabetes services were more commonly found at urban than rural facilities.

Table 4.14.1 Diabetes diagnosis and/or management

Percentage of health facilities diabetes diagnosis and/or management services, according to level of service, managing authority, owner and residence

Background characteristic	Diabetes diagnosis and/or management	Total number of facilities
Level of service		
Dispensary	9	1100
Health Centre	25	137
MCH Clinic	23	8
Hospital	41	52
Managing authority		
Government/Public	10	923
Mission/Faith based	13	132
NGO/Not-for-profit	7	9
Private-for-profit	20	233
Ownership		
Public/Government	10	923
Private	17	374
Residence		
Rural	9	844
Urban	20	453
Total	12	1297

Notes:

Table 4.14.2 examines the availability of trained personnel, guidelines, equipment and medical supplies related to the diagnosis and management of diabetes in the sub-set of facilities (n=248) said to offer the service. The large majority of hospitals were found to have most of the signal equipment and medicines included in the survey. These items (with the exception of adult scale) were less commonly found in health centres and dispensaries.

The item of equipment that was least common in all facility levels was means of measuring adult height. Tests for blood glucose and ketones were found at 80% and 72% of hospitals but were much less likely to be available at dispensaries and health centres.

Metformin and insulin were also available at most hospitals but availability at health centres and dispensaries was lower. Availability of requisite supplies was somewhat higher in private than public facilities and urban facilities were more likely than rural facilities to have them. In both cases, this may be a reflection of the different facility level mix between urban/rural or public/private categories.

In all categories of facility, the availability of trained personnel and guidelines for diabetes management were lower than availability of diabetes-related equipment and commodities. One third of hospitals and two thirds of health centres that provided diabetes services did NOT have at least one trained staff for diabetes diagnosis and treatment.

Table 4.14.2 Diabetes services

Among health facilities offering diabetes diagnosis and/or management services, the percentage with trained staff, guidelines, equipment, diagnostics, and medicines, according to level of service, managing authority, owner and residence (n=248)

Background characteristic	At least one trained staff diabetes diagnosis and treatment	Guidelines available diabetes diagnosis and treatment	Blood pressure apparatus	Adult scale	Measuring tape (height board/stadiometre)	Blood glucose (1)	Urine dipstick- protein (2)	Urine dipstick- ketones (3)	Metformin cap/tab	Glibenclamide cap/tab	Insulin injectable	Glucose injectable solution	Total number of facilities
Level of service													
Dispensary	29	26	97	79	41	30	39	35	48	43	24	33	180
Health Centre	27	25	99	96	40	46	55	50	65	55	34	53	44
MCH Clinic	32	32	100	100	68	0	100	32	32	32	32	32	2
Hospital	66	49	100	88	54	80	80	72	87	94	86	92	22
Managing authority													
Government/Public	31	27	99	84	43	29	41	35	42	39	28	38	137
Mission/Faith based	38	42	92	86	37	64	69	58	93	88	65	70	27
NGO/Not-for-profit	100	100	100	100	100	100	100	100	100	100	100	100	1
Private-for-profit	36	34	99	84	42	58	61	62	82	73	34	54	83
Ownership													
Public/Government	32	27	99	84	43	29	41	35	42	39	28	38	137
Private	38	38	96	85	41	61	64	61	86	78	46	61	111
Residence													
Rural	33	33	97	80	47	29	42	36	42	37	27	38	93
Urban	34	28	99	89	37	53	56	53	75	70	43	54	155
Total	34	30	98	84	42	40	49	44	57	52	34	46	248

Notes:

(1) Ability to conduct test onsite and presence of glucometer and glucometer test strips.

(2) Ability to conduct test onsite and presence of urine protein test strips.

(3) Ability to conduct test onsite and presence of urine ketone test strips.

The four domains (staff, equipment, diagnostics, and medicines) are combined in table 4.14.3 to give an overview of facility readiness to provide diabetes diagnosis and management among the 248 facilities said to provide these services. The readiness score of hospitals was 79%. Equipment and medicines scores were all in excess of 80% while diagnostics was slightly under 80%, but the overall score was reduced by insufficiency of trained personnel and/or guidelines. Readiness score for health centres and dispensaries was 54% and 44% respectively. Readiness to provide diabetes diagnosis and management was higher by 13% percentage point in urban than in rural facilities, and private facilities had a 18% higher readiness than government facilities.

Table 4.14.3 Readiness to provide diabetes services

Among health facilities offering diabetes services, the percentage meeting service readiness requirements for providing diabetes services, according to level of service, managing authority, owner and residence (n=248)

Background characteristic	Staff and training (1)	Equipment (2)	Diagnostics (3)	Medicines and commodities (4)	Readiness to provide diabetes services (5)	Total number of facilities offering diabetes services
Level of service						
Dispensary	29	72	35	37	44	180
Health Centre	26	78	51	52	54	44
MCH Clinic	32	89	44	32	49	2
Hospital	58	81	77	90	79	22
Managing authority						
Government/Public	29	75	35	37	45	137
Mission/Faith based	40	72	64	79	67	27
NGO/Not-for-profit	100	100	100	100	100	1
Private-for-profit	35	75	60	61	60	83
Ownership						
Public/Government	29	75	35	37	45	137
Private	38	74	62	68	63	111
Residence						
Rural	33	75	36	36	45	93
Urban	31	75	54	60	58	155
Total	32	75	44	47	51	248

Notes:

(1) The mean percentage of items available in staff and training (staff trained in diabetes diagnosis and management + guidelines diabetes diagnosis and management) / 2

(2) The mean percentage of items available in equipment (blood pressure apparatus + adult scale + measuring tape) / 3

(3) The mean percentage of items available in diagnostics (blood glucose + urine dipstick-protein + urine dipstick- ketones) / 3

(4) The mean percentage of items available in medicines and commodities (metformin + glibenclamide + insulin injection + glucose injectable solution) / 4

(5)The mean percentage of prevention of diabetes items available in all domains (staff trained in diabetes diagnosis and management + guidelines diabetes diagnosis and management + blood pressure apparatus + adult scale + measuring tape + blood glucose + urine dipstick-protein + urine dipstick- ketones + metformin + glibenclamide + insulin injection + glucose injectable solution) / 12

4.15 Cardiovascular disease diagnosis and management

Out of 1297 facilities, one quarter (317) offered disease diagnosis and/or management for cardio-vascular disease (CVD). CVD services were found at 45% of hospitals but only 28% of health centres, 15% of dispensaries and in approximately two out of five MCH clinics.

CVD diagnosis and management was more likely to be found at private and faith-based facilities than government facilities. It was also more common in urban than in rural areas, though this may be because urban facilities are more likely to be a) private b) higher level facilities.

Table 4.15.1 Cardiovascular disease diagnosis and/or management

Percentage of health facilities cardiovascular disease diagnosis and/or management services, according to level of service, managing authority, ownership and residence

Background characteristic	Cardiovascular disease diagnosis and/or management	Total number of facilities
Level of service		
Dispensary	15	1100
Health Centre	28	137
MCH Clinic	38	8
Hospital	45	52
Managing authority		
Government/Public	17	200
Mission/Faith based	20	34
NGO/Not-for-profit	20	2
Private-for-profit	18	80
Ownership		
Public/Government	17	200
Private	19	116
Residence		
Rural	16	844
Urban	23	453
Total	18	1297

Notes:

Among the subset of 316 facilities offering CVD services presented in Table 4.15.2, the vast majority had stethoscope, BP apparatus and adult scale and this did not differ much between facility types.

However, the proportion of facilities that had relevant medicines was much smaller, and the differences between hospitals and lower level facilities were greater. Asprin was available in almost all facilities. ACE inhibitors and thiazides (used in management of high blood pressure) were available in about two-thirds of hospitals, but in only one third of health centres and one fifth of dispensaries. Metformin (an anti-diabetic drug) and beta blockers were available in approximately 40% of the facilities.

More than half of hospitals had guidelines available for the diagnosis and management of CVD. This proportion was smaller at health centres (36%) and dispensaries (21%). Half of the hospitals had at least one trained person, but this dropped to 31% among health centres and 18% at dispensaries.

Table 4.15.2 Cardiovascular disease services

Among health facilities offering cardiovascular disease diagnosis and/or management services, the percentage with trained staff, guidelines, equipment, and medicines, according to level of service, managing authority, ownership and residence (n=316)

Background characteristic	At least one trained staff cardiovascular disease Dx and Mx	Guidelines available cardiovascular disease diagnosis and management	Stethoscope	Blood pressure apparatus	Adult scale	ACE inhibitors	Thiazides	Beta blockers	Calcium channel blockers	Aspirin cap/tab	Metformin cap/tab	Oxygen	Total number of facilities
Level of service													
Dispensary	18	21	89	96	83	16	24	32	24	86	30	73	241
Health Centre	31	36	94	98	94	30	43	60	32	95	49	85	48
MCH Clinic	19	19	100	100	100	19	19	19	19	100	19	100	3
Hospital	49	52	89	100	89	67	69	86	61	98	88	93	24
Managing authority													
Gov't/Public	21	25	91	97	86	17	26	31	19	89	27	76	200
Mission/FBO	25	30	91	95	91	42	54	65	43	97	62	86	34
NGO/Not-for-profit	34	34	100	100	100	100	100	100	100	100	100	100	2
Private-for-profit	32	33	84	99	82	39	39	74	63	82	80	78	80
Ownership													
Public/Gov't	21	25	91	97	86	17	26	31	19	89	27	76	200
Private	29	32	88	97	87	43	48	70	55	89	72	82	116
Residence													
Rural	21	25	89	96	84	17	27	29	23	91	23	77	155
Urban	26	30	91	99	89	36	40	65	41	86	68	78	161
Total	23	27	90	97	86	24	31	41	29	89	39	77	316

Notes:

The compound "readiness" scores for each category of facilities are presented in table 4.15.3, representing the mean availability of staff & training; equipment and medicines & commodities. As expected, the hospital category scored highest (79%). The score of health centres (62%) and dispensaries scored (49%) was substantially lower, mainly due to lower scores on "staffing and training" and "medicines and commodities" domains.

Across all categories of facility, the staff and training domain had the lowest score of the three domains. Readiness to provide CVD diagnostic and management services was somewhat higher in private facilities than government, and also higher in urban than in rural areas.

Table 4.15.3 Readiness to provide cardiovascular disease services

Among health facilities offering cardiovascular disease services, the percentage meeting service readiness requirements for providing cardiovascular disease services, according to level of service, managing authority, ownership and residence (n=316)

Background characteristic	Staff and training (1)	Equipment (2)	Medicines and commodities (3)	Readiness to provide cardiovascular disease services (4)	Total number of facilities offering cardiovascular disease services
Level of service					
Dispensary	19	89	41	49	241
Health Centre	34	95	56	62	48
MCH Clinic	19	100	42	53	3
Hospital	51	93	80	79	24
Managing authority					
Government/Public	23	91	41	50	200
Mission/Faith based	27	92	64	65	34
NGO/Not-for-profit	34	100	100	89	2
Private-for-profit	33	88	65	65	80
Ownership					
Public/Government	23	91	41	50	200
Private	30	90	66	66	116
Residence					
Rural	23	90	41	50	155
Urban	28	93	59	62	161
Total	25	91	47	54	316

Notes:

(1) The mean percentage of items available in staff and training (staff trained in cardiovascular disease diagnosis and management + guidelines cardiovascular disease diagnosis and management) / 2

(2) The mean percentage of items available in equipment (stethoscope + blood pressure apparatus + adult scale) / 3

(3) The mean percentage of items available in medicines and commodities (ACE inhibitors + thiazides + beta blockers + calcium channel blockers + aspirin + metformin + oxygen) / 7

(4)The mean percentage of prevention of cardiovascular disease items available in all domains (staff trained in cardiovascular disease diagnosis and management + guidelines cardiovascular disease diagnosis and management + stethoscope + blood pressure apparatus + adult scale + ACE inhibitors + thiazides + beta blockers + calcium channel blockers + aspirin + metformin + oxygen) / 12

4.16 Chronic Respiratory Disease services

Diagnosis and management of chronic respiratory disease was available in almost one quarter of health facilities (291 out of 1297). Availability differed by level of facility. Approximately four out of ten hospitals offered the service, but this dropped to 31% for health centres and 14% for dispensaries.

Faith-based and private facilities were marginally more likely to offer the service than government providers, although it should be recalled that the majority of the government sub-sample comprised dispensaries.

Table 4.16.1 Chronic respiratory disease diagnosis and/or management

Percentage of health facilities chronic respiratory disease diagnosis and/or management services, according to level of service, managing authority, owner and residence

Background characteristic	Chronic respiratory disease diagnosis and/or management	Total number of facilities
Level of service		
Dispensary	14	1100
Health Centre	31	137
MCH Clinic	38	8
Hospital	42	52
Managing authority		
Government/Public	17	923
Mission/Faith based	19	132
NGO/Not-for-profit	20	9
Private-for-profit	16	233
Ownership		
Public/Government	17	923
Private	17	374
Residence		
Rural	15	844
Urban	24	453
Total	17	1297

Notes:

Table 4.16.2 shows availability of key inputs among the 291 facilities that offered services for chronic respiratory disease (CRD).

Overall, one quarter of these facilities had at least one trained staff and the same proportion had guidelines on CRD. Availability of staff and guidelines was higher at hospitals than at health centres, and was lowest at dispensaries. Most facilities had stethoscopes and this differed very little by level of facility. However, only one third of hospitals had a peak flow meter, and this proportion fell to 11% among dispensaries.

Among the medicines and commodities, beclomethasone inhaler was the most scarce (14% of facilities). For the other items specified, availability ranged from 60% to 93% among hospitals, somewhat lower among health centres and lowest among dispensaries.

Table 4.16.2 Chronic respiratory disease services

Among health facilities offering chronic respiratory disease diagnosis and/or management services, the percentage with trained staff, guidelines, equipment, and medicines, according to level of service, managing authority, ownership and residence (n=291)

Background characteristic	At least one trained staff chronic respiratory disease diagnosis and management	Guidelines available chronic respiratory disease diagnosis and management	Stethoscope	Peak flow meter	Spacers for inhalers	Salbutamol inhaler	Beclomethasone inhaler	Prednisolone cap/tab	Hydrocortisone cap/tab	Epinephrine injectable	Oxygen	Total number of facilities
Level of service												
Dispensary	19	28	94	11	6	30	11	33	29	69	70	216
Health Centre	36	39	95	12	13	35	16	44	50	71	86	50
MCH Clinic	19	19	100	0	0	19	19	19	19	60	100	3
Hospital	56	45	88	31	23	80	35	66	60	83	93	22
Managing authority												
Government/Public	23	32	95	12	10	27	10	24	26	72	74	188
Mission/Faith based	30	26	90	24	16	64	28	68	61	81	86	33
NGO/Not-for-profit	34	34	100	34	34	100	100	100	100	34	100	2
Private-for-profit	35	29	91	4	13	55	21	75	74	56	75	68
Ownership												
Public/Government	23	32	95	12	10	27	10	26	26	72	74	188
Private	33	28	91	15	15	61	27	73	68	68	81	103
Residence												
Rural	25	30	93	17	15	28	14	26	23	77	75	142
Urban	27	34	95	6	5	47	15	58	59	60	79	149
Total	26	31	94	13	11	35	14	38	36	71	75	291

Notes:

Table 4.16.3 shows overall readiness to provide CRD services among the 291 facilities that offered the service. Readiness score was higher at hospitals (60) than health centres (45) or dispensaries (37) and facilities operated by private providers had higher readiness score (51) than government facilities (37). Across the three domains, the lowest overall scores were for staff & training (28), followed by equipment (39), and medicines & commodities (45). However, among the hospitals providing CRD services the medicines & commodities score (69) was substantially superior to the equipment score (33).

Table 4.16.3 Readiness to provide chronic respiratory disease services

Among health facilities offering chronic respiratory disease services, the percentage meeting service readiness requirements for providing chronic respiratory disease services, according to level of service, managing authority, owner and residence (n=291)

Background characteristic	Staff and training (1)	Equipment (2)	Medicines and commodities (3)	Readiness to provide chronic respiratory disease services (4)	Total number of facilities offering chronic respiratory disease services
Level of service					
Dispensary	23	38	40	37	216
Health Centre	37	40	50	45	50
MCH Clinic	19	47	39	34	3
Hospital	51	33	69	60	22
Managing authority					
Government/Public	28	39	39	37	188
Mission/Faith based	28	43	65	52	33
NGO/Not-for-profit	34	56	89	70	2
Private-for-profit	32	36	59	48	68
Ownership					
Public/Government	28	39	39	37	188
Private	30	40	63	51	103
Residence					
Rural	27	42	40	38	142
Urban	30	35	53	44	149
Total	28	39	45	40	291

Notes:

(1) The mean percentage of items available in staff and training (staff trained in chronic respiratory disease diagnosis and management + guidelines chronic respiratory disease diagnosis and management) / 2

(2) The mean percentage of items available in equipment (stethoscope + peak flow meter + spacers for inhalers) / 3

(3) The mean percentage of items available in medicines and commodities (salbutamol + beclomethasone + prednisolone + hydrocortisone + epinephrine + oxygen) / 6

(4)The mean percentage of prevention of chronic respiratory disease items available in all domains (staff trained in chronic respiratory disease diagnosis and management + guidelines chronic respiratory disease diagnosis and management + stethoscope + peak flow meter + spacers for inhalers + salbutamol + beclomethasone + prednisolone + hydrocortisone + epinephrine + oxygen) / 11

4.17 Basic surgical services

Most health centres are expected to be able to provide at least some basic surgical procedures while all general hospitals would be expected to offer a full range of basic surgery services.

Out of the overall sample of 1297 facilities, 344 (28%) offered basic surgical services. As expected, surgical service availability was much less frequent in dispensaries (21%) than in health centres (47%) or hospitals (79%). Half of the eight MCH clinics in the sample offered basic surgical services.

Among the signal services surveyed, the most frequently available were incision and draining of abscesses (55%), suturing (50%) and debridement of wounds (45%). Acute burn management services were available in less than half of the survey facilities (40%) while a quarter of the facilities offered male circumcision. However, only a small minority of facilities offered closed treatment of fractures (9%), hydrocele reduction (6%), chest tube insertion (4%) or cricothyroidotomy (3%).

Table 4.17.1 Basic surgery

Percentage of health facilities offering basic surgery services, according to level of service, managing authority, ownership and residence

Background characteristic	Incision and drainage of abscesses	Wound debridement	Acute burn management	Suturing	Closed treatment of fracture	Cricothyroidotomy	Male circumcision	Hydrocele reduction	Chest tube insertion	Offers basic surgical services	Total number of facilities
Level of service											
Dispensary	53	43	37	48	5	3	21	4	3	21	1100
Health Centre	65	55	52	60	11	4	51	9	6	47	137
MCH Clinic	72	40	56	56	23	7	54	7	7	51	8
Hospital	63	57	54	55	30	12	46	35	27	79	52
Managing authority											
Government/Public	57	46	41	53	6	3	25	5	3	28	923
Mission/Faith based	46	41	33	42	13	6	24	10	9	24	132
NGO/Not-for-profit	44	30	30	30	14	14	16	14	14	21	9
Private-for-profit	48	42	40	40	7	5	28	11	6	15	233
Ownership											
Public/Government	57	46	41	53	6	3	25	5	3	28	923
Private	47	41	37	41	10	6	26	11	8	20	374
Residence											
Rural	55	44	36	50	6	3	22	5	3	28	844
Urban	55	49	50	50	10	4	35	10	7	21	453
Total	55	45	40	50	7	3	25	6	4	26	1297

Notes: Cricothyroidotomy: procedure to establish emergency airway in case ventilation/intubation is not feasible

Among hospitals, five of the basic surgical procedures were available in 46%-63% of hospitals. Closed treatment of fracture was available in 30%; chest tube insertion in 27% and

cricothyroidotomy in 12%. Overall, availability of basic surgical services was lower in private-for-profit facilities than in other categories of provider.

Table 4.17.2 examines the availability of staff, guidelines, equipment and supplies among the sub-set (n=344) of facilities offering basic surgical services. Overall, 11% had at least one staff member trained in integrated management for emergency and essential surgical care (IMEESC) and an even smaller proportion had IMEESC guidelines. Certain items of equipment (retractor, nasogastric tube, adult & paediatric resuscitator) were found in less than 15% of facilities. Other items of equipment (surgical scissors, scalpels, needle holder) were present in a third or more of facilities.

Availability of basic surgical equipment and supplies was lower at health centres than hospitals. With the exception of disinfectant, oxygen and lidocaine, commonly-used surgical materials were available in less than half of the health centres said to offer basic surgical services. Private facilities were better staffed and equipped compared to public facilities for basic surgical services

Table 4.17.2 Basic surgical services

Among health facilities offering basic surgical services, the percentage with trained staff, guidelines, equipment, and medicines, according to level of service, managing authority, ownership and residence (n=344)

Background characteristic	At least one trained staff IMEESC	Guidelines available IMEESC	Needle holder	Scalpel handle with blade	Retractor	Surgical scissors	Nasogastric tubes	Tourniquet	Adult and paediatric resuscitators	Suction apparatus	Oxygen	Skin disinfectant	Sutures (both absorbable and non-absorbable)	Ketamine	Lidocaine	Total number of facilities offering basic surgical services
Level of service																
Dispensary	8	7	36	28	10	30	9	20	7	21	55	85	41	10	37	232
Health Centre	10	9	34	41	10	36	19	26	12	27	70	86	46	19	53	66
MCH Clinic	14	14	30	0	0	30	0	30	0	30	100	100	14	14	45	4
Hospital	37	24	58	55	39	49	39	47	35	41	92	100	57	41	48	42
Managing authority																
Government/Public	8	9	39	34	11	34	12	24	10	24	60	87	43	13	42	269
Mission/Faith based	23	14	31	31	24	31	25	31	20	27	73	83	38	27	39	33
NGO/Not for profit	32	32	32	32	32	32	32	32	32	32	100	100	32	32	32	2
Private for profit	25	6	28	29	16	28	23	22	5	21	78	94	55	38	38	40
Ownership																
Public/Government	8	9	39	34	11	34	12	24	10	24	60	87	43	13	42	269
Private	24	12	30	30	21	30	25	28	14	25	76	88	45	31	39	75
Residence																
Rural	9	8	36	31	11	32	12	23	9	22	57	85	40	13	39	246
Urban	20	13	44	41	18	37	21	30	18	31	83	96	56	27	51	98
Total	11	9	38	33	13	33	14	24	11	24	63	87	43	16	42	344

Notes: "IMEESC": Integrated management for emergency and essential surgical care

Table 4.17.3 brings together the data found on three domains: staff and training; equipment, and medicines and commodities. As with the previous table the data are restricted to the subset (n=344) of facilities that offered basic surgical services. The mean readiness scores were: hospitals (51%), MCH clinics (28%), health centres (33%) and dispensaries (27%). Note that the MCH clinic category comprises just four such facilities.

Readiness to provide basic surgical services was ten percentage points higher in urban facilities than lower level facilities, although there was very little difference between government and private facilities.

At the hospital level, the medicines and commodities domain scored highest (50%) followed by equipment (24%) and staff & training (10%).

Table 4.17.3 Readiness to provide basic surgical services

Among health facilities offering basic surgical services, the percentage meeting service readiness requirements for providing basic surgical services, according to level of service, managing authority, ownership and residence (n=344)

Background characteristic	Staff and training (1)	Equipment (2)	Medicines and commodities (3)	Readiness to provide basic surgical services (4)	Total number of facilities offering basic surgical services
Level of service					
Dispensary	7	20	46	27	232
Health Centre	9	25	55	33	66
MCH Clinic	14	15	55	28	4
Hospital	30	45	68	51	42
Managing authority					
Government/Public	9	24	49	30	269
Mission/Faith based	19	28	52	35	33
NGO/Not for profit	32	32	59	41	2
Private for profit	16	21	60	34	40
Ownership					
Public/Government	9	24	49	30	269
Private	18	25	56	34	75
Residence					
Rural	9	22	47	29	246
Urban	17	30	63	39	98
Total	10	24	50	31	344

Notes:

(1) The mean percentage of items available in staff and training (staff trained in IMEESC + guidelines IMEESC) / 2

(2) The mean percentage of items available in equipment (needle holder + scalpel handle with blade + retractor + surgical scissors + nasogastric tubes + tourniquet + adult and paediatric resuscitators + suction apparatus) / 8

(3) The mean percentage of items available in medicines and commodities (oxygen + skin disinfectant + sutures + ketamine + lidocaine) / 5

(4)The mean percentage of basic surgery items available in all domains (staff trained in IMEESC + guidelines IMEESC + needle holder + scalpel handle with blade + retractor + surgical scissors + nasogastric tubes + tourniquet + adult and paediatric resuscitators + suction apparatus + oxygen + skin disinfectant + sutures + ketamine + lidocaine) / 15

4.18 Advanced level delivery services

Advanced delivery services refers to the capability of health facilities to provide comprehensive emergency obstetric care (CEmOC) – in order to address obstetric emergencies that cannot be addressed effectively by "basic emergency obstetric care" (BEmOC) services alone and that require caesarean section and/or blood transfusion.

Of the 1297 facilities surveyed, only 7% met all of the criteria for CEmOC. As expected, CEmOC availability was very limited in dispensaries (3%) and health centres (9%). Among hospitals, 79% offered C-section, 73% blood transfusion and 73% provided CEmOC.

Table 4.18.1 Advanced level delivery services

Percentage of facilities offering advanced level delivery services, according to level of service, managing authority, ownership and residence

Background characteristic	Caesarean section	Blood transfusion	Comprehensive emergency obstetric care (1)	Offers advanced level delivery services (2)	Total number of facilities
Level of service					
Dispensary	3	4	3	2	1100
Health Centre	13	11	9	13	137
MCH Clinic	51	51	51	51	8
Hospital	79	73	73	73	52
Managing Authority					
Government/Public	6	6	5	5	923
Mission-FBO	14	15	14	12	132
NGO Not for Profit	7	7	7	7	9
Private for Profit	12	11	10	10	233
Ownership					
Public/Government	6	7	5	5	923
Private	12	12	12	11	374
Residence					
Rural	6	6	5	5	844
Urban	12	11	11	11	453
Total	8	7	7	6	1297

Notes:

(1) A facility offers comprehensive emergency care if it offers basic emergency obstetric care (defined by 7 interventions) as well as caesarean section and blood transfusion.

(2) A facility offers basic emergency care and performs cesarean section

A closer examination of staff, equipment and supplies (Table 4.18.2) reveals that a sizeable proportion of hospitals that offered advanced delivery services had the skilled staff (70%), guidelines (57%), surgical training (80%) and training in anaesthesia (77%). However, less one fifth of hospitals had all of the items of equipment listed for anaesthesia (anaesthesia machine to deliver anaesthetic gases and oxygen; tubings and connectors to connect to the endotracheal tube; resuscitator bag and mask- adult and paediatric, and intubation set adult and paediatric (oropharyangeal airway, endotracheal tubes, laryngoscope, Magill's forceps…). 45% of hospitals could perform blood typing, but none could perform cross-match testing (requiring on-site centrifuge, 37 degree incubator and sera). Almost a quarter of hospitals met the blood supply

safety criteria (tested for HIV, syphilis, Hep B & C) while less than half had sufficient blood supply over the previous three months. Three quarters of hospitals offering advanced delivery services had a functioning incubator.

Among the health centres, slightly more than half had staff trained in CEmOC, while nine out of ten had training surgery and anaesthesia, but only 4% had the requisite anaesthesia equipment, 15% could do blood typing and 27% had an incubator.

Table 4.18.2 Advanced level delivery services

Among facilities offering advanced level delivery services, the percentage with trained staff, guidelines, equipment, diagnostics, and medicines, according to level of service, managing authority, ownership and residence (n=97)

Background characteristic	At least one trained staff CEmOC	Guidelines available CEmOC	At least one trained staff surgery	At least one trained staff anaesthesia	Anaesthesia equipment (1)	Incubator	Blood typing (2)	Cross match testing (3)	Blood supply sufficiency (4)	Blood supply safety (5)	Total number of facilities offering advanced level delivery services
Level of service											
Dispensary	46	35	40	40	29	49	7	0	52	17	34
Health Centre	53	44	90	75	4	27	15	0	46	26	23
MCH Clinic	100	72	100	100	0	70	0	0	30	14	4
Hospital	91	76	99	99	12	76	45	0	42	24	36
Managing Authority											
Government/Public	66	52	70	70	13	52	17	0	49	17	59
Mission-FBO	92	75	100	100	26	83	51	0	28	30	14
NGO Not for Profit	100	100	0	0	100	100	100	0	0	100	1
Private for Profit	57	49	93	75	4	40	19	0	51	27	23
Ownership											
Public/Government	66	52	70	70	13	52	17	0	49	17	59
Private	75	63	95	86	17	62	36	0	39	30	38
Residence											
Rural	68	59	72	72	25	64	20	0	45	21	46
Urban	73	54	89	82	2	48	30	0	45	24	51
Total	70	57	80	77	14	56	25	0	45	22	97

Notes:

(1) Anaesthesia equipment includes: anaesthesia machine to deliver anaesthetic gases and oxygen, tubings and connectors to connect to the endotracheal tube, resuscitator bag and mask- adult and paediatric, and intubation set adult and paediatric (Oropharyangeal airway, endotracheal tubes, laryngoscope, Magill's forceps, stylet)

(2) Ability to conduct ABO blood group test and Rhesus blood group test onsite and presence of centrifuge

(3) Ability to conduct cross match test onsite and presence of centrifuge, 37°C incubator, and grouping sera

(4) Blood supply sufficiency is defined as no interruption of blood availability in last three months

(5) Blood supply safety is defined as blood obtained ONLY from national or regional blood bank, OR blood obtained from other sources but screened for HIV, Syphilis, Hepatitis B, and Hepatitis C.

Table 4.18.3 brings together four "domains" of capability to provide advanced delivery services, namely "staff and training", "equipment", "diagnostics" and "medicines/commodities". The compound readiness score represents the mean across the four domains. Overall, the readiness score for 97 facilities said to offer advanced delivery services was 45%. Among the group of 36 hospitals offering advanced delivery care, the mean readiness score was 49%. The domains with notably low scores are medicines and commodities (blood supply sufficiency and blood supply

safety) and diagnostics (blood typing and cross-match testing).Readiness scores were somewhat higher in Mission-FBO facilities than in Government facilities, although this may simply be a reflection of sample composition in that Mission-FBO facilities are more likely to comprise hospitals rather than lower level facilities.

Table 4.18.3 Readiness to provide advanced level delivery services

Among facilities offering advanced level delivery services, the percentage meeting service readiness requirements for providing advanced level delivery services, according to level of service, managing authority, ownership and residence (n=97)

Background characteristic	Staff and training (1)	Equipment (2)	Diagnostics (3)	Medicines and commodities (4)	Readiness to provide advanced level delivery services (5)	Total number of facilities offering advanced level delivery services
Level of service						
Dispensary	40	39	4	34	32	34
Health Centre	66	15	7	36	38	23
MCH Clinic	93	34	0	33	56	4
Hospital	91	44	22	22	49	36
Managing Authority						
Government/Public	65	32	9	33	41	59
Mission-FBO	92	54	25	29	59	14
NGO Not for Profit	50	100	50	50	60	1
Private for Profit	69	22	9	39	42	23
Ownership						
Public/Government	65	32	9	33	41	59
Private	80	40	18	35	50	38
Residence						
Rural	68	44	10	33	45	46
Urban	75	25	15	34	45	51
Total	71	35	12	34	45	97

Notes:

(1) The mean percentage of items available in staff and training (staff trained in CEmOC + guidelines CEmOC + staff trained surgery + staff trained anaesthesia) / 4

(2) The mean percentage of items available in equipment (anaesthesia equipment + incubator) / 2

(3) The mean percentage of items available in diagnostics (blood typing + cross match testing) / 2

(4) The mean percentage of items available in medicines and commodities (blood supply sufficiency + blood supply safety) / 2

(5) The mean percentage of advanced delivery care items available in all domains (staff trained in CEmOC + guidelines CEmOC + staff trained surgery + staff trained anaesthesia + anaesthesia equipment + incubator + blood typing capacity + cross match testing + blood supply sufficiency + blood supply safety) / 10

4.19 Blood transfusion

Blood transfusion services are normally not available at lower level health facilities (below district hospital level). Only 99 (7%) out of the 1297 facilities included in this section of the survey offered blood transfusion services. 71% of hospitals offered the service, 17% of health centres but only 2% of dispensaries. Mission facilities were more likely to offer blood transfusion than either government or private-for-profit providers (possibly due to sample composition). Urban facilities were more likely than rural to provide blood transfusion.

Table 4.19.1 Blood transfusion

Percentage of facilities offering blood transfusion services, according to level of service, managing authority, ownership and residence (N=1297)

Background characteristic	Blood transfusion	Total number of facilities
Level of service		
Dispensary	2	1100
Health Centre	17	137
Hospital	71	8
MCH Clinic	51	52
Managing Authority		
Government/Public	5	923
Mission-FBO	15	132
NGO Not for Profit	0	9
Private for Profit	8	233
Ownership		
Public/Government	5	923
Private	11	374
Residence		
Rural	6	844
Urban	10	453
Total	7	1297

Notes:

Among facilities offering blood transfusion, approximately one quarter (25%) had at least one trained staff; just over half of the facilities (52%)% reported uninterrupted and sufficient supply of blood. None of the facilities reported to have performed cross-matching tests for blood samples. The readiness score to provide blood transfusion services was 25%. One third of facilities offering blood transfusion had guidelines available. Hospitals tended to score more highly on all of the characteristics than did lower level facilities.

Table 4.19.2 Blood transfusion services

Among facilities offering blood transfusion services, the percentage with trained staff, guidelines, equipment, diagnostics, and medicines, according to level of service, managing authority ownership and residence (n=99)

Background characteristic	At least one trained staff appropriate use of blood and safe blood transfusion	Guidelines available appropriate use of blood and safe blood transfusion	Blood storage refrigerator	Blood typing (1)	Cross match testing (2)	Blood supply sufficiency (3)	Blood supply safety (4)	Total number of facilities offering blood transfusion services
Level of service								
Dispensary	28	34	17	6	0	63	11	32
Health Centre	25	39	21	17	0	57	21	27
MCH Clinic	14	30	0	0	0	30	14	4
Hospital	24	31	34	43	0	42	24	36
Managing Authority								
Government/Public	19	41	20	15	0	58	14	61
Mission-FBO	35	16	32	45	0	35	22	20
Private for Profit	31	38	24	21	0	55	35	18
Ownership								
Public/Government	19	41	20	15	0	58	14	61
Private	34	24	29	35	0	42	27	38
Residence								
Rural	31	33	22	18	0	55	14	57
Urban	16	35	26	32	0	46	28	42
Total	25	34	24	23	0	52	19	99

Notes:

(1) Ability to conduct ABO blood group test and Rhesus blood group test onsite and presence of centrifuge

(2) Ability to conduct cross match test onsite and presence of centrifuge, 37°C incubator, and grouping sera

(3) Blood supply sufficiency is defined as no interruption of blood availability in last three months

(4) Blood supply safety is defined as blood obtained ONLY from national or regional blood bank, OR blood obtained from other sources but screened for HIV, Syphilis, Hepatitis B, and Hepatitis C.

The readiness index in Table 4.19.3 represents the mean of the percentage of facilities meeting each of the domain criteria (staff, guidelines, equipment, diagnostics, medicines and commodities). Of the 99 health facilities offering blood transfusion, the mean readiness score was 25%, although it was slightly higher (28%) in hospitals. Among the four MCH clinics in the sub-sample, the readiness score was 13. Faith-based facilities scored more highly than government operated facilities on all criteria except staff & training.

Table 4.19.3 Readiness to provide blood transfusion services

Among facilities offering blood transfusion services, the percentage meeting service readiness requirements for providing blood transfusion services, according to level of service, managing authority, ownership and residence (n=99)

Background characteristic	Staff and training (1)	Equipment (2)	Diagnostics (3)	Medicines and commodities (4)	Readiness to provide blood transfusion services (5)	Total number of facilities offering blood transfusion services
Level of service						
Dispensary	31	17	3	37	22	32
Health Centre	32	20	9	39	26	27
Hospital	28	34	22	33	28	36
MCH Clinic	22	0	0	22	13	4
Managing Authority						
Government/Public	30	20	7	36	24	61
Mission-FBO	25	33	22	28	26	20
NGO Not for Profit	-	-	-	-	-	18
Private for Profit	34	24	10	45	29	
Ownership						61
Public/Government	30	20	7	36	24	38
Private	24	29	18	35	27	
Residence						57
Rural	30	22	9	35	25	42
Urban	23	26	16	37	26	99
Total	30	24	12	35	25	32

Notes:

(1) The mean percentage of items available in staff and training (staff trained in safe transfusion + guidelines safe transfusion) / 2

(2) The mean percentage of items available in equipment (blood storage refrigerator) / 1

(3) The mean percentage of items available in diagnostics (blood typing + cross match testing) / 2

(4) The mean percentage of items available in medicines and commodities (blood supply sufficiency + blood supply safety) / 2

(5) The mean percentage of STI items available in all domains (staff trained in safe transfusion + guidelines safe transfusion + blood storage refrigerator + blood typing + cross match testing + blood supply sufficiency + blood supply safety) / 7

5. Concluding Remarks

This final section offers a few concluding remarks regarding a) the SARA process and lessons learned b) noteworthy findings from the survey regarding general service availability and readiness as well as specific service availability and readiness.

5.1 General remarks

This was the first time that the SARA tool had been implemented in Tanzania. There are a number of lessons that may help to improve future surveys.

- **Facility master list**. At the time of survey, the census of all health facilities (both country-wide and within SPD districts) was incomplete and known to contain some inaccuracies. Not all facilities had a unique identifier, making matching of data to the same facility problematic. A national facility master list will also assist in calculating facility density for the whole country (rather than sample districts only).
- **Questionnaire tools**. Experts from WHO who reviewed an earlier draft of this report informed IHI that the incompatibilities between smaller and larger facility questionnaire instruments have been removed. Subsequent surveys should use the new version questionnaire so that data elements correspond across the whole facility sample.
- **Sampling frame**. The SPD does represent a (population probability-weighted) random sample of districts, and all facilities in those districts were eligible for inclusion in this survey. However, this facility sample is NOT a random sample of facilities (this would need to be based on a facility sampling frame). One alternative, that would preserve logistical simplicity, would be to do a 2-stage sample by randomly sampling facilities within the selected districts. This would also mean a more manageable sample size overall and would greatly improve the likelihood of fuller response rate. It is noteworthy that the sample size for the 2006 TSPA (612 out of 5663 facilities) was roughly half the size of the sample used for this SARA survey.
- **Planning and time allocation**. A major survey exercise requires careful advance planning and preparation as well as adequate time to chase up data gaps and anomalies, data cleaning, analysis and write up. Future SARA surveys will benefit from greater lead time and realistic time lines for completing the exercise
- **Missing service availability elements**. This SARA reported on health facility density (using the master list for SPD districts) and health worker density and composition (using health workforce data collected from facilities). It did not include other elements of service availability included in the WHO SARA tool, namely general inpatient beds per 10,000 population, maternity beds per 10,000 population, outpatient visits per capita and inpatient discharges per capita. All of these elements should ideally be calculated for the country as a whole and cannot be reliably be computed for a sample comprising selected facilities within districts (because catchment/service population denominator is not known with any certainty). A comprehensive national facility master list and a reliable estimate of

global OPD and IPD activity will be needed in order to compute these aspects of service availability. These elements in turn would then be combined to compute the overall "general service availability index".

5.2 General service availability

Health facility density (facilities per 10,000 population) varied ten-fold across the districts included in this SARA. The equity of health facility distribution is certainly a cause for concern and merits closer examination so that new infrastructure can be prioritized for the most needy areas. Having said this, facility density is an imperfect proxy of access to health care. In sparsely-populated areas it makes sense to have many, smaller facilities (yielding a higher facility-per-10,000) while in densely populated areas it makes sense to have fewer, larger facilities. In our view, the percentage of population residing within x kms of a primary / secondary facility (as measured in the Tanzania Household Budget Survey) is a superior measure of geographic access to health care, while utilization differentials (OPD visits per capita per year) are a superior measure of effective access to health care.

The finding regarding urban-rural distribution of health personnel (one third rural, two thirds urban) appears highly unequal at first sight. On reflection, it is not very surprising. A typical rural district might have 40 rural dispensaries, 5 rural health centres and 2 urban hospitals. Assuming typical (health professional) staffing of around 3 staff per dispensary, 15 per health centre and 100+ per hospital, we would expect to find a majority of health professionals to be working in urban facilities. Moreover, district hospitals serve whole districts and not only their immediate urban catchment area.

5.3 General service readiness

The GSR index highlights particularly low scores for basic **amenities**. It is not surprising that a high proportion of facilities did not have electricity, computers or email. However, the survey does highlight very poor availability of basic amenities such as consulting rooms with visual/auditory privacy, adequate sanitation or water supplies. The survey confirmed an important deficit in the capability of most health facilities to perform basic/common **diagnostic** tests. This deficit was not restricted to dispensaries, but was also evident to a surprising extent at health centres and hospitals. The results for **standard precautions** to prevent infections were also very low – even for basic items such as soap and water, or final disposal of sharps and infectious waste. The **equipment** score appears to be superior. However, this masks the fact that only 22% of all facilities sampled had all six items of basic equipment (adult scale, child scale, thermometer, stethoscope, BP apparatus and light source). More than half of health centres and one third of hospitals did not possess all six basic items. The overall **medicines** score (41) was also low. Among the 14 items included in the survey 20%-30% of hospitals were out of stock of four common items and 40%-50% of hospitals were out of stock of a further six items. Only three items were available at 9 out of 10 hospitals. Availability of basic medicines was even more problematic at health centres and dispensaries.

5.4 Specific service availability

It was encouraging to find that many of the basic primary curative and preventive services were (nominally) available at around two thirds or more of the health facilities in this sample. This included malaria, child health, PMTCT, STI, ANC, child immunization family planning, adolescent health and HVI counseling and testing. Nor is it surprising that services such as basic surgery, blood transfusion or advanced delivery were restricted to a minority of facilities.

Nonetheless, it was surprising that only a minority of facilities were able to offer TB treatment or HIV care and support (perhaps these patients are managed through the treatment clinic that they attend). It was also noteworthy that primary management of cardiovascular disease, chronic respiratory disorders and diabetes were so scarcely available. As the burden of chronic disease rises in Tanzania, it will be essential that basic management of such conditions can be provided by a much larger proportion of facilities. It was also surprising that advanced delivery services (ie capability to provide comprehensive emergency obstetric care) was offered by only 6% of the 1297 facilities in this sample (equivalent to 78 health facilities in a district sample with a total population of more than 12 million. This is around one third of the 1 facility per 50,000 population norm that would be expected for CEmOC provision.

5.5 Specific service readiness

The readiness results were striking in their variability. It was not simply the case that one domain tended to score higher/lower than the others across all specific services. Instead, each service shows very different pattern of readiness with regard to specific deficits. This makes it difficult to summarise succinctly the specific service readiness results.

Overall, readiness was highest for immunization and family planning, while score exceeded 60 for STI, child health, ANC and malaria. Readiness scores for a further six services (PMTCT, cardiovascular disease, HIV counseling and testing, normal delivery, diabetes and HIV care and support) lay in the 50-60 range, indicating important deficits in the capability of facilities to deliver quality services. Readiness standards were lower still (40-50) for advanced delivery, adolescent health and chronic respiratory disease. The poorest readiness scores were found for basic surgery (31), TB (27), blood transfusion (23) and anti-retroviral prescription and client management services (21). The ARV score is particularly low due to the very small number of facilities offering advanced diagnostic tests (complete blood count, CD4, renal and liver function). However, it was also the case that more than nearly two thirds did not have the three first-line anti-retrovirals in stock, while more than half of facilities lacked ARV guidelines and/or trained personnel.

The specific service readiness results will be of particular interest to national program managers to identify particular deficits in service provision at present and should serve as a baseline against which future progress may be measured in future SARA surveys.