Zimbabwe Service Availability and Readiness Assessment 2015

Report

Forward

Since 2009, opportunities for improving the health status of the Zimbabwean population including mothers and newborn babies have been unprecedented. Government has remained committed to its mission of "to provide, administer, coordinate, promote and advocate for the provision of equitable, appropriate, accessible, affordable and acceptable quality health services and care to Zimbabweans while maximizing the use of available resources, in line with the primary health care approach" In order to assess that we remain focused on our mission it is mandatory that we conduct regular surveys on the availability, access and readiness of our health institutions to offer quality health preventative and curative health services to our population. Recently there has been significant financial and technical support from our partners to intensify action and implement effective interventions to improve the health status of the population with special focus on maternal and child health. The Zimbabwe "Service Availability and Readiness Assessment" provides an overall picture on the current status of both public and private facilities with respect to available services and their readiness to provide these services in view of the resources invested in them. The study used an international standard questionnaire that was adapted to suit conditions in Zimbabwe. Data was collected from a sample of provinces and facilities to provide a representative assessment that may be generalized to other similar facilities countrywide.

This assessment generated reliable information on service delivery including service availability and the readiness of health facilities to provide basic health-care interventions in the country. It presents a major contribution to effective monitoring of health service delivery in Zimbabwe and stimulates us to reflect on how far we have come especially since 2009. This report provides a "baseline" situation which is very important for planning as well as making informed judgement on progress.

We encourage all stakeholders to study this report and use the information gathered as we work towards strengthening all pillars of the health delivery system. This survey will be repeated in the near future to assess the results of our collective efforts.

On behalf of the Ministry of Health and Child Care, we thank most sincerely the Global Fund to fight AIDS, Tuberculosis and Malaria for providing financial support, the World Health Organization for technical support, officers from my Ministry and the team of consultants for this report.

Hon. Dr. P.D. Parirenyatwa

MINISTER OF HEALTH AND CHILD CARE

Acknowledgements

The Ministry of Health and Child Care would like to extend its gratitude to all organizations and individuals who have devoted their time and effort towards the successful conduct of the Zimbabwe "Service Availability and Readiness Assessment", SARA. We acknowledge the Global Fund to fight AIDS, Tuberculosis and Malaria for providing funding for the project. Additional funding was provided by the UNFPA to whom we are very thankful. This project would not have been possible without the technical leadership from the World Health Organization, Geneva and Harare team. The team from Geneva comprised Benson Droti and Ashley Sheffel and the Harare team was made up of Trevor Kanyowa and Anderson Chimusoro. We are also indebted to the UNFPA represented by Edwin Mpeta for both financial and technical support.

We are very thankful to the staff of the public, mission and private facilities that participated in SARA for sharing information in the course of their busy schedules. We would like to extend gratitude to the teams and supervisors that collected data starting late December 2014 extending into January, 2015. They had to forego some of their holidays to work on SARA. The team leaders were: Chikodzore Rudo, Goverwa Tafadzwa, Kuretu Admire, Maponga Brian A, Mashizha Simba, Mudzegerere Paradzai, Phineas Sithole, Mangombe Aveneni, Mbinda Absolom, Mandara Muchaneta, Mundoringisa Constance , Chimedza Mektlida We acknowledge the Family Health Directorate team led by Bernard Madzima in taking the leading in coordinating this survey. We acknowledge the contribution of Margaret Nyandoro and Winston Chirombe for their technical input as well as organizing the logistics for SARA, Shingairai Mukonya and Mungazi Martha provided administrative support. Annex shows the full list of data collectors. We are most grateful to participants of the data analysis workshops for their expert input and advice. They are Katiyo Joshua, Chingombe Inncocent, Chirombe Winston, Mbinda Absolom, Banda Steve, Sanyanga Arthur, Chikodzore Rudo, Sithole Phineas,

The following who were a team of consultants provided the technical input into planning the survey, field implementation, data analysis and report writing. They are Simbarashe Rusakaniko, Rosemary Mhlanga-Gunda, Kamungwara Banda, Gerald Shambira.,Fanuel Wamambo and Morris Baradza

1.0.1

Table of Contents

List of Tables

List of Figures

Abbreviations and acronyms

3TC	Lamivudine
ABC	Abacavir
ACT	Artemisinin-based Combination Therapy
AIDS	Acquired Immuno Deficiency Syndrome
ANC	Antenatal Care
ART	Anti Retroviral Therapy
ARV	Anti Retroviral
AZT	Zidovudine
BEmONC	Basic Emergency Obstetric and Newborn Care
BTL	Bilateral Tubal Ligation
CBC	Complete Blood Count
CD4	Cluster of Differentiation 4
CDE	Casual Daily Employee
CDL	Chest Disease Laboratory
CEMOC	Comprehensive Emergency Obstetric Care
CSO	Central Statistical Office
DH	District Hospital
DHIOs	District Health Information Officers
DHS	Demographic and Health Survey
DMO	District Medical Officer
DOTS	Directly Observed Treatment Short course
EmOC	Emergency Obstetric Care
EFV	Efavirenz
EMMCS	
FBO	Faith Based Organisation
FP	Family Planning
FTC	Emtricitabine
GRZ	Government of the Republic of Zambia
HCS	HIV Care and Support
HCT	HIV Counselling and Testing
HIV	Human Immuno Virus
HIV/AIDS	Human Immuno Virus/ Acquired Immuno Deficiency Syndrome
HMIS	Health Management Information System
HRH	Human Resources for Health
HRBF	Health Results Based Financing
HTF	Health Transition Fund
ICF	Intermediate Care Facility

IMNCI	Integrated Management of Neonatal and Childhood Illnesses
IMR	Infant Mortality Rate
IPT	Intermittent Preventive Therapy
ITNs	Insecticide Treated Nets
IUCD	Intrauterine Contraceptive Device
IYCF	Infant and Young Child Feeding
LPV	Lopinavir
MDGs	Millennium Development Goals
MDR-TB	Multiple drug resistant tuberculosis
MMR	Maternal Mortality Rate
MNCH	Maternal Neonatal and Child Health
MoHCC	Ministry of Health and Child Care
NASF	National HIV and AIDS Strategic Framework
NBTSZ	National blood transfusion services Zimbabwe
NCD	Non Communicable Disease
NGO	Non-Governmental Organization
NHSP	National Health Strategic Plan
NIHFA	National Integrated Health Facility Assessment
NMSP	National Malaria Strategic Plan
NNDR	Neonatal Death Rate
NVP	Nevirapine
PDA	Personalized Digital Assistant
PMD	Provincial Medical Director
PMTCT	Prevention of Mother to Child Transmission
RBM	Roll Back Malaria
RHC	Rural Health Centre
RDT	Rapid Diagnostic Test
RPR	Rapid Plasma Reagin
SAM	Service Availability Mapping
SARA	Service Availability and Readiness Assessment
SP	Sulphadoxine-Pyrimenthamine (Fansidar)
SPA	Service Provision Assessment
STI	Sexually Transmitted Infections
TB	Tuberculosis
TDF	Tenofovir
TRDC	Tropical Research Diseases Centre
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VDRL	Venereal Disease Research Laboratory
VIP	Ventilated Improved Pit Latrine
WHO	World Health Organization
ZACH	Zimbabwe Affiliation of Church Related Hospitals
ZDHS	Zimbabwe Demographic and Health Survey

Executive summary

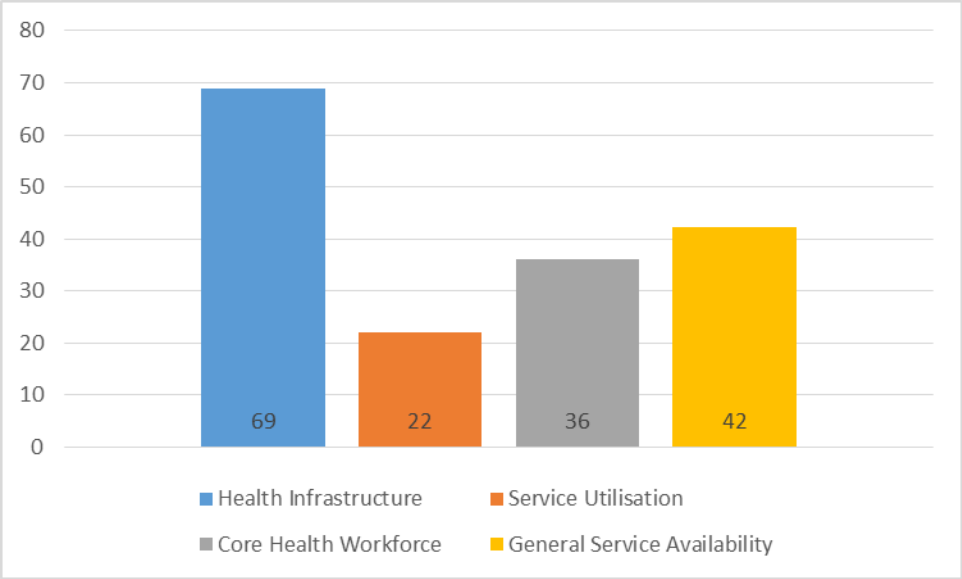
The 2014 Service Availability and Readiness Assessment (SARA) for Zimbabwe was conducted to generate reliable information on service delivery inclusive of service availability and readiness of health facilities to provide basic health-care interventions in the country. The assessment was conducted as a weighted sample in 10 provinces of the country covering a total of 275 facilities. The SARA provides key information on the state of the health system with regards to accessibility of services as well as the readiness of the facilities to provide an adequate level of service (measured by the availability of trained staff, diagnostics, equipment and medicines), both for general health services and for specific key health interventions (e.g. maternal and new born health, HIV/AIDS, TB, malaria diagnosis and treatment).

General Service availability

General Service availability refers to the physical presence of health service delivery components within the country. The general service availability index is computed as a composite of health infrastructure, health workforce, and service utilization indicators computed relative to a benchmark.

Figure 1 below shows the general service availability index score nationally. The general service availability index score is 42% nationally. The health infrastructure domain score is highest at 69% while the lowest is 22% for service utilization. On average, both health workforce density and service utilization are below half of the expected target values. There is a clear need for more trained health professionals which would most likely result in an increase in health service utilization.

Figure 1: General Service Availability index and domain scores nationally, Zimbabwe 2014



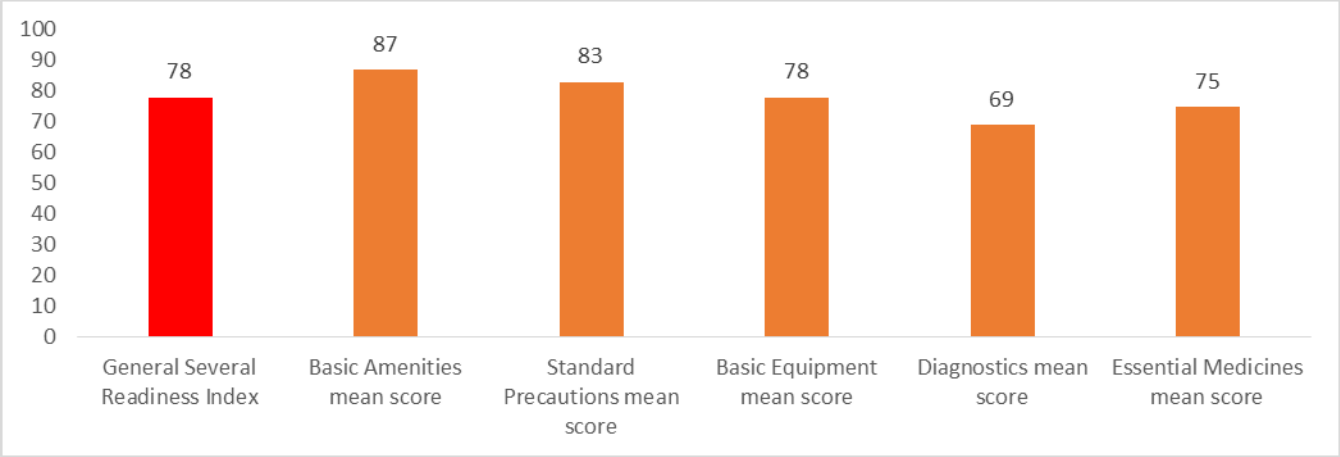
General Service readiness

General Service readiness refers to the capacity of health facilities to provide general health services. It measures the availability of infrastructure, equipment and supplies necessary to provide services within the following five domains: basic amenities, basic equipment, standard

precautions, diagnostic testing, and essential medicines. The general service readiness index is a composite score summarizing information from the five domains.

Figure 2 below shows that the general service readiness index score was 78%. Urban locations had a higher overall readiness score compared to rural locations. There was not much variation on basic equipment scores between rural and urban locations (69% rural vs 66%) urban. Diagnostics were the lowest at 69%.

Figure 2: General Service readiness index and domain scores nationally, Zimbabwe 2014

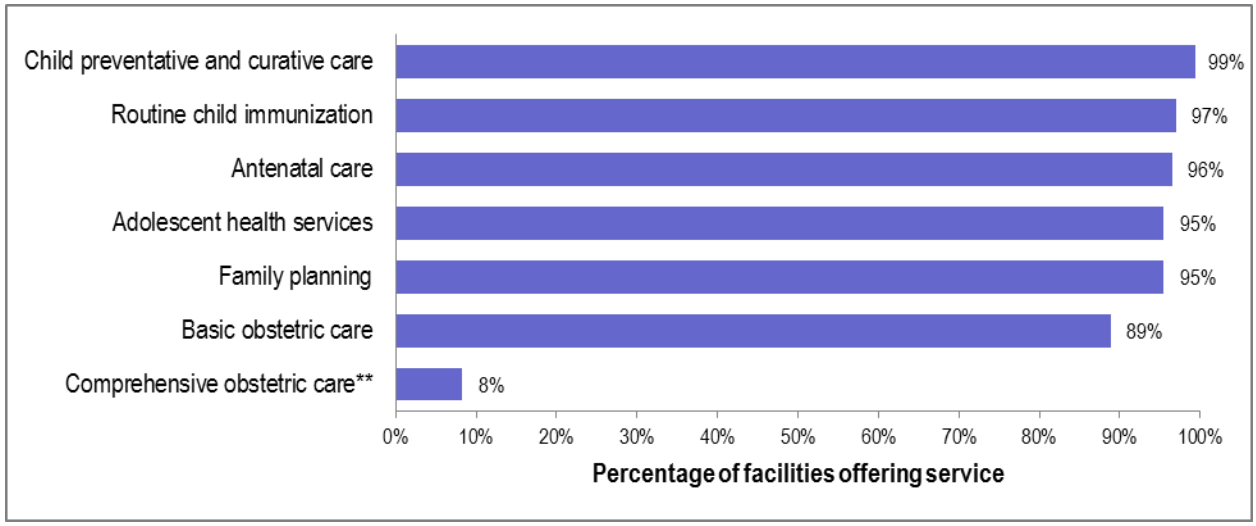


Service specific availability and readiness

Service specific availability

- The percentage of facilities providing maternal and child health services was high across services ranging from 89% -96%. CEmOC which was offered at 5% among all facilities. Approximately 27% of hospitals were offering CEmOC services.
- On average nine in ten facilities provided child curative care, family planning, and antenatal care services. The percentage of facilities providing delivery care was also high, 90%. Among hospitals less than half (40%) offered caesarean section
- The percentage of facilities providing maternal and child health services is shown in Figure 3 below.

Figure 3: Availability of MNCAH services nationally, Zimbabwe 2014 (N=275)

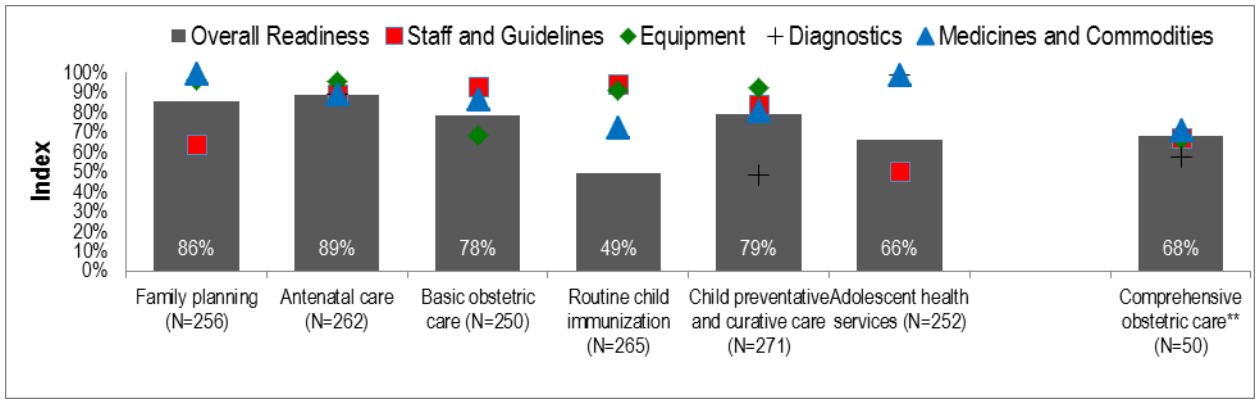


- The percentage of facilities providing diagnostic and treatment for infectious and non-communicable diseases varied considerably.
- On average 60% of facilities provided screening for diabetes either through urine testing for glucose or blood glucose
- HIV counselling and testing and TB services were offered in nine out of ten health facilities.
- ART provision was almost universal at 96%.

Service specific readiness

- Child immunization had a high readiness score (83%)
- Basic obstetric care and ANC had readiness scores of at 78% and 77% respectively, as seen in Figure 4 below.

Figure 4: Readiness* to provide MNCAH services nationally, Zimbabwe 2014



* The readiness score corresponds to the average availability (%) of the tracer items of the four domains (« Staff and guidelines », « Equipment », « Diagnostic capacity » and « Medicines and commodities »).

** Only includes hospitals and health facilities offering caesarean section.

- Readiness score for child immunizations was of 83% while that for equipment was 90%
- Readiness to provided HIV-related services such as HIV counseling and testing was high at 92%, PMTCT (90%), and care and support services (79%).
- Malaria and STI services, which were offered in almost all facilities, had moderate readiness scores (76 and 70 out of 100) respectively.
- Readiness scores for diabetes were lowest (56%).

Maternal and child health services

Family planning

- Across all provinces nine in ten facilities offered family planning services i.e. 95%
- Of the facilities providing family planning, 31% had all six tracer items.
- Almost all facilities had medicines and commodities for FP. Equipment (blood pressure apparatus was also high at 96%. At least half of facilities (50%) reported having one staff trained in family planning in the past two years.
- Guidelines and checklists on FP were available at 71%.

Antenatal care

- Nine in ten facilities offered antenatal care at 96%.
- Of the facilities providing antenatal care, only 4% had all eight antenatal care tracer items.
- Almost all facilities offering antenatal care provided iron and folic acid supplementation and tetanus vaccination.
- Three quarters (75%) of facilities provided urine protein testing on site.
- Less than half of facilities providing antenatal care had the capacity to perform haemoglobin tests (35%).

Basic obstetric and newborn care

- Overall, nine in ten facilities offered delivery care, including 94% of public facilities while all mission facilities provided this service. On average 86% of private facilities provided delivery care.
- Of the facilities offering delivery care, only 3% had all 19 tracer items. Nineteen percent (19%) of hospitals had all tracer items, compared to 4% of clinics. None of public and mission clinics had all tracer items.
- Items such as gloves and intravenous infusion kits were available in over 90% of facilities.
- Most staff (94%) had received training in new born resuscitation and BEmOC in the past two years.
- BEmOC guidelines were available at 92%

Comprehensive obstetric care

- Only 2% of health facilities offer CEmOC nationally, while 35% of hospitals offer this service.

- No hospital had all the 17 tracer items for comprehensive obstetric care. On average, hospitals had 12 of the 17 tracer items.
- Over 99% of hospitals had resuscitation table, atropine and ketamine injection.
- 22% experienced blood shortage in the three months prior to the assessment
- 22% of the hospitals had anaesthesia equipment.

Child health – routine immunization

- All public and mission facilities offer child immunization services while approximately three quarters (76%) of private sector facilities provide child immunization.
- Twelve percent (12%) providing child immunization had all 18 tracer items.
- All facilities had cold box with ice packs and sharps box. Nine out of 10 facilities had the following guidelines and at least 1 staff trained in child immunization, refrigerator disposable/auto-disable syringes, immunization cards and tally sheets.
- Availability of antigens (DPT, polio, measles, BCG) ranged from 89% to 94%.
- There was a variation between urban and rural facilities in mean availability of antigens i.e. (81% vs 70%).

Child health – curative and preventive care and growth monitoring

- Nine in ten facilities offered child curative care, growth monitoring services and treatment of child malnutrition.
- Only 1% of facilities providing child health services had all 19 tracer items. However, mean availability of tracer items was moderately high: on average, 15 of the 19 items were present.
- Equipment items (child scale, thermometer, stethoscope, and growth charts) were available in over 90% of facilities
- The following medicines were available in more than 90% of facilities: Albendazole, Zinc Sulphate, Vitamin A and Oral rehydration salts. Co-trimoxazole was available in 38% and paracetamol suspension was available in 65% of facilities.
- Mean availability of items was similar between urban and rural locations

HIV/AIDS and STI services

Figure 5: Availability of communicable disease services nationally, Zimbabwe 2014 (N=275)

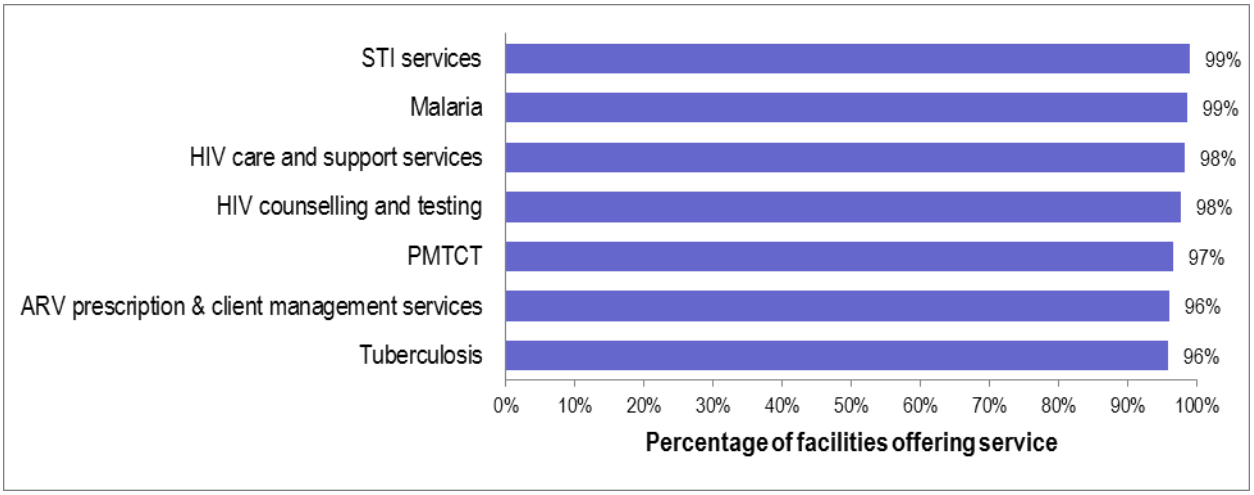
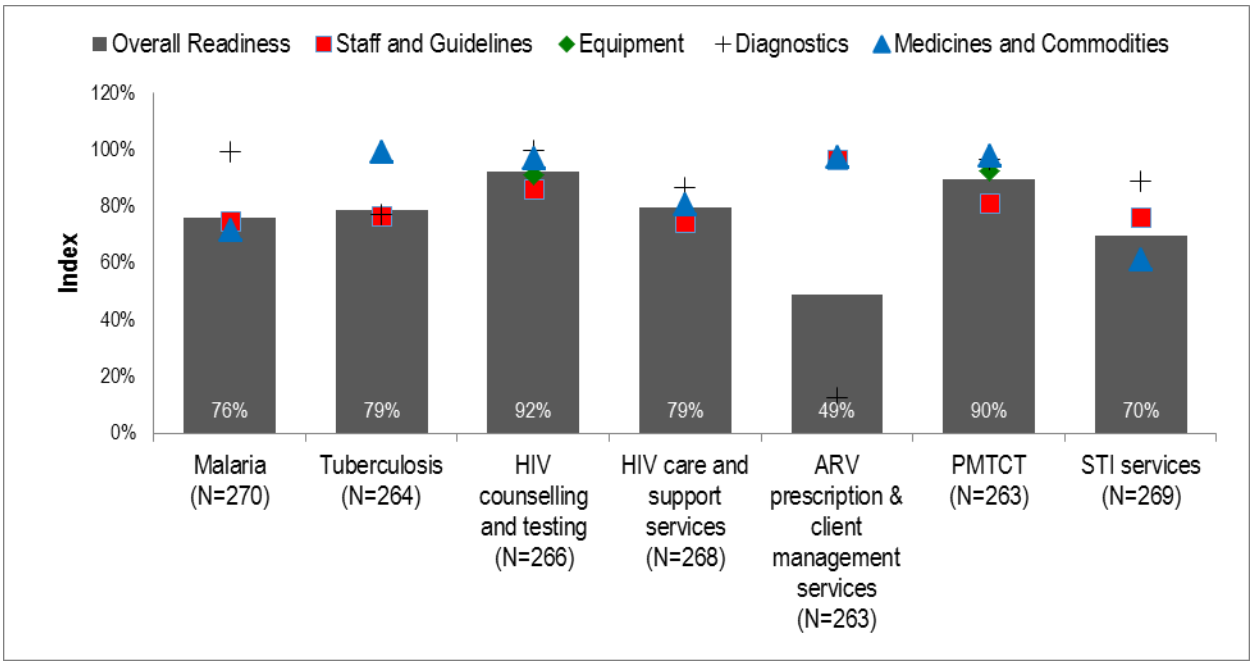


Figure 6: Readiness* to provide communicable disease services nationally, Zimbabwe 2014



HIV counselling and testing (HCT)

- All facilities had HIV diagnostic capacity
- There was no significant difference on the readiness score to provide HTC services by facility type and location
- Sixty nine percent (69%) of facilities offering HCT services had all five tracer items.
- Nine in ten facilities had male condoms and privacy in consultation rooms and eight in ten facilities had guidelines and at least 1 staff trained in HCT in the past two years.

HIV/AIDS care and support (HCS)

- Almost all (98%) of facilities offer HIV, care and support services i.e. treatment for opportunistic infections, FP counselling, condoms provision and nutritional rehabilitative services.
- Nine in ten provided care for pediatric HIV/AIDS patients.
- Facilities providing HCS reported on average had eight of out of the ten tracer items
- None of the facilities had all the 10 tracer items
- First-line tuberculosis medicines, co-trimoxazole, condoms, intravenous infusion kit and palliative care management were available in nine of ten facilities offering HCS.
- Availability of IV treatment for fungal infection was of very low at 1%.

Antiretroviral therapy (ART)

- Nationally almost all facilities (96%) offered ARV prescription or ART treatment follow up services.
- Seven out of ten private facilities offered ART services
- Only 7% of facilities offering ART had all seven tracer items.
- A very few 11%-15% the facilities were providing diagnostic tests for ART services
- 97% of facilities providing ART had ARVs for the first line treatment regimen available.
- Hospitals had a higher proportion of tracer items for ART compared to primary care facilities.

Preventing Mother-to-Child Transmission (PMTCT)

- Almost all facilities (97%) offered full package of PMTCT services nationally with service availability ranging from 95% to 97%.
- Public hospitals, mission hospitals and mission clinics had all the PMTCT services available in comparison to slightly less than two thirds (64%) of private hospitals
- Rural based locations almost all the facilities (99%) with PMTCT services available in comparison to 87% of facilities in urban locations.
- Nine in ten facilities offering PMTCT had all nine tracer items
- All facilities providing PMTCT had the capacity to conduct HIV testing for adults, and 94% could conduct DBS collection.
- 95% of facilities had at least 1 staff trained in the past two years and PMTCT guidelines were present in 84% of facilities.
- Nearly all (99%) of facilities had ARVs for Option B+

Sexually transmitted infections (STIs)

- Almost all facilities (99%) offered services for STI that include clinical diagnosis and prescription with little variations by province with less private hospitals (71%) having this service.
- Condoms were the most available at 99%.
- Medicines were the least available tracer items ceftriaxone injectable 36% and ciprofloxacillin 21%.
- Mean availability of tracer items was 70%

Tuberculosis (TB) services

- Nationally TB services were available in 96% of facilities although fewer private facilities offered TB services.
- Overall 18% offered TB diagnostic by rapid test (GeneExpert) and this was reported more in the public and mission hospitals compared to private hospitals.

- The most offered TB service was provision of TB medicines as well as management and treatment follow up (95%)
- On average there was relatively high mean availability of tracer items for TB services i.e. 79% nine out of 12
- Highest among these were all 1st line TB medications (99%), HIV diagnostic capacity (99%) at least 1 trained staff in management of HIV and TB co-infection (90%) and guidelines available for diagnosis and treatment of TB (89%).
- Availability of guidelines for MDR TB was lower at 55%.

Malaria services

- Almost all facilities nationally had malaria diagnosis/treatment service available (99%)
- Malaria diagnosis by microscopy was the least reported available service among facilities (19%).
- Private hospitals and clinics had the least percentage of facilities offering malaria diagnostic/treatment services at 86% and 85% respectively with no major variations observed between urban and rural locations.
- On average seven out of the nine tracer items were found at a facility in Zimbabwe
- 11% of the facilities reported having all tracer items.
- The staff and guidelines domain had 62%-87% of facilities reporting availability of tracer items.
- IPT and ITN were least available under the medicines and commodities domain 59% and 32% respectively.

Non-communicable diseases

Figure 7: Availability of non-communicable disease services nationally, Zimbabwe 2014 (N=275)

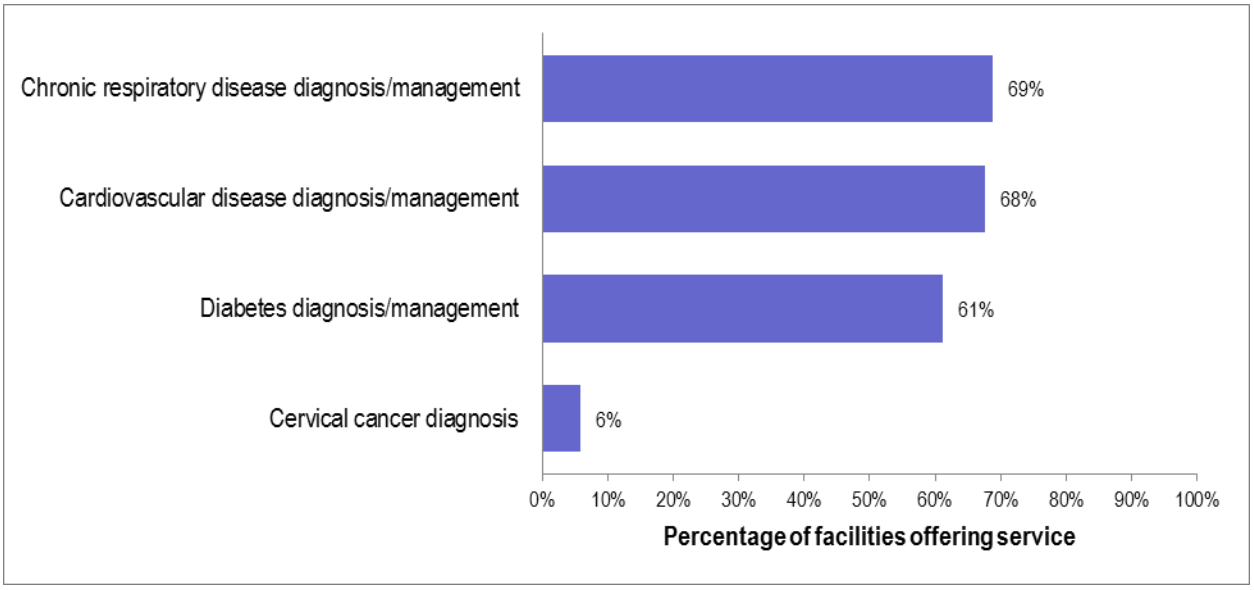
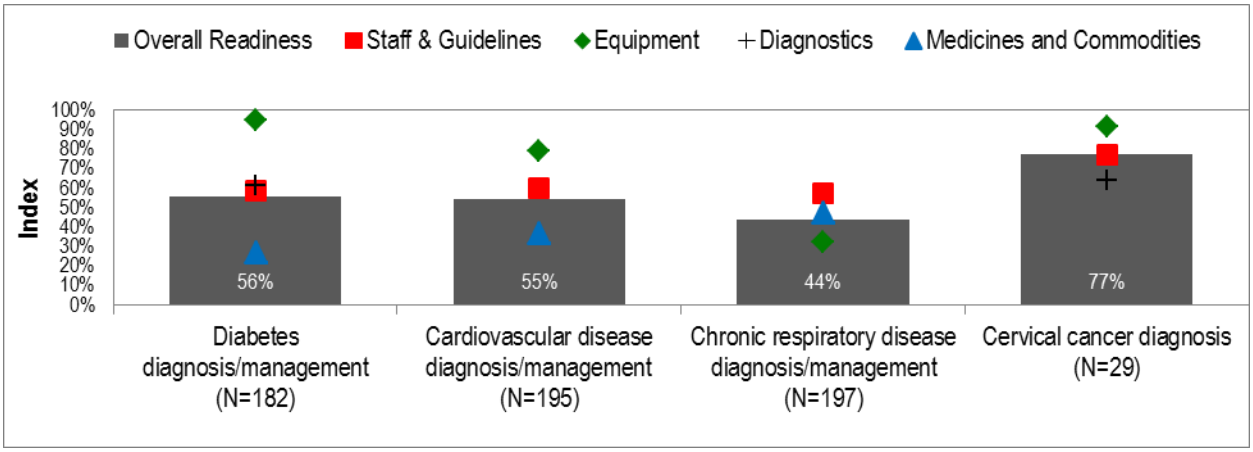


Figure 8: Readiness* to provide non-communicable disease services nationally, Zimbabwe 2014



Diabetes services

- 61% of facilities reported offering diagnosis and or management of diabetes
- The mean availability of tracer items was low at 56% i.e. seven out of thirteen tracer items.
- Only 1% of facilities had all tracer items.
- Guidelines scored highest at 98% followed by equipment which ranged from 93%-96%.
- Diagnostic capacity was low as only half (56%) of the facilities could measure blood glucose.
- A small proportion of facilities had glibenclamide and metformin in stock, 34% and 29% respectively.
- Diabetes service readiness score was at 58% i.e. eight out of thirteen

Cardio-vascular services

- Diagnosis and or management of cardio-vascular disease services was available in 68% of facilities.
- The mean availability of tracer items was slightly above half (55%) i.e. seven out of twelve while only 2% of facilities reported having all items
- Only 22% of facilities had 1 trained staff in CVD diagnosis and management
- Hydrochlorothiazide was the most available medicine at 93% and ACE inhibitors were the least available at 18%.
- Equipment scored high as most tracer items in this domain were above 93% availability

Chronic Respiratory Disease Service

- Diagnosis and or management of chronic respiratory diseases services were available in 69% of facilities.
- Mean availability of tracer items was below half (44%) i.e. five out of eleven while no facilities reported having all tracer
- Only 16% of facilities had 1 trained staff in CRD diagnosis and management
- Sulbatamol inhaler was the most available medicine at 75% and Beclomethasone inhaler was the least available at 18%.

- Equipment specific to diagnosis of CRD's e.g. peak flow meter was hardly available, 3%

Cervical Cancer services

- Only 6% of facilities offered cervical cancer services nationally
- A higher percentage of private hospitals 43% offered cervical cancer services in comparison to other facility types.
- The service is mainly offered in urban locations i.e. 14% compared 4% in rural locations
- Only 53% of facilities offering the service had all the four tracer items
- Readiness score among those offering cervical cancer services was 77% i.e. three out of four tracer items

Surgical services

Basic surgery (all facilities)

- 44% of facilities reported offering basic surgical services
- 100% of private hospitals offered the basic surgery services
- Private hospitals offered most of the basic surgery service package ranging from 71%-100%
- Readiness score for basic surgery 53% i.e. eight out of sixteen tracer items was recorded among facilities offering this service
- None of the facilities had all the tracer items
- All facilities had suturing material available followed by skin disinfectants 97%
- Only 5% of facilities providing basic surgery had splints for extremities on the day of the assessment.

Comprehensive surgery (in hospitals)

- 80% of hospitals provided comprehensive surgical care. The most commonly available surgical procedures were episiotomy 67%) and dilation and curettage (51%).
- 4% of hospitals had all fifteen tracer items for comprehensive surgery and were mostly in urban locations
- Nine in ten hospitals had a suction apparatus. Eight in ten facilities had adult and paediatric resuscitators.
- 46% of facilities offering comprehensive surgery reported availability of oxygen

Blood transfusion

- 7% of all facilities provided blood transfusion services, most of which were hospitals.
- None of the facilities providing blood transfusion had all seven tracer items
- 34% of facilities providing blood transfusion had a refrigerator, indicating that two thirds of transfusion outlets did not have proper means of blood storage.
- 63% i.e. six in ten facilities providing blood transfusion were able to conduct blood typing and cross match testing on site.
- Almost all (94%) of transfusion outlets had a safe blood supply that was thoroughly tested, and
- Only 29% did not have any blood shortage in the three months preceding the assessment.

1.0 Introduction

Demographics and Specific Diseases Affecting Zimbabweans

Demography helps to define those population groups in potential need of health services and those who are vulnerable and at risk. Improved socio-economic development goes hand in hand with improved health status and quality of life, which are in turn associated with a falling birth rate. Zimbabwe's life expectancy at birth has gradually increased from 42.91 in 2002 to 59.77 in 2013. Other demographic indicators include

- 70% of the population lives in the rural areas
- Over 70% of the population is made up of women and children
- 41% of the population are children under 15 years of age
- Older persons make up 4% of the population
- A very large and increasing number of orphans and vulnerable children
- Unplanned peri-urban settlements without social services
- Resettled farmers without social services

Demographics and Specific Diseases Affecting Zimbabweans

The leading causes of morbidity and mortality among the population include:

- HIV/AIDS contributing 26.8% deaths
- Lower respiratory tract infections 8.3%
- Pre-term births complications 4.6%
- Diarrheal diseases 4.6%
- Birth asphyxia and birth trauma 3.9%
- Stroke 3.4%
- TB 2.8%

The sharp economic decline Zimbabwe experienced over the last decade resulted in a dramatic decrease in public funding for basic services and a severe deterioration of the health delivery system. The country is recovering from an unprecedented socio-economic decline, which has significantly compromised the availability, use, and quality of health and social services. The result of the decline has been a systematic decrease in coverage of most basic services leading to a stagnation or deterioration of most health indicators and a rising maternal and child mortality rate. Zimbabwe is ranked among 40 countries in the world with high Maternal Mortality Rate (MMR) of over 581 maternal deaths per 100,000 live births (MICS, 2014). Most of the conditions contributing to mortality are easily preventable and treatable conditions e.g. HIV and AIDS, malaria, pregnancy related complications, diarrheal diseases and non-communicable diseases etc. Most of the causes of death among the population are amenable to change through well-designed evidence based interventions. However, the major challenges facing the health sector and impacting on efficient and effective use of resources and impact of interventions has been due to mainly inadequate resources inclusive of financial, human and material. Since 2009, with financial and technical assistance from multi-lateral and bilateral agencies, private philanthropic organizations, non-governmental organizations, civil society and quasi government organizations, Zimbabwe's public health system is slowly regaining functionality. The Ministry of Health and Child Care (MoHCC) has intensified efforts and action aimed at implementing

effective interventions to improve the health status of the population. Efforts have also been focused on preventing maternal and neonatal morbidity and mortality. To ensure that interventions are evidence based the MoHCC, has over the years commissioned several assessments to generate information for evidence-based planning and strengthening of the national health system. The studies and surveys point towards inadequacies in the six World Health Organization (WHO) Health System Building Blocks – human resources, medical products, vaccines and technology including infrastructure, health financing, health information, service delivery, leadership and governance – that are prerequisites for a functional health delivery system. Based on the evidence generated from previous assessments such the National Integrated Health Facility Assessment: (NIHFA), the MoHCC has designed and implemented targeted interventions aimed at addressing inadequacies in the six WHO Health System Building Blocks. Funding for these interventions has been through various funding mechanisms from partners such as the Health Transition Fund (HTF), Integrated Support Programme, H4+, Health Results Based Financing (HRBF) and Global Fund, among others.

While evidence generated from the various assessments has been instrumental in systematically and methodically mobilizing critical resources needed for service provision i.e. (financial, human and material), a gap has been identified. There has been inconsistent effort in assessing the response of the health system to increased investment in financial, human and material resources. The advent of increased investment has resulted in increased demand for accountability and the need to demonstrate results at country and global levels. Therefore, information is needed to track health systems response to increased inputs and improved processes over time, and to assess the impact such inputs and processes have on improved health outcomes and health status.

Despite heightened investments in health systems, few countries (Zimbabwe included) have up-to-date information on the availability of health systems that cover both the public and private sectors. Fewer countries still have accurate, up-to-date information required to assess and monitor the "readiness" of health facilities to provide quality services. The Service Availability and Readiness Assessment (SARA) is one tool available to fill data gaps on service delivery. SARA builds on previous and current approaches designed to assess health facility service delivery including the Service Availability Mapping (SAM) developed by the WHO, and the Service Provision Assessment (SPA) developed by Intermediate Care Facility (ICF) International under the United States Agency for International Development (USAID)-funded MEASURE DHS project. The SARA methodology takes into account best practices and lessons learned from the many countries that have implemented health facility assessments of service availability and readiness.

1.1 Objectives of the SARA survey

The broad objective of the assessment was to generate reliable information on service delivery inclusive of service availability and readiness of health facilities to provide basic health-care interventions in the country.

1.1.1 Primary objectives

The following objectives guided the data collection process. These were to:

1. Obtain information on functionality, coverage and access to health services at public and private health facilities in Zimbabwe, with a particular focus on:
    - Reproductive, maternal, newborn and child health,
    - PMTCT,
    - Nutrition,
    - Malaria and tuberculosis and
    - Non-communicable diseases.
2. Assess availability, distribution and functional status of available
    - Human resources,
    - Medical supplies and
    - Equipment and infrastructure necessary for high coverage of quality health services.
3. Assess the capacity of health facilities to provide basic health-care interventions related to reproductive, maternal, newborn and child health, PMTCT, nutrition, malaria, tuberculosis and non-communicable diseases

Based on the results of the survey, recommendations will be offered to guide evidence based decisions and design targeted interventions

1.1.2 Purpose of the assessment

The survey was designed to generate a set of core indicators on key inputs and outputs of the health system, which can be used to measure progress in health system strengthening over time. Tracer indicators aim at providing objective information on facility ability to meet the required conditions to support provision of basic or specific services with a consistent level of quality and quantity.

1.1.3 Key questions addressed by the assessment

The assessment was guided by the following key questions:

1. What is the availability status of basic packages of essential health services offered by public and private health facilities?
2. Is there an adequate level of qualified staff to deliver the services?
3. Are resources and support systems available to assure a certain quality of services?
4. How ready are facilities to provide high-priority services such as reproductive, maternal, newborn and child health services, and infectious disease diagnosis and treatment (e.g. HIV, sexually transmitted infections, tuberculosis and malaria)?
5. Are facilities ready to respond to the increasing burden of non-communicable diseases?
6. What are the strengths, weaknesses, opportunities and threats in the delivery of key services at health-care facilities?

2.0Methodology and data collection

2.1 Study design

The SARA assessment was cross sectional survey of health facilities in Zimbabwe at two of the tiered health system that included:

- Rural health centres, rural hospitals and urban clinics.
- Secondary referral levels are district and mission hospitals

Private hospitals and clinics were also included Study sites
Data was collected from all the 10 provinces of Zimbabwe. All the provinces and facilities were stratified by type of facility and administration. In each selected district, a proportionate sample of health facilities were identified and selected.

2.1.1 Study population

The study population was all health facilities in Zimbabwe regardless of level of care and administrative authority i.e. church affiliated, government, council and private.

2.1.2 Sampling Frame

Out of the total sampling framework of 1487 health facilities in Zimbabwe 271 facilities were randomly sampled.

2.2 The Planning Process

A total of 27 enumerators were recruited for the survey. The team comprised of trained medical personnel already working within the MoHCC and local council authorities. Each team was made up of a team lead and 2 enumerators. Supervisors were provided with a list of health facilities and replacement facilities in case the sampled facility was found not to be functional. The provision of the list enabled enumerators to contact by phone or in-person each health facility so as to seek permission for data collection on behalf of the team of enumerators and make appointments.

2.2.1 Sample Size Calculations

The sampling of facilities was based on the comprehensive list of all health facilities in country. The facilities were summarized and categorized by facility type (clinic, hospital) or managing authority i.e. Mission, Public or Private

The sample size determination was based on the formula based on the SARA manual.

Using the following formula:

$$n = [[(z^2 * p * q) + ME^2] / [ME^2 + z^2 * p * q / N]]*d$$

Where:

n = sample size

z = confidence level at 95% (1.96)

ME = margin of error (15%)

p = the anticipated proportion of facilities with the attribute of interest i.e. availability of basic services (which is assumed to be 0.5)

q = 1-p

d = design effect (1) add footnote on design effect

The sample size by type of health facilities after adjusting for attrition rate for the survey and a summary of the selected sites by geographic distribution is summarized in table below.

Table 1 : Sample Size Calculator by Facility level/Managing authority

Facility level/ Managing Authority	All facilities	Hospitals	Primary Health Facilities	Z	P	Q	ME	Primary Sample Size	Hospital Sample Sizes	Total Sample Size
District Hospitals	44	44	0	1.96	0.5	0.5	0.15	0		22
Mission Hospitals	62	62	0	1.96	0.5	0.5	0.15	0		26
Rural Hospitals	62	62	0	1.96	0.5	0.5	0.15	0		26
Private Hospitals	32	32	0	1.96	0.5	0.5	0.15	0		19
Clinics	1122	0	1122	1.96	0.5	0.5	0.15		0	42
Polyclinics	15	0	15	1.96	0.5	0.5	0.15		0	11
Private clinics	69	0	69	1.96	0.5	0.5	0.15		0	27
Mission clinics	25	0	25	1.96	0.5	0.5	0.15		0	16
Council/Municipal Clinics/FHS	96	0	96	1.96	0.5	0.5	0.15		0	30
Rural Health Centre	307	0	307	1.96	0.5	0.5	0.15		0	38
Totals	1 834									258

Based on the final minimum total sample size of 258 the facilities were distributed by province and proportionally distributed by the number of facility type and managing authority. Table 2 shows the workload for each province.

Table 2: Proportionate Distribution of Health Facilities by Province

Facility level	Bulawayo	Harare	Manicaland	Mash Central	Mash East	Mash West	Masvingo	Mat North	Mat South	Midlands	Total Sample Size
District Hospitals	0	0	3	2	3	3	2	3	3	3	22
Mission Hospitals	0	0	4	1	5	3	6	2	3	3	27
Rural Hospitals	0	0	6	2	3	3	3	3	3	3	26
Private Hospitals	2	6	0	1	1	4	1	1	0	3	19
Clinics	1	2	6	5	4	10	5	2	2	5	42
Polyclinics	3	8	0	0	0	0	0	0	0	0	11
Private clinics (farm)	0	1	6	2	3	6	1	2	4	2	27
Mission clinics	0	3	3	0	2	1	3	1	1	2	16
Council/Municipal Clinics/FHS	0	1	8	0	0	19	0	2	0	0	30
Rural Health Centre	0	0	8	3	8	2	4	4	5	4	38
Totals	6	21	44	16	29	51	25	20	21	25	258

The sampling framework for each province was re-defined into three ownership domains and by facility type.

Table 3: The sampling framework for each province was re-defined into three ownership domains and by facility type

Public	Mission	Private
Hospitals	Hospitals	Hospitals
Clinics	Clinics	Clinics

Table 4 below summarizes the re-grouping of the sampling framework by province and ownership domain and adjusting for 5% attrition.

Table 4: Proportionate Distribution of REGROUPED Health Facilities by Province

Facility level/	Bulawayo	Harare	Manicaland	Mash Central	Mash East	Mash West	Masvingo	Mat North	Mat South	Midlands	Total Sample Size
Public Hospitals	-	-	9	4	6	6	5	6	6	6	48
Mission Hospitals	-	-	4	2	5	3	6	2	3	3	28
Private Hospitals	2	6	2	2	2	4	2	2	2	3	27
Public Clinics	4	11	22	8	12	31	9	8	7	9	121
Private clinics	-	2	6	2	3	6	2	2	4	2	29

Mission clinics	-	-	3	-	3	3	3	2	2	2	18
Totals	6	19	46	18	31	53	27	22	24	25	271

The SARA survey was undertaken in a final sample of 275 health facilities spread across 10 provinces of the Zimbabwe.

2.2.2 Sampling for the SARA Survey

The sampling was based on the sample size table above and was done on the master sampling frame of health facilities from the national framework of health facilities provided by MoHCC.

2.2.3 Data collection tools

The SARA data generation survey consisted of two data collection tools i.e. core instrument and data verification tool. The core instrument had three main areas of focus that included:

1. Service Availability
2. General Service Readiness
3. Service Specific Readiness

The tool was made of sections with broad thematic areas. Under each broad theme the tool was divided into subthemes. Core functional capacities assessed include:

- Identification, location and managing authority of the health facility.
- General facility status e.g. availability of water supply, telecommunications, electricity, beds etc.
- Basic medical equipment, such as X-ray, oxygen, washing machines.
- Availability of health work force e.g. cadre of human resources, staff training and guidelines.
- Drugs and commodities – availability of general medicines.
- Diagnostic facilities – availability of laboratory tests.
- Standard precaution – availability of injection, sterilization, disposal and hygiene practices.
- Specialized service, such as for maternal and newborn child health, family planning, child and adolescent health, communicable diseases and non-communicable diseases.
- Standard and specialized surgery services and blood transfusion.

Insert Map to show the distribution of sampled sites across the country by ownership, facility type and province using the geo-coordinates collected. (Geo mapping expertise required).

3.0 Overview of the Zimbabwe Health System

At Independence in 1980, Zimbabwe adopted the Primary Health Care (PHC) Approach in line with the Alma Ata Declaration of 1978. The implementation of the PHC approach resulted in decentralization of health service provision from central level (cities and towns) to administrative wards at district level in the rural communities. Four tiers for health service delivery were established as follows:

- Quaternary Level: Central Teaching Hospitals with specialist medical services in the capital city Harare, the second largest city Bulawayo and in Chitungwiza.
- Tertiary Level: Provincial Hospitals with ambulatory and inpatient specialist services in the eight rural provinces of Zimbabwe.
- Secondary Level: District Hospitals with emergency, ambulatory and inpatient services in the sixty-two districts of Zimbabwe.
- Primary Level: Rural Health Centers with primary care services in the 220 wards of Zimbabwe.

This decentralization was associated with a significant improvement of most health indicators in the 1980s and early 1990's. It is in the context of a decentralized health system that quality of care will be viewed in this strategy. In addition there is a private for profit sector whose operations will also be guided by this strategy.

The Zimbabwe health system has been undergoing a revitalization process since the launch of the Zimbabwe Health Sector Investment case in 2009, after a near collapse on the background of socio-economic challenges which reached a peak in 2008. This process is embedded in the Zimbabwe National Health Strategy (ZNHS 2009-2015) in which the vision of the Ministry of Health and Child Care (MoHCC) is "to have the highest possible level of health and quality of life for the citizens of Zimbabwe".

The mission of the MoHCC as stated in the ZNHS 2009-15 is "to provide, administer, coordinate, promote and advocate for the provision of equitable, appropriate, accessible, affordable and acceptable **quality** health services and care to Zimbabweans while maximizing the use of available resources, in line with the primary health care approach. The provision of these services is guided by the Results Based Management system (RBM), which was adopted by the Zimbabwean government in 2005 as a performance monitoring and evaluation system.

3.1 Overview of the assessment

The mandate of the health system is to provide a comprehensive package of quality and equitable health care to the population. To ensure equity in access to health care services, health facilities must be distributed in such a way as to allow physical accessibility to clients, and in sufficient numbers to respond to demand for services. Adequate resources and an appropriate enabling environment are critical prerequisites for the successful delivery of health services. The resources include trained staff, guidelines, and the presence of adequate infrastructure, equipment, commodities, medicines, and diagnostic tests, and is referred to as service readiness. The SARA is meant to provide key information on the state of the health system in the following areas:

- General Service availability (accessibility of health services): health infrastructure (density of facilities and inpatient beds), core health personnel, and inpatient/outpatient services utilization.
- General Service readiness (capacity of health facilities to provide general health services): presence of infrastructure/amenities, basic equipment, standard precautions for prevention of infections, laboratory diagnostic capacity, and essential medicines.

- Specific Service availability and readiness (proportion of facilities providing specific key health interventions and their capacity to provide these services): availability of guidelines, trained staff, equipment, diagnostics, and medicines and commodities required to provide the service.

The SARA provides a set of tracer indicators of service availability and readiness that can be used to detect change and measure progress in health system strengthening over time. Service readiness is recognized as a potentially robust expression of the strength of a health system. Tracer indicators aim to provide objective information about whether or not a facility meets the required conditions to support provision of basic or specific services with a consistent level of quality. Summary or composite indicators, also called indexes, are a useful means to summarize and communicate information about multiple indicators and domains of indicators. For analysis of the Zimbabwe assessment data, the SARA indexes were computed for each of the 6 facility types as well as the overall score nationally combined.

Planned analysis

The data was analyzed using descriptive statistics such as frequencies and means. Where data was skewed median and interquartile ranges were used. A chart book developed by WHO for SARA surveys was also used to generate graphs and frequencies. Before data was analyzed, data was weighted based on facility types which was the basis for the sampling framework.

Data weighting

The weighting of the data was based on the defined sampling framework of all health facilities in Zimbabwe and the following steps were taken in defining and assigning weights.

1. A sampling framework of all health facilities were defined
2. All health facilities were categorized by facility type i.e. public hospitals, public clinics, private hospitals, private clinics, mission hospitals and mission clinics and the number of each counted.
3. In each facility type category all sampled facilities were listed and
4. The probability of choosing that facility was defined by number of facilities sampled over the number of facilities in the facility type category.
5. Then survey weight was defined as the inverse of the probability of choosing a facility in a facility type category as summarized in the table 4 below.

Table 5: Survey weighting

Facility type	Total population of facilities	Number of facilities sampled	Probability of selecting a facility	Survey Weight =1/probability
Public Hospital	105	48	0.4571	2.1875
Public Clinic	1129	153	0.1355	7.3790
Private Hospital	16	15	0.9375	1.0666
Private Clinic	119	19	0.1597	6.2632
Mission Hospital	66	29	0.3494	2.2759
Mission Clinic	52	11	0.2115	4.7273

The analysis was weighted on the above calculated weights.

4.0 Results of the assessment

Based on the targeted facilities of 271, a total of 275 facilities were finally assessed giving a response rate of 101%. Table 4 below summarizes the response rates by facility type. From the table the highest response rate was 126% for public clinics whilst the least response rate was 56% for private hospitals.

Table 6: Response rate by facility Type and Provinces, Zimbabwe, 2014

Facility Type	Harare		Bulawayo		Midlands		Manicaland		Mash. Central		Mash. East		Mash. West		Masvingo		Mat. North		Mat. South		Total		
	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	T	A	Targeted (T)	Achieved (A)	Response rate %
Public Hospital	-	-	-	-	6	6	9	7	4	5	6	5	6	7	5	5	6	8	6	5	48	48	100
Public Clinic	11	16	4	6	9	7	22	24	8	11	12	19	31	38	9	10	8	11	7	11	121	153	126
Private Hospital	6	4	2	2	3	3	2	-	2	-	2	1	4	1	2	3	2	-	2	1	27	15	56
Private Clinic	2	2	-	-	2	2	6	6	2	1	3	-	6	5	2	1	2	-	4	2	29	19	66
Mission Hospital	-	-	-	-	3	3	4	5	2	3	5	1	3	3	6	6	2	3	3	5	28	29	104
Mission Clinic	-	-	-	-	2	4	3	3	-	-	3	3	3	-	3	1	2	-	2	-	18	11	61
Total Total	19	22	6	8	25	25	46	45	18	20	31	29	53	54	27	26	22	22	24	24	271	275	101

Table 6 above shows the response rate of facilities sampled for the SARA survey. Original sample for the survey was 271 and 275 facilities were assessed. Out of the six sampled facility types the response rate of public hospitals, public clinics and mission hospitals range from 100%-126%. Low response rates were from private hospitals, private and mission clinics whose response rate ranged between 56% and 61%.

4.1 General Service Availability

Health services must be physically accessible for the population to benefit from them. General Service availability refers to the physical presence of health service delivery components within a nation and across its administrative units. This is computed as a density of health services per unit population. General Service availability is measured by the following tracer indicators:

- Health infrastructure density
  - Facilities per 10 000 population
  - Inpatient beds per 10 000 population
  - Maternity beds per 1000 pregnant women
- Health workforce density
  - Core health workers per 10 000 population
- Service utilization

- Outpatient visits per person per year
- Hospital discharges per 100 persons per year

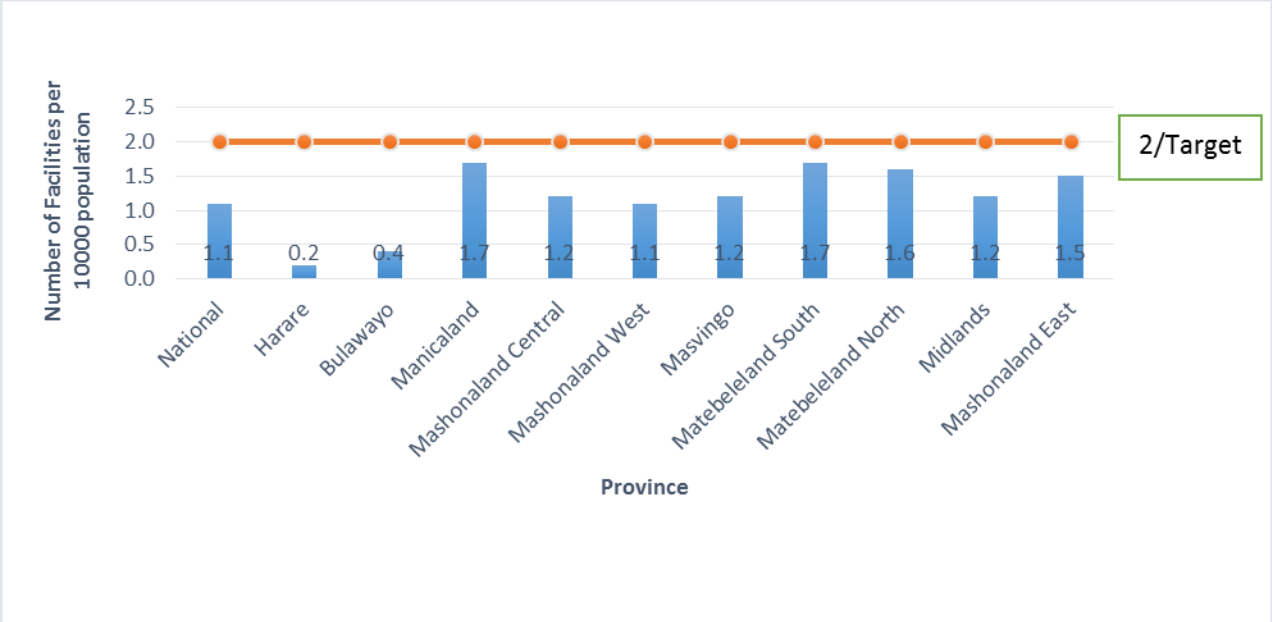
For general service availability, although data on some of the indicators were collected through the SARA questionnaire, indicators were not calculated for a sample of facilities visited during the SARA. Since all service availability measures require data that link the numerator to the denominator, information needed to calculate service availability for Zimbabwe and across its ten provinces was gathered from the Health Information Management System (HMIS) - District Health Information System DHIS 2.0 and 2012 national population data.

Health Facility Density

The facility density is an indicator of outpatient service access. The calculation of the facility density was done using The Master Facility List (MFL) which was the sampling frame. The facilities were stratified according to provinces.

Figure 9 below shows that the overall/national facility density is 1.1 facilities per 10 000 population nationally. None of the provinces had facility densities above the SARA benchmark of 2 facilities per 10 000 population. Facility densities across all provinces ranged from less than 1 health facility per 10 000 in Harare and Bulawayo provinces to 1.7 per 10 000 in Manicaland and Matabeleland South provinces. However, undercounting of facilities is much more likely to have occurred in urban provinces because of the availability of private sector health care. Additionally, health facilities in the quaternary and tertiary level of care were excluded from the MFL.

Figure 9: Health facilities density (per 10 000 population) by Province, Zimbabwe 2014

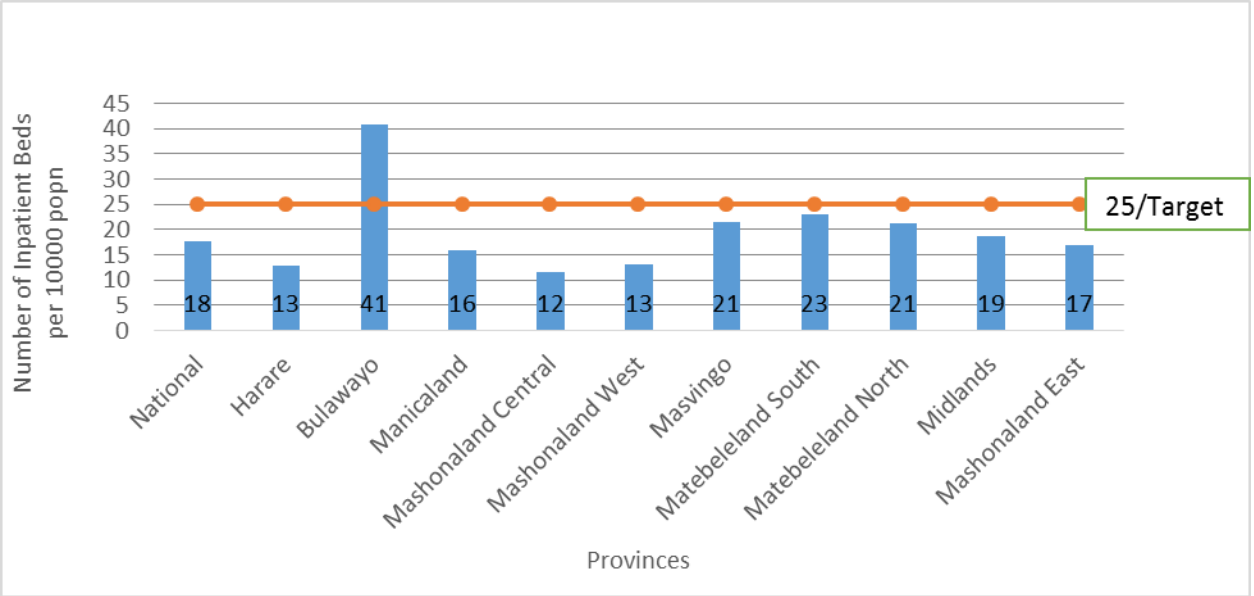


Inpatient Bed Density

Inpatient bed density provides an indicator of inpatient service access. The facilities that participated in the SARA collected information on the number of inpatient beds in each facility. These figures were not used to determine the inpatient bed density since service availability cannot be calculated from a sample of facilities but census type. The MoHCC list through DHIS 2.0 recorded the number of beds and cot-beds in each province. There was no disaggregation of beds by service area e.g. inpatient or maternity inpatient beds. The SARA target of 25 inpatient beds per 10 000 population included cot-beds, adult inpatient beds in both medical and surgical wards but excludes maternity and delivery beds.

Figure 10 below illustrates the national inpatient bed density as 18 in-patient beds per 10 000 population. This is double the regional average of 9 hospital beds per 10 000 population in the WHO African Region. Bulawayo Province was above the SARA target with 41 beds per 10 000 population.

Figure 10: Inpatient beds density (per 10 000 population) by nationally and by Province, Zimbabwe 2014

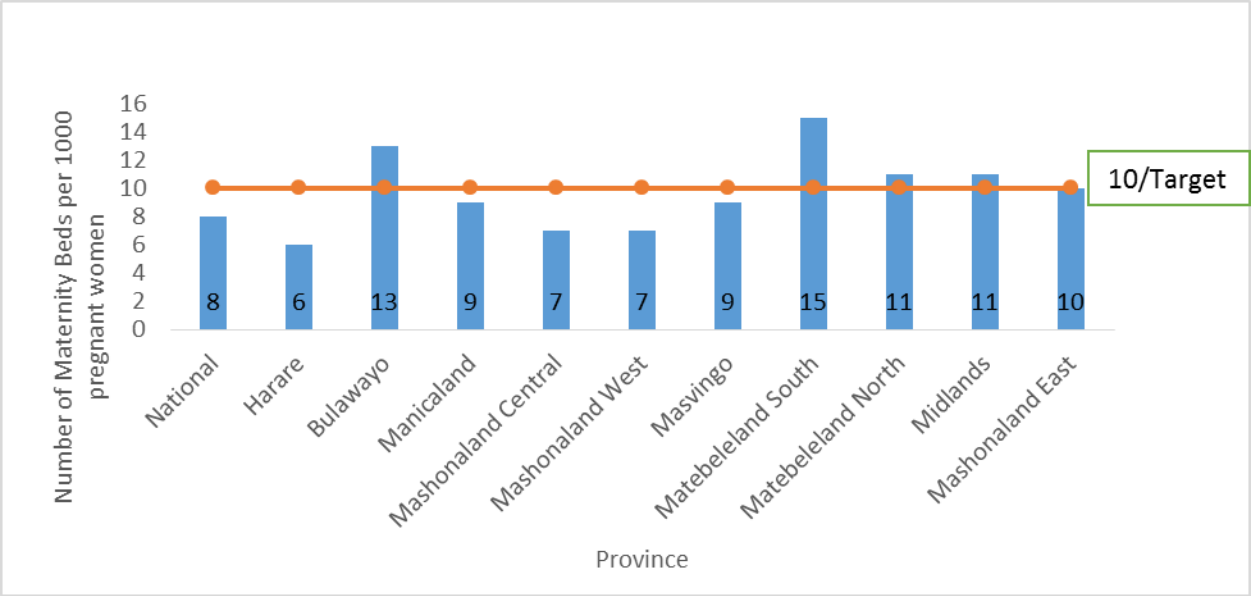


Maternity Bed Density

Maternity beds are inpatient beds that are used exclusively by pregnant women before and after delivery. Delivery beds are not included in the indicator. The availability of maternity beds is an important indicator of access to maternity services. HMIS data recorded the number of maternity beds per province.

Figure 11 below shows the national maternity bed density to be 8 per 1000 pregnant women. This varies by province from 6 beds per 1000 in Harare province to 15 beds per 1000 in Matebeleland South province. Five provinces, matched or exceeded the SARA target value of 10 maternity beds per 1000 pregnant women.

Figure 11: Maternity beds density (per 1000 pregnant women) nationally and by Province, Zimbabwe 2014

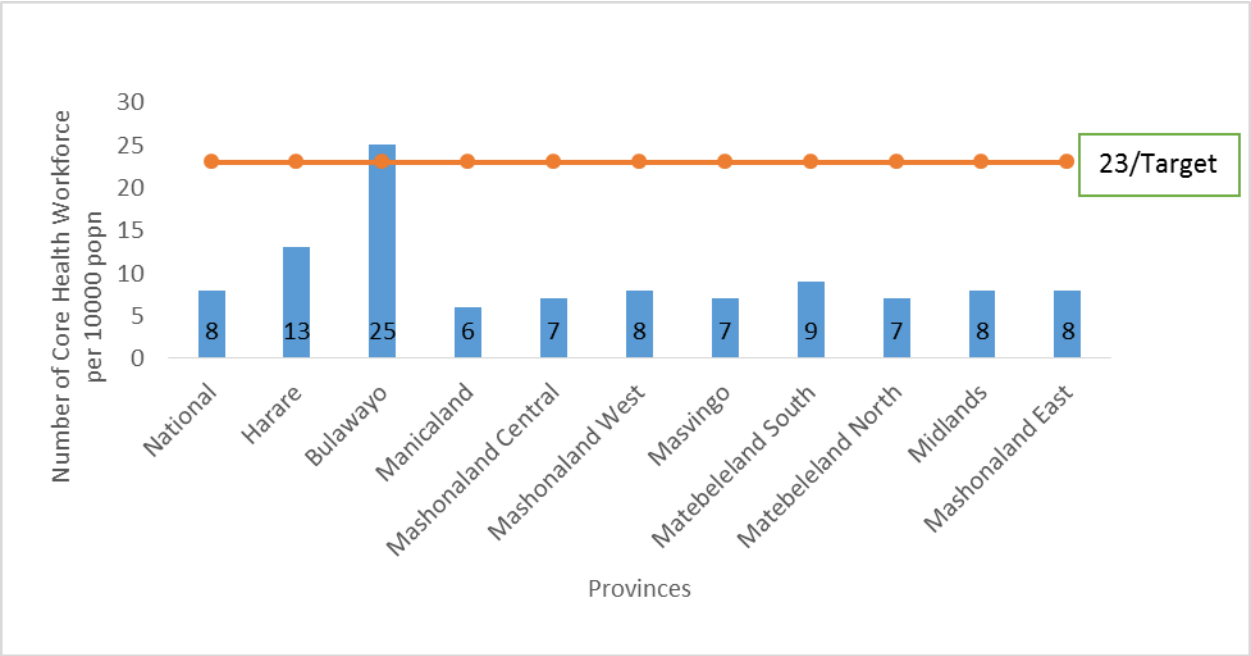


Health Worker Density

Availability of core health professionals is an essential component of health service delivery. Acute shortages and uneven geographic distribution of health workers are common problems that lead to inaccessibility and clearly raises the issues of equity in access to essential health services. The core health workforce density indicator focuses on the core medical professionals i.e. specialist medical doctors, non-specialist medical doctors, nursing professionals (registered general nurses (RGNs), state certified nurses (SCNs), primary care nurses (PCNs) and midwives). Currently there is no establishment for PCNs in Harare and Bulawayo provinces. There is also no establishment for Midwives. Midwives are included among the RGNs. Zimbabwe has no establishment for part time doctors in its HMIS data. WHO estimates that countries with fewer than 23 core health workers per 10 000 population will be unlikely to achieve adequate coverage rates for the key primary health-care interventions prioritized by the Millennium Development Goals (MDGs)

Figure 12 below reflects that the overall density of the core health workers is 8 core health workers per 10 000 population, i.e. about a third of the recommended target of 23 per 10 000 population by WHO. However, the health worker density is almost three times higher in Bulawayo province with a density of 25 per 10 000 population than the national average. The health worker density is high in the urban provinces because of public quaternary as well as large private hospitals. Manicaland province had the lowest density of 6 per 10 000 population.

Figure 12: Core health workers density (per 10 000 population) nationally and by Province, Zimbabwe 2014

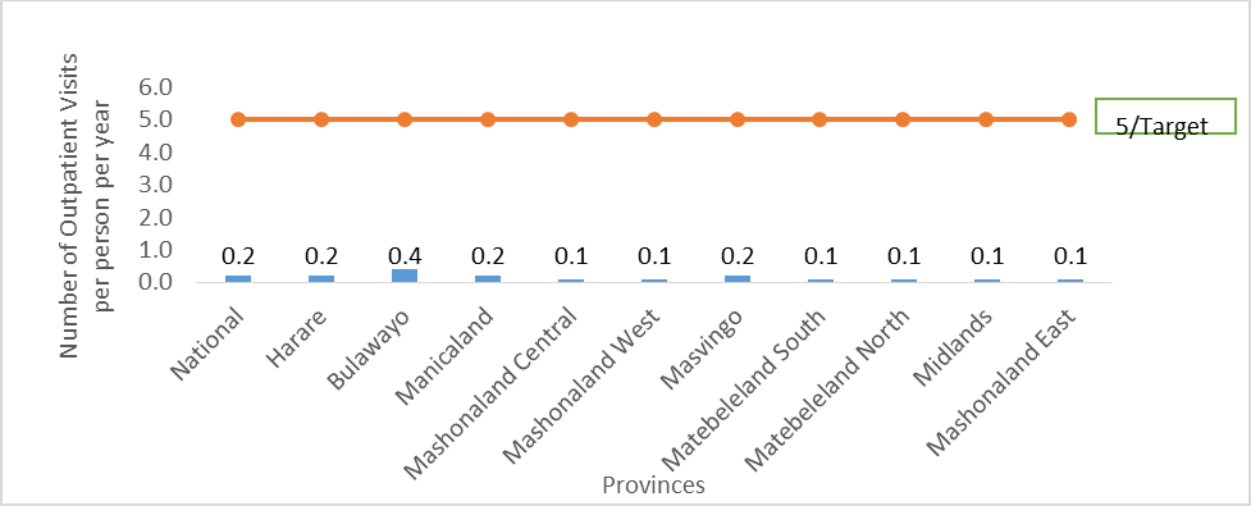


Outpatient Visits

In populations with poor or suboptimal health infrastructure, the service utilization rate is an indicator of accessibility. Service utilization comprises outpatient visits and inpatient discharges. The number of outpatient visits (excluding immunization) per person per year provides information on the accessibility of outpatient services.

Figure 13 below reflects the number of outpatient visits per person per year. Overall, there were 0.2 outpatient visits per person in the 10 provinces. No province attained the SARA target value of 5 outpatient visits per person per year.

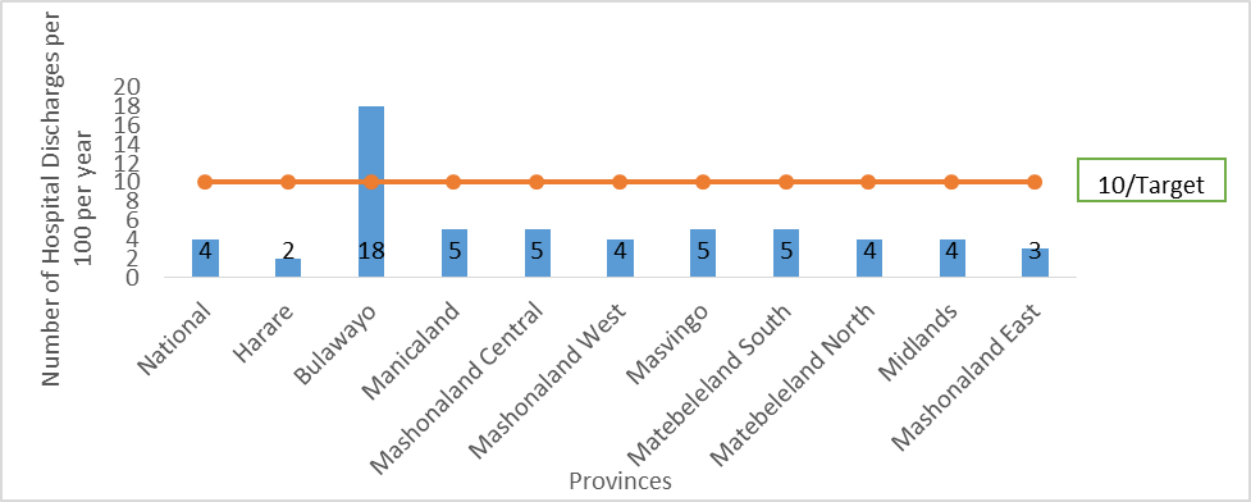
Figure 13: Outpatient visits density (per person per year) by nationally and by Province, Zimbabwe 2014



Inpatient Admissions

The number of inpatient admissions (excluding deliveries) per 100 persons per year provides information on the availability and access to inpatient services. Figure 14 below shows that overall, there were 4 inpatient admissions per 100 persons in 2014. Bulawayo provinces exceeded the SARA target value of 10 per 100 persons.

Figure 14: Inpatient admissions density (per 100 persons per year) nationally and by Province, Zimbabwe 2014



General Service availability summary index

The general service availability index is a composite measure designed to summarize information from the three general service availability areas: health infrastructure (health facility density and inpatient bed density), health workforce, and service utilization (outpatient visits and inpatient admissions). Tracer indicators are expressed as a percentage relative to the target value in order to make them comparable. Table 7 below summarizes the general service availability tracer indicator definitions and target values, as well as the computation of the scores. Tracer indicators that exceed the target value are given a score of 100%. Indices are computed by taking the unweighted mean of component indicator scores.

Table 7: General service availability tracer indicators, target values, and calculation of scores and indexes

	Indicator	Target	Score =N/target*100 (max. 100)
Health infrastructure			
(a) Facilities	N per 10 000 population	2	N/2 * 100 (max.100)
(b) Inpatient beds	N per 10 000 population	25	N/25 * 100 (max.100)
(c) Maternity beds	N per 1000 pregnant women	10	N/10 * 100 (max.100)
Health infrastructure index		100	{(a)+(b)+(c)}/3
Health workforce			
(d) Core health workforce	N per 10 000 population	23	N/23 * 100 (max.100)
Health workforce index		100	(d)
Service utilization			
(e) Outpatient visits	N per person per year	5	N/ 5 * 100 (max.100)
(f) Inpatient admissions	N per 100 persons per year	10	N/ 10 * 100 (max.100)
Service utilization index		100	{(e)+(f)}/2
Service availability index {(e)+(f)}/2]/3		100	[{(a)+(b)+(c)}/3 + (d)+

Figure 15 below shows the health infrastructure index score nationally and by province. The overall health infrastructure score is 69% of the computed values. This indicates that on average, facility density, inpatient bed density and maternity bed density are at approximately 69% of the respective target values. The health infrastructure score is highest at 93% in Matebeleland South and lowest at 39% in Harare.

Figure 15: Health Services Infrastructure Index Score and Component Scores, Nationally and by Province, Zimbabwe 2014

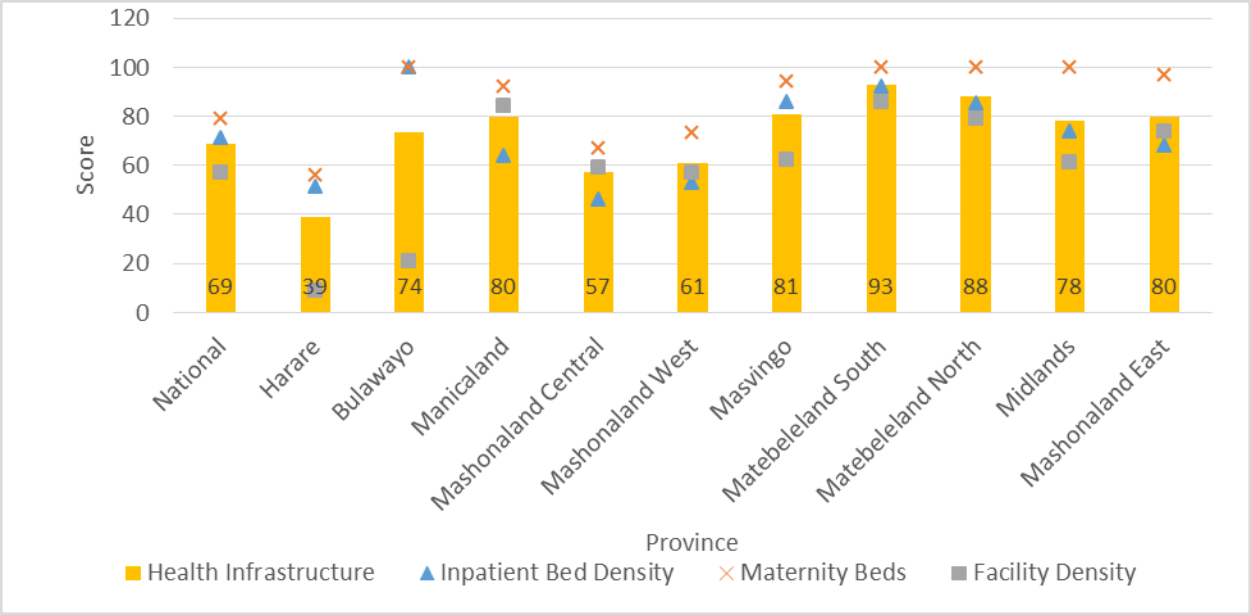


Figure 16 below shows the service utilization index score nationally and by provinces, as well as the component scores. The overall service utilization score is 22%. This indicates that on average, service utilization is at approximately 22% of the respective target values. The score is highest at Bulawayo province (54%) and lowest in Harare (11.5%).

Figure 16: Service Utilization Index Score and Component Scores, Nationally and by Province, Zimbabwe 2014

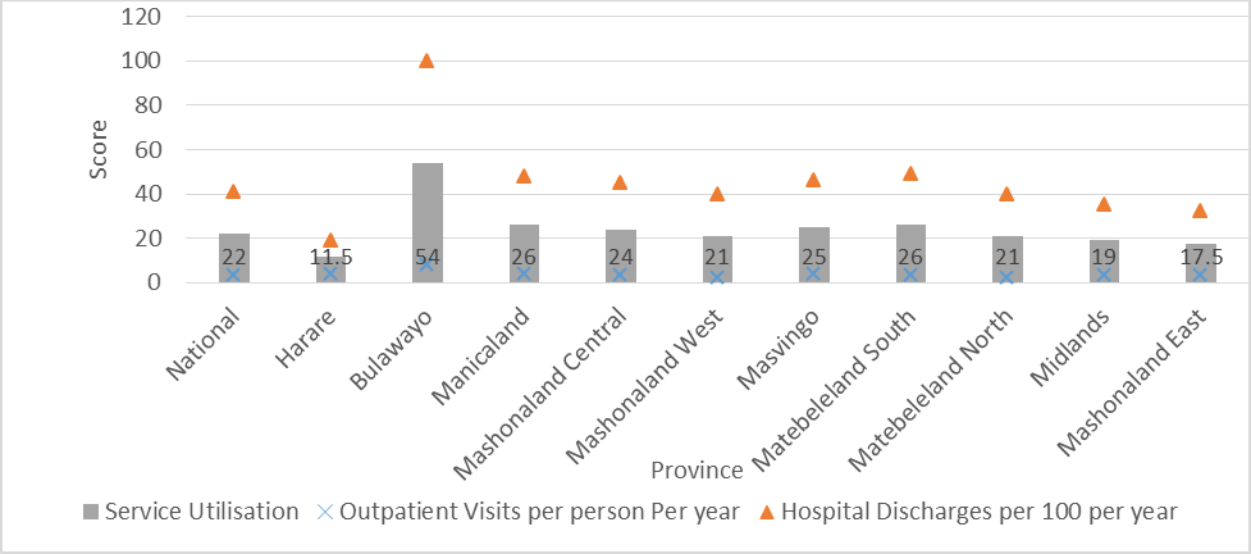
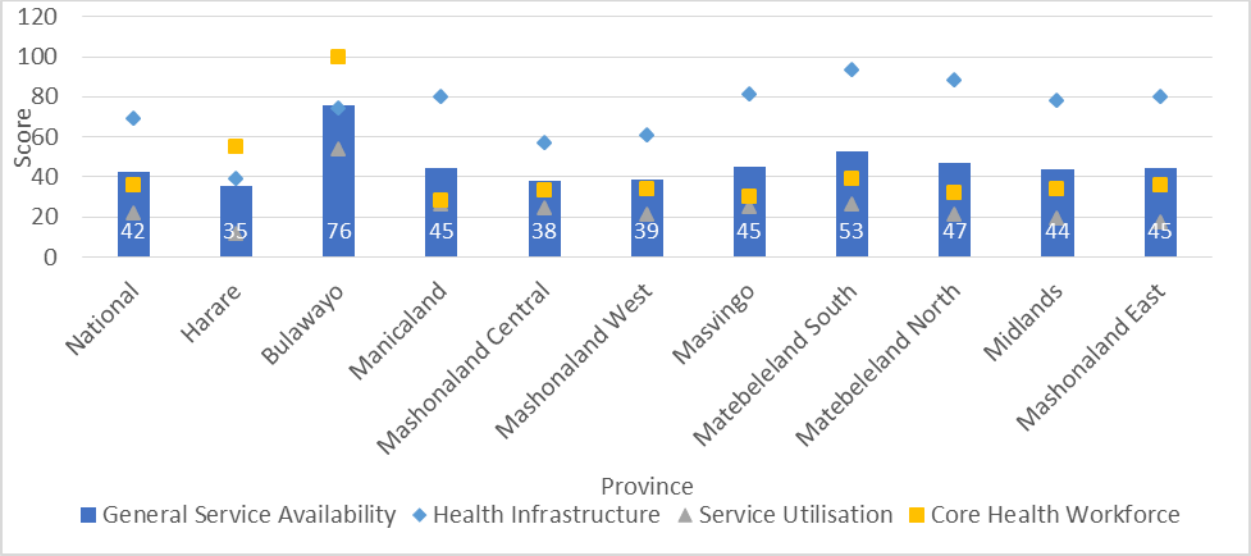


Figure 17 below shows the general service availability scores nationally and by province, as well as the health infrastructure, workforce, and service utilization scores. The national general service availability score is 42%. Bulawayo Province scored higher 76% in general service availability compared to Harare (35%) and other rural provinces. Health infrastructure scores tended to be highest among the three areas across rural provinces while core health workforce scores were highest across the urban provinces (Harare and Bulawayo). All provinces had service utilization scoring lowest.

Figure 17: General Service Availability Index Score and health infrastructure, workforce, and service utilization component scores by Province, Zimbabwe 2014.



4.2 General Service Readiness

General Service readiness refers to the overall capacity of health facilities to provide general health services. Readiness is defined as the availability of components required to provide services in the following five domains:

- basic amenities
- basic equipment
- standard precautions for infection prevention
- diagnostic capacity
- essential medicines

Table 8 lists the tracer items in each domain. Further details on the indicators and indicator definitions can be found in the SARA methodology and documentation.

Table 8: Description general service readiness domains and tracer items

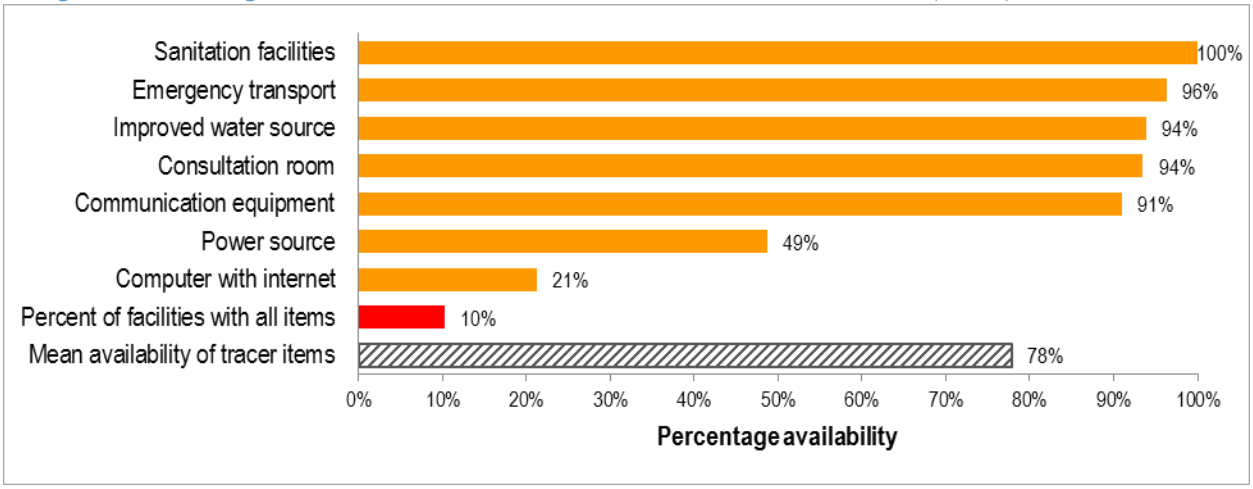
Domains	Tracer indicators (% of facilities with item)
Basic amenities	Power (grid or generator with fuel), improved water source, sanitation facilities, communication equipment (phone or SW radio), computer with email/internet, emergency transportation.
Basic equipment	Adult scale, child scale, thermometer, stethoscope, blood pressure apparatus, light source.
Standard precautions	Sterilization equipment (dry heat sterilizer or autoclave), safe disposal of sharps and medical waste, sharps box, disinfectant, single use syringes (standard disposable or auto-disable), soap/hand disinfectant, latex gloves, medical masks, guidelines for standard precautions.
Diagnostic capacity (on site)	Haemoglobin, blood glucose, urine dipstick (protein and glucose), malaria (RDT or blood smear), HIV (RDT or ELISA), syphilis rapid test, TB microscopy, general microscopy, urine pregnancy test.
Essential medicines	Amoxicillin syrup, Amoxicillin tabs, Metformin cap/tab, Calcium Channel blocker/nifedipine, Benzathine penicillin, Doxycycline, Iron and Folic tablets, Benzyl penicillin, Hydrochlorothiazide, Magnesium Sulphate, Metronidazole tablets, Oxytocin, Ready to Use Therapeutic Feed(plumpynut), ORS, Paracetamol tablets, Paracetamol syrup, Chlorpromazine tablets, cotrimoxazole tablets, cotrimoxazole syrup, diazepam, Prednisolone cap/tab, Tetracycline eye ointment, Zinc Sulphate tablets, Salbutamol Inhaler

4.2 1 Basic Amenities

Basic amenities service availability

Basic amenities were assessed in 275 facilities based on the following seven tracer items: ***power communication, privacy in consultation, improved water source, adequate sanitation facilities, computer with internet access, and emergency transportation***. Figure 18 shows the availability of tracer items at national level.

Figure 18: Percentage of facilities with basic amenities items available at national level (N=275)



Overall, all health facilities assessed had adequate sanitation facilities in the form of flush toilets, Ventilated Improved Pit latrines (VIP), pit latrines with slab, pit latrines without slab/open. However, in Zimbabwe none of the facilities used pit latrines without slab/open pit compositing toilet and bucket. Most rural facilities reported using the VIP latrine (69%) or pit latrine with slab (4%), while most urban facilities had flush toilets (97%). All hospitals assessed they used flush toilets.

The water source indicator measures whether there is an improved water source within 500 meters of the facility. Results show that an average of 94% of the health facilities assessed and weighted had access to an improved water source within 500m of the facility. Ninety-seven (97%) of urban facilities assessed and weighted had water piped into facility while 3% had water piped into facility grounds.

Of all the health facilities assessed, 49% were found to have power source (grid, generator or solar). Of note is that urban and rural facilities reported an almost similar availability of power source 49% and 48% respectively. By facility type, power was available in hospitals (50%) with public clinics having the lowest 44%. It is however, important to note that the indicator also accounted for power outages. Slightly more than a quarter (26%) of facilities in rural locations used generators as the most common source of secondary power.

Of the health facilities sampled and weighted, 96% had emergency transportation. For this indicator there is no significant difference in emergency transportation availability between urban and rural locations (97% and 96%) respectively.

Availability of a computer with email/internet access was the least commonly available tracer item in this domain, with availability at 21% of health facilities surveyed. Among the facilities urban facilities with a functional computer were 85% compared to facilities in rural location with 39.5%. About two thirds, 65% of public hospitals had a computer with internet. Almost all private hospitals, 93% had a computer with internet. As a computer requires a reliable power source, it is to be expected that larger facilities and those in urban areas would be more likely to have a computer with internet access.

Only 1 in 10 facilities had all 7 basic amenities tracer items. The basic amenities readiness score is 78% as shown in Figure 18. The overall basic amenities readiness score of 78% among all facilities. Mean scores for urban locations (82%) were higher than for rural facilities (77%), indicating that facilities located in urban districts had more of the basic amenities on average compared to those in rural locations.

Basic amenities readiness

The facilities offering health services (275 facilities total) were also assessed on their readiness to provide the service based on the availability of the seven tracer items by facility type and location.

Table 9: Basic Amenities Readiness: Mean availability of basic amenities tracer items, by facility type and location (N=275)

Facility type	Number of Facilities sampled	Mean Availability (%)
Public Hospital	48	85
Public Clinic	153	75
Private Hospital	15	92
Private Clinic	19	88
Mission Hospital	29	88
Mission Clinic	11	75
Location of Facility		
Urban	60	82
Rural	215	77

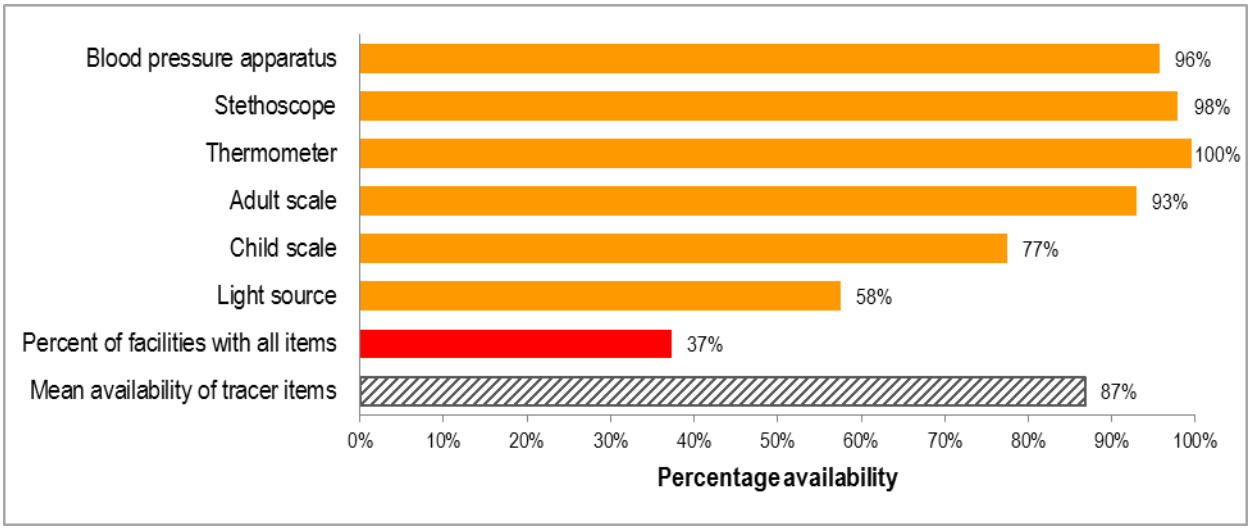
When stratified by facility type, private hospitals had the highest mean score at 92% with the lowest mean score being at public and mission clinics 75% respectively as reflected in table 6 below.

4.2.2 Basic equipment

Basic equipment availability

Health facilities were assessed on the availability and functionality of the following six items: adult scale, infant scale, stethoscope, thermometer, blood pressure apparatus, and a light source for patient examinations.

Figure 19: Percentage of facilities with basic equipment items available nationally Zimbabwe 2014 (N=275)



All facilities had a thermometer. On the day of the assessment overall basic equipment score availability was quite high at 87% with facilities having 5 out of 6 items available. The findings reflect that out of the 6 items in the domain light source was the least common item available at 58%. Thirty-seven (37%) of all facilities sampled and weighted had all tracer items for the equipment domain.

Equipment readiness by facility type and location

The facilities were assessed on their readiness to provide the service based on the availability of the six tracer items by facility type and location.

Table 10: Percentage mean availability of basic equipment tracer items by facility type and location, Zimbabwe, 2014 (N=275)

Facility type	Number of facilities	Percentage mean Availability (%)
Public Hospital	48	85
Public Clinic	153	86
Private Hospital	15	94
Private Clinic	19	86
Mission Hospital	29	94
Mission Clinic	11	89
Location		
Urban	60	87
Rural	215	87

Table 9 shows the availability of tracer items by facility type, and location. Private and mission hospitals had the highest mean availability scores (94%) for basic equipment. The finding is attributed to more resources at private and mission hospitals alike. There was no difference in mean availability of basic equipment by location.

4.2.3 Standard precautions for prevention of infections

The presence of standard precautions is a proxy implementation of infection control practices. The following nine tracer items were included in this domain: sterilization equipment, disposal of sharps and other infectious wastes, disinfectant, sharps box/container, single use-standard disposable or auto-disable syringes, soap or hand disinfectant, latex gloves, masks, and guidelines for standard precautions. Figure 20 shows the availability of tracer items by district, managing authority, and facility type, as well as the percentage of health facilities with all standard precautions items.

Figure 20: Percentage of facilities with standard precautions for infection prevention items available (N=275)

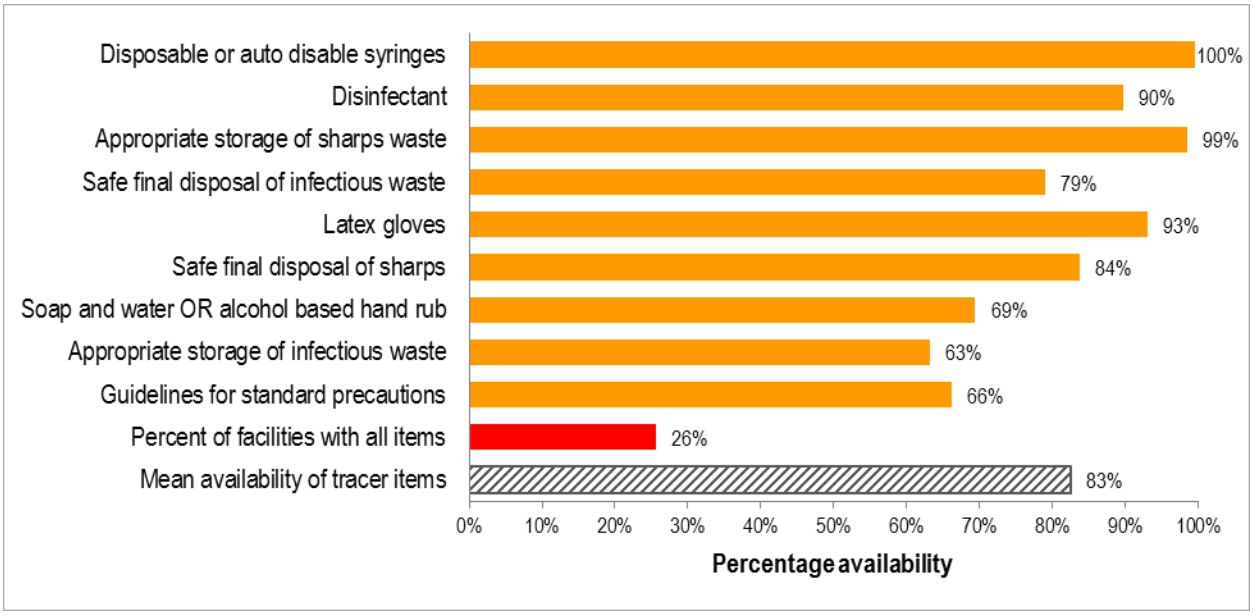


Figure 20 shows that 7 out of 9 tracer items for this domain were available i.e. mean availability score is 83%. All facilities had auto disposable syringes available. Just above a quarter (26%) of facilities had all items. Appropriate storage of sharps waste was (99%), latex gloves (93%), disinfectant (90%), safe final disposal of sharps (84%) safe final disposal of infectious waste (79%), soap and water or alcohol based hand rub (69%), guidelines for standard precautions (66%) and appropriate storage of infectious waste (63%). However, the basic infection precaution measure of hand washing with soap and water was not readily available with a percentage availability of 69%. The least availability was on appropriate storage of infectious waste, 63%.

Standard precautions readiness by facility type and location

Table 11: Mean availability of standard precautions for infection prevention tracer items, by facility type and location (N=275)

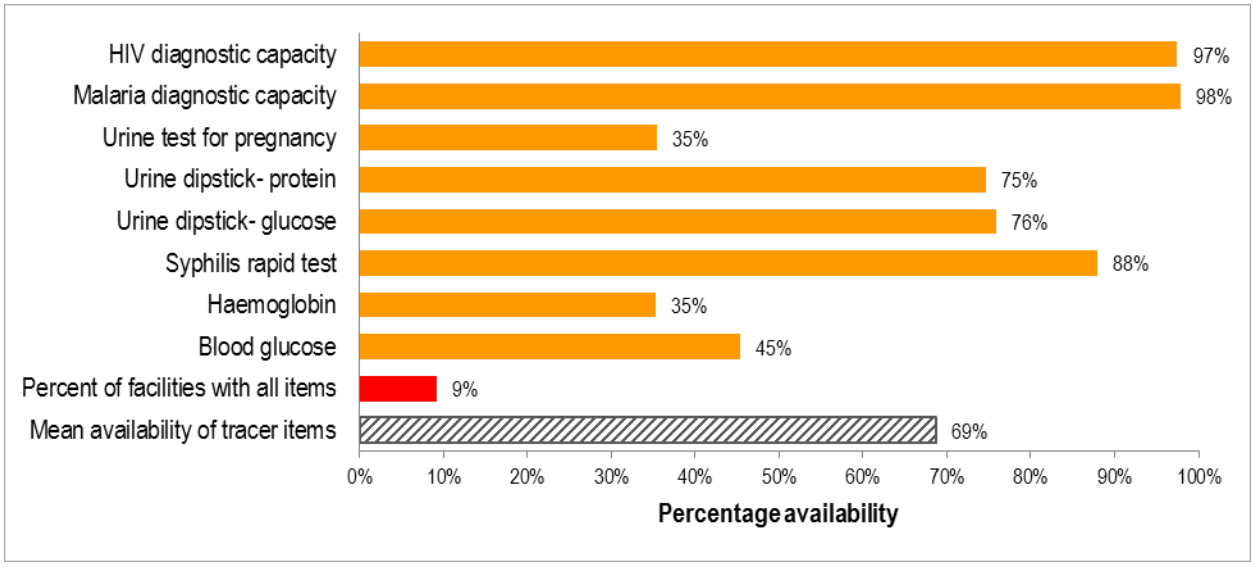
Facility type	Number of Facilities	Mean availability (%)
Public Hospital	48	80
Public Clinic	153	83
Private Hospital	15	95
Private Clinic	19	83
Mission Hospital	29	81
Mission Clinic	11	82
Location of Facility		
Urban	60	92
Rural	215	80

When stratified by type of facility, private hospitals had the most number of tracer items available at 95% i.e. 9 out of 9 compared to the least that was public hospitals at 80% with 7 out of 9 items available. Most items for standard precautions are found in facilities in urban locations (mean availability 92% compared to facilities located in rural settings (80% mean availability.

4.2.4 Diagnostic capacity

Availability of diagnostic equipment and capacity is essential for the provision of quality and safe health care. Facilities were assessed on availability and the capacity to conduct the following 8 diagnostic tests on-site: Haemoglobin; Blood glucose, Malaria Rapid diagnostic Test (RDT or smear) Urine dipstick for protein and glucose; HIV diagnostic capacity (RDT or ELISA), Syphilis rapid test (VDRL/RPR and Urine test for pregnancy.

Figure 21: Percentage of facilities with diagnostic capacity items available (N=275)



In the SARA there was almost universal diagnostic capacity for HIV and Malaria. Of the majority of facilities 97% had capacity for dry blood spot (DBS) collection for EID on HIV viral load. However, there was relatively low capacity to conduct urine test for pregnancy and haemoglobin. Slightly less than half (45%) had capacity for blood glucose testing. Of concern is that only a minority (9%) had all the 8 listed items for basic diagnosis of common conditions.

Diagnostic capacity readiness

All the facilities by facility type and location were assessed on their readiness to offer diagnostic services (275 facilities total) based on the availability of the seven tracer items.

Table 12: On-site diagnostic testing capacity readiness: Mean percentage availability of diagnostic capacity tracer items, by facility type and location (N=275)

Facility type	Number of Facilities	Mean availability (%)
Public Hospital	48	73
Public Clinic	153	69
Private Hospital	15	53
Private Clinic	19	61
Mission Hospital	29	81
Mission Clinic	11	70
Location		
Urban	60	66
Rural	215	69

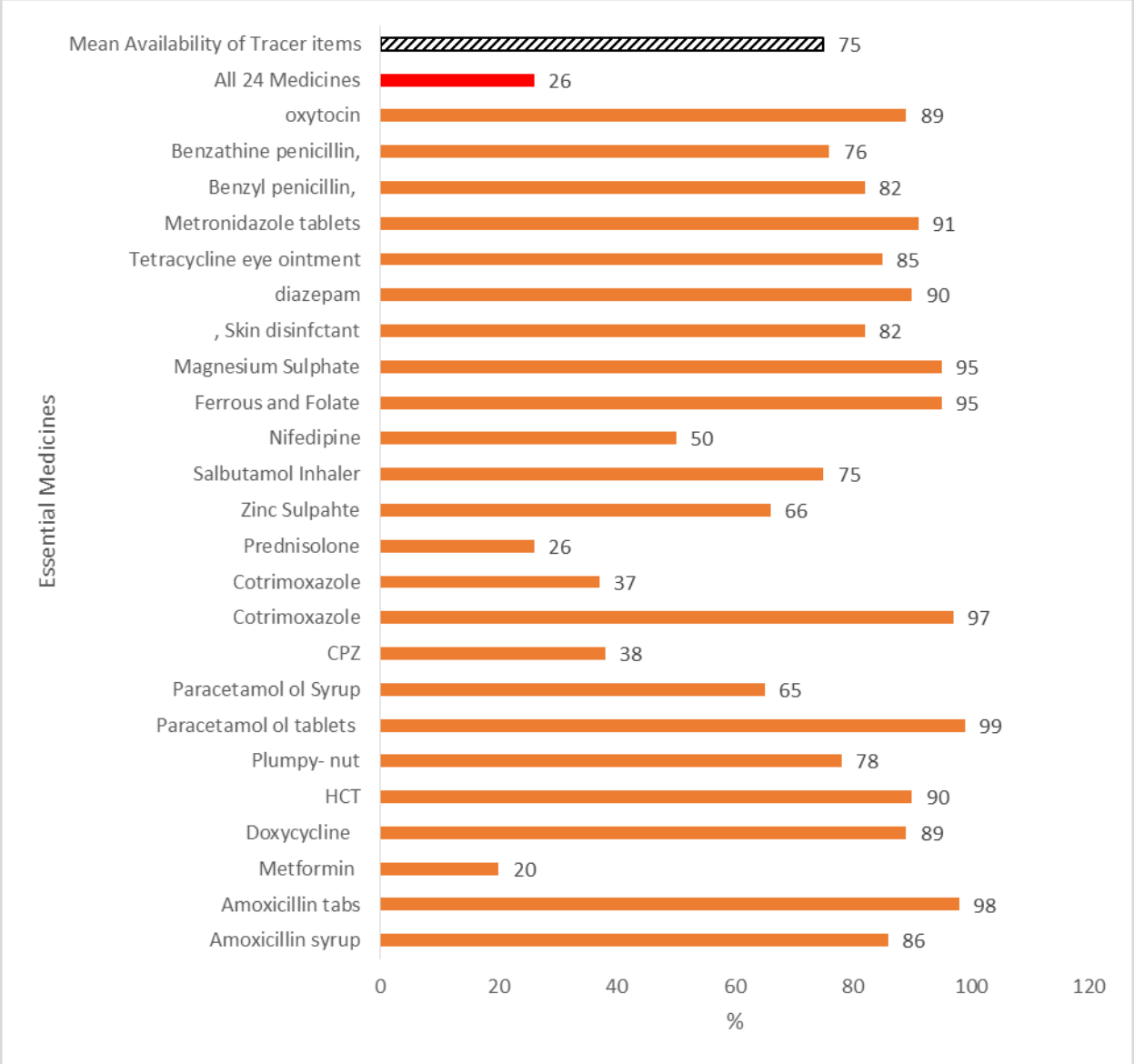
On average facilities had the capacity to conduct 6 out of the 8 diagnostic tests on site. Table 11 above reflects that slightly more of the rural facilities had more on site diagnostic capacity. Mean percentage availability of diagnostic capacity tracer items was highest among mission hospitals (81%) and lowest among private hospitals 53%. This could be attributed to reliance of availability of private laboratories in urban centers. This may be associated with delays in rapid diagnosis of malaria for example in these institutions.

.

4.2.5 Essential Medicines

Health facilities must be well-stocked with essential medicines in order to deliver health services. The essential medicines domain consists of tracer items on 24 essential medicines including medicines for acute infectious diseases, pain relief, and non-communicable diseases: as displayed in figure 5.

Figure 22: Essential medicines readiness percentage availability of tracer items, by facility type and location Zimbabwe 2014 (N=275)



On assessing availability of essential medicines in Zimbabwe, 24 medicines were listed as essential. Figure 5 above shows the percentage availability of each of the essential medicines. On note is the commonly available medicines which included paracetamol tablets (99%), amoxicillin tablets (98%) and cotrimoxazole tablets (97%). While the least available drugs included metformin (20%) and predinisolone (26%).

The mean availability of tracer items for essential medicines was at 75% which translates to 18 out of 24 medicines were available at a health facility irrespective of facility type. In terms of availability of all the 24 essential medicines, only 26% of the health facilities had all the medicines.

Table 13: Essential medicines readiness percentage availability of tracer items, by facility type and location Zimbabwe 2014, (N=275)

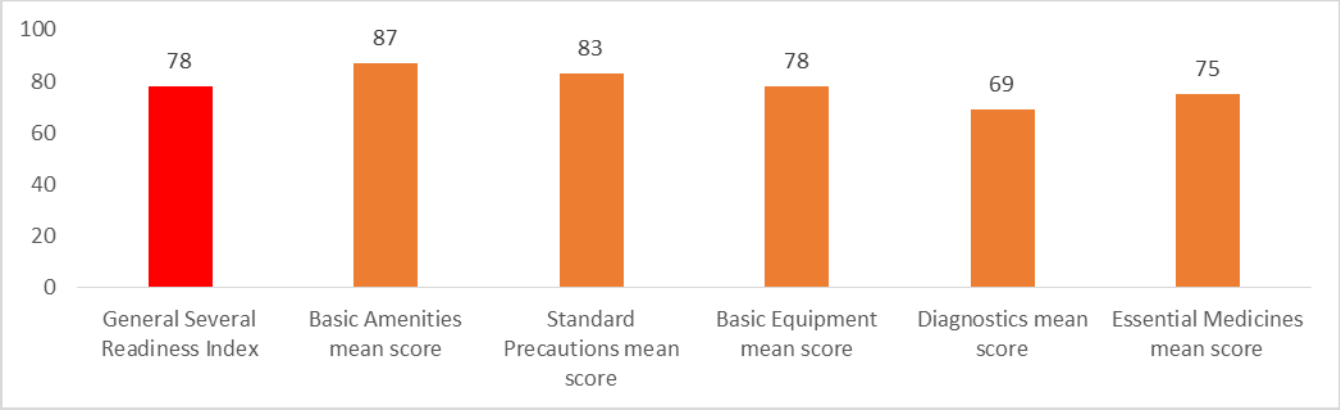
Facility type	Number of Facilities	Mean availability (%)
Public Hospital	48	79
Public Clinic	153	75
Private Hospital	15	81
Private Clinic	19	67
Mission Hospital	29	84
Mission Clinic	11	78
Location		
Urban	60	80
Rural	215	74

Out of the 24 medicines that make the essential medicines package, the mean availability was higher in Mission Hospitals and least available in private clinics. Detailed analysis of mean availability for each medicine by facility type is summarized in Annex XXX.

4.2.6 General Service Readiness Summary Index

The General service readiness index is a composite measure designed to combine information from the five general service readiness domains: basic amenities, basic equipment, standard precautions, laboratory diagnostics, and medicines. It is a useful measure to summarize the situation, and to look at trends over time or across provinces. Figure 4 shows the General service readiness index and domain scores for the weighted health facilities covered in the 2014 assessment. The General service readiness index score is a mean of the domain scores 72%. Across the five domains, the basic amenities scored highest (87%) and this is followed by standard precautions scores (83%). Diagnostics and essential medicines scores are the least.

Figure 23: General Service readiness index nationally, Zimbabwe 2014 (N=275)



The overall general readiness index amongst all facilities was 78%. The highest individual mean score was for basic amenities 87%.

Table 14: General Service readiness index and domain scores, by facility type Zimbabwe (N=275)

	Number of Facilities	Basic amenities mean score (%)	Basic equipment mean score (%)	Standard precautions mean score (%)	Diagnostics mean score (%)	Essential medicines mean score (%)	General service readiness index (%)
Facility type							
Public Hospital	48	85	85	80	73	79	98
Public Clinic	153	75	86	83	69	75	100
Private Hospital	15	92	94	95	53	81	100
Private Clinic	19	88	86	83	61	67	95
Mission Hospital	29	88	94	81	81	84	100
Mission Clinic	11	75	89	82	70	78	100

Table 13 above shows the general service readiness scores by facility type .As expected, hospitals scored higher than primary care facilities, as hospitals are generally better equipped and supplied than smaller facilities. Private facilities appear to consistently score higher than public facilities across districts. A full breakdown of general service readiness scores by facility type can be found in the Annex (Table XX).

5.0 Service Specific Availability and Readiness

In addition to assessing the general service readiness of facilities, the SARA measured the availability and readiness of health facilities to offer specific health interventions through consideration of tracer items that include trained staff, guidelines, equipment, diagnostic capacity, and medicines and commodities. For Zimbabwe, the following key health services were considered

• ***Maternal, neonatal, and child health***

- Family planning
- Antenatal care
- Basic emergency obstetric care

- Comprehensive emergency obstetric care
- Child curative care and growth monitoring
- Child immunization

• ***HIV/AIDS***
- HIV counselling and testing
- HIV/AIDS care and support services
- Antiretroviral therapy (ART)
- Preventing mother-to-child transmission (PMTCT)

TB services
Malaria services
Diabetes
Surgical services
- Basic surgery
- Comprehensive surgery

Blood transfusion

The tracer items are considered to be a minimum set of items that are a prerequisite for the facility to be able to offer an adequate level of care. As for general service readiness, a readiness score was computed for each health service by taking the mean of the availabilities of the tracer items.

5.1 Maternal, neonatal, child health and adolescent health

Improving Maternal, Neonatal and Child Health (MNCH) is a global priority and forms part of the health-related MDGs (4, 5, & 6). Zimbabwe is among the countries with the highest maternal, neonatal and child mortality levels in the world. The ZDHS 2011 reports a high maternal mortality of 960 deaths per 100, 000 live births i.e. for every 1,000 births there are about 10 maternal deaths. This figure is noted to be on the decline as the recent figures report that maternal mortality of 630 deaths per 100,000 live births. Closely linked to this is a high perinatal mortality rate of 29 per 1,000 live births (MICS 2014).

Family Planning

According to the ZDHS 2011 the modern contraceptive prevalence rate stood at 58.5%, which is relatively higher than other countries in the SADC region. The unmet need for FP has gradually declined from 13% (ZDHS 2011) over the past decade to 10% (MICS 2014). However, wide variations by province still remain. For example, Matebeleland South had an unmet need (26%) compared to Mashonaland Central (9%) ZDHS 2011.

Family planning Service Availability

Figure 7 below shows the percentage of facilities offering family planning services nationally. Ninety-five percent (95%) of health facilities in Zimbabwe offered family planning services with most providing male and female condoms, combined and progestin only oral contraceptives,

progestin only injectable contraception. About half 51% offered implants. The least offered method was IUCD.

Figure 24: Percentage of facilities that offer family planning services nationally, Zimbabwe 2014 (N=275)

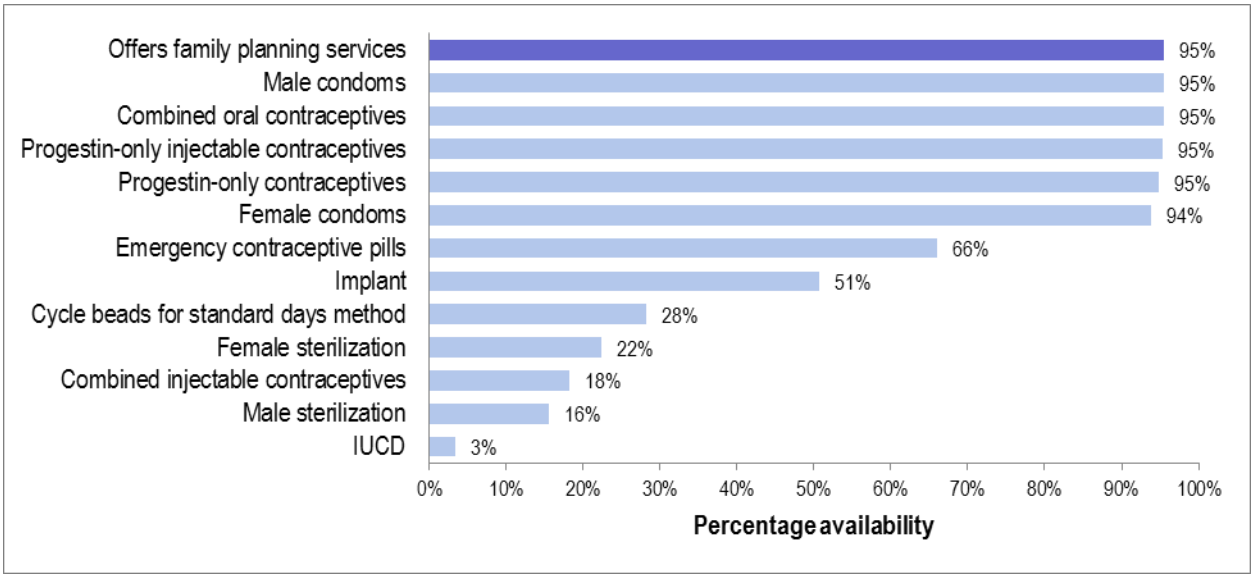


Table 14 below shows the analysis of family planning services availability by facility type and location. The table shows that all public hospitals and mission clinics had family planning services available (100%), while 99% of public clinics also reported availability of FP services. Of note is the private hospitals who reported availability of FP services in only 64% of the surveyed facilities.

Table 15: Percentage of facilities that offer family planning services, by facility type and location, Zimbabwe, 2014 (N=275)

Facility type	Offers family planning services	oral contraceptives	only contraceptives	injectable contraceptives	injectable contraceptives	Male condoms	Female condoms	IUCD	Implant	Cycle beads for standard days method	Emergency contraceptive pills	Male sterilization	Female sterilization	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	%	%	
Public Hospital	100	100	100	6	98	100	100	8	92	13	77	8	25	48
Public Clinic	99	99	98	22	99	99	97	1	48	33	68	16	21	153
Private Hospital	64	57	57	14	57	64	64	43	57	14	50	36	50	14
Private Clinic	75	75	75	5	75	75	75	10	30	25	55	25	25	20
Mission Hospital	76	76	72	7	76	76	72	10	62	7	55	14	48	29
Mission Clinic	100	100	100	0	100	100	100	0	64	0	45	0	0	11
Location														
Urban	92	92	92	48	92	92	92	3	50	50	79	39	44	60
Rural	96	96	96	10	96	96	94	3	51	23	63	9	17	215

Total	95	95	95	18	95	95	94	3	51	28	66	16	22	275

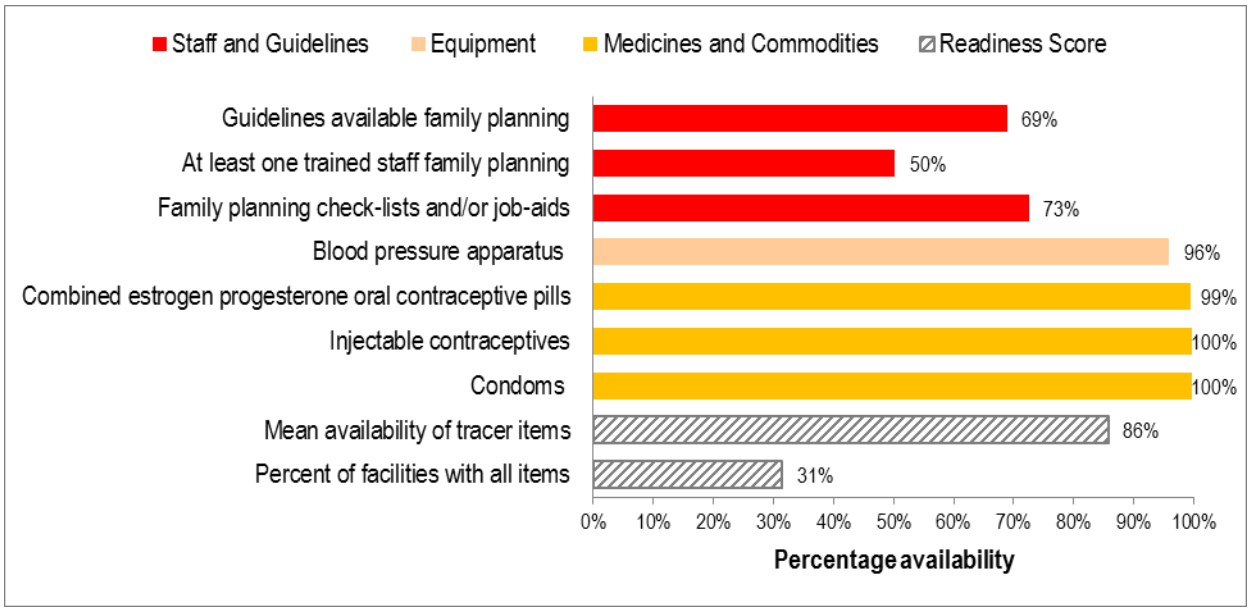
Family planning Service Readiness

The facilities offering family planning services (256 facilities total) were also assessed on their readiness to provide the service based on the availability of the seven tracer items shown in table 15 below. It is however noted that n=256 for FP services may exclude certain mission institutions that do not offer FP services.

Table 16: Tracer Items FP services

Domains	Tracer indicators (% of facilities with item)
Staff & training	Guidelines available on family planning At least 1 Staff trained in family planning in the past two years Family planning check lists and or job aids
Equipment	Blood pressure apparatus
Medicines & commodities	Combined estrogen/progestron Oral contraceptive pills Injectable contraceptives Male condoms

Figure 25: Percentage of facilities that have tracer items for family planning services among facilities nationally, Zimbabwe (N=256)



Overall facilities had a high readiness index for providing FP services (mean availability of tracer items, 86%). Availability of FP commodities (>99%) scored the most and training on FP scored the least (50%). About a third of the facilities had all the tracer items needed to offer FP services. Table 14 below shows the availability of tracer items for family planning by facility type and location, as well as the percentage of facilities with all items.

Table 17: Percentage of facilities that have tracer for FP services by facility type and location, Zimbabwe 2014 (N=256)

	Guidelines available family planning	Family planning check-lists and/or job-aids	At least one trained staff family planning	Blood pressure apparatus	Combined estrogen progesterone oral contraceptive pills	Injectable contraceptives	Condoms	Percent of facilities with all items	Mean availability of tracer items	Total number of facilities
Facility type	%	%	%	%	%	%	%	%	%	
Public Hospital	69	75	88	94	100	100	100	58	91	48
Public Clinic	70	72	46	95	100	100	100	29	85	151
Private Hospital	56	89	67	100	89	89	100	56	85	9
Private Clinic	67	60	27	100	100	100	100	13	82	15
Mission Hospital	59	77	86	100	95	95	100	50	89	22
Mission Clinic	73	91	64	100	91	100	91	36	88	11
Location										
Urban	88	80	54	97	100	100	100	38	90	52
Rural	64	71	49	96	99	100	100	30	85	204
Total	**69**	**73**	**50**	**96**	**99**	**100**	**100**	**31**	**86**	**256**

As reflected in table 16 above differences were noted on the availability of FP guidelines with 88% of urban facilities having guidelines compared to 64% of rural facilities. Among private hospitals only56% had FP guidelines. In terms of training only 27% of private clinics had at least one trained staff on FP. This may compromise quality of services provision in the private sector and may highlight lack of inclusivity of this sector in public sector driven programs.

Antenatal care

Antenatal care (ANC) from a skilled provider is vital for optimal health outcomes for the mother and infant. ANC services is a key entry point for all pregnant women to receive a broad range of health promotion and preventative services including nutritional support, prevention detection and treatment of malaria, TB, STIs, HIV and AIDS, hypertension in pregnancy and identifying other risk factors. The WHO recommends at least 4 ANC visits.

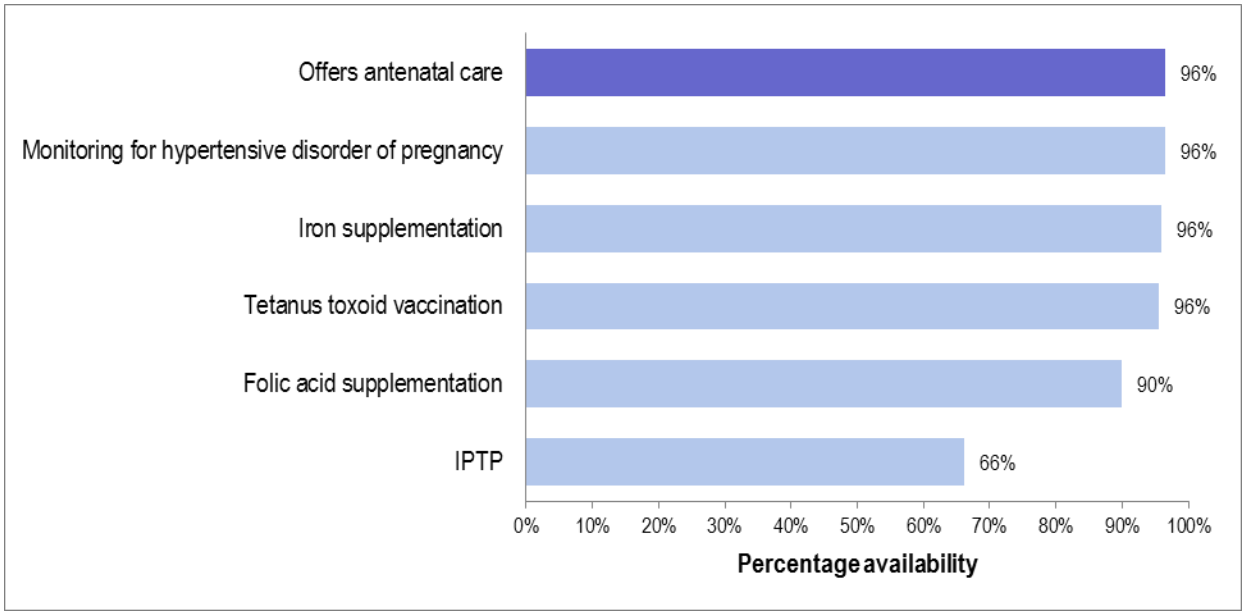
ANC Service Availability

The package of ANC services offered at all levels should be inclusive of

- Antenatal care services
- Iron supplementation
- Folic acid supplementation
- Intermittent Preventive Treatment in Pregnancy (IPTP) for malaria
- Tetanus toxoid vaccination
- Monitoring for hypertensive disorder of pregnancy

Figure 9 below shows the percentage of facilities offering antenatal care services at national level. (Note that PMTCT services are covered in the HIV/AIDS section of the report.)

Figure 26: Percentage of facilities that offer antenatal care services at national level (N=275)



Almost all facilities (96%) offered ANC services with the key components (monitoring of hypertension, iron and folic acid supplementation and tetanus toxoid vaccination. About two thirds provided IPTP. This is consistent with the proportion of malaria prone provinces included in the survey.

Table 18: Proportion of facilities offering ANC services by type of service, type of facility, location, Zimbabwe 2014 (N=275)

	Offers antenatal care (%)	Iron supplementation (%)	Folic acid supplementation (%)	IPTP (%)	Tetanus toxoid vaccination (%)	Monitoring for hypertensive disorder of pregnancy (%)	Total number of facilities
Facility type							
Public Hospital	100	100	96	73	100	100	48
Public Clinic	99	98	91	67	99	99	153
Private Hospital	57	57	57	36	50	57	14
Private Clinic	75	75	75	60	65	75	20
Mission Hospital	100	100	100	72	100	100	29
Mission Clinic	100	100	91	55	100	100	11
Location							
Urban	87	85	82	29	87	87	60
Rural	99	99	92	76	98	99	215
Total	**96**	**96**	**90**	**66**	**96**	**96**	**275**

In Table 17 above there are more facilities offering ANC services in the rural areas. This could be explained by the fact that a significant proportion of private hospitals which are mostly located in urban areas do not offer ANC services.

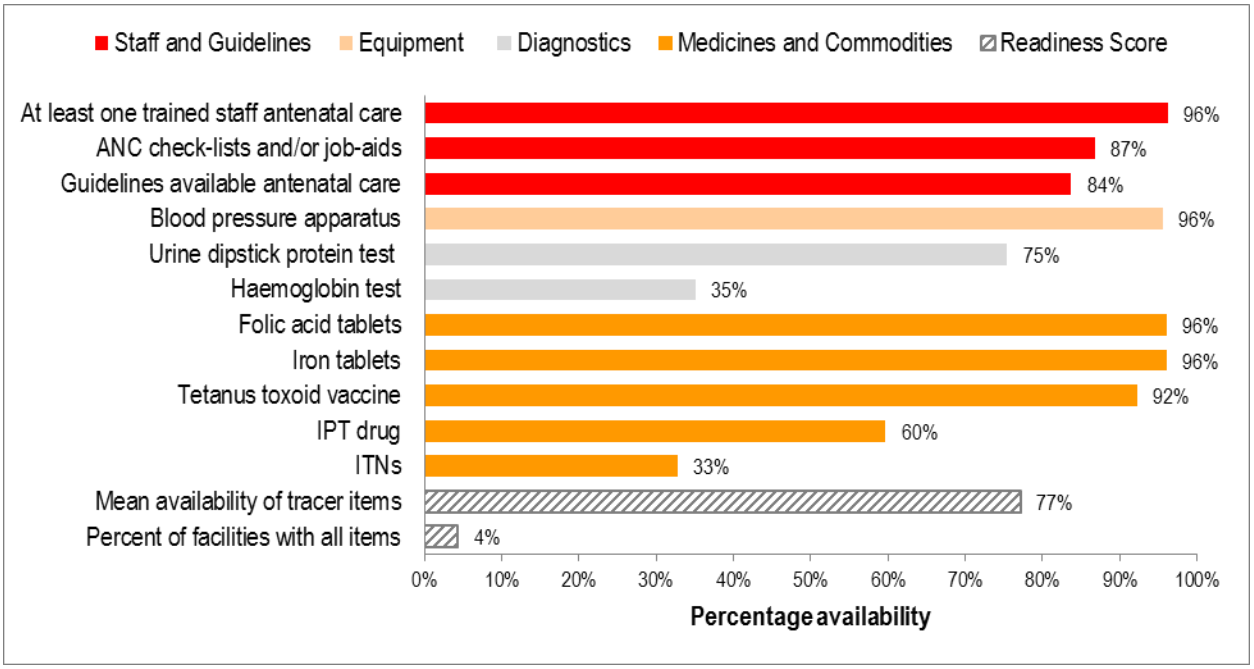
ANC Service Readiness

Facilities offering ANC services were also assessed on their readiness to provide the service based on the availability of the eight tracer items in listed below. Only 262 facilities responded to this item. The tracer items are displayed in table 18 below.

Table 19: Tracer Items for ANC

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines on antenatal care service s (ANC) • Staff trained in ANC in the past two years
Equipment	• Blood pressure apparatus
Diagnostics	• Haemoglobin • Urine-dipstick-protein.
Medicines and commodities	• iron tablets • Folic acid tablets • Tetanus toxoid vaccine

Figure 27: Percentage of facilities that have tracer items for antenatal care services nationally, Zimbabwe 2014 (N=262)



Overall, the mean availability of tracer items for ANC was 77%. Only Four percent (4%) had all the tracer items. Training, availability of blood pressure apparatus, folic acid and iron tablets scored highest, 96%. ITNs at 33% availability are the least common. Of concern is the low availability of hemoglobin

testing to detect anaemia in pregnancy 35%. This may compromise ability to detect women at high risk of anaemia in pregnancy.

Table 20: Percentage of facilities that have tracer items for ANC services by facility type and location Zimbabwe 2014 (N=262)

	Staff and Guidelines (%)	Equipment (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total	**89**	**96**	**55**	**75**	**89**
Facility type					
Public Hospital	90	94	65	76	80
Public Clinic	89	95	54	76	77
Private Hospital	79	100	63	75	76
Private Clinic	80	93	47	67	69
Mission Hospital	91	100	69	81	83
Mission Clinic	91	100	55	73	77
Location					
Urban	95	97	56	67	75
Rural	88	95	55	77	78

Table 19 above reflects readiness by facility type and location of FP tracer items. Mission and public hospitals had nine out of 11 tracer items available. There was not much variance on the readiness score between rural and urban locations.

Basic obstetric and newborn care

According to international standards based on UN recommendations, a 'Basic Emergency Obstetric Care (BEOC) facility' is defined as performing all of the following six signal functions;

1. Administer parenteral antibiotics
2. Administer parenteral oxytocic drugs
3. Administer parenteral anti-convulsants for pre-eclampsia and eclampsia
4. Perform manual removal of placenta
5. Perform removal of retained products
6. Perform assisted vaginal delivery(not expected at primary care level in Zimbabwe)

In addition to these signal functions, a Comprehensive Emergency Obstetric Care (CEOC) facility is capable of performing the following additional services:

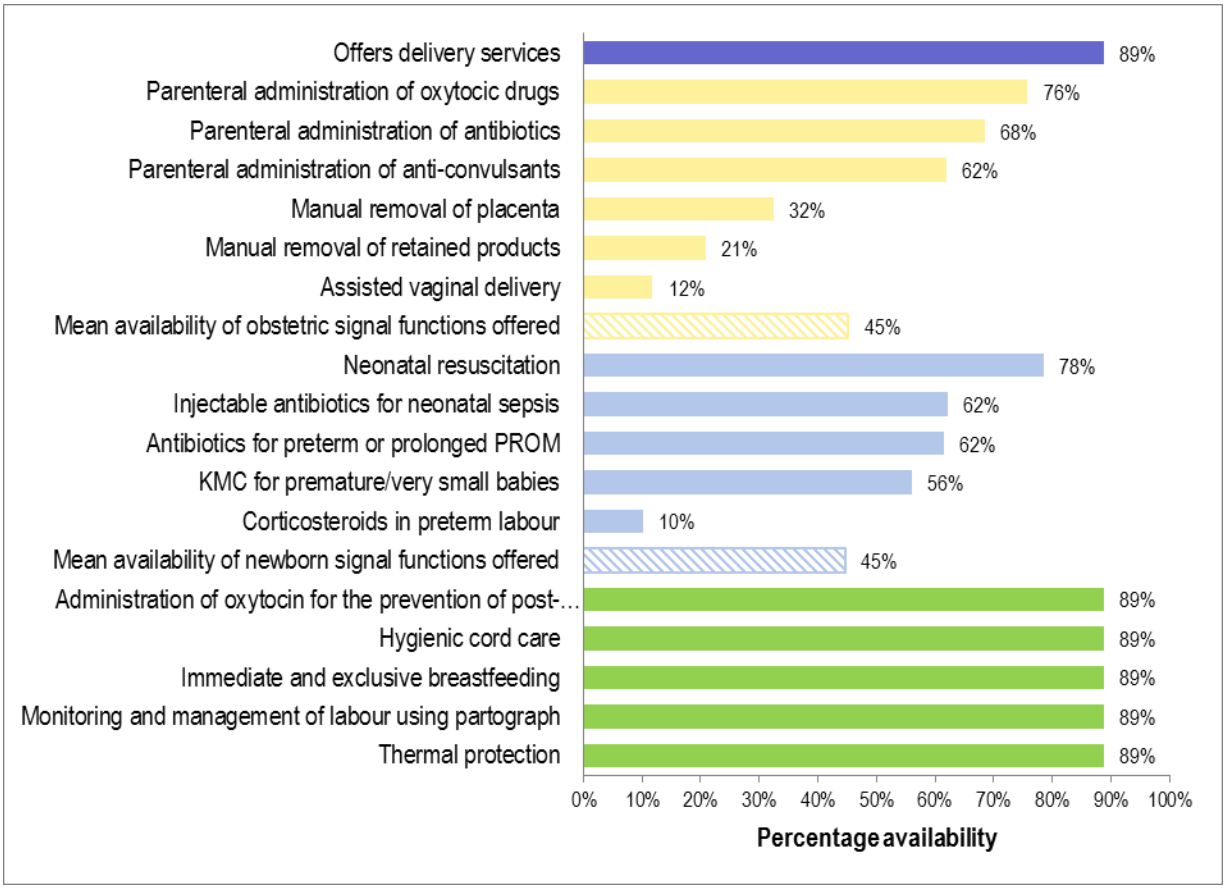
7. Cesarean sections
8. Blood transfusions

Facilities that are able to provide the first 5 of the above signal functions but are unable to perform assisted vaginal deliveries are classified as BEMOC minus 1 facilities. International standards recommend that per 500 000 population there should be at least 4 BMEOC facilities and 1 CMEOC facility. According to MoHCC policy, primary care facilities are not expected to

conduct assisted vaginal deliveries without a doctor present. Therefore the majority of primary care facilities can only be expected to be classified as a "BEMOC minus 1" facility.

BEmOC Service availability

Figure 28: Percentage of facilities offering delivery care services and six of the basic emergency obstetric and new born care nationally, Zimbabwe, 2014 (N=275)



.

Figure 11 above shows that the majority (89%) of health facilities offered basic emergency obstetric and newborn care services nationally. Of the six BEmOC signal functions that were included in the assessment, more than three quarters (76%) reported providing parenteral administration of oxytocic's drugs while two thirds (68%) provided parenteral antibiotics. Of note is that only 32% reported manual removal of the placenta. Only 12% performed assisted vaginal delivery. This is consistent with the inclusion of primary facilities, which by policy do not perform this function. Mean availability of obstetric signal functions offered was 45% which was similar to that of newborn signal functions offered. Of the five new born care signal functions, corticosteroids in preterm labor was the least offered at 10% with neonatal resuscitation being the most offered at 78%. Other obstetric care services considered included administration of oxytocin for the prevention of PPH, hygienic cord care, immediate and

exclusive breast feeding monitoring and management of labor using partographs and thermal protection are offered at 89% of the facilities.

Table 21: Delivery services availability: Percentage of facilities offering delivery care by facility type and location Zimbabwe 2014 (N=250)

Facility type	Offers delivery services	Parenteral administration of antibiotics	Parenteral administration of oxytocic drugs	Parenteral administration of anti-convulsants	Assisted vaginal delivery	Manual removal of placenta	Manual removal of retained products	Mean availability of obstetric signal functions offered	Antibiotics for preterm or prolonged PROM	Neonatal resuscitation	Corticosteroids in preterm labour	KMC for premature/very small babies	Injectable antibiotics for neonatal sepsis	Mean availability of newborn signal functions offered	Administration of oxytocin for the prevention of post-partum haemorrhage	Monitoring and management of labour using partograph	Immediate and exclusive breastfeeding	Hygienic cord care	Thermal protection	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
Public Hospital	100	90	92	88	40	75	56	73	83	100	35	90	92	67	100	100	100	100	100	48
Public Clinic	88	67	75	58	6	25	16	41	58	77	5	50	58	41	88	88	88	88	88	153
Private Hospital	86	71	86	71	64	71	71	73	79	71	71	71	79	62	86	86	86	86	86	14
Private Clinic	75	50	50	50	10	25	15	33	50	55	10	40	35	32	75	75	75	75	75	20
Mission Hospital	100	90	97	93	69	72	69	82	90	97	52	100	100	73	100	100	100	100	100	29
Mission Clinic	100	82	91	91	0	55	0	53	91	100	9	91	100	65	100	100	100	100	100	11
Location																				
Urban	62	62	62	57	21	24	24	42	53	60	20	25	53	35	62	62	62	62	62	60
Rural	96	70	79	63	9	35	20	46	64	83	8	64	65	47	96	96	96	96	96	215
Total	**89**	**68**	**76**	**62**	**12**	**32**	**21**	**45**	**62**	**78**	**10**	**56**	**62**	**45**	**89**	**89**	**89**	**89**	**89**	**275**

More of the urban facilities (21%) offered assisted vaginal delivery compared to the rural facilities (9%). This could be attributed to the fact that most of these facilities in the rural areas are primary care facilities not offering this service. However for most of the other basic BEmOC signal functions there were no urban-rural disparities. Of note is that private clinics scored lowest, 33% on mean availability BEmOC signal functions (33%).

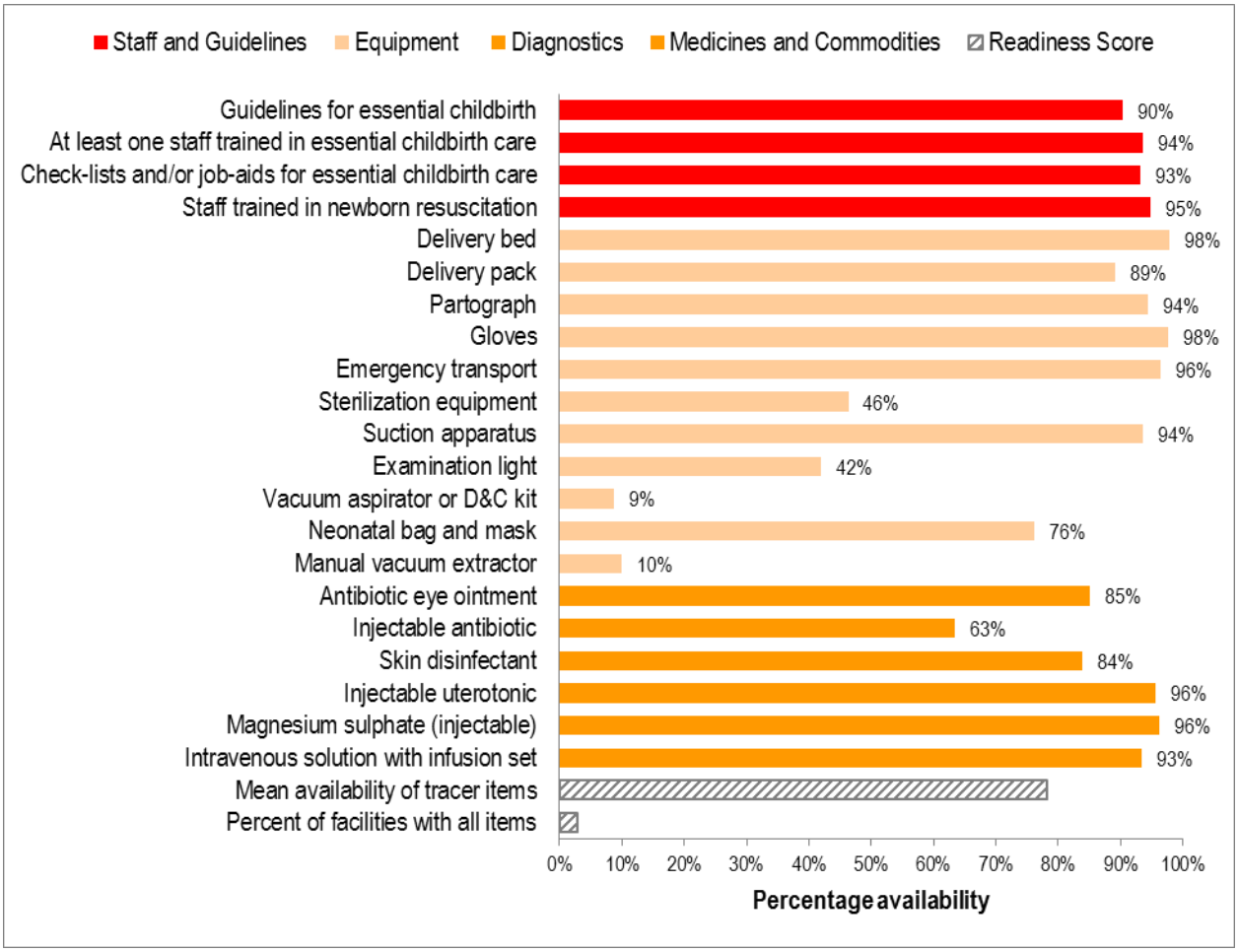
Service readiness

Facilities offering delivery care (250 facilities total) were assessed on their readiness to offer basic obstetric care services based on the availability of the 19 tracer items shown in figure 12 shows the overall availability of these tracer items. The 19 tracer items are required for BEmONC service are shown in table 21 below.

Table 22: Tracer Items BEmOC services

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for IMPAC • Staff trained in IMPAC in the last two years
Equipment	• Emergency transport • Sterilization equipment • Delivery pack • Suction apparatus • Manual vacuum extractor • Vacuum aspirator or D and C kit • Neonatal bag and musk • Delivery bed • Partograph • Gloves
Diagnostics	• Haemoglobin • Urine-dipstick-protein
Medicines and commodities	• Antibiotic eye ointment for the new born • Injectable uterotonic • Injectable antibiotic • Magnesium sulphate (Injectable) • Skin disinfectant • Intravenous infusion solution with infusion set

Figure 29: Percentage of facilities that have tracer items for delivery services nationally Zimbabwe 2014 (N=250)



With a mean availability of 78% shown in figure 12 above, 15 of the 19 tracer items for offering BEmONC service delivery are found at facilities in Zimbabwe. However, only 3% of the facilities were estimated to have all items available. The majority, 90% had guidelines for essential childbirth. The following were available in more than 90% of facilities a

- Emergency transport
- Suction apparatus
- Delivery bed
- Partograph
- Gloves

The least available equipment was the vacuum aspirator or D&C kit. Approximately 11% did not have a delivery pack which compromises quality of delivery service.

Of the medicines and commodities most facilities reported having magnesium sulphate and injectable uterotonic (96%). Injectable antibiotics were the least available (63%). Medicines and commodities for new born care were available in more above 80% of facilities.

Table 23: Percentage of facilities that have tracer items for delivery services by facility type and location

Facility type	for essential childbirth	childbirth care	childbirth care	resuscitation	Emergency transport	Sterilization equipment	Examination light	Delivery pack	Suction apparatus	vacuum extractor	aspirator or D&C kit	bag and mask	Delivery bed	Partograph	Gloves	eye ointment	Injectable uterotonic	Injectable antibiotic	sulphate (injectable)	Skin disinfectant	solution with infusion set	with all items	of tracer items	number of facilities
Facility type	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Public Hospital	79	83	98	98	94	71	50	85	98	42	42	94	98	94	98	81	94	75	100	90	98	10	84	48
Public Clinic	93	96	94	95	98	39	39	90	95	3	1	73	99	95	97	86	96	60	99	81	94	0	77	135
Private Hospital	75	75	75	83	92	92	92	100	100	83	75	92	100	92	100	92	100	92	100	100	100	33	91	12
Private Clinic	80	80	80	87	93	60	33	73	73	13	13	73	87	93	100	80	87	47	67	87	73	13	70	15
Mission Hospital	83	90	97	100	97	83	69	97	100	55	62	86	100	93	100	79	97	93	93	100	100	14	89	29
Mission Clinic	100	100	100	100	82	64	45	91	91	0	0	82	100	91	100	91	100	91	100	91	100	0	82	11
Location																								
Urban	86	95	87	95%	99	86	61	98	92	24	25	69	99	98	99	93	100	83	96	92	100	13	85	42
Rural	91	93	95	95%	96	40	39	88	94	8	6	77	98	94	97	84	95	60	96	83	92	1	77	208
Total	**90**	**93**	**94**	**95**	**96**	**46**	**42**	**89**	**94**	**10**	**9**	**76**	**98**	**94**	**98**	**85**	**96**	**63**	**96**	**84**	**93**	**3**	**78**	**250**

Table 22 shows rural and urban disparities with respect to key tracer items. For example only 39% of rural facilities had an examination light compared to 61% of the urban facilities. Slightly less of the rural facilities had delivery packs compared to urban facilities. Private hospitals scored the highest with respect to availability of sterilization equipment and suction apparatus.

Comprehensive obstetric care

Contributing factors to maternal mortality include delays in accessing care when complications arise. Increasing accessibility to high quality emergency obstetric care will lead to reduced maternal and infant mortality. For effective management of obstetric complications, a health facility must have a surgeon and anaesthetist available or on call at all times, with the required equipment, supplies, and trained support staff to administer blood transfusions and anaesthesia. Comprehensive emergency obstetric care (CEmOC) is generally offered at the district hospital level, and consists of the 7 functions of basic emergency obstetric care plus Caesarean section and safe blood transfusion. Guidelines jointly issued by WHO, UNICEF, and UNFPA recommend four health facilities offering basic and one facility offering comprehensive care for every 500,000 people.

Comprehensive Emergency Obstetric care Service availability

Figure 13 shows that less than half of the weighted sampled hospitals were offering caesarean sections with an even lower proportion offering blood transfusion. An estimated 27% of the hospitals were classified as (CEmOC) facilities. The sampled facilities also include rural hospitals that in general may not provide (CEmOC) facilities.

Figure 30: Percentage of facilities that offer comprehensive obstetric care services, nationally Zimbabwe (N=275).

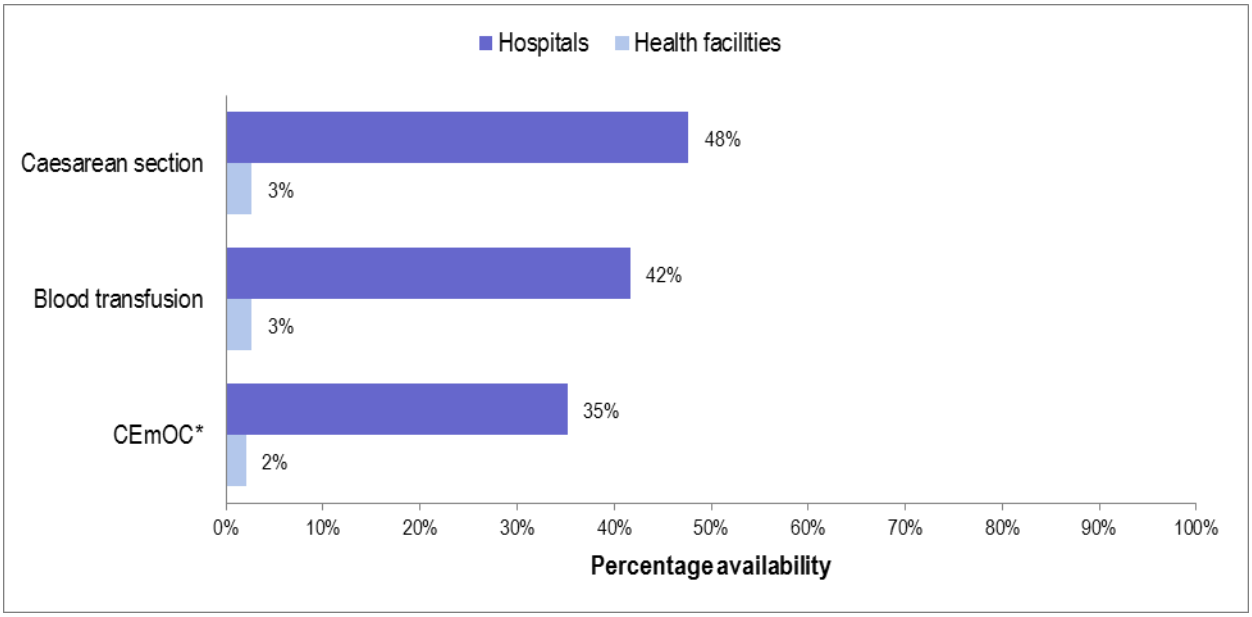


Figure 13 above reflects that 2% of health facilities offer CEmOC whilst 35% of hospitals offer the service nationally. Forty-eight percent (48%) of hospitals reported offering cesarean sections and 42% offered blood transfusion.

Table 24: Percentage of facilities that offer comprehensive obstetric care services availability, by facility

	Caesarean section (%)	Blood transfusion (%)	CEmOC* (%)	Total number of facilities
Facility type				
Public Hospital	40	35	27	48
Public Clinic	2	2	1	153
Private Hospital	71	71	64	14
Private Clinic	10	10	10	20
Mission Hospital	55	45	41	29
Mission Clinic	0	0	0	11
Location				
Urban	17	17	16	60
Rural	6	5	4	215
Total	**8**	**8**	**6**	**275**

Table 23 reflects that there is significant variation by location in the availability of CEmOC services where only 4% of rural facilities were classified as CEmOC compared to 16% in urban areas. This maybe a reflection of inequities in service provision and accessibility. More of the private hospitals had access to cesarean section and blood transfusion. On average mission hospitals recorded better availability of caesarean section and blood transfusion than public hospitals.

Comprehensive Emergency Obstetric care Service readiness

Hospitals offering delivery care (50 hospitals total) were assessed on their readiness to provide comprehensive obstetric care based on the availability of the `17 tracer items shown in table 24 and figure 14 below shows the availability of these tracer items nationally with all 17 tracer items. Tracer items required for service delivery

Table 25: Tracer Items CEmOC

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for CEmOC • Staff trained in CEmOC • Staff trained in surgery • Staff trained in anaesthesia
Equipment	• Anaesthesia equipment • Incubator
Diagnostics	• Blood typing • Cross match testing
Medicines and commodities	• Blood supply sufficiency • Blood supply safety • Lidocaine 5% • Epinephrine (injectable) • Halothane (inhalation) • Atropine (injectable) • Thiopental (powder) • Suxamethonium bromide (powder) • Ketamine (injectable

Note that 91 hospitals were assessed. However, analysis for readiness to CEmOC only (50) facilities offered the service and included in this analysis. Figure 14 below reflects tracer items for CEmOC.

Figure 31: Tracer items for comprehensive obstetric care service readiness nationally, Zimbabwe, 2014 (N=50)

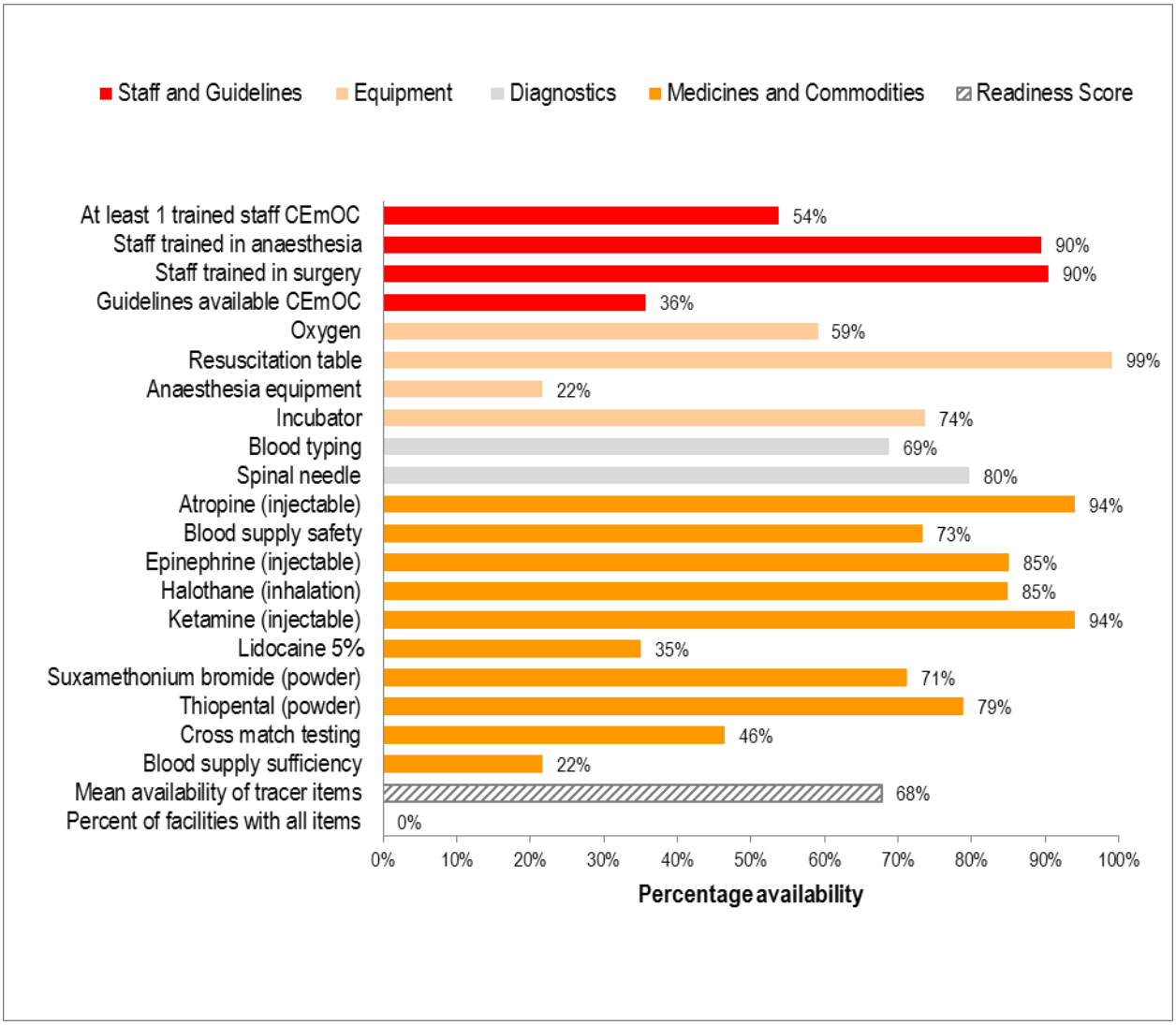


Figure 14 above shows a mean availability of tracer items for CEmOC Service delivery at 68% i.e. 12 out of the 17 tracer items are on average found at facilities offering CEmOC. The graph also reflects that none of the facilities in the study reported having all tracer items. In terms of human capacity, 90% of facilities reported having staff trained in surgery and anaesthesia. There was however, a low percentage of facilities 36% who reported having guidelines available for CEmOC. However 54% of facilities reported at least 1 staff member trained in CEmOC in the past two years. Although almost all facilities (99%) had resuscitation equipment only 22% had a complete set of anaesthesia equipment. Blood supply sufficiency was low, 22%.

Table 26: Tracer items for comprehensive obstetric care service readiness by facility type and location, Zimbabwe 2014 (N=50)

	Number of facilities	Staffing and guidelines (%)	Equipment (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Facility type						
Public Hospital	48	67	63	82	77	72
Public Clinic	153	50	47	50	52	50
Private Hospital	15	78	84	10	82	75
Private Clinic	19	100	100	0	94	88
Mission Hospital	29	64	66	69	65	65
Location						
Urban	60	76	78	53	84	78
Rural	215	61	58	61	61	60
Total	**275**	67	67	58	71	68

Readiness score is high across all facility types with a minimum of 50% in public clinics and maximum of 88% in private clinics. Tracer items for CEmOC were more available in urban locations than in rural except for diagnostics that were higher in rural locations (61%) than urban areas 53%. ***Mission clinics do not offer CEmOC service and are not included in table 25***

Child health: routine immunization

The induction of an immune response through vaccination is a long widely accepted and most cost-effective public health interventions for prevention of vaccine preventable diseases. For a child to be fully vaccinated they ought to have received one dose of BCG, 3 pentavalent 3 polio vaccines and 3 rota virus 1 dose of measles vaccines and one dose of DPT. The types of services offered are highlighted below

- Routine child immunization services
- Routine measles immunization
- Routine DPT-Hib-HepB immunization
- Routine polio immunization
- BCG immunization
- Rotavirus immunization
- Pneumococcal immunization

Child health: routine immunizations service availability

Figure 15 below shows the percentage of facilities offering child immunization services nationally.

Figure 32: Percentage of facilities offering child immunization services nationally, Zimbabwe 2014 (N=275)

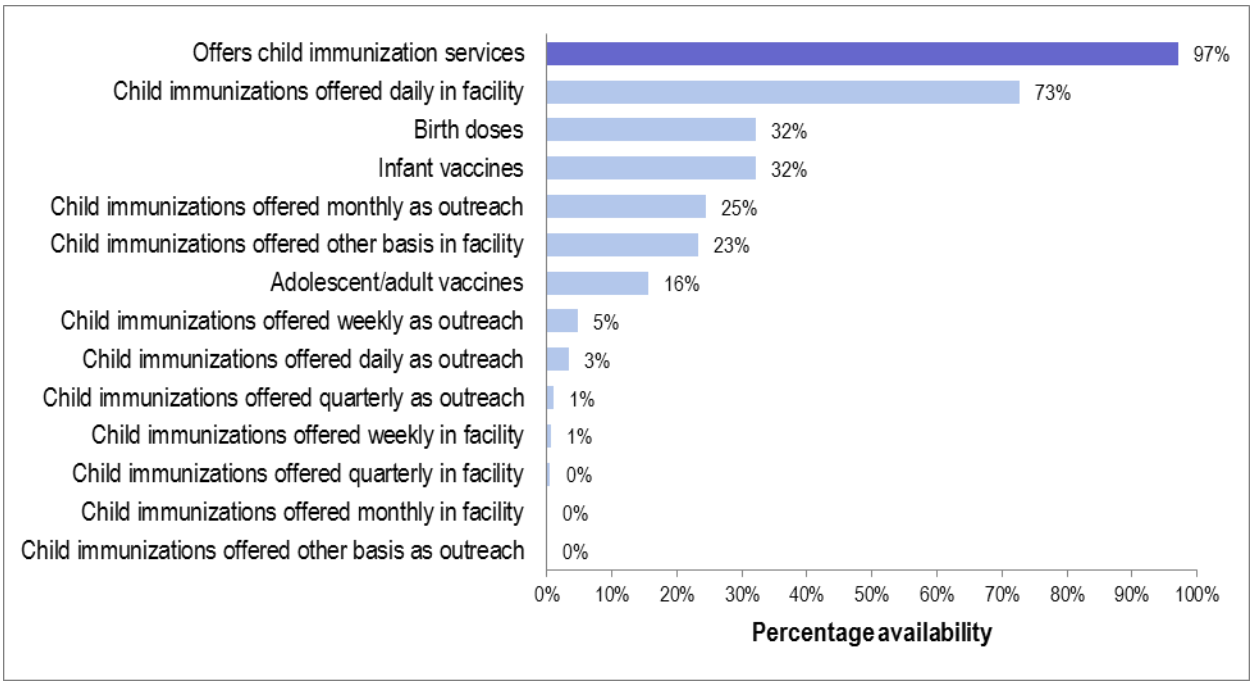


Figure 15 above shows child immunization services and the percentage of facilities offering the services. Ninety –seven percent (97%) reported that they offered child immunization services on the day of the assessment. Of all the facilities surveyed 73% reported offering child immunization services on a daily basis. Of the vaccines offered 32% of facilities reported offering birth doses (BCG) and the same percentage reported offering infant vaccines. Sixteen percent (16%) of facilities reported offering adolescent/adult vaccines. A quarter offered child immunizations monthly as outreach.

Table 27: Percentage of facilities offering child immunization services nationally, Zimbabwe 2014 (N=275)

Facility type	Offers child immunization services	Birth doses	Infant vaccines	Adolescent/adult vaccines	immunizations offered daily in facility	immunizations offered weekly in facility	immunizations offered monthly in facility	immunizations offered quarterly in facility	immunizations offered other basis in facility	immunizations offered daily as outreach	immunizations offered weekly as outreach	immunizations offered monthly as outreach	immunizations offered quarterly as outreach	immunizations offered other basis as outreach	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Public Hospital	100	69	71	46	73	0	0	0	27	6	8	44	2	0	48
Public Clinic	99	29	29	12	74	0	0	1	24	3	5	24	1	0	153
Private Hospital	71	7	7	0	21	21	0	0	29	7	0	0	0	0	14
Private Clinic	80	10	10	5	60	5	0	0	15	0	0	10	0	0	20
Mission Hospital	10	59	62	34	86	0	0	0	14	7	14	41	0	0	29
Mission Clinic	100	45	36	27	73	0	0	0	27	0	0	27	9	0	11
Urban/Rural															
Urban	92	19	16	14	72	0	0	0	20	2	5	14	0	0	60
Rural	98	36	36	16	73	1	0	1	24	4	4	27	1	0	215
Total	**97**	**32**	**32**	**16**	**73**	**1**	**0**	**0**	**23**	**3**	**5**	**25**	**1**	**0**	**275**

Table 26 above reflects that when facilities were stratified by facility type, private hospitals showed the least number of facilities offering child immunization services at 71% in comparison to other facility types i.e. public, mission hospital and mission clinic that were offering full package of child immunization services. There were more facilities in the rural location offering child immunization services in comparison to urban location i.e. 98% vs 92%.

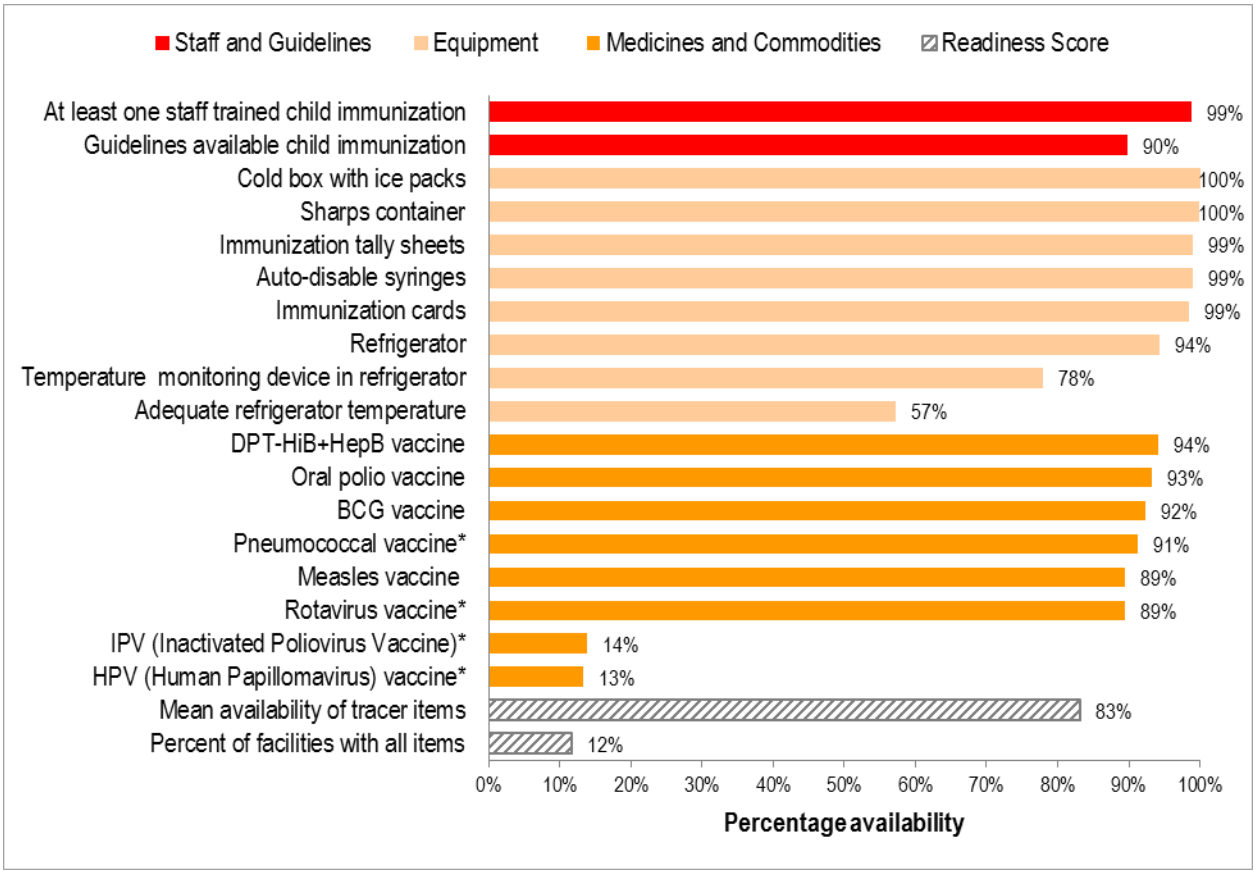
Child health: routine immunizations service readiness

Facilities offering child immunization services (265 facilities) were assessed on their readiness to provide the service based on the availability of the 18 tracer items. A total of 265 facilities responded to this item. These tracer items fall into 3 main domains as highlighted in table 27 below.

Table 28: Tracer items for routine child immunization

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for child immunization • Staff trained in child immunization
Equipment	• Cold box/vaccine carrier with ice packs • Refrigerator • Sharps container • Auto-disable syringes • Temperature monitoring device in refrigerator • Adequate refrigerator temperature • Immunization cards • Immunization tally sheets •
Medicines and commodities	• Measles vaccine • DPT-Hib+HepB vaccine • Oral polio vaccine • BCG vaccine • Pneumococcal vaccine • Rotavirus vaccine • Inactivated poliovirus vaccine • Human Papillomavirus

Figure 33: Percentage of facilities that have Tracer items for child immunization service readiness nationally, Zimbabwe 2014 (N=265)



Mean availability at 83% indicates that 15 out of 18 tracer items were found at facilities on the day of the assessment. Only 12% of facilities reported having all items. Overall, availability of staff and guidelines was high with each individual item available in over 90% of facilities that offer child immunization services. Amongst equipment tracer items, almost all facilities reported having cold box with ice packs, sharps container, tally sheets, disposable or auto-disable syringes and immunization cards. Ninety-four percent (94%) reported had a refrigerator, 78% temperature monitoring device in the refrigerator and 57% reported having an adequate refrigerator temperature. Among the medicines and commodity tracer items, BCG scored 92% pentavalent 94% oral polio 93% pneumococcal vaccine at 91% rota virus 89% and measles 89%.

Table 29: Percentage of facilities that have tracer items for child immunization services among facilities that provide this service, facility type and location (N=265)

	Number of facilities	Staff and Guidelines (%)	Equipment (%)	Medicines and Commodities (%)	Readiness Score (%)
Facility type					
Public Hospital	48	91	88	70	81
Public Clinic	151	94	91	73	84
Private Hospital	10	90	86	58	75
Private Clinic	16	97	89	63	78
Mission Hospital	29	91	88	75	83
Mission Clinic	11	100	89	68	81
Location					
Urban	53	93	95	81	88
Rural	212	95	90	70	82
Total.	**265**	**94**	**91**	**72**	**83**

Table 28 above reflects that there were no significant differences by type and location of facility concerning readiness to provide immunizations.

Figure 34: Vaccine stock-out in the last three months nationally, Zimbabwe 2014

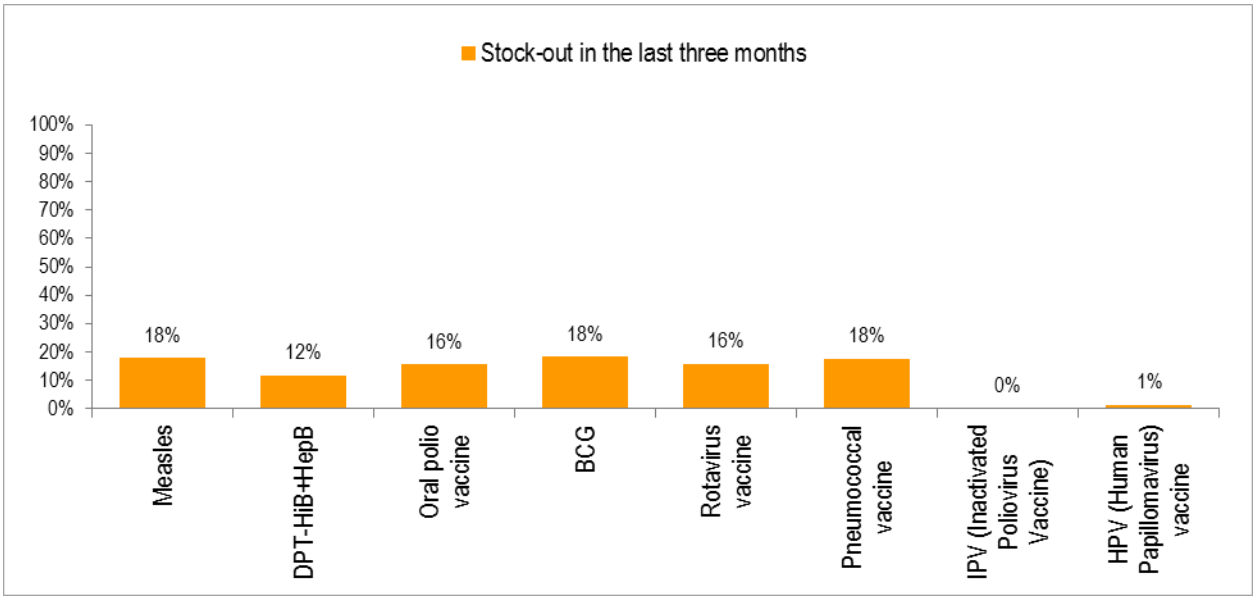


Figure 17 above shows that approximately a fifth of facilities had stock outs of key vaccines in the previous 3 months. This may limit the achievement of targets set for vaccine coverage. IPV, (Inactivated polio virus vaccine) and HPV (Human Papilloma Virus Vaccine) were generally not offered.

Table 30: Child immunization auxiliary indicators stock-outs readiness facility type and location, Zimbabwe 2014 (N=265)

	Measles vaccine stockout	DPT-HiB+HepB vaccine stockout	Oral polio vaccine stockout	BCG vaccine stockout	Rotavirus vaccine stockout	Pneumococcal vaccine stockout	IPV (Inactivated Poliovirus Vaccine) stockout	HPV (Human Papillomavirus) vaccine stockout	Total number of facilities
	%	%	%	%	%	%	%	%	
Facility type									
Public Hospital	17	10	17	21	17	15	0	2	48
Public Clinic	19	12	16	20	17	21	0	1	151
Private Hospital	30	0	10	0	10	0	0	0	10
Private Clinic	19	13	13	13	13	6	0	0	16
Mission Hospital	14	0	14	14	10	7	0	3	29
Mission Clinic	9	27	18	0	0	0	0	0	11
Location									
Urban	3	0	8	3	5	8	0	0	53
Rural	22	15	18	22	18	20	0	2	212

Total	**18**	**12**	**16**	**18**	**16**	**18**	**0**	**1**	**265**

Table 29 above reflects that stock outs in the previous 3 months affected mostly rural facilities, which were on average 5 times more likely to experience stock outs.

Table 31: Cold chain minimum requirements readiness by facility type and location, Zimbabwe 2014

Facility type	Cold chain minimum requirements	Energy source and power supply for vaccine refrigerator	Power used for cold chain refrigeration- grid or generator	Power used for cold chain refrigeration- solar	Power used for cold chain refrigeration- gas	Power used for cold chain refrigeration- kerosene	Power used for cold chain refrigeration- mixed	Power used for cold chain refrigeration- other	Total number of facilities
	%	%	%	%	%	%	%	%	
Public Hospital	40	92	94	0	6	0	0	0	48
Public Clinic	51	91	66	1	30	0	1	0	151
Private Hospital	30	80	90	0	0	0	0	0	10
Private Clinic	44	100	100	0	0	0	0	0	16
Mission Hospital	28	97	93	0	7	0	0	0	29
Mission Clinic	55	100	73	0	27	0	0	0	11
Location									
Urban	67	94	94	5	0	0	0	0	53
Rural	44	92	66	0	31	0	1	0	212
Total	**49**	**92**	**72**	**1**	**25**	**0**	**1**	**0**	**265**

Table 30 above reflects that about half of the facilities (49%) had the minimum requirements for cold chain. There is a wide variation by facility and location. Among rural based facilities 44% had cold chain minimum requirements compared to 67% in the urban location. Lack of cold chain negatively affects vaccines efficacy and overall program effectiveness.

Child health: curative care

Since 2005-2006 there has been minimal change in the under-five mortality rate, which rose from 82 deaths per 1,000 live births (2005-06 ZDHS) to 84 deaths (ZDHS 2010-11). Integrated Management of Childhood Illnesses (IMCI) is a proven strategy for increasing effective child survival interventions that address the major causes of under-five morbidity and mortality. Zimbabwe is revitalizing the IMCI strategy, which has three components: improving performance of health workers (case management skills), improving health systems (health systems component), and improving family and community practices (community component).

Child health: curative care services availability

Figure 18 below shows the percentage of facilities offering child curative care and growth monitoring services nationally. Key child health services include curative care for sick children, growth monitoring, vitamin A supplementation, and treatment of child malnutrition.

Figure 35: Percentage of facilities that offer child health preventative and curative care services nationally, Zimbabwe 2014 (N=275)

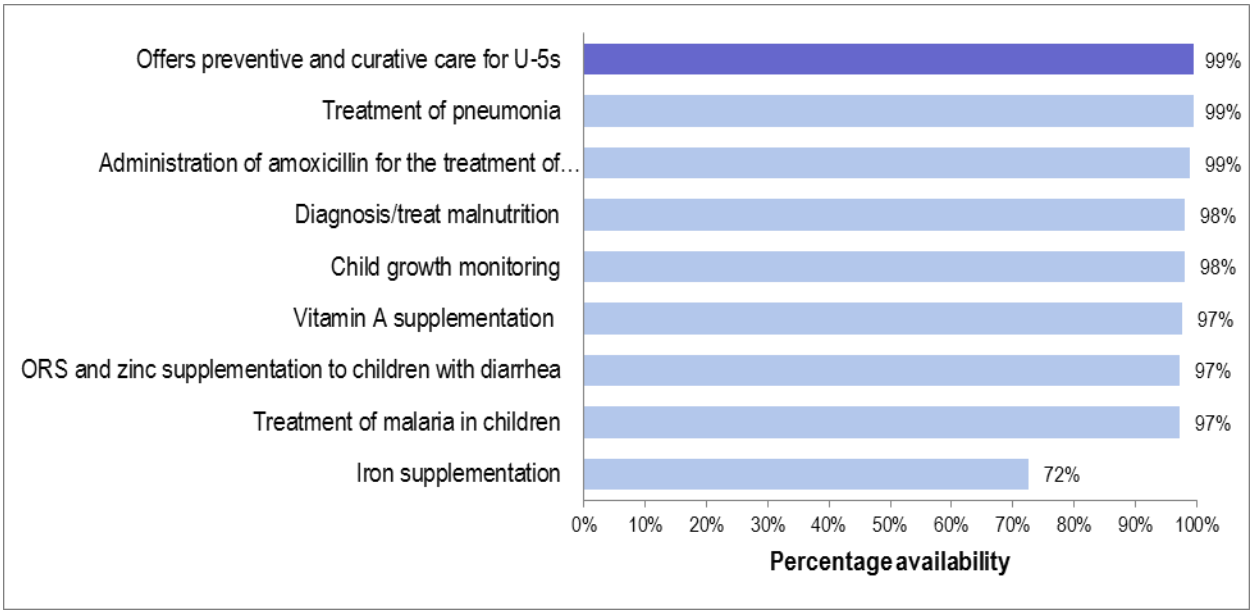


Figure 18 above shows that the majority>97% of facilities offered key child health preventative and curative services. Zimbabwe does not routinely offer iron supplementation for child, which explains the 72% availability of this service.

Table 32: Percentage of facilities that offer child health preventative and curative care services, by type of facility and location Zimbabwe, 2014 (N=275)

Facility type	Offers preventive and curative care for U-5s	Diagnosis/treat malnutrition	Vitamin A supplementation	Iron supplementation	ORS and zinc supplementation to children with diarrhea	Child growth monitoring	Treatment of pneumonia	Treatment of pneumonia in children	Treatment of malaria in children	Total number of facilities
	%	%	%	%	%	%	%	%	%	
Public Hospital	100	100	100	77	100	100	100	100	100	48
Public Clinic	100	99	99	73	100	99	100	99	98	153
Private Hospital	79	79	64	43	57	71	79	79	79	14
Private Clinic	95	85	80	65	70	85	95	95	85	20
Mission Hospital	100	100	100	79	100	100	100	100	100	29
Mission Clinic	100	100	100	64	100	100	100	100	100	11
Location										
Urban	97	93	92	67	95	92	97	97	88	60
Rural	100	99	99	74	98	99	100	99	99	215
Total	**99**	**98**	**97**	**72**	**97**	**98**	**99**	**99**	**97**	**275**

Table 31 reflects that when stratified by facility type the four facility types are offering a full package with the lowest being private hospitals at 79%. There is no difference between facilities in rural and urban locations.

Child health: curative care services readiness

Facilities offering child health services (271 facilities) were also assessed on their readiness to provide curative care and growth monitoring for children based on the availability of the 19 tracer items. These are highlighted in table 32 below.

Table 33: Tracer items child health curative services readiness

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for IMCI • Guidelines for growth monitoring • Staff trained in IMCI • Staff trained in growth monitoring
Equipment	• Child and infant scale • Length/height measuring equipment • Thermometer • Stethoscope • Growth char
Diagnostics	• Haemoglobin (Hb) • Test parasite in stool (general microscopy) • Malaria diagnostic capacity
Medicines and commodities	• Oral rehydration solution packet • Amoxicillin (dispersible tablet 250 or 500 mg OR syrup/suspension) • Co-trimoxazole syrup/suspension • Paracetamol syrup/suspension • Vitamin A capsules • Me-/albendazole cap/tab • Zinc sulphate tablets or syrup

Figure 36: Tracer items for child curative care and growth monitoring service readiness nationally, Zimbabwe 2014 (N=271)

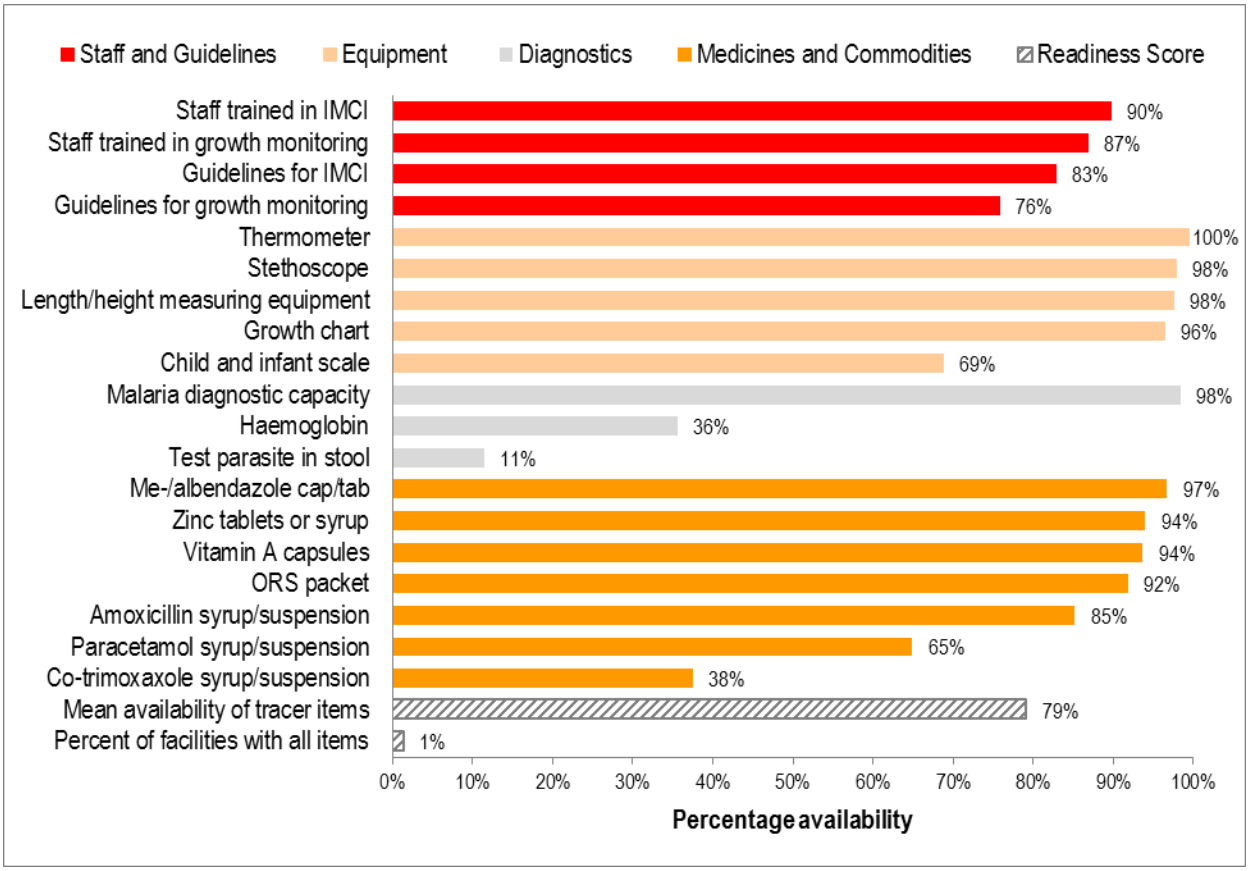


Figure 19 shows the availability of tracer items for child curative care and growth monitoring nationally as well as the percentage of facilities with all 19 items. Mean availability of tracer items was 79%. Only 1% of facilities had all the 19 tracer items. The domain scoring highest were equipment and medicines and commodities. However, relatively smaller proportion 38% had co-trimoxazole syrup-suspension. This may make adherence to case management guidelines difficult for service providers.

Table 34: Percentage of facilities with tracer items for child curative care and growth monitoring services by, facility type and location, Zimbabwe 2014

	Staff and Guidelines (%)	Equipment (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total	**84**	**92**	**48**	**81**	**79**
Facility type					
Public Hospital	91	92	70	83	85
Public Clinic	86	92	46	81	80
Private Hospital	68	89	42	78	73
Private Clinic	55	89	37	71	67
Mission Hospital	84	94	79	86	86
Mission Clinic	93	91	42	82	80
Location					
Urban	82	89	51	81	79
Rural	84	93	48	80	79

Table 33 above shows that private facilities had fewer staff trained in IMNCI as well as guidelines. This is also mirrored in diagnostics and may reflect non dissemination of key programs to the private sector. The readiness score to provide child curative and growth monitoring services was similar among both urban and rural facilities.

Adolescent Health

Adolescent are young people aged between 10-19 years. While most are healthy there are still significant morbidity and mortality in this age group. Chief among these are early pregnancies and child birth, STIs and HIV. Other socially related challenges include alcohol and drug abuse as well unintentional injuries. In addition, it has been observed that services that target this particular age group are inadequate. The types of services offered are indicated below.

- Adolescent health services
- HIV testing and counselling services to adolescents
- Family planning services to adolescents
- Provision of combined oral contraceptive pills to adolescents
- Provision of male condoms to adolescents
- Provision of emergency contraceptive pills to adolescents
- Provision of intrauterine contraceptive device (IUCD) to adolescents
- Provision of ART to adolescent

Adolescent Health services availability

Figure 20 below shows the percentage of facilities offering adolescent health services nationally. Key adolescent health services include family planning, HIV testing and Counselling provision of ART, combined oral contraception, emergency contraception and IUCD.

Figure 37: Percentage of facilities that offer adolescent health services nationally, Zimbabwe, 2014 (N=275)

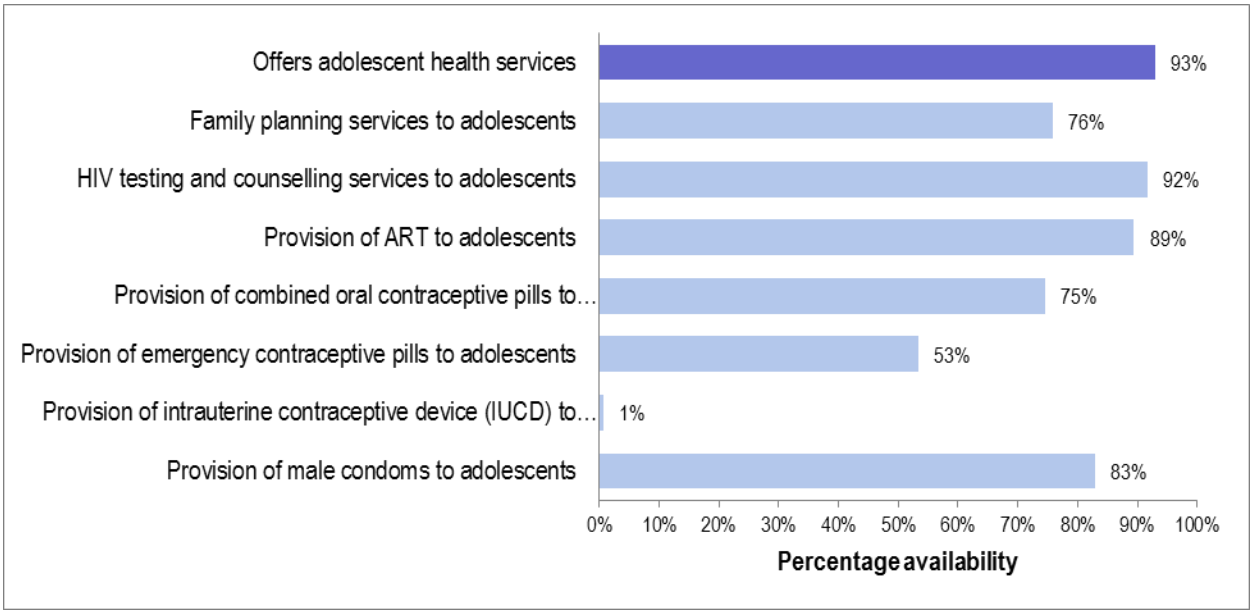


Figure 20 above shows that while the majority (93%) of facilities offer adolescent health services, a lower proportion (76%) provided FP services to adolescent. Furthermore, about half (53%) of them provided emergency contraception to adolescents.

Table 35: Percentage of facilities that offer adolescent health services, by facility type and location, Zimbabwe 2014 (N=275)

	Offers adolescent health services	HIV testing and counselling services to adolescents	Family planning services to adolescents	Provision of combined oral contraceptive pills to adolescents	Provision of male condoms to adolescents	Provision of emergency contraceptive pills to adolescents	Provision of intrauterine contraceptive device (IUCD) to adolescents	Provision of ART to adolescents	Total number of facilities
Facility type	%	%	%	%	%	%	%	%	%
Public Hospital	98	100	90	90	100	71	0	100	48
Public Clinic	93	93	78	78	84	54	1	92	153
Private Hospital	43	71	36	29	43	36	7	57	14
Private Clinic	90	70	60	55	70	40	0	50	20
Mission Hospital	97	100	59	59	66	55	3	100	29
Mission Clinic	91	100	64	55	82	45	0	100	11
Location									
Urban	89	76	74	72	80	69	0	69	60
Rural	94	96	76	75	84	49	1	95	215
Total	**93**	**92**	**76**	**75**	**83**	**53**	**1**	**89**	**275**

Table 34 reflects that in general private hospitals do not appear to offer much in terms of adolescent health services such as FP and emergency contraception. This also reflected in the mission facilities where for example, 45% of mission clinics offered emergency contraception. In general more rural facilities provided adolescent health services.

Adolescent Health service readiness

Facilities offering adolescent health services (252 facilities) were also assessed on their readiness to provide adolescent health service under 3 domains with 6 tracer items. These are highlighted in table 35 below.

Table 36: Tracer items adolescent health

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for service provision to adolescents • Staff trained in provision of adolescent health services • Staff providing family planning services trained in adolescent sexual and reproductive health • Staff providing HIV testing and counselling services trained in HIV/AIDS prevention, care, and management for adolescents
Diagnostics	• HIV diagnostic capacity
Medicines and commodities	• Condoms

Figure 38: Percentage of facilities that have tracer items for adolescent health services nationally (N=252)

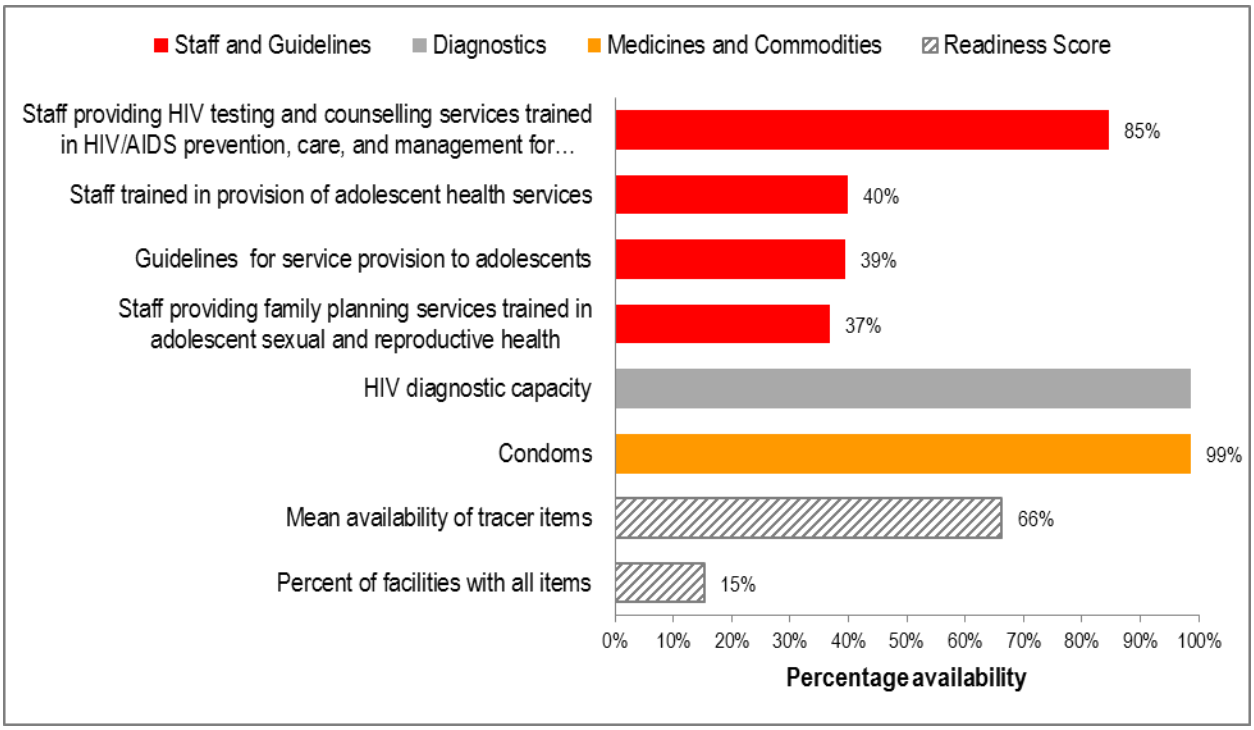


Figure 21 above with 66% mean availability of tracer items shows that out of the 6 tracer items 4 were reported to be available at a facility. Almost all facilities reported having condoms and HIV diagnostic capacity on the day. Only 15% reported having all tracer items for delivery of

adolescent health. Most, 85% of the facilities had staff providing HIV testing and counselling services trained in HIV/AIDS prevention, care and management for adolescents. There are fewer facilities who reported having staff specifically trained in adolescent health services and as well as training in adolescent sexual reproductive health services. This shows a gap in the critical part of the developmental life cycle, which may negatively impact on positive health seeking behavior later in life.

Table 37: Percentage of facilities that have tracer items for adolescent health services by facility type and location Zimbabwe 2014 (N=252)

	Staff and Guidelines (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total	**50**	**99**	**99**	**66**
Facility type				
Public Hospital	59	100	100	72
Public Clinic	50	100	100	67
Private Hospital	50	83	100	64
Private Clinic	43	83	89	57
Mission Hospital	55	100	100	70
Mission Clinic	50	100	90	65
Location				
Urban	64	97	100	76
Rural	47	99	98	64

Table 36 above shows that private clinics reported the least availability of tracer items within the staff and guidelines domain.

5.2 HIV/AIDS

Zimbabwe is one of the countries in Southern Africa hardest hit by the HIV/AIDS epidemic with an estimated HIV prevalence of 15% among adults aged 15-49 years. It is estimated that there are approximately 1.3 million people living with HIV and AIDS.

The National HIV and AIDS Strategic Framework (ZNASP 2011-2015) provides a basis for coordination of all HIV/AIDS interventions in Zimbabwe and is based on a process of joint annual reviews of progress.

HIV counselling and testing services

HIV testing and counselling services help people learn their HIV status and for those testing positive learn about options for long term care and treatment. In addition to serving as a gateway to HIV prevention, care, support and treatment services, they provide individuals with the opportunity to access information about prevention measures, including abstinence, having one sexual partner and correct and consistent use of condoms. Similarly, HIV counselling and testing (HCT) is an entry point to Prevention of Mother to Child transmission (PMTCT). Improving coverage of HTC is one of the strategic objectives of ZNASP.

HIV counselling and testing Service availability

The majority (98%) of facilities provide HCT services. However, about a quarter of private facilities did not offer HTC.

Table 38: Percentage of facilities that offer HIV counselling and testing services province, facility type and location Zimbabwe, 2014 (N=275)

	Offers HIV counselling and testing services (%)	Total number of facilities
Facility type		
Public Hospital	100	48
Public Clinic	100	153
Private Hospital	71	14
Private Clinic	75	20
Mission Hospital	100	29
Mission Clinic	100	11
Location		
Urban	93	60
Rural	99	215
Total	**98**	**275**

Table 37 above shows that HIV counselling was least provided in private hospitals at 71%.

HIV counselling and testing Service readiness

Facilities offering HIV counselling and testing services (266 facilities) were also assessed on their readiness to provide the service based on the availability of the four domains with 5 tracer items. These are captured in table 38 below.

Table 39: Tracer Items HIV counselling and testing readiness

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines on HIV counselling and testing • Staff trained in HIV counselling and testing
Equipment	• Visual and auditory privacy
Diagnostics	• HIV diagnostic capacity
Medicines and commodities	• Condom

Figure 39: Percentage of facilities that have tracer items for HIV counselling and testing services nationally, Zimbabwe 2014, (N=266)

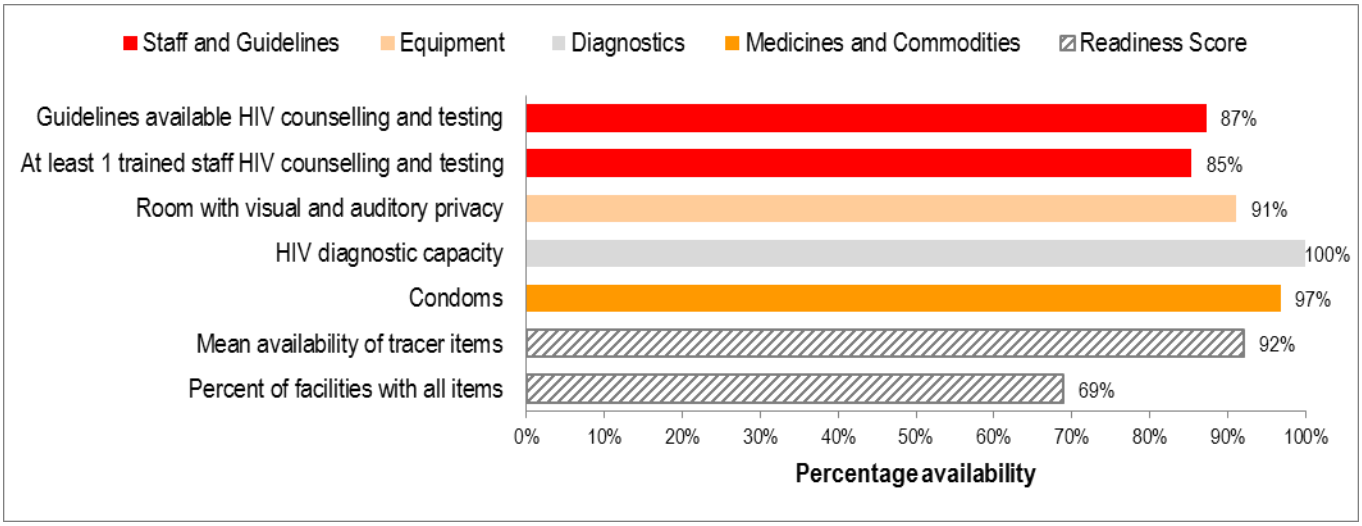


Figure 22 above reflects that all facilities providing HTC had 100% HIV diagnostic capacity. Facilities also scored high on condom availability (97%) as well as visual and auditory privacy (91%). However, a lower proportion 69% had all the tracer items listed under each domain.

Table 40: Percentage of facilities that have tracer items for HIV counselling and testing by facility type and location Zimbabwe (N=266)

	Guidelines available HIV counselling and testing	At least 1 trained staff HIV counselling and testing	Room with visual and auditory privacy	HIV diagnostic capacity	Condoms	Percent of facilities with all items	Mean availability of tracer items	Total number of facilities
	%	%	%	%	%	%	%	
Facility type								
Public Hospital	92	88	77	100	96	65	90	48
Public Clinic	86	84	92	100	97	68	92	153
Private Hospital	70	90	100	80	100	60	88	10
Private Clinic	87	87	87	100	93	73	91	15
Mission Hospital	90	93	93	100	97	76	94	29
Mission Clinic	100	91	100	100	91	82	96	11
Location								
Urban	90	79	79	99	99	66	89	53
Rural	87	87	94	100	96	70	93	213
Total	**87**	**85**	**91**	**100**	**97**	**69**	**92**	**266**

Table 39 above shows that amongst the urban and rural locations HIV diagnostic capacity and medicines and commodities showed the highest level of availability that is also evident across location. Fewer urban facilities had consultation rooms with adequate visual and auditory privacy percentage (74%) compared to rural facilities (90%). This may be reflection of the large

number of clients visiting urban facilities at time compared to rural facilities. However in general these findings reflect on resources that have been invested in HIV testing and counselling.

HIV/AIDS care and support services

Zimbabwe's success in scaling up ART is a reflection of strong political and institutional support for reduction of HIV and AIDS related mortality through expanding access to treatment down to the primary care level.

HIV/AIDS care and support Service availability

Facilities offering HIV/AIDS, care and support services (275facilities) were also assessed availability of services under the following types captured below.

- HIV/AIDS care and support services
- Treatment of opportunistic infections
- Provision of palliative care
- Intravenous treatment of fungal infections
- Treatment for Kaposi's sarcoma
- Nutritional rehabilitation services
- Prescribe/provide fortified protein supplementation
- Care for paediatric HIV/AIDS patients
- Provide/prescribe preventative treatment for TB
- Primary preventative treatment for opportunistic infections
- Provide/prescribe micronutrient supplementation
- Family planning counselling
- Provide condoms

Figure 23 below shows the percentage of facilities offering HIV/AIDS care and support services nationally.

Figure 40: Figure 23: Percentage of facilities offering HIV/AIDS care and support services nationally, Zimbabwe, 2014 (N=275)

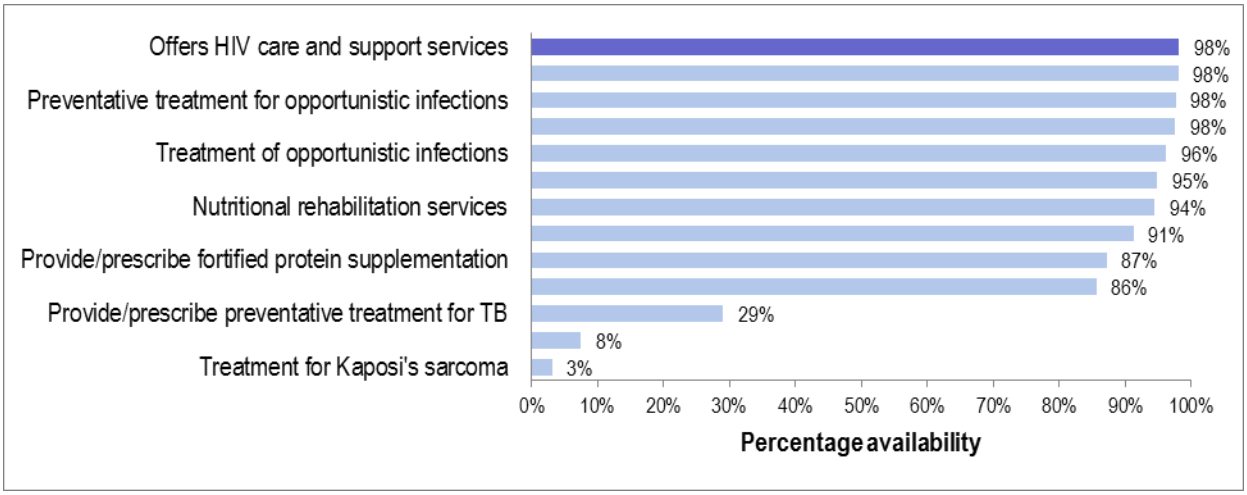


Figure 23 above reflects that almost all 98% of facilities offer HIV, care and support services. These include treatment for opportunistic infections FP counselling, condoms provision and nutritional rehabilitative services. Ninety-one percent (91%) provided care for pediatric HIV/AIDS patients. Only a minority 8% provided IV treatment for fungal infections. This can be explained by the fact that this service is largely available at tertiary level of care.

Table 41: Percentage of facilities offering HIV/AIDS care and support services by facility type and location Zimbabwe, 2014 (N=275

Facility type	Offers HIV care and support services	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	paediatric HIV/AIDS patients	Provide/prescribe preventative treatment for TB	Preventative treatment for opportunistic infections	Provide/prescribe micronutrient supplementation	Family planning counselling	Provide condoms	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	%	%	
Public Hospital	100	100	96	35	10	100	100	98	48	100	96	100	100	48
Public Clinic	100	98	97	1	0	97	90	93	31	99	85	100	99	153
Private Hospital	79	79	79	43	50	71	29	64	50	79	71	71	71	14
Private Clinic	80	75	75	10	15	65	50	70	10	80	75	80	80	20
Mission Hospital	100	100	97	62	14	100	100	100	24	100	93	100	100	29
Mission Clinic	100	100	100	0	0	91	100	91	0	100	100	100	100	11
Location														
Urban	95	95	95	11	4	88	69	74	55	95	69	95	95	60
Rural	99	97	95	7	3	96	92	96	22	98	90	99	98	215
Total	**98**	**96**	**95**	**8**	**3**	**94**	**87**	**91**	**29**	**98**	**86**	**98**	**98**	**275**

Table 40 above shows that some differences were noted by location and type of facility with respect to provision of HIV/AIDS care and support services. For example, more mission hospitals, 62% provided IV treatment for fungal infections such as cryptococcal meningitis than public hospitals (35%). Fewer of the public hospitals were treating Kaposi's sarcoma compared to private hospitals. A positive finding is that Family Planning services were being provided within HIV/AIDS care which may be a good indicator of integration of this service with Sexual Reproductive Health (SRH) in line with national guidelines.

HIV/AIDS care and support services readiness

Facilities offering HIV/AIDS care and support services (268 facilities) were also assessed on their readiness to provide the services based on the availability of 10 tracer items under 3 domains. These are highlighted in table 41 below.

Table 42: HIV/AIDS tracer items

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for clinical management of HIV & AIDS • Guidelines for palliative care • Staff trained in clinical management of HIV & AIDS
Diagnostics	• System for diagnosis of TB among HIV + clients
Medicines and commodities	• Intravenous solution with infusion set • IV treatment fungal infections • Co-trimoxazole cap/tab • First-line TB treatment medications • Palliative care pain management • Condoms

Figure 41: Percentage of facilities that have tracer items for HIV care and support services among facilities nationally, Zimbabwe 2014 (N=268)

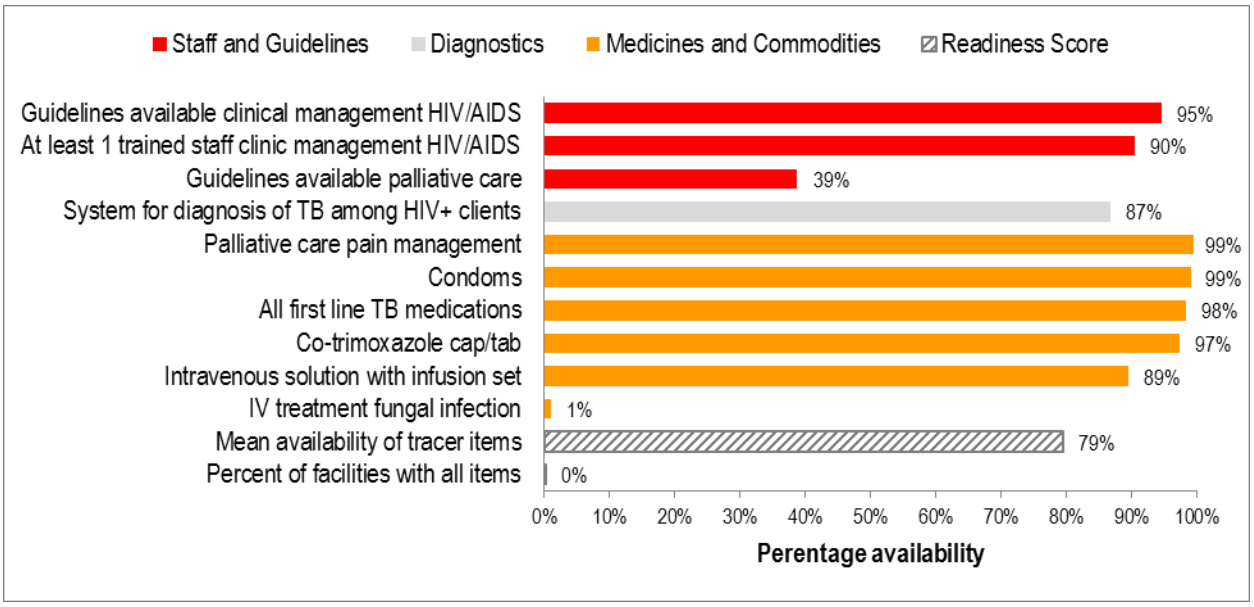


Figure 24 above shows the 10 tracer items needed for the delivery of HIV/AIDS care and support services according to facilities who reported their availability on the day of the survey. Out of the 10 tracer items facilities reported having 8 tracer items out of the 10. No facility reports having all the 10 tracer items. The majority of facilities had guidelines available for the management of HIV/AIDS. However fewer (39%) had guidelines of palliative care on the day of the assessment. Eighty seven percent (87%) of facilities had a system for diagnosis of TB which maybe a good indicator of existing TB/HIV collaborative activities.

Table 43: Percentage of facilities that have tracer items for HIV care and support services by facility type and location, Zimbabwe 2014 (N=268)

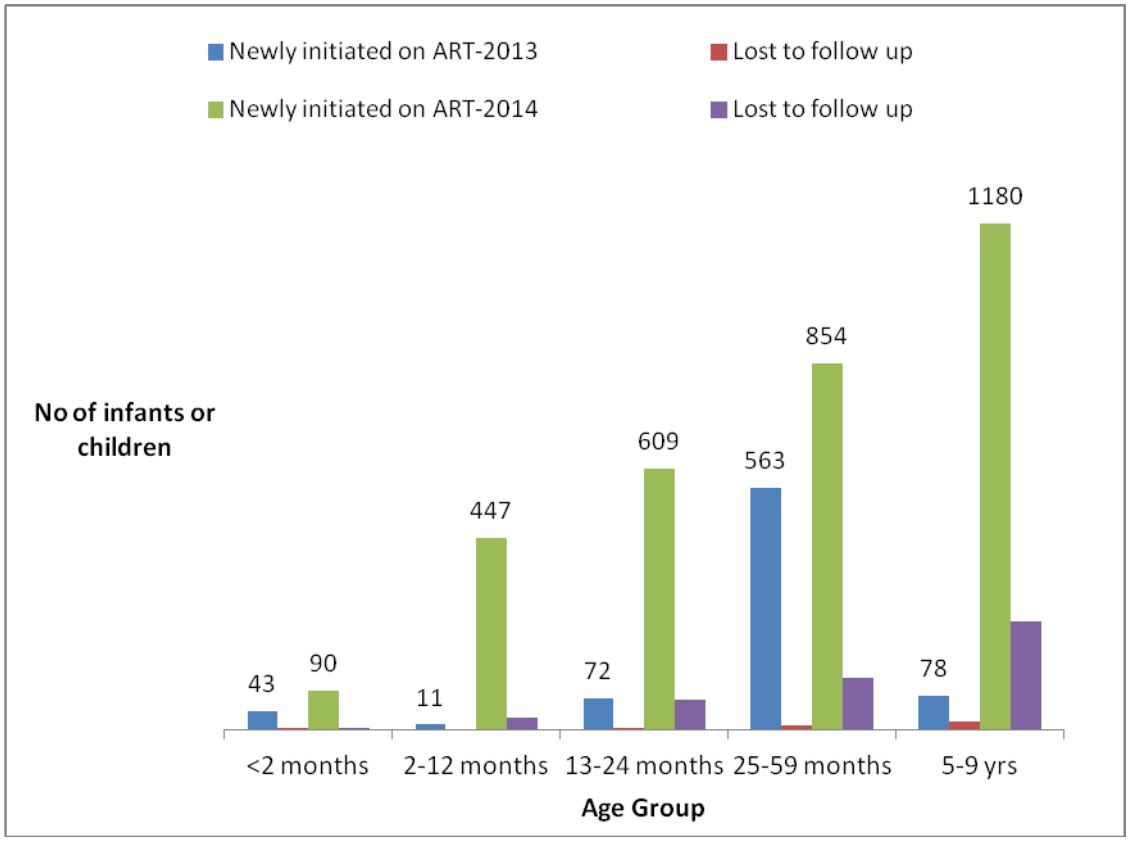
Facility type	available clinical management HIV/AIDS	Guidelines available palliative care	trained staff clinic management HIV/AIDS	System for diagnosis of TB among HIV+ clients	Intravenous solution with infusion set	IV treatment fungal infection	Co-trimoxazole cap/tab	All first line TB medications	Palliative care pain management	Condoms	Percent of facilities with all items	Mean availability of tracer items	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	%	
Public Hospital	94	50	96	92	98	4	100	100	100	100	2	83	48
Public Clinic	97	38	92	87	89	0	98	99	99	99	0	80	153
Private Hospital	91	55	91	82	91	36	82	55	91	91	9	76	11
Private Clinic	81	31	63	81	75	0	88	88	100	100	0	71	16
Mission Hospital	90	38	93	97	100	7	97	100	100	100	0	82	29
Mission Clinic	82	45	91	73	100	0	100	100	100	91	0	78	11
Location													
Urban	96	51	93	90	78	2	97	94	97	100	0	80	55
Rural	94	36	90	86	93	1	97	99	100	99	0	79	213
Total	**95**	**39**	**90**	**87**	**89**	**1**	**97**	**98**	**99**	**99**	**0**	**79**	**268**

There were no major disparities in availability of tracer items by location. Less private clinics had at least one staff trained in clinical management of HIV/AIDS (63%) compared to public clinics (92%). Among private hospitals slightly more than half all first line TB medications. Overall facilities scored high in the 3 domains which measured readiness to provide HIV, care and support services. This was particularly the case with diagnostics. There was little variation by facility type and location on readiness to provide HIV care and support services.

Antiretro-viral Therapy

The MoHCC introduced ART into the public sector in April 2004. Since then coverage amongst adults has increased rapidly and by 2012 was estimated at 85%. However, pediatric ART coverage has lagged behind at 66%. However Figure 25 shows that there has been a significant increase in the number of infants and children initiated on ART in first half of 2014 compared to the same period in 2013. The increase is noted particularly in the older children aged 2 to 9 years.

Figure 42: Number of infants initiated on ART and lost to follow up July 2013 to June 2014 by age group: national program data



The types of services are as captured below.

- ARV prescription or ARV treatment follow-up services
- Antiretroviral prescription
- Treatment follow-up services for persons on ART

Antiretro-viral Therapy service availability

The figure 26 below reflects facilities (N=275) that offer ARV services nationally.

Figure 43: Percentage of facilities that offer ARV services (N=275)

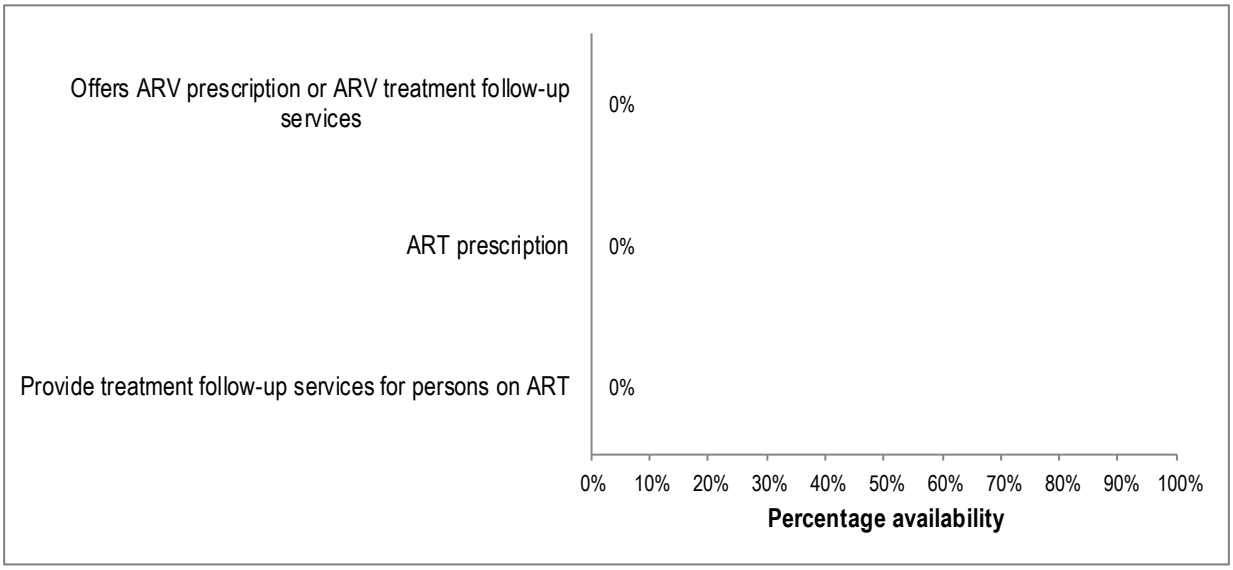


Figure 26 above shows that nationally 96% of the facilities offer ARV prescription or ART treatment follow up service

Table 44: Percentage of facilities that offer ARV services, by facility type and location, Zimbabwe (N=275)

Facility type	Offers ARV prescription or ARV treatment follow-up services (%)	ART prescription (%)	Provide treatment follow-up services for persons on ART (%)	Total number of facilities
Public Hospital	100	98	98	48
Public Clinic	99	99	97	153
Private Hospital	79	71	57	14
Private Clinic	60	60	60	20
Mission Hospital	100	100	100	29
Mission Clinic	100	100	100	11
Location				
Urban	91	88	84	60
Rural	97	97	97	215
Total	**96**	**95**	**94**	**275**

Table 43 above shows that private facilities had the lowest percentage of facilities offering ARV prescription or treatment follow up. Slightly more of the rural facilities were offering this service.

ART service readiness

Facilities offering ART services (263 facilities) were also assessed on their readiness to provide the services based on the availability of 7 tracer items under 3 domains. These are highlighted in table 44 below.

Table 45: Tracer items for ART

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for antiretroviral therapy • Staff trained in ART prescription and management
Diagnostics	• Full blood count • CD4 or Viral load • Renal function test (serum creatinine testing or other) • Liver function test (ALT or other)
Medicines and commodities	• Three first-line antiretrovirals

Figure 44: Percentage of facilities that have tracer items for ART, by nationally Zimbabwe (N=268)

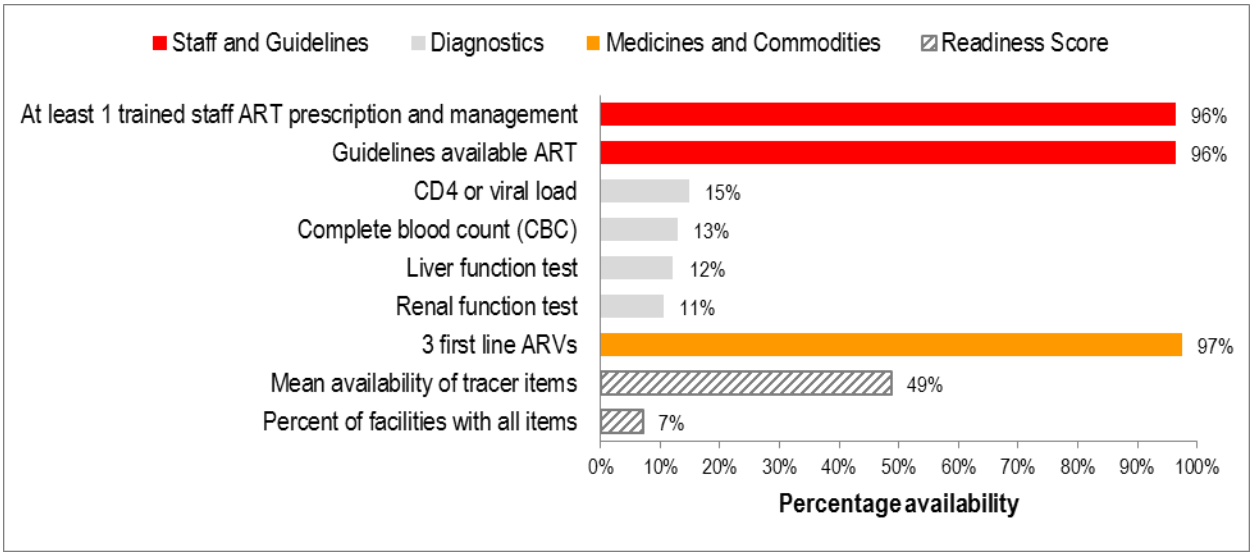


Figure 27 reflects that mean availability of ART tracer items was 49% i.e. three out of seven items. Only 7% of facilities had all tracer items. ART first line treatment was available at 97%. Overall 96% of the facilities reported at least 1 staff trained in ART prescription and management and guidelines on ART were available. Of concern was the low availability diagnostics tracer items ranging from 11%-15%. This could be attributed to the large number of primary care facilities in the sample that normally do not offer laboratory services.

Table 46: Percentage of facilities that have tracer items for ARV services by facility type and location Zimbabwe, 2014 (N=263)

Facility type	Staff and Guidelines (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total	**96**	**13**	**97**	**49**
Public Hospital	98	28	100	58
Public Clinic	97	9	98	47
Private Hospital	82	45	82	61
Private Clinic	96	23	83	52
Mission Hospital	91	40	100	63
Mission Clinic	95	0	100	42
Location				
Urban	93	37	92	61
Rural	97	7	99	46

Table 45 above reflects mean readiness for ART tracer items by facility type and location. Availability of tracer items was high across all domains except diagnostics. Highest percentage of facilities with diagnostic tracer items were private hospitals at less than half 45%. Only a minority, 7% had all tracer items in the diagnostics domain. Overall, rural facilities were less ready to provide ARV services.

HIV/AIDS: PMTCT service availability

Mother to child transmission of HIV is the 2nd highest mode of HIV transmission in Zimbabwe contributing to 5% of the overall transmission rate. The PMTCT program in Zimbabwe is a priority intervention in the fight against HIV/AIDS in children. The program is designed to prevent pediatric HIV infection through primary prevention of HIV infection in women of the reproductive age group; prevention of unintended pregnancies; prevention of mother-to-child transmission of HIV through Option B regimen; and provision of care and follow-up psychosocial support. Pregnant women visiting public health facilities for ANC HIV testing and PMTCT services free of charge. In 2009, an estimated 36% of HIV-exposed infants received ARV prophylaxis to reduce the risk of MTCT.

In 2013 the World Health Organization (WHO) issued new ARV consolidated guidelines, which included Option B+ for HIV positive pregnant and lactating women i.e. initiation of triple lifelong ARVs for HIV positive pregnant and lactating women regardless of CD4 count or clinical status. There has been a rapid transition to Option B+ that has been accepted by users and providers of services. By end of 2014, almost all, about 1500 facilities were offering Option B+.

The types of services offered are captured below.

- Preventing mother-to-child transmission (PMTCT) services

- Counselling and testing for HIV+ pregnant women
- Counselling and testing for infants born to HIV+ women
- ARV prophylaxis or ART to HIV+ pregnant women
- ARV prophylaxis to infants born to HIV+ women
- Infant and young child feeding counselling
- Nutritional counselling for HIV+ women and their infants
- Family planning counselling to HIV+ women

The figure 28 below reflects facilities (N=275) that offer PMTCT services

Figure 45: Percentage of facilities that offer PMTCT services nationally, Zimbabwe 2014 (N=275)

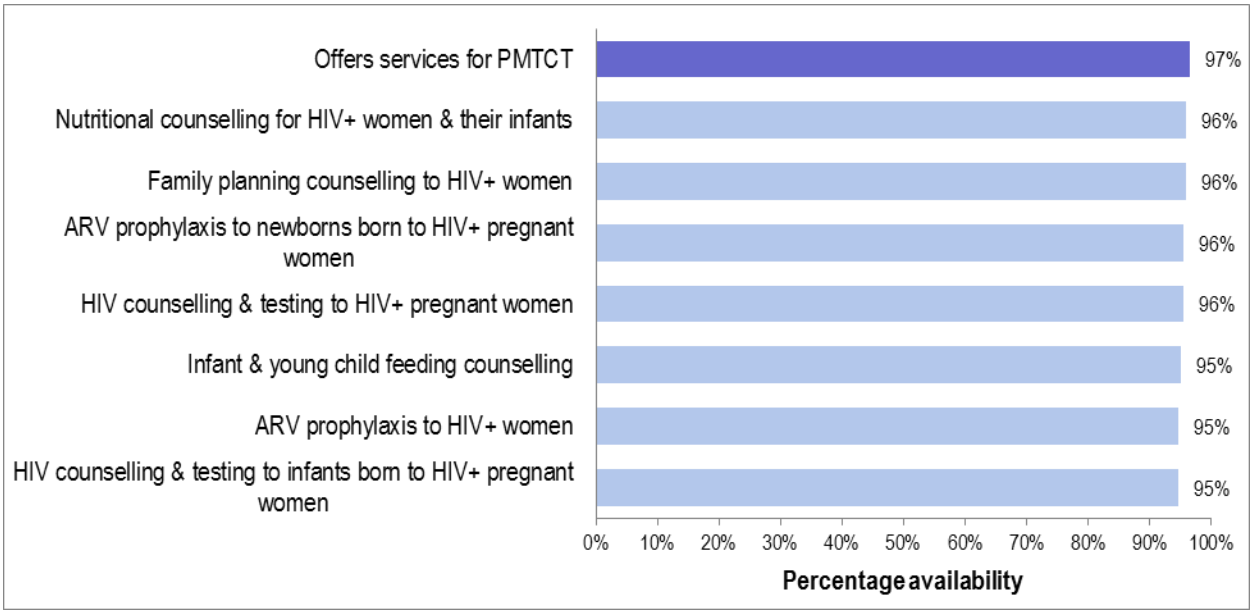


Figure 28 above almost all facilities (97%) offered full package of PMTCT services nationally. Service availability was high across all PMTCT interventions ranging between 95% and 96%.

Table 47: Percentage of facilities that offer PMTCT services, by facility type and location (N=275)

Facility type	Offers services for PMTCT	HIV counselling & testing to HIV+ pregnant women	Testing to infants born to HIV+ pregnant women	ARV prophylaxis to HIV+ women	Prophylaxis to newborns born to HIV+ pregnant women	Infant & young child feeding counselling	Nutritional counselling for HIV+ women & their infants	Family planning counselling to HIV+ women	Total number of facilities
	%	%	%	%	%	%	%	%	
Public Hospital	100	100	100	100	100	100	100	100	48
Public Clinic	99	98	97	97	98	97	98	98	153
Private Hospital	64	64	64	64	64	64	64	64	14
Private Clinic	75	70	65	65	70	70	75	75	20
Mission Hospital	100	100	100	100	100	100	100	97	29
Mission Clinic	100	100	100	100	100	100	100	100	11
Location									
Urban	87	85	85	85	85	83	85	85	60
Rural	99	98	97	97	98	98	99	99	215
Total	**97**	**96**	**95**	**95**	**96**	**95**	**96**	**96**	**275**

Table 46 above shows that when stratified by facility type and location public hospitals, mission hospitals and mission clinics had all the PMTCT services available. However, by contrast slightly less than two thirds (64%) of private hospitals had PMTCT services available. In rural based locations almost all the facilities (99%) had PMTCT services available in comparison to 87% of facilities in urban locations.

PMTCT service readiness

Facilities offering PMTCT services (263 facilities) were also assessed on their readiness to provide the service based on the availability of the 10 tracer items. Figure 28 shows the availability of these tracer items nationally as well as the percentage of facilities with all 10 items.

Table 48: Tracer Items PMTCT services

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for PMTCT • Guidelines for infant and young child feeding counselling • Staff trained in PMTCT • Staff trained in infant and young child feeding
Equipment	• Visual and auditory privacy
Diagnostics	• HIV diagnostic capacity for adults • Dried blood spot (DBS) filter paper for diagnosing HIV in newborns

Medicines and commodities	• Zidovudine (AZT) syrup • Nevirapine (NVP) syrup • Maternal ARV prophylaxis

Figure 28 below reflects mean availability of tracer items for PMTCT.

Figure 46: Percentage of facilities that have tracer items for PMTCT services nationally, Zimbabwe 2014 (N=263)

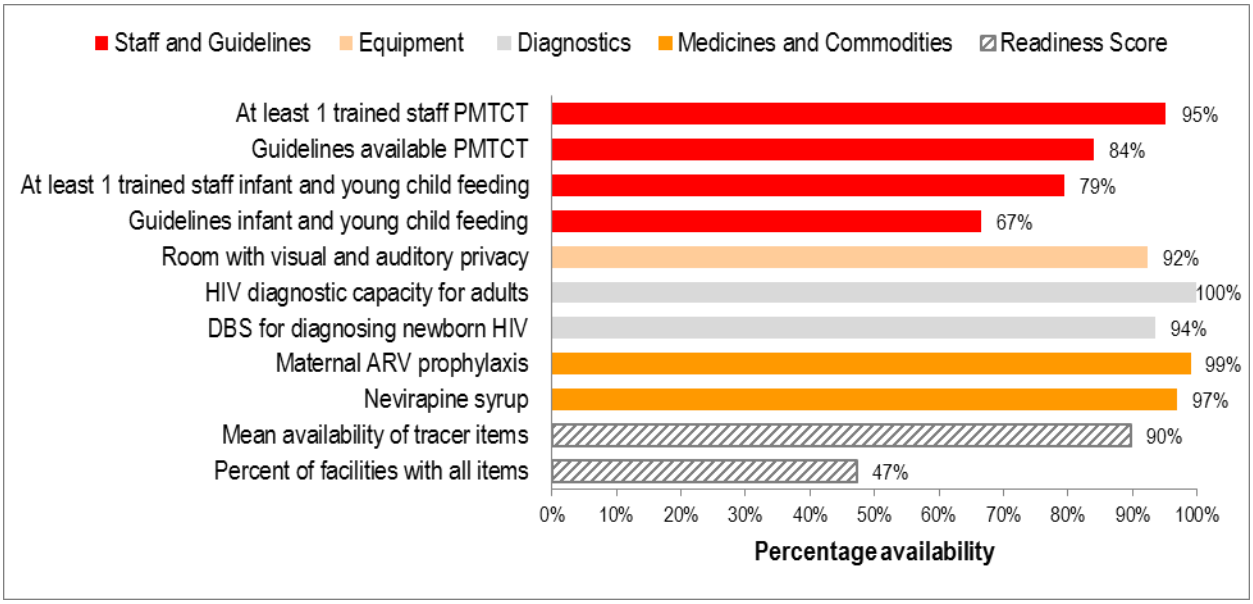


Figure 29 shows that mean readiness for tracer items was 90% and facilities with all items were at 47%. HIV diagnostic capacity for all adults was at 100% while that of children was also high are 94%. Also scoring high were Maternal ARV prophylaxis (99%) and Niverapine syrup, 97%. Relatively fewer, 67% had guidelines on infant and young child feeding. This may compromise education given to caregivers of young infants and contribute to malnutrition especially among HIV exposed or infected infants.

Table 49: Percentage of facilities that have tracer items for PMTCT services among facilities that provide this service, by province, Zimbabwe 2014 (N=263)

	Staff and Guidelines (%)	Equipment (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total	**81**	**92**	**97**	**98**	**90**
Facility type					
Public Hospital	86	79	99	100	91
Public Clinic	81	93	97	99	90
Private Hospital	72	100	83	94	83
Private Clinic	75	93	87	83	81
Mission Hospital	78	93	97	98	89
Mission Clinic	91	91	100	100	95

Locations					
Urban	81	81	96	96	88
Rural	81	95	97	99	90

Table 48 above shows that mission clinics had the highest availability of tracer items across all domains with a readiness score 95% i.e. 9 out 10 tracer items. There was not much variation between rural and urban locations.

5.3 Sexually transmitted infections service availability

Sexually transmitted infections (STIs) continue to place a significant burden in Zimbabwe. In 2012, Zimbabwe reported close to 90,000 cases of women diagnosed with vaginal discharge syndrome and more than 50,000 cases of men with urethral discharge syndrome. Evidence from both biological and epidemiological studies shows a clear link between STIs and HIV transmission. Hence STI control plays an important role in the reduction of HIV transmission. As in other countries where etiologic testing is not available most STIs in Zimbabwe are treated syndromically. STI services assessed include:

- STI services
- STI diagnosis
- STI treatment

STI service availability

The figure 29 below reflects facilities (N=275) with availability of STIs diagnosis and management nationally.

Figure 47: Percentage of facilities that offer STI services nationally (N=275)

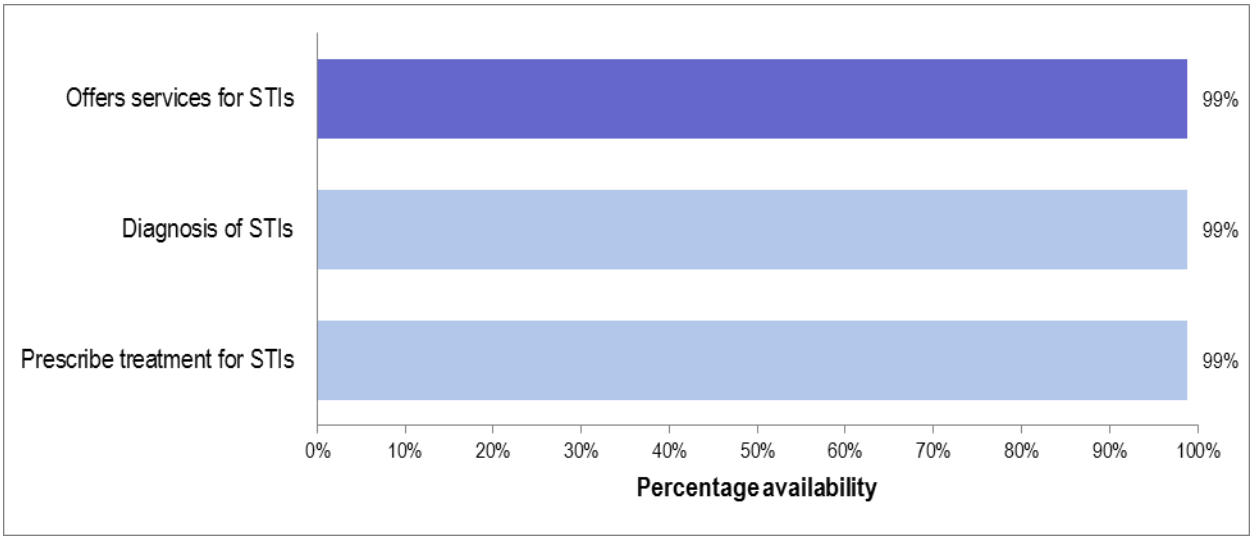


Figure 30 above shows that almost all facilities (99%) offered services for STI that include clinical diagnosis and prescription with little variations by province. However, private hospitals were less likely to provide STI services. See table 49 below.

Table 50: Percentage of facilities that offer STI services, by facility type and location, Zimbabwe 2014 (N=275)

Facility Type	Offers services for STIs (%)	Diagnosis of STIs (%)	Prescribe treatment for STIs (%)	Total number of facilities
Public Hospital	100	100	100	48
Public Clinic	100	100	100	153
Private Hospital	71	71	71	14
Private Clinic	90	90	90	20
Mission Hospital	100	100	100	29
Mission Clinic	100	100	100	11
Location				
Urban	95	95	95	60
Rural	100	100	100	215
Total	**99**	**99**	**99**	**275**

Sexually transmitted infections service readiness

Facilities offering STI services (275 facilities) were also assessed on their readiness to provide the service based on the availability of the 7 tracer items under 3 domains. These are highlighted in table 50 below.

Table 51: Tracer Items STI diagnosis and management

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for diagnosis and treatment of STIs • Staff trained in STI diagnosis and treatment
Diagnostics	• Syphilis rapid test
Medicines and commodities	• Condoms • Metronidazole cap/tab • Ciprofloxacin cap/tab • Ceftriaxone injectable

Figure 31 shows the availability of these tracer items nationally as well as the percentage of facilities with all 7 items.

Figure 48: Percentage of facilities that have tracer items for STI services nationally, Zimbabwe, 2014 (N=269)

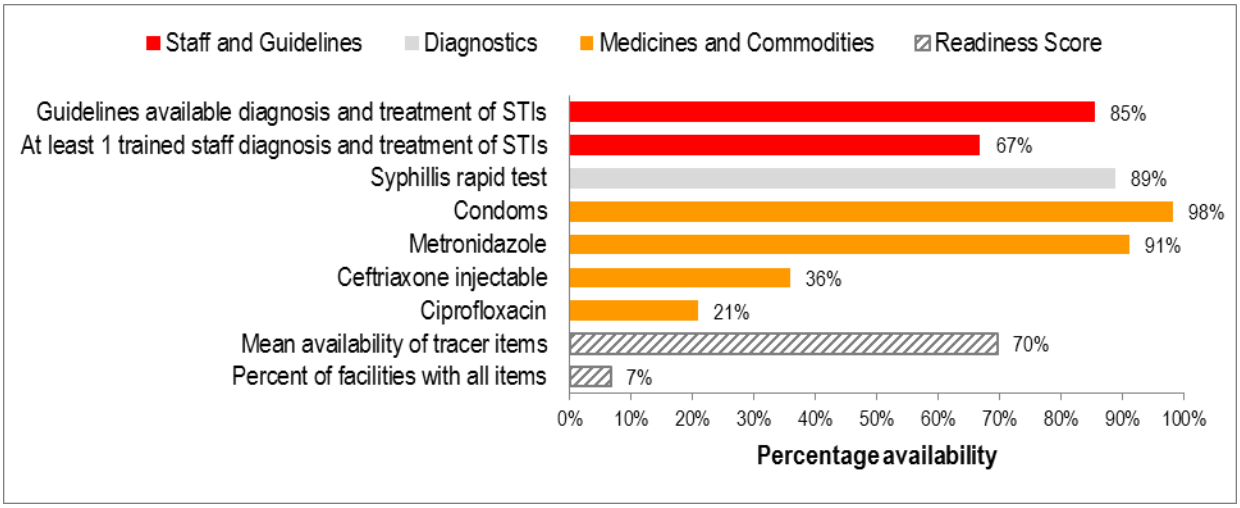


Figure 31 above reflects that mean availability of tracer items for diagnosis and management of STIs was at 70% i.e. (5 items out of 7). Condoms were the most available at 99%. Medicines were the least available tracer items ceftriaxone injectable 36% and ciprofloxacillin 21%. This may have negative implications on appropriate syndromic management according to guidelines. Only 7% of the facilities had all the tracer items for STI services.

Table 52: Percentage of facilities that have tracer items for STI services by facility type and location Zimbabwe 2014 (N=269)

	Staff and Guidelines (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total	**76**	**89**	**62**	**70**
Facility type				
Public Hospital	89	96	67	77
Public Clinic	77	89	59	69
Private Hospital	55	60	85	73
Private Clinic	58	83	63	64
Mission Hospital	78	90	78	80
Mission Clinic	77	91	66	73
Location				
Urban	83	68	76	77
Rural	74	94	58	68

Table 51 above shows that fewer private facilities had staff training in STI management and fewer guidelines. It is surprising that rural facilities reported better availability of diagnostics than urban locations (94% and 68%) respectively

5.4 Tuberculosis

TB and HIV co-infection remains a public health emergency. It is estimated that of all TB cases 72% are co-infected with HIV. TB notification has significantly declined from 714/100, 000 population 2008 to 269/100 000 population in 2013. However, MDR TB remains a threat to public health. The types of TB services offered assessed in SARA are listed below.

- TB services
- TB diagnosis
- TB diagnostic testing
- TB diagnosis by clinical symptoms
- TB diagnosis by sputum smear microscopy examination
- TB diagnosis by culture
- TB diagnosis by rapid test (GeneXpert MTB/RIF)
- TB diagnosis by chest X-ray
- Prescription of drugs of TB patients
- Provision of drugs to TB patients
- Management and treatment follow-up for TB patients

TB service availability

The figure 32 below reflects facilities (N=275) with availability of TB diagnosis and management nationally

Figure 49: Percentage of facilities that offer tuberculosis services nationally Zimbabwe, 2014 (N=275)

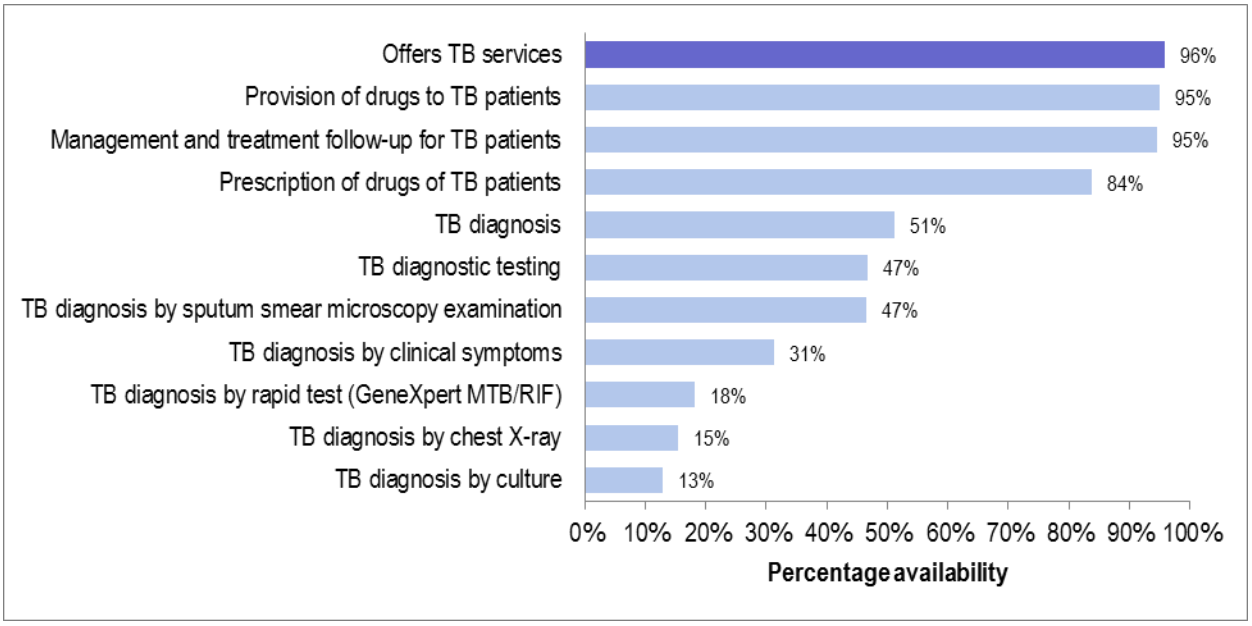


Figure 32 above reflects that TB services were available in 96% of facilities. Of concern is that less than half (47%) of facilities reported offering sputum microscopy which is the gold standard for TB diagnosis. Within the package of TB services offered in Zimbabwe TB diagnosis by culture was reported to be the least offered by facilities 13%. Overall 18% offered TB diagnostic by rapid test (GeneExpert) and this was reported more in the public and mission hospitals compared to private hospitals. The most offered TB service was provision of TB medicines as well as management and treatment follow up (95%)

Table 53: Percentage of facilities that offer tuberculosis services, by facility type and location, Zimbabwe 2014 (N=275)

Facility type	Offers TB services	TB diagnosis	TB diagnostic testing	TB diagnosis by clinical symptoms	TB diagnosis by sputum smear microscopy examination	TB diagnosis by culture	TB diagnosis by rapid test (GeneXpert MTB/RIF)	TB diagnosis by chest X-ray	Prescription of drugs of TB patients	Provision of drugs to TB patients	Management and treatment follow-up for TB patients	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	
Public Hospital	100	90	90	40	88	10	38	46	98	100	100	48
Public Clinic	97	48	42	31	42	13	17	10	85	97	97	153
Private Hospital	86	79	71	29	71	43	21	71	86	50	50	14
Private Clinic	75	30	25	30	25	15	15	15	55	75	70	20
Mission Hospital	100	86	86	48	86	10	28	62	97	100	100	29
Mission Clinic	100	45	45	9	45	0	0	0	82	100	100	11
Location												
Urban	93	82	79	65	79	43	63	43	89	91	89	60
Rural	97	43	38	22	38	5	7	8	83	96	96	215
Total	**96**	**51**	**47**	**31**	**47**	**13**	**18**	**15**	**84**	**95**	**95**	**275**

Table 52 above shows that TB services were offered at a 100% of mission hospitals and clinics including public hospitals. There was little variance in TB service availability between urban and rural locations

TB service readiness

Facilities offering TB services (275 facilities) were also assessed on their readiness to provide the service based on the availability of the 12 tracer items under 3 domains. These are highlighted in table 53 below.

Table 54: Tracer items TB services

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for diagnosis and treatment of TB • Guidelines for management of HIV & TB co-infection • Guidelines related to MDR-TB treatment (or identification of need for referral) • Guidelines for TB infection control • Staff trained in TB diagnosis and treatment • Staff trained in management of HIV & TB co-infection • Staff trained in client MDR-TB treatment or identification of need for referral • Staff trained in TB Infection Control •
Diagnostics	• TB microscopy • HIV diagnostic capacity • System for diagnosis of HIV among TB clients •
Medicines and commodities	• First-line TB medications

Figure 32 below shows that on average there was relatively high mean availability of tracer items for TB services. Highest among these were all 1st line TB medications (99%), HIV diagnostic capacity (99%) at least 1 trained staff in management of HIV and TB co-infection (90%) and guidelines available for diagnosis and treatment of TB (89%). Availability of guidelines for MDR TB was lower at 55%. It appears readiness to provide HIV/TB collaborative activities is high.

Figure 32: Figure 50: Percentage of facilities that have tracer items for tuberculosis services nationally Zimbabwe, 2014 (N=264)

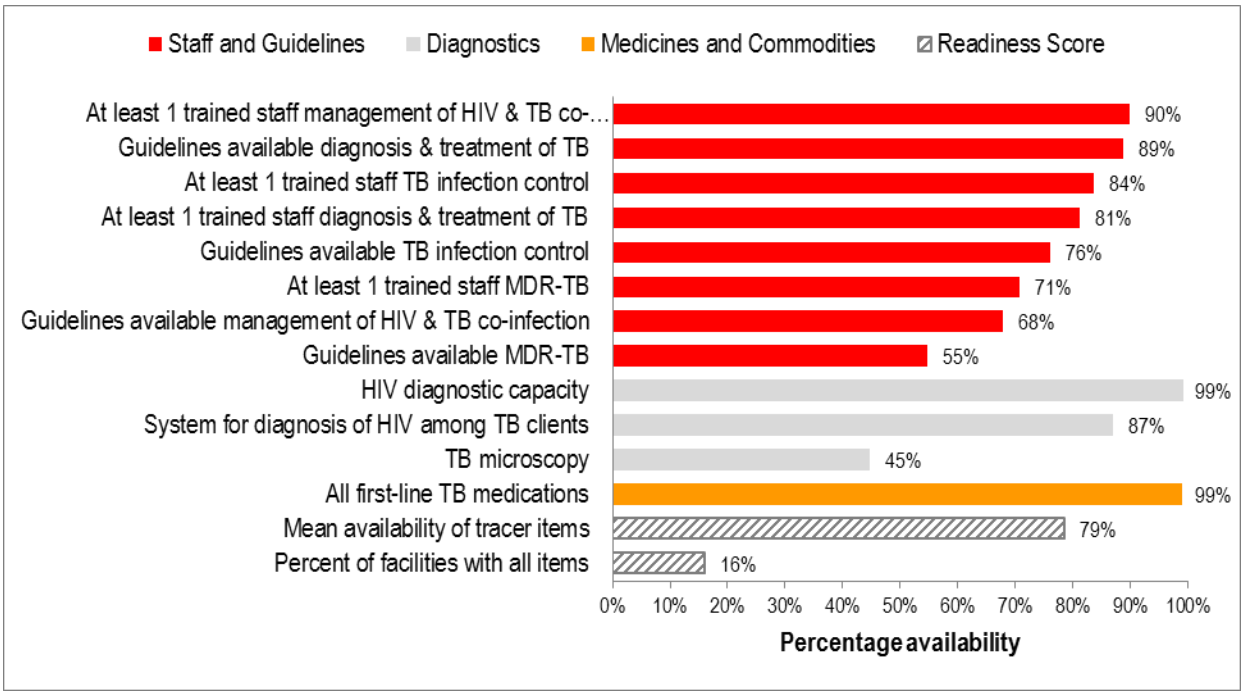


Table 54 below shows that private hospitals had the least readiness score for TB services (66%). This is mainly attributed to the medicines domains and reflects on non-stocking of TB medicines in line with TB national policy. Facilities from the urban areas scored higher on readiness especially under staffing and guidelines and diagnostics domain.

Table 55: Percentage of facilities that have tracer items for tuberculosis services nationally, Zimbabwe 2014 (N=264)

	Number of facilities (%)	Staff and Guidelines (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total		**77**	**77**	**99**	**79**
Facility type					
Public Hospital	48	85	90	100	87
Public Clinic	153	77	75	100	78
Private Hospital	14	70	61	50	66
Private Clinic	20	72	71	93	73
Mission Hospital	29	81	94	100	86
Mission Clinic	11	68	79	100	73
Location					
Urban	60	88	82	96	87
Rural	215	74	76	100	76
Total	275				

5.5 Malaria

While malaria is endemic in Zimbabwe, and a common cause of morbidity and mortality it is important to note that malaria incidence varies significantly by geography. Forty-five out of a total of 89 rural and urban districts in Zimbabwe are malaria prone. Of these 30 are malaria endemic and 15-experience malaria seasonally. The following were assessed:

- Malaria diagnosis or treatment
- Malaria diagnosis
- Malaria diagnostic testing
- Malaria diagnosis by clinical symptoms
- Malaria diagnosis by RDT
- Malaria diagnosis by microscopy
- Malaria treatment
- IPT

Malaria Service Availability

The figure 34 below reflects facilities (N=275) with availability of malaria services nationally

Figure 51: Percentage of facilities that offer malaria services nationally Zimbabwe (N=275)

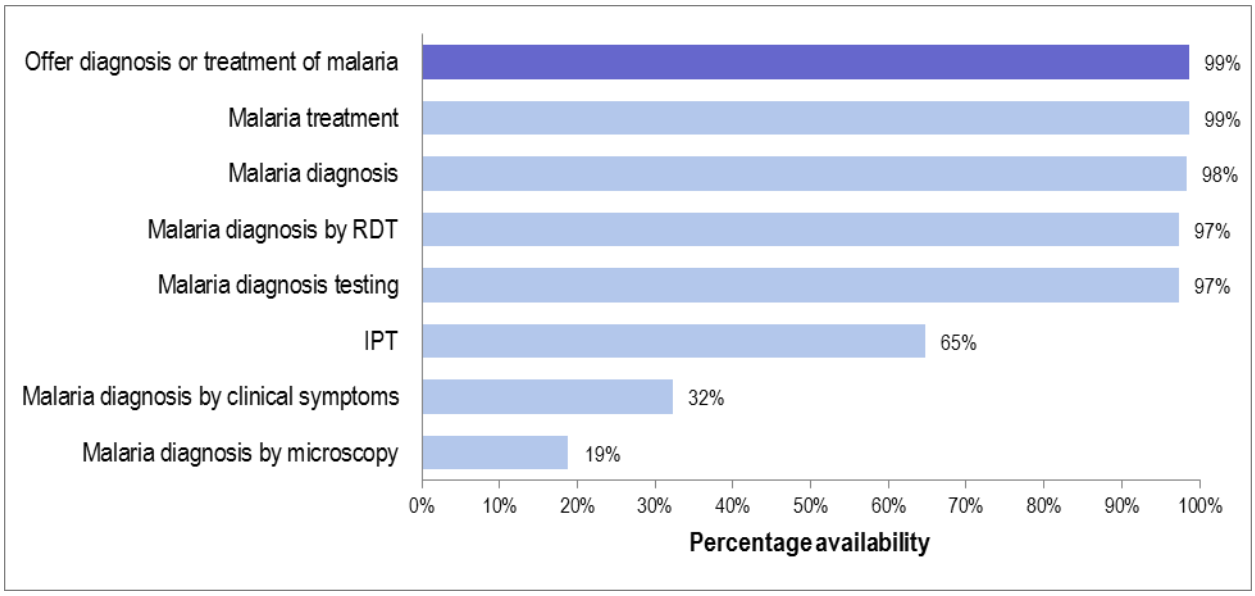


Figure 34 shows that almost all facilities nationally had malaria diagnosis/treatment service available (99%). Malaria diagnosis by microscopy was the least reported available service among facilities (19%).

Table 56: Percentage of facilities that offer malaria services, by facility type and location, Zimbabwe 2014 (N=275)

Facility type	Offer diagnosis or treatment of malaria	Malaria diagnosis	Malaria diagnosis testing	Malaria diagnosis by clinical symptoms	Malaria diagnosis by RDT	Malaria diagnosis by microscopy	Malaria treatment	IPT	Total number of facilities
	%	%	%	%	%	%	%	%	
Public Hospital	100	98	98	29	98	63	100	73	48
Public Clinic	100	100	99	34	99	12	100	64	153
Private Hospital	86	79	79	36	79	43	86	29	14
Private Clinic	85	85	85	35	85	15	85	65	20
Mission Hospital	100	100	100	28	100	76	100	79	29
Mission Clinic	100	100	100	0	100	0	100	55	11
Managing authority									
Urban	95	95	94	63	94	39	95	34	60
Rural	99	99	98	24	98	13	99	73	215
Total	**99**	**98**	**97**	**32**	**97**	**19**	**99**	**65**	**275**

Table 55 above shows that private hospitals and clinics had the least percentage of facilities offering malaria diagnostic/treatment services at 86% and 85% respectively. There were no major variations between urban and rural locations.

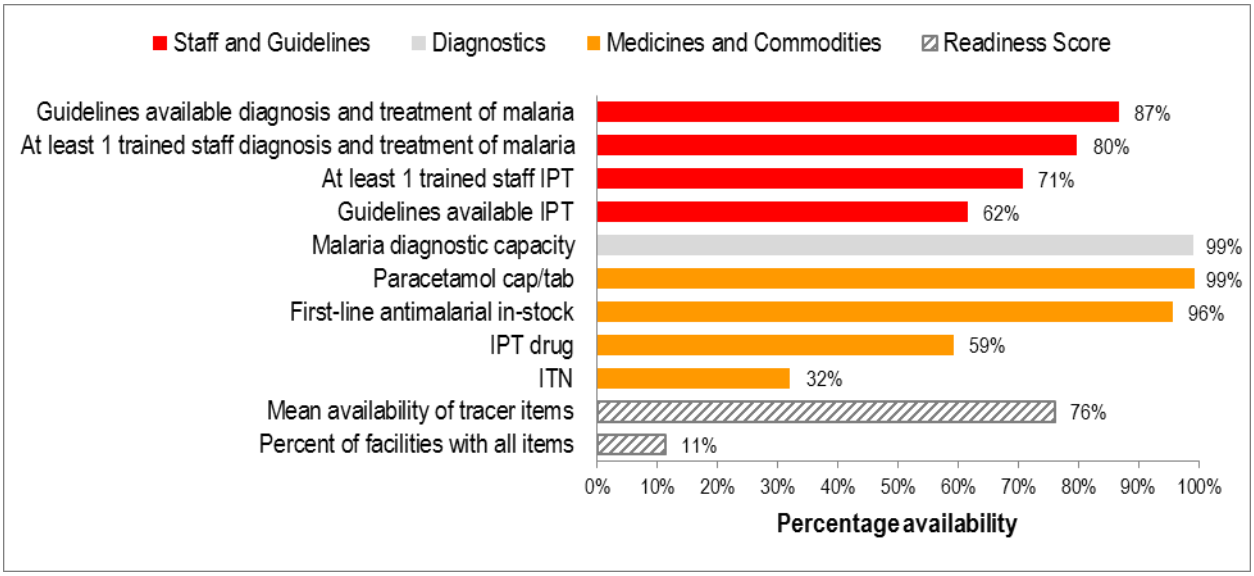
Malaria service Readiness

Facilities offering malaria services (260 facilities) were also assessed on their readiness to provide the service based on the availability of the 9 tracer items under 3 domains. These are highlighted in table 56 below.

Table 57: Tracer items malaria readiness

Domains	Tracer indicators (% of facilities with item)
Trained staff and guidelines	• Guidelines for diagnostic treatment of malaria • Guidelines for IPT • Staff trained in malaria diagnosis and treatment • Staff trained in IPT
Diagnostics	• Malaria diagnostic capacity
Medicines and commodities	• 1st line anti-malarial in stock • Paracetamol capsules/tablets • IPT drug • ITN

Figure 52: Percentage of facilities that have tracer items for malaria services nationally Zimbabwe, 2014 (N=260)



The figure 34 above shows that the mean availability of 76% showing that on average 7 out of the 9 tracer items were found at a facility in Zimbabwe. Eleven percent (11%) of the facilities reported having all tracer items. In the staff and guidelines domain availability of tracer items ranged from 62% for IPT guidelines to 87% for malaria diagnosis and treatment guidelines. Almost all the facilities had the capacity to diagnose malaria (99%). IPT and ITN were least available under the medicines and commodities domain 59% and 32% respectively.

Table 58: Percentage of facilities that have tracer items for malaria services by province, Zimbabwe 2014 (N=260)

	Staff and Guidelines (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)	Total number of facilities
Total	**75**	**99**	**72**	**76**	270
Facility type					
Public Hospital	81	81	81	81	48
Public Clinic	76	76	76	76	153
Private Hospital	59	59	59	59	12
Private Clinic	73	73	73	73	17
Mission Hospital	79	79	79	79	29
Mission Clinic	77	77	77	77	11
Location					
Urban	63	63	63	63	56
Rural	79	79	79	79	214

Table 57 above reflects that there was a variation of 16% when urban and rural facilities were compared with more rural areas (79%) having more tracer items than urban (63%). The rural facilities had to probably higher mean availability of tracer items since malaria tend to be more endemic in rural areas. Private hospitals had the least tracer items available at 59% because these are mainly found in urban locations where malaria is less endemic.

5.6 Non Communicable Diseases (NCDs)

The burden of non-communicable diseases such as cardiovascular disease, chronic respiratory diseases, cancer, and diabetes is a growing public health concern in Zimbabwe and were also assessed in this study. The problem is often underestimated owing to poor diagnosis and reporting. Although this is as an emerging epidemic, NCDs are often overshadowed by infectious conditions such as HIV/AIDS/ TB and Malaria. The STEPS survey conducted in 2005 showed a high prevalence of hypertension; 23.2% among adult male and 29% among adult females. Unhealthy diet, physical inactivity, tobacco and alcohol use are important preventable major risk factors for chronic diseases that are related to lifestyle. In view of the fact that the main risk factors associated with NCDs like tobacco smoking, excessive alcohol intake, sedentary lifestyles, including poor diet, are modifiable through changes in lifestyles, it is important that levels of these risk factors in the communities are identified and interventions put in place.

Service availability NCDs

Diabetes service availability

Table 58 shows the percentage of facilities offering diabetes screening and other NCD screening and treatment services by province, facility type and location. Table 58 below shows that 61% of facilities reported offering diagnosis and or management of diabetes. The low figures need to be treated with caution as questions might have been misunderstood by respondents.

Table 59: Percentage of facilities that offer diabetes services, by facility type and location, Zimbabwe 2014 (N=275)

	Diabetes diagnosis and/or management	Number of Facilities
Total	**61%**	275
Facility type		
Public Hospital	83%	48
Public Clinic	57%	153
Private Hospital	79%	14
Private Clinic	75%	20
Mission Hospital	83%	29
Mission Clinic	45%	11
Location		
Urban	68%	60
Rural	59%	215

Table 58 reflects that lower levels facilities i.e. public and mission clinics were less likely to offer diabetes services. Similarly, rural facilities were less likely to offer diabetes services compared to urban facilities.

Diabetes service readiness

Facilities offering diabetes screening (275 facilities) were assessed on their readiness to provide diabetes diagnosis and management services based on the availability of the 13 tracer items

Table 60: Trace items for diabetes readiness service delivery

Domain	Tracer items (% of facilities with item)
Staff & training	• Guidelines on diagnosis and treatment of diabetes • Staff trained in diagnosis and treatment of diabetes in the past two years
Equipment	• Blood pressure apparatus • Adult scale • Measuring tape (height board/ stadiometre
Diagnostics	• Blood glucose test • Urine protein dipstick • Urine dipstick- ketones
Medicines & commodities	• Metformin • Glibenclamide • Injectable insulin • Glucose 50% injectable • Gliclazide tablet or glipizide tablet

Figure 53: Percentage of facilities that have tracer items for diabetes services nationally, Zimbabwe, 2014 (N=182)

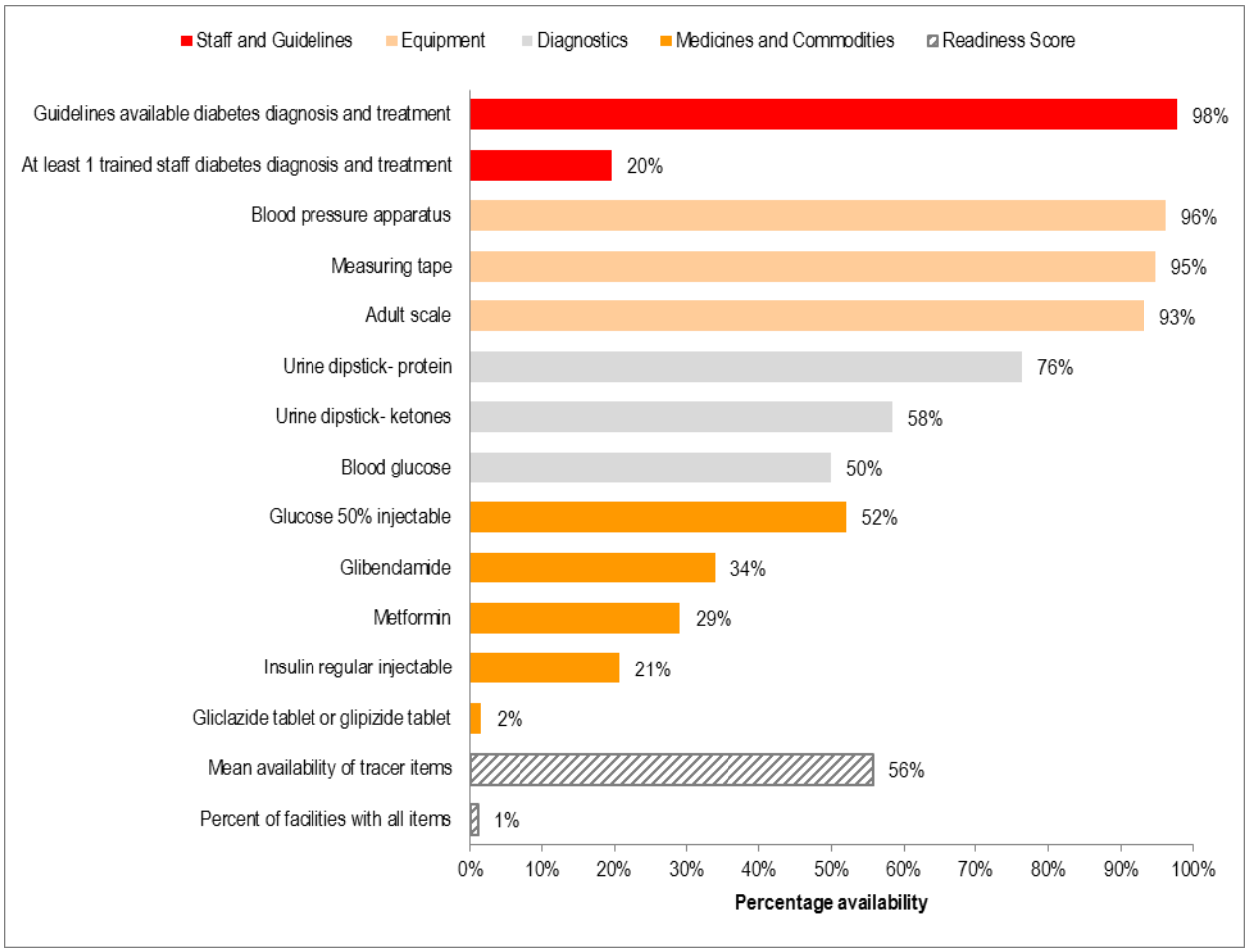


Figure 36 shows the availability of these tracer items nationally. The mean availability of tracer items was low at 56% i.e. 7 out of 13 items. Only 1% of facilities had all items. The item on guidelines scored highest at 98% followed by equipment which ranged from 93%-96%. However, diagnostic capacity was low as only half (56%) of the facilities could measure blood glucose. In addition, the small proportion of facilities had common medicines for managing type 2 diabetes, glibenclamide and metformin in stock, 34% and 29% respectively. Insulin regular injectable was available at a fifth of the facilities.

Table 61: Percentage of facilities with tracer items for diabetes, by facility type and location, Zimbabwe 2014 (N=182)

	Staff and Guidelines (%	Equipment (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)

Total	**59**	**95**	**62**	**27**	**56**
Facility type					
Public Hospital	56	89	69	30	57
Public Clinic	59	95	57	22	53
Private Hospital	77	97	73	76	80
Private Clinic	60	93	71	45	65
Mission Hospital	63	97	78	52	70
Mission Clinic	50	100	73	24	57
Location					
Urban	78	93	75	50	70
Rural	53	95	57	20	51
Total					

Table 60 reflects that urban facilities were more prepared to offer diabetes services compared to rural facilities. The disparity is particularly acute on medicines and commodities, staff and guidelines. It appears the underlying factor is that private hospitals are better resourced in these domains

Cardiovascular disease service availability

Cardiovascular disease is caused by disorders of the heart and blood vessels, and includes coronary heart disease (heart attacks), cerebrovascular disease (stroke), raised blood pressure (hypertension), peripheral artery disease, rheumatic heart disease, congenital heart disease and heart failure. The major causes of cardiovascular disease are tobacco use, physical inactivity, an unhealthy diet and harmful use of alcohol. CVDs are the number one cause of death globally: more people die annually from CVDs than from any other causes.

Table 62: Cardio-vascular disease (CVD) availability by facility type and location, Zimbabwe 2014 (N=275)

	Offers cardiovascular disease diagnosis and/or management (%)	Total number of facilities
Facility type		
Public Hospital	83	48
Public Clinic	65	153
Private Hospital	79	14
Private Clinic	80	20
Mission Hospital	83	29
Mission Clinic	45	11
Location		
Urban	77	60
Rural	65	215
Total	**68**	**275**

Table 61 above shows that lower levels facilities i.e. public and mission clinics were less likely to offer Cardiovascular Disease services. Similarly, rural facilities were less likely to offer cardio-vascular services compared to urban facilities

Cardiovascular disease service readiness

Facilities offering cardio-vascular services (195 facilities) were assessed on their readiness to provide cardio-vascular diagnosis and management services based on the availability of the 12 tracer items Table 62.

Table 63: Tracer items Tracer items required for service delivery cardiovascular disease

Domain	Tracer items (% of facilities with item)
Staff & training	• Guidelines for diagnosis and treatment of chronic cardiovascular conditions • Staff trained in diagnosis and management of chronic cardiovascular conditions.
Equipment	• Stethoscope • Blood pressure apparatus • Adult scale • Oxygen
Medicines & commodities	• ACE inhibitors (e.g. enalapril) • Hydrochlorothiazide tablet or other thiazide diuretic tablet • Beta blockers (e.g. atenolol) • Calcium channel blockers (e.g. amlodipine) • Aspirin cap/tabs • Metformin cap/tab

Figure 54: Percentage of facilities that have tracer items for cardiovascular disease services nationally Zimbabwe, 2014 (N=195)

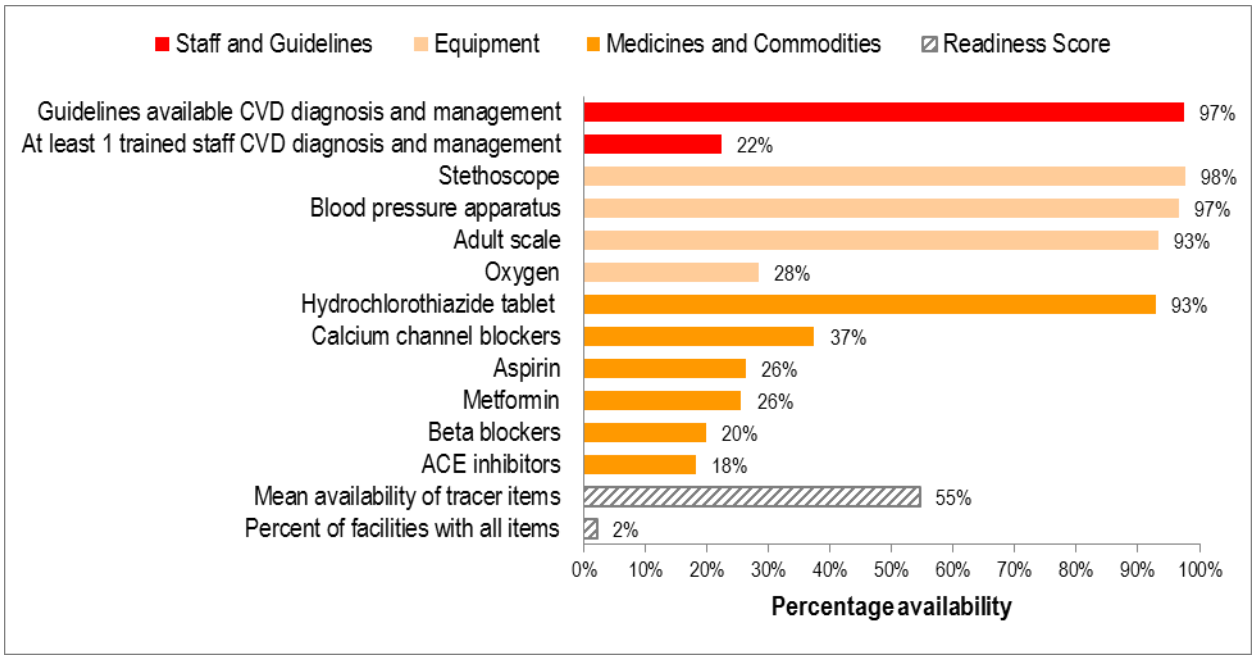


Figure 37 above shows that the mean availability of tracer items was slightly above half (55%) while only 2% of facilities reported having all items. It appears only 22% of facilities had 1 trained staff in CVD diagnosis and management, which reflects low preparedness to manage these conditions. The medicines and commodities domain shows a wide range in availability 18% for ACE inhibitors to 93% for Hydrochlorothiazide. Equipment scored highest as most tracer items in this domain were above 93% availability.

Table 64: Percentage of facilities that have tracer items for cardiovascular disease, by facility type and location, Zimbabwe 2014 (N=195)

	Staff and Guidelines (%)	Equipment (%)	Medicines and Commodities (%)	Readiness Score (%)	Number of Facilities
Total	**60**	**79**	**37**	**55**	195
Facility type					
Public Hospital	66	76	35	54	40
Public Clinic	60	77	30	51	99
Private Hospital	68	98	83	86	11
Private Clinic	53	94	61	71	16
Mission Hospital	58	83	67	71	24
Mission Clinic	60	75	37	53	5
Location					
Urban	70	89	47	65	47
Rural	57	76	33	51	148

Table 63 above shows that lower levels facilities i.e. public and mission clinics were less likely to offer CVD services. Similarly, rural facilities were less likely to offer cardio-vascular services compared to urban facilities. For example 57% of rural facilities had Staff and guidelines to manage CVD's compared to urban facilities at 70%. For the medicines and commodities domain, private hospitals were well resourced at 83% availability compared to public and mission facilities, which had, mean availability ranging from 30 – 37%. A similar pattern is also observed between urban and rural locations with 47% and 33% respectively.

Chronic respiratory disease service availability

Chronic respiratory diseases are chronic diseases of the airways and other structures of the lung. Some of the most common are: asthma, chronic obstructive pulmonary disease, occupational lung diseases and pulmonary hypertension. Main risk factors include tobacco smoking, indoor air, pollution, outdoor pollution, allergens, occupational risks and vulnerability. Almost 90% of COPD deaths occur in low- and middle-income countries.

Table 64 below shows that 69% of facilities reported offering diagnosis and or management of chronic respiratory diseases.

Table 65: Chronic respiratory disease services availability by facility type and location, Zimbabwe 2014 (N=275)

	Offers chronic respiratory disease diagnosis and/or management (%)	Total number of facilities
Facility Type		
Public Hospital	81	48
Public Clinic	66	153
Private Hospital	79	14
Private Clinic	80	20
Mission Hospital	83	29
Mission Clinic	55	11
Location		
Urban	78	60
Rural	66	215
Total	**69**	**275**

Table 64 above shows that lower levels facilities i.e. public and mission clinics were less likely to offer CRD services. Similarly, rural facilities were less likely to offer CRD services compared to urban facilities.

Chronic respiratory disease service readiness

Facilities offering chronic respiratory disease services (197 facilities) were assessed on their readiness to provide chronic respiratory diagnosis and management services based on the availability of the 11 tracer items table 65.

Table 66: Tracer items required for service delivery chronic respiratory disease

Domain	Tracer items (% of facilities with item)
Staff & training	• Guidelines for diagnosis and management of CRD • Staff trained in diagnosis and management of CRD
Equipment	• Stethoscope • Peak flow meter • Spacers for inhalers • Oxygen
Medicines & commodities	• Salbutamol inhaler • Beclomethasone inhaler • Prednisolone cap/tabs • Hydrocortisone cap/tabs • Epinephrine injectable

Figure 55: Percentage of facilities that have tracer items for chronic respiratory disease services nationally, Zimbabwe 2014 (N=197)

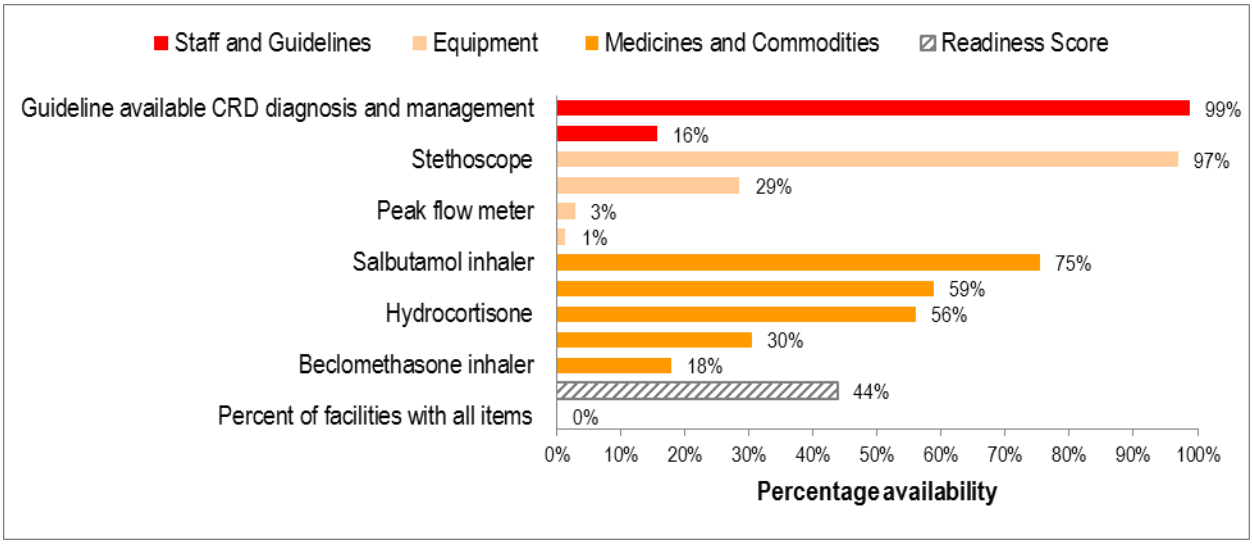


Figure 38 above shows that the mean availability of tracer items was below half (44%) while no facilities reported having all items. It appears only 16% of facilities had 1 trained staff in CRD diagnosis and management which reflects low preparedness to manage this conditions. Availability of medicines for CRD ranged from 18% for Beclomethasone inhaler to 75% for salbutamol inhaler. A very small minority, 3% had a peak flow meter to measure extent of respiratory obstruction in patients with CRD.

Table 67: Percentage of facilities that have tracer items for chronic respiratory disease services, by facility type and location Zimbabwe 2014 (N=197)

	Staff and Guidelines (%)	Equipment (%)	Medicines and Commodities (%)	Readiness Score (%)
National	**57**	**32**	**48**	**44**
Facility type				
Public Hospital	60	35	58	50
Public Clinic	57	30	44	41
Private Hospital	68	66	69	68
Private Clinic	59	44	46	48
Mission Hospital	54	35	79	59
Mission Clinic	50	25	40	36
Location				
Urban	65	44	64	57
Rural	55	29	43	40

Table 66 above shows that lower levels facilities i.e. public and mission clinics were less likely to offer CRD services. Similarly, rural facilities were less likely to offer CRD services compared to urban facilities. For example 55% of rural facilities had Staff and guidelines to manage CRD's

compared to urban facilities at 65%. Medicines and commodities for managing CRD were more available at mission hospitals compared to the rest.

Cervical cancer service availability

In Zimbabwe cervical cancer is the commonest cancer among black women accounting for 32.1% of all cancers in women. Incidence of cervical cancer has increased in association with high prevalence of HIV. Secondary prevention by screening for precancerous lesions allows for early diagnosis and timely intervention. Therefore regular cancer screening is of utmost importance. The preferred method of screening in Zimbabwe is visual inspections with acetic acid and cervicography (VIAC).

In SARA only 6% of facilities reported offering cervical cancer diagnosis. This was mostly within the private hospitals. Approximately a fifth of public hospitals offered cervical cancer services.

Table 68: Cervical cancer services availability by facility type and location Zimbabwe 2014 (N=275)

Facility type	Offers cervical cancer diagnosis Percentage (%)	Number of facilities
Public Hospital	23	48
Public Clinic	3	153
Private Hospital	43	14
Private Clinic	10	20
Mission Hospital	21	29
Mission Clinic	0	11
Location		
Urban	14	60
Rural	4	215
Total	**6**	**275**

Table 67 above shows that rural facilities were 3 times less likely to provide cervical cancer diagnosis. This is particularly the case at lower levels facilities where only 3% of public clinics offered cervical cancer services.

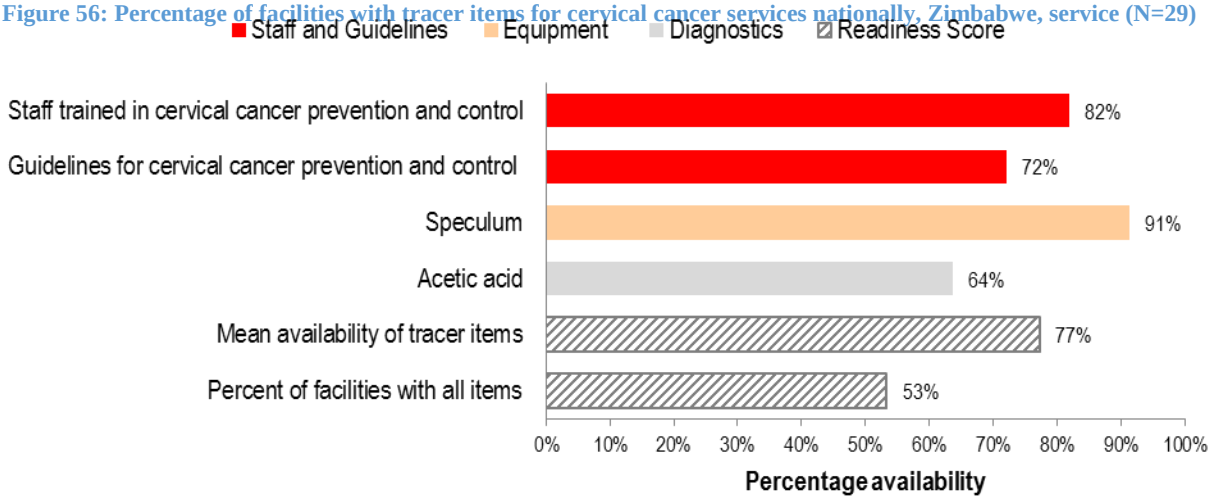
Cervical cancer service readiness

Facilities offering cervical cancer services (29 facilities) were assessed on their readiness to provide cervical cancer services based on the availability of the 4 tracer items. These are captured below in table 68.

Table 69: Tracer items required for service delivery cancer

Domain	Tracer items (% of facilities with item)
Staff & training	• Guidelines for cervical cancer prevention and control • Staff trained in cervical cancer prevention and control •
Equipment	• Speculum •
Medicines & commodities	• Acetic Acid

Figure 56: Percentage of facilities with tracer items for cervical cancer services nationally, Zimbabwe, service (N=29)



The figure 39 above shows a mean availability of tracer items at 77%. Most facilities (91%) reported having a speculum and 64% had acetic acid. Availability of staff trained in cervical cancer prevention and control was satisfactory 82%. Guidelines for cervical cancer prevention and control were available in 72% of facilities. It is however important to note that these percentages refer to a small subsection of facilities that were assessed on readiness to provide cervical cancer services (N=29).

Table 70: Percentage of facilities that have tracer items for cervical cancer services, by facility type and location Zimbabwe, 2014 (N=29)

	Staff and Guidelines (%)	Equipment (%)	Diagnostics (%)	Readiness Score (%)
Total	**77**	**91**	**64**	**77**
Facility type				
Public Hospital	68	100	73	77
Public Clinic	100	75	75	88
Private Hospital	67	100	33	67
Private Clinic	75	100	50	75
Mission Hospital	50	100	50	63
Location				
Urban	80	100	80	85
Rural	74	83	46	69

Table 69 above shows that facilities in the urban locations had a high availability of tracer items ranging from 80% -100% with a mean availability score of 85%. All facility types had a high availability of equipment (speculum). Mission clinics included in SARA did not offer cervical cancer services.

5.7 Surgical Services

Basic surgical care for minor procedures can be performed at the primary care level, whereas more comprehensive surgical care requiring a well-equipped operating theatre is generally performed only at the district hospital level or above. This survey included assessments for both basic and comprehensive surgical care

Basic surgery service availability

On-going efforts are being directed at improving day-to-day practice, training, and policy decisions surrounding surgical care with the ultimate aim of reducing death and disability. Types of services offered are captured below:

Types of services offered

- Basic surgical services
- Incision and drainage of abscesses
- Wound debridement
- Acute burn management
- Suturing
- Closed treatment of fracture
- Cricothyroidotomy
- Male circumcision
- Hydrocele reduction
- Chest tube insertion

The figure 40 below shows facilities reported offering basic surgical (275) facilities.

Figure 57: Percentage of facilities that offer basic surgical services, nationally, Zimbabwe, 2014 (N=275)

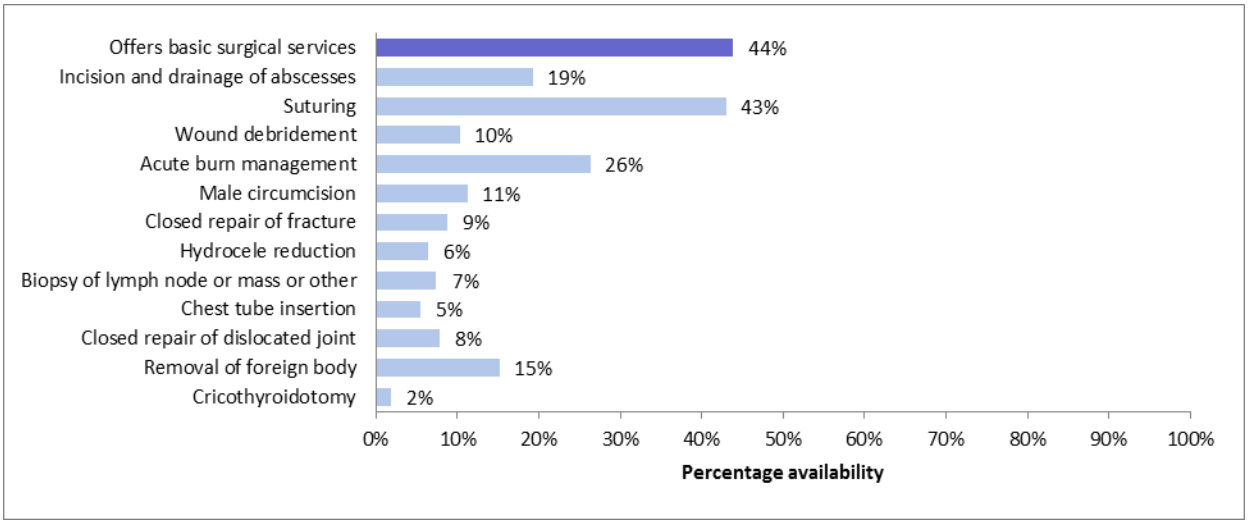


Figure 40 reflects that nationally less than half (44%) offered basic surgical services which include minor surgery such as suturing, circumcision and wound debridement. However, this finding should be treated with caution as some facilities which offer very minor surgery might have misunderstood this question and answered in the negative. An almost similar proportion 43% offered suturing. About a tenth of the facilities offered male circumcision.

Table 71: Percentage of facilities that offer basic surgical services, by facility type and location Zimbabwe (N=275)

Facility type	Offers basic surgical services	Incision and drainage of abscesses	Wound debridement	Acute burn management	Suturing	Closed repair of fracture	Cricothyroidotomy	Male circumcision	Hydrocele reduction	Chest tube insertion	Closed repair of dislocated joint	Biopsy of lymph node or mass or	Removal of foreign body	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	%	%	
Public Hospital	75	56	48	65	75	48	4	56	42	21	44	35	54	48
Public Clinic	39	11	3	22	38	1	0	4	1	1	1	1	7	153
Private Hospital	100	93	93	93	100	86	36	71	71	71	71	79	79	14
Private Clinic	30	20	15	10	30	10	10	10	5	5	5	10	25	20
Mission Hospital	83	69	62	76	83	62	7	62	41	41	59	52	66	29
Mission Clinic	64	36	0	9	55	0	0	0	0	0	0	0	18	11
Location														
Urban	31	20	15	15	31	15	7	17	14	12	14	14	21	60
Rural	47	19	9	29	46	7	0	10	4	4	6	6	14	215
Total	**44**	**19**	**10**	**26**	**43**	**9**	**2**	**11**	**6**	**5**	**8**	**7**	**15**	**275**

Table 70 shows that more of the urban facilities offered basic surgical services than rural facilities. Basic surgical services were more available at hospital level especially at private hospitals. Only a minority of clinics (7%) was offering basic surgical services. This has

implications towards both the client and hospitals owing to unnecessary referrals for minor surgical conditions.

Basic surgery service readiness

Facilities offering basic surgical services (146 facilities) were assessed on their readiness to provide basic surgical services based on the availability of the 16 tracer items under 3 domains. These are captured in table 71 below.

Table 72: Tracer items required for basic surgery service delivery

Domain	Tracer items (% of facilities with item)
Staff & training	• Staff trained in surgery
Equipment	• Needle holder • Scalpel handle with blade • Retractor • Surgical scissors • Nasogastric tubes (10-16 FG) • Tourniquet • Adult and paediatric resuscitators • Suction apparatus (manual or electric sucker) • Oxygen
Medicines & commodities	• Skin disinfectant • Sutures (both absorbable and non-absorbable) • Ketamine (injectable) • Lidocaine (1% or 2% injectable) • Splints for extremities • Material for cast •

Figure 58: Percentage of facilities that have tracer items for basic surgical services national, Zimbabwe 2014 (N=146)

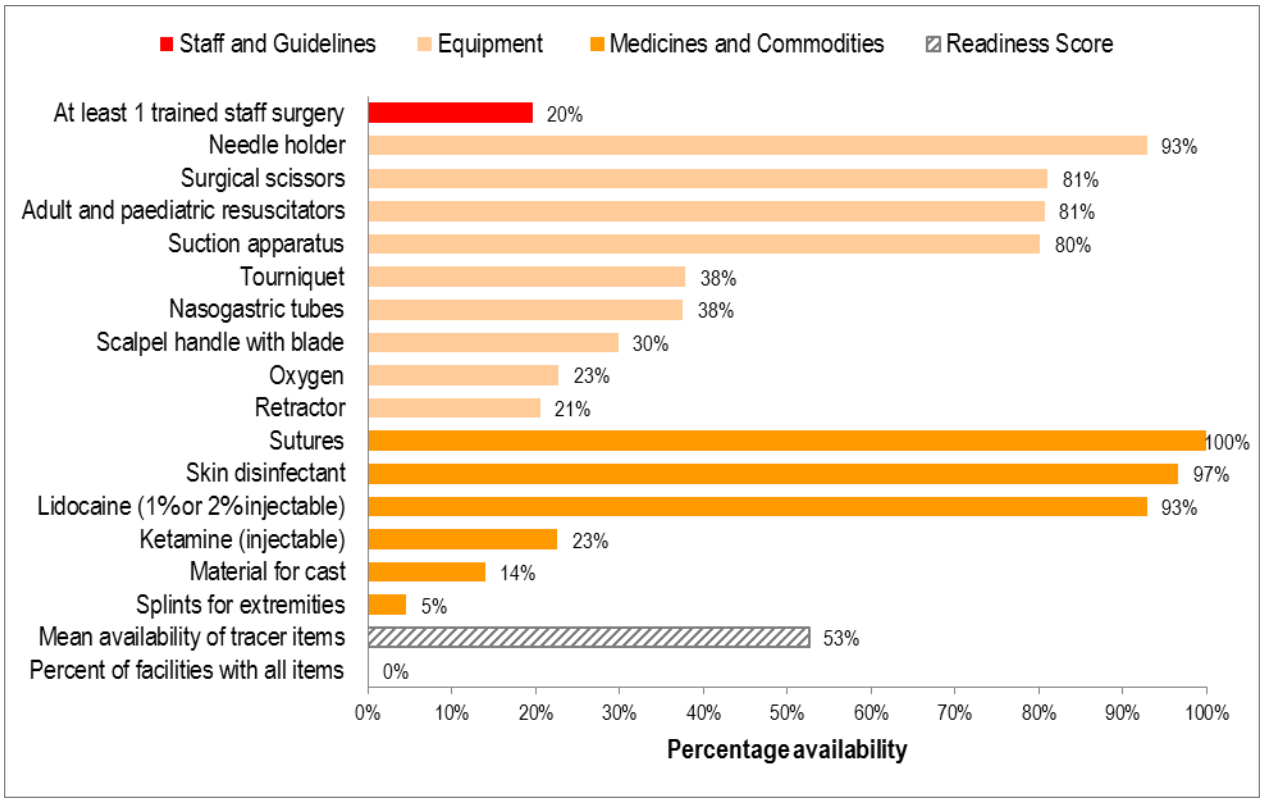


Figure 41 above shows that nationally among facilities offering basic surgical services, the highest scoring domain was medicines and commodities. All facilities had sutures whilst most of the facilities had skin disinfectants (97%) and Lidocaine injectable 90%. A very small percentage of facilities ranging from 5%-23% reported having material for casts, ketamine and splints for extremities. Under the equipment domain the following tracer items were readily available i.e. needle holder, surgical scissors, suction apparatus, adult and paediatric resuscitators. A small percentage of facilities ranging from 21%-38% reported the following items: tourniquet, scalp handle blades, retractor, naso-gastric tubes and oxygen.

Table 73: Percentage of hospitals that have tracer items for basic surgical services by facility type and location Zimbabwe, 2014 (N=146)

	Staff and guidelines (%)	Equipment (%)	Medicines and commodities (%)	Total Readiness	Total number of facilities
Total	**20**	**54**	**56**	**53**	**146**
Facility type					
Public Hospital	64	74	73	73	36
Public Clinic	3!	44	49	43	59
Private Hospital	79!	94	85	89	14
Private Clinic	33	74	72	71	6
Mission Hospital	71	77	78	77	24
Mission Clinic	0	51%	50%	47	7
Location					
Urban	54	77	70	73	13
Rural	14	50	54	49	116

Table 72 above shows the basic surgical services readiness. From the table total readiness (mean availability) of tracer items was on average eight (8) out of sixteen items (16) (i.e. 53%). Private hospitals had the highest readiness score of 89% (14 out of 16 items). There was wide variation between urban and rural locations (73% and 49% respectively) with rural scoring much lower.

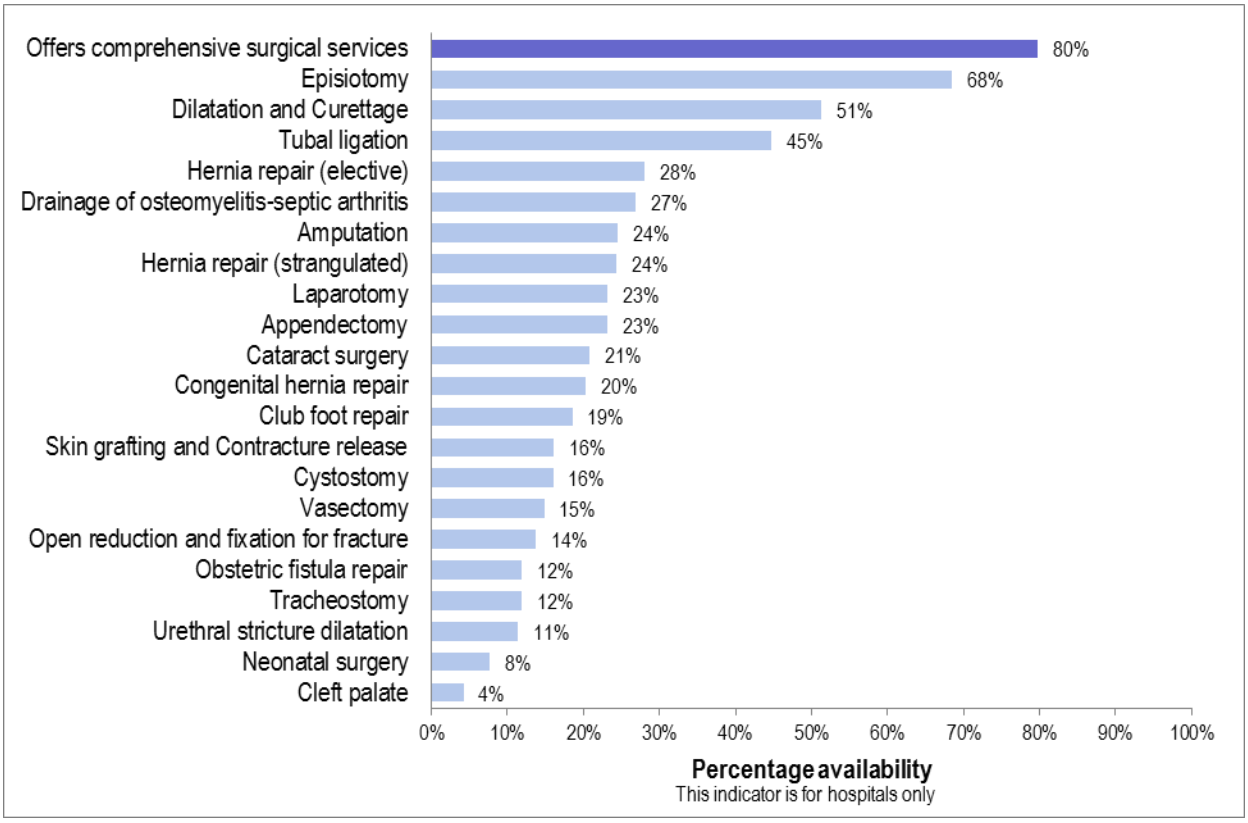
Comprehensive surgery service availability

By their design and nature of operations, hospitals should be able to provide a wider and more comprehensive range of surgical care compared to smaller facilities. In addition to the basic surgical interventions covered in the section above, hospitals were assessed on their capacity to offer comprehensive surgical care. The types of comprehensive surgical services expected of this level of care are summarized in table 73 below.

Table 74: Types of comprehensive surgical services

Gynecological Surgery	General Surgery	Other Specialties
Tubal ligation	Appendectomy	Tracheostomy
Vasectomy	Hernia repair (strangulated)	Cystostomy
Dilatation & Curettage	Hernia repair (elective)	Urethral stricture dilatation
Obstetric fistula repair	Laparotomy	Neonatal surgery
Episiotomy	Congenital hernia repair	Cleft palate
	Skin grafting and contracture release	Cataract surgery
	Open reduction and fixation for fracture	
	Amputation	
	Club foot repair	
	Drainage of osteomyelitis-septic arthritis	

Figure 59: Percentage of hospitals that offer comprehensive surgical services (N=91)



A total of 91 hospitals were assessed for offering comprehensive surgical services and from figure 41 above 80%, reported offering comprehensive surgical services of which the most commonly offered services were episiotomy (68%) and dilatation and curettage of the uterus(51%) and least offered was cleft palate at 4% of the hospitals.

Table 75: Percentage of hospitals that offer comprehensive surgical services, by facility type and location Zimbabwe (N=91)

Facility type	comprehensive surgical services	Tracheostomy	Tubal ligation	Vasectomy	Dilatation and Curettage	Obstetric fistula repair	Episiotomy	Appendectomy	Hernia repair (strangulated)	Hernia repair (elective)	Cystostomy Urethral stricture dilatation	Laparotomy	Congenital hernia repair	Neonatal surgery	Cleft palate and	Contracture release	Reduction and fixation for fracture	Amputation	Cataract surgery	Club foot repair	Osteomyelitis septic arthritis	Total number of facilities
Public Hospital	42	2	20%	6%	25%	2%	38%	7%	7%	8%	7%	2%	6%	6%	1%	1%	5%	4%	8%	12%	7%	9%	48
Private Hospital	100	43	64%	36%	71%	43%	79%	79%	79%	79%	36%	36%	79%	57%	36%	7%	36%	36%	50%	21%	21%	50%	14
Mission Hospital	83	17	55%	17%	59%	17%	69%	28%	31%	38%	17%	17%	31%	28%	10%	7%	24%	21%	34%	21%	28%	38%	29
Location																						
Urban	94	36%	73%	36%	82%	30%	85%	73%	73%	79%	52%	30%	67%	61%	27%	15%	37%	37%	55%	34%	27%	42%	22
Rural	76	6%	38%	10%	44%	8%	64%	11%	13%	16%	8%	7%	13%	11%	3%	2%	11%	8%	17%	18%	16%	23%	69
Total	**80**	**12%**	**45%**	**15%**	**51%**	**12%**	**68%**	**23%**	**24%**	**28%**	**16%**	**11%**	**23%**	**20%**	**8%**	**4%**	**16%**	**14%**	**24%**	**21%**	**19%**	**27%**	**91**

Comprehensive surgical services were analyzed by facility type and location of health facility as shown in table 74 above. Private hospitals were better equipped to offer comprehensive surgical services across all types in comparison to public hospitals. Facilities in urban locations offer more comprehensive surgical services.

Comprehensive surgery service readiness

Facilities offering comprehensive surgical services (36 hospitals) were assessed on their readiness to provide comprehensive surgical services based on the availability of the 15 tracer items under 3 domains. These are captured in table 75 below

Table 76: Tracer items for comprehensive surgical services

Domain	Tracer items (% of facilities with item)
Staff training and guidelines	• Staff trained in surgery • Staff trained in anaesthesia
Equipment	• Oxygen • Anaesthesia equipment • Spinal needle • Suction apparatus
Medicines & commodities	• Thiopental (powder) • Suxamethonium bromide (powder) • Atropine (injectable) • Diazepam (injectable) • Halothane (inhalation) • Bupivacaine (injectable) • Lidocaine 5% (heavy spinal solution) • Epinephrine (injectable) • Ephedrine (injectable)

Figure 60: Percentage of hospitals that have tracer items for comprehensive surgical services nationally Zimbabwe, 2014 (N=74)

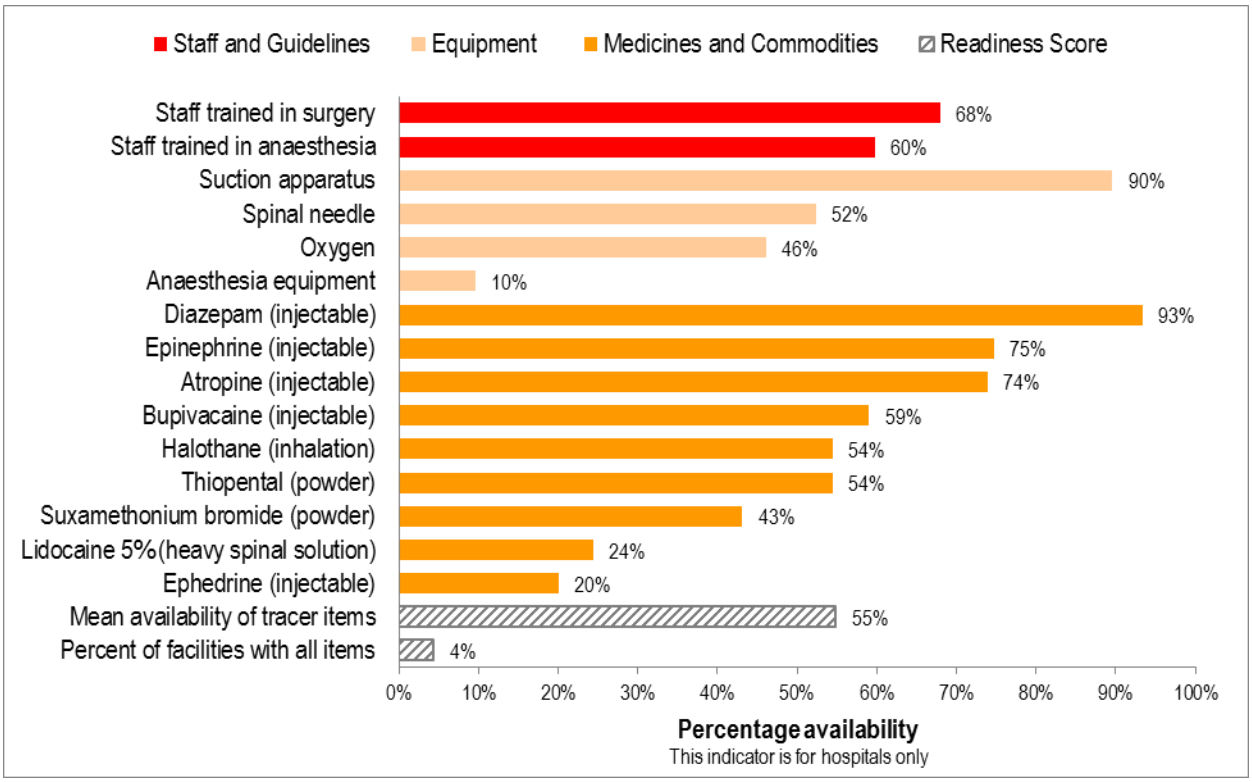


Figure 43 above shows that out of the total 15 tracer items for comprehensive surgical services only an average of 8 items were reported available at each facility. Four percent (4%) reported having all the tracer items. The most available of the tracer items was diazepam injectable at 93%. The least available was anaesthesia equipment (complete set) at 10%. When stratified by facility type and location readiness to provide comprehensive surgical services was greater at private hospitals and urban facilities. (Table 74 below)

Table 77: Percentage of hospitals that have tracer items for comprehensive surgical services by facility type and location Zimbabwe, (N=74)

Facility type	Staff trained in surgery	Staff trained in anaesthesia	Oxygen	Anaesthesia equipment	Spinal needle	Suction apparatus	Thiopental (powder)	Suxamethonium bromide (powder)	Atropine (injectable)	Diazepam (injectable)	Halothane (inhalation)	Bupivacaine (injectable)	Lidocaine 5% (heavy spinal solution)	Epinephrine (injectable)	Ephedrine (injectable)	Percent of facilities with all items	Mean availability of tracer items	Total number of facilities
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	
Public Hospital	64	56	39	6	39	86	50	42	69	89	47	53	28	69	17	0	50	36
Private Hospital	79	71	100	36	71	100	79	71	79	93	79	64	50	71	50	29	73	14
Mission Hospital	71	63	42	8	67	92	54	38	79	100	58	67	13	83	17	4	57	24
Location																		
Urban	97	87	81	29	68	100	97	81	97	97	97	78	55	90	61	19	81	21
Rural	59	52	36	4	48	86	42	32	67	92	42	54	15	70	8	0	47	53
Total	**68**	**60**	**46**	**10**	**52**	**90**	**54**	**43**	**74**	**93**	**54**	**59**	**24**	**75**	**20**	**4**	**55**	**74**

5.8 Blood transfusion service availability

Post-partum hemorrhage (PPH) is a leading preventable cause of maternal mortality in Zimbabwe. Non availability or delays in providing blood transfusion are some of the underlying determinants of maternal mortality. National Blood Service of Zimbabwe (NBSZ) the only provider of safe blood and blood products in Zimbabwe is a not for profit making organization whose funding is based on cost recovery fees. The user fees of blood remains a contentious issue among Zimbabweans with the majority not affording the blood when in urgent need of it. User fees for a unit of blood are $135 which is not affordable to most users. In 2013, government introduced a blood coupon system to help support patients unable to pay for transfusions in emergencies. Coupons can be redeemed for blood needed for a transfusion, meaning that hospitals will honour coupons for people who do not have money to pay for the critical service upfront.

Table 78: Percentage of facilities that offer blood transfusion services, by facility type and location Zimbabwe 2014 (N=275)

	Offers blood transfusion (%)	Total number of facilities
Facility type		
Public Hospital	35	48
Public Clinic	1	153
Private Hospital	79	14
Private Clinic	10	20
Mission Hospital	41	29
Mission Clinic	0	11
Location		
Urban	17	60
Rural	4	215
Total	**7**	**275**

Table 77 reflects that hospitals offering blood transfusion services ranged from 35% among public hospitals to 79% among private hospitals. There are more facilities offering blood transfusion in urban locations 17% compared to rural 4%. Patients accessing services in rural areas where distances to health facilities are usually long may therefore not receive timely blood transfusion when indicated. This would contribute to higher maternal mortality to patients originating from the rural areas.

Transfusion service readiness

Facilities offering blood transfusion services (44 hospitals) were assessed on their readiness to provide blood transfusion services based on the availability of the 7 tracer items under 4 domains. These are captured in table 78 below.

Table 79: Tracer items for blood transfusion

Domain	Tracer items (% of facilities with item)
Trained staff and guidelines	• Guidelines on the appropriate use of blood and safe blood transfusion • Staff trained in the appropriate use of blood and safe blood transfusion
Equipment	• Blood storage refrigerator
Diagnostics	• Blood typing • Cross match testing
Medicines and commodities	• Blood supply sufficiency • Blood supply safety

Figure 61: Percentage of facilities that have tracer items for blood transfusion services nationally, Zimbabwe 2014 (N=44)

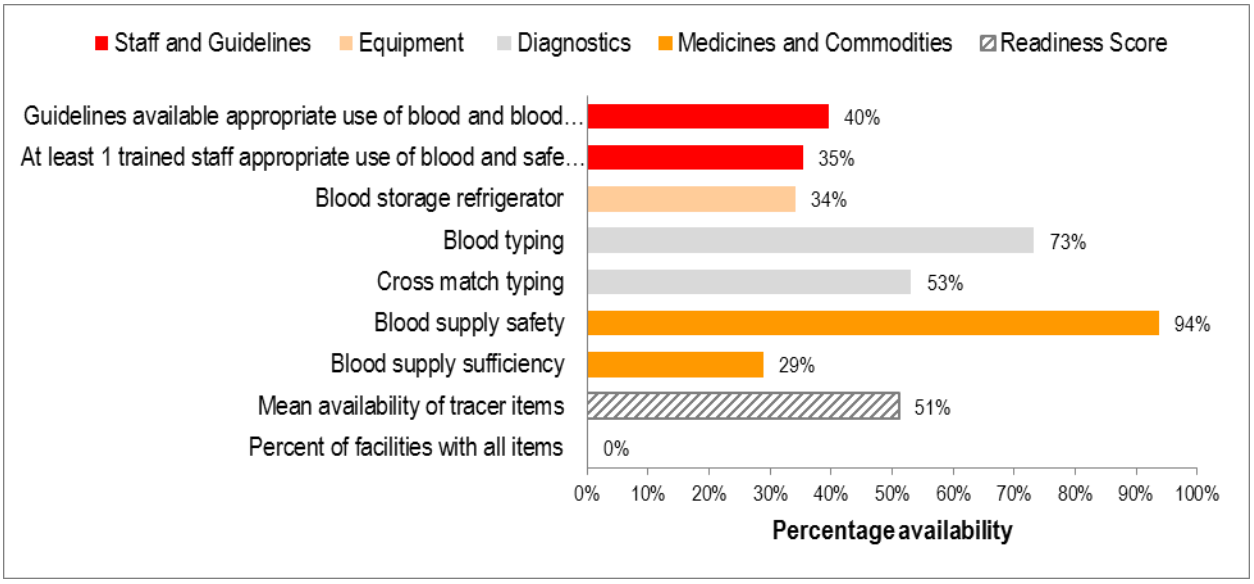


Table 44 shows that on average 4 out 7 tracer items can be found at a hospital offering blood transfusion service i.e. a mean availability of 51%. Most of the facilities (94%) reported blood supply safety. Twenty-nine percent (29%) of the facilities reported that there were blood interruptions in the past 3 months which indicates blood supply insufficiency. Although 73% reported undertaking blood typing a smaller proportion, 53% could cross match the blood.

Table 80: Percentage of facilities that have tracer items for blood transfusion services by facility type and location Zimbabwe 2014 (N=44)

	Staff and Guidelines (%)	Equipment (%)	Diagnostics (%)	Medicines and Commodities (%)	Readiness Score (%)
Total	**38**	**34**	**63**	**61**	**51**
Facility type					
Public Hospital	38	24	88	59	56
Public Clinic	0	50	75	75	50
Private Hospital	55	18	9	64	39
Private Clinic	100	100	0	75	64
Mission Hospital	21	17	75	50	44
Location					
Urban	53	45	52	60	53
Rural	22	23	75	63	49

Table 79 Facilities located in rural locations had lower readiness (49%) compared to those in urban settings(53%) to provide blood transfusion services.. The lower readiness at rural locations may be attributed to low availability of tracer items within the staffing guidelines and equipment domains. Mission clinics included in SARA did not offer blood transfusion services.

5.9 Advanced diagnostic service availability

At higher levels of care such hospitals, there is need for more advanced diagnostic capacity usually associated with referral inpatient care. The SARA assessed availability of advanced diagnostic capacity for the following tests

1. Serum electrolytes
2. Full blood count with differential
3. Blood typing (ABO and Rhesus) and cross match (by anti-globulin or equivalent)
4. Liver function test (ALT or other)
5. Renal function test (serum creatinine testing or other)
6. CD4 count and percentage
7. HIV antibody testing (ELISA)
8. Syphilis serology
9. Cryptococcal antigen
10. Gram stain
11. Urine microscopy testing
12. CSF/body fluid counts

Figure 45 below reflect hospitals that offer advanced diagnostic services nationally

Figure 62: Percentage of hospitals that offer advanced diagnostic services (N=91)

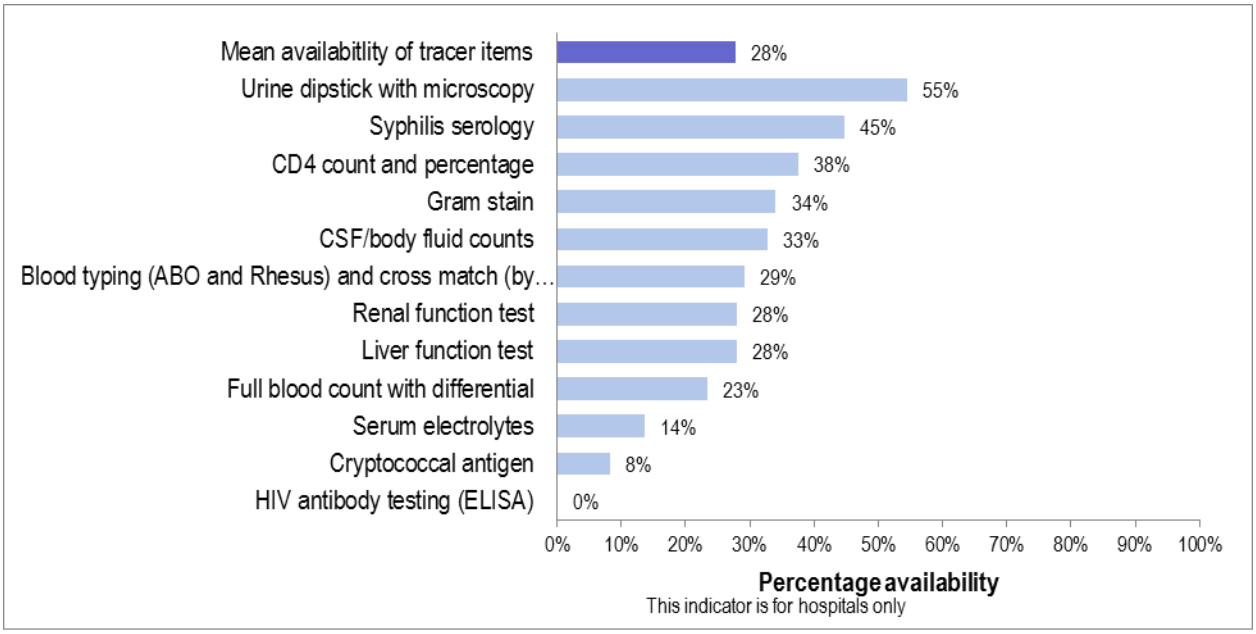


Figure 45 shows percentage of hospitals that offer advanced diagnostic services. The figure shows a mean availability of advanced diagnostic services tracer items of 3 out of the 12 services that are offered nationally. The most available were syphilis serology and urine dipstick with microscopy. Of note is that 38% of hospitals provided CD4 count testing with only 8% providing cryptococcal antigen testing which may have consequences on patient care in terms of follow up as well as differential diagnosis of meningitis among HIV patients. It appears at this level that HIV ELISA has been superseded by Rapid Test.

Table 81: Facilities with mean availability of advanced diagnostic services by facility type and location, Zimbabwe 2014 (N=91)

	Serum electrolytes	Full blood count with differential	Blood typing (ABO and Rhesus) and cross match (by anti-globulin or	Renal function test	Liver function test	CD4 count and percentage	HIV antibody testing (ELISA)	Syphilis serology	Cryptococcal antigen	Gram stain	Urine dipstick with microscopy	CSF/body fluid counts	Mean availabitlity of tracer items	Total number of facilities
Facility type	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	
Public Hospital	17	19	31	25	27	38	0	50	10	33	50	33	28	48
Private Hospital	7	7	7	36	36	36	0	7	0	7	7	7	13	14
Mission Hospital	10	34	31	31	28	38	0	45	7	41	72	38	31	29
Location														
Urban	31	31	49	37	37	61	0	55	12	49	67	49	40	22
Rural	10	22	25	26	26	32	0	42	7	31	51	29	25	69
Total	**14**	**23**	**29**	**28**	**28**	**38**	**0**	**45**	**8**	**34**	**55**	**33**	**28**	**91**

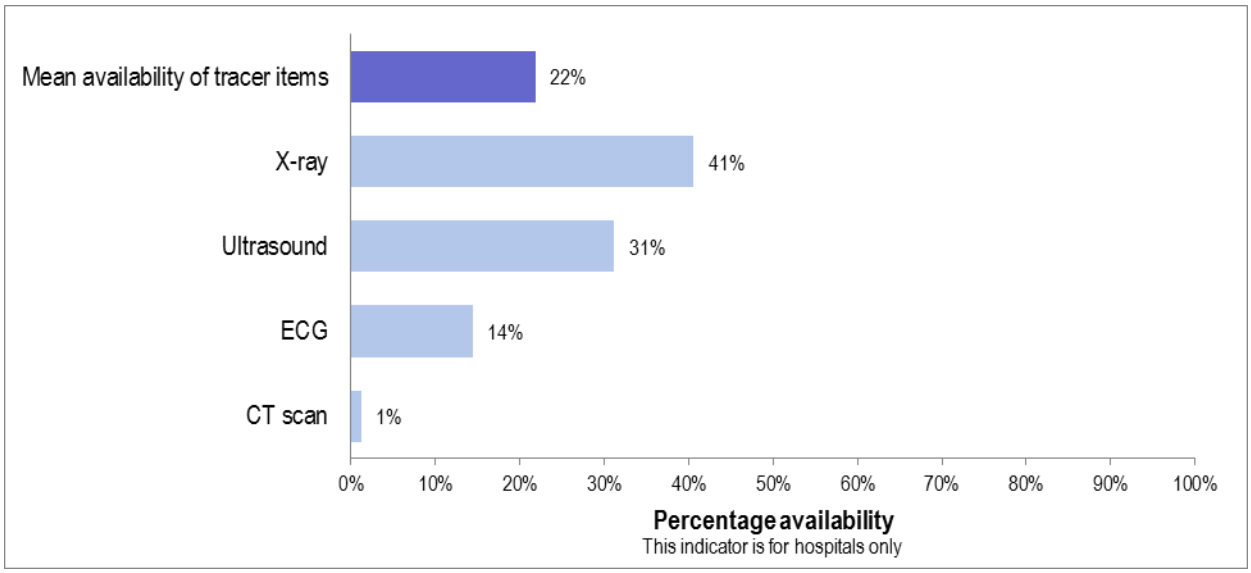
Table 80 above shows that tracer items for advanced diagnostic services which was found to be similar in public and mission hospitals while very low in private hospitals. When compared by location advanced diagnostic services were lower in the rural areas compared to the urban.

High level diagnostic equipment service availability

At hospital level, essential services should include the following special imaging services

- X-ray
- ECG
- Ultrasound
- CT scan

Figure 63: Percentage of hospitals that have high level diagnostic equipment available (N=91)



General availability for high level diagnostic equipment was highest for X-Ray (41%) followed by Ultrasound at 31%. On average hospitals had 1 out of the 4 tracer items available with very few having a CT scan (1%). Only 14% had an ECG machine.

Table 82: High level diagnostic equipment availability by facility type and location Zimbabwe 2014 (N=91)

Facility type	X-ray (%)	ECG (%)	Ultrasound (%)	CT scan (%)	Mean availability of tracer items (%)	Total number of facilities
Public Hospital	38	8	25	2	18	48
Private Hospital	29	14	14	0	14	14
Mission Hospital	48	24	45	0	29	29
Location						
Urban	67	18	46	0	33	22
Rural	34	13	28	1	19	69
Total	**41**	**14**	**31**	**1**	**22**	**91**

Table 81 above shows that mission hospitals had higher mean availability of high level diagnostic equipment tracer items compared to other hospital levels. Urban rural comparison again shows urban hospitals having higher tracer items on high level diagnostic equipment

6.0 Conclusion

The service availability as measured by the various densities per given population were not calculated because of the limitation in the population statistics and the fact that this SARA survey was not a census type of survey. The General Service Readiness index for Zimbabwe is relatively high compared to other countries in the SADC region with high scores for basic amenities such as sanitation, improved water source and access to emergency transportation. However there are challenges with provision of power as well as access to computers or email facilities. Overall, urban districts as well as private facilities performed better on general service readiness than rural districts or public facilities.

Maternal Health indices where relatively high as indicated by high readiness scores on provision of family planning services, >99 availability of family planning commodities and equipment required in ANC. However capacity for diagnosing common conditions such as anaemia in pregnancy was weak. Of the six BEmOC signal functions that were included in the assessment, more than three quarters (76%) reported providing parenteral administration of oxytocic's drugs while two thirds (68%) provided parenteral antibiotics

Overall readiness to provide BEmOC services was moderate with gaps noted in sterilization equipment, examination lights as well as injectable antibiotics. Not all facilities were able to provide parenteral oxytocic and antibiotics which would be expected for any facility offering delivery services. Unexpectedly only 27% of the hospitals were classified as (CEmOC) facilities where half of the weighted sampled hospitals were offering caesarean sections with an even lower proportion offering blood transfusion. SARA demonstrated limited readiness to provide blood transfusion services particularly in rural areas. This was attributed mostly to stock outs. This is an indicator of poor capacity utilization of the lower level hospitals and may be a

contributing factor to the high maternal deaths experienced at central hospitals owing to failure to provide (CEmOC) services at the rural or district hospitals. The situation was also compounded by the observation of low blood sufficiency at the level of hospitals included in SARA.

It is commendable that the majority of facilities offered routine childhood immunization and scored relatively high, 83% in terms of readiness to provide immunization. However this is threatened by reported vaccine stock outs as well as inadequate cold chain maintenance. Approximately a fifth of facilities had stock outs of key vaccines in the previous 3 months and only half of the facilities had all the minimum requirements for cold chain. While the majority of facilities offered key child health preventative and curative services gaps were noted on staff training on use of IMNCI guidelines and shortages of basic medicines such as Cotrimoxazole suspension. Although there seems to access to adolescent health services this might be hampered by lack of specific staff training in adolescent sexual reproductive health services which may be reflected by the smaller proportion of facilities offering emergency contraception to adolescents for example.

Most facilities scored very high in HIV related programs such as HTC, PMTCT and ART while they scored relatively low in provision of services for Non-communicable diseases such as diabetes and cervical cancer. HIV services including HIV Counseling and Testing, ART, HIV Care and support, PMTCT were offered by the majority of facilities with high readiness scores to provide these services. Staff trainings, availability of guidelines and diagnostic capacity for HIV ranked very high for these programs. However, relatively fewer had guidelines on infant and young child feeding. Gaps were noted in laboratory tests which are used to monitor patients on ART e.g. CD4 testing and electrolytes. There was evidence suggesting high HIV/TB collaboration as there was high HIV diagnostic capacity within TB services and more than 90% of facilities had at least one staff member trained in management of HIV/TB co-infection. Noted was the increasing role of Gene-Expert for rapid diagnosis of TB.

Availability and readiness to manage the common non-communicable diseases such as diabetes and cardiovascular disease was relatively low compared to malaria and HIV for example. For example the mean availability of tracer items to manage both diabetes and cardiovascular diseases was only slightly more than half. Medicines to manage diabetes were also in short supply. Cervical cancers services were only offered a small proportion of facilities and this was mostly within hospitals only.

Although mission hospitals were better equipped most hospitals lacked modern high level diagnostic equipment expected at this level of care. One area of concern is the lack of advanced diagnostic equipment in hospitals where only 14% had an ECG machine and 1% had a CT scan machine. This is particularly worse for rural facilities where the mean availability advanced diagnostic equipment was generally half of the urban facilities.

It appears that most of the lower level facilities lack capacity to offer basic surgical services which include minor surgery such as suturing, circumcision and wound debridement. This may

result in unnecessary referrals for minor surgical conditions which can easily be managed at lower levels of care. Among comprehensive surgical services the most commonly offered services were episiotomy and dilatation and curettage of the uterus. Approximately a quarter of the hospitals were offering hernia repair which is a simple operation which ideally may be conducted at district, mission or rural hospital. Private hospitals were better equipped to offer comprehensive surgical services across all types in comparison to public hospitals. Provision of surgical services could also be compromised by lack of adequate anaesthesia equipment as only 10% of them had a complete set of anaesthesia equipment.

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.

Limitations and suggestions for survey planning and implementation

This was the first time that the SARA tool had been implemented in Zimbabwe. 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 was incomplete and known to contain some inaccuracies. An updated national facility master list will also assist in calculating facility density for the whole country (rather than sample districts only).

• Questionnaire tools. The data collection tool was used across institutions within the health delivery system of Zimbabwe. Review of the questionnaire for adaptation and adoption to country specific setting should be a more rigorous process involving all health delivery system stakeholders for better representation across various services being offered across institutions.

• Sampling frame. The SPD does represent a (population probability-weighted) random sample of districts, and all facilities in those provinces 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 3-stage sample by randomly sampling facilities within the selected districts of selected provinces. 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 2014 SARA survey (275 out of 1487 facilities) was less than half the size of the facility population.

• Planning and time allocation. The SARA survey is a major survey exercise which 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 gave a descriptive analysis of data on general service availability (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, health workforce per 10,000 population, facilities per 10,000. 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 provinces (because catchment/service population denominator is not known with any certainty especially for private institutions). A comprehensive national facility master list and a reliable estimate of 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.

References

1. Murray, John, and Serge Manoncourt. 1998. Integrated health facility assessment manual: Using local planning to improve the quality of child care at health facilities. Published for the U.S. Agency for International Development by the Basic Support for Institutionalizing Child Survival (BASICS) Project. Arlington, Va.
2. M. Murray, C., Lopez, A., Wibulpolprasert, S. "Monitoring global health: time for new solutions." British Medical Journal. Volume 329, pp 1096-1100, November, 2004.ethods
3. Dever, G. 1976. An Epidemiological Model for Health Policy Analysis, Social Indicators Research. Vol. 2, page 465.
4. Measure Evaluation USAID: Profiles of Health Facility Assessment Methods.
5. Macro International Inc. Training Guidelines for DHS Surveys. Calverton, MD, USA: MEASURE DHS+, Macro International Inc.; 2000. Available at: http://www.measuredhs.com/pubs/pdf/DHSM3/DHS_Training_Guidelines.pdf
   Hozumi D, Fronczak N, Noriega Minichiello S, Buckner B, Fapohunda B. Profiles of Health Facility Assessment Methods [TR-06-36-en]. Chapel Hill, NC, USA: MEASURE Evaluation; 2006. Available at: http://www.cpc.unc.edu/measure/publications/pdf/tr-06-36.pdf
6. ORC Macro. Demographic and Health Survey Interviewer's Manual. [MEASURE DHS Basic Documentation No. 2]. Calverton, MD, USA: ORC Macro; 2006. Available at: http://www.measuredhs.com/pubs/pdf/DHSM1/DHS_Interviewer_Manual.pdf
7. ORC Macro. Demographic and Health Survey Supervisor's and Editor's Manual. [MEASURE DHS Basic Documentation No. 3]. Calverton, MD, USA: ORC Macro; 2006. Available at: http://www.measuredhs.com/pubs/pdf/DHSM2/DHS_Supervisor_Editor_Manual.pdf

8. Health Facility Assessment Technical Working Group. Guidance for selecting and using core indicators for cross-country comparisons of health facility readiness to provide services [working paper wp-07-97-en]. Chapel Hill, NC, USA: MEASURE Evaluation; 2007. Available at: http://www.cpc.unc.edu/measure/publications/pdf/wp-07-97.pdf
9. Health Facility Technical Working Group. The signature domain and geographic coordinates: a standardized approach for uniquely identifying a health facility [working paper wp-07-91-en]. Chapel Hill, NC, USA: MEASURE Evaluation; 2007. Available at: http://www.cpc.unc.edu/measure/publications/pdf/wp-07-91.pdf

10. Macro International, MEASURE-Evaluation, World Bank, Saving Newborn Lives, and CORE Group. Rapid Health Facility Assessment: A Tool to Enhance Quality and Access at the Primary Health Care Level. Beltsville, MD: Macro International, 2007. Available at: http://www.childsurvival.com/rhfa_1.cfm
11. World Health Organization (WHO). Service Availability Mapping (SAM) Guidelines for
12. Repeated Implementation Draft 2.0. Geneva: WHO, 2004. Available at: www.who.int/healthinfo/systems/sam_datause_en.pdf
13. World Health Organization (WHO). Improving Service Availability Mapping Data Use and Dissemination. Geneva: WHO, 2006. Available at: www.who.int/healthinfo/systems/sam_datause_en.pdf