



Government of Malawi
Ministry of Health and Population
2019

Malawi

Harmonised Health Facility Assessment (HHFA)

2018/2019 REPORT



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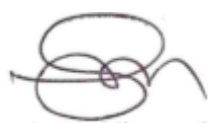
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Foreword

The 2018–2019 Malawi Harmonised Health Facility Assessment (HHFA) is the second large-scale, systematic, and detailed look at the status of health facilities in Malawi after the 2013 Malawi Service Provision Assessment. This assessment was conducted between November 2018 and March 2019. The information from the 2018–19 HHFA gives an indication of our Health Sector’s capacity to ensure Universal Health Coverage (UHC) and make progress towards the attainment of Sustainable Development Goals. The HHFA also informs a mid-term assessment of the Malawi Health Sector 2017–2022.

The 2018–2019 HHFA was designed to provide national and subnational information on the availability, readiness, and quality of services from all functioning health facilities in the country. These facilities included hospitals, health centres, dispensaries, clinics, and health posts. The managing authorities of these facilities included the Government, Christian Health Association of Malawi (CHAM), nongovernment organizations (NGOs), private, and faith-based organizations (FBOs). The data reported are stratified by type of health facility, managing authority, and region. The services of interest to the 2018–19 HHFA include family planning, maternal and newborn health (antenatal and delivery care), child health, sexually transmitted infections, malaria, tuberculosis, HIV/AIDS, noncommunicable diseases and general service delivery which includes out-patient and inpatient services. The assessment involved a facility audit along with interviews with service providers and interviews with clients after they were served. Although most facilities are equipped to provide primary health care and have essential commodity supplies and drugs available, the assessment identified major weaknesses that require immediate remedy if we are to improve the quality of health service delivery.

The HHFA has come at a critical time when plans to scale up UHC in Malawi are being developed. We now have the essential information needed to facilitate critical investments in health facilities to enable them to deliver the essential health package for UHC. We are certain that these results will significantly support the national government as well as our districts in planning and consequent management of available resources to maximize on outputs. It is our hope that health sector policy-makers and programme managers will embrace these findings and utilize them as addressing the problems identified through the 2018–2019 HHFA, along with those identified through other health-related surveys and information routinely generated through the Health Management Information System is key to achieving our vision of access to quality essential health services for all.



Hon. Jappie Mhango, MP
Minister of Health and Population
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The views expressed in this report are entirely those of the authors and contributors. The findings, interpretations and conclusions expressed herein do not necessarily reflect the views of the organizations involved or their Board of Directors.



Dr Dan Namarika
Secretary for Health and Population

Abbreviations and acronyms

ACE	Angiotensin converting enzyme	DHIS	District health information software
ACT	Artemisinin combination therapy	DHMT	District Health Management team
AIDS	Acquired immunodeficiency syndrome	DHS	Demographic and health survey
ALT	Alanine aminotransferase test	DPT	Diphtheria pertussis tetanus
ANC	Antenatal care	ECG	Electrocardiogram
ART	Antiretroviral therapy	EHP	Essential health package
ARV	Antiretroviral drugs	ELISA	Enzyme-linked immunosorbent assay
BCG	Bacillus Calmette-Guerin	EPI	Expanded Programme on Immunization
BEmONC	Basic emergency obstetric and newborn care	FP-CIP	Family planning costed implementation plan
BMI	Body-mass index	GFF	Global financing facility
CAPI	Computer-assisted personal interviewing	HAC	Health Advisory Committee
CBC	Complete blood count	HHFA	Harmonised Health Facility Assessment
CEmONC	Comprehensive emergency obstetric and newborn care	HIV	Human immunodeficiency virus
CHAI	Clinton Health Access Initiative	HMIS	Health management information system
CHAM	Christian Health Association of Malawi	HSA	Health surveillance assistant
CHW	Community health worker	HSSP	Health sector strategic plan
CMAM	Community management of acute malnutrition	IMCI	Integrated management of childhood illness
CMED	Central Monitoring and Evaluation Division	IMPAC	Integrated management of pregnancy and childbirth
COM	College of Medicine	IPT	Intermittent preventive treatment
COPD	Chronic obstructive pulmonary disease	ITN	Insecticide treated net
CRD	Chronic respiratory disease	IUCD	Intrauterine contraceptive device
CRS	Congenital rubella syndrome	KMC	Kangaroo mother care
CSF	Cerebrospinal fluid	LA	Lumefantrine Artemether
CT	Computerized tomography	MCH	Maternal and child health
CVD	Cardiovascular disease	mCPR	Modern contraceptive prevalence rate
DALYS	Disability-adjusted life year	MDG	Millennium Development Goals
DBS	Dried blood spot	MDR-TB	Multi-drug resistant tuberculosis
DEC	District Executive Committee	MFL	Master facility list

MMR	Maternal mortality rate	RDT	Rapid diagnostic test
MNCH	Maternal, newborn, and child health	RMNCH	Reproductive, maternal, newborn, and child health
MOHP	Ministry of Health and Population	RMNCH&N	Reproductive, maternal, newborn, child, and adolescent health
MUAC	Mid-upper arm circumference	RUTF	Ready-to-use therapeutic foods
NCD	Noncommunicable disease	SARA	Service availability and readiness assessment
NCHS	National Community Health Strategy	SDG	Sustainable Development Goals
NGO	Nongovernmental organization	SDI	Service delivery indicators
NGT	Nasogastric tube	SPA	Service provision assessment
NHP	National health policy	STI	Sexually transmitted infection
NSO	National Statistics Office	TB	Tuberculosis
NVP	Nevirapine	TOT	Training of trainers
OECD	Organisation for Economic Co-operation and Development	UHC	Universal health coverage
OPD	Outpatient department	UNFPA	United Nations Population Fund
OPV	Oral polio vaccine	UNICEF	United Nations Children’s Fund
ORS	Oral rehydration solution	USAID	United States Agency for International Development
PCM	Paracetamol	UTT	Universal test and treat
PCS	Patient case simulation	WB	World Bank
PFP	Private for-profit	WHO	World Health Organization
PMTCT	Prevention of mother–to–child transmission		
PNFP	Private not-for-profit		
PROM	Premature rupture of membranes		

Key findings from the Malawi HHFA

The 2018/2019 Malawi Harmonised Health Facility Assessment (HHFA) was conducted to ascertain the availability, readiness, and quality of health service delivery at the facility to better understand existing gaps and identify potential approaches for improving health care services and ultimately health outcomes in Malawi. The survey focused on better understanding supply – and demand – side constraints on the provision and utilization of reproductive, maternal, newborn, and child health (RMNCH), nutrition services, infectious disease services, and noncommunicable disease services given that despite steady programmatic gains, health outcomes remain relatively poor.

The HHFA provides critical information on multiple dimensions of service delivery which are all required to be present in the facility at the same time to promote care-seeking behaviours and ensure that individuals receive high quality health services. These key dimensions include service availability, service readiness, providers’ presence and clinical knowledge, and client responsiveness.

The Malawi HHFA was conducted between November 2018 and March 2019 in a census of health facilities and included 1106 health facilities. Of the surveyed facilities, there were 101 hospitals, 492 health centres, and 513 dispensaries, clinics, and health posts. A total of 12 773 health care workers were observed for absenteeism, 1433 health workers were assessed with clinical vignettes, and 4118 clients were interviewed (2333 mothers regarding their children under the age of 5 and 1785 pregnant women receiving ANC).

The Malawi HHFA approach of harmonizing the SARA and SDI tools is one of the first approaches to assess both supply and demand dimensions of health care quality and responsiveness. In addition, the HHFA approach has proven to be programmatically powerful and useful for identifying health systems strengthening needs. The information provided through this assessment provides health sector stakeholders with an evidence-base on which to guide, inform, and plan for health service interventions and can be used as a tool for advocacy and policy dialogue at global, national, regional, and district levels in Malawi.

The key findings have been summarized and categorized into the following groups: presence of serious gaps denoted in red (0%–49%), room for improvement denoted in yellow (50%–74%), progressing towards target denoted in green (75%–100%), and no colour where there was no appropriate benchmark for comparison.

0%–49%	50%–74%	75%–100%	No benchmark for comparison
Serious gaps	Room for improvement	Progressing towards target	No benchmark for comparison

How available are key health services?

Indicator	Availability	Detailed information
Health facility density	31%	0.6 health facilities per 10 000 population compared to the target of 2 facilities per 10 000 population
Inpatient beds	40%	10 inpatient beds per 10 000 population compared to the target of 25 inpatient beds per 10 000 population
Maternity beds	87%	8.7 maternity beds per 1000 pregnant women compared to the target of 10 beds per 1000 pregnant women
Health worker density	45%	10.4 core health workers per 10 000 population compared to the target of 22 health workers per 10 000 population
Outpatient visits	15%	0.8 outpatient visits per person per year compared to the target of 5 outpatient visits per person per year
Hospital discharges	47%	4.7 hospital discharges per 100 population per year compared to the target of 10 hospital discharges per 100 population per year
MNCH service availability	75%–100%	Child preventative and curative care (89%) Family planning (81%)
	50%–74%	Routine child immunization (73%) Antenatal care (60%) Delivery services (51%)
	0%–49%	Basic emergency obstetric and newborn care (45% of facilities offering delivery services) Comprehensive obstetric and newborn care (12% of facilities offering delivery services)
Communicable disease service availability	75%–100%	Malaria (96%) Sexually transmitted infections (STIs) (87%)
	50%–74%	Antiretroviral (ARV) prescription and client management (65%) PMTCT (60%) HIV/AIDS care and support (58%)
	0%–49%	Tuberculosis (49%)
Non-communicable disease service availability	75%–100%	Chronic respiratory disease diagnosis/management (84% of hospitals) Cardiovascular disease diagnosis/management (82% of hospitals)
	50%–74%	Cervical cancer diagnosis (69% of hospitals)

How ready are health facilities to deliver key health services?

Indicator	Availability	Detailed information
Basic amenities	64%	On average, facilities had 64% of basic amenities items and 8% of facilities had all basic amenities items.
Basic equipment	75%	On average, facilities had 75% of basic equipment items available and 31% of facilities had all basic equipment items.
Standard precautions for infection prevention	76%	On average, facilities had 76% of standard precautions items available and 22% of facilities had all standard precautions for infection prevention items.
Diagnostic capacity	47%	On average, facilities were able to perform 47% of the basic diagnostic tests and 6% of facilities had the capacity to conduct all basic diagnostic tests.
Essential medicines	38%	On average, facilities had 38% of the essential medicines and no facilities had all 24 essential medicines.
Readiness to deliver MNCH services	75%–100%	On average, facilities had 88% of the items required to deliver child immunization services and 43% of facilities had all 13 child immunization tracer items.
	50%–74%	On average, facilities had 72% of the items required to deliver comprehensive obstetric care services and 1% of facilities had all 16 comprehensive obstetric care tracer items. On average, facilities had 71% of the items required to deliver basic obstetric care services and 4% of facilities had all 21 basic obstetric care tracer items. On average, facilities had 70% of the items required to deliver family planning services and 20% of facilities had all 6 family planning tracer items. On average, facilities had 69% of the items required to deliver antenatal care services and 4% of facilities had all 11 antenatal care tracer items. On average, facilities had 57% of the items required to deliver child health preventive and curative care services and no facilities had all 18 child health preventive and curative care tracer items.
Readiness to deliver communicable disease services	50%–74%	On average, facilities had 74% of the items required to deliver STI services and 15% of facilities had all 7 STI tracer items. On average, facilities had 73% of the items required to deliver tuberculosis services and 15% of facilities had all 12 tuberculosis tracer items. On average, facilities had 69% of the items required to deliver HIV/AIDS care and support services and 3% of facilities had all 10 HIV/AIDS care and support tracer items. On average, facilities had 68% of the items required to deliver malaria services and 13% of facilities had all 8 malaria tracer items. On average, facilities had 65% of the items required to deliver PMTCT services and no facilities had all 10 PMTCT tracer items.
	0%–49%	On average, facilities had 46% of the items required to deliver ART services and 2% of facilities had all 7 ART service tracer items.
Readiness to deliver noncommunicable services at hospitals	75%–100%	On average, hospitals had 89% of the items required to deliver cervical cancer services and 84% of hospitals had all 2 cervical cancer tracer items. On average, hospitals had 82% of the items required to deliver cardiovascular disease services and 20% of hospitals had all 12 cardiovascular disease tracer items.
	50%–74%	On average, hospitals had 69% of the items required to deliver chronic respiratory disease services and 9% of hospitals had all 11 chronic respiratory disease tracer items.

What do providers know?

Indicator	Availability	Detailed information
Diagnosis and treatment knowledge: six key conditions	75%–100%	Tuberculosis (88%) Diabetes (78%) Pneumonia (75%)
	50%–74%	Anaemia in pregnancy (59%)
	0%–49%	Malaria with anaemia (25%) Diarrhoea with severe dehydration (23%)
Adherence to guidelines: six key conditions	50%–74%	Malaria with anaemia (60%) Anaemia in pregnancy (59%) Tuberculosis (57%) Pneumonia (52%)
	0%–49%	Diabetes (47%) Diarrhoea with severe dehydration (45%)
Diagnosis and correct management: maternal and neonatal complications	75%–100%	Diagnosis of postpartum haemorrhage (91%) Diagnosis of neonatal asphyxia (81%)
	50%–74%	Correct management of neonatal asphyxia (53%) Correct management of postpartum haemorrhage (52%)
Adherence to guidelines: maternal and neonatal complications	50%–74%	Neonatal asphyxia (56%) –
	0%–49%	Postpartum haemorrhage (47%)
Nutrition assessment and counselling of a sick child	50%–74%	Nutrition counselling child with diarrhoea (58%) Nutrition counselling child with malaria (45%)
	0%–49%	Nutrition assessment child with diarrhoea (33%) Nutrition assessment child with malaria (32%) Nutrition counselling child with pneumonia (31%) Nutrition assessment child with pneumonia (27%)

What do providers do and report?

Indicator	Availability	Detailed information
Absenteeism	18%	This is a relatively low level of absenteeism compared to other countries in the region (Kenya: 39%, Sierra Leone: 27%, Tanzania: 12%). Of these absences, 95% were deemed to be sanctioned absences while only 5% of absences were not sanctioned.
Caseload	40.1	Caseload (cases per health provider per day) was highest in small health facilities with 1–2 health workers. The national average caseload is substantially higher compared to other countries in the region (Kenya: 13, Tanzania: 10, Sierra Leone: 8).
Binding constraints reported by providers working in hospitals	65%	Staff availability
	59%	Delayed salary payment
	48%	Availability of drugs
	47%	Inadequate equipment

How do clients perceive the quality of services?

Indicator	Availability	Detailed information
Health facility chosen due to proximity to home	73%	Caregivers of under-five children
	78%	Pregnant women seeking ANC
Clients walked to the facility	75%	Caregivers of under-five children
	61%	Pregnant women seeking ANC
Clients paid for transportation to reach the facility	20%	Pregnant women seeking ANC and caregivers of under-five children
Average waiting time to be seen by a provider	41 min	Pregnant women seeking ANC
	38 min	Caregivers of under-five children
Client reported quality of visit	75%	On average, ANC clients received 75% of the components. However, only 17% received all ANC components.
	40%	On average, under-five child visits received 40% of the components. Only 4% clients reported having received all 7 components of the under-five child visit.
Client satisfaction	94%–95%	Trust in the providers skills and abilities
	90%	Staff were courteous and respectful
	89%–91%	Number of days the facility is open is adequate
	88%–92%	Time spent with health provider sufficient
	88%–90%	Easy to discuss problems with the provider
	85%–88%	Opening hours is adequate
	84%–87%	Cleanliness of the facility
77%–89%	Provider explained the condition well	

What does this mean for Malawi?

Investments to improve access to and utilization of health facilities are critical to ensure the population is able receive essential health services. In Malawi, the availability of health facility infrastructure is low indicating barriers to accessing inpatient and outpatient services. In addition, overall service utilization is low indicating that the population is not seeking and utilizing inpatient and outpatient services. Exit interviews highlighted that proximity to home is the most important determinant of facility choice. Further examination of the disparities in access and utilization of health facilities will be required to develop strategies that can improve the supply and demand for health services.

Task shifting patient consultations to nurses should be explored as a potential solution to reducing provider caseload at health facilities. The low density of health workers and the high caseload of providers demonstrate a critical shortage of health workforce. While increasing the production of skilled health providers may be a long-term solution, in the short term re-engaging nurses to provide more patient consultations should be explored as a cost-effective strategy to reduce caseload. In fact, the survey showed that only 31% of nurses currently provide patient consultations.

There is a need to invest in strengthening the availability of critical health system inputs such as essential drugs, diagnostics, equipment, and basic amenities in order to adequately deliver basic health services. Readiness to deliver services has seen some improvement since 2013, however many facilities lack the trained staff, guidelines, equipment, medicines and commodities, and diagnostic capacity required to deliver health interventions. Inputs are important as they are the foundation upon which providers can assess and treat patients and thus are necessary but not sufficient to ensure high-quality health service delivery.

Reducing maternal and neonatal mortality may require a health centre-based intrapartum care strategy as most maternal deaths occur during labour, birth or the first 24 hours postpartum due to complications that cannot always be predicted or prevented. The availability of life-saving emergency obstetric care in Malawi is limited indicating a need to increase access to properly equipped health facilities with trained staff who can appropriately

manage obstetric complications. The intra-partum care strategy should explore options for strengthening the provision of care in facilities through interventions such as birth attendance training for providers, increasing the availability of equipment and supplies, and recruiting additional health providers.

There is need to improve providers' ability to adequately diagnose and treat child health conditions and increase nutrition assessment and counselling as part of any child health visit. The capacity of health workers in Malawi to deliver quality clinical care was satisfactory for adult clinical conditions, but not for common under-five conditions related to malaria, diarrhoea, and pneumonia. Providers demonstrated challenges in diagnosis and treatment of co-morbidities, full adherence to clinical guidelines, and conducting nutrition relevant assessment and counselling for sick children. Quality improvement strategies may include pre-service and in-service training and should focus on supportive supervision and monitoring of the quality of clinical service delivery. These strategies should additionally involve institutions training and regulating health professionals in Malawi.

The Government should consider improving governance and management of private health facilities. Private facilities are not subject to the same norms and practices of good management currently applied to public health facilities. For example, private facilities are not required to have a Health Advisory Committee, which plays an important role in ensuring a feedback mechanism from facility to district policies and planning. Similarly, supervision of facilities to ensure that required standards are maintained and that gaps and challenges in the provision of services are identified and addressed in a timely manner are much less common in private facilities as compared to public facilities.

Quality improvement approaches implemented in Malawi should be applied within patient-centred models of care to ensure client satisfaction remains high. Client satisfaction in Malawi was generally high despite the lack of critical inputs at facilities, which is commonly seen in low-income environments with few options for health services. As quality improvement strategies are implemented, it is important to consider that the client experience influences perceptions, attitudes, and health utilization behaviours. Strategies around providing basic health services closer to the client, ideally community-based with good supervision, monitoring of service delivery, and a focus on the client experience will support reducing barriers to provision of quality services.

1. Introduction

1.1. Health status in Malawi

Located in Southern Africa, Malawi is a land locked country of over 18 million people bordered by Tanzania (northeast), Zambia (northwest) and Mozambique (east, south, and west). Of the total population in Malawi, 84% live in rural areas. The provision of health care in Malawi is largely public and highly dependent on external support. Religious and non-profit organizations also provide health care and support services as well as financing across the country.

Over the past 25 years, Malawi has made significant progress in increasing coverage of key maternal health, child health, and nutrition services, leading to improvements in health outcomes. Overall, life expectancy in Malawi has improved and has reached 63.9 years for both men and women.¹ Vaccination coverage has greatly increased to nearly 95% (2016) and assistance at birth by a skilled attendant has reached 90% (2015) with nearly all births occurring in health facilities. These improvements have been led by collaborative efforts between government and development partners to improve maternal and child health.

Notably, Malawi outperformed national targets set under both the national Health Sector Strategic Plan (HSSP) for 2011–2016 and the Millennium Development Goals (MDG), including achieving an under-five mortality rate of 85 deaths/1000 live births in 2016 relative to a target of 78 deaths/1000 live births through annual average decline of 4.7% during 1990–2015.² In comparison, the child mortality rate for the Africa region was 81 deaths/1000 live births. There has also been a notable decline in the total fertility rate, from 6.7 births per woman in 1992 to 4.4 births per woman in 2015–2016.³ The majority of married women (59%) use a method of contraception, with lower rates of contraception use among unmarried sexually active women (44%).⁴ Childbearing among teenage women declined over a five-year period to 26%⁵ from 29%.⁶

Despite the above successes, a number of challenges still exist. Reducing the maternal mortality ratio remains a priority. Despite declining dramatically over the past six years, the maternal mortality ratio remains stubbornly high at 439 deaths/100 000 live births which is one of the highest maternal mortality ratios in the world. In spite of achieving a very high increase in institutional deliveries and skilled attendance at birth, Malawi still failed to achieve the MDG goal of reducing the maternal mortality ratio by three quarters.

In addition, Malawi continues to carry a high burden of disease, including malaria, HIV/AIDS, respiratory infections, diarrheal diseases, and perinatal conditions. Malaria was found in 42% of school-aged children, 27% of preschool-aged children, 16% of women of reproductive age, and in 15% of men. The prevalence of anaemia was 28% in preschool-aged children, 21% in school-aged children, 21% in women of reproductive age, and 6% in men. Iron deficiency was uncommon except in preschool aged children (22%) and vitamin A deficiency was very low (<5% for all groups). However, zinc deficiency was very common (60–66%).⁷ Another persistent problem in Malawi is

¹ Government of the Republic of Malawi. Health Sector Strategic Plan II (2017–2022).

² Government of the Republic of Malawi. Health Sector Strategic Plan II (2017–2022).

³ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

⁴ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

⁵ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

⁶ National Statistical Office (NSO) and ICF Macro. 2011. Malawi Demographic and Health Survey 2010. Zomba, Malawi, and Calverton, Maryland, USA: NSO and ICF Macro.

⁷ National Statistical Office (NSO), Community Health Sciences Unit (CHSU) [Malawi], Centers for Disease Control and Prevention (CDC), and Emory University. 2016. Malawi Micronutrient Survey 2015–16: Key Indicators Report. Atlanta, GA, USA: NSO, CHSU, CDC and Emory University.

HIV/AIDS, with 8.8% of Malawians aged 15–49 identified as HIV-positive.⁸ HIV/AIDS is the leading cause of disability adjusted life years (DALYs) in Malawi, at 34.9% of total DALYs in 2011.⁹ While communicable diseases remain the greatest cause of morbidity and mortality, Malawi now faces the double burden of both communicable and noncommunicable diseases (NCDs).

Malawi is also experiencing persistent challenges to improved nutrition. Malawi’s stunting rates—while they have improved – are still short of global targets and standards. The 2015–16 Demographic and Health Survey (DHS) showed that 37% of children under five years were stunted, 11% were severely stunted, and 3% suffered from wasting.¹⁰ Approximately 50% of all deaths of children under five years of age were associated with severe or moderate malnutrition. Further, since 1992 there have been no significant improvements to the contribution of malnutrition to child mortality.¹¹

Supply-side challenges to improving health outcomes in Malawi include human resources for health as the health system suffers from insufficient numbers of health care staff due to low wages, poor work conditions and migration. In addition, funding shortages persist, affecting the provision of essential drugs, equipment, and supplies.

1.2 Organization of the health care system

The health care system in Malawi is primarily directed by the public sector which provides the majority (68%) of health services. Public sector health services are provided free of charge at all levels of the health system. Private, faith-based, and non-profit sectors provide the remaining 32% of services,¹² with the Christian Health Association of Malawi (CHAM) providing 29% of the total private and non-profit services.¹³

The health system in Malawi has three levels of health care namely primary, secondary and tertiary care. The primary level of health care delivery includes health posts, dispensaries, maternity facilities, health centres as well as community initiatives. Rural, community, and district hospitals comprise secondary level services and offer inpatient and outpatient services and are referral facilities for the primary level. Central hospitals provide tertiary level services and are referral facilities for secondary level facilities. Tertiary level facilities support district facilities and perform other activities such as research and training.

The health system in Malawi is composed of several actors: government or public sector, private for-profit (PFP), and private non-profit (PNFP). Private non-profit includes nongovernmental organizations (NGO), company clinics, and CHAM facilities. The public provision of health care is outlined in Malawi’s constitution. The Government supports public facilities under the management of the Ministry of Health and Population (MoHP) which provides health services free of cost to the population. The MoHP oversees facilities at local and national levels, including those associated with prisons. The PFP sector encompasses a variety of facilities including private hospitals, laboratories, pharmacies, and clinics as well as traditional healers. The PNFP sector includes religious organizations, such as CHAM, a Jesuit organization that provides almost a third of health care serves in the country. NGO facilities are also included in the PNFP sector. Despite having non-profit status, many PNFPs charge small user fees.

The Government directs and manages the health system in Malawi through MoHP. The MoHP is an agency that coordinates with other stakeholders for the development and enforcement of reforms to the health sector policy, regulation and standards; establishes norms and protocols for the delivery of health services; directs and manages resources for health; provides technical and research support as well as monitoring and evaluation. The MoHP is the

⁸ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

⁹ Government of the Republic of Malawi. Health Sector Strategic Plan II (2017–2022).

¹⁰ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

¹¹ United Nations International Children’s Emergency Fund. (2008). Changing Lives, A portrait of children in Malawi. 1–57.

¹² Government of the Republic of Malawi. Health Sector Strategic Plan II (2017–2022).

¹³ Ministry of Health (MoH) [Malawi] and ICF International. 2014. Malawi Service Provision Assessment (MSPA) 2013–14. Lilongwe, Malawi, and Rockville, Maryland, USA: MoH and ICF International.

coordinating body to other institutions in the health system and also advises other government bodies on health issues. The Government of Malawi's MoHP coordinates and leads the development of health policy and monitors implementation of health plans, such as the National Health Policy (NHP), Malawi Health Sector-Wide Approach (SWAp), and the Malawi Health Sector Strategic Plan.

1.3 Enabling policies and strategies to improve and support health care delivery in Malawi

The Government of Malawi recognizes the key challenges it faces in the health sector, particularly as it pertains to health service delivery, maternal, neonatal and child health as well as in nutrition. The National Health Policy (NHP) identifies a number of policy themes including health service delivery, nutrition, interagency collaboration, and quality assurance that are necessary to establish a robust health system. These themes are further underscored in the Health Sector Strategic Plan I (2011–2016) and the Health Sector Strategic Plan II (2017–2022), which both prioritise investments in the delivery of basic services especially in maternal and child health, quality of care, equitable access, and efficiency.

Following the implementation of the first Health Sector Strategic Plan (HSSP I), the Government of Malawi instituted the Health Sector Strategic Plan II (HSSP II) to create medium-term objectives for the period of 2017–2022. The HSSP lays out specific MoHP strategies based on the Sustainable Development Goals (SDGs) and the MDG targets, defining activities and resources for implementation by various health system actors including hospitals, NGOs, and district health officers. The HSSP II also provides input into the revision of the Essential Health Package (EHP) towards realistic targets and works to improve public sector health provision in Malawi. The HSSP II commits Malawi to the attainment of Universal Health Coverage and provides a revised EHP for all Malawians. In line with this objective, the Government established a Directorate of Quality Management in 2019 within the MoHP. The role of the Directorate is to provide oversight, strategic leadership, and coordination of quality initiatives in the health sector in the country. A key priority for the Directorate is to better understand the key issues constraining quality service provision, especially in reproductive, maternal, neonatal, and child health (RMNCH) and nutrition services, where the country faces unique and significant challenges.

The NHP supports the incorporation of EHP for service delivery. The EHP was launched in 2002 by the Government of Malawi to help to improve health services and equitable access to health care. In 2004, a sector-wide approach was adopted to implement EHP services, which are provided without charge to the public. The EHP is being integrated across the three levels of health care delivery in Malawi, and promotes health and disease prevention, promotes community engagement in health services delivery, bolsters public–private partnerships, and promotes cost-effectiveness.¹⁴

The National Community Health Strategy (NCHS) is the first strategy of its kind in Malawi. The NCHS was created by the MoHP for 2017–2022 in partnership with other stakeholders and aligns to objectives under the HSSP. The NCHS aims to ensure community health services are of good quality and are affordable and accessible to households. The NCHS by design focuses on community engagement and integration of services, strengthening the community health workforce, and ensuring consistent supplies, infrastructure, and other resources.

Another critical health plan developed by the Government is the Malawi Family Planning Costed Implementation Plan (FP–CIP). This plan sets goals for family planning services for the period of 2016–2020. The plan outlines steps towards family planning objectives, such as reaching a modern contraceptive prevalence rate of 60% by 2020.¹⁵

¹⁴ Ministry of Health (MoH) [Malawi] and ICF International. 2014. Malawi Service Provision Assessment (MSPA) 2013–14. Lilongwe, Malawi, and Rockville, Maryland, USA: MoH and ICF International.

¹⁵ Reproductive Health Directorate, Ministry of Health. The Malawi Family Planning Costed Implementation Plan, 2016–2020. Government of Malawi.

1.4 Purpose of the survey

The 2018/2019 Malawi Harmonised Health Facility Assessment (HHFA) was carried out in order to generate critical information for evidence-based decision-making as well as track and monitor progress of HSSP/EHP activities in health facilities.

The primary objectives of the 2018/2019 Malawi HHFA were to:

1. Assess the structural and clinical quality of health service delivery at the facility level in order to better understand existing gaps and identify potential approaches for improving quality of care.
2. Better understand supply-side constraints on the provision of RMNCH and nutrition services in particular since these are areas where despite steady gains, outcomes remain relatively poor.

The production of high-quality health services requires three dimensions of service delivery: (i) the availability of key inputs such as drugs, equipment, and infrastructure; (ii) providers who are skilled; and (iii) providers who exert the necessary effort in applying their knowledge. Successful service delivery requires that all these elements be present in the same facility at the same time. The HHFA provides a comprehensive set of key indicators across these three dimensions including information on the availability of essential health care services, the readiness of health facilities to provide such services to clients, their quality in terms of diagnostic and treatment accuracy, and providers' effort. The specific objectives of the Malawi HHFA were to ascertain:

- The availability of basic and essential health services, including reproductive, maternal, neonatal, child health, and nutrition services (RMNCH&N) as well as services for communicable diseases (HIV/AIDS, sexually transmitted infections (STIs), malaria, and tuberculosis) and noncommunicable diseases (NCDs).
- Health facilities' preparedness to provide quality services by capturing data on the availability of critical inputs.
- Providers' clinical knowledge of major health conditions in terms of diagnostic accuracy, treatment accuracy, and adherence to clinical guidelines.
- Providers' efforts measured as absenteeism level and caseload.
- Performance differences across health facilities by region, facility type, and managing authority.

These data enable governments and service providers alike to identify gaps and bottlenecks, track progress over time, and across countries. The broad availability and high public awareness of these indicators will help mobilize policy-makers, citizens, service providers, donors, and other stakeholders to take the necessary steps to improve availability of quality health service delivery, and thereby improve health outcomes.

2. Methodology

2.1 Overview and response rate

The Malawi HHFA was a census of all health facilities in Malawi. The survey assessed 1106 health facilities in Malawi between November 2018 and March 2019. A total of 12 773 health care workers were recorded and a sample observed for absenteeism, 1433 health workers were assessed with clinical vignettes, and 4100 clients were interviewed (2333 mothers regarding health care for their children under-five years and 1785 pregnant women receiving ANC).

Facility inventory

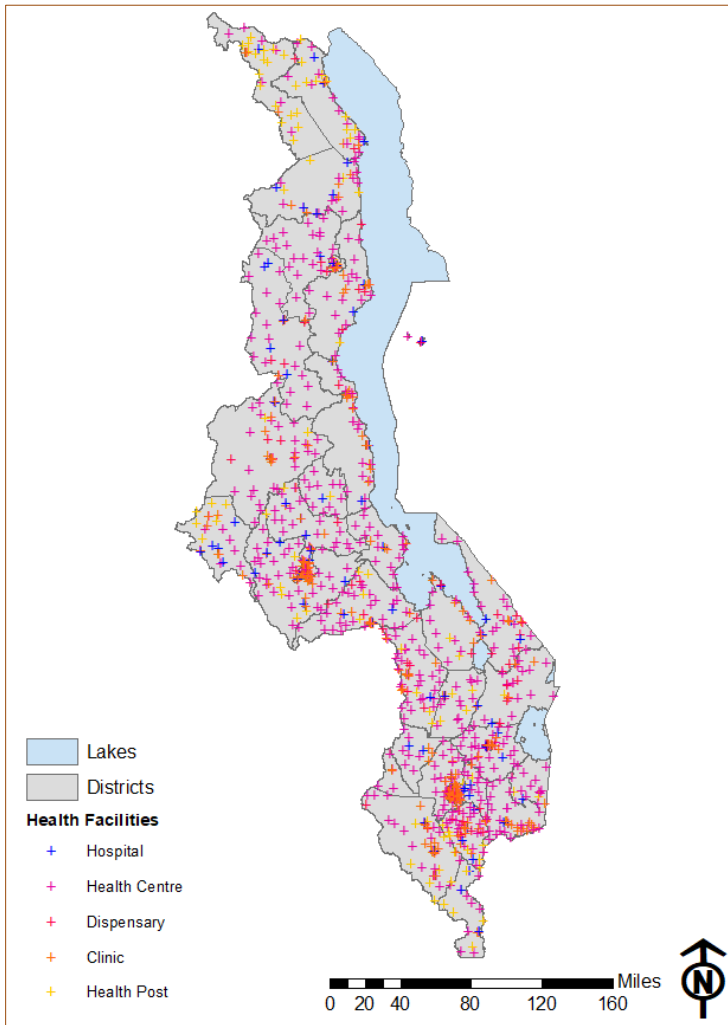
The Malawi master facility list (MFL) identified a total of 1224 health facilities. Of the 1224 facilities, data collection was completed for 1106 facilities. Data collection was not completed for 118 facilities which were either not located or no longer existed. The number of facilities surveyed out of the total in the MFL is detailed by region, facility type, managing authority, and urban/rural in Table 1.

Out of the 1106 facilities surveyed, 101 were hospitals, 492 were health centres, and 513 were dispensaries, clinics, and health posts. Of these, 575 were public facilities and 531 private facilities, including 165 CHAM and 53 NGOs. The majority of the health facilities were located in rural areas (760). In terms of regional distribution, 208 facilities were located in the North, 399 in the Centre, and the remaining 499 in the South. The map in Figure 1 shows the location of the health facilities assessed as part of the 2018/2019 Malawi HHFA.

Table 1. Facilities included in the HHFA survey by region, facility type, managing authority, and urban/rural, Malawi 2018/2019

	Total number of facilities in the MFL	Number of facilities that were not located/do not exist	Number of facilities surveyed
Region			
North	224	16	208
Centre	452	53	399
South	583	84	499
Facility type			
Hospital	107	6	101
Health centre	492	0	492
Dispensary	63	1	62
Clinic	438	83	355
Health post	124	28	96
Managing authority			
Government	630	55	575
CHAM	169	4	165
Private for-profit	272	22	250
Private non-profit	89	26	63
NGO	64	11	53
Urban/rural			
Rural	834	74	760
Urban	390	44	346
Malawi	1,224	118	1,106

Figure 1. Map of health facilities assessed in the Malawi HHFA 2018/2019



Clinical vignettes

Clinical vignettes known also as case simulations were used to assess providers’ knowledge to assess, diagnose, and manage specific conditions. The choice of the vignettes was guided by the burden of the conditions among children and adults, and whether the condition was amenable to use with a simulation tool, i.e. the condition has a presentation of symptoms that makes it suitable for assessing provider ability to reach correct diagnosis with the simulation tool.

Table 2 shows a summary of the respondents for the vignettes. A total of 1433 providers were successfully interviewed.

The majority of the respondents were from the Southern region (43%) and Centre region (39%) with only 18% of respondents coming from the Northern region. Furthermore, most of those interviewed were from health centres (43%) managed by the Government (53%) in rural areas (66%). In addition, most respondents were medical assistants (45%) followed by clinical officers (26%) and nurses (24%).

Table 2. Summary of respondents for vignettes by region, facility type, managing authority, urban/rural, and provider cadre Malawi 2018/2019

	Providers	
	N	%
Region		
North	251	18%
Centre	565	39%
South	617	43%
Facility type		
Hospital	388	27%
Health centre	609	43%
Dispensary	56	4%
Clinic	371	26%
Health post	9	1%
Managing authority		
Government	765	53%
CHAM	286	20%
Private for-profit	249	17%
Private non-profit	66	5%
NGO	67	5%
Urban/rural		
Rural	950	66%
Urban	483	34%
Provider cadre		
Medical doctor	58	4%
Medical assistant	650	45%
Clinical officer	377	26%
Nurse	348	24%
Malawi	1,433	100%

Client exit interviews

Exit interviews were used to assess the clients' experience in accessing health care services. In the Malawi 2018/19 HHFA, the exit interviews included women who had received antenatal services and under-five children. Table 3 shows a summary of the respondents for ANC and under five children visits. A total of 1785 ANC clients and 2333 caregivers of children under five years of age were successfully interviewed. Most of the respondents were from the southern region (43% ANC and 45% under-fives). Furthermore, most of those interviewed were from health centres (75% ANC and 61% under-fives) managed by the Government (70% ANC and 63% under-fives). In addition, the majority of respondents were from rural areas (86% ANC and 82% under-fives).

Table 3. Summary of respondents for ANC and under five children visits by region, facility type, managing authority, and urban/rural, Malawi 2018/2019

	ANC visit		Under-five child visit	
	N	%	N	%
Region				
North	351	20%	448	19%
Centre	661	37%	844	36%
South	773	43%	1,041	45%
Facility type				
Hospital	275	15%	272	12%
Health centre	1,335	75%	1,412	61%
Dispensary	56	3%	149	6%
Clinic	97	5%	388	17%
Health post	22	1%	112	5%
Managing authority				
Government	1,242	70%	1,457	63%
CHAM	414	23%	443	19%
Private for-profit	54	3%	264	11%
Private non-profit	54	3%	104	5%
NGO	21	1%	65	3%

	ANC visit		Under-five child visit	
Urban/rural				
Rural	1,538	86%	1,909	82%
Urban	247	14%	424	18%
Malawi	1,785	100%	2,333	100%

2.2 Questionnaire

Modules and respondents

The Malawi HHFA survey instrument was comprised of the Service Availability and Readiness Assessment (SARA) and the Service Delivery Indicators (SDI) survey instruments harmonized into a single tool. The 2018–2019 HHFA tool included five modules which are detailed in Table 4 below.

Table 4. Survey tool modules for the Malawi HHFA

Module number	Module name	Main respondent	Description
Module 1	Facility inventory	Head of facility/most knowledgeable respondent	Information about the facility's: functioning, infrastructure, equipment, materials, supplies, and drugs
Modules 2A and 2B	Health worker roster	2A: Head of facility/human resources	2A: Administered to head of facility to obtain a list of all health workers
		2B: Selected medical staff	2B: Administered to randomly selected health workers to measure absenteeism rates and to collect information about worker characteristics
Module 3	Clinical vignettes/ case simulations	Medical staff (medical doctors, clinical officers, medical assistants and nurses*)	Administered to medical personnel who regularly treat patients to evaluate their competency in the diagnosis and treatment of routine pathologies
Module 4	Facility management and finance	Head of facility and accountant (where relevant)	Collection of information about finances (revenues and expenditures), management, governance, community engagement
Module 5	Client experience/ Exit interviews	Pregnant women and caregivers of sick children (under-five)	Client satisfaction with antenatal care and child health services; costs incurred in accessing the services

* Only registered nurses and nurse–midwife technicians were included.

Facility inventory

The facility inventory module collected information about the availability of services as well as functioning infrastructure, equipment, trained staff, diagnostic capacity, and medicines and commodities. The facility inventory module aimed to determine the availability and readiness of health facilities to provide quality health services. Specifically, this module was designed to address the following key questions: (1) To what extent are facilities prepared to provide essential services? and (2) What resources and support systems are available?

Readiness is measured in terms of general service readiness and service-specific readiness. General Service Readiness is measured by the following characteristics of facilities, organized into five domains:

1. Availability of **basic amenities** for client services, such as regular electricity, improved water, privacy during provision of client services, improved sanitation facilities for clients, communication equipment, and transport for emergencies.
2. Availability of **basic equipment** for provision of client services, such as weighing scales for adults and children, thermometer, stethoscope, blood pressure apparatus, and light source for client examination.
3. Availability of equipment and supplies needed for **standard precautions for infection prevention**, such as sterilization equipment, appropriate storage and disposal of sharps and biological waste, soap and running water or alcohol-based hand rub, latex gloves, and guidelines for standard precautions.

4. Capacity to perform certain **basic laboratory tests**, including general microscopy, haemoglobin, blood glucose, urine protein, and urine glucose.
5. Availability of **essential medicines** as defined by the World Health Organization (WHO).

Service-specific readiness is measured by the availability of essential equipment and supplies for specific services in a location reasonably accessible when providing that service, staff with recent training relevant to the service, service guidelines, the availability of medicines and commodities, and laboratory capacity for tests related to each service.

The facility inventory collected information from the health facility in charge or the most knowledgeable medical staff at the facility based in the service site and was implemented at all health facilities.

Health worker roster

The health worker roster collected information on the total number of health workers at the facility. To measure health worker absence, the Malawi HHFA used the SDI methodology which is based on information collected from two visits to the health facility: an announced first visit and an unannounced second visit. During the first visit, which is announced, the team recorded the full staff roster for the health workers and the number of non-health workers in the facility based on an interview with the facility in charge or most senior staff present at the time of the survey. From the roster a maximum of 10 people were randomly sampled for follow-up. A second unannounced visit was made on a separate day following the first visit. The team was required to interview the 10 randomly sampled people regarding their current activity, when they were employed, their salary and job satisfaction. If the selected individual was unavailable, the reason for the absence was recorded.

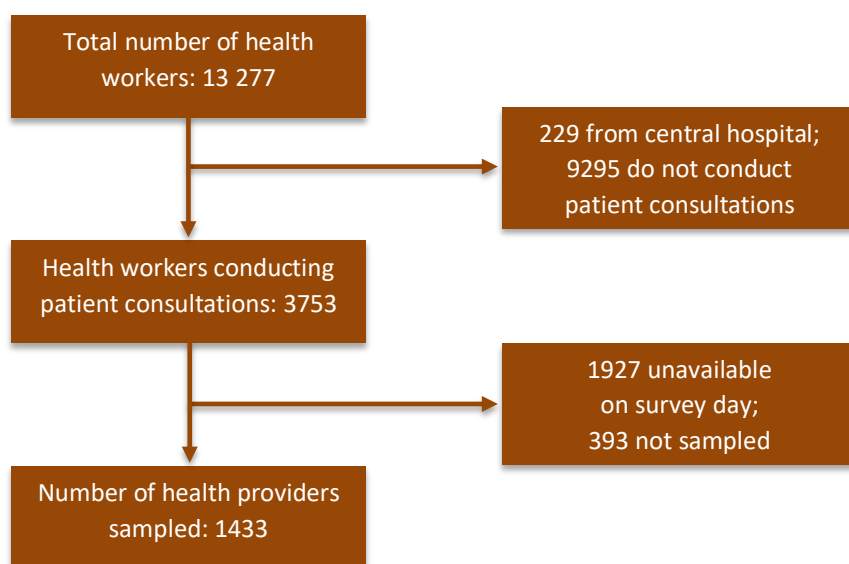
Clinical vignettes

The clinical vignette module collected information on providers' clinical knowledge measured through patient case simulations (PCS, also called "vignettes").¹⁶ The methodology presents several advantages: (a) all respondents are presented with the same case study patients, thus making it easier to compare performance; (b) the method is quick to implement and does not require waiting for patients with particular conditions; (c) it is not intrusive and eschews ethical issues that arise with real patients.

Respondents for the vignettes were a random sample of medical doctors, clinical officers, medical assistants, and nurses (registered nurses and nurse-midwife technicians) who provide outpatient and maternity services. The respondents were from hospitals (excluding central and referral hospitals), health centres, dispensaries, clinics, and health posts. At each facility, the case simulations were presented to up to ten randomly selected health workers who conducted outpatient and maternity consultations at the facility. If there were fewer than 10 health workers who provided clinical care, all the providers were interviewed. A diagram of the process for selecting health care staff for the vignettes is provided below in Figure 2.

¹⁶ Clinical vignettes have been used extensively in the literature to assess clinical quality of care in outpatient settings (Das & Hammer, 2005, 2014). While the gold standard for assessing quality of clinical practice is standardized patients, validation studies show that clinical vignettes are able to detect variation in quality of clinical care and, for relatively simple scenarios, perform similarly to standardized patients methods (Peabody, et al., 2004) (Peabody, Luck, Glassman, Dresselhaus, & Lee, 2000). While there are a number of commonly used methods to measure provider knowledge, each has pros and cons. For the clinical vignette selected here, the most important drawback in the patient case simulations is that the situation is not a real one and that this may bias the results. The direction of this potential bias makes this issue less of a concern—the literature suggests that the direction of the bias is likely to be upward, suggesting that our estimates can be regarded as upper bound estimates of true clinical ability. The patient case simulation approach offers key advantages given the scope and scale of the SDI methodology: (i) a relatively simple ethical approval process is required given that no patients are observed; (ii) There is standardization.

Figure 2. Process for selecting health care staff who were administered the vignettes



For the Malawi HHFA, the clinical vignettes module was comprised of eight different case simulations to evaluate provider knowledge (diagnostic accuracy and treatment accuracy) and adherence to clinical guidelines. Of the eight conditions, three were childhood conditions (malaria with anaemia, diarrhoea with severe dehydration, and pneumonia), two were adult conditions (pulmonary tuberculosis and type 2 diabetes), and one was pregnancy-related (anaemia in pregnancy). Additionally, two conditions were related to management of emergency obstetric and newborn care (postpartum haemorrhage and neonatal asphyxia). Postpartum haemorrhage is the most common cause of maternal death during birth and neonatal asphyxia is the most common cause of neonatal death during birth. The successful diagnosis and management of these eight conditions can avert a large share of newborn, child, and adult mortality and morbidity.

With this methodology, the interviewer presented a clinical scenario to the sampled health provider (respondent). The respondent was expected to conduct a systematic clinical assessment which included eliciting symptoms, observations, physical examination, and tests appropriate for the scenario. Where applicable, when the respondent mentioned a specific component of the clinical assessment, the interviewer provided further information. For example, for a child with diarrhoea, if the respondent mentioned that they would ask the duration of the diarrhoea, the interviewer would mention the period of the illness. Similarly, if the respondent said they would measure the temperature or conduct a specific test, the interviewer would provide the temperature or result of the test as applicable. At the end of the vignette, the respondent was expected to provide a diagnosis, treatment, referral, and health advice for the condition based on their clinical assessment and interviewer feedback. The respondent scored a point if they mentioned a specific relevant component of clinical assessment (based on Malawi Standard Treatment Guidelines¹⁷ and Malawi Obstetrics and Gynaecology Protocols¹⁸) for the scenario without prompting. If the respondent provided the relevant component after prompting, this was recorded separately, and the respondent scores a point. If they did not provide the relevant component at all, they scored zero. The proportion of relevant clinical assessment components mentioned constitutes adherence to clinical guidelines and was measured for all eight conditions. A criterion for correct diagnosis and correct treatment (based on the guidelines above) of the childhood, adult, and pregnancy-related conditions was established and is detailed in Table 31. The respondent scored a point if they mentioned ALL relevant components of the diagnosis or treatment criteria; no score was awarded for mentioning part of the criteria. For maternal and newborn emergency management, the proportion of appropriate recommended actions mentioned was reported for each condition.

¹⁷ Ministry of Health, 2015. Malawi Standard Treatment Guidelines, Fifth edition.

¹⁸ Association of Obstetricians and gynaecologist of Malawi, 2014. Malawi Obstetrics & Gynaecology Protocols, 1st edition.

Facility finances and governance

The facility finances and governance module collected information on revenues, expenditures, inputs and human resource management, governance, and community involvement. The respondents for this module were heads of facilities and accountants and the module was implemented at hospitals only.

Exit interviews

The exit interviews module collected information on choice of the facility by the client, the client's overall experience to access care, components of care and services received by the client, and their feedback and level of satisfaction with the provider, facility and quality of service. Client experience included information on mode and cost of transport and estimated distance covered to access the service, estimated waiting time to be seen by health provider and cost of the health service. Taken all together, the exit interviews collected information on patients' perceived quality of care. Exit interviews were implemented at all health facilities and respondents included pregnant women seeking antenatal care and caregivers of under-five children who received care at the facility on the day of the interview. A maximum of three interviews each for women and under-five caregiver respondents were conducted per facility.

Questionnaire design, integration, and adaptation

The Malawi HHFA questionnaire was based on the standard SARA and SDI questionnaires harmonized into a single questionnaire and then adapted to the local context to reflect the population and health issues relevant to Malawi. During a survey adaptation workshop, inputs were solicited from stakeholders who represented government ministries and agencies as well as development partners including the World Bank (WB), World Health Organization (WHO), and Clinton Health Access Initiative (CHAI). The integrated HHFA questionnaire was translated into Chichewa, the local language. All questionnaire modules were programmed in Survey Solutions software and deployed to tablet computers to facilitate computer-assisted personal interviewing (CAPI) for data collection. Training materials, including a detailed field manual, were developed and reviewed to adapt to the Malawi context prior to implementation of data collection.

Pre-testing

The questionnaire was pre-tested in four selected health centres in Salima district during the field staff training. The pre-testing was done to improve clarity, comprehension, and flow of questions. During the pre-testing exercise, participants were divided into groups according to their expertise and strengths in research experience and skills. After the pre-test, the participants reconvened at the training venue for a feedback session. Each group was asked to present their key observations and findings. Notes were taken by the data managers during the group presentations to capture suggestions and recommendations on areas requiring further revision. Based on the results of the pre-test and feedback from the survey teams, data collection tools were refined and finalized.

2.3 Sampling

The Malawi 2018/2019 HHFA was a census of health facilities and data was collected at all health facilities across the country. The survey utilized the Malawi Master Facility List (MFL), a comprehensive database of all the health facilities in the country containing information identifying each health facility and the type of health services provided, as the sampling frame. The MFL included all primary, secondary, and tertiary health facilities as defined by the MoHP.

To select health service providers at each facility for the absenteeism module as well as for administering the vignettes, a random sampling approach was adopted. A list of all health workers who conducted patient consultations at a health facility was developed; the maximum number for this list was 60 providers. Then, at most 10 health workers were randomly sampled from the list of health workers for the absenteeism assessment. Similarly, at most ten health workers were randomly sampled from the list of health workers for the vignettes. The sample for assessing absenteeism and the sample for administering the vignettes were independent random samples. In facilities where the number of health service providers was less than ten, all health workers who provided patient consultations were included in the sample.

Sampling for the exit interviews was based on a convenience sample of clients who were visiting the health facility at the time of data collection. Data were collected from a maximum of three pregnant women and a maximum of three caregivers of under-five sick children at each facility.

2.4 Recruitment and training of survey teams

A two-phased training approach was implemented to train a total of 103 participants in the survey methodology. The first phase of the training was a two-day trainers of trainers (TOT) which was held on 11–12 October 2018 at the World Bank Lilongwe office. The participants for the TOT included staff from the Ministry of Health and Population (4), World Bank (2), and College of Medicine (2). The aim of the training was to orient and train national level coordinators so they would be prepared to facilitate enumerator and supervisor training. The TOT also served to review and revise the data collection tools based on feedback from participants with health systems expertise.

The second phase of the training was a two-week training for enumerators and supervisors which was held from 29 October to 9 November 2018 in Salima district. A total of 85 enumerators and 10 supervisors participated in the integrated training. The College of Medicine (COM) and the MoHP were both responsible for recruitment of enumerators. The recruitment for enumerators undertaken by COM targeted university graduates trained in health (medical doctors and other health professionals) with prior research experience. The recruitment for enumerators undertaken by MoHP targeted experienced MoHP staff including nurses/midwives with a BSc, clinical officers with diploma in clinical medicine, and assistant statisticians with diploma in statistics.

The training included presentations and discussions, practical demonstrations, role plays, field practice, and homework assignments. The first week of the training was dedicated to orienting interviewers to the questionnaire and getting their feedback. The second week was focused on practical exercises to build skills on how to complete the questionnaire using tablets and culminated with a field practice. The field practice was to ensure that the participants understood the content of the questionnaire as well as how to organise themselves once in the field visiting health facilities.

2.5 Data collection

Data collection for the 2018/2019 HHFA commenced in November 2018 and was concluded in March 2019. The total time for data collection was 60 working days. In order to meet the specified deadline for data collection, the survey team of 85 enumerators and 10 supervisors was organized into 28 teams and assigned facilities according to the health administrative zones in Malawi, namely; Northern Zone, Central Eastern Zone, Central Western Zone, South Eastern Zone, and South Western Zone. Each zone had two supervisors and between 5–7 enumerator teams. Each enumerator team was comprised of 2–4 enumerators (Table 5).

Table 5. Data collection teams

No.	Health administrative zones	Supervisors	Enumerator teams	Enumerators
1	Northern Zone	2	5	15
2	Central Eastern Zone	2	6	20
3	Central Western Zone	2	5	15
4	South Eastern Zone	2	7	20
5	South Western Zone	2	5	15
Total		10	28	85

The MoHP as well as the Christian Health Association of Malawi notified district health officers (DHOs) about the survey and requested them to facilitate the team's visit to each facility. Most DHOs used WhatsApp groups to communicate with the facility in-charges and inform them about the specific date of the (first) visit.

Survey managers were responsible for oversight of the survey implementation while data managers ensured that field teams synchronized all data and that data was of high quality. The field supervisors were responsible for planning health facility visits, assigning and reviewing enumerator questionnaires, quality assurance, spot checks, and supervision visits. Field supervisors conducted 100% data review every day before transmitting the data centrally.

Each team visited a facility twice for data collection: one full day for the first visit and half day for the second visit. The first visit was announced, while the second visit was unannounced. On the first day, modules 1, 2A, 3, 4, and 5 were implemented. On the second day, module 2B (absenteeism) was completed. Facility visits were conducted on working days (i.e. Monday to Friday) and Saturdays.

2.6 Data management, data processing, data analysis, and report writing

Data management during field work

The Malawi HHFA collected data using tablets running with survey Solutions Software,¹⁹ a computer-assisted personal interviewing application. The questionnaire was programmed and uploaded on a server which was hosted in the cloud by the World Bank. Data managers electronically assigned facilities to field supervisors who in turn assigned them to data collectors. Data collectors administered the questionnaire at the facility and were the only individuals authorized to make changes to any individual questionnaire. Once data was collected at a facility, data collectors sent the data to the field supervisor. Field supervisors reviewed the data and either approved it and sent it to the central level data managers or identified issues and returned the data to the data collector to address remaining issues. At the central level, data managers reviewed incoming data on a regular basis throughout data collection. At the end of data collection, the data was exported from the Survey Solutions platform into multiple file formats (SPSS, Stata, Excel) for further data cleaning and analysis.

Data processing

A data cleaning and processing workshop was held from 8 to 12 April 2019 and included participants from COM, MoHP, National Statistics Office (NSO), WB, and WHO. The goal of the workshop was to clean all datasets and produce a set of final datasets for analysis. Data cleaning steps included the following:

- merged data files downloaded from Survey Solutions;
- compared datasets to MFL and ensured all facilities in the sample were surveyed and had the correct facility ID;
- checked for completeness of data for each facility;

¹⁹ <https://mysurvey.solutions/>

- ensured ID variable information was complete and valid (region, district, facility type, managing authority, GPS);
- labelled and coded all variables in Stata to ensure consistency of the final dataset.

At the end of the workshop, five clean, final datasets were produced which were used for the survey analysis.

Data analysis and report writing

Data analysis was guided by the SARA indicators developed by WHO as well as the SDI indicators developed by the WB. All indicators were generated using Stata software (version 14). Tables were generated using a combination of Excel (including the SARA chartbook) and Stata. Maps were generated using ArcMap (version 10.5). All analyses were stratified by region, facility type, managing authority, and urban/rural location. A data validation workshop was held from 23 to 27 September 2019 in order to review the survey results and provide feedback to finalize the analyses. The final report was written with input from staff from national government with the support of development partners. A report writing workshop was held on 4–8 and 18–22 November 2019 to provide inputs to the final report.

Analysis of the Malawi HHFA data observed the following conventions:

- Availability of items: unless otherwise indicated, the Malawi HHFA considered only those items observed by the interviewers themselves to be available. Items that were reported by facility staff members as being available but that the interviewer did not see were not considered available.
- For vignettes, a score of 1 was allocated to the relevant component of clinical assessment or treatment of the condition both before and after prompting. A missing value for the components was considered not asked and allocated no score.
- Weighted results of diagnosis and treatment accuracy and adherence to clinical guidelines are reported for each vignette. Weights were calculated as the inverse probability of a health worker being selected at the health facility. This approach therefore weights observations by facility size as there were generally more health workers eligible for selection at larger health facilities.
- For exit interviews, the estimated travel time to the facility was used in addition to the estimated distance to improve distance estimation. Data collectors were advised on an estimation of distance based on reported travel time by foot (approximately 4–5 km/h).

2.7 Quality assurance

Several internal data quality assurance mechanisms were implemented throughout the survey process. The Malawi HHFA had field supervisors and data managers who dedicated their efforts and time on reviewing submitted data. The data management team was able to approve or reject any data that met or did not meet acceptable levels of quality. Moreover, the HHFA electronic instrument had embedded validation checks and enabling conditions which provided instant quality checks and warnings during data collection.

The Malawi HHFA also underwent an external quality assurance process by an independent team engaged by the Global Fund. The quality assurance team recollected and verified data for 15 health facilities. The reassessment found the per cent agreement between data collectors and the reassessment was 81%, which compares well with results from other countries reassessment and should be considered a good agreement between the two samples of records.

2.8 Limitations and lessons learned

Limitations and lessons learned during the implementation of the HHFA survey were categorized as logistical/operational and methodological, and summarized below:

Logistical/operational

- The survey was conducted during the rainy season and some of the roads to remote health facilities were muddy and difficult to access. In some cases, the bridges were broken making it dangerous or/and impossible to access some health facilities.

- Some of the health services (particularly ANC) were only provided on specific days in some facilities, resulting in a logistical challenge as services were sometimes provided in two separate facilities located far apart on the same day.
- Some health workers were reluctant to be involved in the interviews as they felt it did not directly benefit them. This was particularly common in most nongovernment facilities and caused significant delays and challenges with completing the clinical vignettes.
- Obtaining the required details from all health workers for the staff roster was a challenge, especially for Health Surveillance Assistants who normally work in the communities.
- During the survey we were required to obtain information on staff national IDs. However, Malawi has recently introduced national IDs and almost none of the health workers carried them to work. We therefore struggled to get this information and, in some cases, had to call the interviewed health worker to provide this information later.
- A limited number of ANC exit interviews were conducted in some nongovernment facilities. Clients accessing ANC in nongovernment facilities are required to pay a significant amount of money during their first ANC visit which reduces service utilization at these facilities. As a result, at some non-public facilities, no ANC clients were encountered during the day of the survey.
- Data synchronization was required daily to track progress of enumerators and ensure all assignments were complete.

Methodological

- The integration of the SARA and SDI survey tools provided a comprehensive understanding of quality of care in Malawi which would not have been achieved with either tool alone. However, the harmonization process required technical input and support from experts as well as additional electronic questionnaire programming. These considerations should be accounted for when planning for future HHFAs.
- Performance of health providers may have been influenced by the Hawthorne effect. The Hawthorne effect occurs when respondents, in this case health providers, become aware that they are being assessed (or observed) and therefore change their behaviour. For the providers, this change in behaviour may have ensured that they assessed, diagnosed and managed the condition as appropriately as possible during the vignettes.
- Successful implementation of the clinical vignettes depended on the clinical competence of the person administering the vignette and therefore non-clinician interviewers were disadvantaged. Some of the data collectors had no clinical background and therefore struggled to understand and administer the vignettes appropriately.
- The survey used a structured questionnaire which limited the information which could be collected, especially for client's experience during the exit interviews.
- For the staff roster, there was a limit of 60 health care workers which could be recorded per facility, with priority given to those who provided direct patient services. For facilities with more than 60 health workers, there is likely an underestimate of the total number of health workers. This has the largest impact on calculating caseload. For calculating caseload, out of 655 facilities, 24 facilities (~4% of facilities) had 60 or more employees.
- The exit interview collected client's responses for both objective measures (distance travelled, waiting time, components of care) and subjective measures (perceptions of providers, facility amenities, and quality of care). Some of the objective measures relied on the client's literacy and education level which varied significantly among the clients. Similarly, a degree of subjectivism may have influenced information recorded by data collectors for estimations of objective measures (distance travelled and waiting time) for clients with low literacy level. For the subjective information regarding client experiences, positive answers may have been influenced by response bias. Response bias occurs when a respondent provides inaccurate or false responses (e.g. client wanting to please the interviewer who is also a health worker or is perceived as part of the system). This bias is common when the respondents are not anonymous as was the case during the survey.

3. General service availability: infrastructure, health workforce, and service utilization

Key findings

- Nationally, there is less than one health facility (0.6) per 10 000 population which is below the target of two facilities per 10 000 population. In addition, there are 10 inpatient beds per 10 000 population which is less than half of the required beds to meet the target of 25 inpatient beds per 10 000 population. Furthermore, there are 8.7 maternity beds per 1000 pregnant women which is close to but still below the target of 10 beds per 1000 pregnant women.
- Malawi has 10.4 core health workers per 10 000 population which is less than half the recommended health worker density required to meet the target of 22 health workers per 10 000 population.
- 18% of health workers were found to be absent. Of these absences, 95% were deemed to be sanctioned absences while only 5% of absences were not sanctioned. This is a relatively low level of absenteeism compared to other countries in the region including Kenya, Sierra Leone, and Tanzania where provider absenteeism was 39%, 27%, and 12%, respectively. However, having almost 20% of the health workforce absent on any given day creates a significant challenge for providing timely, efficient, high-quality health services.
- The average national caseload was 40.1 cases per health provider per day and highest in facilities which had 1–2 health workers per facility compared to those with more health workers. This caseload is substantially higher than the caseload seen in other countries in the region including Kenya, Tanzania, and Sierra Leone which were 13, 10 and 8 patients per day, respectively.
- There were 0.8 outpatient visits per person per year which is far below the outpatient service utilization target for of 5 outpatient visits per person per year. Malawi had 4.7 hospital discharges per 100 population per year which is just under half of the recommended hospital discharges to meet the target of 10 hospital discharges per 100 population per year.

General service availability refers to the physical presence of the delivery of services and encompasses three domains of tracer indicators: health infrastructure, core health personnel, and service utilization. Service availability is described by an index using the three areas of tracer indicators. This is made possible by expressing the indicators as a percentage score compared with a target or benchmark, then taking the mean of the area scores. General service availability does not include more complex dimensions of availability such as geographical barriers, travel time, and user behaviour, which require more complex input data. Calculation of the general service availability indicators requires a census of all facilities as these measures require data that link the numerator (e.g. number of facilities) to the denominator (e.g. population size). The HHFA survey collected some of the information required to calculate general service availability, however additional sources were used. The data used for the Malawi general service availability indicators come from the Malawi HHFA except for population estimates which come from the Malawi Health Management Information System (HMIS).

3.1 Health infrastructure

Health infrastructure indicator definitions

There are three indicators that measure the health infrastructure of a country: facility density, inpatient bed density, and maternity bed density. Facility density is primarily an indicator of outpatient service access. Inpatient bed density provides an indicator of inpatient services access. Maternity bed density provides an indicator of access to delivery services. For each of the health infrastructure indicators, density is calculated as the number per population. In addition, targets for each of the health infrastructure indicators were set based on WHO guidelines.

For facility density the target was two facilities per 10 000 population. For inpatient bed density, the target was 25 beds per 10 000 population. The global average is 27 beds per 10 000 population and lower- and upper- middle income countries have 18 and 39 inpatient beds per 10 000 respectively. For the HHFA, an arbitrary benchmark of 25 inpatient beds per 10 000 population was selected. For maternity bed density, the target was 10 maternity beds per 1000 pregnant women. This target was calculated using the assumptions that there should be sufficient beds for all pregnant women with an occupancy rate of 80% (to account for the uneven spread of demand over time) and a mean duration of stay of three days.

Table 6 below shows how the density and scores were calculated for the health infrastructure indicators. Table 38 describes health facility, inpatient bed, and maternity bed density indicators at the district level.

Table 6. Health infrastructure density and score calculations

Domain	Indicator	Target	Score (%) (n/target, maximum 100)	
Health infrastructure				
a	Facility density	Number per 10 000 population (n)	2	$n/2 \times 100$
b	Inpatient bed density	Number per 10 000 population (n)	25	$n/25 \times 100$
c	Maternity bed density	Number per 1000 pregnant women (n)	10	$n/10 \times 100$

Facility density

Facility density was defined as the number of health facilities per 10 000 population. Facility density scores were calculated as the number of health facilities per 10 000 divided by the HHFA benchmark of 2, multiplied by 100. Figure 3 shows the health facility density in Malawi by district.

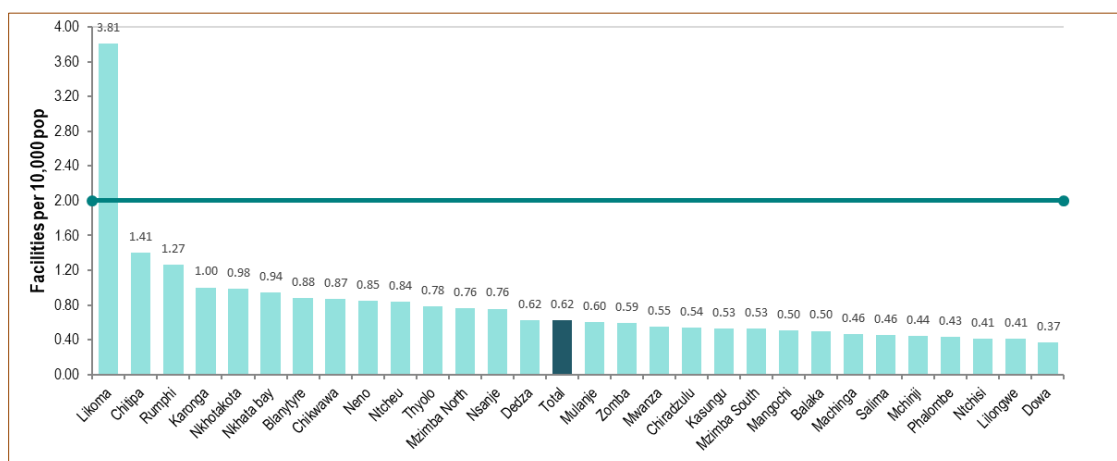
In Malawi nationally, there is less than one health facility per 10 000 population.

The country, on average, is 31% of the way towards achieving the facility density target of two health facilities per 10 000 population.

Of the 29 districts in Malawi, only one district (Likoma) met the target of two health facilities per 10 000 population.

- Likoma district has the greatest health facility density at 3.81 health facilities per 10 000 population and Dowa district has the lowest health facility density at 0.37 health facilities per 10 000 population.

Figure 3. Health facility density per 10 000 population (target=2), Malawi 2018/2019



Delivery of health services

The number of days per week health facilities are open and the number of hours per day they operate were key indicators for measuring health service delivery. The HHFA survey found that health facilities were open on average

of 6.1 days per week (Table 7). It is important to note that this is self-reported by the facility in-charge and was not verified through direct observation. At regional level, there was almost no difference in the number of days health facilities were open per week (northern and central region – 6.0 days, and southern region – 6.1 days). Hospitals were open 6.7 days a week, while health centres were open 6.2 days per week. Health posts had fewer opening days per week (4.1 days). Private for-profit and CHAM facilities had a greater number of days that health facilities were open (both 6.4 days) as compared to government health facilities (5.8 days). Urban facilities were open more often than rural facilities (6.3 days versus 5.9 days per week, respectively).

Table 7 also shows that health facilities on average were open for 13.4 hours a day on average for outpatient consultations. In the northern region of Malawi, health facilities were open for less hours per day (11.6 hours) as compared to the central and southern regions (13.7 hours and 13.8 hours, respectively). Hospitals were open on average 19.0 hours per day and health centres were open on average 14.9 hours per day. CHAM facilities had more opening hours (16.1 hours), compared to government facilities (13.6 hours). Urban facilities were open on average 13.5 hours a day, whereas rural facilities were open on average 13.3 hours a day.

Table 7. Days and hours of service delivery by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Mean number of days per week facility is open	Number of facilities	Mean number of hours per day facility is open	Number of facilities*
Region				
North	6.0	208	11.6	202
Centre	6.0	399	13.7	382
South	6.1	499	13.8	450
Facility type				
Hospital	6.7	101	19.0	98
Health centre	6.2	492	14.9	472
Dispensary	5.6	62	10.3	56
Clinic	6.3	355	11.2	318
Health post	4.1	96	8.5	90
Managing authority				
Government	5.8	575	13.6	542
CHAM	6.4	165	16.1	161
Private for-profit	6.4	250	12.2	228
Private non-profit	5.9	63	11.1	54
NGO	6.0	53	10.1	49
Urban/rural				
Rural	5.9	760	13.3	744
Urban	6.3	346	13.5	286
Malawi	6.1	1,106	13.4	1,034

*72 facilities were excluded from the analysis as they reported number of hours per day of more than 24 hours.

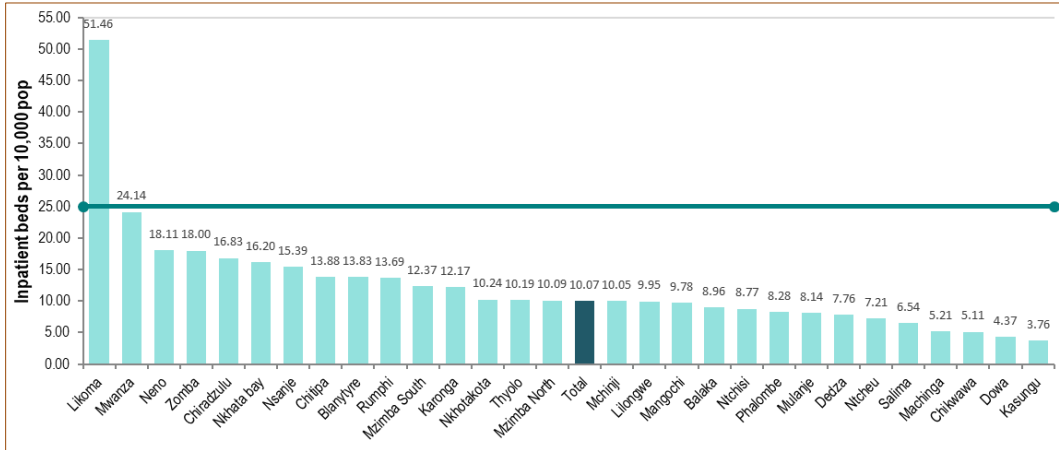
Inpatient bed density

Inpatient bed density was defined as the number of inpatient beds per 10 000 population. Inpatient bed density scores were calculated as the number of inpatient beds per 10 000 divided by the HHFA benchmark of 25, multiplied by 100. Figure 4 shows the inpatient bed density in Malawi by district.

- In Malawi nationally, there are 10.07 inpatient beds per 10 000 population.
- The country, on average, is 40% of the way towards achieving the inpatient bed density target of 25 inpatient beds per 10 000 population.

- Of the 29 districts in Malawi, only one district (Likoma) met the target of 25 inpatient beds per 10 000 population.
- Likoma district has the greatest inpatient beds density at 51.46 inpatient beds per 10 000 population and Kasungu district has the lowest inpatient beds density at 3.76 inpatient beds per 10 000 population.

Figure 4. Inpatient bed density per 10 000 population (target=25), Malawi 2018/2019

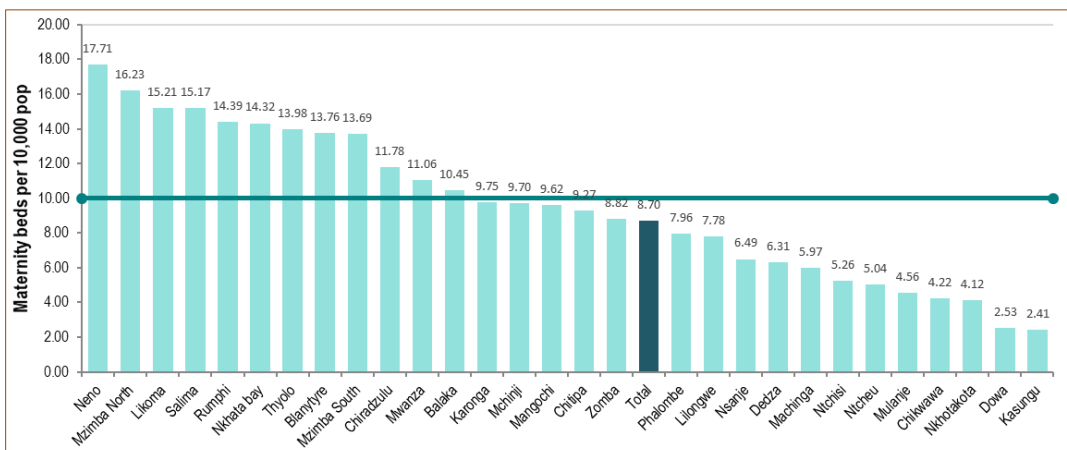


Maternity bed density

Maternity bed density calculations assumed there should be sufficient beds for all pregnant women with an occupancy of 80% and a mean duration of stay of three days. Maternity bed density scores were calculated as the number of maternity beds per 1000 pregnant women divided by the target of 10 beds per 1000 pregnant women, multiplied by 100. Figure 5 shows the maternity bed density in Malawi by district.

- In Malawi nationally, there are 8.70 maternity beds per 1000 pregnant women.
- The country, on average, is 87% of the way towards achieving the maternity bed density target of 10 maternity beds per 1000 pregnant women.
- Of the 29 districts in Malawi, 12 districts met the target of at least 10 maternity beds per 1000 pregnant women.
- Neno district has the greatest maternity beds density at 17.71 51.46 maternity beds per 1000 pregnant women and Kasungu district has the lowest inpatient beds density at 2.41 maternity beds per 1000 pregnant women.

Figure 5. Maternity bed density per 1000 pregnant women (target=10), Malawi 2018/2019



3.2 Health workforce

Effective delivery of health services requires skilled personnel in adequate numbers. This includes doctors, clinical officers, nurses, pharmacists, laboratory personnel, and specialists at different levels of care. In addition to health

care providers, other supportive staff cadres including managerial staff, records officers, and cleaners are required for efficient service delivery. Understanding health workforce availability is therefore critical in planning for resource allocation, expansion of human resource capacity, and identifying gaps.

Health workforce indicator definitions

The health workforce domain was comprised of a single indicator: core health workforce density. Core health workforce density was based on the availability of the following core health care providers: generalist medical doctors, specialist medical doctors, non-physician clinicians, nursing professionals, and midwifery professionals. For the health workforce indicator, density was calculated as the number of core health personnel per 10 000 population. In addition, a target for the health workforce indicator was set based on WHO guidelines. For core health workforce density, the target was 23 health workers per 10 000 population. Table 8 below shows how the density and scores were calculated for the health infrastructure indicators. Table 39 describes health workforce density per 10 000 population by district.

Table 8. Health workforce density and score calculations

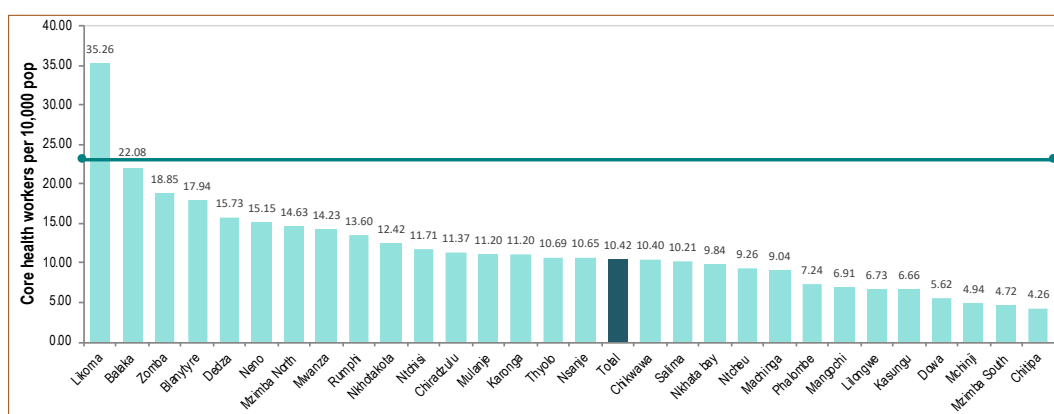
Domain	Indicator	Target	Score (%) (n/target, maximum 100)
Health workforce			
D	Core health workforce density	Number per 10 000 population (n)	23
			$n/23 \times 100$

Health workforce density

Figure 6 shows the health workforce density in Malawi by district.

- In Malawi nationally, there are 10.42 core health workers per 10 000 population.
- The country, on average, is 45% of the way towards achieving the health worker density target of 23 health workers per 10 000 population.
- Of the 29 districts in Malawi, only one district (Likoma) met the target of 23 health workers per 10 000 population.
- Likoma district has the greatest health worker density at 35.26 health workers per 10 000 population and Chitipa district has the lowest health worker density at 4.26 health workers per 10 000 population.

Figure 6. Health workforce density per 10 000 population (target=23), Malawi 2018/2019



Health workforce characteristics

The health workforce categories presented here refer to the following: clinical staff (medical, dental, and physiotherapy personnel); auxiliary staff (pharmacy, laboratory and radiology personnel); and preventive services staff (environmental health officers, nutrition officers, and health surveillance assistants). Table 40 summarizes the characteristics of the health workforce in Malawi including age, gender, highest level of education, agency responsible for paying salary, and the types of consultations conducted.

- A total of 11 722 health workers nationally were recorded using the staff roster tool. Of the 11 722 health workers, 21% were clinical staff, 31% were nurses and midwives, 5% were auxiliary staff, and 43% were preventative services staff.
- At the national level, most health workers (59%) have an education level above secondary school. Slightly more than half of all health workers in Malawi are male (56%) and the average health worker age is 37 years. In addition, government is responsible for paying 79% of health worker salaries.
- Most health workers²⁰ (67%) did not conduct any patient consultations while 16% of health workers provided only outpatient consultations, 1% of health workers provided only inpatient consultations, and 16% of health workers provided both inpatient and outpatient consultations. Notably, most nurses and midwives (69%) did not conduct patient consultations compared to 8% of clinical staff who did not provide patient consultations. Most clinical staff provided either outpatient only (46%) or both inpatient and outpatient consultations (45%) as compared to nurses and midwives where 11% provided outpatient consultations only and 17% provided both outpatient and inpatient consultations. The 6% of auxiliary staff who provided outpatient consultation were likely health surveillance assistants who implement community case management of common childhood illnesses.
- More urban health workers (24%) provided both inpatient and outpatient consultations than rural health workers (12%). In addition, almost two-thirds of rural health workers (72%) did not conduct any consultations as compared to only 58% of urban health care workers. The high proportion of rural health workers not providing any patient consultations highlights the shortage of health workers providing direct health care in rural health facilities.
- There was a notable disparity in the education level of health workers between rural and urban health facilities and by region. More urban health workers (85%) had an education level above secondary school compared to rural health workers (47%). In addition, the Northern region had more health workers with a higher education (74%) compared to the Central and Southern regions (60% and 55%, respectively). Hospitals had the highest percentage of health workers with a higher level of education (91%) compared to other types of health facilities (health centres, dispensaries, clinics, and health posts). Private for-profit health facilities had a high percentage of health workers with a higher level of education of 92%.
- Most clinical staff were male (73%) while most nurses or midwives were female (68%). More health workers in rural health facilities were male (60%) and slightly more health workers in urban areas were female (53%). Health posts had more male health workers (70%) and the highest health worker mean age (41 years) as compared to other facility types.

3.3 Provider absenteeism

Patients should have the confidence to find a provider when seeking services at a health facility as this significantly affects their health care seeking behaviour. Moreover, absenteeism in public facilities reflects an inefficient use of public resources. Table 9 below presents the absenteeism rate of health workers in Malawi by region, facility type, managing authority, urban/rural, and health worker cadre.

²⁰ It is important to note that there was a limit to the number of health workers which could be recorded per facility which may have a small impact on these results. At each facility, only 60 health workers (HCW) could be recorded into the data collection tool. Priority was given to HCWs who provided direct patient care first (i.e. clinical staff, nurses and midwives).

- In Malawi, 18% health workers who conducted inpatient or outpatient consultations were found to be absent on the second unannounced visit during the survey. This is a relatively low level of absenteeism compared to other countries in the region including Kenya, Sierra Leone, and Tanzania where provider absenteeism was 39%, 27%, and 12% respectively.²¹ However, having almost 20% of the health workforce absent on any given day creates a significant challenge for providing timely, efficient, high-quality health services.
- The Northern region had a provider absenteeism rate of 22%, whereas, the central and southern regions had absenteeism rates of 20% and 15% respectively.
- Doctors had the highest absenteeism rate (27%) compared to nurses (16%), clinical officers (16%), and medical assistants (16%).
- Hospitals had the highest provider absenteeism rate of 28% compared to other facility types (health centres, dispensaries and clinics). Interestingly, health posts did not have any health workers absent.
- CHAM health facilities had the highest provider absenteeism rate, 26%, compared to government facilities at 23%. The NGO absenteeism rate was higher (8%) than private for-profit (6%) and private non-profit (3%) facilities.
- The absenteeism rate at rural facilities was higher than in urban facilities (20% versus 16%, respectively).

Table 9. Provider absenteeism rate by region, facility type, managing authority, urban vs. rural location, and provider cadre (N=1264), Malawi 2018/2019

	Absenteeism rate (%)	Number of providers*
Region		
North	22%	236
Centre	20%	490
South	15%	538
Facility type		
Hospital	28%	291
Health centre	24%	552
Dispensary	7%	55
Clinic	4%	360
Health post	0%	6
Managing authority		
Government	23%	656
CHAM	26%	235
Private for-profit	6%	243
Private non-profit	3%	64
NGO	8%	66
Urban/rural		
Rural	20%	819
Urban	16%	445
Provider cadre		
Doctor	27%	63
Nurse	16%	570
Clinical officer	16%	304
Medical assistant	23%	327
Malawi	18%	1264

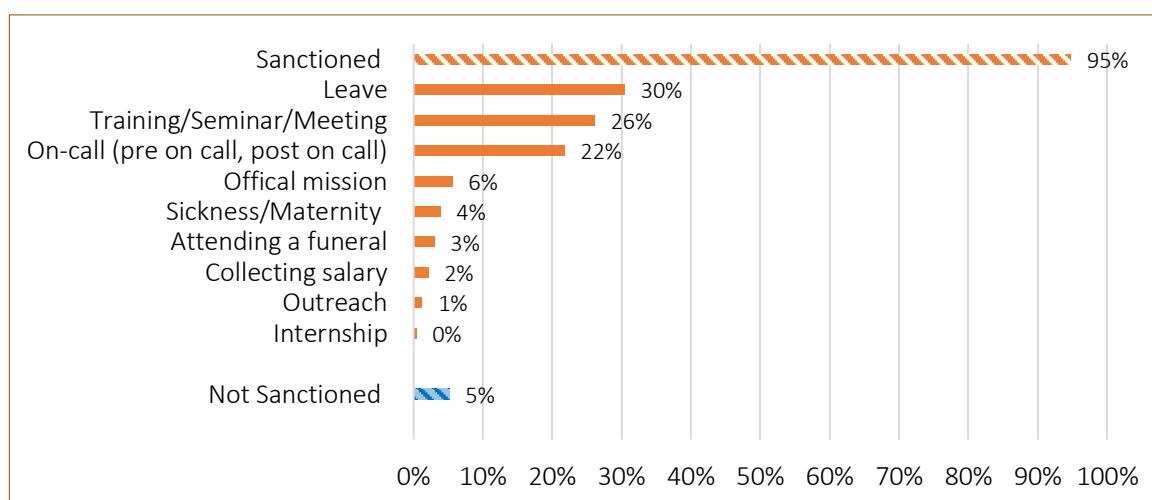
* Data on presence at the facility was missing for a total of 193 health workers.

Reasons for absenteeism were categorized as sanctioned and not sanctioned. Sanctioned reasons for absenteeism included leave, training/seminar/meeting, on-call, and outreach. Figure 7 presents reasons for absenteeism.

- Nationally, the absence of 95% of providers was sanctioned while only 5% of absences were not sanctioned.
- The main reasons for sanctioned absence were annual leave (30%), attending a training/seminar/meeting (26%), and on-call (22%).

²¹ These results are based on a forthcoming multicountry SDI comparative analysis conducted by the World Bank.

Figure 7. Reasons for health care provider absence (N=230), Malawi 2018/2019



3.4 Provider caseload

Caseload was defined as the average number of outpatient consultations conducted by a health provider per day. The caseload indicator was calculated as the number of outpatient visits (recorded in outpatient registry) in the three months preceding the survey, divided by the product of the number of days the facility was open during the three-month period and the total number of health workers who conduct outpatient consultations. The health workers were restricted to medical doctors, clinical officer, medical assistants, and nurses (registered and nurse midwife technicians); only providers doing outpatient consultations were included in the denominator. The term caseload acknowledges the fact that the full workload of a health provider includes work that is not captured in the numerator, notably administrative work and other non-clinical activities.

Table 10 shows results on caseload per clinician²² by region, facility type, managing authority, urban vs. rural location, and provider cadre.

- In Malawi nationally, the mean caseload is 40.1 outpatient department (OPD) cases per provider per day. This caseload is substantially higher than the caseload seen in other countries in the region including Kenya, Tanzania, and Sierra Leone which were 13, 10 and 8 patients per day, respectively.²³
- The mean caseload is highest in the Central region (45.7) followed by the Southern region (37.7) and lowest in the Northern region (34.6)
- Caseload is highest for a health post (73.3) and lowest for a hospital (18.9).
- Government health facilities had the highest caseload (50.1) with the lowest caseload being observed in CHAM health facilities (16.5).
- Higher caseloads were observed at rural health facilities (43.3) as compared to urban health facilities (23.6).

²² Note: There may be an overestimation of caseload for large facilities with more than 60 health workers as the data collection tool was limited to a maximum of 60 health workers. Out of the 655 facilities included in the caseload analysis, 24 facilities (~4% of facilities) had 60 or more employees.

²³ These results are based on a forthcoming multicountry SDI comparative analysis conducted by the World Bank.

Table 10. Caseload per clinician by region, facility type, managing authority, urban vs. rural location, and provider cadre (N=655), Malawi 2018/2019

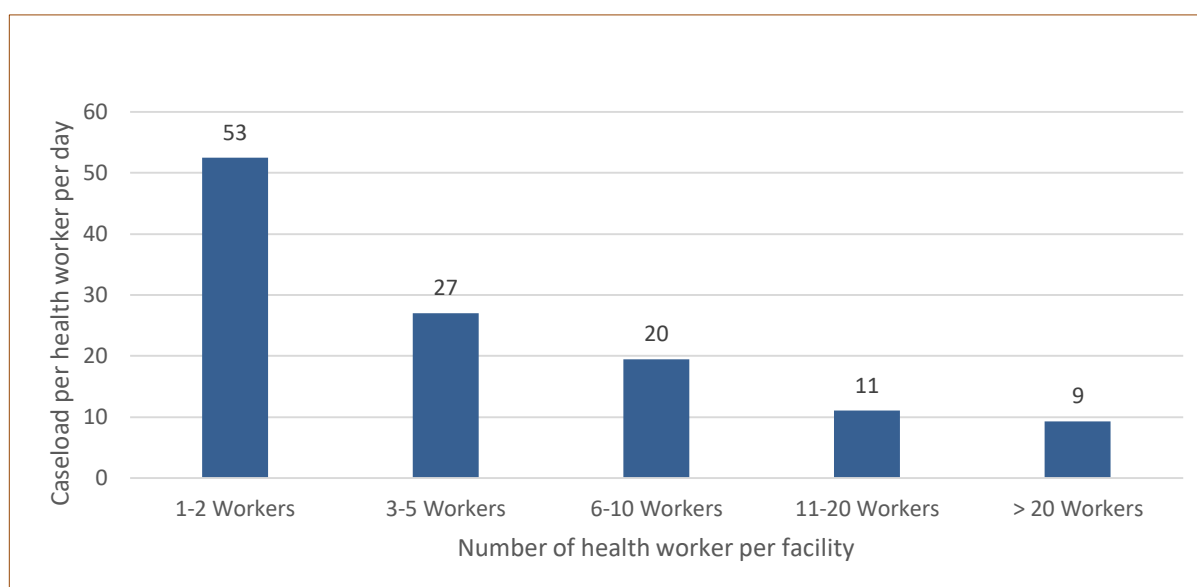
	Mean OPD visits per provider per day	Number of facilities*
Region		
North	34.6	124
Centre	45.7	244
South	37.7	288
Facility type		
Hospital	18.9	94
Health centre	43.8	464
Dispensary	59.8	37
Clinic	27.2	53
Health post	73.3	7
Managing authority		
Government	50.1	439
CHAM	16.5	149
Private for-profit	21.9	33
Private non-profit	32.8	25
NGO	30.1	9
Urban/rural		
Rural	43.3	549
Urban	23.6	106
Facility size		
1–2 workers	52.5	390
3–5 workers	27.0	152
6–10 workers	19.5	59
11–20 workers	11.0	27
> 20 workers	9.3	27
Malawi	40.1	655

* Of the 1106 facilities assessed in the Malawi HHFA, 160 were excluded from this analysis because there were no staff qualified to deliver outpatient services and 291 facilities were excluded as there was no OPD data available.

The caseload was further analysed by the size of the facility. The size of the facility was defined based on the number of health workers conducting OPD consultations (1–2 workers, 3–5 workers, 6–10 workers, 11–20 workers, >20 workers) (Figure 8). Health facilities that had 1–2 health workers conducting OPD consultations had the highest caseload (53 cases per provider per day).

- Health facilities that had more than 20 health workers had the lowest caseload (9 cases per provider per day).
- There is a clear and decreasing trend of caseload as the size of the health facility, and therefore number of health workers, increases. One important note is that as facility complexity/size increases, the number of inpatient visits also increases which may shift caseload towards inpatient visits rather than outpatient visits; this is not adjusted for in the caseload analysis.

Figure 8. Caseload per health worker per day by health facility size (N=655), Malawi 2018/2019



3.5 Service utilization

Service utilization examines how health facility services, both outpatient and inpatient, are utilized by the target population in a given year. Service utilization assessment was based on examining the patterns of utilization across types of services and classes of facilities.

Service utilization indicator definitions

There are two indicators that measure the service utilization of a country: outpatient service utilization and inpatient service utilization. Outpatient service utilization was measured as the number of outpatient visits for ambulant care per capita per year and provided additional information on the availability of and access to outpatient services. Inpatient service utilization was measured as the number of hospital discharges per 100 population per year and provided additional information on the availability of and access to inpatient services. For each of the service utilization indicators, density was calculated as the number per population. In addition, targets for each of the service utilization indicators have were set based on WHO guidelines. For outpatient service utilization, the target was five visits per person per year. This target was set based on the knowledge that in countries of the Organization for Economic Co-operation and Development (OECD), the average number of physician consultations per person per year is about six. For inpatient service utilization, the target was 10 discharges per 100 people per year. This target was set based on the knowledge that in OECD countries, which have an ageing population, there are about 15 discharges per 100 population per year. Table 11 below shows how the density and scores were calculated for the service utilization indicators. In the Malawi HHFA, the number of outpatient visits and inpatient visits for the months August, September, and October 2018 were collected from each facility. The total number of outpatient visits and inpatient visits across the four months was multiplied by 4 to get an estimate of the total number of outpatient visits and inpatient visits in a year respectively. Table 41 describes service utilization (outpatient visits and hospital discharges) by district.

Table 11. Service utilization density and score calculations

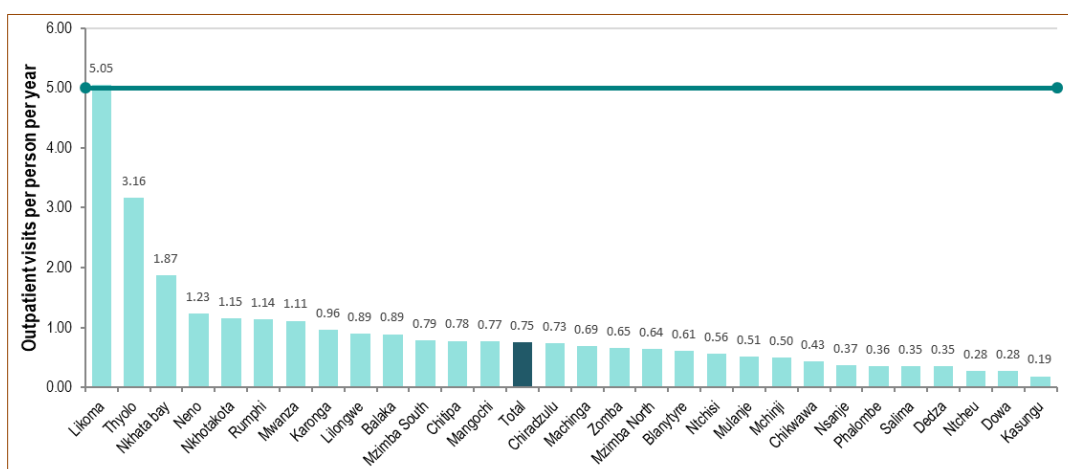
Domain		Indicator	Target	Score (%) (n/target, maximum 100)
Service utilization				
E	Outpatient service utilization	Outpatient visits per person per year (n)	5	$n/5 \times 100$
F	Inpatient service utilization	Hospital discharges per 100 per year (n)	10	$n/10 \times 100$

Outpatient service utilization

The outpatient service utilization target was five outpatient visits per person per year. Figure 9 shows the outpatient service utilization Malawi by district.

- In Malawi nationally, there are 0.75 outpatient visits per person per year.
- The country, on average, is 15% of the way towards achieving the outpatient service utilization target of five outpatient visits per person per year.
- Of the 29 districts in Malawi, only one district (Likoma) met the target of five outpatient visits per person per year.
- Likoma district has the greatest outpatient service utilization at 5.05 outpatient visits per person per year and Kasungu district has the lowest outpatient service utilization at 0.19 outpatient visits per person per year.

Figure 9. Number of outpatient visits per person per year (target=5), Malawi 2018/2019

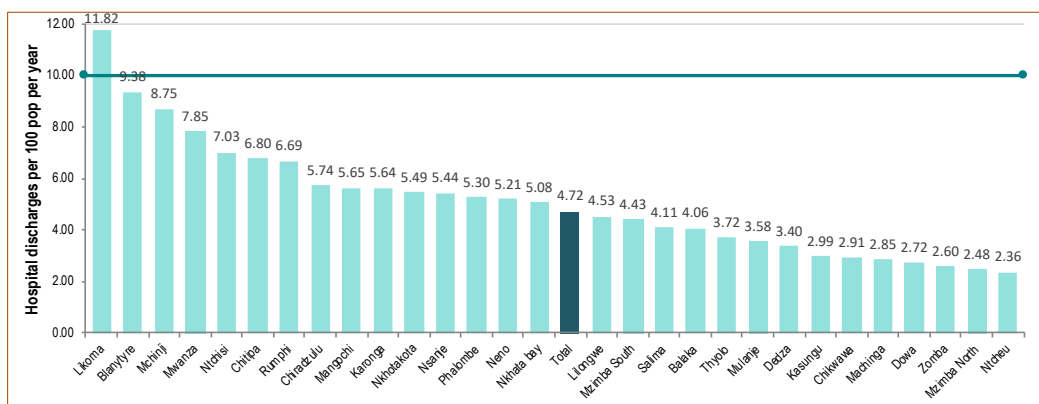


Inpatient service utilization

The inpatient service target was 10 hospital discharges per 100 population per year. Figure 10 shows the inpatient service utilization in Malawi by district.

- In Malawi nationally, there are 4.72 hospital discharges per 100 population per year.
- The country, on average, is 47% of the way to achieving the target of 10 hospital discharges per 100 population per year.
- Of the 29 districts in Malawi, only one districts (Likoma) met the target of 10 hospital discharges per 100 population per year.
- Likoma district has the greatest inpatient service utilization at 11.82 hospital discharges per 100 population per year and Ntcheu district has the lowest inpatient service utilization at 2.36 hospital discharges per 100 population per year.

Figure 10. Number of hospital discharges per 100 population per year (target=10), Malawi 2018/2019



3.6 SARA service availability index

The service availability index was calculated using the six service availability indicators: facility density, inpatient bed density, maternity bed density, health workforce density, outpatient service utilization, and inpatient service utilization. The service availability index is the unweighted average of the three areas: infrastructure, health workforce, and utilization and is represented as a percentage score. Table 12 shows how the domain indices and overall service availability index are calculated.

Table 12. Service availability index calculations

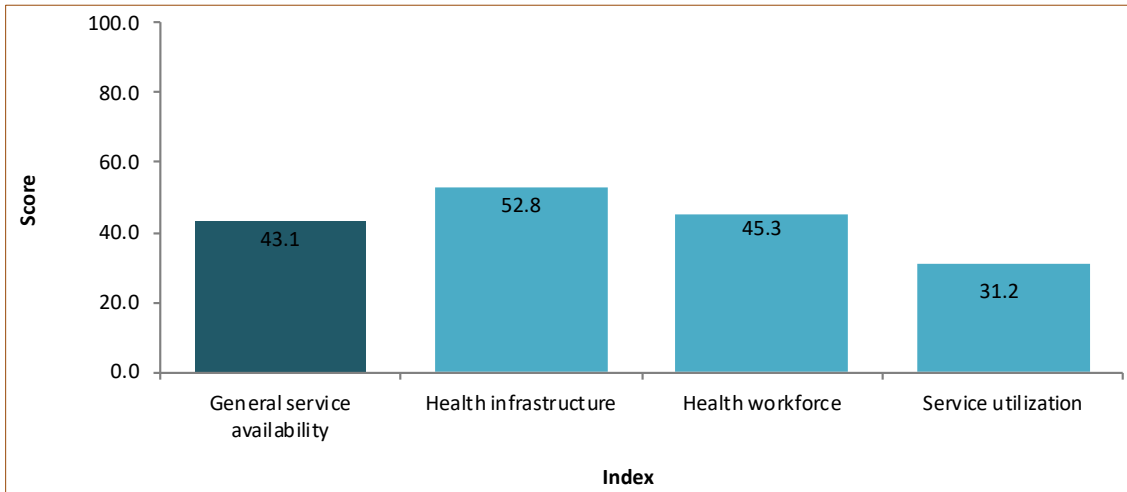
Index	Indicator	Target	Score
Service utilization			
Health infrastructure index	Average score of the three indicators: facility density, inpatient bed density, maternity bed density	100	$(a + b + c)/3$
Health workforce index	Core health worker density	100	D
Service utilization index	Average score of the two indicators: outpatient visits, hospital discharges	100	$(e + f)/2$
Service availability index	Unweighted average of the three areas: infrastructure, workforce, and utilization	100	$(((a + b + c) / 3) + d + ((e + f) / 2)) / 3$

Service availability index

Figure 11 shows the service availability index for in Malawi and Table 42 describes general service availability index by district.

- On average, Malawi is 52.8%, of the way toward achieving health infrastructure targets, 45.3% of the way toward achieving health workforce targets, and 31.2% of the way towards achieving service utilization targets.
- Out of the 29 districts in Malawi, only one district (Likoma) has reached health infrastructure targets, health workforce targets, service utilization targets, and overall service availability targets. Likoma district is quite different from all other districts in Malawi as it is comprised of two islands and has a relatively small population. Likoma’s high general service availability performance relative to other districts may be related to its unique geographic composition.

Figure 11. Service availability indices, Malawi 2018/2019



4. General service readiness

Key findings

- General service readiness refers to the overall capacity of health facilities and health care workers to provide minimum quality health service and is measured across the following domains: basic amenities, basic equipment, standard precautions for infection prevention, diagnostic capacity, and essential medicines.
- Basic amenities include power, improved water source, room with privacy, adequate sanitation facilities, communication equipment, access to computer with internet, and emergency transportation. On average, facilities had 64% of the items of basic amenities items and 8% of facilities had all basic amenities items.
- Assessment of the availability of basic equipment was based on the presence of the following items: adult weighing scale, child weighing scale, thermometer, stethoscope, blood pressure apparatus, and light source. On average, facilities had 75% of basic equipment items available and 31% of facilities had all basic equipment items.
- Assessment of the availability of standard precautions for infection prevention was based on the presence of the following items: safe disposal of sharps, safe disposal of infectious wastes, appropriate storage of sharps wastes, appropriate storage of infectious waste, disinfectant, disposable or auto-destruct syringes, soap and water or alcohol-based hand rub, latex gloves, and guidelines on standard precautions. On average, facilities had 76% of standard precautions items available and 22% of facilities had all standard precautions for infection prevention items.
- Diagnostic capacity includes the ability to conduct the following tests: haemoglobin, blood glucose, malaria diagnostic capacity, urine dipstick – protein, urine dipstick – glucose, HIV diagnostic capacity, syphilis rapid test, and urine test for pregnancy. On average, facilities were able to perform 47% of the basic diagnostic tests and 6% of facilities had the capacity to conduct all basic diagnostic tests.
- Assessment of the availability of essential medicines was based on the presence of 24 essential medicines (amitriptyline tablet, amlodipine tablet or alternative calcium channel blocker, amoxicillin syrup/amlodipine tablet or alternative calcium channel blocker, amoxicillin syrup/suspension/dispersible tablet, amoxicillin tablet, ampicillin injection, aspirin cap/tab, beclomethasone inhaler, beta blocker, carbamazepine tablet, ceftriaxone injection, enalapril tablet or alternative ace inhibitor, fluoxetine tablet, gentamicin injection, glibenclamide tablet, haloperidol tablet, insulin regular injection, magnesium sulphate injectable, metformin tablet, omeprazole tablet or alternative, oral rehydration solution, oxytocin injection, salbutamol inhaler, simvastatin tablet or other statin, thiazide, and zinc sulphate tablet or syrup). On average, facilities had 38% of the essential medicines and no facilities had all 24 essential medicines.

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 such as basic infrastructure and amenities, basic equipment, standard precautions for infection control, laboratory tests, and medicines and commodities. This includes information on:

- **Basic amenities:** Power, improved water source, room with privacy, adequate sanitation facilities, communication equipment, access to computer with internet, emergency transportation.
- **Basic equipment:** Blood pressure machine and cuff, stethoscope, adult scale, child scale, thermometer, light source.
- **Standard precautions for infection prevention:** Safe disposal of sharps and infectious wastes, sharps box, waste receptacle, disposable syringes, disinfectant, hand-washing soap, alcohol-based hand rub, latex gloves, guidelines.
- **Diagnostic capacity:** HIV rapid diagnostic test (RDT), haemoglobin, malaria RDT or smear, blood glucose, syphilis RDT, urine pregnancy test, urine dipstick.

- **Essential medicines:** 24 essential medicines (amlodipine tablet or alternative calcium channel blocker, amoxicillin syrup/suspension/dispersible tablet, amoxicillin tablet, ampicillin injection, aspirin cap/tab, beclomethasone inhaler, beta blocker, carbamazepine tablet, ceftriaxone injection, enalapril tablet or alternative ace inhibitor, fluoxetine tablet, gentamicin injection, glibenclamide tablet, haloperidol tablet, insulin regular injection, magnesium sulphate injectable, metformin tablet, omeprazole tablet or alternative, oral rehydration solution, oxytocin injection, salbutamol inhaler, simvastatin tablet or other statin, thiazide, zinc sulphate tablet or syrup).

Details of the indicators and their definitions can be found in Measuring Service Availability and Readiness: Service Readiness Indicators.²⁴

4.1 Basic amenities

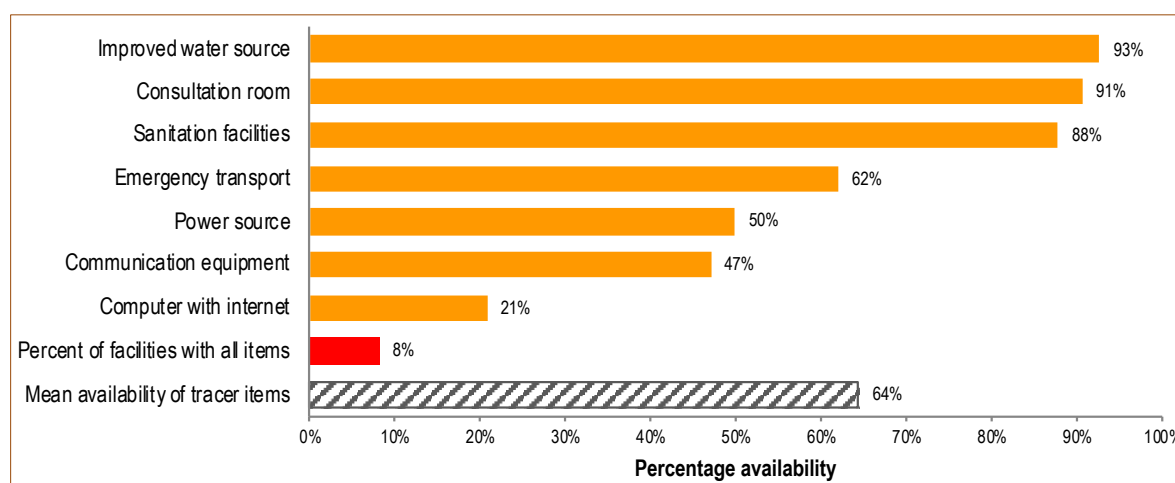
Sufficient physical infrastructure and the availability of basic amenities are necessary for delivering quality services and for an effective and functional health care delivery system. Service readiness for basic amenities was assessed based on the availability of the following tracer items:

- Sanitation facilities
- Communication equipment
- Consultation room
- Improved water source
- Power supply (grid, generator, or solar)
- Emergency transportation
- Computer with internet access.

Figure 12 shows the availability of basic amenities and infrastructure at health facilities in the country.

- Only 8% of facilities had all seven basic amenities tracer items.
- Most facilities had access to an improved water source (93%), consultation room (91%), and sanitation facilities (88%).
- Slightly above half of facilities had emergency transport (62%) and a power source (50%).
- Less than half of facilities had communication equipment (47%) and a computer with internet (21%) available.

Figure 12. Percentage of facilities with basic amenities items available (N=1106), Malawi 2018/2019



²⁴ World Health Organization, "Service Availability and Readiness Assessment (SARA): an annual monitoring system for service delivery," Geneva, Switzerland, 2015. [Online]. Available: http://www.who.int/entity/healthinfo/systems/sara_reference_manual/en/index.html

Table 43 shows the availability of basic amenities tracer items by region, facility type, managing authority, and urban vs. rural location.

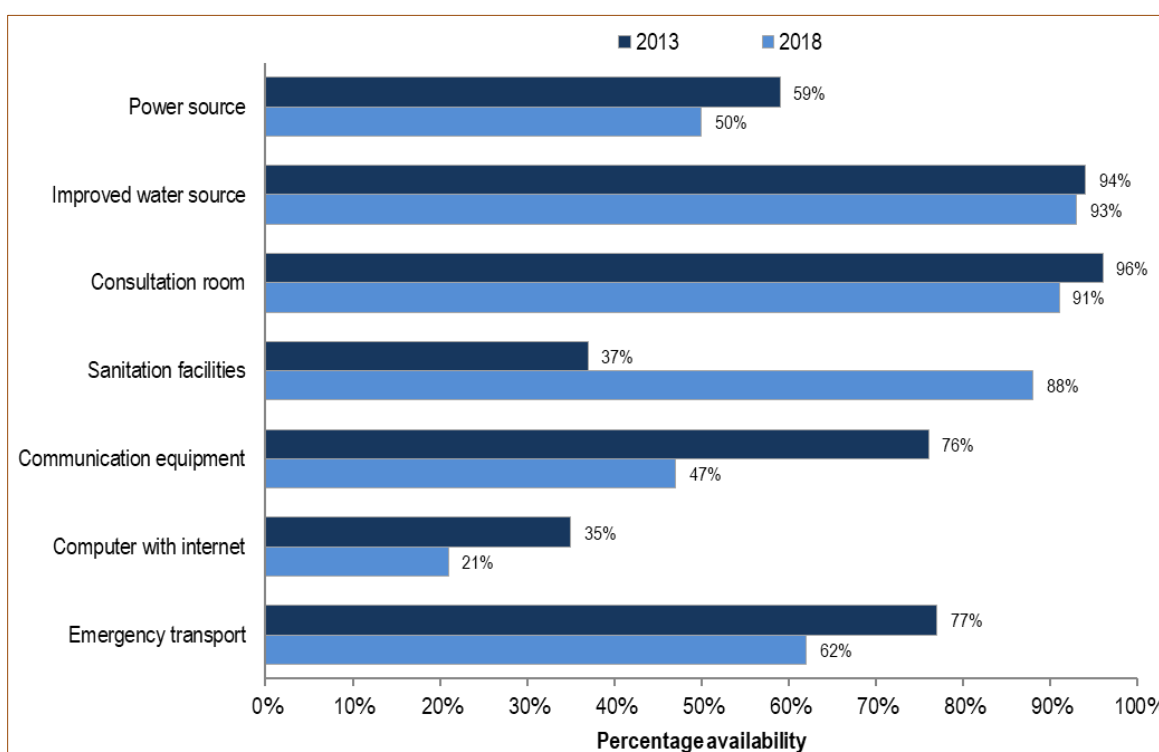
- Within Malawi, facilities in the Northern, Central, and Southern regions had the same mean availability of basic amenities tracer items (64%).
- Hospitals were found to be better equipped than other facility types for six of the seven basic amenities items, including an improved water source, sanitation facilities, and emergency transport. However, only 28% of hospitals reported having all seven basic amenities items.
- No health post or dispensary facility had all seven basic amenities items.
- Availability of basic amenities items was greatest among private non-profit and NGO facilities for most items. Eighty-one per cent (81%) of private non-profit facilities had access to a power source compared to 41% of Government facilities. Seventy-five per cent (75%) of NGO facilities had access to computer equipment compared to 35% of government facilities.
- On average, 73% of the basic amenities were available among urban facilities, while only 61% were available in rural facilities.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of basic amenities

Figure 13 compares the availability of basic amenities items at health facilities in 2013 and 2018.

- Generally, six of the seven basic amenities items were available at a greater percentage of facilities in 2013 compared to 2018.
- In 2013, 77% of facilities had emergency transport available compared to 62% of facilities in 2018/2019. Facilities also had greater availability of communications equipment in 2013 (76%) compared to 2018/2019 (47%).
- Availability of improved water sources and consultation rooms were almost the same in 2013 and 2018/2019.
- However, the availability of sanitation facilities increased to 88% of facilities in 2018/2019 from 37% of facilities in 2013.

Figure 13. Percentage of facilities with basic amenities items available, 2013 (N=977), 2018/2019 (N=1106)



4.2 Basic equipment

Delivery of quality health services requires availability of functioning basic equipment. The WHO has proposed a list of basic pieces of equipment that should be available at a health facility to guarantee its readiness to deliver basic health services. Service readiness for basic equipment was assessed based on the availability of the following tracer items:

- Adult weighing scale
- Child weighing scale
- Thermometer
- Stethoscope
- Blood pressure apparatus
- Light source.

Figure 14 shows the availability of basic equipment tracer items at health facilities in the country.

- On average, facilities had 4–5 of the 6 items, for an overall basic equipment readiness score of 75 out of 100.
- The most commonly available items were an adult weighing scale (86%), thermometer (86%), stethoscope (85%), and blood pressure apparatus (85%).
- Availability of a light source was the least available item among the basic equipment tracer items, with only 43% of facilities reporting having this item.
- Thirty-one per cent (31%) of facilities were fully equipped with all six basic equipment items.

Figure 14. Percentage of facilities with basic equipment items available (N=1106), Malawi 2018/2019

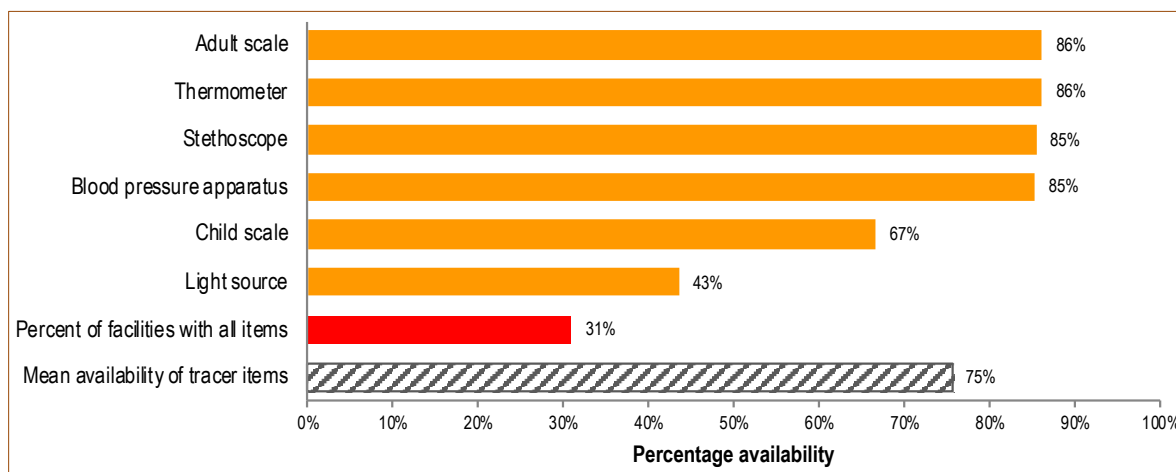


Table 44 shows the availability of basic equipment tracer items by region, facility type, managing authority, and urban vs. rural location.

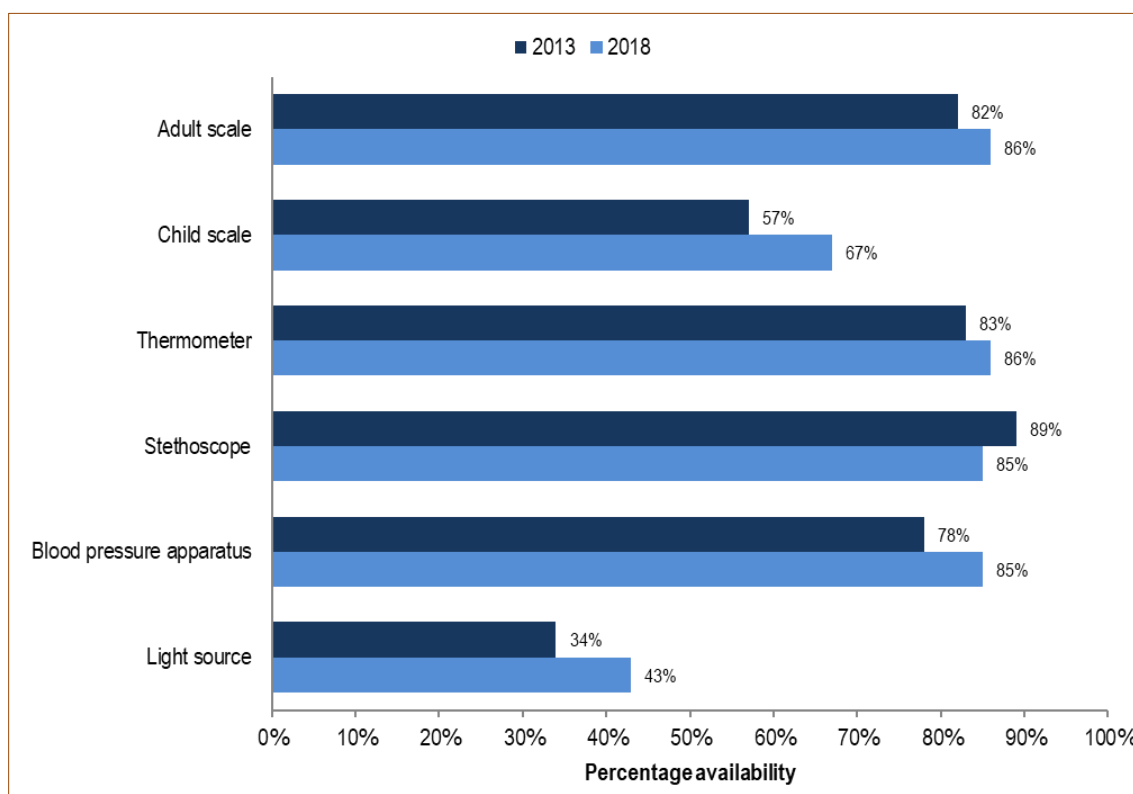
- Within Malawi, facilities in the Southern region had greater availability of basic equipment items on average (78%) compared to facilities in the Central (75%) and Northern (70%) regions.
- Hospitals were found to be better equipped than other facility types for all basic equipment items. Sixty-nine per cent (69%) of hospitals reported having all six basic equipment items.
- No health posts and only 6% of dispensaries reported having all six basic equipment items.
- NGO and CHAM facilities had the greatest availability of adult scale (both 96%), thermometer (both 96%). CHAM facilities also had the greatest availability of child scale (80%) and blood pressure apparatus (95%). Government facilities had the lowest availability of four basic equipment items (adult scale, thermometer, stethoscope, and blood pressure apparatus) compared to all other managing authority types.
- On average, 80% of the basic amenities were available among urban facilities compared to 74% at rural facilities.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of basic equipment

Figure 15 compares the availability of basic equipment items at health facilities in 2013 and 2018/2019.

- Five of the six basic amenities items were available at a greater percentage of facilities in 2018/2019 than in 2013.
- In 2018/2019, 86% of facilities had an adult scale compared to 82% of facilities in 2013. Similarly, 86% of facilities had thermometer in 2018/2019 compared to 83% of facilities in 2013. There was also an increase in the availability of light sources, 43% of facilities in 2018/2019 compared to 34% of facilities in 2013.
- Interestingly, slightly more facilities had stethoscopes in 2013 (89%) than in 2018/2019 (85%).
- Stethoscopes were available at a greater percentage of facilities in 2013 (89%) than in 2018/2019 (85%).

Figure 15. Percentage of facilities with basic equipment items available, 2013 (N=977), 2018/2019 (N=1106)



4.3 Standard precautions for infection prevention

Safety is an essential part of the health service delivery system. Health workers must be able to work in a safe environment and must be provided with all the safety training and equipment they need to carry out their duties. They must also be able to render services to their patients in the safest manner, which means using the best standards for safety precautions. Disposing of needles and medical products properly, sterilizing medical equipment appropriately, and disinfecting restrooms and work areas are among the basic standard precautions for infection prevention expected in health facilities. Service readiness for standard precautions for infection prevention was assessed based on the availability of the following tracer items:

- Safe disposal of sharps
- Safe disposal of infectious wastes
- Appropriate storage of sharps wastes (sharps container in three main service areas)
- Appropriate storage of infectious waste (waste receptacle (pedal bin) with lid and plastic bin liner in three main service areas)
- Disinfectant
- Disposable or auto-destruct syringes
- Soap and water or alcohol-based hand rub
- Latex gloves
- Guidelines on standard precautions.

Figure 16 shows the availability of standard precautions for infection prevention items at health facilities in the country.

- On average, facilities had 6–7 of the 9 items, for overall standard precautions for infection prevention readiness score of 76 out of 100.
- Appropriate storage of sharps waste was the most commonly available standard precautions for infection prevention item, with 94% of facilities reporting having this item.
- Most facilities reported having disposable or auto disable syringes (92%), latex gloves (91%), and disinfectant (77%) available.
- Almost seven out of 10 facilities reported having appropriate storage of infectious wastes, soap and water/alcohol-based hand rub, safe final disposal of sharps, and safe final disposal of infectious waste.
- Availability of guidelines for standard precautions for infection prevention was the least available item among the standard precautions for infection prevention items, with only 43% of facilities overall reporting having this item.
- 22% of facilities were fully equipped with all nine standard precautions for infection prevention items.

Figure 16. Percentage of facilities with standard precautions for infection prevention items available (N=1106), Malawi 2018/2019

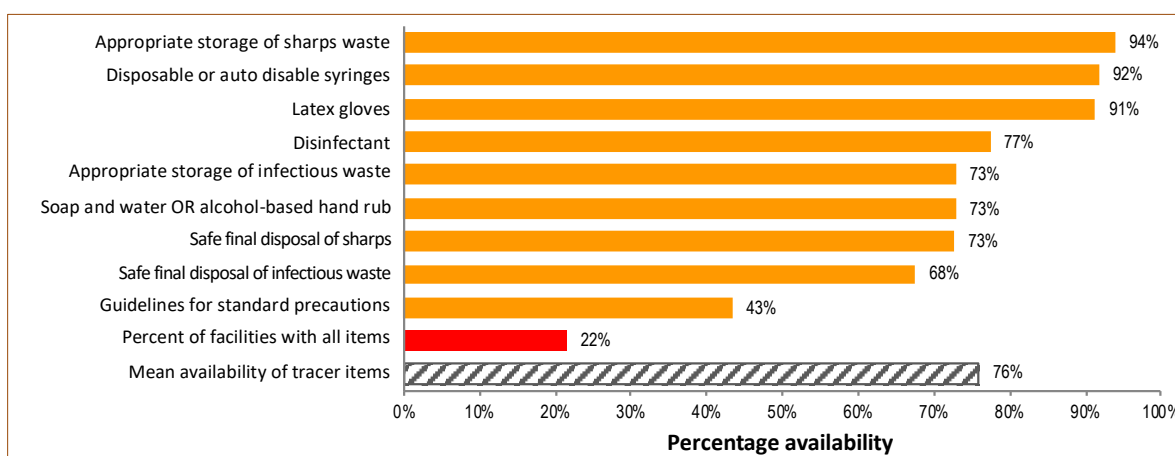


Table 45 shows the availability of standard precautions for infection prevention tracer items by region, facility type, managing authority, and urban vs. rural location.

- Within Malawi, facilities in the Southern region had greater availability of standard precautions for infection prevention items on average (78%) compared to facilities in the northern (76%) and central (74%) regions.
- Hospitals were found to be better equipped than other facility types for six of the nine standard precautions for infection prevention.
- Fifty per cent of hospitals reported having all nine standard precaution items. Only 4% of health posts, 6% of dispensaries, and 17% of health centres reported having all nine standard precaution items.
- Government facilities had the lowest availability of seven of the nine standard precautions for infection prevention items compared to other managing authority types. Private non-profit facilities had the greatest availability of safe final disposal of infectious waste (84%) and soap and water or alcohol-based hand run (92%). NGO facilities had, on average, 86% of tracer items available compared to 72% of items at government facilities.
- On average, 81% of standard precautions for infection prevention items were available among urban facilities compared to 74% at rural facilities. Only 18% of facilities in rural areas had all standard precautions for infection prevention items compared to 30% of facilities in urban areas.

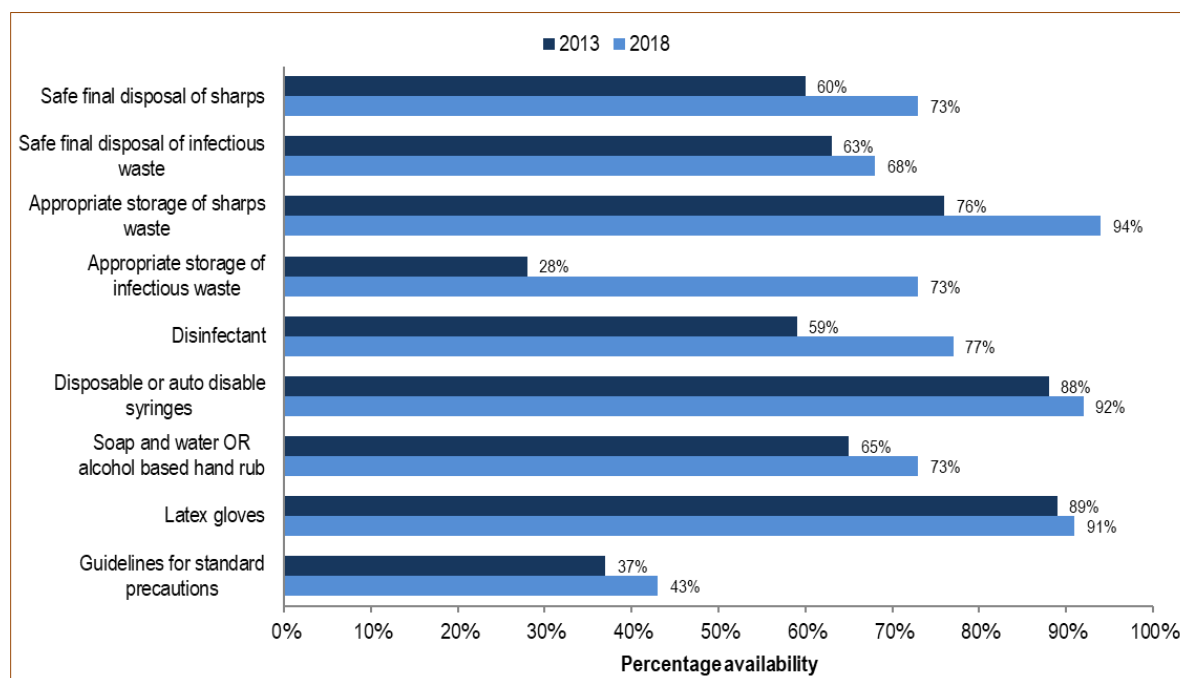
Comparison of 2013 SPA to 2018/2019 HHFA: Availability of standard precautions for infection prevention

Figure 17 compares the availability of standard precautions for infection prevention items at health facilities in 2013 and 2018/2019.

- All nine standard precaution were available at a greater percentage of facilities in 2018/2019 than 2013.

- Seventy-three per cent (73%) of facilities reported having appropriate storage of infectious waste in 2018/2019 compared to only 28% of facilities in 2013.
- Disinfectant was available at 77% of facilities in 2018/2019, an increase from 59% of facilities in 2013.

Figure 17. Percentage of facilities with standard precautions for infection prevention items available, 2013 (N= 977), 2018/2019 (N=1106)



4.4 Diagnostic availability

For any disease to be cured, it must be first diagnosed correctly, which makes laboratories and diagnostics important inputs of the health care delivery system. Laboratory diagnostic capacity was assessed based on the availability of the following eight basic diagnostic tests on site at the facility:

- Haemoglobin
- Blood glucose
- Malaria diagnostic capacity
- Urine dipstick – protein
- Urine dipstick – glucose
- HIV diagnostic capacity
- Syphilis rapid test
- Urine test for pregnancy.

Figure 18 shows the availability of diagnostic availability at health facilities in Malawi.

- On average, facilities had 3–4 of the 8 items, for an overall diagnostic capacity score of 47 out of 100.
- Only 6% of facilities were able to perform all eight diagnostic tests on-site.
- The most commonly available diagnostic test among all facilities was malaria diagnostic capacity, which was available at 88% of facilities, followed by HIV diagnostic capacity (78%), syphilis rapid test (60%), and urine test for pregnancy (57%).
- The least available diagnostic test among all facilities was haemoglobin, which was only available at 14% of facilities.
- Half of the diagnostic tests were available at less than 40% of facilities.

Figure 18. Percentage of facilities with diagnostic capacity items available (N=1106), Malawi 2018/2019

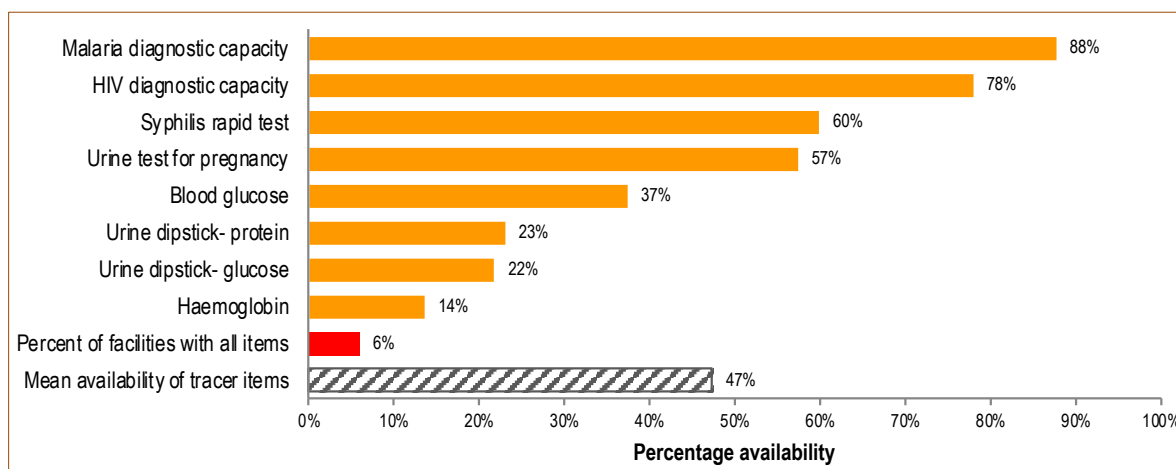


Table 46 shows the availability of laboratory diagnostic tracer items by region, facility type, managing authority, and urban vs. rural location.

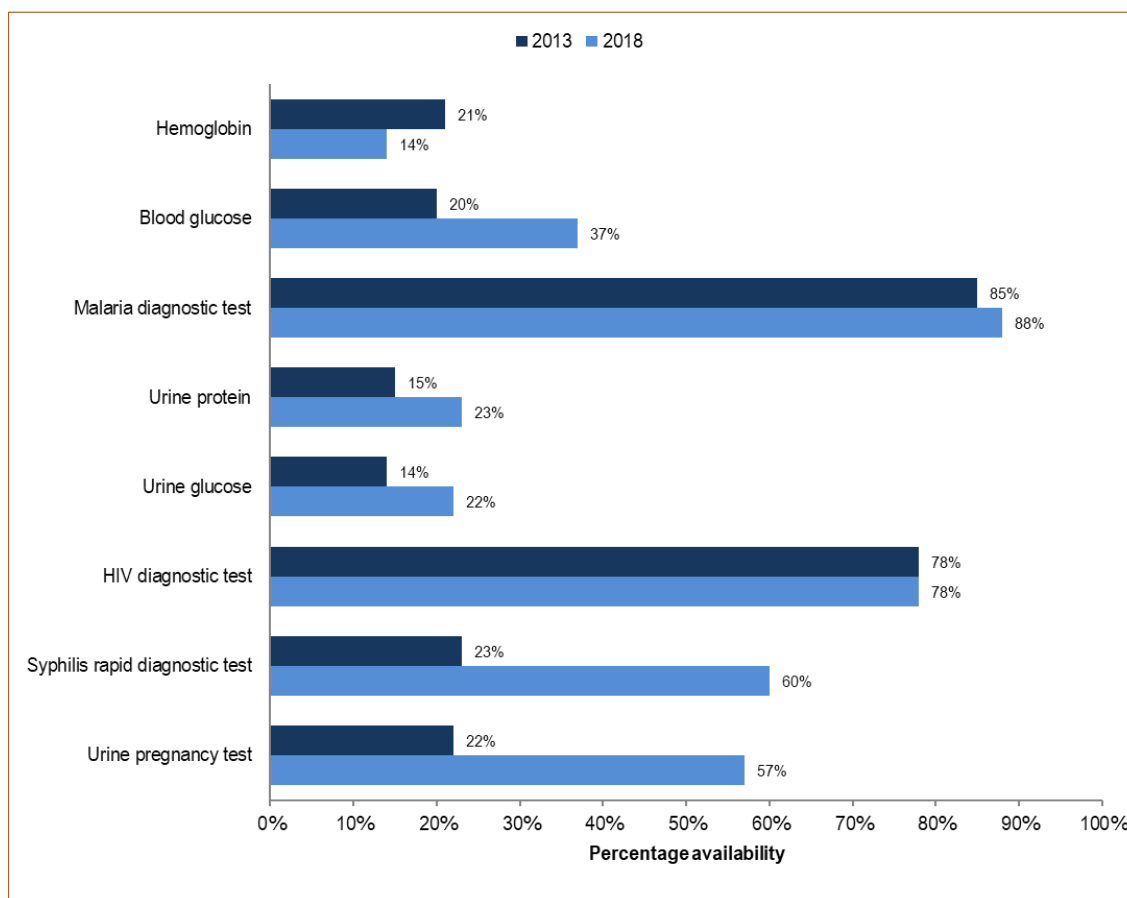
- Within Malawi, facilities in the Central and Southern regions had greater availability of laboratory diagnostic items on average (48% of facilities in both regions) compared to facilities in the North (43%).
- Hospitals were found to be better equipped than other facility types for seven of the eight diagnostic capacity items. Thirty-six per cent of hospitals reported having all diagnostic items available compared to 5% of clinics, 2% of health centres, and no dispensaries or health posts. Over half of clinic facilities had malaria diagnostic capacity (83%), HIV diagnostic capacity (59%), and urine test for pregnancy (65%).
- CHAM facilities had the greatest availability of all diagnostic capacity items, including haemoglobin, malaria diagnostic capacity, and urine dipstick–protein. Seventeen per cent of CHAM facilities reported having all diagnostic items available compared to only 3% of government facilities.
- On average, 55% of diagnostic items were available among urban facilities compared to 44% at rural facilities. Blood glucose was far more available in facilities in urban areas (60%) compared to facilities in rural areas (27%). HIV diagnostic capacity was more available in rural facilities (82%) than urban facilities (69%).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of diagnostic capacity

Figure 19 compares the availability of diagnostic capacity items at health facilities in 2013 and 2018/2019.

- Six of the eight diagnostic capacity items were available at a greater percentage of facilities in 2018/2019 than 2013, including malaria diagnostic test and urine pregnancy test.
- Sixty per cent of facilities reported having a syphilis rapid diagnostic test in 2018/2019 compared to only 23% of facilities in 2013.
- There were no changes in the percentage of facilities with HIV diagnostic tests in 2013 and 2018/2019 (both 78%).
- Haemoglobin tests were available at a greater percentage of facilities in 2013 (21%) than in 2018/2019 (14%).

Figure 19. Percentage of facilities with diagnostic capacity items available, 2013 (N=977), 2018/2019 (N=1106)



4.5 Essential medicines

Access to essential medicines is fundamental to the good performance of the health care delivery system. Availability of medicines is commonly cited as the most important indicator of quality by those seeking health care services, and stock-out of medicines is a key factor in underutilization of government health services. Problems in access are often related to inefficiencies in the pharmaceutical supply chain management system, such as inappropriate selection, quantification, procurement and supply planning distribution, inventory or stock management, and irrational use. Where medicines are available, price may be a barrier for the poor. For the Malawi HHFA, facilities were assessed on whether they had the following 24 essential medicines observed at the facility and with a valid shelf life:

- Amlodipine tablet or alternative calcium channel blocker
- Amoxicillin syrup/suspension/dispersible tablet
- Amoxicillin cap/tab
- Ampicillin injection
- Aspirin cap/tab
- Beclomethasone inhaler
- Beta blocker (i.e. propranolol)
- Carbamazepine tablet
- Ceftriaxone injection
- Enalapril tablet or alternative ACE inhibitor
- Fluoxetine tablet

- Gentamicin injection
- Glibenclamide tablet
- Haloperidol tablet
- Insulin regular injection
- Magnesium sulphate injectable
- Metformin tablet
- Omeprazole tablet or alternative proton pump inhibitor
- Oral rehydration solution
- Oxytocin injection
- Salbutamol inhaler
- Simvastatin tablet or other statin
- Thiazide (i.e. hydrochlorothiazide)
- Zinc sulphate tablet or syrup.

Figure 20 shows the availability of essential medicines at health facilities in Malawi.

- On average, facilities had 9–10 of the 24 essential medicine items, representing 38% availability.
- No facility had all 24 essential medicines on-site on the day of the survey.
- The most commonly available essential medicines were aspirin tablets (79%) and oral rehydration solution (74%).
- The least available essential medicines were fluoxetine tablets (2%) and haloperidol tablets (3%).
- Thirteen of the 24 medicines were available at less than half of facilities.

Figure 20. Percentage of facilities with essential medicines available (N=1106), Malawi 2018/2019

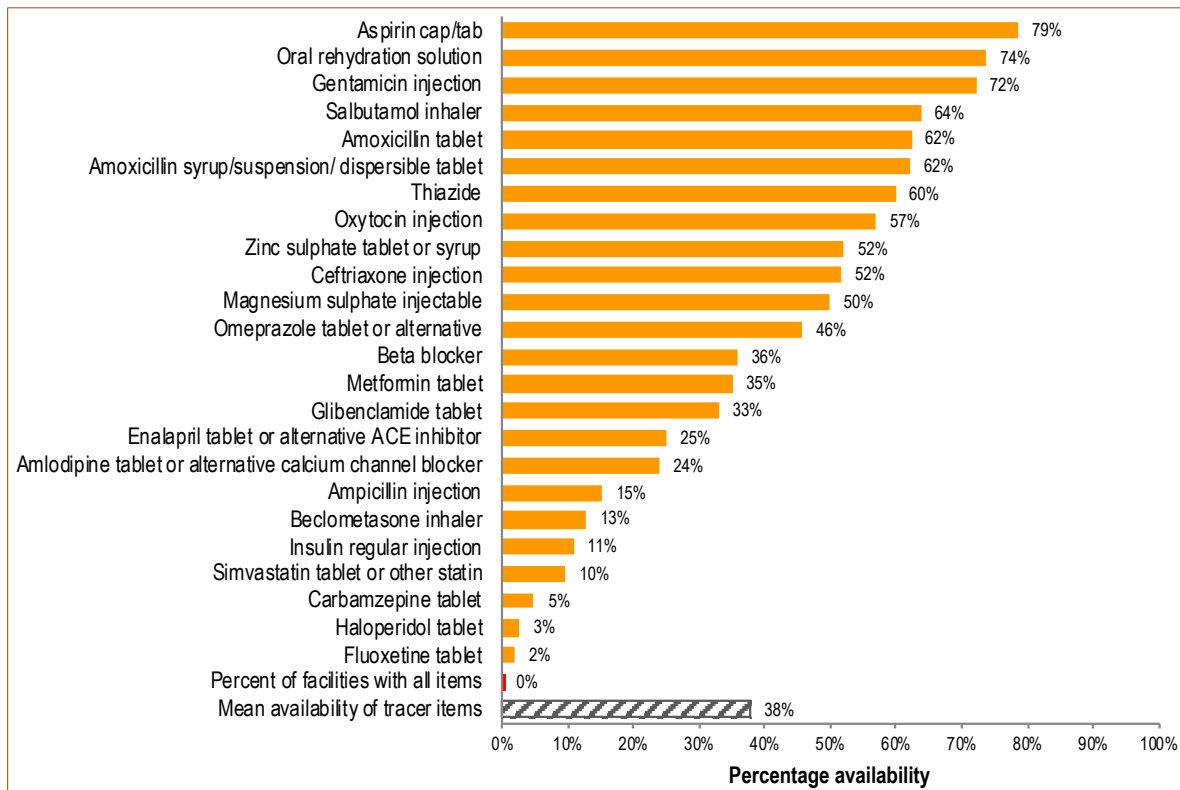


Table 47 shows the availability of essential medicines by region, facility type, managing authority, and urban vs. rural location.

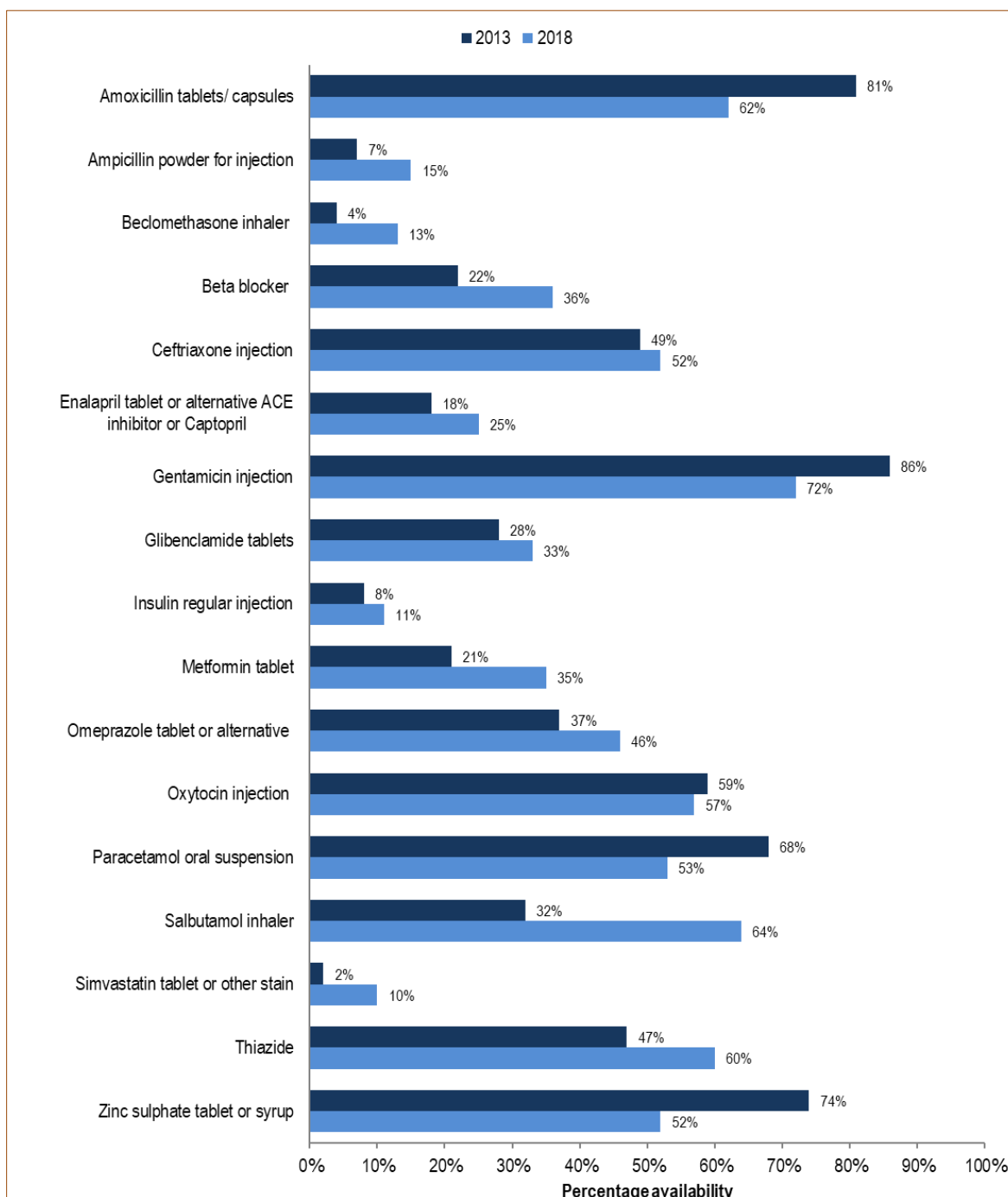
- Within Malawi, facilities in the Southern region had greater availability of essential medicines with an average of 39% compared to facilities in the Northern and Central region which averaged 35% and 38% respectively. No facility had all 24 essential medicines in any region.
- Hospitals were found to be better equipped than other facility types on 22 of the 24 essential medicines. Health centres had the greatest availability of gentamicin injection (88%) whereas clinics had the greatest availability of omeprazole tablet (75%). Almost all hospitals had amoxicillin tablets (91%), aspirin tablets (94%), ceftriaxone injection (94%), and oxytocin injection (94%). However only 1% of hospitals reported having all 24 essential medicines available. No health centres, dispensaries, clinics, or health posts had all essential medicine items.
- On average, CHAM facilities had 54% of the essential medicines, private for-profit and NGO facilities had 44% of the essential medicines, and government facilities had 30% of the essential medicines. However only 1% of CHAM facilities had all essential medicines. No government, private-for-profit, private non-profit or NGO facility had all essential medicines.
- On average, 48% of essential medicines were available in urban facilities compared to 33% in rural facilities. Rural facilities had greater availability of magnesium sulphate injectable than urban facilities (59% and 29% respectively) and oxytocin injection (67% and 35% respectively).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of essential medicines

Figure 21 compares the availability of essential medicines at health facilities in 2013 and 2018/2019.

- Twelve of 17 essential medicines were available at a greater percentage of facilities in 2018/2019 than 2013, including thiazides and salbutamol inhaler.
- Essential medicines such as amoxicillin cap/tab, gentamicin injection, oxytocin injection, paracetamol oral suspension, and zinc sulphate tablet or syrup were available in more facilities in 2013 than in 2018/2019.
- The most common essential medicine, gentamicin injection, was available at a greater percentage of facilities in 2013 (86%) compared to 2018/2019 (72%).
- The least common essential medicine in 2018/2019 was simvastatin tablets or other stains, which was available at 10% of facilities. In 2013, this essential medicine item was only available at 2% of facilities.

Figure 21. Percentage of facilities with essential medicine items available, 2013 (N=977), 2018/2019 (N=1106)



4.6 Referral systems

Malawi’s health system is organized around four levels of care; namely community, primary, secondary, and tertiary. These levels are linked to each other through a referral system. A referral system enables effective and efficient management of client health needs by addressing conditions at the appropriate level of care. A well-functioning referral system is critical for ensuring continuity of care and thus maximize patient outcomes. Table 13 shows the availability of referral systems by region, facility type, managing authority, and urban vs. rural location.

- Overall, 94% of health facilities in Malawi had a system for referring patients to any other facility, 67% of health facilities had a system for referring clients from the community level to health facilities, and 68% of health

facilities had health surveillance assistants (HSAs)/community health workers (CHWs) who referred clients to the facility.

- All facility types had a high proportion of facilities with a system for referring patients to any other facility. However, the availability of referral systems from the community level was quite variable ranging from 28% of clinics to 91% of health centres. Similarly, the availability of HSAs/CHWs referring clients to the health facility was quite variable ranging from 18% for clinics to 98% for health centres.
- Facilities of all managing authorities had high availability of a system for referring patients to any other facility. However, government and CHAM facilities were more likely than private for-profit, private non-profit, and NGO facilities to have referral systems from the community level and HSAs/CHWs referring clients to the health facility.

Table 13. Availability of referral systems by region, facility type, managing authority, and urban vs. rural location (N=1067), Malawi 2018/2019

	Facility has a system for referring patients to any other facility	Facility has a referral system from the community level	HSA/CHW refer clients to this facility	Total number of health facilities
Region				
North	97%	76%	80%	205
Centre	93%	65%	67%	387
South	94%	66%	63%	475
Facility type				
Hospital	89%	79%	89%	101
Health centre	99%	91%	98%	491
Dispensary	90%	75%	74%	57
Clinic	90%	28%	18%	344
Health post	91%	72%	66%	74
Managing authority				
Government	95%	86%	91%	549
CHAM	99%	84%	93%	163
Private for-profit	87%	23%	12%	243
Private non-profit	95%	53%	41%	61
NGO	96%	47%	35%	51
Urban/rural				
Rural	96%	81%	85%	726
Urban	90%	39%	31%	341
Malawi	94%	67%	68%	1067

4.7 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.

Figure 22 shows the general service readiness index and domain scores.

- Overall general service readiness was 60%.
- Among the five domains, the highest score was found in standard precautions for infection prevention at 76%, while the lowest score was found in essential medicines at 38%.

Figure 22. General service readiness index and domain scores (N=1106), Malawi 2018/2019

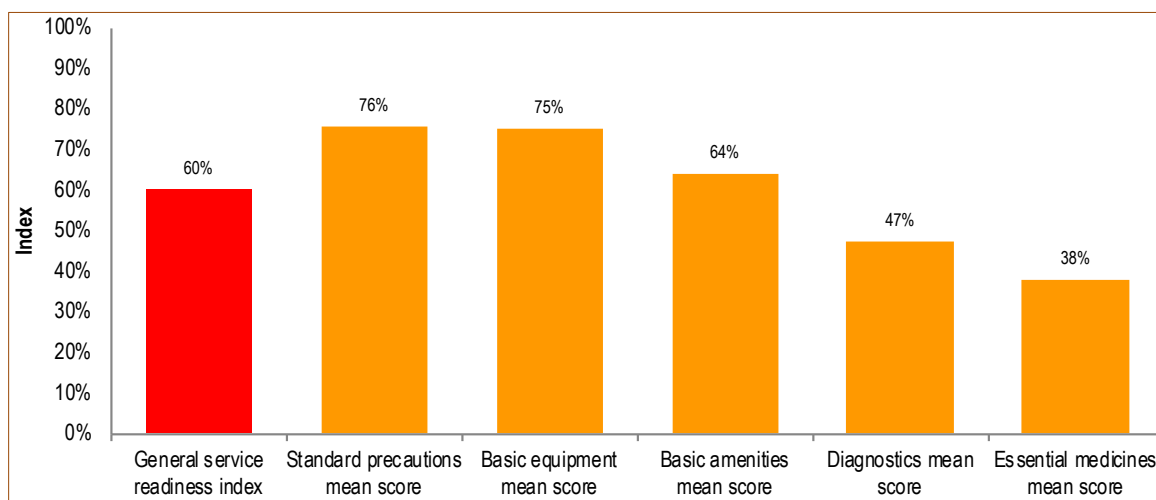


Table 48 shows the general service readiness index and domain scores by region, facility type, managing authority, and urban vs. rural location.

- Within Malawi, facilities in the Southern region scored slightly higher in general service readiness (61%) compared to facilities in the Central (60%) and Northern (58%) regions.
- In all domains, hospitals scored highest in general service readiness compared to all other facility types. Overall, hospitals had the highest general service readiness score (83%) and health posts had the lowest score (24%). Hospitals scored the highest for all domains, including basic amenities (83%), basic equipment (92%), and standard precautions (89%).
- Compared to other managing authorities, CHAM facilities scored the highest for basic equipment (88%), diagnostics (66%), and essential medicines (54%). Private non-profit and NGO facilities scored the highest for basic amenities (both 78%). NGO facilities scored highest for standard precautions (86%).
- Facilities located in urban areas performed consistently higher in all the general service readiness domains compared to facilities located in rural areas. Overall, urban facilities scored 67% in general service readiness compared to 57% in rural facilities.

5. Service specific availability and readiness

Key findings

- Among maternal, neonatal, and child health MNCH services, the most available services were child preventative and curative care (89%), family planning (81%), and routine child immunization (73%) while the least available services were antenatal care (60%) basic emergency obstetric and newborn care (45% of facilities offering delivery services) and comprehensive obstetric and newborn care (12% of facilities offering delivery services).
- Readiness to deliver MNCH services varied by service. Overall readiness was highest for routine child immunization (88%) and lowest for child preventative and curative care (57%). Few facilities (<20%) had all items required to be considered ready to deliver a service across all MNCH services except for child immunization services where 43% of facilities had all readiness items.
- Across all MNCH services, the staff and guidelines and diagnostics domains generally had the lowest readiness scores while the equipment and medicines domains generally had the highest readiness scores.
- Among communicable disease services, the most available services were for malaria (96%) and sexually transmitted infections (STIs) (87%) while the least available services were antiretroviral (ARV) prescription and client management (65%), PMTCT (60%), HIV care and support (59%), and tuberculosis (49%).
- Readiness to deliver communicable disease services varied by service. Overall readiness was highest for STI services (74%) and lowest for ARV prescription and client management services (46%).
- Few facilities (<15%) had all items required to be considered ready to deliver a service across all communicable disease services.
- Noncommunicable disease services were largely available at hospitals: cardiovascular disease diagnosis/management 82%, chronic respiratory disease (CRD) diagnosis/management 84%, and cervical cancer diagnosis 69%.
- Readiness to deliver services for noncommunicable diseases at hospitals was high ranging from 69% for CRD to 89% for cervical cancer diagnosis. Equipment was generally the highest scoring domain, however there was little variability between staff and guidelines, equipment, and medicine and commodities domains.

In addition to assessing the offer of general services by health facilities, the HHFA also measures the availability and readiness of health facilities to offer specific health interventions through consideration of tracer items that include trained staff and guidelines, equipment, diagnostic capacity, and medicines and commodities. For each service, the percentage of facilities offering the service were computed as a measure of the availability of the service. In addition, for facilities offering the service, readiness to provide the service was assessed based on the presence of a number of tracer items in the following domains:

- Guidelines and trained staff
- Equipment
- Diagnostic capacity
- Medicines and commodities.

The tracer items are a minimum set of items that are a prerequisite for the facility to be able to offer an adequate level of care. Service readiness is a key indicator for assessing and monitoring improvements and investments in service delivery. As for general service readiness, an overall readiness score was computed for each health service by calculating the average number of tracer items available. The following key health services were assessed:

1. Maternal, neonatal, and child health
 - Family planning/birth spacing
 - Antenatal care
 - Basic emergency obstetric care
 - Comprehensive emergency obstetric care
 - Blood transfusion
 - Child immunization

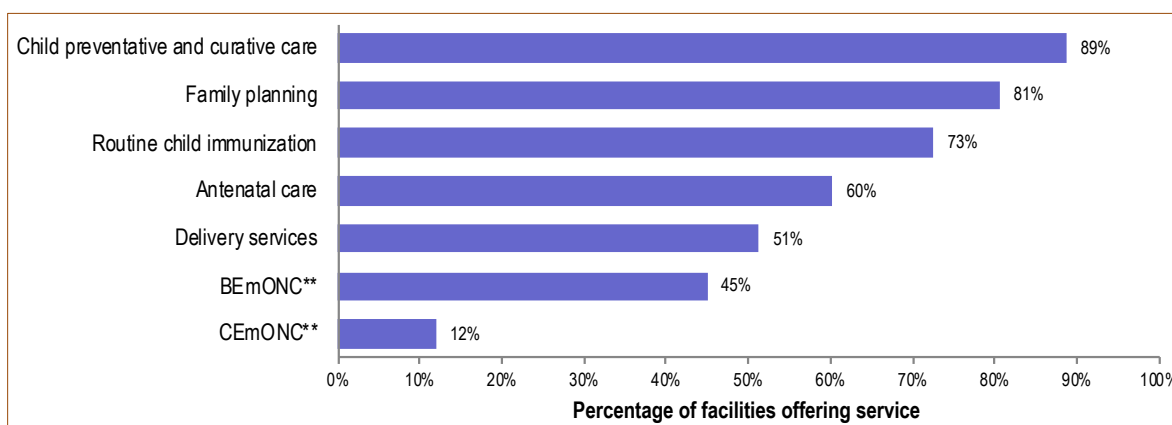
- Child health preventive and curative care services
 - Nutrition services
 - Adolescent health
 - Essential medicines for mothers.
2. Malaria services
 3. Tuberculosis services
 4. HIV/AIDS
 - HIV/AIDS care and support services
 - Antiretroviral therapy (ART)
 - Preventing mother-to-child transmission (PMTCT).
 5. Sexually transmitted infections (STI) services
 6. Noncommunicable disease services
 - Cardiovascular disease (CVD)
 - Chronic respiratory disease (CRD)
 - Cervical cancer.
 7. Tracer medicines
 8. Advance diagnostic services and high-level diagnostic equipment.

5.1 Maternal, neonatal, and child health

The overall availability of maternal, neonatal, and child health services (MNCH) in Malawi can be seen in Figure 23.

- Among MNCH services in general, the most available were child preventative and curative care (89%) and family planning (81%).
- The least available services within MNCH were basic emergency obstetric care (45% of facilities offering delivery services) and comprehensive obstetric care (12% of facilities offering delivery services).

Figure 23. Availability of maternal, neonatal, and child health services (N=1106), Malawi 2018/2019

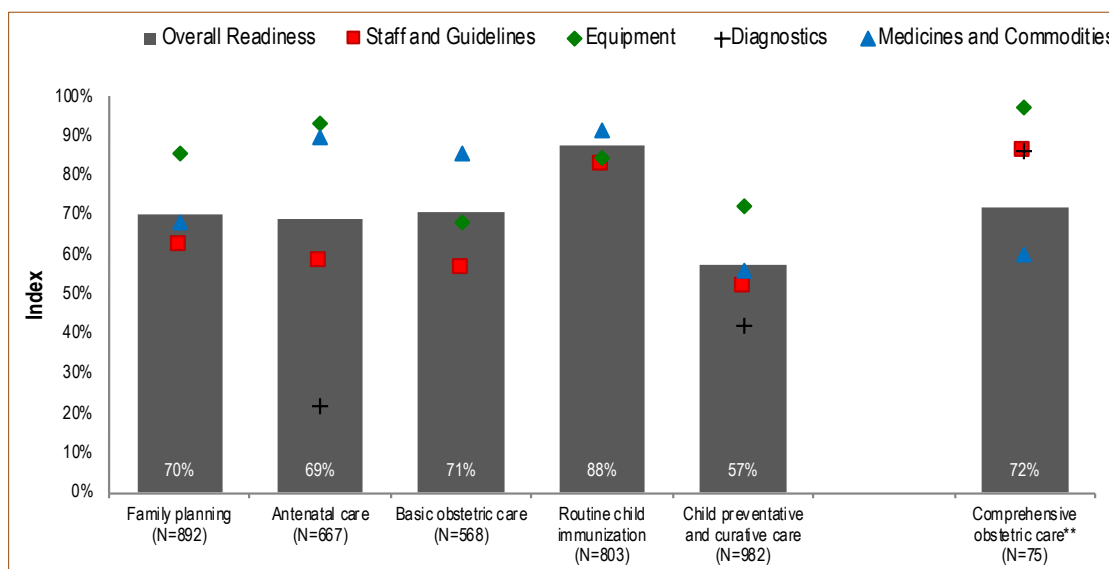


** Only includes facilities offering delivery services (N=568)

Figure 24 shows the readiness of MNCH services by domain.

- Within MNCH services, overall readiness was highest among routine child immunization (88%) and lowest among child preventative and curative care (57%).
- Across all services, the staff and guidelines and diagnostics domains generally had the lowest readiness scores while the equipment and medicines domains generally had the highest readiness scores.

Figure 24. Readiness to provide MNCH services, Malawi 2018/2019



* 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.

Family planning

Family planning reduces mortality and morbidity associated with pregnancy by preventing unwanted pregnancies, particularly high-risk pregnancies among adolescents and older women, and by increasing birth intervals. Birth spacing of less than 24 months compared with spacing of 36 months carries with it greater risks of fetal, infant, and childhood death, low birth weight, and childhood undernutrition. The tracer items required for family planning/birth spacing service readiness are outlined in Table 14.

Table 14. Tracer items for family planning/birth spacing services

Domain	Tracer items
Trained staff and guidelines	■ Staff trained in family planning/birth spacing in the past two years
Equipment	■ Blood pressure apparatus
Medicines and commodities	■ Combined oestrogen progesterone oral contraceptive pills ■ Progestin-only contraceptive pills ■ Injectable contraceptives ■ Condoms

Service availability

Figure 25 shows the countrywide availability of family planning/birth spacing services.

- Nationally, the majority of all facilities (81%) offered family planning/birth spacing services.
- Overall, the most commonly available family planning services were distribution of male condoms (76%) and combined oral contraceptives (75%), while the least available family planning services were male and female sterilization (8% and 12% respectively).

Figure 25. Percentage of facilities that offer family planning/birth spacing services (N=1106), Malawi 2018/2019

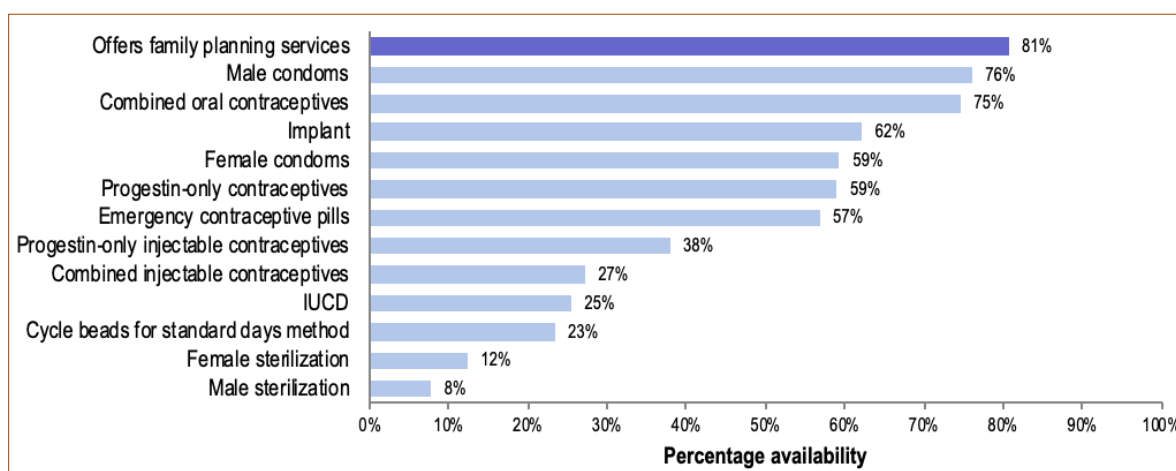


Table 49 and Table 50 show the percentage of facilities offering key family planning services by region, facility type, managing authority, and by urban vs. rural location.

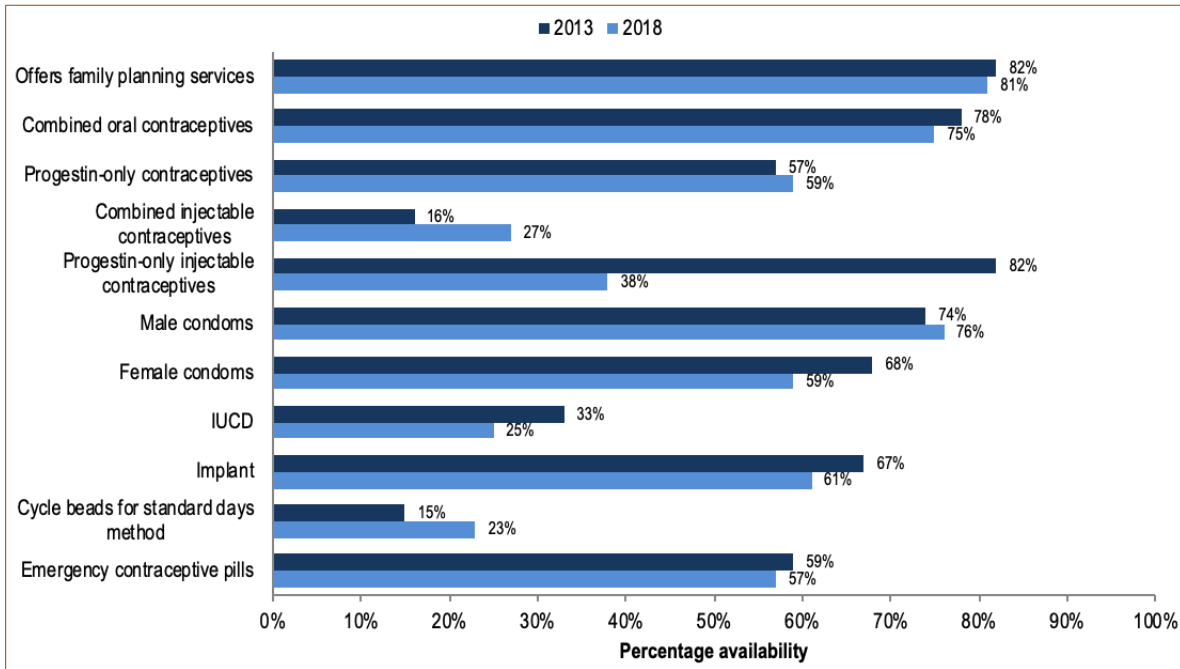
- The highest availability of family planning/birth spacing services was found in the Northern region, with nearly all facilities offering these services (88%), while the lowest availability was in the Southern region (77%).
- Health centres has the highest availability of family planning/birth spacing services (90%) followed by dispensaries (82%).
- More government facilities offered family planning services (93%) as compared to NGO facilities (79%), private for-profit facilities (72%), private non-profit facilities (62%), and CHAM facilities (58%).
- Rural areas had higher availability of family planning/birth spacing services as compared to urban areas (83% vs. 76%).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of family planning services

Figure 26 shows the availability of family planning/birth spacing services from the 2013 SPA survey and the 2018/2019 HHFA survey.

- The overall availability of family planning services did not change significantly from 2013 to 2018/2019, with only a small 1% decline from 82% in 2013 to 81% in 2018/2019.
- The availability of progestin-only injectable contraceptives dropped dramatically from 82% in 2013 to 38% in 2018/2019, however, combined injectable contraceptives increased from 16% in 2013 to 27% in 2018/2019.
- Across six of the ten family planning services assessed, there were modest declines in service availability from 2013 to 2018/2019. The four family planning services seeing an increase in service availability include progestin-only contraceptives (57% to 59%), combined injectable contraceptives (16% to 27%), male condoms (74% to 76%) and cycle beads (15% to 23%).

Figure 26. Percentage of facilities that offer family planning services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to offer family planning/birth spacing services was assessed based on the availability of the six tracer items found in Table 14. Figure 27 shows the percentage availability of these tracer items in facilities that offer family planning/birth spacing services.

- Only 20% of facilities had all six items needed to offer family planning/birth spacing services.
- On average, facilities had approximately 4 of the 6 tracer items for family planning/birth spacing for an overall readiness score of 70 out of 100.
- Nearly all facilities had condoms available (90%) and the majority of facilities also had combined oestrogen progesterone oral contraceptive pills available (74%). However, only slightly more than half of facilities had progestin-only contraceptive pills (55%) and injectable contraceptives (54%).
- Equipment such as a blood pressure apparatus was available in 85% of facilities.
- Sixty-three per cent of facilities had at least one staff member trained in the past two years in family planning/birth spacing.

Figure 27. Percentage of facilities that have tracer items for family planning/birth spacing services among facilities that provide this service (N=892), Malawi 2018/2019

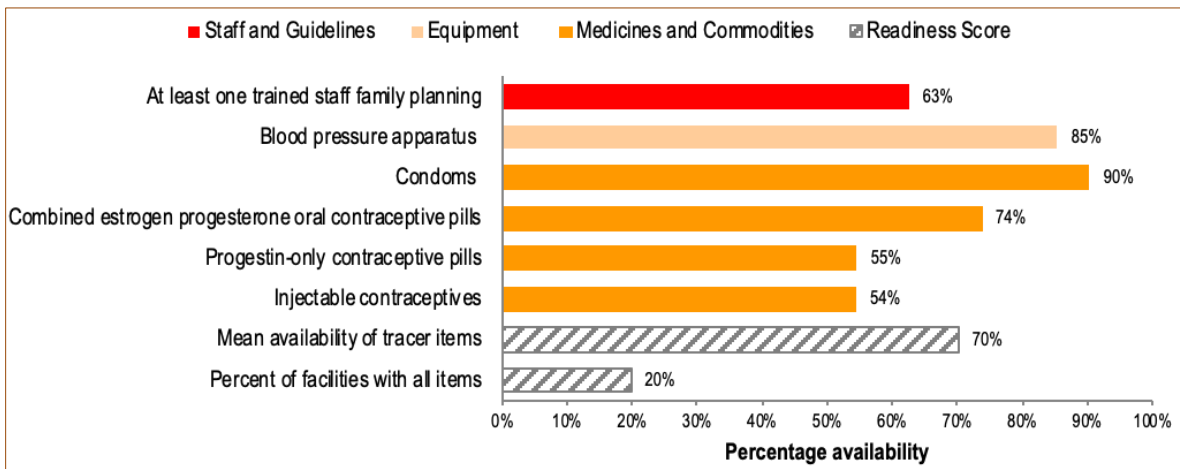


Table 51 shows the availability of family planning tracer items among facilities that provide the service by region, facility type, managing authority, and by urban vs. rural location.

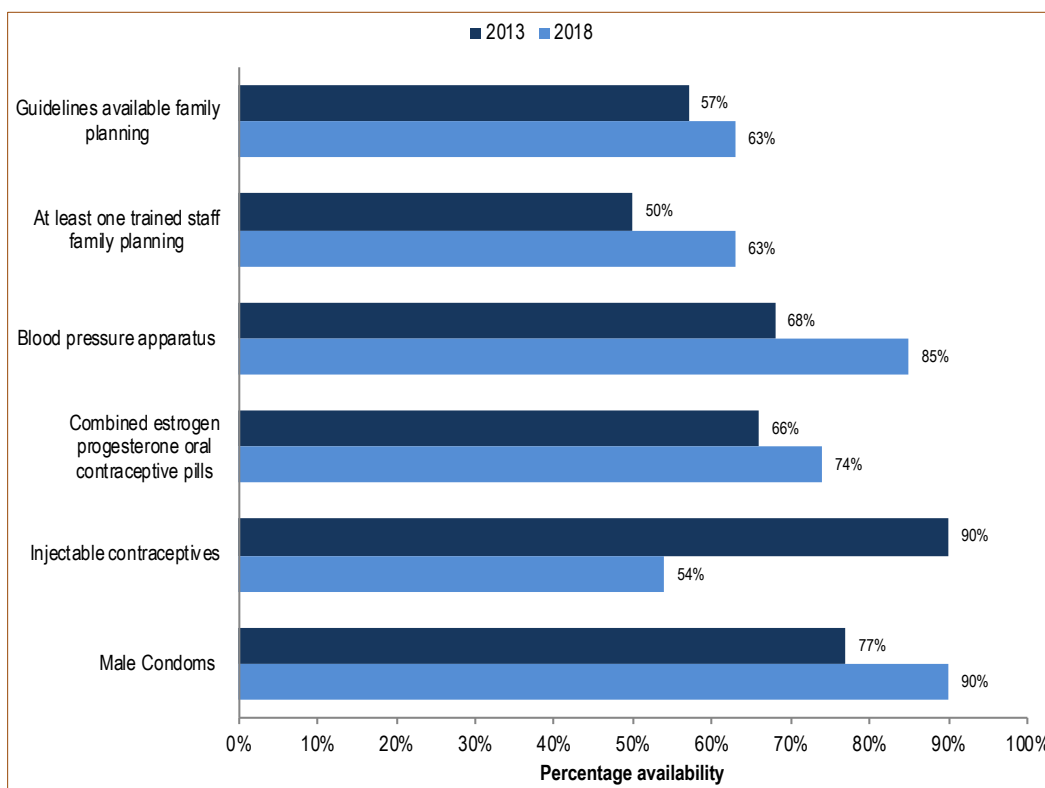
- The most available family planning/birth spacing tracer item was condoms (90%) and the least available item was injectable contraceptives (54%).
- Hospitals had the greatest availability of blood pressure apparatus (96%), combined oestrogen progesterone oral contraceptive pills (89%), progestin-only contraceptive pills (69%), and injectable contraceptives (75%) as compared to other facility types. Dispensaries had the greatest availability of at least one trained staff in family planning (82%). Health centres had the greatest availability of condoms (98%).
- The mean availability of tracer items was highest among hospitals (80%) compared to all other facility types. The mean availability of tracer items was lowest at health posts (36%).
- NGO facilities scored highest in terms of mean availability of tracer items (78%), and had the greatest availability of at least 1 trained staff in family planning (74%), combined estrogen progesterone oral contraceptive pills (79%), injectable contraceptives (74%), and condoms (98%) as compared to other managing authorities.
- Private for-profit facilities, which scored the lowest in mean availability of tracer items (61%), were limited in availability of progestin-only contraceptive pills (34%) and injectable contraceptives (44%) compared to other managing authorities.
- Facilities located in rural areas had a higher mean availability of family planning/birth spacing items (72%) as compared to urban facilities (66%). Compared to urban areas, facilities in rural areas had a higher availability of at least one trained staff in family planning (67% compared to 52%) and condoms (92% compared to 87%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver family planning services

Figure 28 shows the percentage of facilities that had tracer items for family planning services among facilities that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- The percentage of facilities offering family planning services who had guidelines available for family planning increased from 2013 (57%) to 2018/2019 (63%). Increases from 2013 to 2018/2019 were also found in the percentage of facilities with at least one trained staff in family planning (from 50% to 63%), blood pressure apparatus (68% to 85%), combined estrogen progesterone oral contraceptive pills (from 66% to 74%), and male condoms (from 77% to 90%).
- There was a decline in the percentage of facilities offering injectable contraceptives from 2013 (90%) to 2018/2019 (54%).

Figure 28. Percentage of facilities that have tracer items for family planning services among facilities that provide this service, 2013 (N= 806), 2018/2019 (N=892)



Antenatal care

Antenatal care (ANC) is essential to identify and treat problems during pregnancy such as anaemia and hypertension, as well as for preventive care such as folic acid and iron supplementation, intermittent preventive treatment (IPT) for malaria, and tetanus toxoid vaccination. The WHO recommends that in the absence of complications a woman should have at least eight ANC visits, the first during the first trimester. Table 15 outlines the tracer items necessary to determine ANC service readiness by domain.

Table 15. Tracer items for antenatal care services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines on antenatal care (ANC) ■ Staff trained in ANC in the past two years ■ ANC check-lists and/or job-aids
Equipment	<ul style="list-style-type: none"> ■ Blood pressure apparatus
Diagnostics	<ul style="list-style-type: none"> ■ Haemoglobin ■ Urine–dipstick–protein
Medicines and commodities	<ul style="list-style-type: none"> ■ Iron tablets ■ Folic acid tablets ■ Tetanus toxoid vaccine ■ IPT drug ■ Insecticide treated nets (ITNs)

Service availability

Figure 29 shows the percentage of facilities offering key antenatal care services including iron supplementation, folic acid supplementation, intermittent preventive treatment in pregnancy (IPTp) for malaria, tetanus toxoid vaccination, and monitoring for pregnancy-induced hypertensive disorder.

- Overall, 60% of all facilities offered antenatal care services.
- Iron supplementation, intermittent preventive treatment in pregnancy for malaria, and tetanus toxoid vaccination were available in a majority of health facilities (59%), followed by monitoring for hypertensive disorder in pregnancy (57%) and folic acid supplementation (49%).

Figure 29. Percentage of facilities that offer antenatal care services (N=1106), Malawi 2018/2019

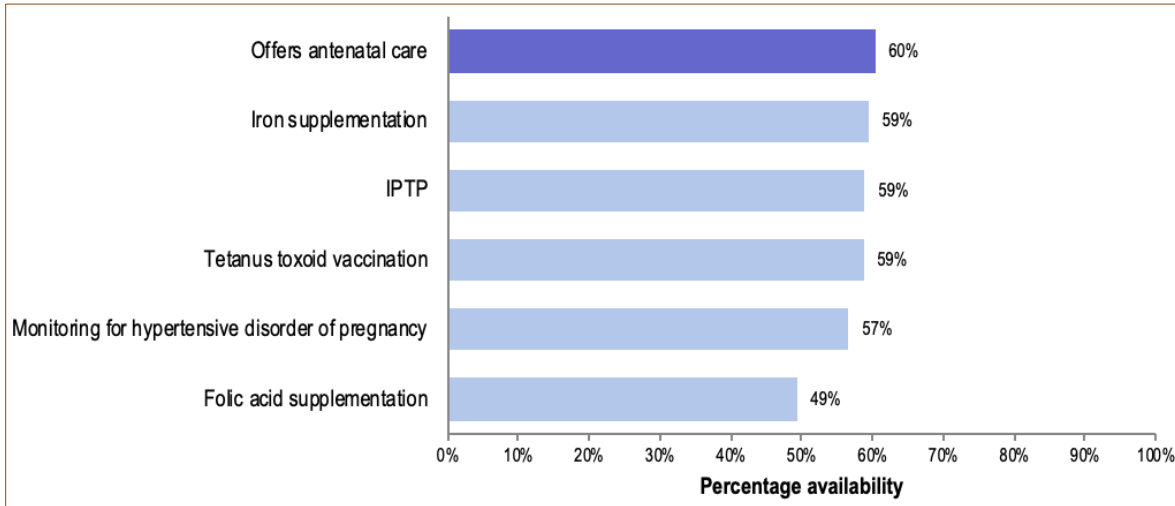


Table 52 shows the percentage of facilities offering key antenatal services by region, facility type, managing authority, and urban vs. rural location.

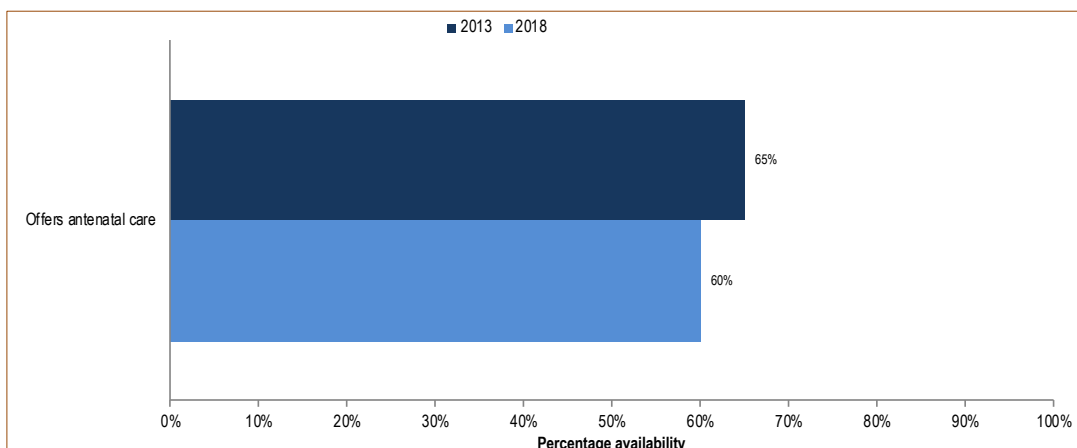
- The vast majority of hospitals (95%) and health centres (96%) offered ANC services. Less than half of dispensaries offered this service (37%), and only 19% of clinics and 9% of health posts offered ANC.
- Almost all CHAM facilities offered ANC services (90%) as did the majority of government facilities (76%). However, only 19% of NGO facilities and 18% of private for-profit facilities offered ANC services.
- ANC services were more available in rural areas (72%) compared to urban areas (34%).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of antenatal care services

Figure 30 shows the availability of antenatal care services from the 2013 SPA survey and the 2018/2019 HHFA survey.

- The percentage of facilities offering antenatal care services declined from 2013 (65%) to 2018/2019 (60%).

Figure 30. Percentage of facilities that offer antenatal care services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to provide antenatal care was assessed based on the availability of the 11 tracer items found in Table 15. Figure 31 shows the availability of these tracer items in facilities that offer antenatal care services.

- Only 4% of facilities offering ANC had all 11 tracer items.
 - On average, facilities had fewer than 8 of the 11 tracer items, for an overall readiness score of 69 out of 100.
 - The majority of facilities offering ANC services had the necessary medicines available, including IPT drugs (92%), iron supplements²⁵ (92%), insecticide treated nets (92%), tetanus toxoid vaccine (91%), and folic acid tablets²⁶ (82%).
 - Most facilities showed poor diagnostic capacity for testing urine protein (26%) and haemoglobin levels (18%).
 - Only 42% of facilities offering ANC services had at least one staff member trained in ANC in the last two years.
- Note: This may be an underestimation of staff trained in the last two years in ANC as ANC is included in the BEmONC training package and is generally not a stand-alone training in Malawi.

Figure 31. Percentage of facilities that have tracer items for antenatal care services among facilities that provide that service (N=667), Malawi 2018/2019

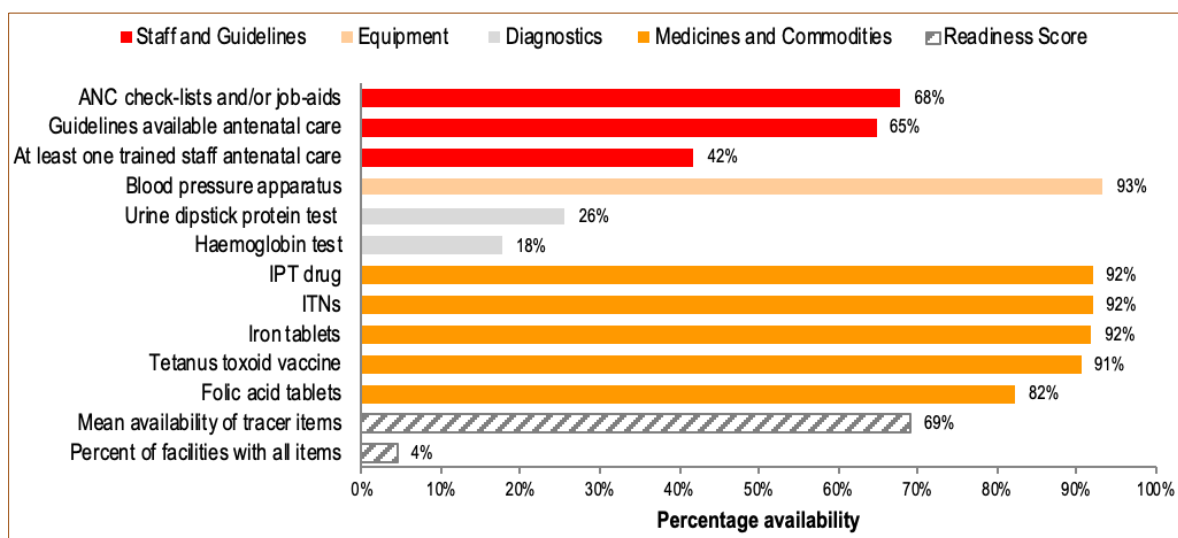


Table 53 shows the availability of antenatal care tracer items among facilities that provide the service by region, facility type, managing authority, and by urban vs. rural location.

- There was little difference between the Northern, Central and Southern regions in the mean availability of ANC tracer items (68%, 70%, and 69% respectively).
- By facility type, mean availability of ANC tracer items was highest among hospitals (85%), followed by health centres (67%). Hospitals had the greatest availability of seven of the 11 tracer items for antenatal care, including ANC checklists and/or job aids (89%), at least one trained staff in antenatal care (64%), and urine dipstick protein test (71%).
- Amongst managing authorities, CHAM facilities had the greatest availability of at least one trained staff in antenatal care (47%), folic acid tablets (85%), and IPT drugs (95%) while government facilities had the greatest availability of tetanus toxoid vaccine (94%). No difference was found with respect to the mean availability of tracer items between government and NGO facilities (both 68%). Private for-profit facilities had the lowest mean availability of tracer items of all managing authority types (61%).
- Urban facilities were more likely to have tracer items compared to rural facilities (urban mean availability 72% compared to 69% in rural areas).

²⁵ Iron tablets can be either iron only or iron/folic acid in combination.

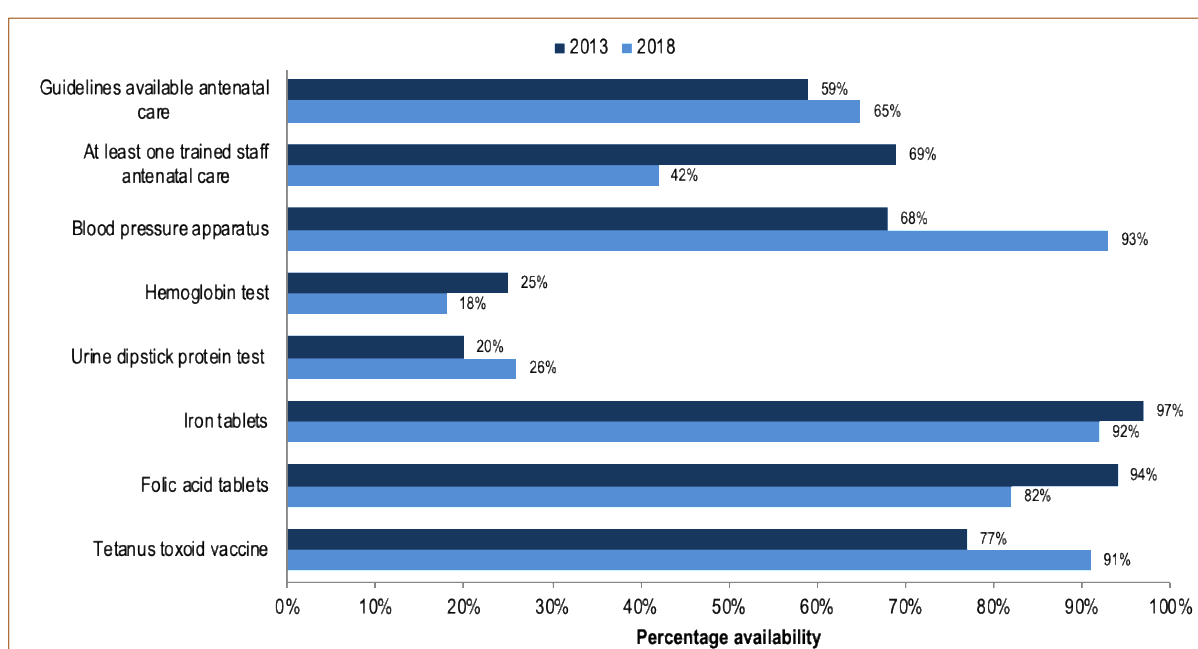
²⁶ Folic acid tablets can be either folic acid only or iron/folic acid in combination.

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver antenatal care services

Figure 32 shows the percentage of facilities that have tracer items for ANC services among facilities that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- The percentage of facilities offering ANC services who had guidelines available for ANC care increased from 2013 (59%) to 2018/2019 (65%). Increases from 2013 to 2018/2019 were also found in the percentage of facilities with a blood pressure apparatus (68% to 93%), facilities that had tetanus toxoid vaccine (77% to 91%), and facilities able to conduct urine dipstick protein tests (20% to 26%).
- There was a significant decline in the proportion of facilities offering ANC that had at least one staff trained in ANC in the last two years from 2013 (69%) to 2018/2019 (42%).
- Small declines from 2013 to 2018/2019 were also found in the percentage of facilities offering ANC that had iron tablets (97% to 92%), folic acid tablets (94% to 82%), and haemoglobin tests (25% to 18%).

Figure 32. Percentage of facilities that have tracer items for ANC services among facilities that provide this service, 2013 (N=632), 2018/2019 (N=667)



Basic obstetric and newborn care

While there have been major improvements in antenatal and delivery care in Malawi, such as increases in population coverage of ANC, births at health facilities, and skilled attendants at birth, obstetric care challenges in Malawi remain. The maternal mortality rate remains high (439 deaths per 100 000 live births) and postnatal care is not delivered to all mothers and newborns. Less than half of women aged 15–49 years of age obtain postnatal checks within 2 days after delivery (42%), and half of women do not have a check within 41 days of delivery.²⁷ Most maternal deaths are due to direct obstetric causes such as haemorrhage, sepsis, abortion complications, and hypertensive disorders,²⁸ but additionally mortality can be attributed to low quality of care in health facilities.²⁹

²⁷ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

²⁸ Mgawadere F, Unkels R, van den Broek N. Assigning cause of maternal death: a comparison of findings by a facility-based review team, an expert panel using the new ICD-MM cause classification and a computer-based program (INTERVA-4). *BJOG*. 2016;123(10):1647–53.

²⁹ Mgawadere, F., Regine Unkels, Adetoro Adegoke, Nynke van den Broek. Measuring maternal mortality using a Reproductive Age Mortality Study (RAMOS). *BMC pregnancy and childbirth*. 17, Article number: 219 (2017).

Improving access to emergency obstetric care is an effective strategy for the reduction of maternal and infant mortality, in which complications of pregnancy and childbirth are identified and referred to a higher level if necessary. Basic obstetric care signal functions include the following: (1) parenteral administration of antibiotics, (2) parenteral administration of oxytocics, (3) parenteral administration of anticonvulsants, (4) assisted vaginal delivery, (5) manual removal of placenta, (6) manual removal of retained products, and (7) neonatal resuscitation. Basic emergency obstetric and newborn care (BEmONC) includes capacity to provide these seven signal functions. Guidelines jointly issued by WHO, UNICEF, and United Nations Population Fund (UNFPA) recommend four facilities offering basic obstetric care for every 500 000 people.

Table 16 outlines the tracer items necessary to deliver basic obstetric and newborn care by domain.

Table 16. Tracer items for basic obstetric and newborn care

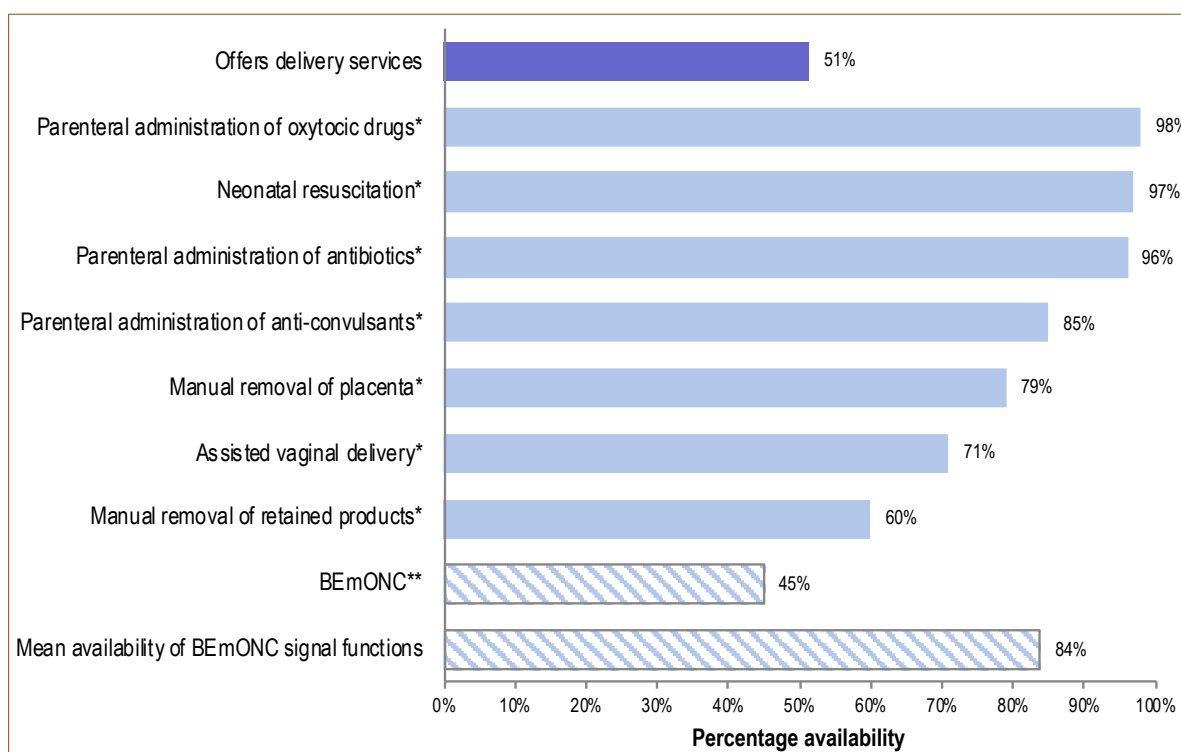
Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Checklists and/or job aids for essential childbirth care ■ Staff trained in newborn resuscitation in the past two years ■ Guidelines for essential childbirth care ■ Staff trained in essential childbirth care in the past two years
Equipment	<ul style="list-style-type: none"> ■ Gloves ■ Blood pressure apparatus ■ Infant weighing scale ■ Emergency transport ■ Suction apparatus ■ Soap and running water or alcohol-based hand rub ■ Examination light ■ Delivery bed ■ Manual vacuum extractor ■ Sterilization equipment ■ Vacuum aspirator or D&C kit
Medicines and commodities	<ul style="list-style-type: none"> ■ Injectable uterotonic ■ Injectable antibiotic ■ Magnesium sulphate (injectable) ■ Skin disinfectant ■ Antibiotic eye ointment ■ Intravenous solution with infusion set

Service availability

Figure 33 shows the percentage of facilities offering normal delivery services, and of those facilities offering delivery services, the percentage offering obstetric signal functions.

- Slightly more than half of facilities (51%) offered normal delivery services.
- Among facilities offering delivery services, 45% met basic emergency obstetric and newborn care (BEmONC) criteria which was defined as availability of the seven signal functions. On average, facilities offered 84% of the BEmONC signal functions.
- Of the seven BEmONC signal functions, parenteral administration of antibiotics, parenteral administration of oxytocic drugs, and neonatal resuscitation were almost universally offered at facilities offering delivery services (96%, 98%, 97%, respectively) while manual removal of retained products was the least available BEmONC signal function at facilities offering delivery services (60%).

Figure 33. Percentage of facilities that offer delivery services (N=1106) and basic obstetric care services (N=568)



* BEmONC signal function.

**BEmONC facilities are those that provide all seven signal functions.

Table 54 shows the percentage of facilities offering delivery services and of those offering delivery services, the percentage offering basic obstetric care services by region, facility type, managing authority and urban vs. rural location.

- Nearly all CHAM facilities offered delivery services (88%) as did the majority of government facilities (66%), while only 9% of NGO facilities offered delivery services.
- The South region had a slightly lower percentage of facilities offering delivery services (48%) as compared to the North and the Centre regions (54% each).
- Almost all hospitals and health centres offered delivery services (92% and 90% respectively), but other facility types did not commonly offer delivery services (clinics 8%, dispensaries 6%, and health posts 1%).
- Facilities located in rural areas were more likely to offer delivery services as compared to facilities located in urban areas (64% vs. 25%).
- Among facilities offering delivery services, a higher proportion of facilities in the Centre region (50%) met BEmONC criteria (defined as availability of the seven signal functions) as compared to the North and South regions (39% and 42% respectively).
- Among facilities offering delivery services, a higher proportion of facilities in hospitals (88%) met BEmONC criteria as compared to health centres, dispensaries, clinics, and health posts (35%, 25%, 48%, and 0% respectively).
- Across managing authorities, private non-profit facilities (9%) were the least likely to meet BEmONC criteria compared to all other managing authorities (range 40%–54%).
- Urban facilities (64%) were more likely to meet BEmONC criteria compared to rural facilities (41%).

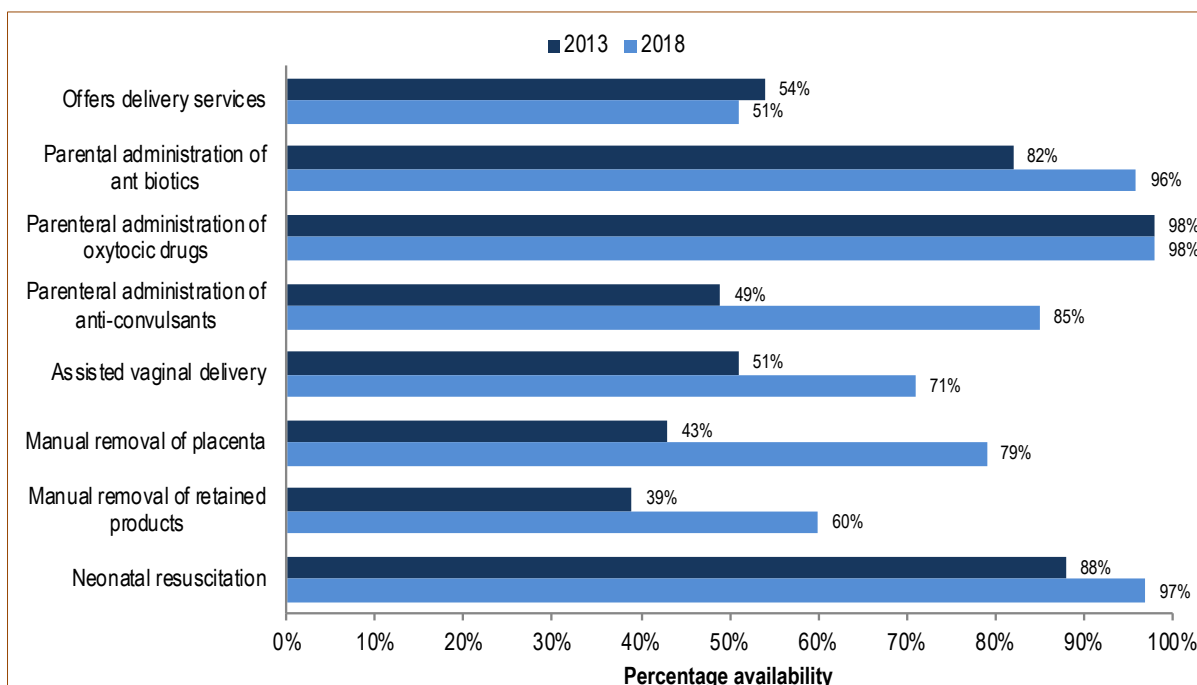
Comparison of 2013 SPA to 2018/2019 HHFA: Availability of basic obstetric care services

Figure 34 shows the percentage of facilities offering basic obstetric care services among those facilities that provide delivery services from the 2013 SPA survey and the 2018/2019 HHFA survey.

- The percentage of facilities offering delivery services decreased slightly from 2013 (54%) to 2018/2019 (51%).

- Increases were seen from 2013 to 2018/2019 in the availability of all BEmONC signal functions amongst facilities offering delivery services except parenteral administration of oxytocic drugs which remained constant.

Figure 34. Percentage of facilities that offer basic obstetric care services among facilities providing delivery services, 2013 (N=528), 2018/2019 (N=568)



Service readiness

Readiness to provide basic obstetric care was assessed based on the availability of the tracer items outlined in Table 16. Figure 35 shows the percentage availability of tracer items for basic obstetric care at facilities that offer delivery services.

- Only 4% facilities had all 21 tracer items for basic obstetric care. On average, facilities had approximately 15 of the 21 items for an overall readiness score of 71 out of 100.
- Within the staff and guidelines domain, guidelines for essential childbirth care were more readily available (64%) than having at least one staff trained in essential childbirth care (40%).
- Availability of equipment was variable; the most available items were gloves (96%) and blood pressure apparatus (92%) as compared to the least available item which was a vacuum aspirator or D&C kit (37%).
- Within medicines and commodities, most medicines were available at more than 85% of facilities with the exception of intravenous solution with infusion set which was available at 62% of facilities.

Figure 35. Percentage of facilities that have tracer items for basic obstetric care among facilities that provide delivery services (N=568)

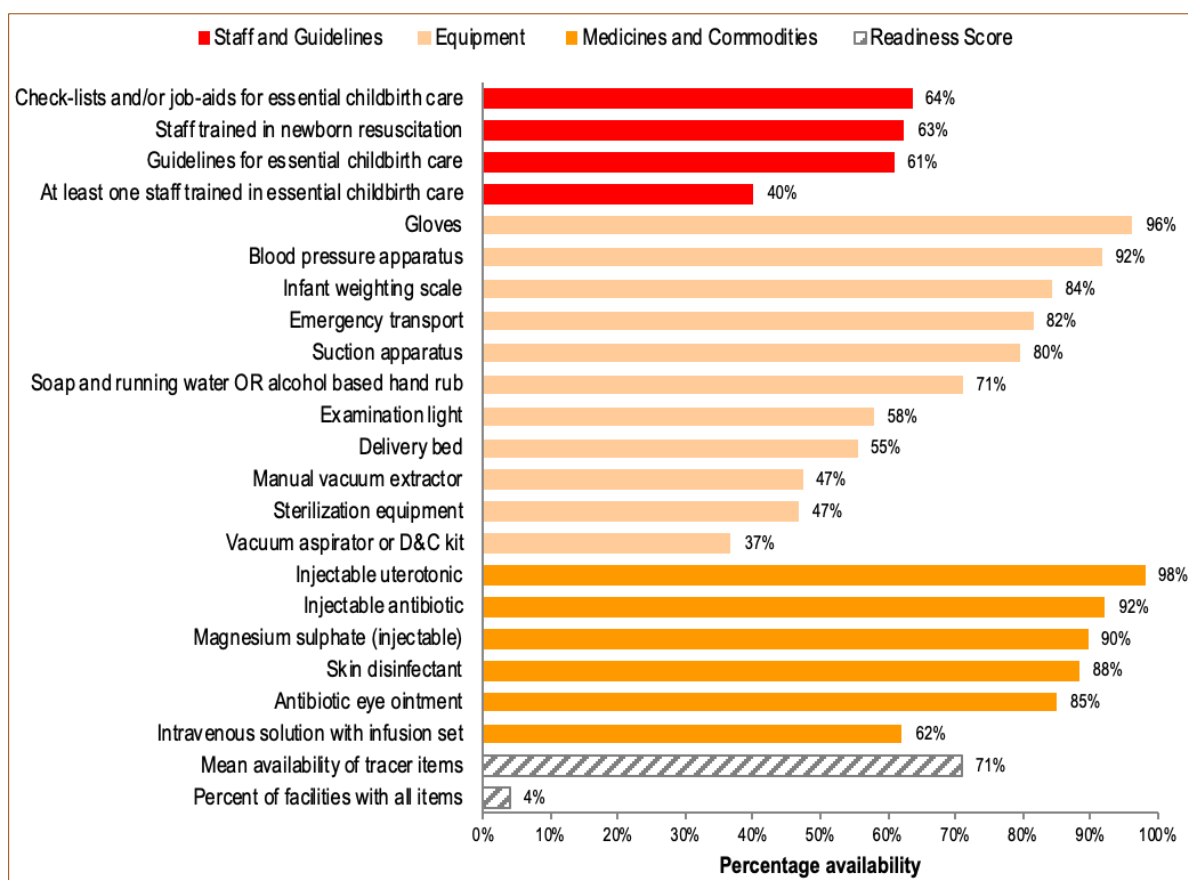


Table 55 and Table 56 show the availability of tracer items for basic obstetric care at facilities offering delivery services by region, facility type, managing authority, and location.

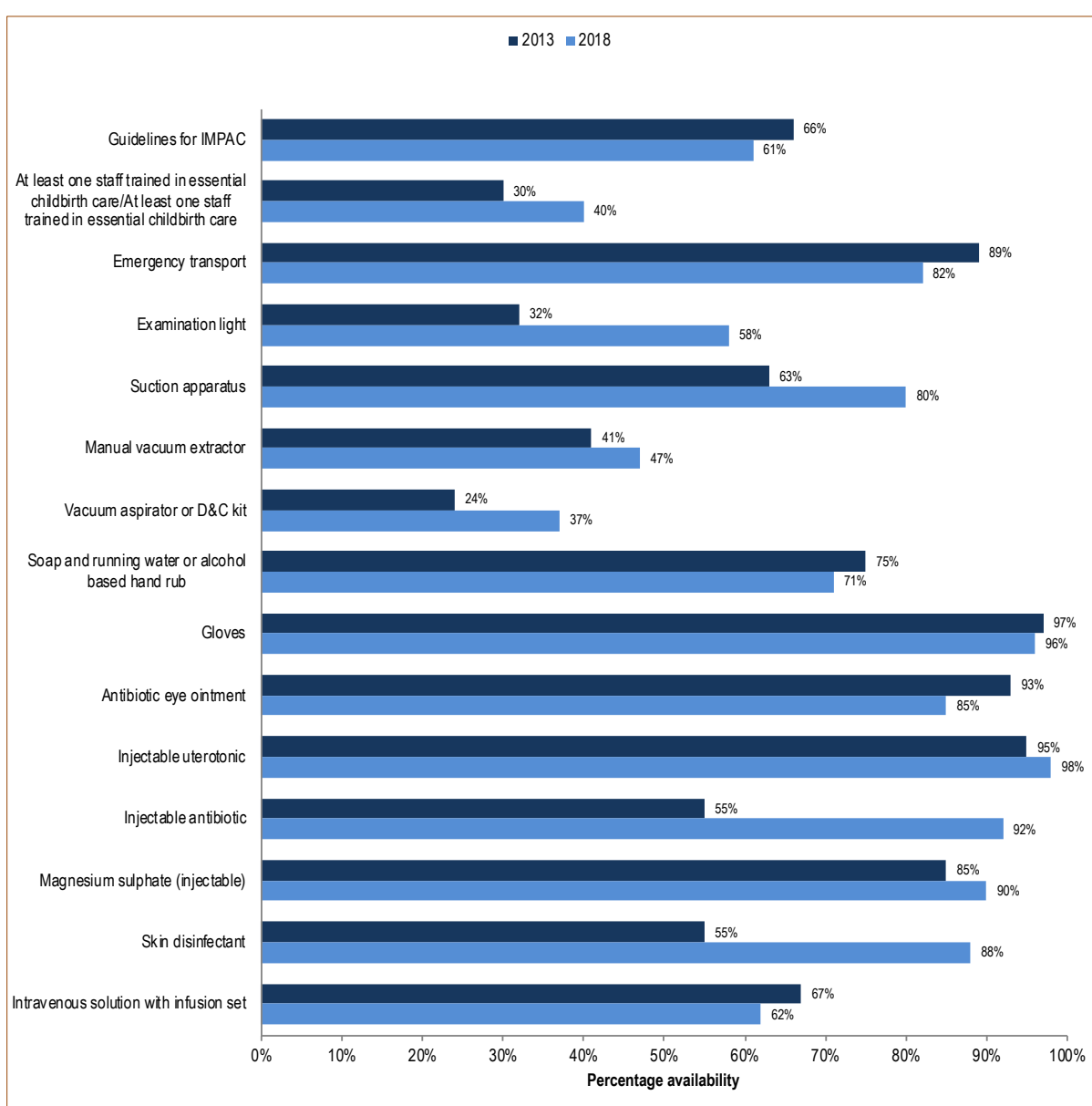
- There was little difference between the Northern, Central and Southern regions in the mean availability of all tracer items (68%, 69% and 74% respectively).
- Hospitals had the greatest availability of the majority of basic obstetric care items compared to all other facility types. Almost all hospitals had emergency transport (90%), a delivery bed (96%), antibiotic eye ointment (98%), and injectable magnesium sulphate (97%).
- CHAM facilities had the highest mean availability of tracer items (78%), closely followed by NGO facilities (76%) and private for-profit facilities (74%). In comparison, government facilities had on average 68% of tracer items.
- Private non-profit facilities had the greatest availability of guidelines for essential childbirth care (73%), at least one staff trained in essential childbirth care (45%), and sterilization equipment (82%).
- Urban facilities were more likely to have tracer items for basic obstetric care (mean availability 82%) compared to rural facilities (mean availability 69%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver basic obstetric care services

Figure 36 shows the percentage of facilities that have tracer items for basic obstetric care among those facilities that provide delivery services from the 2013 SPA survey and the 2018/2019 HHFA survey.

- In the domain of staff and guidelines, while the percentage of facilities with guidelines for integrated management of pregnancy and childbirth (IMPAC) declined from 2013 to 2018/2019 (66% to 61%), there was an increase in facilities that had at least one staff trained in essential childbirth care (30% to 40%).
- The percentage of facilities providing delivery services that had a suction apparatus increased from 2013 to 2018/2019 (63% to 80%), as did the percentage of facilities with a manual vacuum extractor (41% to 47%), vacuum aspirator/D&C kit (24% to 37%) and examination light (32% to 58%).
- In the domain of medicines and commodities, the percentage of facilities with each of the items increased from 2013 to 2018/2019 with the exception of intravenous solution with infusion set (67% to 62%).

Figure 36. Percentage of facilities that have tracer items for basic obstetric care among facilities that provide delivery services, 2013 (N=528), 2018/2019 (N=568)



Comprehensive emergency obstetric care

Malawi's maternal mortality ratio (MMR) is 439 deaths per 100 000 live births.³⁰ There have been significant improvements in births occurring in a facility and in skilled assistance during delivery, but the MMR is still well above the MDG target of 330 deaths per 100 000 live births.³¹ Complications from pregnancy and childbirth are still one of the primary causes of maternal morbidity and mortality.

In order to manage obstetric complications, a facility must have the skilled personnel available or on call at all times (surgeon and anaesthetist), with the required equipment, supplies, and trained support staff to administer blood transfusions and anaesthesia (Table 17). Comprehensive emergency obstetric and newborn care (CEmONC) is generally offered at the district hospital level and consists of the seven signal functions of basic emergency obstetric care plus caesarean section and safe blood transfusion. Guidelines jointly issued by WHO, UNICEF, and United Nations Population Fund (UNFPA) recommend one facility offering comprehensive obstetric care for every 500 000 people.

Table 17. Tracer items for comprehensive obstetric care readiness

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for CEmONC ■ Staff trained in CEmONC in the past two years ■ Staff trained in surgery (present in facility or on-call 24 hours a day) ■ Staff trained in anaesthesia (present in facility or on-call 24 hours a day)
Equipment	<ul style="list-style-type: none"> ■ Oxygen
Diagnostics	<ul style="list-style-type: none"> ■ Capacity to conduct blood typing onsite ■ Capacity to conduct compatibility testing on site
Medicines and commodities	<ul style="list-style-type: none"> ■ Blood sufficiency (no shortage of blood in the past 3 months) ■ Blood safety (blood obtained only from national or regional blood bank, or blood obtained from other sources but screened for HIV and other transmissible infections) ■ Lidocaine ■ Epinephrine ■ Halothane ■ Atropine ■ Thiopental ■ Suxamethonium bromide ■ Ketamine

Service availability

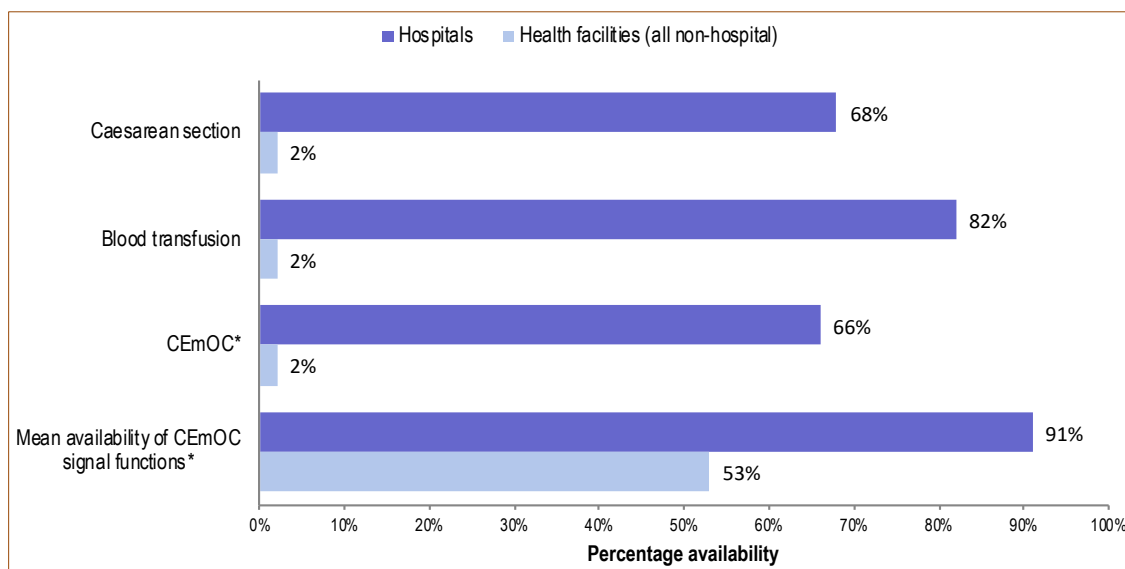
Figure 37 shows the percentage of facilities offering delivery services that offer comprehensive obstetric care by facility type.

- About two-thirds of hospitals offering delivery services offered caesarean sections (68%), while only 2% of health facilities offered this service.
- The majority of hospitals that offering delivery services offered blood transfusions (82%), in contrast to 2% of other health facilities.
- Among facilities offering delivery services, 66% of hospitals and 2% of all other facilities met comprehensive emergency obstetric and newborn care (CEmONC) criteria which was defined as availability of the seven BEmONC signal functions plus caesarean section and blood transfusion.
- On average, hospitals offering delivery services offered 91% of the CEmONC signal functions while on average, all other health facilities offered 53% of CEmONC signal functions.

³⁰ National Statistical Office (NSO) [Malawi] and ICF. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

³¹ WHO, UNICEF, UNFPA and The World Bank, and the United Nations Population Division, 2014. Trends in maternal mortality: 1990 to 2013 Report.

Figure 37. Percentage of facilities offering delivery services that offer comprehensive obstetric care signal functions, by facility type (N=568)



* Comprehensive emergency obstetric care (CEmONC) consists of the seven obstetric signal functions and the availability of blood transfusion services and caesarean section.

Table 57 shows the percentage of facilities offering delivery services that offer caesarean section, blood transfusion, and CEmONC services by region, facility type, managing authority, and urban vs. rural location.

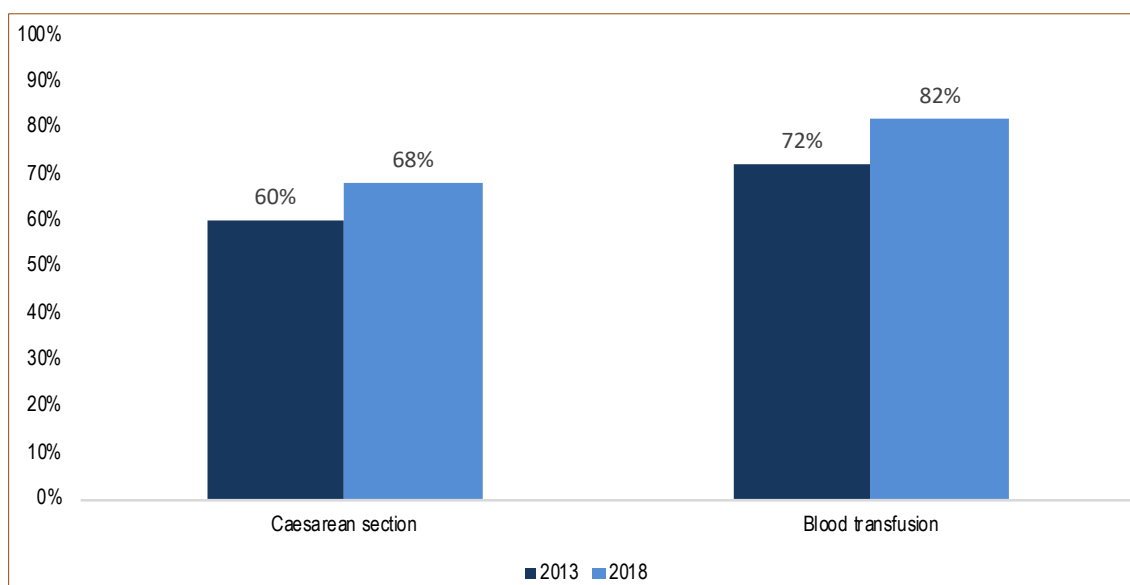
- Availability of caesarean sections, blood transfusions, and CEmONC services did not vary much by region.
- CHAM facilities, private for-profit, and NGO facilities were more likely than government and private non-profit facilities to offer caesarean section, blood transfusion, and CEmONC services.
- Urban and rural disparities were evident, with facilities located in urban areas more likely to offer caesarean section, blood transfusion, and CEmONC services. CEmONC criteria was met for 51% of facilities offering delivery services in urban areas compared to 6% in rural areas.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of comprehensive obstetric care services in hospitals

Figure 38 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of hospitals offering delivery services that offer comprehensive obstetric care services.

- Modest increases occurred in the percentage of hospitals offering delivery services that offer caesarean section (60% to 68%) and blood transfusions (72% to 82%).

Figure 38. Percentage of hospitals offering delivery services that offer comprehensive obstetric care services, 2013 (N=95), 2018/2019 (N=93)



Service readiness

Readiness to provide comprehensive obstetric care was assessed based on the presence of the 16 tracer items found in Table 17. Figure 39 shows the percentage of facilities that have tracer items for comprehensive obstetric care among facilities that provide caesarean section.

- Only 1% of facilities offering caesarean section services had all tracer items needed to provide comprehensive obstetric care services. However, facilities had on average 72% of items needed to deliver comprehensive obstetric care services.
- Nearly all facilities had staff trained in surgery (99%) and anaesthesia (93%). Fewer facilities had at least one staff member trained in CEmONC (65%).
- Availability of oxygen was nearly universal at facilities providing caesarean section (97%).
- Diagnostic capacity for comprehensive obstetric care was high with 85% of facilities able to conduct cross-match testing and 87% of facilities able to conduct blood typing.
- Comprehensive obstetric care medicine availability was variable. Injectable ketamine (88%) was the most commonly available medicine while suxamethonium bromide powder was the least available medicine (36%).

Figure 39. Percentage of facilities that have tracer items for comprehensive obstetric care services among facilities that provide caesarean section (N=75), Malawi 2018/2019

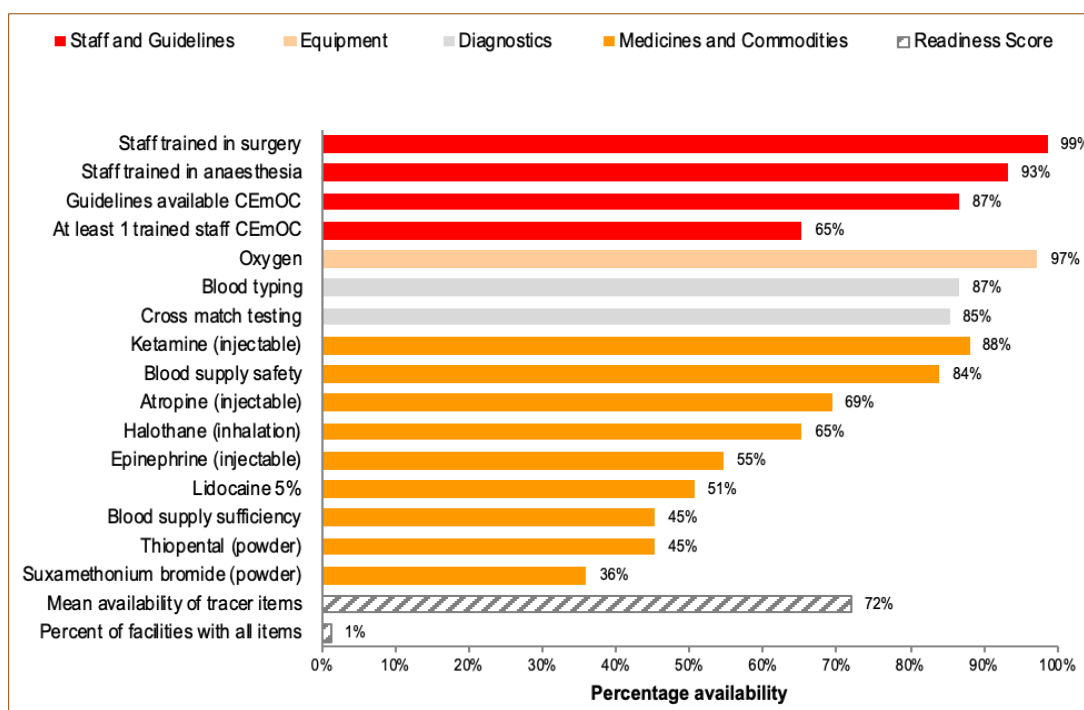


Table 58 and Table 59 show readiness to provide comprehensive obstetric care at facilities providing caesarean section by region, facility type, managing authority, and urban vs. rural location.

- There were no differences across regions in terms of mean availability of tracer items (all 72%).
- All health centres and clinics, and almost all hospitals (98%) had staff trained in surgery. However, differences were found in the percentage of hospitals having trained staff in anaesthesia compared to health centres (94% compared to 74%).
- Hospitals had the greatest availability of guidelines for CEmONC (89%), blood typing (89%), blood supply safety (87%), and thiopental powder (51%) compared to other facility types.
- The mean availability of tracer items for comprehensive obstetric care was slightly higher among government facilities (78%) as compared to CHAM facilities (72%), however the mean availability of tracer items for comprehensive obstetric care was lower for both private for-profit facilities (55%) and NGO facilities (56%).
- Government facilities had the greatest availability of lidocaine (68%), halothane (82%), atropine (85%), and thiopental powder (68%).
- The mean availability of tracer items for comprehensive obstetric care was similar between facilities in urban areas compared to rural areas (71% vs. 73%). Facilities in rural areas had a greater availability of halothane, atropine, thiopental, and ketamine relative to facilities in urban areas.

Blood transfusion

The tracer items necessary for hospitals to provide blood transfusion are outlined in Table 18.

Table 18. Tracer items needed to provide blood transfusion

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines on appropriate use of blood and safe transfusion practices ■ Staff trained in the appropriate use of blood and safe transfusion practices in the past two years
Equipment	<ul style="list-style-type: none"> ■ Refrigerator for blood storage
Diagnostics	<ul style="list-style-type: none"> ■ Capacity to conduct blood typing on-site ■ Capacity to compatibility testing on-site
Medicine and commodities	<ul style="list-style-type: none"> ■ Sufficiency (no shortage of blood in the past three months) ■ Safety (blood obtained only from national or regional blood bank, or blood obtained from other sources but screened for HIV and other transmissible infections)

Service availability

Figure 40 shows the percentage of facilities offering blood transfusion services.

- Very few facilities offer blood transfusions (8%).

Figure 40. Percentage of facilities that offer blood transfusion services (N=1106), Malawi 2018/2019

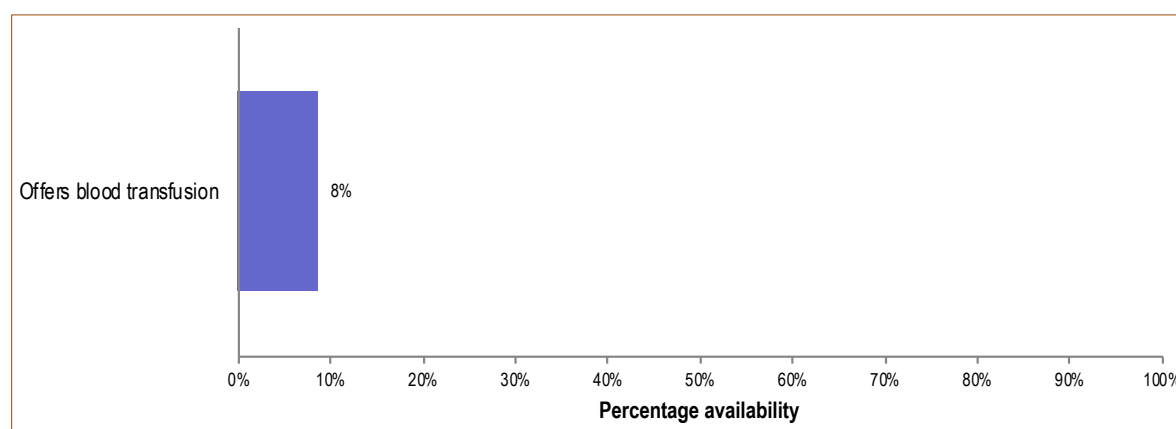


Table 60 shows the percentage of facilities that offer blood transfusion services by region, facility type, managing authority, and urban vs. rural location.

- The Central region had a slightly higher percentage of facilities offering blood transfusion services (10%) as compared to the Northern (8%) and Southern regions (7%).
- Hospitals make up almost all of the facilities who offer blood transfusions (78%), compared to clinics (3%) and health centres (1%). No dispensaries or health posts offer blood transfusion services.
- CHAM facilities were the most likely to offer blood transfusion services (25%), in contrast to government (6%), private for-profit (6%), private non-profit (3%), and NGO facilities (2%).
- Urban facilities were more likely to offer blood transfusion services than rural facilities (16% vs. 5%).

Service readiness

Readiness to provide blood transfusion services was assessed based on the presence of the seven tracer items found in Table 18. Figure 41 shows the percentage of facilities that have tracer items for blood transfusion services among facilities that provide the service.

- Almost a third of facilities offering blood transfusions had all tracer items for this service (27%).
- On average, facilities had 83% of items needed to deliver blood transfusion services.
- Nearly all facilities offering this service had guidelines on the appropriate use of blood and blood transfusion (98%), but fewer facilities had at least one staff member trained in the appropriate use of blood and safe blood transfusion (77%).
- Availability of a blood storage refrigerator was nearly universal (97%).
- There was a high percentage of facilities offering cross-match testing (88%) as well as blood typing (86%).
- Blood supply safety was high across facilities (88%), but only 48% of facilities had blood supply sufficiency.

Figure 41. Percentage of facilities that have tracer items for blood transfusion services among facilities that provide this service (N=94), Malawi 2018/2019

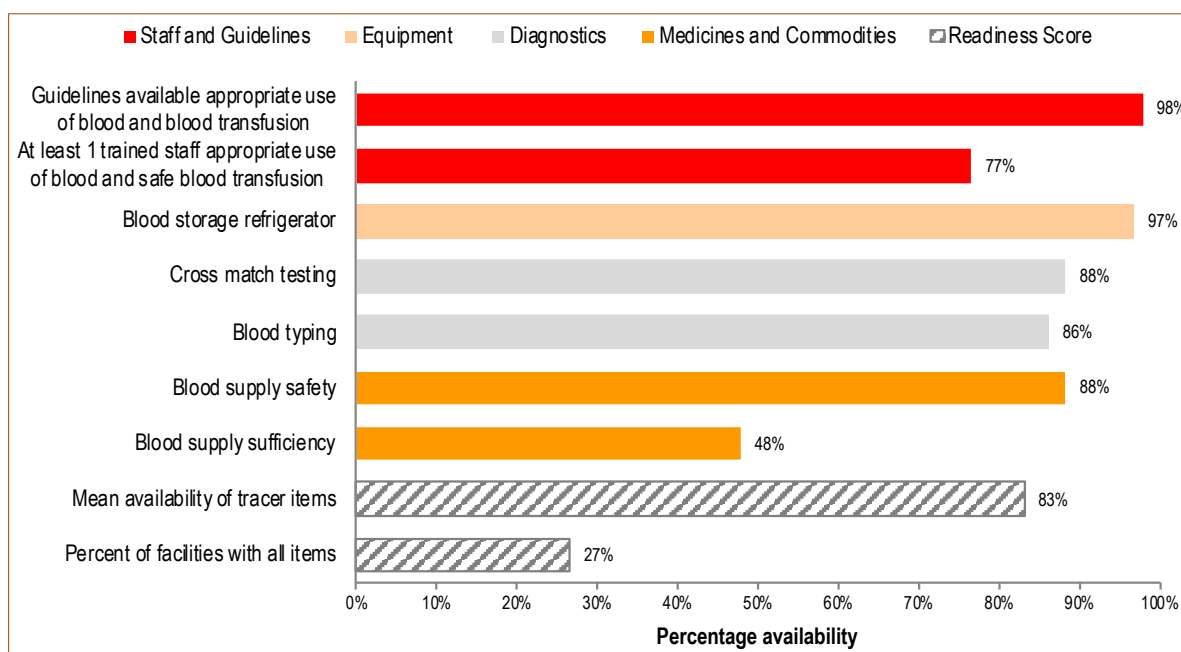


Table 61 shows the percentage of facilities that have tracer items for blood transfusion services among facilities that provide the service by region, facility type, managing authority, and urban vs. rural location.

- There was little difference across the Northern, Central, and Southern regions in the mean availability of tracer items for blood transfusion services (82%, 83%, 84%, respectively). Facilities in the Central and Southern regions had a greater availability of blood supply sufficiency (53% and 51%, respectively) compared to facilities in the Northern region (29%).
- Hospitals had the greatest availability of at least one trained staff in the appropriate use of blood and blood transfusion (78%) and blood typing (89%) compared to other facility types. All health centres had guidelines for appropriate use of blood and blood transfusion, blood storage refrigerator, and blood supply safety.
- 50% of private non-profit facilities had all tracer items for blood transfusion services compared to 37% of government facilities and 33% of private for-profit facilities. All private non-profit and NGO facilities had guidelines for appropriate use of blood and blood transfusion, blood storage refrigerator, blood supply sufficiency, and blood safety supply.
- In urban areas there was a higher percentage of facilities with all tracer items as compared to rural areas (31% compared to 20%). However, compared to facilities in urban areas, facilities in rural areas had a greater availability of blood storage refrigerator (100% compared to 94%) and blood typing (88% compared to 85%).

Routine child immunization

Immunization is critically important to reduce child morbidity and mortality by preventing diseases. Child vaccination schedules should include one dose of Bacillus Calmette–Guérin (BCG) for protection against tuberculosis, one dose of measles–rubella vaccine to prevent measles and rubella including congenital rubella syndrome (CRS), three doses of the diphtheria, pertussis, tetanus, hepatitis B, and Haemophilus influenzae type b (DPT–HepB–Hib or pentavalent) vaccine, four doses of the oral polio vaccine (OPV) to prevent poliomyelitis, three doses of pneumococcal conjugate vaccine for protection against streptococcus pneumonia which causes severe pneumonia, meningitis, and other illnesses, and two doses of rotavirus vaccine for protection against gastroenteritis.

In Malawi, the MoHP’s Expanded Programme on Immunization (EPI) was designed to guarantee that children receive all required vaccinations prior to one year of age. Nearly 75% of children aged 12–23 months have received a suite of eight basic vaccines, including BCG, measles and multiple doses of DPT–HepB–Hib and polio. This number has declined since the 2010 DHS, when basic vaccination rates reached 81%. In rural areas children are more likely to

have received all eight basic vaccinations as compared to urban areas (77% as compared to 70%), yet overall age appropriate vaccination rates are lower, at approximately 50%.³² Tracer items needed to provide routine child immunization services are outlined in Table 19.

Table 19. Tracer items needed to provide routine child immunization services, Malawi 2018/2019

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Staff trained in child immunization in the past two years
Equipment	<ul style="list-style-type: none"> ■ Refrigerator ■ Sharps container ■ Auto-disable syringes ■ Temperature monitoring device in refrigerator ■ Adequate refrigerator temperature ■ Immunization cards
Medicines and commodities	<ul style="list-style-type: none"> ■ Measles vaccine ■ DPT–HepB–Hib vaccine ■ Oral polio vaccine ■ BCG vaccine ■ Rotavirus vaccine ■ Pneumococcal vaccine

Service availability

Figure 42 shows the percentage of facilities that offer child immunization services.

- Over two-thirds of facilities (73%) offered routine childhood immunization.
- Daily provision of child immunizations in facilities was found in 43% of facilities and 21% of facilities offered weekly child immunization services. Only 8% of facilities offered child immunization services on a monthly basis.

Figure 42. Percentage of facilities that offer child immunization services (N=1106), Malawi 2018/2019

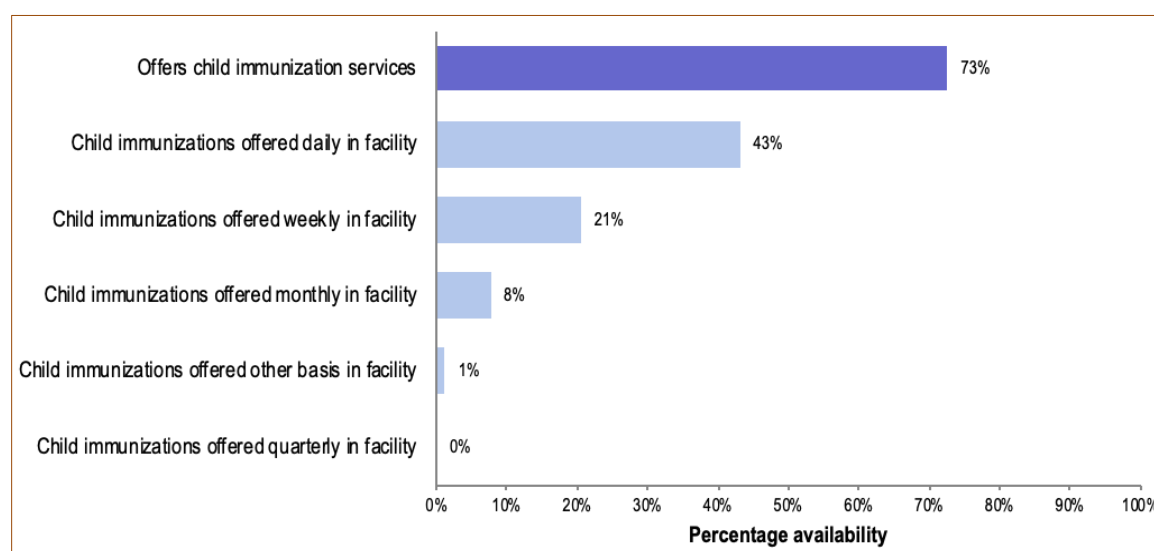


Table 62 shows the percentage of facilities offering child immunization services, by region, facility type, managing authority, and urban vs. rural location.

- The majority of health centres, health posts and hospitals offered child immunization services (98%, 98%, 93%). Only 23% of clinics provided child immunization services.
- The majority of government and CHAM facilities offered child immunization services (96%), in contrast to NGO (25%) and private for-profit facilities (17%). However, CHAM facilities were more likely than government facilities to offer daily child immunizations (66% versus 59%).

³² National Statistical Office (NSO) [Malawi] and ICF. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

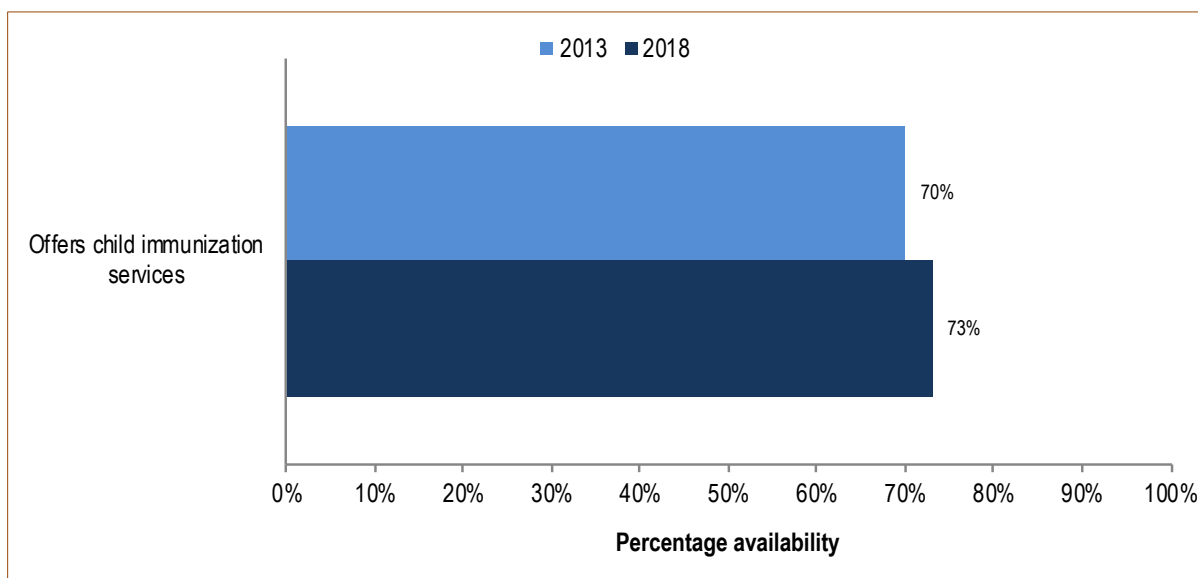
- Rural facilities were much more likely than urban facilities to offer child immunization services (89% compared to 38%).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of child immunization services

Figure 43 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of facilities that offer child immunization services.

- There was a slight increase in the percentage of facilities that offer child immunization services from 2013 (70%) to 2018/2019 (73%).

Figure 43. Percentage of facilities that offer child immunization services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to provide child immunization services was assessed based on the availability of the 13 tracer items found in Table 19. Figure 44 shows the percentage availability of these tracer items at facilities that offer child immunization services.

- On average, facilities had approximately 11 of 13 child immunization tracer items (88% of items), but only 43% of all facilities reported having all items necessary to deliver child immunization services.
- The majority of facilities had at least one trained staff in child immunization (83%).
- In terms of equipment, almost all facilities had a sharps container (95%), and the majority had adequate refrigerator temperature (89%), a refrigerator (87%) and auto-disabled syringes (86%). Immunization cards were the least likely equipment item to be offered (73%).
- All vaccines were available in over 90% of facilities offering child immunization services.

Figure 44. Percentage of facilities that have tracer items for child immunization services among facilities that provide this service (N=803)

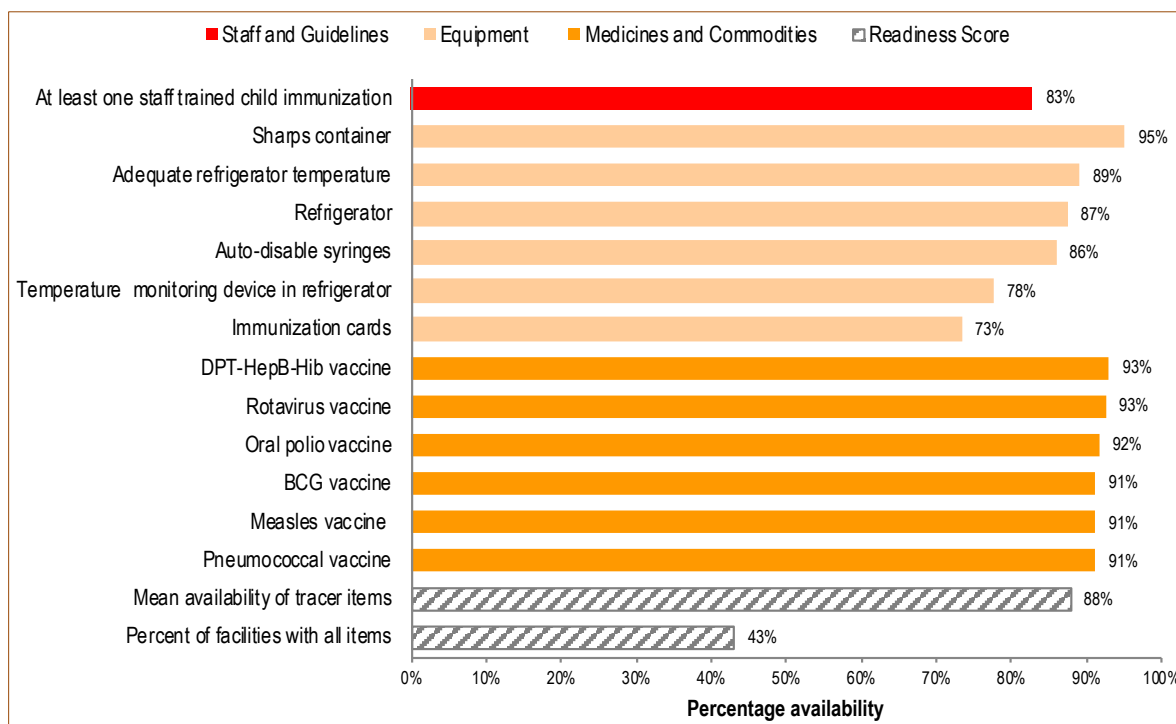


Table 63 and Table 64 show the availability of routine child immunization tracer items among facilities that provide the service by region, facility type, managing authority, and urban vs. rural location.

- Hospitals had the greatest mean availability of child immunization tracer items (96%), followed by health centres (92%) and dispensaries (89%). Health posts scored lowest in terms of mean availability of tracer items needed to provide child immunization services (62%).
- Hospitals had the greatest availability of all tracer items for routine child immunization, except for rotavirus vaccine, which was slightly more available at dispensaries (97% of hospitals compared to 98% of dispensaries). Hospitals were much more likely than health posts to have refrigerators (98% vs. 48%) and immunization cards (87% vs. 41%).
- Mean availability of tracer items needed to provide child immunization services was about equal between government (89%) and CHAM facilities (90%), however, availability was lower among private non-profit facilities (74%).
- CHAM facilities had the greatest availability auto-disable syringes (92%) and all six vaccines compared to other managing authorities.
- No major differences existed in the mean availability of child immunization items between urban and rural facilities (85% vs. 88%, respectively). Facilities in rural areas had a greater availability of all six vaccines relative to facilities in urban areas.

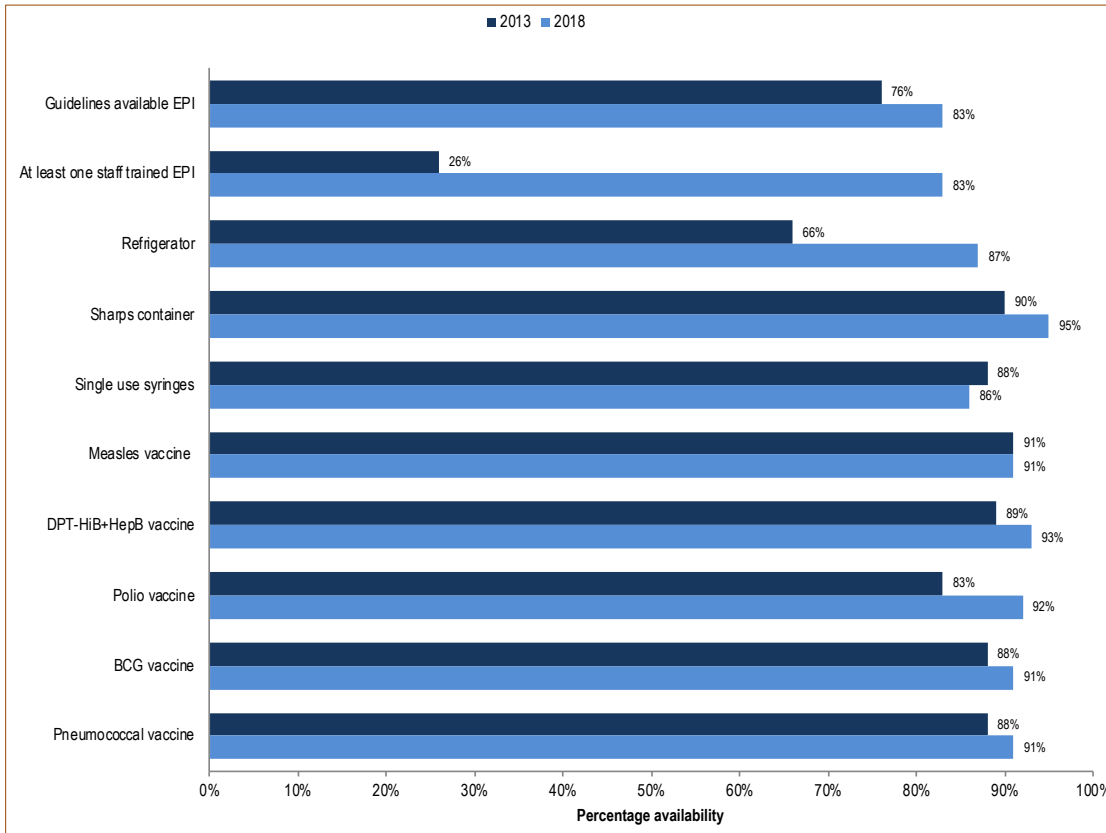
Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver child immunization services

Figure 45 shows the percentage of facilities that have tracer items for child immunization among facilities that provide child immunization services from the 2013 SPA survey and the 2018/2019 HHFA survey.

- The percentage of facilities with guidelines available for EPI increased from 2013 to 2018/2019 (76% to 83%), and there was an even more significant increase in facilities that had at least one staff trained in EPI (26% to 83%).

- The percentage of facilities with proper equipment for child immunization increased over this period, including refrigerators (66% to 87%) and sharps containers (90% to 95%). There was a small decrease in the percentage of facilities with single use syringes (88% to 86%).
- In the domain of medicines and commodities, the percentage of facilities with each of the vaccines stayed constant (measles vaccine, 91%) or increased from 2013 to 2018/2019. The largest improvement in the percentage of facilities with a particular vaccine occurred with the polio vaccine, which saw an increase from 83% of facilities in 2013 to 91% of facilities in 2018/2019.

Figure 45. Percentage of facilities that have tracer items for child immunization among facilities that provide this service, 2013 (N=688), 2018/2019 (N=803)



Child health preventive and curative care services

On the whole, child mortality rates in Malawi have been on the decline since 1992. The under-five mortality rate declined dramatically, from 135 per 1000 live births in 1992 to 42 per 1000 in 2015–2016. Infant mortality followed a similar pattern, dropping from 234 per 1000 live births in 1992 to 63 per 1000 births in 2015–16. Neonatal mortality decreased less significantly from 41 per 1000 to 27 per 1000. Malnutrition is one of the most significant contributing factors to mortality in Malawi for children under five years of age. In addition, there is a discrepancy in child health outcomes according to location; in rural areas child mortality is higher (77 deaths per 1000 live births) than in urban areas (60 deaths per 1000 live births).³³ Most health facilities in Malawi offer child health services of some kind, among them key child preventive and curative care services such as diagnosis and treatment of child malnutrition, vitamin A supplementation, iron supplementation, provision of oral rehydration solution (ORS) and zinc to treat diarrhoea, growth monitoring, treatment of pneumonia and malaria, and administration of amoxicillin for pneumonia.

³³ National Statistical Office (NSO) [Malawi] and ICF. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

Table 20 outlines the items necessary for facilities to offer child health preventive and curative care services.

Table 20. Tracer items needed to provide child health preventive and curative care services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for Integrated management of childhood illness (IMCI) ■ Staff trained in IMCI in the past two years ■ Staff trained in growth monitoring in the past two years
Equipment	<ul style="list-style-type: none"> ■ Child scale and infant scale ■ Length/height measurement equipment ■ Thermometer ■ Stethoscope ■ Growth chart
Diagnostics	<ul style="list-style-type: none"> ■ Capacity to conduct malaria testing ■ Haemoglobin test ■ General microscopy (to test for parasite in stool)
Medicines and commodities	<ul style="list-style-type: none"> ■ Oral rehydration solution (ORS) ■ Albendazole/mebendazole ■ Co-trimoxazole syrup/suspension ■ Vitamin A ■ Amoxicillin syrup/suspension ■ Paracetamol syrup/suspension ■ Zinc

Service availability

Figure 46 shows the percentage of facilities offering the following key child preventive and curative care services: diagnosis and treatment of child malnutrition, vitamin A supplementation, iron supplementation, provision of ORS and zinc to treat diarrhoea, growth monitoring, treatment of pneumonia, administration of amoxicillin for the treatment of pneumonia, and treatment of malaria in children.

- The majority of facilities in the country offered preventive and curative child health care services for children under five years of age (89%) and availability of all specific child preventive and curative care services was high (at least 75%).
- Treatment for malaria and pneumonia was found in 93% and 92% of all facilities respectively.
- Vitamin A supplementation was the least available child health service, but even so, a majority of facilities offered this service (75%).

Figure 46. Percentage of facilities offering key child preventive and curative care services (N=1106), Malawi 2018/2019

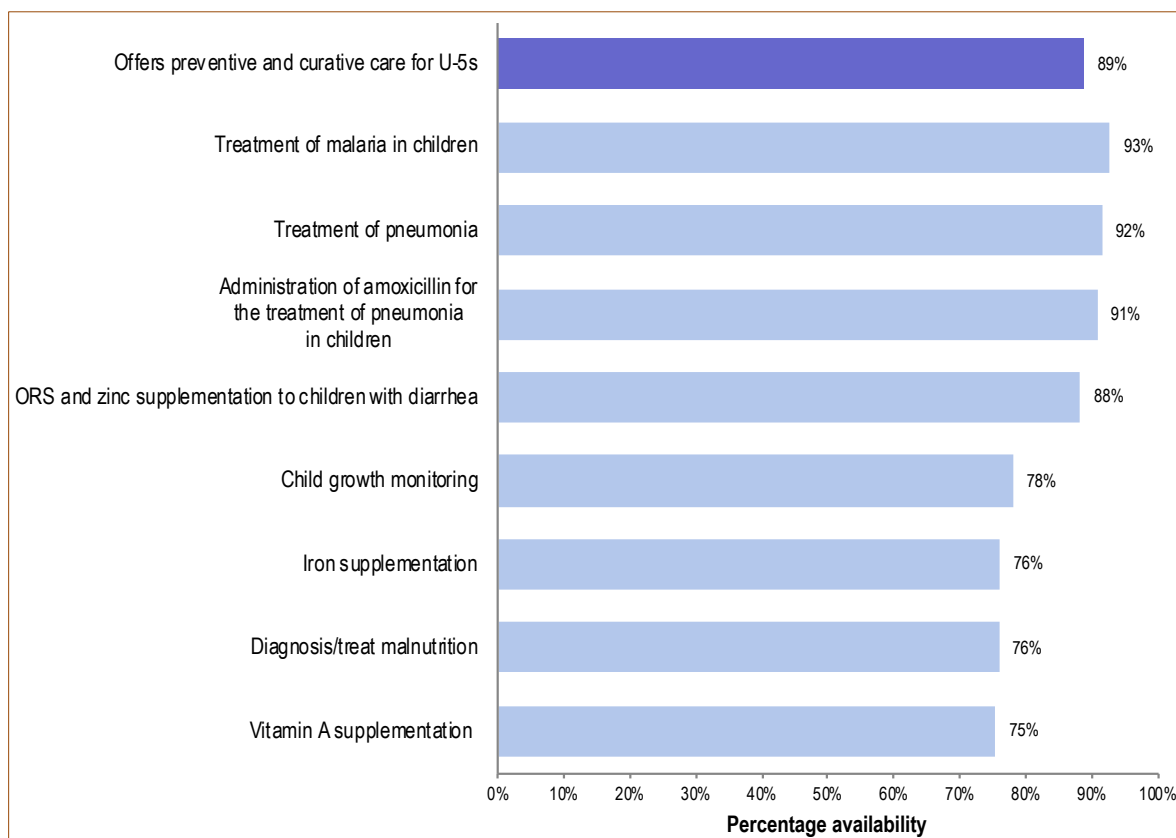


Table 65 shows the percentage of facilities offering key child preventative and curative services, by region, facility, managing authority, and urban vs. rural location.

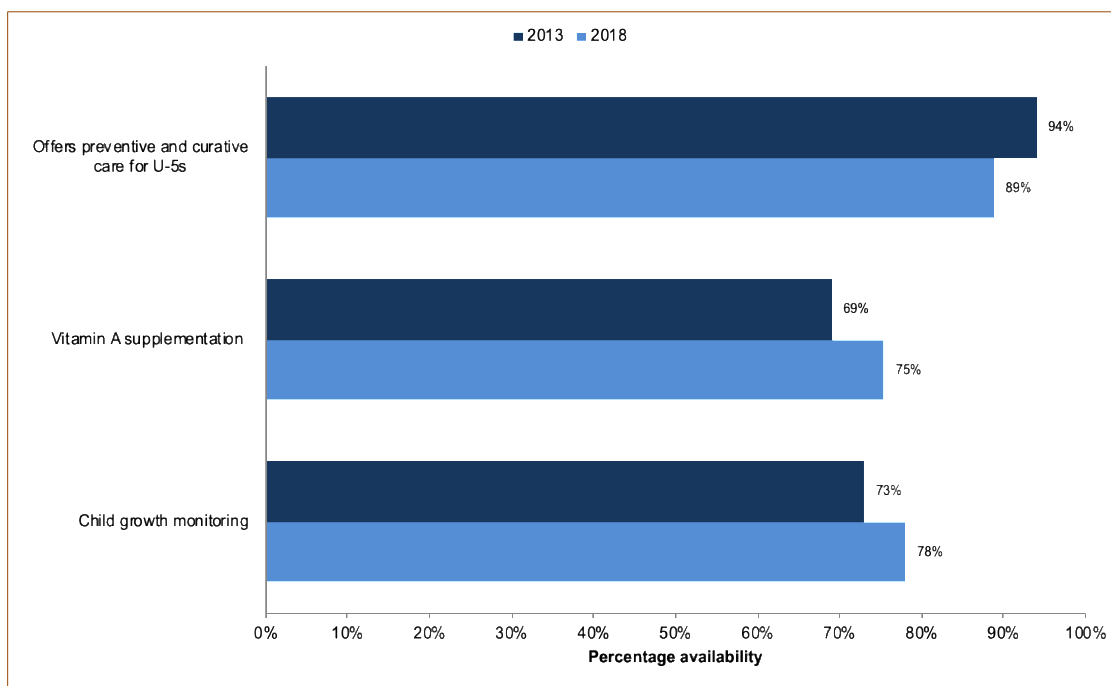
- Almost all health centres (99%) and the majority of hospitals (93%) and dispensaries (89%) offered preventative and curative care for children under five years of age. Clinics were less likely to provide these services (75%).
- Nearly all health centres offered child growth monitoring (99%), while only 39% of clinics offered this service.
- The majority of government and CHAM facilities offered preventative and curative child services (95% and 98%), in contrast to private for-profit (76%), private non-profit facilities (75%) and NGO facilities (70%).
- CHAM and government facilities were significantly more likely to offer vitamin A supplementation (95% and 93%) as compared to private for-profits and NGOs (34%).
- Rural facilities were more likely than urban facilities to offer preventative and curative child services (94% compared to 78%).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of child health preventative and curative services

Figure 47 shows the percentage of facilities that offer child health preventative and curative services from the 2013 SPA survey and the 2018/2019 HHFA survey.

- There was decrease in the percentage of facilities that offered child preventative and curative services from 2013 (94%) to 2018/2019 (89%).
- However, there was an increase in the percentage of facilities offering vitamin A supplementation (69% to 75%) and child growth monitoring (73% to 78%) during this period.

Figure 47. Percentage of facilities that offer child health preventative and curative services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to offer child health preventative and curative care was assessed based on the presence of the 18 tracer items found in Table 20. Figure 48 shows the percentage availability of these tracer items at facilities that offer child preventative and curative health services.

- On average, facilities had approximately 10 of 18 items (57% of all items), but none of the facilities had all items necessary to provide child preventative and curative health services.
- The majority of facilities had malaria diagnostic capacity (91%), but only 22% of facilities were able to test parasites in stool and a mere 14% had diagnostic capacity to measure haemoglobin.
- In terms of equipment, almost all facilities had a thermometer (87%) and a stethoscope (86%), but it was less common for facilities to have length/height measuring equipment (69%), growth charts (66%), and child and infant scales (52%).
- While most facilities had ORS packets (75%) and me-/albendazole capsules (71%), other medicines were less common, such as vitamin A capsules (47%) and co-trimoxazole syrup (30%).

Figure 48. Percentage of facilities that have tracer items for child health preventive and curative care services among facilities that provide this service (N=982), Malawi 2018/2019

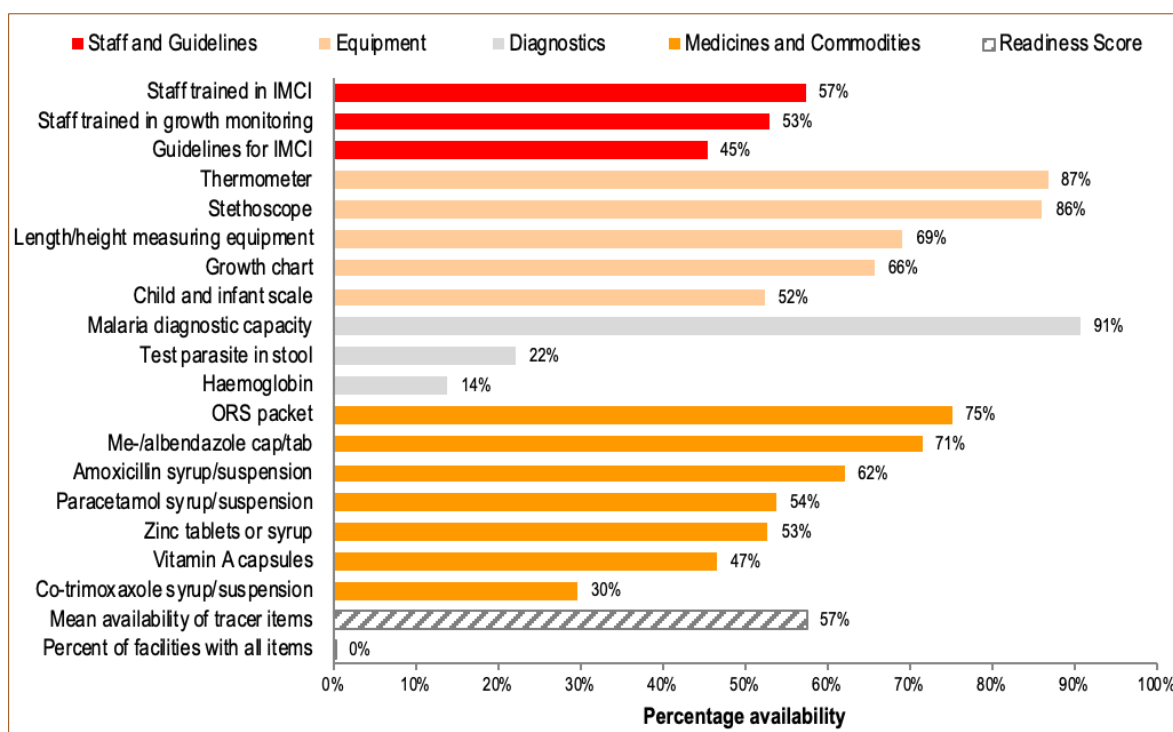


Table 66 and Table 67 show the availability of child preventative and curative health services tracer items among facilities that provide the service by region, facility type, managing authority, and by urban vs. rural location.

- Hospitals had the greatest availability of the majority of tracer items for child preventative and curative care services, including guidelines for IMCI (66%), growth chart (86%), test parasite in stool (82%), and vitamin A capsules (57%).
- Clinics had the greatest availability of amoxicillin syrup/suspension (87%), co-trimoxazole syrup/suspension (60%), and zinc tablets or syrup (74%).
- CHAM facilities had the greatest mean availability of tracer items for child preventative and curative health services (73%), while government and private for-profit facilities had the lowest mean availability of items (54% and 53%, respectively).
- Government facilities had the greatest availability of staff trained in IMCI (68%), but the lowest availability of thermometer (80%), stethoscope (80%), and ORS packet (67%).
- No major differences existed in the mean availability of child immunization items between urban and rural facilities (59% vs. 57%, respectively). However, facilities in urban areas had a much greater availability of co-trimoxazole syrup/suspension (55%) than rural facilities (20%).

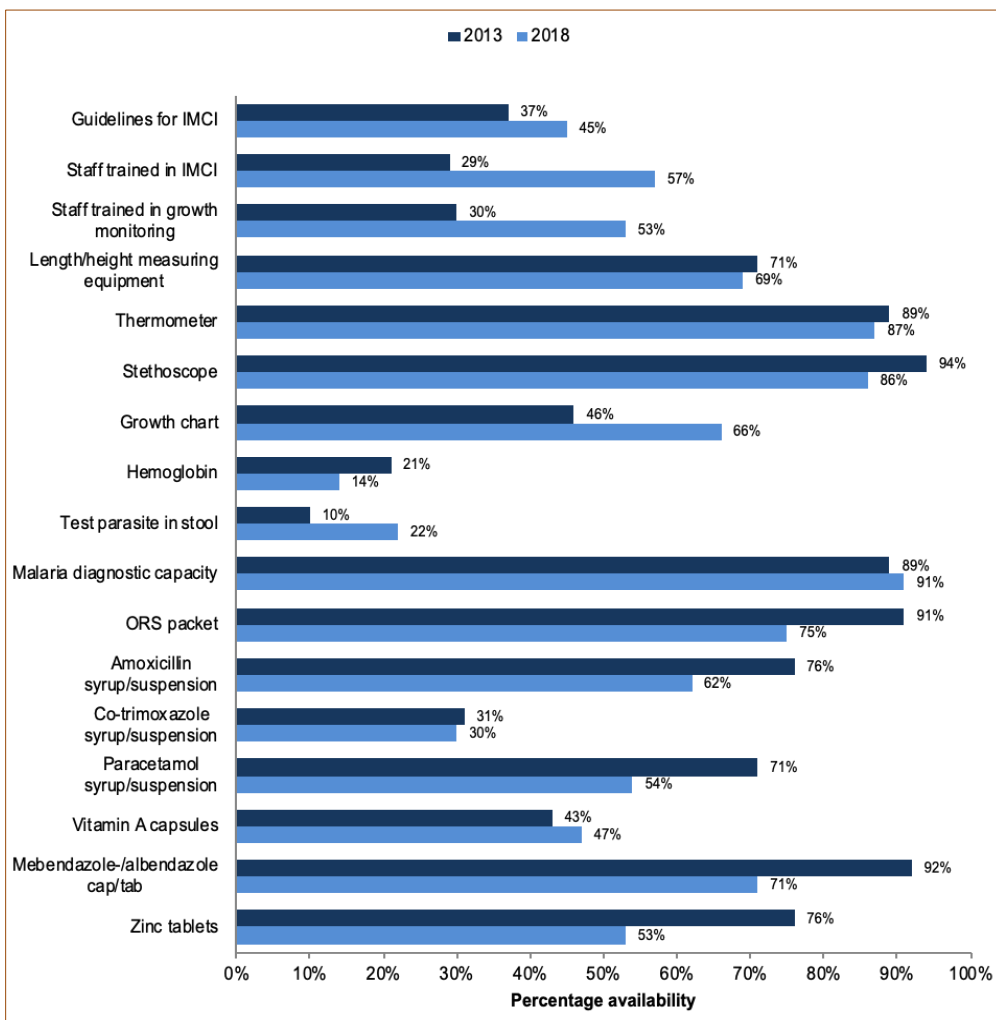
Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver child health preventative and curative care services

Figure 49 shows the percentage of facilities that have tracer items for child preventative and curative care among those facilities that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- Only slightly more than a third of facilities had guidelines available for IMCI in 2013 (37%), but there was a modest increase in the percentage facilities with IMCI guidelines in 2018/2019 (45%). Likewise, only 29% of facilities offering child preventative and curative care had staff trained in IMCI in 2013, but this number jumped to 57% in 2018/2019. A similar increase was seen in staff trained in growth monitoring (30% to 53%).
- The availability of equipment for child preventative and curative care decreased over this period for items such as length/height measuring equipment (71% to 69%), thermometers (89% to 87%), stethoscopes (94% to 86%). The one exception to this downward trend for equipment availability was for growth charts, which increased from 2013 to 2018/2019 (46% to 66%).

- The percentage of facilities with diagnostic capacity items increased from 2013 to 2018/2019 for malaria diagnostic capacity (89% to 91%) and testing parasites in stool (10% to 22%), but decreased in terms of capacity to measure hemoglobin (21% to 14%).
- In the domain of medicines and commodities, the percentage of facilities offering each medicine declined across almost all items from 2013 to 2018/2019, including ORS packets, amoxicillin syrup/suspension, co-trimoxazole syrup/suspension, paracetamol syrup/suspension, me/albendazole cap/tab, and zinc tablets. The only increase medicine availability was for vitamin A, which showed a slight increase (43% to 47%).

Figure 49. Percentage of facilities that have tracer items for child health preventative and curative care among facilities that provide this service, 2013 (N=915), 2018/2019 (N=982)



Nutrition services for children

Malawi is experiencing persistent challenges to improved nutrition. Malnutrition is one of the most significant contributing factors to mortality in Malawi for children under five years of age. Approximately 50% of all deaths of children under five years of age in Malawi are associated with severe or moderate malnutrition.³⁴ Further, since 1992 there have been no significant improvements to the contribution of malnutrition to child mortality.³⁵ Stunting is a condition that results from chronic undernutrition and that negatively affects child growth and development. Malawi's stunting rates – while they have improved – are still short of global targets and standards. The 2015–16 Demographic and Health Survey (DHS) showed that 37% of children under five years were stunted, 11% were severely stunted, and 3% suffered from wasting.³⁶ Most health facilities in Malawi offer nutrition services integrated within child health preventative and curative care services. Nutrition specific services include diagnosis and treatment of child malnutrition, growth monitoring, provision of nutrition services by health surveillance assistants, and linking clients with community-based services for nutrition screening/monitoring as well as food security support.

Table 21 outlines the items necessary for facilities to offer child nutrition services.

Table 21. Tracer items needed to provide child nutrition services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for community management of acute malnutrition (CMAM) ■ Staff trained in nutrition and growth monitoring in the past two years
Equipment	<ul style="list-style-type: none"> ■ Infant scale ■ Child scale ■ Mid-upper arm circumference (MUAC) tape for children ■ Child health passport with growth chart
Medicines and commodities	<ul style="list-style-type: none"> ■ Vitamin A capsules ■ Zinc sulphate tablets/syrup ■ Ready-to-use therapeutic foods (RUTF)

Service availability

Figure 50 shows the percentage of facilities offering the following key child nutrition services: diagnosis and treatment of child malnutrition, growth monitoring, provision of nutrition services by health surveillance assistants, and linking clients with community-based services for nutrition screening/monitoring as well as food security support.

- The majority of facilities in the country offered preventive and curative child health care services for children under five years of age (89%).
- Growth monitoring and malnutrition diagnosis and treatment were the most commonly offered child nutrition services (78% and 76% respectively).
- Almost two-thirds of facilities have health surveillance assistants who provide community-based nutrition services.
- Just over of half of all health facilities have a system for linking clients with community-based services for nutrition screening/monitoring. However only one-quarter of facilities have a system for linking clients with community-based services for food security/support.

³⁴ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

³⁵ United Nations International Children's Emergency Fund. (2008). Changing Lives, A portrait of children in Malawi. 1–57.

³⁶ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

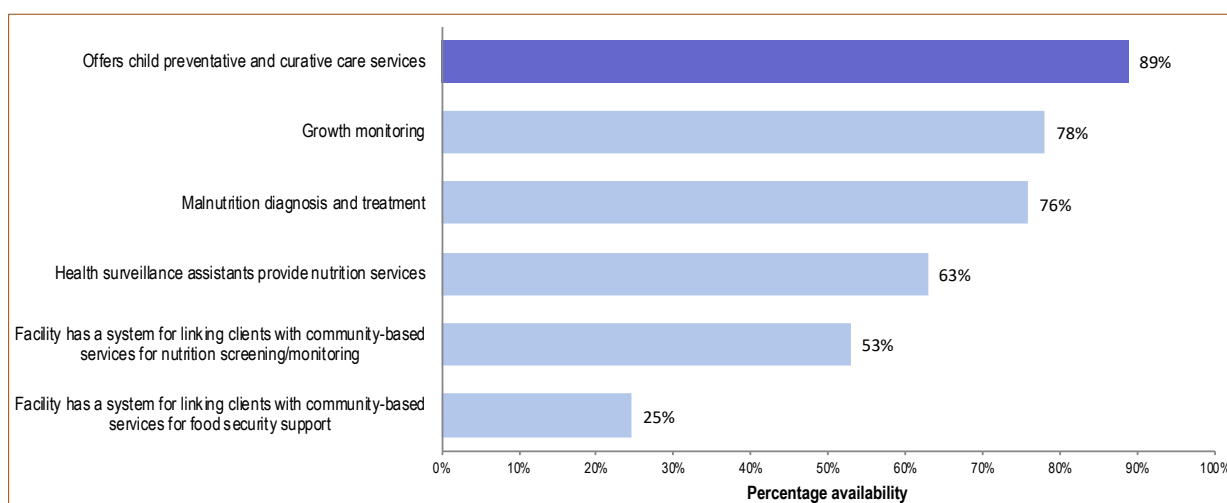
Figure 50. Percentage of facilities offering key child nutrition services (N=1106), Malawi 2018/2019

Table 68 shows the percentage of facilities offering key child nutrition services by region, facility, managing authority, and urban vs. rural location.

- Almost all health centres (99%) and the majority of health posts (94%), hospitals (93%), and dispensaries (85%) offered growth monitoring services while clinics were less likely to provide this service (39%). Similarly, almost all health centres (98%) and the majority of hospitals (94%), dispensaries (82%), and health posts (72%) offered malnutrition diagnosis and treatment services while clinics were less likely to provide this service (41%).
- The majority of government and CHAM facilities offered all child nutrition services in contrast to private for-profit, private non-profit facilities, and NGO facilities.
- Rural facilities were more likely than urban facilities to offer all child nutrition services (malnutrition diagnosis and treatment: 87% vs. 52%, growth monitoring: 91% vs. 49%, provision of nutrition services by health surveillance assistants: 79% vs. 29%, linking clients with community-based services for food security support: 30% vs. 12%, and linking clients with community-based services for nutrition screening/monitoring: 67% vs. 21%).

Service readiness

Readiness to offer child nutrition services was assessed based on the presence of the nine tracer items found in Table 21. Figure 51 shows the percentage availability of these tracer items at facilities that offer child preventative and curative health services.

- On average, facilities had five out of nine items required to deliver child nutrition services (60%). However, only 6% of facilities had all items necessary to deliver child nutrition services.
- Just over half of all facilities (53%) had at least one staff member trained in nutrition and growth monitoring in the last two years while just under half of all facilities had guidelines on community management of acute malnutrition (49%).
- In terms of equipment, most facilities had a mid-upper arm circumference (MUAC) tape for children (79%) and a child weighing scale (72%), but it was less common for facilities to have child health passports with growth charts (66%) and infant weighing scales (59%).
- Key medicines and commodities were available in approximately half of all health facilities (RUTF: 59%, zinc sulphate: 53%, vitamin A: 47%).

Figure 51. Percentage of facilities that have tracer items for child nutrition services among facilities that provide child preventative and curative care services (N=982), Malawi 2018/2019

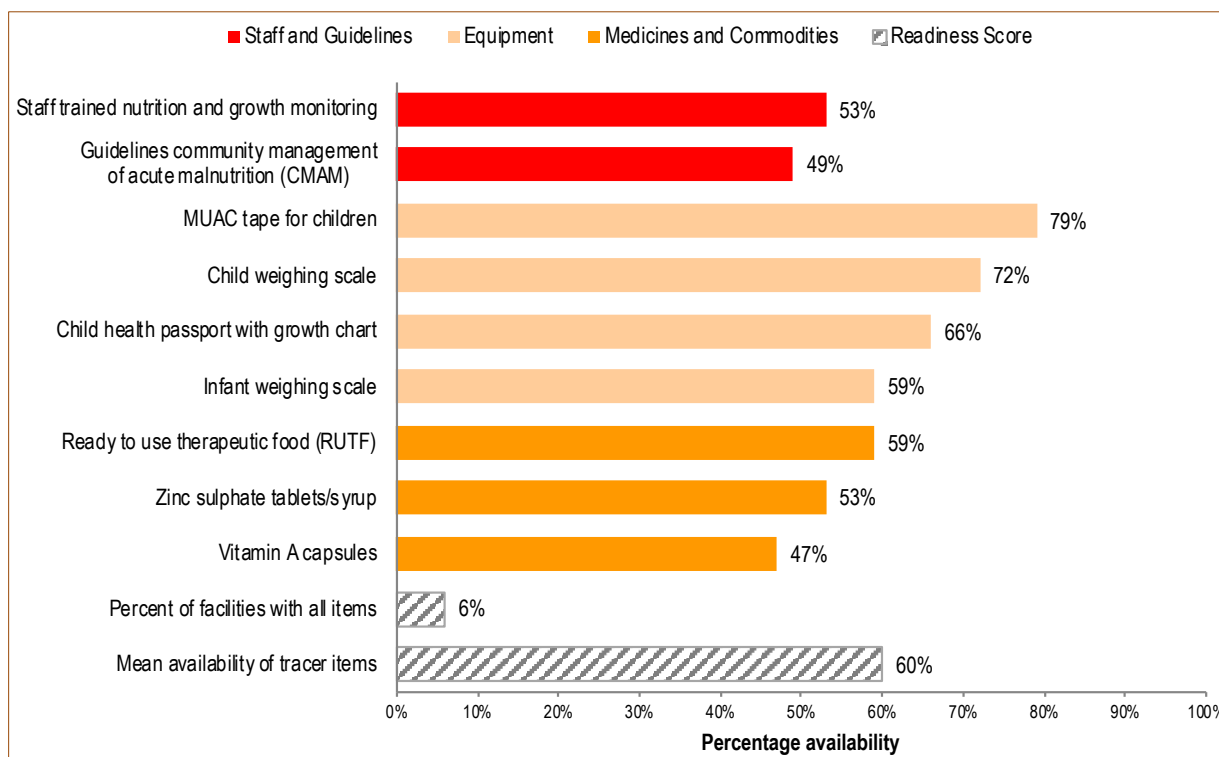


Table 69 shows the availability of child nutrition services tracer items among facilities that provide the service by region, facility type, managing authority, and by urban vs. rural location.

- Hospitals and health centres had the greatest mean availability of tracer items for child nutrition services (79% and 74% respectively).
- CHAM facilities had the greatest mean availability of tracer items for child nutrition services (77%), while private for-profit facilities and NGO facilities had the lowest mean availability of items (30% and 43%, respectively). Government facilities had the highest availability of guidelines on community management of CMAM (63%), but the lowest availability of zinc sulphate tablets/syrup.
- The mean availability of child nutrition items differed between urban and rural facilities (43% vs. 66%, respectively). However, facilities in urban areas had a much greater availability of zinc sulphate tablets/syrup (74%) than rural facilities (45%).

Adolescent health services

Globally, approximately 1 in 6, or 1.2 billion, of the world's population is an adolescent. While most adolescents are healthy, this age cohort suffers from substantial premature death and illness mainly due to unsafe sexual activity, injuries/road accidents, violence, substance abuse, and mental illness. The WHO recommendations on adolescent health, which are aligned with the global strategy on women's, children's and adolescent's health 2016–2030, recommends the rights of adolescents to receive family planning services, antenatal care services, and immunization services, among others.

In Malawi, teenage pregnancy is a critical health issue as nearly a third (29%) of adolescent girls aged 15–19 have children or are pregnant, with girls in poor, rural areas significantly more likely to bear children during their adolescence.³⁷ Due to obstetric complications and increased risk of adverse pregnancy outcomes, adolescent pregnancies make up 20% of maternal mortality in Malawi. Malawi's national goal is to meet a modern contraceptive

³⁷ National Statistical Office (NSO) [Malawi] and ICF. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

prevalence rate (mCPR) of 60% by 2020 for all women of reproductive age, although currently many adolescents lack access to contraception.³⁸ Further, children born to very young mothers are at greater risk of morbidity and mortality.

Service availability

Figure 52 shows the percentage of facilities that offer adolescent health services.

- The most available services for adolescents include HIV testing and counselling services to adolescents (77%), provision of combined oral contraceptive pills to adolescents (68%), and provision of ART to adolescents (62%).
- The least available services for adolescents include provision of intrauterine contraceptive devices (IUCD) (19%), provision of emergency contraceptive pills to adolescents (53%), family planning services for adolescents (55%), and provision of male condoms to adolescents (58%).

Figure 52. Percentage of facilities that offer adolescent health services (N=1106), Malawi 2018/2019

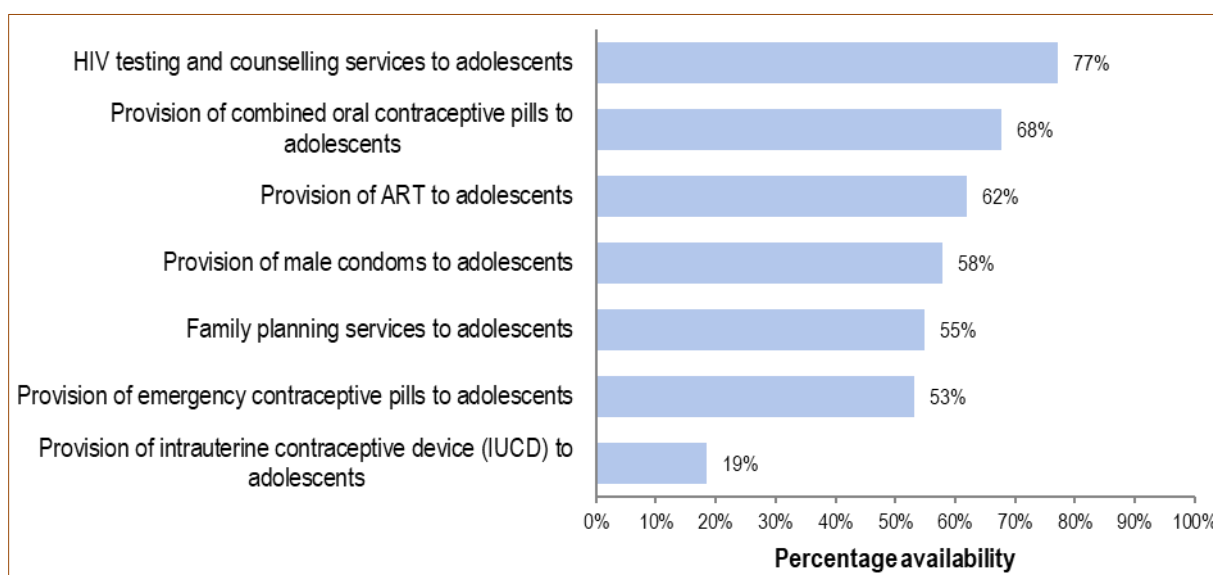


Table 70 shows the availability of adolescent health services by region, facility type, managing authority, and by urban vs. rural location

- Almost all health centres (97%) and hospitals (95%) offered HIV testing and counselling services to adolescents. Clinics and health posts were less likely to provide this service (58% and 27%).
- The majority of government and NGO facilities offered combined oral contraceptive pills to adolescents (81% and 74%) and male condoms to adolescents (72% and 64%).
- The least available adolescent health service across all facility types was provision of intrauterine contraceptive device (IUCD) to adolescents. NGO facilities were the most likely to offer this service (53%) compared to government (19%) and private for-profit (10%) facilities.
- Nearly all hospitals and health centres offered provision of ART to adolescents (91% and 94%), while only 27% of clinics offered this service.
- Rural facilities were more likely than urban facilities to offer HIV testing and counselling services to adolescents (81% compared to 68%).

³⁸ Reproductive Health Directorate, Ministry of Health. The Malawi Family Planning Costed Implementation Plan, 2016–2020. Government of Malawi.

Essential medicines for maternal and child health

Availability of essential medicines needed to provide maternal and child health services are detailed in the following section.

Essential medicines for mothers

Figure 53 shows the percentage of facilities that have essential medicines for mothers.

- On average, facilities had 36% of the 15 essential medicines for mothers.
- Gentamicin injectable was the most available medicine (72% of facilities), while calcium gluconate injectable was the least available medicine (11% of facilities).
- Five of the 15 essential medicines were available in at least half of facilities.

Figure 53. Percentage of facilities that have essential medicines for mothers observed in stock and valid (N=1106), Malawi 2018/2019

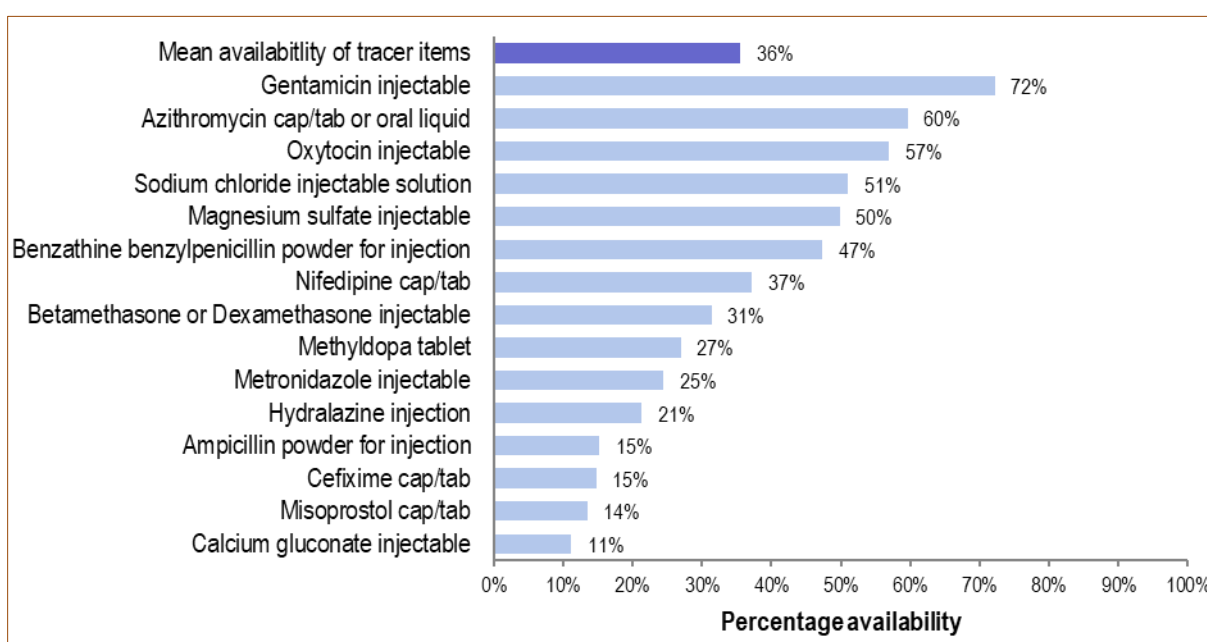


Table 71 and Table 72 show the availability of essential medicines for mothers by region, facility type, managing authority, and by urban vs. rural location.

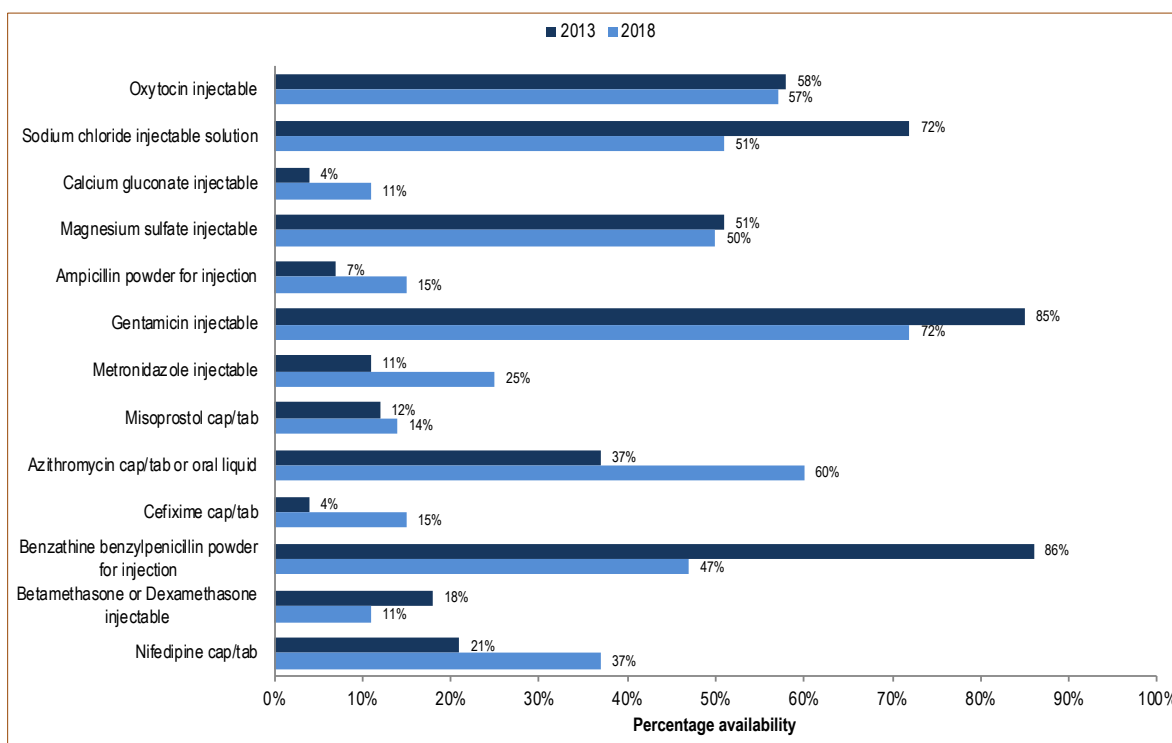
- Hospitals had, on average, 76% of the 15 essential medicines for mothers. Hospital facilities had the greatest availability of every essential medicine, except for gentamicin injectable, which was available at a greater percentage of health centres (88% compared to 81%). Dispensaries and health posts were the least likely to have these medicines; the mean availability of essential medicines for mothers at these facilities was 14% and 2%, respectively.
- The majority of government (67%), CHAM (89%), and NGO facilities (55%) had oxytocin injectable. In addition, the majority of government (58%), CHAM (79%), and NGO facilities (68%) had azithromycin cap/tab or oral liquid. CHAM facilities had the greatest availability of methyldopa tablet (61%) compared to government (21%) and private non-profit facilities (8%).
- Rural and urban facilities had the same mean availability of essential medicines for mothers (both 36%). A greater percentage of rural facilities had benzathine benzylpenicillin powder for injection (58%) compared to urban facilities (24%).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of essential medicines for mothers

Figure 54 shows the percentage of facilities that have essential medicines for mothers observed in stock and valid from the 2013 SPA survey and the 2018/2019 HHFA survey.

- For seven of the 13 essential medicines for mothers, there was an increase in the percentage of facilities that had the medicine from 2013 to 2018/2019.
- The greatest increase in availability was for azithromycin cap/tab or oral liquid. This item was available at 60% of facilities in 2018/2019 compared to 37% of facilities in 2013. There was also an increase in availability of calcium gluconate injectable from 2013 (4%) to 2018/2019 (11%) and misoprostol cap/tab from 2013 (11%) to 2018/2019 (25%).
- There was a large decrease in the availability of benzathine benzylpenicillin powder for injection from 2013 (86%) to 2018/2019 (47%) and in the availability of sodium chloride injectable solution from 2013 (72%) to 2018/2019 (51%).

Figure 54. Percentage of facilities that have essential medicines for mothers observed in stock and valid, 2013 (N=977), 2018/2019 (N=1106)



Essential medicines for children

Figure 55 shows the percentage of facilities that have essential medicines for children.

- On average, facilities had 51% of the 12 essential medicines for children.
- Artemisinin combination therapy (ACT) was the most available medicine (82%), while morphine granule, injectable or cap/tab was the least available medicine (4%).
- Eight of the 12 essential medicines for children were available in at least half of facilities.

Figure 55. Percentage of facilities that have essential medicines for children observed in stock and valid (N=1106), Malawi 2018/2019

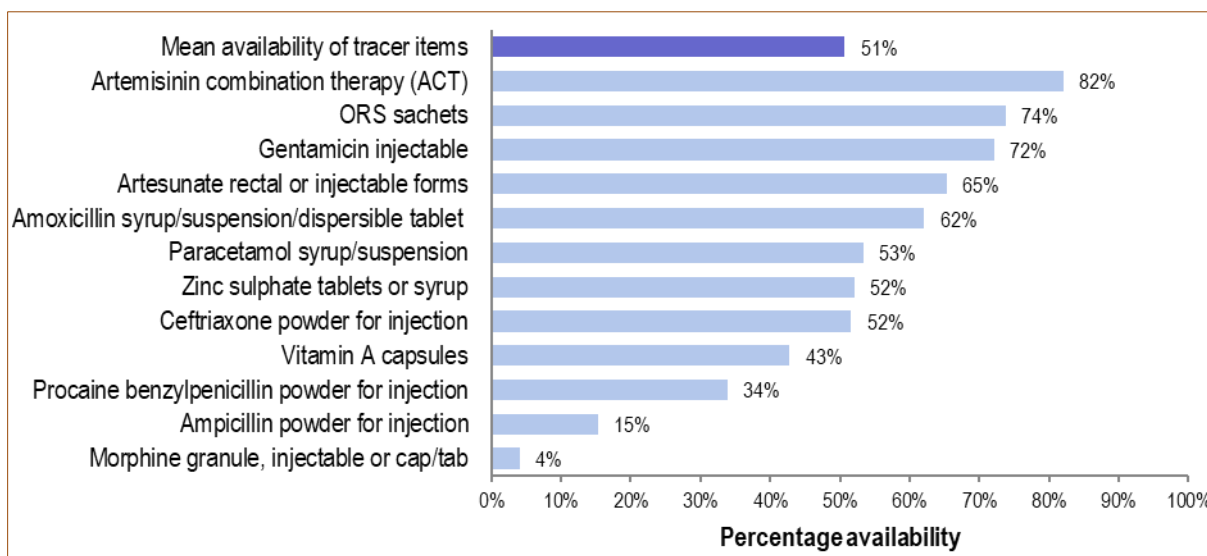


Table 73 shows the availability of essential medicines for children by region, facility type, managing authority, and by urban vs. rural location.

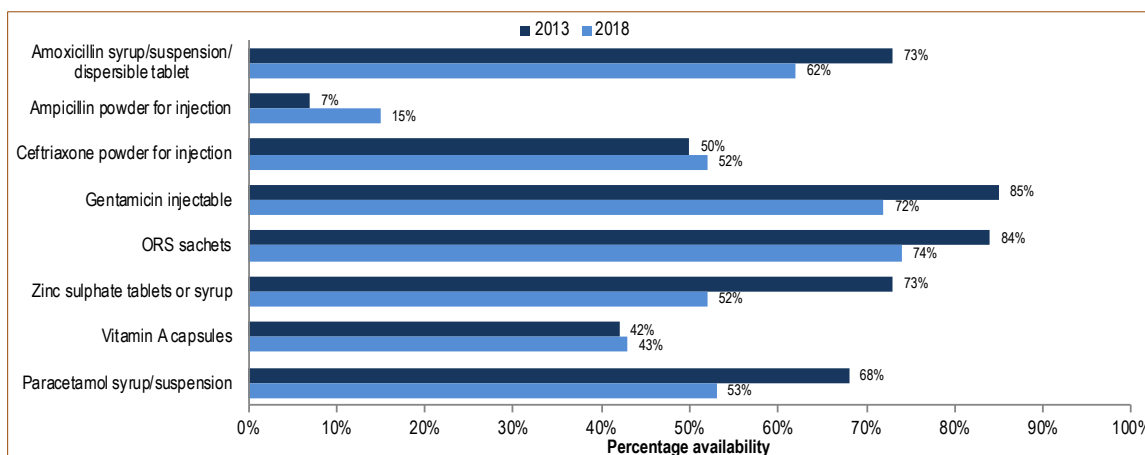
- Hospitals had, on average, 74% of the 12 essential medicines for children and were more likely to have these medicines than most other facility types. Dispensaries and health posts were the least likely to have essential medicines for children; mean availability was 41% and 18%, respectively. No health post had ampicillin powder for injection or morphine granule, injectable or cap/tab.
- CHAM facilities had the highest mean availability of essential medicines (67%) and were the most likely to have ampicillin powder for injection (28%), ceftriaxone powder for injection (64%), and gentamicin injectable (88%). Government facilities had on average 48% of essential medicines for children which was high as compared to the mean availability of essential medicines for children in private non-profit (40%), NGO (26%), and private for-profit (21%) facilities.
- Urban facilities had a greater availability of all essential medicines for children compared to rural facilities. On average, 57% of essential medicines for children were available at urban facilities compared to 48% of medicines at rural facilities.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of essential medicines for children

Figure 56 shows the percentage of facilities that have essential medicines for children observed in stock and valid from the 2013 SPA survey and the 2018/2019 HHFA survey.

- For five of the eight essential medicines for children there was a decrease in availability from 2013 to 2018/2019.
- The largest decrease in availability was for zinc sulphate tablets or syrup. This item was available at 73% of facilities in 2013 compared to 52% of facilities in 2018/2019.
- Declines in availability also occurred for amoxicillin syrup/suspension/dispersible tablet, gentamicin injectable, ORS sachets, and paracetamol syrup/suspension.
- The greatest increase in availability was for ampicillin powder for injection. This item was available at 15% of facilities in 2018/2019 compared to 7% of facilities in 2013.
- There was also a slight increase in availability of ceftriaxone powder for injection from 2013 (50%) to 2018/2019 (52%) and vitamin A capsules from 2013 (42%) to 2018/2019 (43%).

Figure 56. Percentage of facilities that have essential medicines for children observed in stock and valid, 2013 (N=977), 2018/2019 (N=1106).



Lifesaving commodities for women and children

Figure 57 shows the percentage of facilities that have lifesaving commodities for women and children.

- Lifesaving commodities for child health were the most available relative to the other categories of lifesaving commodities. Oral rehydration salts were the most common lifesaving commodity, which was available at 74% of facilities.
- The least available lifesaving commodity was misoprostol for maternal health, which was only available at 14% of facilities.
- On average, half the facilities had each of the three lifesaving commodities for family planning – emergency contraceptives (52%), implants (52%), female condoms (47%).
- For newborn health, the majority of facilities had skin disinfectant (72%), but only 31% of facilities had antenatal corticosteroids.

Figure 57. Percentage of facilities that have lifesaving commodities observed in stock and valid (N=1106), Malawi 2018/2019

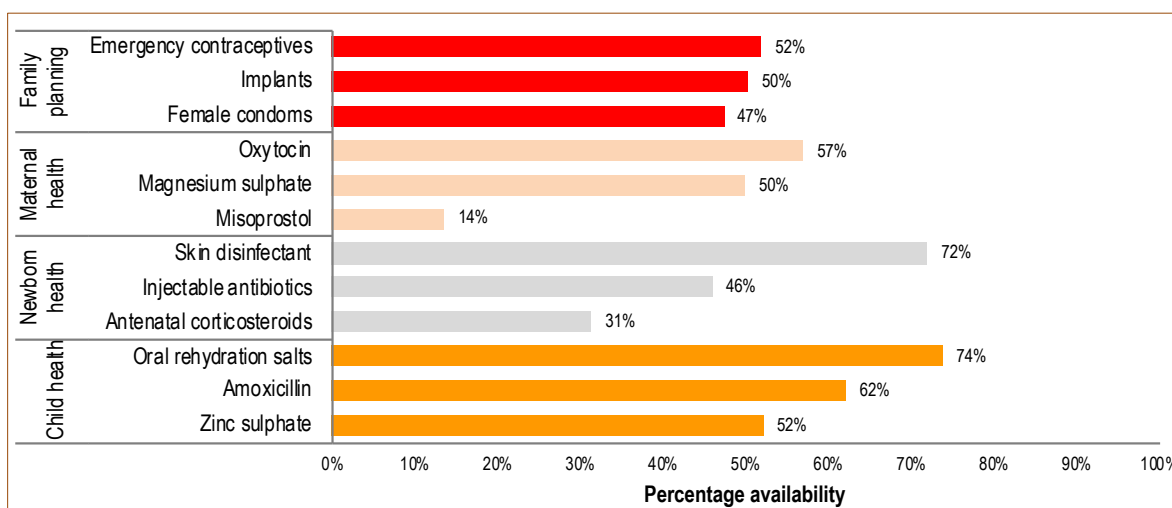


Table 74 shows the availability of lifesaving commodities by region, facility type, managing authority, and urban vs. rural location

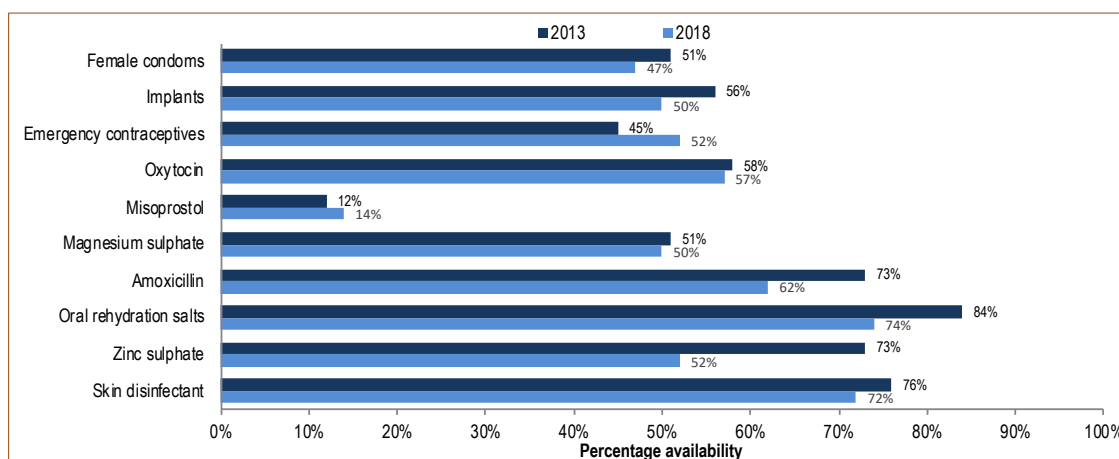
- Almost all hospitals (94%) and health centres (90%) had oxytocin. Only 23% of clinics and 2% of health posts had this item.
- Misoprostol was not available at any dispensary or health centre.
- Health centres had the greatest availability of female condoms (62%), implants (66%), and emergency contraceptives (66%). Hospitals had the greatest availability of the 9 other lifesaving commodities, including magnesium sulphate and skin disinfectant, compared to all other facility types.
- CHAM facilities had the greatest availability of most lifesaving commodities, including antenatal corticosteroids (56%), oxytocin (89%), and zinc sulphate (83%). Government facilities had the greatest availability of female condoms (56%), implants (60%), and emergency contraceptives (55%).
- Urban facilities had a greater availability of 9 lifesaving commodities as compared to rural facilities, including misoprostol (24% compared to 9%) and injectable antibiotics (58% compared to 41%).

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of lifesaving commodities for women and children

Figure 58 shows the percentage of facilities that have lifesaving commodities for women and children observed in stock and valid from the 2013 SPA survey and the 2018/2019 HHFA survey.

- There was a decrease in the percentage of facilities that had 8 of the 10 lifesaving commodities for women and children from 2013 to 2018/2019.
- The largest decrease in availability was for zinc sulphate. This item was available at 73% of facilities in 2013 compared to 52% of facilities in 2018/2019.
- Declines in availability were also seen for female condoms, implants, amoxicillin, and oral rehydration salts.
- The greatest increase in availability was for emergency contraceptives. This item was available at 52% of facilities in 2018/2019 compared to 45% of facilities in 2013.
- There was also an increase in availability of misoprostol from 2013 (12%) to 2018/2019 (14%).

Figure 58. Percentage of facilities that have lifesaving commodities observed in stock and valid, 2013 (N=977), 2018/2019 (N=1106)



5.2 Communicable diseases

Health services for communicable diseases include those to treat malaria, provide HIV/AIDS care and support, provide ARV prescription and client management, provide PMTCT services, treat tuberculosis, and treat sexually transmitted infections (STIs). Figure 59 shows the overall availability of communicable disease services at health facilities in Malawi.

- The most available communicable disease service was for malaria (96% of facilities).
- The least available communicable disease service was for tuberculosis (TB) (49% of facilities).

Figure 59. Availability of communicable disease services (N=1106), Malawi 2018/2019

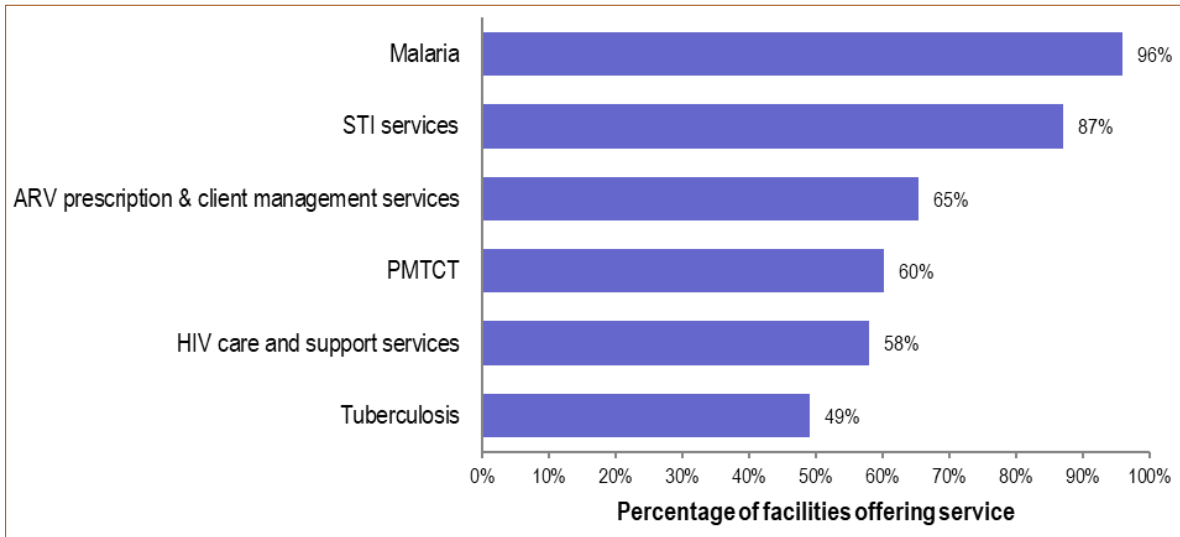
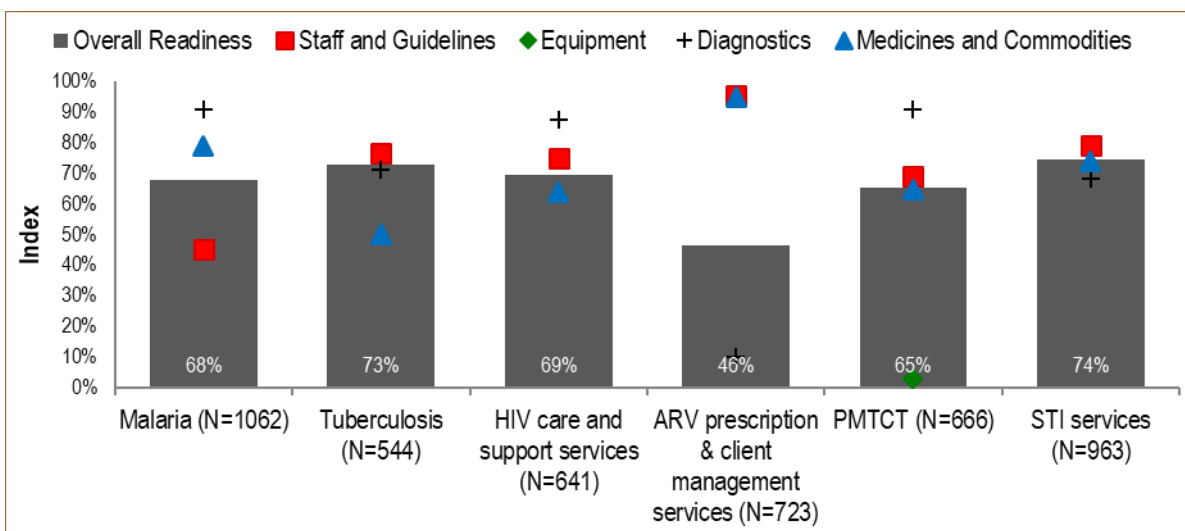


Figure 60 shows readiness to provide communicable disease services.

- Overall readiness to provide communicable disease services was highest for sexually transmitted infection (STI) services (74%) and lowest for antiretroviral drugs (ARV) prescription and client management services (46%).
- No single domain performed the best or worst across services.
- For ARV prescription and client management services and STI services, readiness was highest in the domains of staff and guidelines and medicines and commodities and lowest in the domain of diagnostics.
- For HIV care and support services and PMTCT services, readiness was highest in the domains of diagnostics and staff and guidelines and lowest in the domain of medicines and commodities. For PMTCT services, the lowest readiness was seen in the domain of equipment.
- For malaria services, readiness was highest in the domains of diagnostics and medicines and commodities and lowest in the domain of staff and guidelines.
- For TB services, readiness was highest in the domains of staff and guidelines and diagnostics and lowest in the domain of medicines and commodities.

Figure 60. Readiness* to provide communicable disease services



* 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”).

Malaria

Malaria is highly prevalent in Malawi. In 2017, 4 901 344 confirmed cases of malaria and 3613 deaths from the disease were reported.³⁹ Despite a national malaria prevalence of 24% for children aged 6–59 months,⁴⁰ only half of children with symptoms of non-severe malaria were directed to diagnostic testing⁴¹ and only 38% of children under five with fever in the two weeks before the survey had a blood draw for diagnostic purposes.⁴² Prevention is the primary strategy for controlling the spread of malaria. Therefore, it is critical for pregnant women to have access to intermittent preventive treatment (IPT) and insecticide treated nets (ITNs). Nationally, a significant percentage of households own an ITN (57%), but few have sufficient nets to cover all family members (24%).⁴³ In addition, health facilities must be stocked with treatment using combined therapy (artesunate plus amodiaquine (ACT)). Items needed to provide malaria services are outlined in Table 22.

Table 22. Items needed to provide malaria services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for intermittent preventive treatment (IPT) ■ Staff trained in malaria diagnosis and treatment in the past two years ■ Staff trained in IPT in the past two years
Diagnostics	<ul style="list-style-type: none"> ■ Malaria diagnostic capacity
Medicines and commodities	<ul style="list-style-type: none"> ■ First line antimalarial in stock ■ Paracetamol cap/tab ■ IPT drug ■ ITN

Service availability

Figure 61 shows the percentage of facilities that offer malaria services in Malawi.

- Almost all facilities in the country (96%) offered diagnosis or treatment of malaria and malaria diagnostic testing (95%).
- Prevention efforts, such as IPT, were available in 59% of facilities.
- Diagnosis of malaria by microscopy was limited, with only 20% of facilities providing this service. However, 95% of facilities offered malaria diagnosis by RDT. Malaria diagnosis by clinical symptoms was reported in 23% of facilities.

³⁹ Malawi Country Profile: Malaria. WHO Global Health Observatory. https://www.who.int/malaria/publications/country-profiles/profile_mwi_en.pdf?ua=1.

⁴⁰ Malawi National Malaria Control Programme (NMCP). Malawi Malaria Indicator Survey 2017.

⁴¹ Taylor, C. et al. 2019. Quality of Diagnostic Services for Non-Severe Suspected Malaria Cases: An Analysis of National Health Facility Surveys from Malawi and Tanzania. DHS Analytical Studies No. 17. Rockville, Maryland, USA: ICF.

⁴² Malawi National Malaria Control Programme (NMCP). Malawi Malaria Indicator Survey 2017.

⁴³ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

Figure 61. Percentage of facilities that offer malaria services (N=1106), Malawi 2018/2019

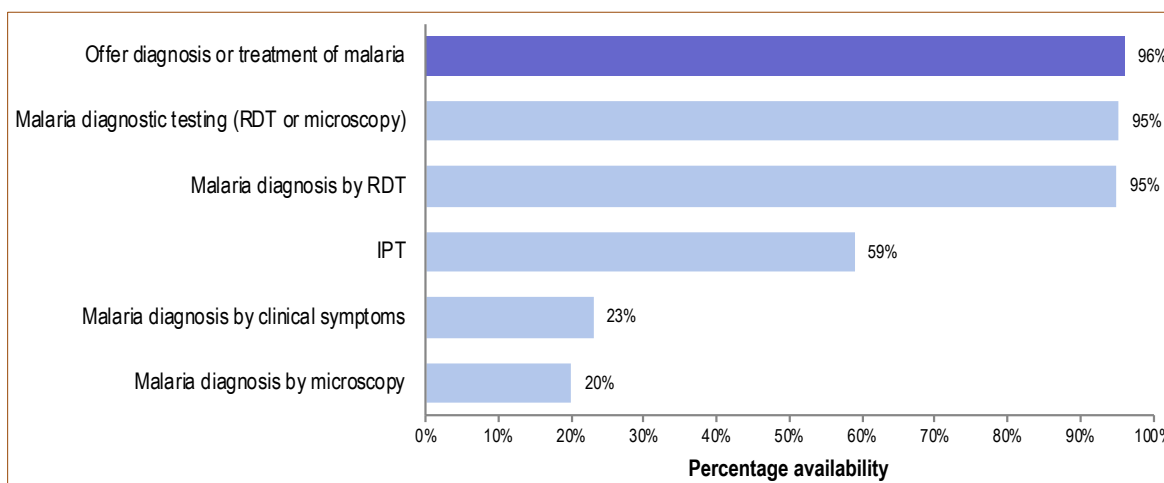


Table 75 shows the percentage of facilities offering malaria services by region, facility type, managing authority, and urban vs. rural location.

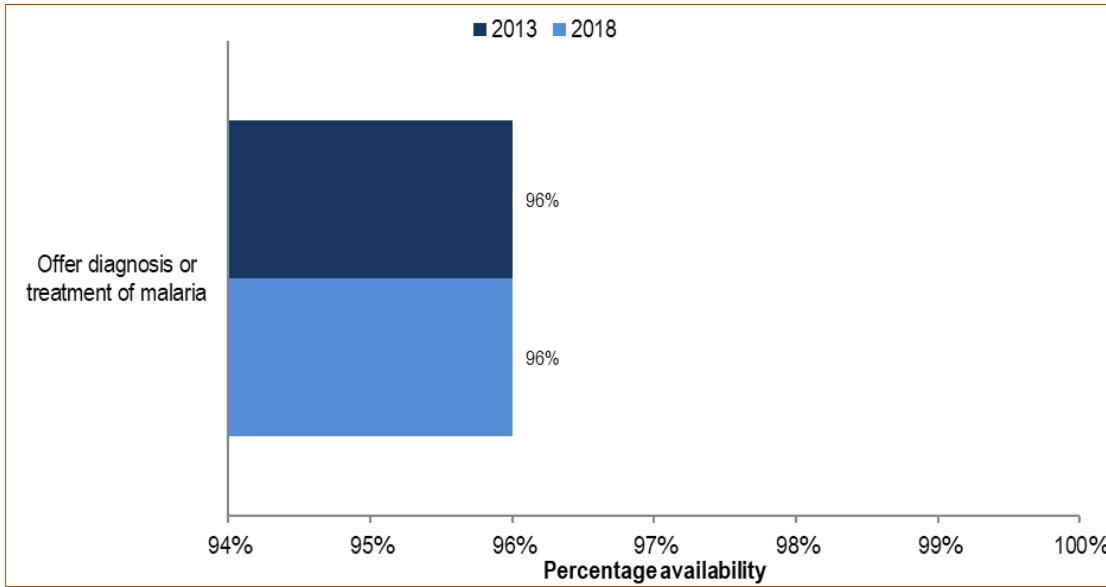
- Almost all facilities in the Northern region offered diagnosis or treatment of malaria (99%). Similarly, 97% of facilities in the Central region and 94% of facilities in the Southern region offered diagnosis or treatment of malaria.
- Health centres (99%) and hospitals (97%) were the most likely to provide malaria diagnosis or treatment services. Health posts were the least likely to provide malaria diagnosis or treatment services (80%).
- Ninety-six per cent (96%) of government facilities offered diagnosis or treatment of malaria services compared to 98% of CHAM facilities and 92% of private non-profit facilities.
- Urban facilities were far more likely to offer IPT services than rural facilities, 71% compared to 32%.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of malaria services

Figure 62 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of facilities that offer malaria services.

- There was no change in the percentage of facilities that offer malaria services in 2013 and 2018/2019 (both 96%).

Figure 62. Percentage of facilities that offer malaria services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to provide malaria services was assessed based on the presence of the eight tracer items found in Table 22. Figure 63 shows the percentage of facilities that have tracer items for malaria services available among facilities that provide the service.

- Only 13% of facilities had all 8 items needed to deliver malaria services.
- On average, facilities had 5–6 of the 8 tracer items for malaria services, for an overall readiness score of 68 out of 100.
- Nearly all facilities offering malaria services had malaria diagnostic capacity (91%). The majority of facilities offering malaria services had paracetamol cap/tab (86%), first-line antimalarial (84%), IPT drug (73%), and ITN (73%) available.
- Less than half of facilities offering malaria services had guidelines available for IPT (41%) and at least one trained staff for IPT (25%).

Figure 63. Percentage of facilities that have tracer items for malaria services among facilities that provide this service (N=1062), Malawi 2018/2019

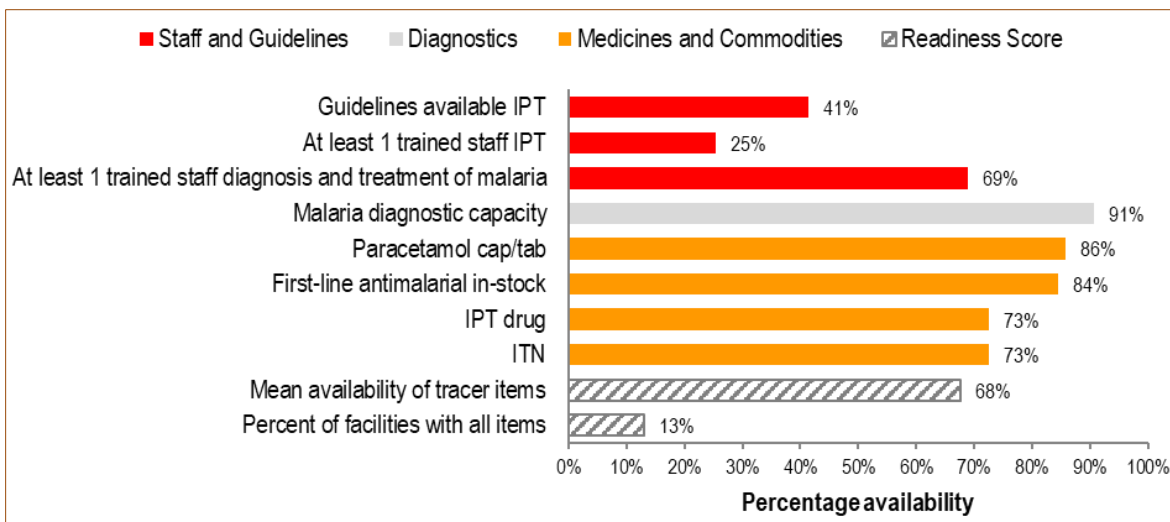


Table 76 shows the availability of tracer items for malaria readiness at facilities offering the service by region, facility type, managing authority, and urban vs. rural location.

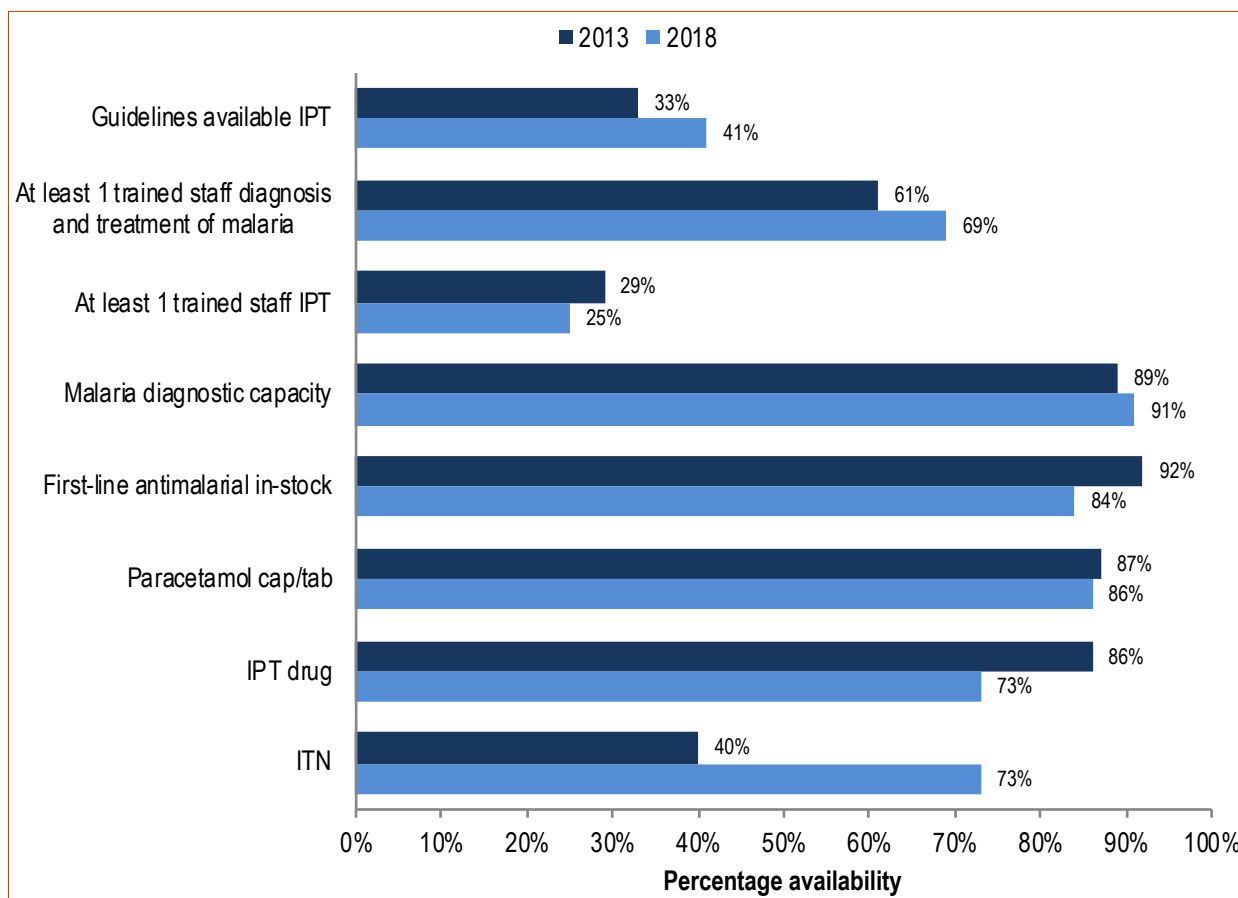
- Facilities in the Central region had the highest mean availability of malaria tracer items (69%) compared to facilities in the Northern (68%) and Southern (66%) regions.
- Almost all hospitals had malaria diagnostic capacity (99%), paracetamol cap/tab (98%), IPT drug (93%), and ITN (93%). Guidelines were available for IPT at the majority of hospitals (84%) and health centres (61%), however only 12% of clinics had this item. Only 9% of dispensaries and clinics had at least one trained staff in IPT.
- Almost all CHAM facilities had malaria diagnostic capacity (99%), paracetamol cap/tab (94%), IPT drug (91%), and ITN (91%). Government facilities were the most likely to have at least 1 staff trained in the last two years in diagnosis and treatment of malaria (74%). 24% of CHAM facilities had all malaria tracer items compared to 17% of government facilities, 2% of private for-profit facilities, and 0% of NGO facilities.
- Facilities located in rural areas had higher mean availability of malaria items (70%) as compared to urban facilities (62%). A greater percentage of facilities in urban areas had paracetamol cap/tab than facilities in rural areas (95% compared to 82%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver malaria services

Figure 64 shows the percentage of facilities that have tracer items for malaria services among those facilities that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- Half of the malaria tracer items were available at a greater percentage of facilities in 2018/2019 compared to 2013, including malaria diagnostic capacity, ITN, and at least one trained staff in diagnosis and treatment of malaria.
- First-line antimalarial and paracetamol cap/tabs were available at a greater percentage of facilities in 2013 compared to 2018/2019.
- There was a large increase in the percentage of facilities that had ITNs, 73% of facilities in 2018/2019 compared to 40% of facilities in 2013.

Figure 64. Percentage of facilities that have tracer items for malaria services among facilities that provide this service, 2013 (N=940), 2018/2019 (N=1062)



HIV/AIDS care and support services

HIV/AIDS is still the leading cause of mortality and the leading cause of premature death in Malawi. The prevalence of HIV/AIDS is 12.8% among females 15–64 years and 8.2% among men in the same age bracket. Notably, HIV prevalence is highest among females aged 40–44 years of age (25.1%). Geographically, the southern regions of Malawi including the Southeast, Blantyre City, and Southwest have HIV prevalence rates that are nearly double those in the north (Blantyre City: 18.2% vs. North 7.3%).⁴⁴ HIV/AIDS care and support services include treatment of opportunistic infections and palliative care. Table 23 provides information on the tracer items necessary for health facilities offering this service.

Table 23. Tracer items needed to provide HIV/AIDS care and support services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for clinical management of HIV and AIDS ■ Guidelines for palliative care ■ Staff trained in clinical management of HIV and AIDS in the past two years
Diagnostics	<ul style="list-style-type: none"> ■ System for diagnosis of tuberculosis (TB) among HIV-positive patients
Medicines and commodities	<ul style="list-style-type: none"> ■ Intravenous solution with infusion set ■ Intravenous treatment of fungal infections ■ Co-trimoxazole ■ All four first-line TB treatment medications ■ Palliative care pain management medication ■ Male condoms

⁴⁴ Government of Malawi/PEPFAR. 2016. Malawi Population-based HIV Impact Assessment, 2015–16.

Service availability

Figure 65 shows the percentage of facilities that offer HIV/AIDS care and support services in the country.

- Fifty–eight per cent (58%) of facilities in the country offered HIV care and support services.
- More than half of facilities in the country offered treatment of opportunistic infections (56%), family planning counselling (54%), provision of condoms (54%), preventative treatment for opportunistic infections (53%), and care for paediatric HIV/AIDS patients (50%).
- Treatment for Kaposi’s sarcoma and IV treatment of fungal infections was limited, with only 12% and 18% of facilities providing these services, respectively.

Figure 65. Percentage of facilities that offer HIV/AIDS care and support services (N=1106), Malawi 2018/2019

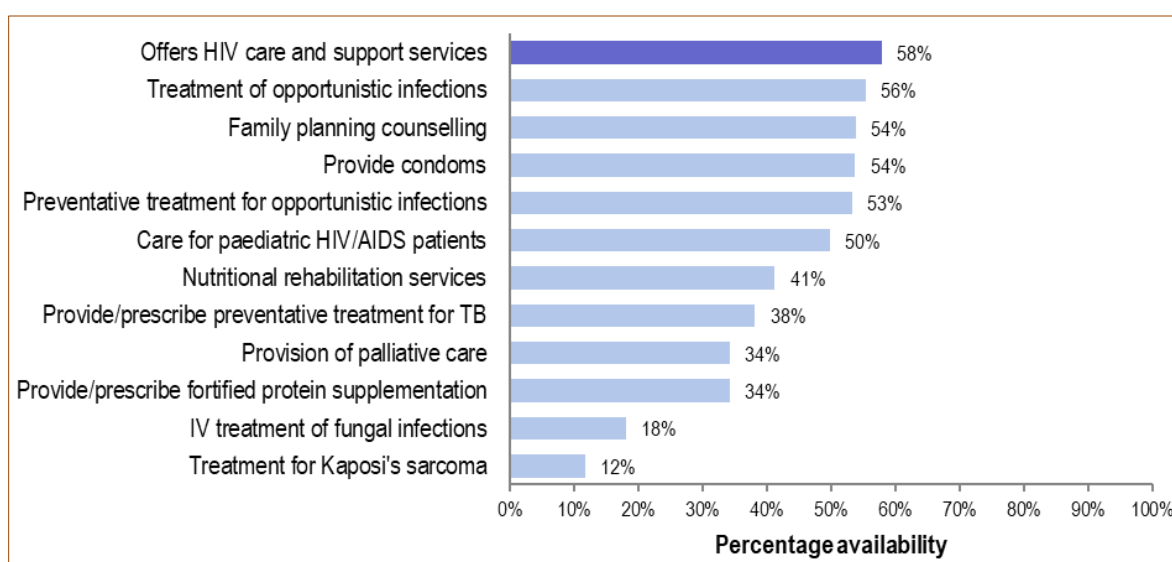


Table 77 shows the percentage of facilities offering HIV/AIDS care and support services by region, facility type, managing authority, and urban vs. rural location.

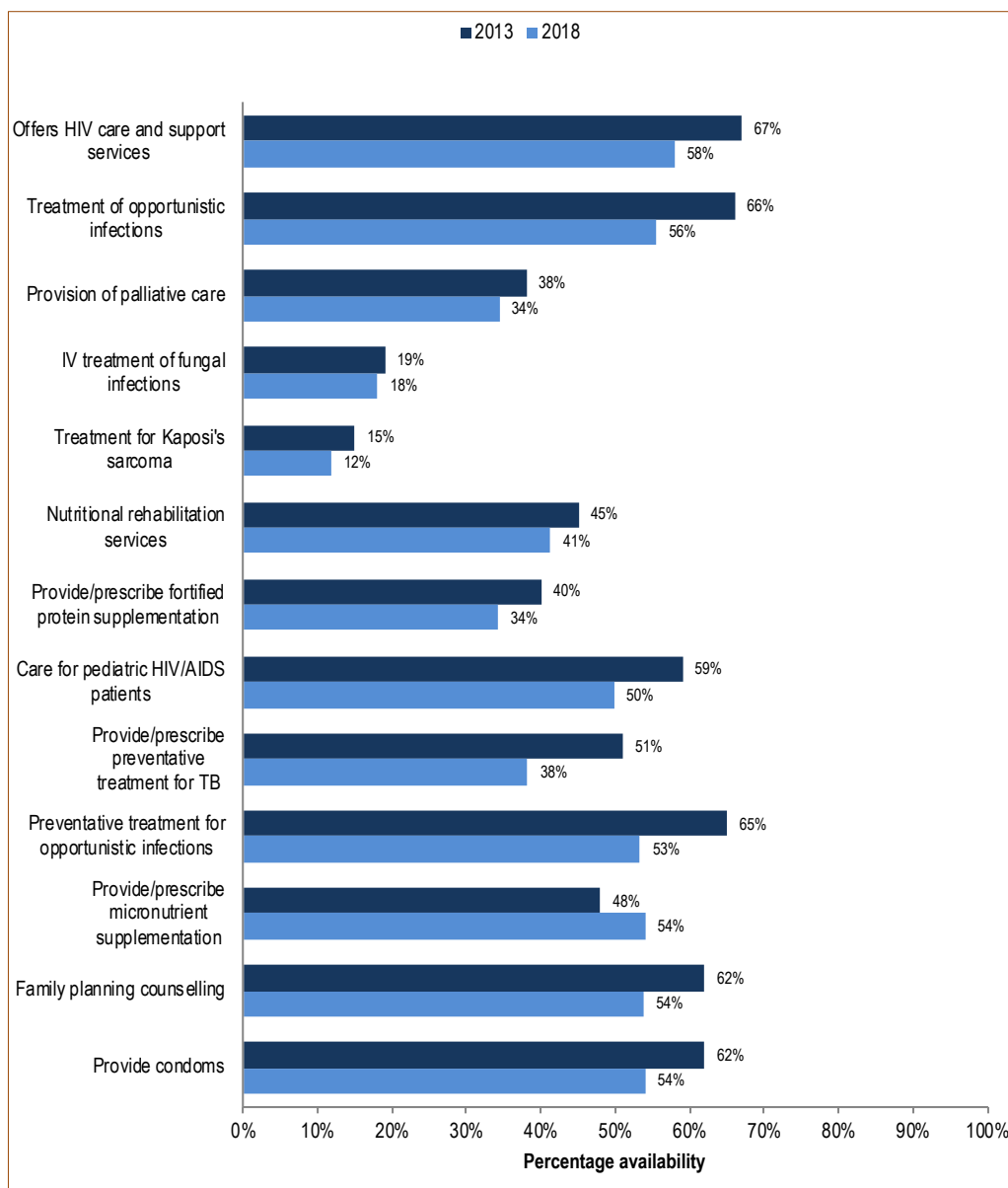
- Fifty–nine per cent (59%) of facilities in the Northern and Central region offered HIV care and support services, compared to 57% of facilities in the Southern region.
- Hospitals were the most likely to provide HIV care and support services (91%). Health posts were the least likely to provide these services (5%).
- Eighty–four per cent (84%) of CHAM facilities provided HIV care and support services compared to 69% of government facilities and only 22% of private for-profit facilities.
- Rural facilities were more likely to offer HIV care and support services than urban facilities, 65% compared to 43%.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of HIV/AIDS care and support services

Figure 66 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of facilities that offer HIV/AIDS care and support services.

- There was a decrease in the percentage of facilities that offered HIV/AIDS care and support services in 2018/2019 (58%) compared to 2013 (67%).
- 11 of the 12 HIV/AIDS care and support services were offered at a greater percentage of facilities in 2013 compared to 2018/2019.
- Micronutrient supplementation was provided or prescribed at a greater percentage of facilities in 2018/2019 (54%) than in 2013 (48%).

Figure 66. Percentage of facilities that offer HIV/AIDS care and support services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to provide HIV/AIDS care and support services was assessed based on the presence of 10 tracer items found in Table 23. Figure 67 shows the percentage of facilities that have tracer items for HIV/AIDS care and support services available among facilities that provide the service.

- Only 3% of facilities had all 10 items needed to offer HIV care and support services.
- On average, facilities had 6–7 of the 10 tracer items for malaria services, for an overall readiness score of 69 out of 100.
- Nearly all facilities had guidelines available for clinical management of HIV/AIDS (96%) and at least one trained staff for clinical management of HIV/AIDS (90%). However, only 39% of facilities had guidelines on palliative care.
- A system for diagnosis of TB among HIV+ clients was available in 88% of facilities.

- Availability of medicines varies greatly. Nearly all facilities had co-trimoxazole cap/tabs (97%), condoms (93%), and palliative care pain management medicines (92%). Less than half of facilities had intravenous solution with infusion set (49%), all first line TB medicines (39%), and IV treatment for fungal infection (12%).

Figure 67. Percentage of facilities that have tracer items for HIV care and support services among facilities that provide this service (N=641)

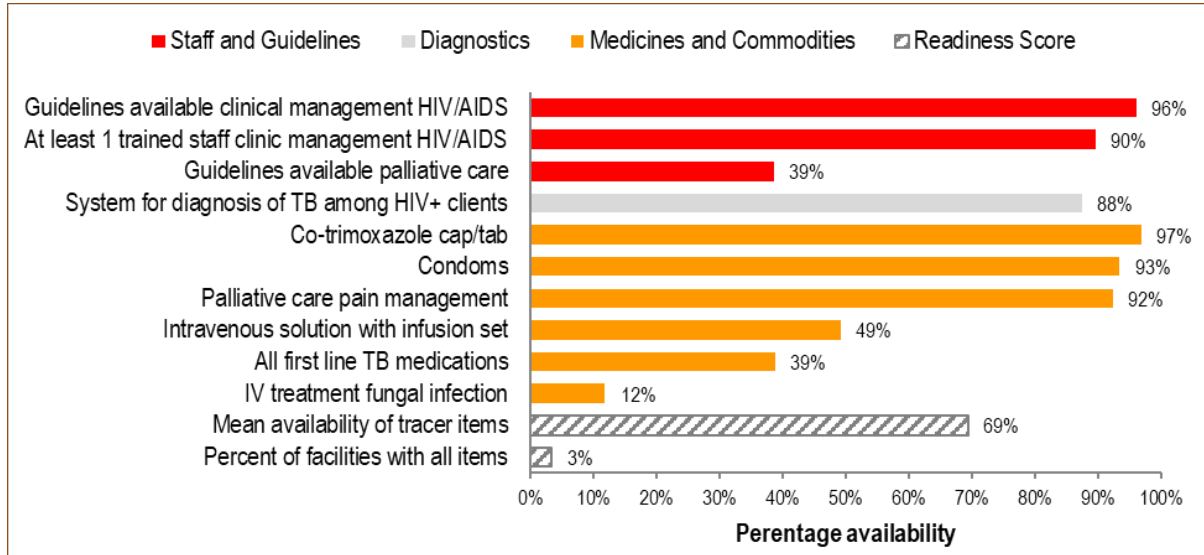


Table 78 shows the availability of tracer items for HIV/AIDS care and support services among facilities that provide the service by region, facility type, managing authority, and urban vs. rural location.

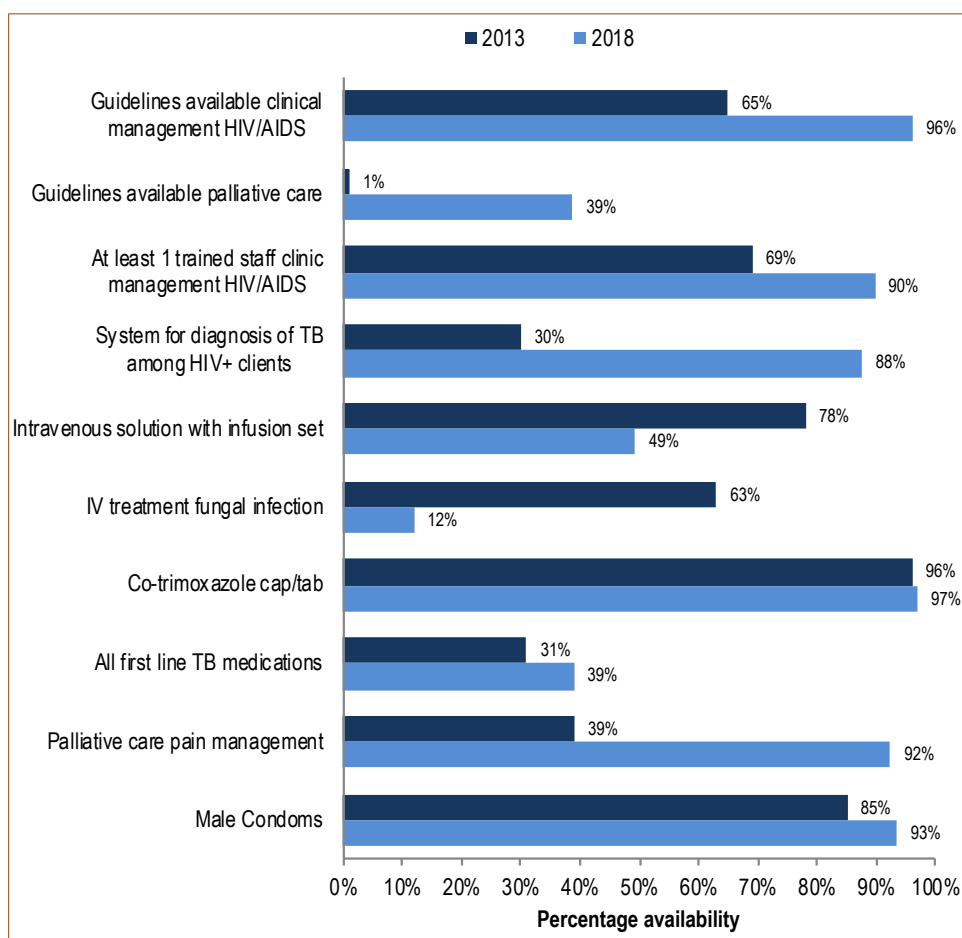
- Facilities in the Southern region had the highest mean availability of HIV/AIDS care and support tracer items (71%) compared to facilities in the Northern (68%) and Central (69%) regions.
- Hospitals had the greatest availability of all tracer items for HIV/AIDS care and support services. One hundred per cent (100%) of hospital facilities had a system for diagnosis of TB among HIV+ clients, co-trimoxazole cap/tab, and palliative care pain management medicines. Almost all health centres had guidelines available on clinical management of HIV/AIDS (97%), co-trimoxazole cap/tab (97%), and condoms (95%). No health post had an intravenous solution with infusion set, IV treatment for fungal infections, or all first line TB medications.
- 100% of NGO facilities had guidelines available on clinical management of HIV/AIDS and co-trimoxazole cap/tab, however they were limited in the availability of IV treatment for fungal infections (5%). CHAM facilities had the greatest availability of a system for diagnosis of TB among HIV+ clients (95%) and intravenous solution with infusion set (75%). Government facilities had, on average, 70% of tracer items.
- Facilities located in urban and rural areas had a similar mean availability of HIV/AIDS care and support items (70% and 69%, respectively). Urban facilities were more likely to have guidelines available on palliative care than rural facilities (48% compared to 36%). However, rural facilities were more likely to have a system for diagnosis of TB among HIV+ clients (90% compared to 81%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver HIV/AIDS care and support services

Figure 68 shows the percentage of facilities that have tracer items for HIV/AIDS care and support services among those facilities that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- Eight of the 10 HIV/AIDS care and support services tracer items were available at a greater percentage of facilities in 2018/2019 compared to 2013.
- Intravenous solution with infusion set and IV treatment for fungal infection were available at a greater percentage of facilities in 2013 compared to 2018/2019.
- There was a large increase in the percentage of facilities that had palliative care management, 92% of facilities in 2018/2019 compared to 39% of facilities in 2013.

Figure 68. Percentage of facilities that have tracer items for HIV/AIDS care and support services among facilities that provide this service, 2013 (N=652), 2018/2019 (N=641)



HIV/AIDS antiretroviral prescription and client management services

In June 2016, the National Strategic Plan for HIV and AIDS and the Malawian Ministry of Health and Population (MoHP) adopted the WHO 2015 guidelines of Universal Test and Treat (UTT). UTT required all individuals that test positive for HIV to be referred to antiretroviral therapy (ART). ART delivery, however, requires expertise and the technology to assess and monitor patients through CD4 and viral load counts. In 2015, following national treatment protocols and monitoring systems, 872 567 patients had been initiated on ART.⁴⁵ Table 24 shows the tracer items needed for health facilities providing this service.

Table 24. Tracer items needed to provide HIV/AIDS antiretroviral and client management services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for antiretroviral therapy (ART) ■ Staff trained in ART in the past two years
Diagnostics	<ul style="list-style-type: none"> ■ Capacity to conduct a complete blood count (CBC) ■ CD4 or viral load ■ Renal function test ■ Liver function test
Medicines and commodities	<ul style="list-style-type: none"> ■ Three first-line antiretrovirals

⁴⁵ Jahn, A., Harries, A. D., Schouten, E. J., Libamba, E., Ford, N., Maher, D., & Chimbandira, F. (2016). Scaling-up antiretroviral therapy in Malawi. *Bulletin of the World Health Organization*, 94(10), 772–776.

Service availability

Figure 69 shows the percentage of facilities that offer antiretroviral (ARV) services in Malawi.

- More than half of facilities (65%) offered ARV prescription or ARV treatment follow-up services.
- More specifically, 65% of facilities offered antiretroviral therapy (ART) prescription and 62% of facilities offered treatment follow-up services for persons on ART.

Figure 69. Percentage of facilities that offer ARV services (N=1106), Malawi 2018/2019

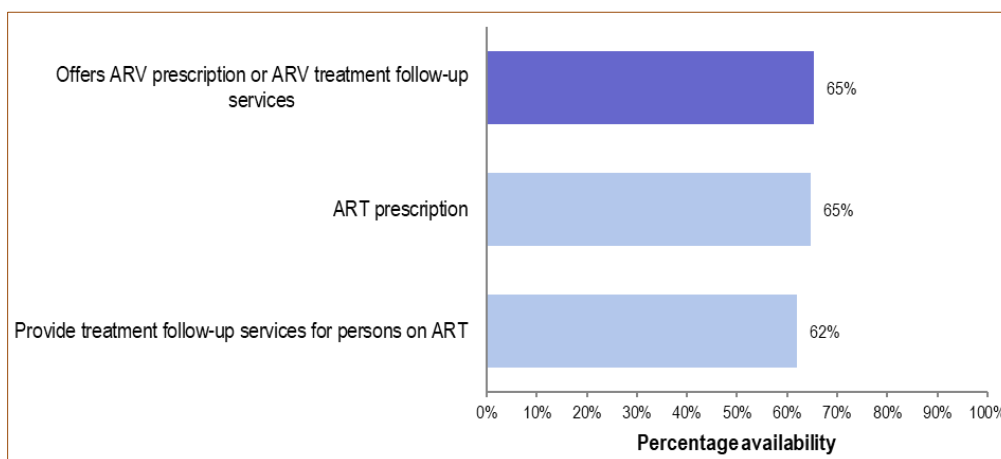


Table 79 shows the percentage of facilities offering ARV services by region, facility type, managing authority, and urban vs. rural location.

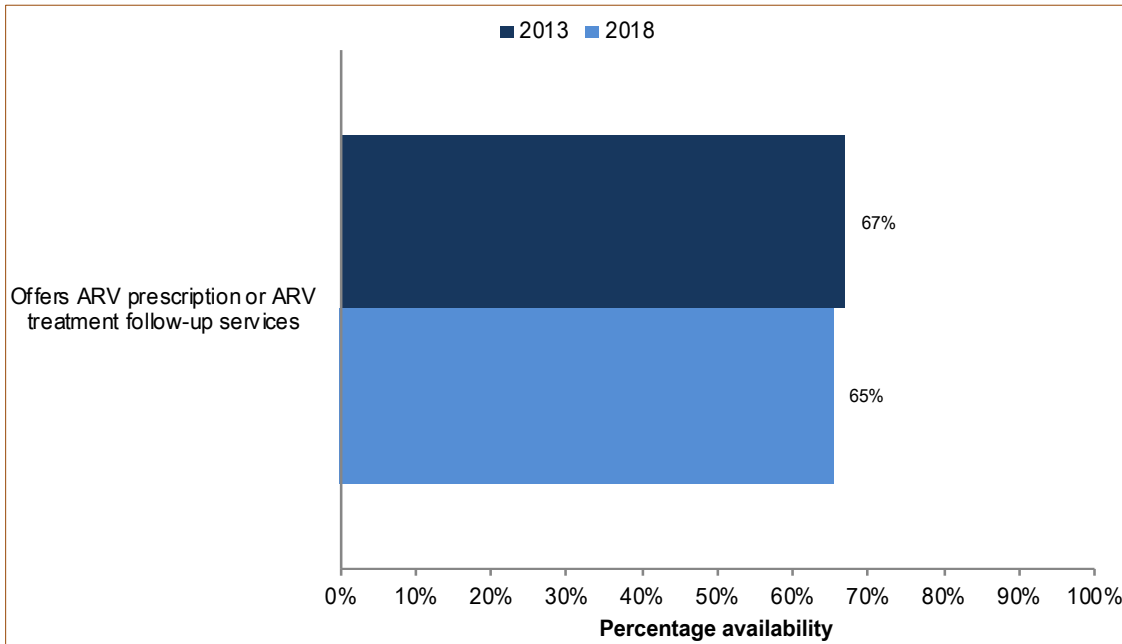
- Sixty-six per cent (66%) of facilities in the Southern region, 65% of facilities in the Central region, and 63% of facilities in the Northern region offered ARV prescription or ARV treatment follow-up services.
- Most hospitals (97%) and health centres (96%) offered ARV prescription or ARV treatment follow-up services whereas only 6% of health posts offered these services.
- Ninety-one per cent (91%) of CHAM facilities offered ART prescriptions compared to 77% of government facilities and only 26% of private for-profit facilities.
- Rural facilities were far more likely to offer ARV prescription or ARV treatment follow-up services than urban facilities, 73% compared to 48%.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of ARV services

Figure 70 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of facilities that offer ARV services.

- There was a slight increase in the percentage of facilities that offered ARV services in 2018/2019 (67%) compared to 2013 (65%).

Figure 70. Percentage of facilities that offer ARV services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to provide antiretroviral therapy was assessed based on the presence of the seven tracer items found in Table 24. Figure 71 shows the percentage of facilities that have tracer items for ARV services available among facilities offering this service.

- Only 2% of facilities had all seven items needed to deliver ARV services.
- On average, facilities had 3–4 of the 7 tracer items for ARV services, for an overall readiness score of 46 out of 100.
- Nearly all facilities had guidelines available for ART (98%), three first line ARVs (95%), and at least one trained staff in ART prescription and management (93%).
- Diagnostic testing capacity was low with only 8% of facilities having renal function test, liver function test, and CD4 or viral load diagnostic items. In addition, only 13% of facilities had capacity to conduct a complete blood count.

Figure 71. Percentage of facilities that have tracer items for ART services among facilities that provide this service (N=723), Malawi 2018/2019

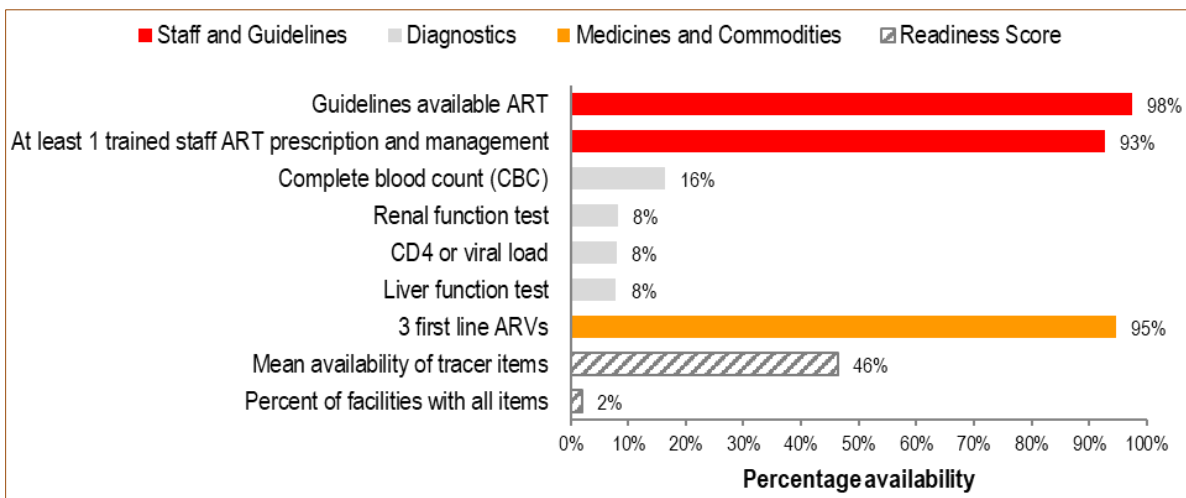


Table 80 shows the availability of tracer items for ART services among facilities that provide the service by region, facility type, managing authority, and urban vs. rural location.

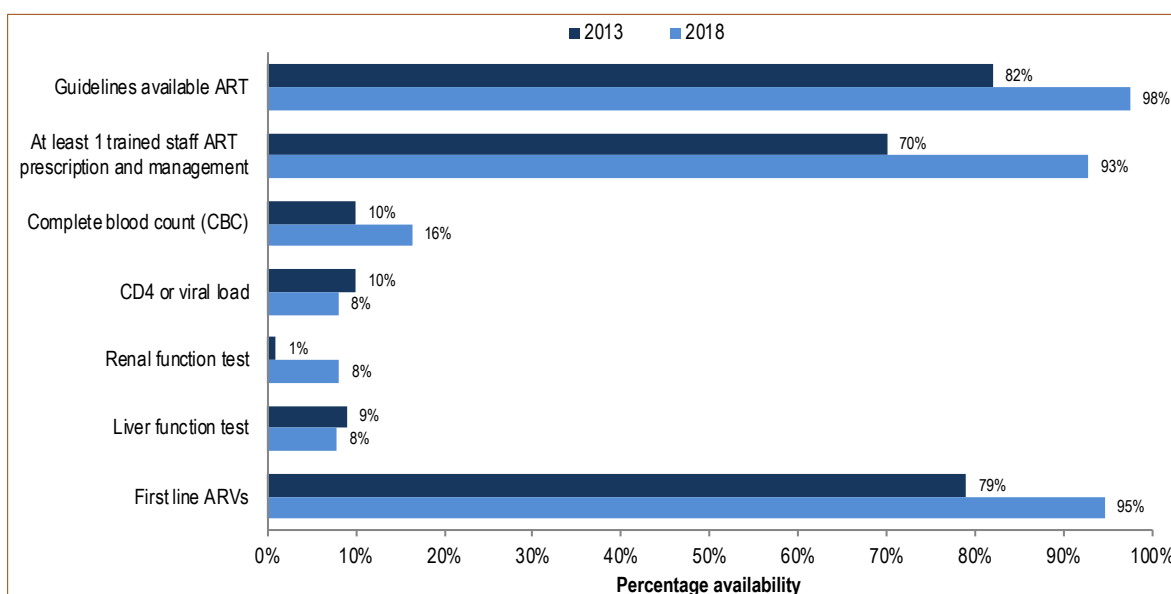
- Facilities in the Southern and Central regions had the highest mean availability of ART service tracer items (both 47%) compared to facilities in the Northern region (45%). Only 5% of facilities in the Northern region had CD4 or viral load testing, renal function testing, and liver function testing.
- Hospitals had the greatest availability of five of the seven tracer items for ART services, including at least one trained staff in ART prescription and management (96%) and complete blood count (66%). Health centres had the greatest availability of guidelines for ART (99%) and three first line ARVs (97%). No health post or dispensary had complete blood count, CD4 or viral load testing, renal function testing, or liver function testing.
- Almost all government facilities had guidelines available for ART (98%), at least one trained staff in ART prescription and management (96%), and three first line ARVs (96%). However, less than 10% of government facilities had CD4 or viral load testing, renal function testing, and liver function testing. Private for-profit facilities had the greatest availability of complete blood count (43%), CD4 or viral load testing (17%), renal function testing (25%), and liver function testing (25%).
- Seven per cent (7%) of facilities in urban areas had all seven tracer items for ART services compared to 0% of facilities in rural areas. Facilities in urban areas were far more likely to have complete blood count than facilities in rural areas (43% compared to 8%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver ART services

Figure 72 shows the percentage of facilities that have tracer items for ART services among facilities that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- Five of the seven ART services tracer items were available at a greater percentage of facilities in 2018/2019 compared to 2013.
- Ninety-eight per cent (98%) of facilities had guidelines available for ART services in 2018/2019 an increase from 82% of facilities in 2013.
- Two ART service tracer items, CD4 or viral load testing and liver function testing, were available at a greater percentage of facilities in 2013 compared to 2018/2019.

Figure 72. Percentage of facilities that have tracer items for ARV services among facilities that provide this service, 2013 (N=656), 2018/2019 (N=723)



PMTCT services

Knowledge of HIV transmission during pregnancy, delivery, and breastfeeding in Malawi is fairly high with seven in 10 women and six in 10 men possessing this information. Additionally, approximately eight in 10 women and men know that HIV transmission can be reduced by the mother taking special medication.⁴⁶ In 2011, Malawi designed a national PMTCT strategy based on WHO guidelines. In this strategy, Option B+, all pregnant and breastfeeding women that test positive for HIV are offered lifelong ART, as universal ART provision in resource-constrained settings has been recognized as a strategy to significantly reduce HIV transmission. The MoHP's guidelines for preventing mother-to-child transmission of HIV/AIDS include: primary prevention of HIV infection in parents, prevention of unintended pregnancies among HIV-positive women, start of lifelong ART for HIV-infected pregnant and breastfeeding women regardless of CD4 count and/or clinical stage ("Option B+"), provision of nevirapine (NVP) prophylaxis for babies born to HIV-infected mothers up to age six weeks, safe obstetric practices, and provision of care, treatment, and support for HIV-infected women, their children, and their families.⁴⁷ However, in 2017, only 31% of HIV-exposed infants were diagnosed within the first three months of life. If not treated with ART, 30% of children living with HIV will die before they turn one year old and 50% will die before reaching two years old.⁴⁸ The number of children infected with HIV due to mother-to-child HIV transmission in Malawi was 4300 despite the fact that 92% of pregnant women living with HIV had treatment access to prevent transmission of HIV to their children.⁴⁹ Items required for health facilities offering PMTCT services are outlined in Table 25.

Table 25. Tracer items needed to provide PMTCT services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for Prevention of Mother-to-Child Transmission (PMTCT) ■ Staff trained in PMTCT in the past two years ■ Guidelines for infant and young child feeding counselling ■ Staff trained in infant and young child feeding counselling in the past two years
Equipment	<ul style="list-style-type: none"> ■ Room with visual and auditory privacy
Diagnostics	<ul style="list-style-type: none"> ■ Capacity to conduct HIV diagnostic testing on site ■ Dried blood spot (DBS) filter paper for diagnosing HIV in newborns
Medicines and commodities	<ul style="list-style-type: none"> ■ Maternal ARV prophylaxis ■ Zidovudine syrup ■ Nevirapine syrup

Service availability

Figure 73 shows the percentage of facilities that offer PMTCT services in Malawi.

- More than half of facilities in Malawi offered services for PMTCT (60%).
- The most common PMTCT services were HIV counselling and testing to HIV+ pregnant women (59%) and HIV counselling and testing to infants born to HIV+ pregnant women (59%).
- The least common PMTCT service was ARV prophylaxis to HIV+ women, which was offered at 50% of facilities.

⁴⁶ National Statistical Office (NSO) [Malawi] and ICF. 2017. 2015–16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF.

⁴⁷ Government of Malawi, Ministry of Health. 2011. Clinical Management of HIV in Children and Adults, Malawi Integrated Guidelines for Providing HIV Services.

⁴⁸ UNICEF Executive Board, Economic and Social Council. Annual Session 2018. Malawi Country Program Document E/ICEF/2018/P/L.5.

⁴⁹ Elizabeth Glaser AIDS Foundation. June 2019. The Malawi Country Program.

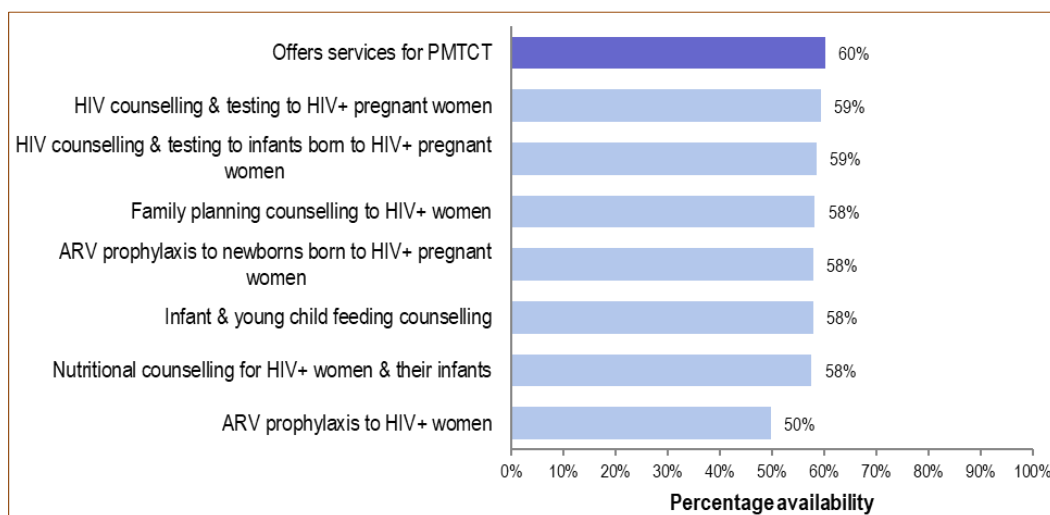
Figure 73. Percentage of facilities that offer PMTCT service (N=1106), Malawi 2018/2019

Table 81 shows the percentage of facilities offering PMTCT services by region, facility type, managing authority, and urban vs. rural location.

- Sixty-one per cent (61%) of facilities in the Northern region and 60% of facilities in the Central and Southern regions offered PMTCT services.
- Almost all health centres offered services for PMTCT (96%) while only 6% of health posts offered these services.
- Eighty-nine per cent (89%) of CHAM facilities offered PMTCT services compared to 75% of government facilities and only 20% of private for-profit facilities.
- Rural facilities were far more likely to offer PMTCT services than urban facilities, 71% compared to 36%.

Service readiness

Readiness to provide PMTCT services was assessed based on the presence of the 10 tracer items found in Table 25. Figure 74 shows the percentage of facilities that have tracer items for PMTCT services available among facilities offering this service.

- No facility had all 10 items needed to offer PMTCT services.
- On average, facilities had 6–7 of the 10 tracer items for PMTCT services, for an overall readiness score of 65 out of 100.
- Availability of trained staff and guidelines for PMTCT varied with 86% of facilities having guidelines on PMTCT, 72% of facilities having at least one trained staff in PMTCT, 66% of facilities having guidelines on infant and young child feeding, and 51% of facilities having at least one trained staff in infant and young child feeding.
- Only 3% of facilities had a room with visual and auditory privacy.
- Diagnostic capacity for PMTCT was high with nearly all facilities having HIV diagnostic capacity for adults (99%) and 83% of facilities having DBS for diagnosing newborn HIV.
- Availability of medicines for PMTCT was variable with maternal ARV prophylaxis available at 93% of facilities, nevirapine syrup available at 84% of facilities, and zidovudine syrup available at only 17% of facilities.

Figure 74. Percentage of facilities that have tracer items for PMTCT services among facilities that provide this service (N=666), Malawi 2018/2019

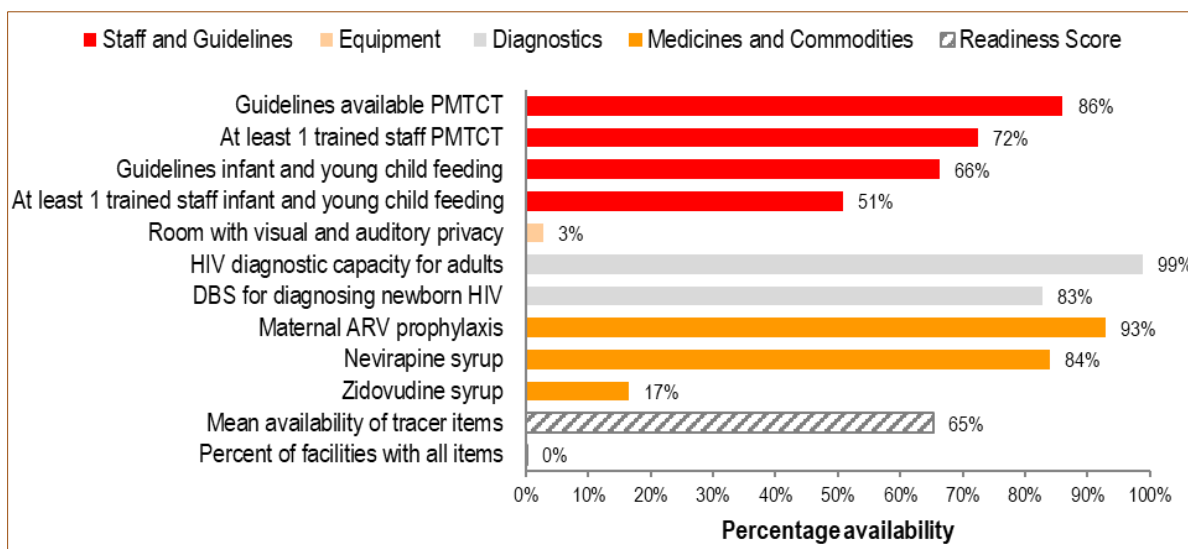


Table 82 shows the availability of tracer items for PMTCT services among facilities that provide the service by region, facility type, managing authority, and by urban vs. rural location.

- Almost all hospitals had guidelines available for PMTCT (95%), guidelines for infant and young child feeding (91%), HIV diagnostic capacity for adults (99%), and maternal ARV prophylaxis (96%). However, only 1% of hospitals had all 10 tracer items for PMTCT. More than 50% of all facility types had guidelines available for PMTCT and HIV diagnostic capacity for adults.
- Government facilities had the greatest availability of maternal ARV prophylaxis (96%). CHAM facilities had the greatest availability of guidelines for PMTCT (93%), DBS for diagnosing newborn HIV (87%), and nevirapine syrup (88%). At most, 20% of facilities of any managing authority had a room with visual and auditory privacy.
- Facilities located in urban and rural areas had the same mean availability of PMTCT service items (both 65%). Facilities in rural areas had a greater availability than urban facilities of DBS for diagnosing newborn HIV (85% compared to 73%) and nevirapine syrup (86% compared to 76%).

Tuberculosis

While tuberculosis (TB) is declining, it is still a pressing health problem in Malawi. Estimated TB incidence in 2017 was 131 in 100 000.⁵⁰ In 2014, a total of 17 723 new and relapse TB cases were identified. This figure represented a decline from 2013, when 19 539 cases were reported. There was an 86% treatment success rate for cases in 2013, however, multidrug resistant TB (MDR-TB) is on the rise.⁵¹ TB is particularly prevalent in cases of co-morbidity with HIV/AIDS, as 49% of TB patients with known HIV status are HIV-positive.⁵² Between 1985 and 2014, there was a dramatic increase in TB in Malawi which was strongly associated with HIV infection, and the subsequent decline in TB prevalence was associated with ART scale-up.⁵³ Tracer items necessary for providing TB services are outlined in Table 26.

⁵⁰ CDC Global HIV and TB Malawi Profile. <https://www.cdc.gov/globalhivtb/where-we-work/malawi/malawi.html>.

⁵¹ USAID Malawi TB Fact Sheet. <https://www.usaid.gov/malawi/fact-sheets/malawi-tuberculosis-fact-sheet>.

⁵² CDC Global HIV and TB Malawi Profile. <https://www.cdc.gov/globalhivtb/where-we-work/malawi/malawi.html>.

⁵³ Kanyerere, H., Harries, A. D., Tayler-Smith, K., Jahn, A., Zachariah, R., Chimbwandra, F. M., & Mpunga, J. (2016). The rise and fall of tuberculosis in Malawi: associations with HIV infection and antiretroviral therapy. *Tropical medicine & international health: TM & IH*, 21(1), 101–107.

Table 26. Tracer items needed to provide TB services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for diagnosis and treatment of TB ■ Guidelines for management of HIV/TB co-infection ■ Guidelines for multi-drug resistant tuberculosis (MDR-TB) ■ Guidelines for TB infection control ■ Staff trained in TB diagnosis and treatment in the past two years ■ Staff trained in management of HIV/TB co-infection in the past two years ■ Staff trained in MDR-TB in the past two years ■ Staff trained in TB infection control in the past two years
Diagnostics	<ul style="list-style-type: none"> ■ Capacity to conduct on site TB microscopy ■ Capacity to conduct HIV test ■ System for diagnosis of HIV among TB clients
Medicines and commodities	<ul style="list-style-type: none"> ■ All first line TB meds (isoniazid, pyrazinamide, rifampicin, ethambutol)

Service availability

Figure 75 shows the percentage of facilities that offer TB services in the country.

- Almost half of facilities in Malawi offered services for TB (49%).
- The most common TB service was management and treatment follow-up for TB patients, which was offered at 46% of facilities.
- The least common service was TB diagnosis by culture, which was offered at 2% of facilities.
- Thirty-seven per cent (37%) of facilities in the country offered TB diagnosis and 35% of facilities provided drugs to TB patients.

Figure 75. Percentage of facilities that offer TB services (N=1106), Malawi 2018/2019

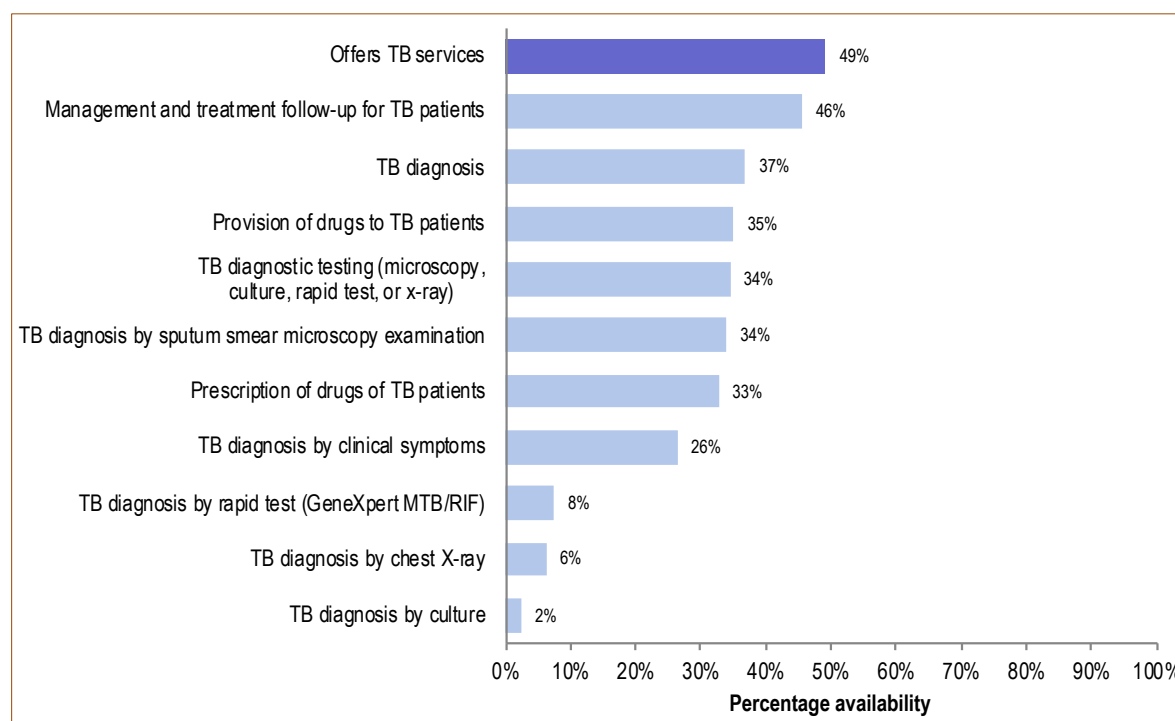


Table 83 shows the percentage of facilities offering TB services by region, facility type, managing authority, and urban vs. rural location.

- The highest percentage of facilities that offered TB services were in the Northern region (62%) compared to 49% of facilities in the Southern region and 43% of facilities in the Central region.
- Almost all hospitals offered TB services (91%). In contrast, only 13% of clinics offered these services.

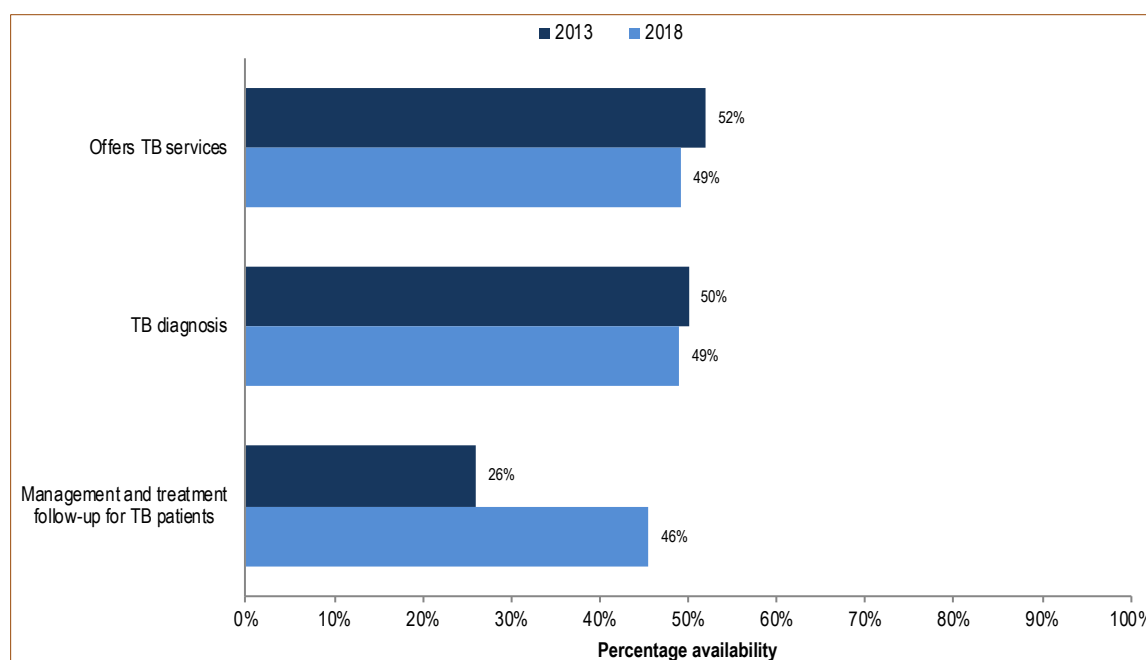
- Seventy-one per cent (71%) of CHAM facilities offered TB services compared to 65% of government facilities and only 12% of private for-profit facilities.
- Rural facilities were more likely to offer TB services than urban facilities, 58% compared to 29%.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of TB services

Figure 76 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of facilities that offer TB services.

- There was a decrease in the percentage of facilities that offered TB services in 2018/2019 (49%) compared to 2013 (52%). While the per cent of facilities offering TB services has decreased, the total number of facilities offering TB services has increased. This is due to the overall increase in the number of facilities in Malawi since 2013.
- In 2018/2019, 49% of facilities offered TB diagnosis compared to 50% of facilities that offered this service in 2013.
- There was an increase in the percentage of facilities that offered management and treatment follow-up for TB patients in 2018/2019 (46%) compared to 2013 (26%).

Figure 76. Percentage of facilities that offer tuberculosis services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to provide TB services was assessed based on the presence of the 12 tracer items found in Table 26. Figure 77 shows the percentage of facilities that have tracer items for TB services available among facilities that provide the service.

- Only 15% of facilities had all 12 items needed to deliver TB services.
- On average, facilities had 8–9 of the 12 tracer items for TB services, for an overall readiness score of 73 out of 100.
- Availability of staff and guidelines was greater than 65% for all items in the domain. The most available staff and guidelines item was guidelines for HIV and TB co-infection (85%) while the least available staff and guidelines item was guidelines on MDR–TB (66%).
- Diagnostic capacity was variable with 94% of facilities having HIV diagnostic capacity, 88% of facilities having a system for diagnosis of HIV among TB clients, and 32% of facilities having TB microscopy capacity.
- Half of facilities had all first-line TB medications.

Figure 77. Percentage of facilities that have tracer items for TB services among facilities that provide this service (N=544), Malawi 2018/2019

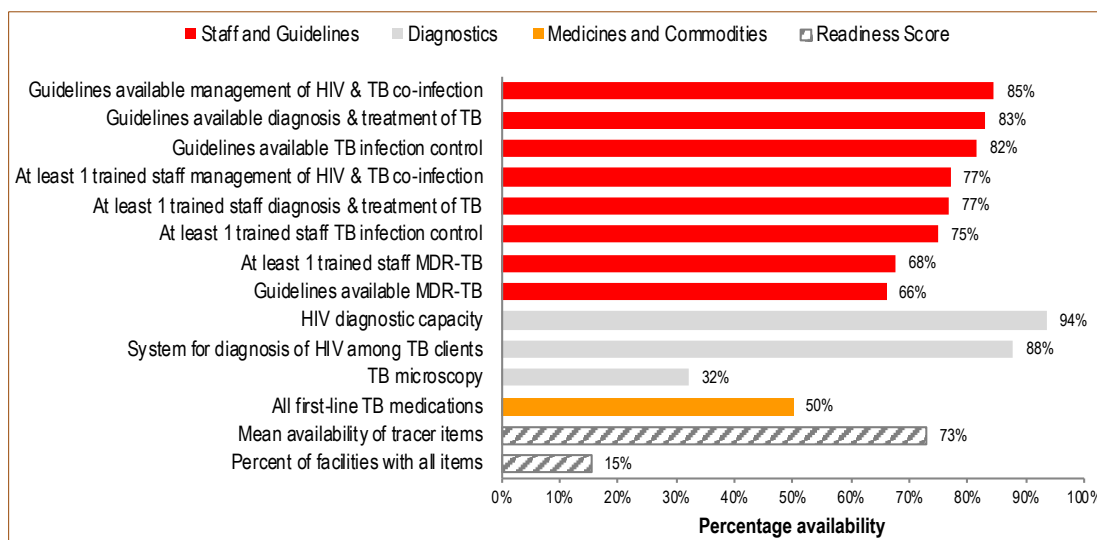


Table 84 and Table 85 show the availability of tracer items for TB service readiness among facilities that provide the service by region, facility type, managing authority, and by urban vs. rural location.

- Facilities in the Southern region had the highest mean availability of TB service tracer items (78%) compared to facilities in the Central (72%) and Northern (66%) regions. Facilities in the Southern and Central regions had a greater availability of all first-line TB medications (59% and 52%, respectively) compared to facilities in the Northern region (29%).
- Hospitals had the greatest availability of 11 of the 12 tracer items for TB services, including guidelines available for TB infection control (96%), at least one trained staff in diagnosis and treatment of TB (89%), and all first-line TB medications (82%).
- The majority of hospitals (97%), health centres (89%), and clinics (69%) had guidelines available for the management of HIV and TB co-infection, compared to 48% of dispensaries and 37% of health posts. Only 10% of dispensaries and 0% of health posts had all first-line TB medications.
- CHAM facilities had the greatest availability of nine of the 12 tracer items, including guidelines available for management of HIV and TB co-infection (91%), guidelines available for TB infection control (88%), and at least one trained staff in MDR-TB (73%). Government facilities had the greatest availability for all first-line TB medications (54%). Only 7% of private-for-profit facilities had all tracer items for TB, compared to 15% of private non-profit facilities.
- Facilities located in urban areas had slightly higher mean availability of TB service items than rural areas (77% and 72%, respectively). Facilities in rural areas had a greater availability than urban facilities of HIV diagnostic capacity (94% compared to 91%) and a system for diagnosis of HIV among TB clients (89% compared to 85%). All other tracer items were available at a greater percentage of urban facilities than rural facilities.

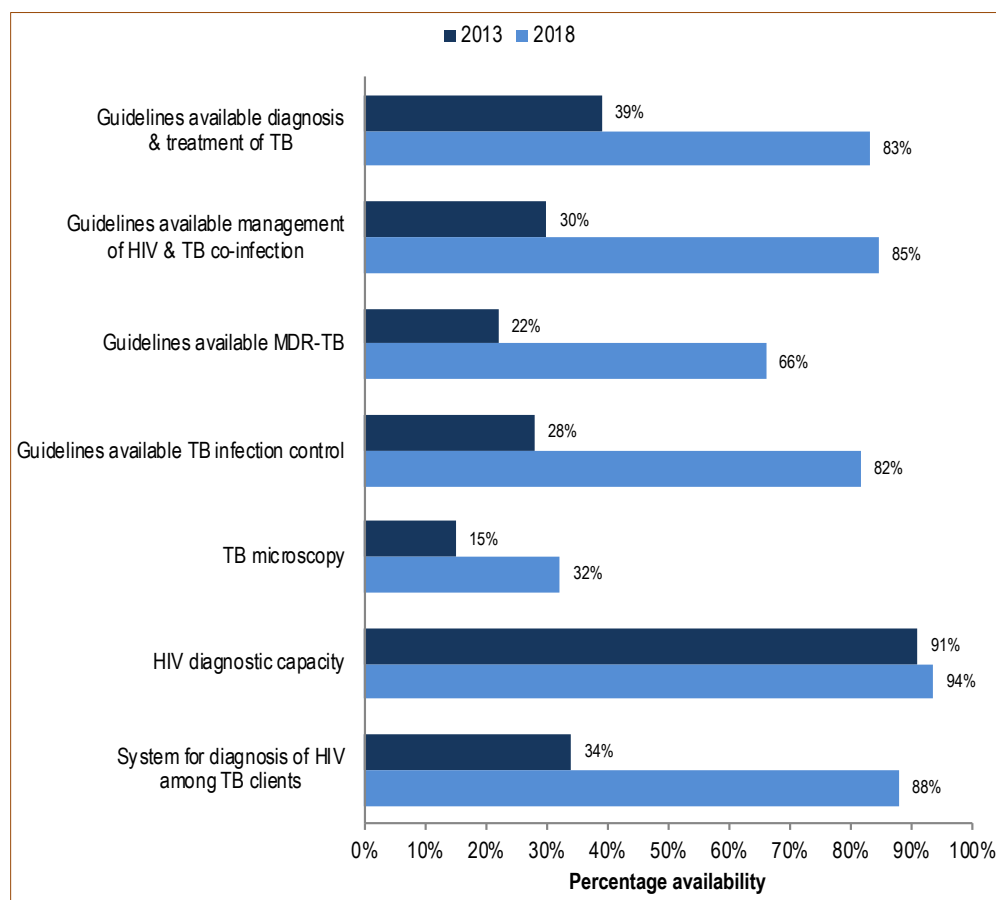
Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver TB services

Figure 78 shows the percentage of facilities that had tracer items for TB services from the 2013 SPA survey and the 2018/2019 HHFA survey.

- All seven TB services tracer items were available at a greater percentage of facilities in 2018/2019 compared to 2013.
- The most common TB tracer item was HIV diagnostic capacity, which was available at 94% of facilities in 2018/2019, an increase from 91% of facilities in 2013.
- The least available TB tracer item in 2018/2019 was TB microscopy (32% of facilities). This item was only available at 15% of facilities in 2013.

- Guidelines for the management of HIV and TB co-infection was the item that showed the largest increase in availability from 2013 to 2018/2019; 30% of facilities had this item in 2013 compared to 85% of facilities in 2018/2019.

Figure 78. Percentage of facilities that have tracer items for tuberculosis services among facilities that provide this service, 2013 (N=509), 2018/2019 (N=544)



Sexually transmitted infection services

Sexually transmitted infections (STIs) cause a large proportion of the global burden of ill health. WHO estimates that over 340 million new cases of curable STIs such as syphilis, gonorrhoeae, chlamydia, and trichomoniasis occurred in 1999. STI services assessed included diagnosis of STIs and prescription of treatment for STIs. Table 27 outlines the tracer items needed to provide STI services in health facilities.

Table 27. Tracer items needed to provide STI services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for diagnosis and treatment of STIs ■ Staff trained in diagnosis and treatment of STIs in the past two years
Diagnostics	<ul style="list-style-type: none"> ■ Capacity to conduct on site syphilis rapid test
Medicines and commodities	<ul style="list-style-type: none"> ■ Male condoms ■ Metronidazole ■ Ciprofloxacin ■ Ceftriaxone injection

Service availability

Figure 79 shows the percentage of facilities that offer STI services in Malawi.

- Eighty-seven per cent (87%) of facilities in the country offered services for STIs including both diagnosis of STIs and prescription of treatment for STIs.

Figure 79. Percentage of facilities that offer STI services (N=1106), Malawi 2018/2019

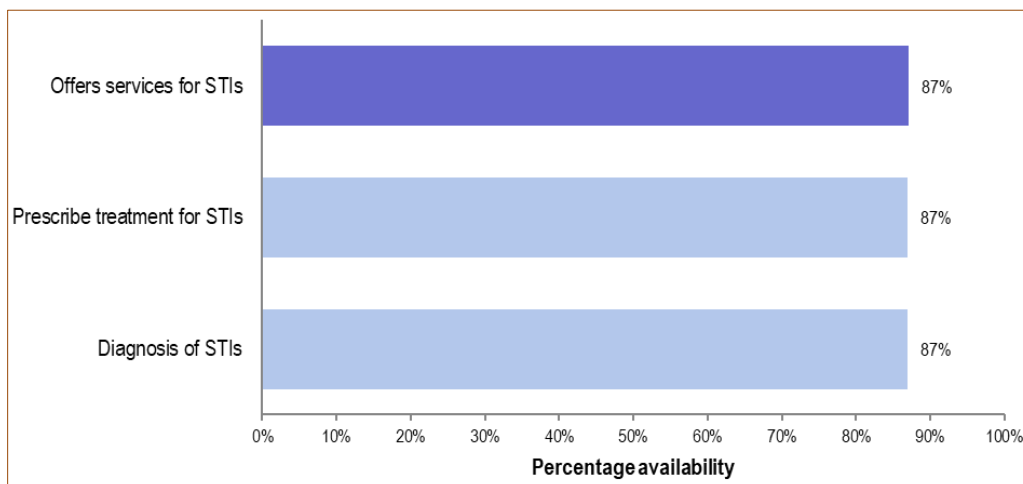


Table 86 shows the percentage of facilities offering STI services by region, facility type, managing authority, and urban vs. rural location.

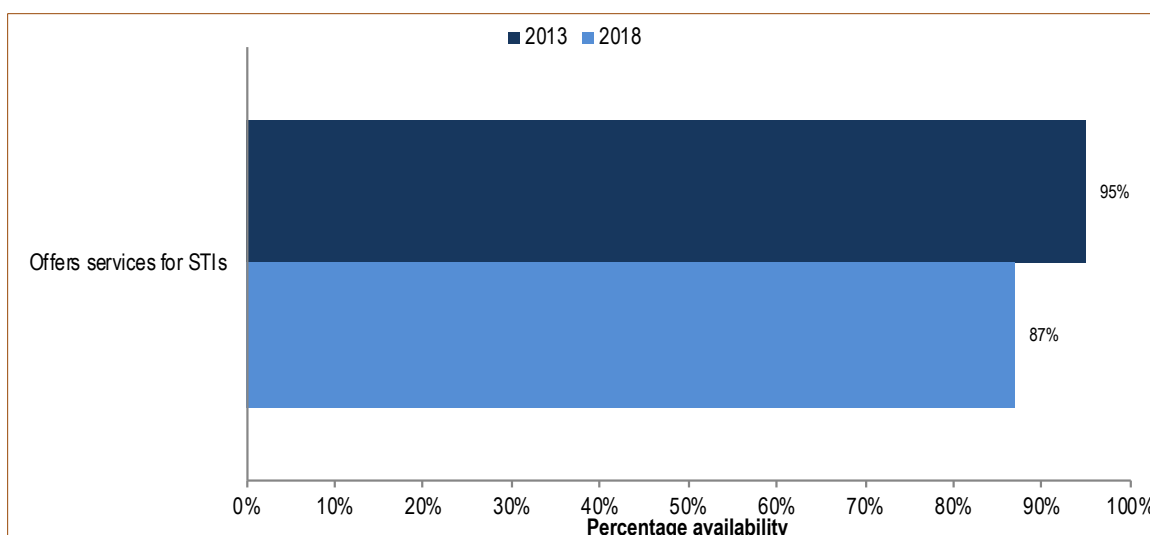
- The highest percentage of facilities that offered STI services were in the Southern region (89%) compared to 88% of facilities in the Central region and 82% of facilities in the Northern region.
- Almost all health centres (99%) and hospitals (97%) offered STI services. In contrast, only 10% of health posts offered these services.
- Ninety-five per cent (95%) of CHAM facilities offered STI services compared to 83% of government facilities.
- Urban facilities were more likely to offer STI services than rural facilities, 92% compared to 85%.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of STI services

Figure 80 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of facilities that offer STI services.

- There was a decrease in the percentage of facilities that offered STI services in 2018/2019 (87%) compared to 2013 (95%).

Figure 80. Percentage of facilities that offer STI services, 2013 (N=977), 2018/2019 (N=1106)



Service readiness

Readiness to provide STI services was assessed based on the presence of the seven tracer items found in Table 27. Figure 81 shows the percentage of facilities that have tracer items for STI services available among facilities that provide the service.

- Only 15% of facilities had all seven items needed to offer STI services.
- On average, facilities had 5–6 of the 7 tracer items for STI services, for an overall readiness score of 74 out of 100.
- Availability of trained staff and guidelines for STIs was variable with 92% of facilities having guidelines on diagnosis and treatment of STIs and 67% of facilities having at least 1 trained staff on diagnosis and treatment of STIs.
- Syphilis rapid diagnostic tests were available in 68% of facilities.
- Medicines required for treatment of STIs were all available in more than half of facilities: metronidazole 88%, condoms 88%, ciprofloxacin 61%, and ceftriaxone injectable 57%.

Figure 81. Percentage of facilities that have tracer items for STI services among facilities that provide this service (N=963), Malawi 2018/2019

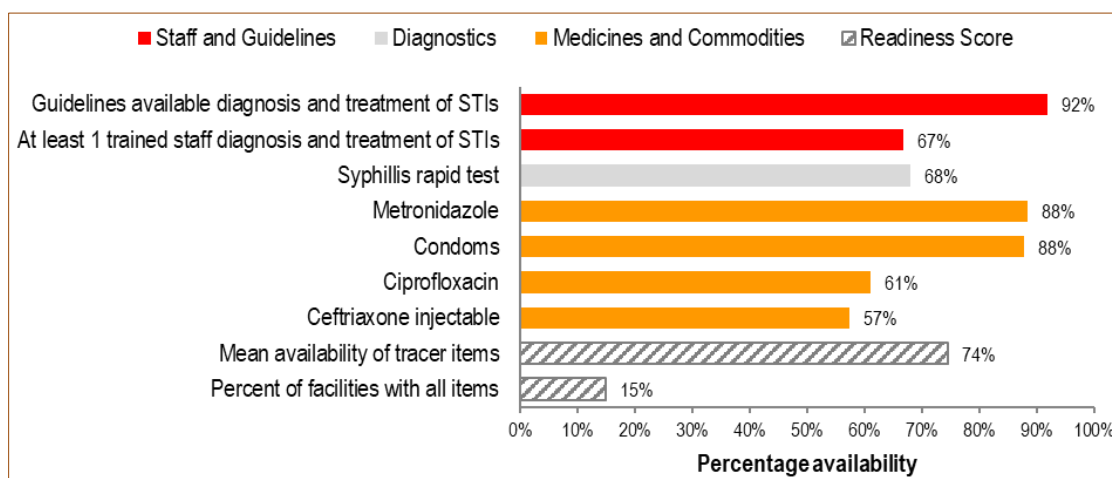


Table 87 shows the availability of tracer items for STI service readiness among facilities that provide the service by region, facility type, managing authority, and by urban vs. rural location.

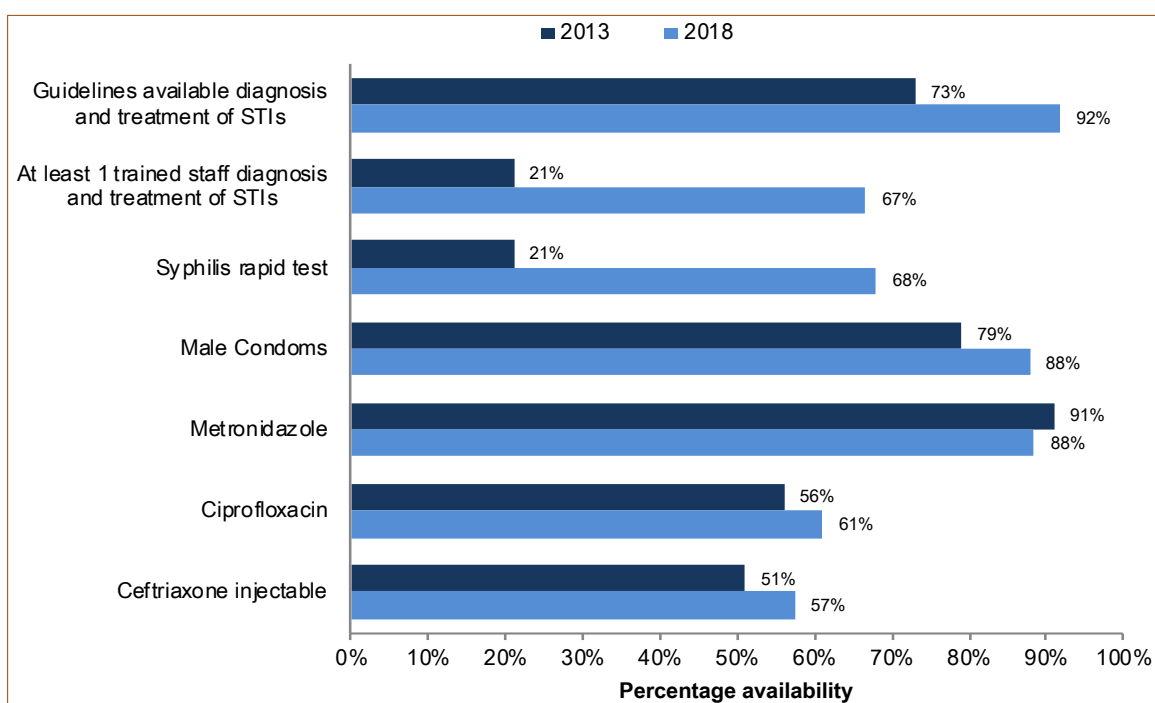
- Facilities in the Central region had the highest mean availability of STI service tracer items (76%) compared to facilities in the Southern and Northern regions (74%).
- Hospitals had the greatest availability of five of the seven tracer items for STI services, including syphilis rapid test (93%), metronidazole (93%), and ceftriaxone injectable (94%). Dispensaries had the greatest availability of condoms (96%) and clinics had the greatest availability of ciprofloxacin (85%).
- Forty per cent (40%) of hospitals had all tracer items for STI services, compared to 13% of health centres and clinics, and only 4% of dispensaries.
- NGO facilities had the greatest availability of guidelines for diagnosis and treatment of STIs (98%), metronidazole (96%), and ciprofloxain (94%). Government facilities had the greatest availability of condoms (97%) and at least one trained staff in the diagnosis and treatment of STIs (73%). Ceftriaxone injectable was the least available item at private non-profit and NGO facilities (less than 35% of facilities).
- Facilities located in urban areas had slightly higher mean availability of STI tracer items than rural areas (76% and 74%, respectively). Facilities in rural areas had greater availability than facilities in urban areas of condoms (92% compared to 80%) and syphilis rapid testing capacity (74% compared to 55%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver STI services

Figure 82 shows the percentage of facilities that had tracer items for STI services among facilities that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- Six of the seven STI services tracer items were available at a greater percentage of facilities in 2018/2019 compared to 2013, including guidelines for diagnosis and treatment of STIs and male condoms.
- The only item that was available at a greater percentage of facilities in 2013 compared to 2018/2019 was metronidazole.
- The least available STI tracer item in 2018/2019 was ceftriaxone injection (57%), which still increased in availability since 2013 (51%).
- Syphilis rapid test was the item that showed the largest increase in availability from 2013 to 2018/2019; 21% of facilities had this item in 2013 compared to 68% of facilities in 2018/2019.

Figure 82. Percentage of facilities that have tracer items for STI services among facilities that provide this service, 2013 (N=925), 2018/2019 (N=963)



5.3 Noncommunicable diseases

Along with other countries in Africa, Malawi is currently grappling with the challenge of both communicable and noncommunicable diseases (NCDs). NCDs, or chronic diseases, are the largest contributor to mortality globally. The primary risk factors for NCDs on the African continent are smoking, high systolic blood pressure, high body-mass index (BMI), low birthweight, short gestation, and high fasting glucose.⁵⁴

In Malawi, NCDs are the second leading cause of adult mortality after HIV/AIDS. NCDs account for approximately 12% of the total Disability Adjusted Life Years (DALYs). The Government of Malawi, through the EHP, has attempted to address NCDs including mental illness, hypertension, diabetes, and cancers. A recent study found a high prevalence of overweight and obesity, hypertension, and diabetes in both urban and rural areas of Malawi.⁵⁵ However, patients are still often underdiagnosed, and disease management and treatment are lacking.

⁵⁴ GBD 2016 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 84 behavioural, environmental and occupational, and metabolic risk or clusters of risks, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet* 2017; 390: 1345–422.

⁵⁵ Price et al. 2018. Prevalence of obesity, hypertension, and diabetes, and cascade of care in sub-Saharan Africa: a cross-sectional, population-based study in rural and urban Malawi. *Lancet Diabetes Endocrinol* 2018; 6: 208–22.

Figure 83 shows the overall availability of noncommunicable disease services at hospitals in the country.

- The most available noncommunicable disease service was for chronic respiratory disease diagnosis/management (84% of hospitals).
- The least available noncommunicable disease service was for cervical cancer diagnosis (69% of hospitals).

Figure 83. Availability of noncommunicable disease services at hospitals (N=101), Malawi 2018/2019

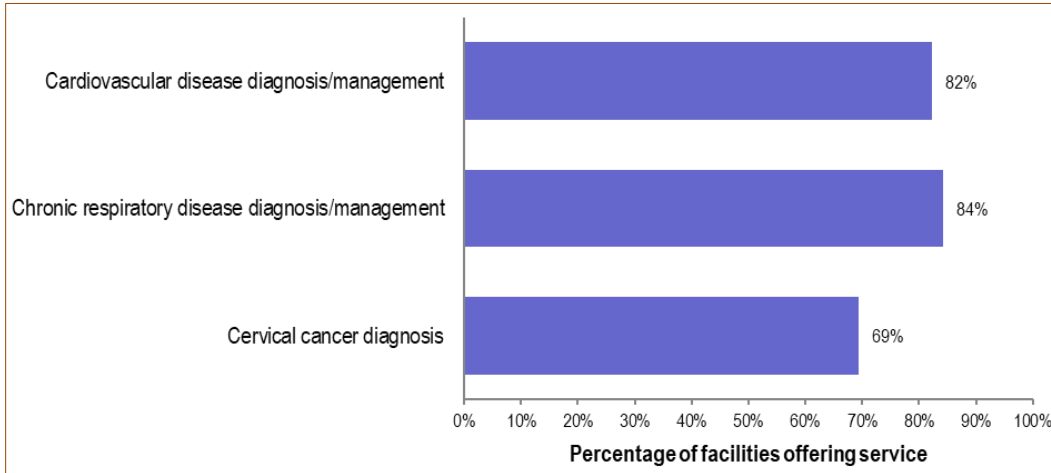
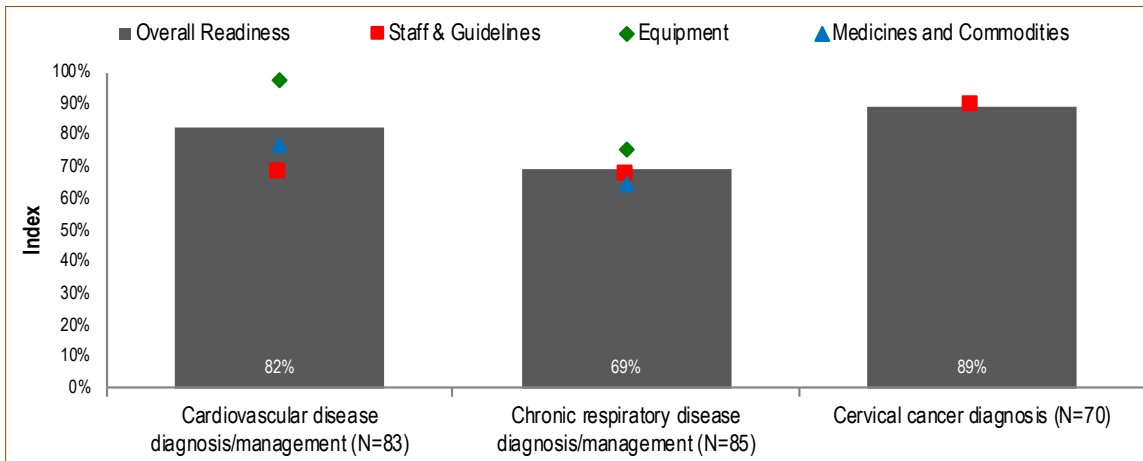


Figure 84 shows readiness to provide communicable disease services.

- Overall readiness to provide communicable disease services was highest for cervical cancer services (89%) and lowest for chronic respiratory disease services (69%).
- Equipment was generally the highest scoring domain, however there was little variability between staff and guidelines, equipment, and medicine and commodities domains.

Figure 84. Readiness* to provide noncommunicable disease services



* The readiness score corresponds to the average availability (%) of the tracer items of the three domains (“Staff and guidelines”, “Equipment”, and “Medicines and commodities”).

Cardiovascular disease services

Cardiovascular diseases (CVDs), which includes conditions such as hypertension, heart disease, and stroke, are the most common cause of mortality globally, and hypertension is the leading risk factor for CVDs.⁵⁶ The burden of hypertension in sub-Saharan Africa is predicted to double between 2000 and 2025.⁵⁷ Additionally, comorbidity with HIV/AIDS means CVD will become more common as more HIV-positive individuals extend their lives through ART.⁵⁸

In Malawi, cardiovascular diseases are the third leading cause of death among all ages. Also, CVDs rank fourth in females amongst causes of disability as measured by DALYs and sixth in males.⁵⁹ Tracer items needed to provide cardiovascular disease (CVD) services are outlined in Table 28.

Table 28. Tracer items needed to provide CVD services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for diagnosis and treatment of chronic cardiovascular conditions ■ Staff trained in diagnosis and management of chronic cardiovascular conditions in the past two years
Equipment	<ul style="list-style-type: none"> ■ Stethoscope ■ Blood pressure apparatus ■ Adult scale ■ Oxygen
Medicines and commodities	<ul style="list-style-type: none"> ■ ACE inhibitors ■ Hydrochlorothiazide tablet or other thiazide diuretic tablet ■ Beta blockers ■ Calcium channel blockers ■ Aspirin ■ Metformin

Service availability

Figure 85 shows the percentage of hospitals that offer CVD services in Malawi.

- Eighty-two per cent (82%) of hospitals in the country offered services for cardiovascular disease diagnosis and/or management.

⁵⁶ GBD 2013 Risk Factors Collaborators. Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks in 188 countries, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet*. 2015; 386 (10010):2287–2323.

⁵⁷ A global brief on hypertension. World Health Day 2013. Geneva: WHO Press, World Health Organization. WHO/DCO/WHO/2013.2.

⁵⁸ Patel P, Speight C, Maida A, Loustalot F, Giles D, et al. (2018) Integrating HIV and hypertension management in low-resource settings: Lessons from Malawi. *PLOS Medicine* 15(3): e1002523.

⁵⁹ Ministry of Health (MoH) [Malawi] and ICF International. 2014. Malawi Service Provision Assessment (MSPA) 2013–14. Lilongwe, Malawi, and Rockville, Maryland, USA: MoH and ICF International.

Figure 85. Percentage of hospitals that offer cardiovascular disease services (N=101), Malawi 2019

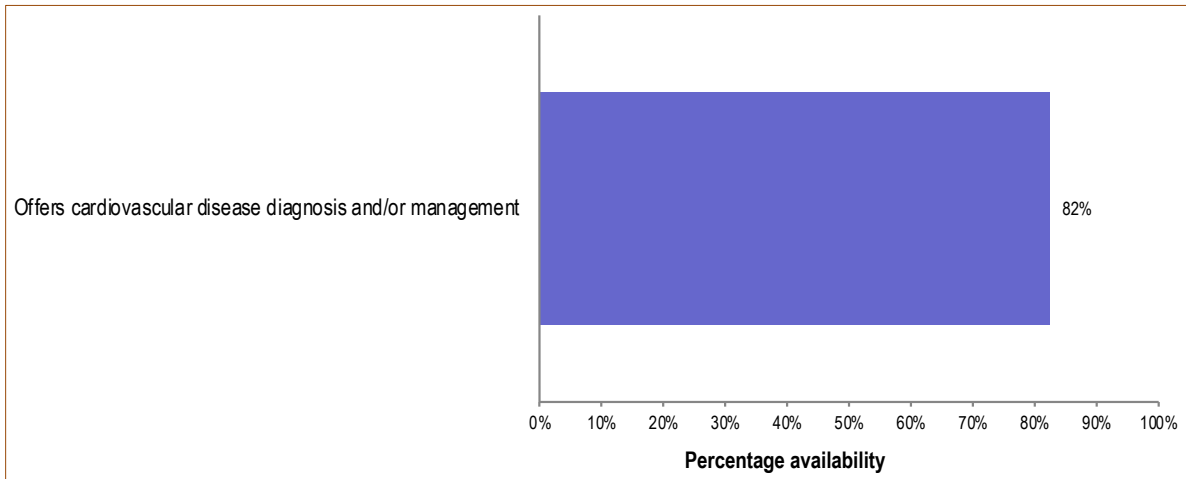


Table 88 shows the percentage of hospitals offering cardiovascular disease services by region, facility type, managing authority, and urban vs. rural location.

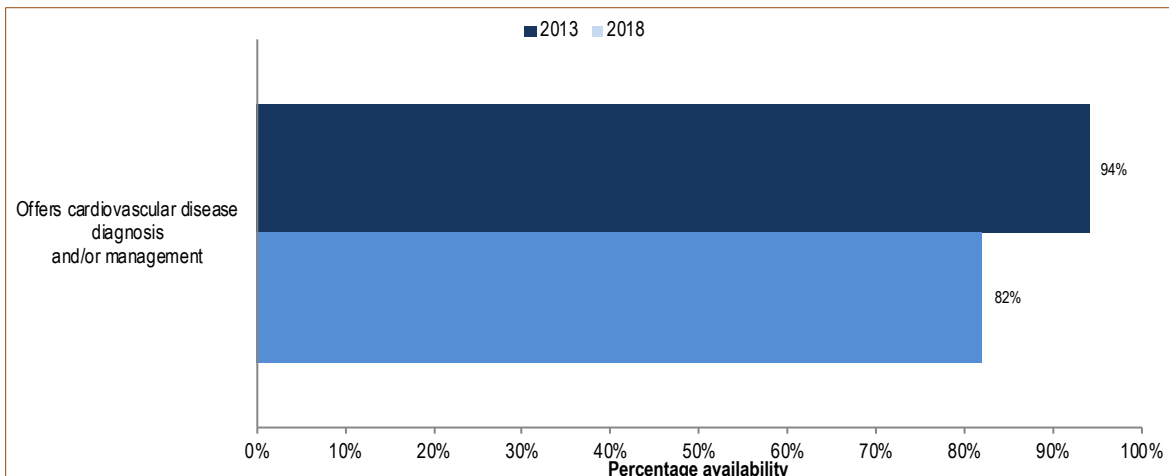
- The highest percentage of hospitals that offered CVD services were in the Northern region (95%) compared to 89% of hospitals in the Central region and 70% of hospitals in the Southern region.
- Ninety per cent (90%) of government hospitals offered CVD services compared to 88% of CHAM hospitals and 22% of private for-profit hospitals. No private non-profit hospital offered CVD services.
- Rural hospitals were more likely to offer CVD services than urban hospitals, 85% compared to 80%.

Comparison of 2013 SPA to 2018/2019 HHFA: Availability of CVD services

Figure 86 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of hospitals that offer CVD services.

- There was a decrease in the percentage of hospitals that offered CVD services in 2018/2019 (82%) compared to 2013 (94%).

Figure 86. Percentage of hospitals that offer cardiovascular disease services, 2013 (N=113), 2018/2019 (N=101)



Service readiness

Readiness to provide cardiovascular disease diagnosis and/or management services was assessed based on the presence of the 12 tracer items found in Table 28. Figure 87 shows the percentage of hospitals that have tracer items for CVD services available among hospitals that provide the service.

- Only 20% of hospitals had all 12 items needed to offer CVD services.
- On average, hospitals had 9–10 of the 12 tracer items for CVD services, for an overall readiness score of 82 out of 100.
- Availability of staff and guidelines items was variable with 78% of hospitals having guidelines on CVD diagnosis and management and 58% of hospitals having at least 1 trained staff in CVD diagnosis and management.
- Availability of equipment items for CVD services was nearly universal: stethoscope 99%, oxygen 98%, adult scale 96%, and blood pressure apparatus 96%.
- Availability of medicines and commodities items was variable with the most available medicine being aspirin (98%) and the least available medicine being calcium channel blockers (52%).

Figure 87. Percentage of hospitals that have tracer items for CVD services among hospitals that provide this service (N=83), Malawi 2019

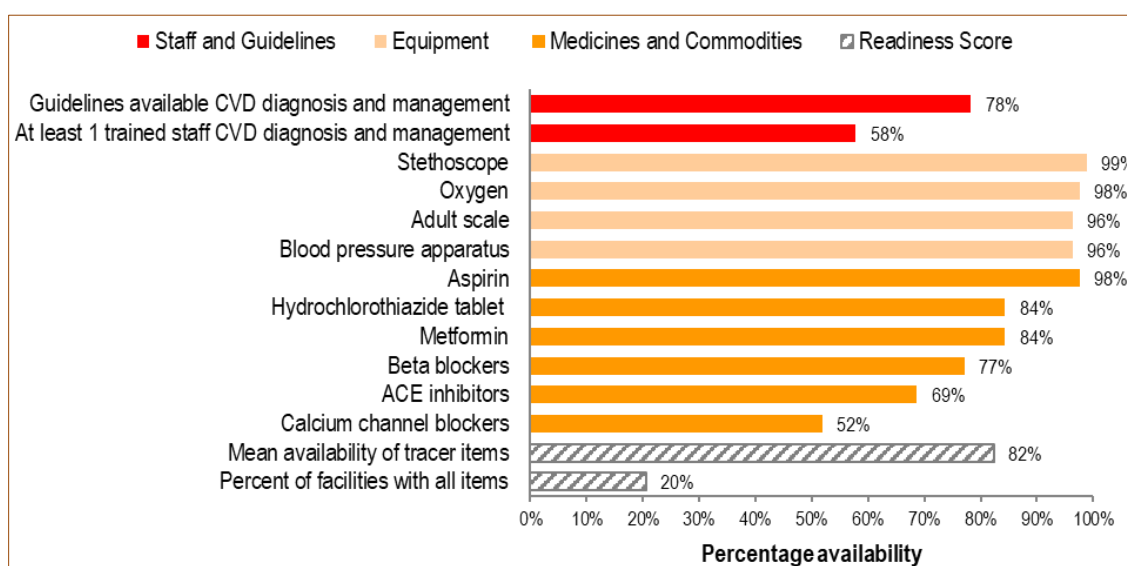


Table 89 and Table 90 show the availability of CVD tracer items among hospitals that provide the service by region, facility type, managing authority, and by urban vs. rural location.

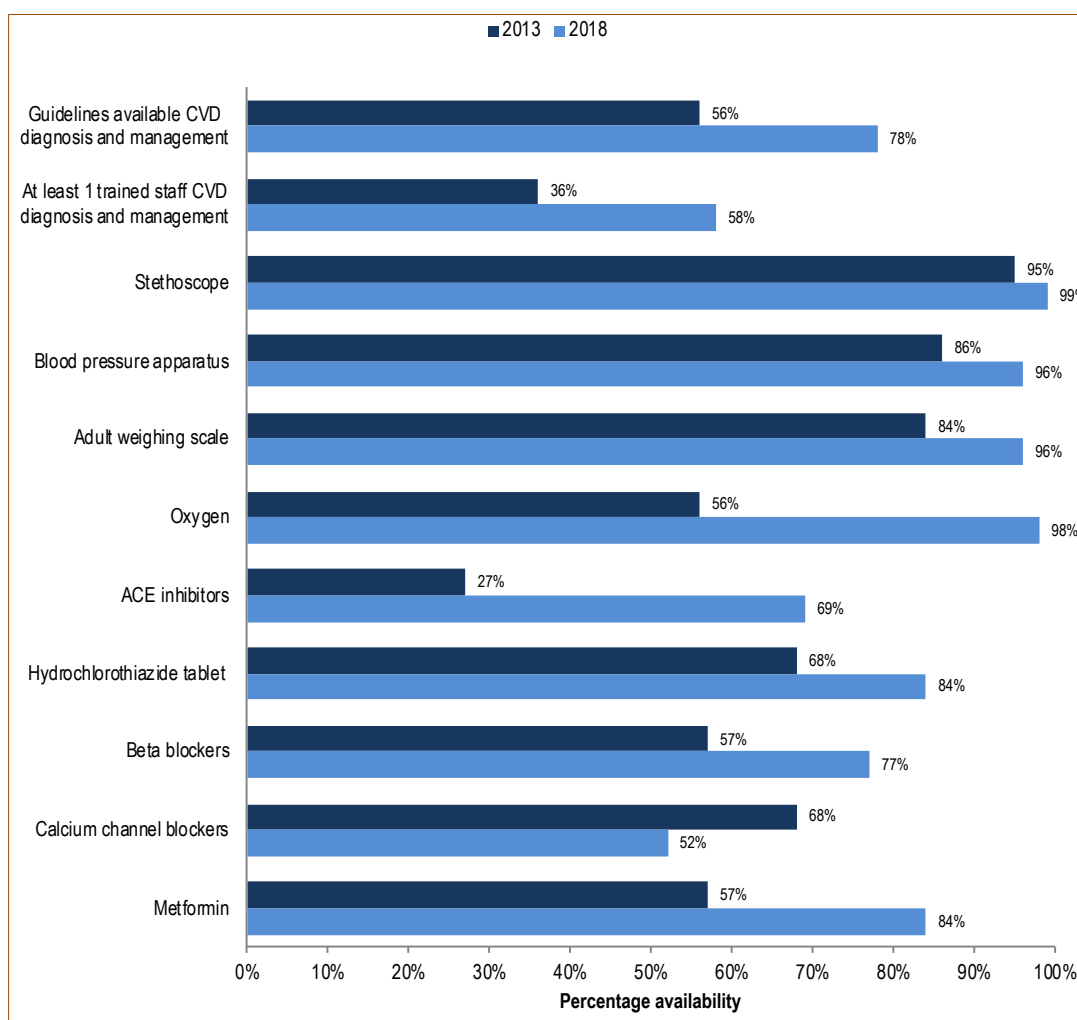
- Hospitals in the Southern and Central regions had the highest mean availability of CVD service tracer items (both 83%) compared to hospitals in the Northern region (80%). Hospitals in the Northern and Southern regions had greater availability of at least one trained staff in CVD diagnosis and management (62% and 65%, respectively) compared to hospitals in the Central region (48%).
- CHAM hospitals had the highest mean availability of CVD tracer items (87%), and the greatest availability of ACE inhibitors (83%). Government hospitals had the greatest availability of hydrochlorothiazide tablet (87%), beta blockers (80%), and at least one trained staff CVD diagnosis and management (60%). Although NGO hospitals had the greatest availability of several tracer items, including guidelines for CVD diagnosis and management (100%), blood pressure apparatus (100%), and calcium channel blockers (100%), no NGO hospital had all tracer items for CVD.
- Hospitals located in urban areas had slightly higher mean availability of CVD service items than hospitals in rural areas (84% and 81%, respectively). However, hospitals in rural areas had greater availability than hospitals in urban areas of calcium channel blockers (55% compared to 49%) and ACE inhibitors (70% compared to 67%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness to deliver CVD services

Figure 88 shows the percentage of facilities that had tracer items for CVD services among hospitals that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- Ten of the 11 CVD service tracer items were available at a greater percentage of hospitals in 2018/2019 compared to 2013, including a stethoscope, oxygen, and at least one trained staff in CVD diagnosis and management.
- The only item that was available at a greater percentage of hospitals in 2013 compared to 2018/2019 was calcium channel blockers (68% in 2013 compared to 52% in 2018).
- ACE inhibitors showed the largest increase in availability from 2013 to 2018/2019; 27% of hospitals had this item in 2013 compared to 69% of hospitals in 2018/2019.

Figure 88. Percentage of hospitals that have tracer items for cardiovascular disease services among hospitals that provide this service, 2013 (N=106), 2018/2019 (N=83)



Chronic respiratory disease services

Chronic respiratory diseases (CRDs) include asthma, lung disease, and chronic obstructive pulmonary disease (COPD). CRDs are a significant disease burden in Malawi, but as most resources are directed to communicable diseases such as HIV and TB, these conditions are given less attention. As the country’s economy is still dependent on tobacco production, it is a challenge to reduce smoking rates and smoking related mortality. Additionally, the dependence of

most households on biomass fuel means the risk of COPD is high.⁶⁰ Tracer items necessary for hospitals providing chronic respiratory disease (CRD) services are outlined in Table 29.

Table 29. Tracer items needed to provide CRD services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for diagnosis and management of CRD ■ Staff trained in CRD diagnosis and management in the past two years
Equipment	<ul style="list-style-type: none"> ■ Stethoscope ■ Peak flow meter ■ Spacers for inhalers ■ Oxygen
Medicines and commodities	<ul style="list-style-type: none"> ■ Salbutamol inhaler ■ Beclomethasone inhaler ■ Prednisolone ■ Hydrocortisone ■ Epinephrine

Service availability

Figure 89 shows the percentage of hospitals that offer CRD services in Malawi.

- Eighty-four per cent (84%) of hospitals in the country offered services for chronic respiratory disease diagnosis and/or management.

Figure 89. Percentage of hospitals that offer CRD services (N=101), Malawi 2018/2019

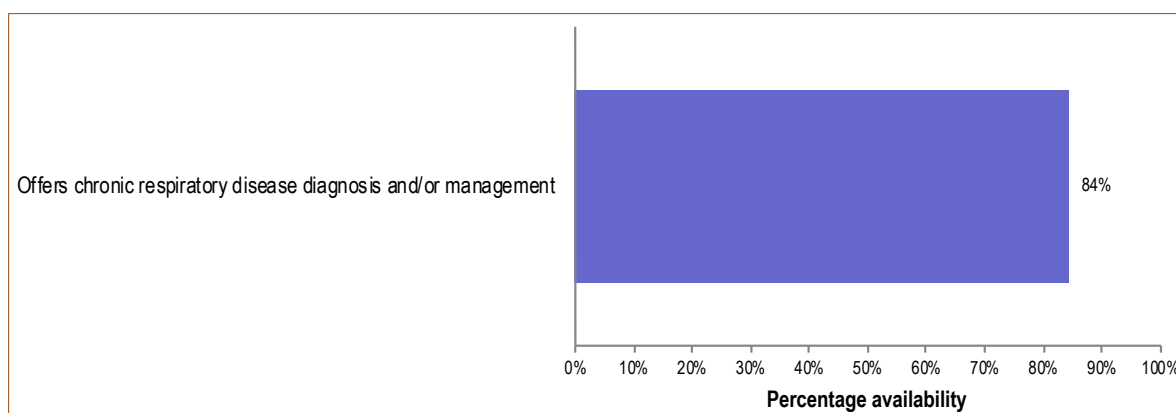


Table 91 shows the percentage of hospitals offering chronic respiratory disease services by region, facility type, managing authority, and urban vs. rural location.

- The highest percentage of hospitals that offered CRD services were in the Northern region (100%) compared to 91% of hospitals in the Central region and 70% of hospitals in the Southern region.
- Ninety-three per cent (93%) of CHAM hospitals offered CRD services compared to 90% of government hospitals and 22% of private for-profit hospitals. No private non-profit hospital offered CRD services.
- Rural hospitals were more likely to offer CRD services than urban hospitals, 88% compared to 80%.

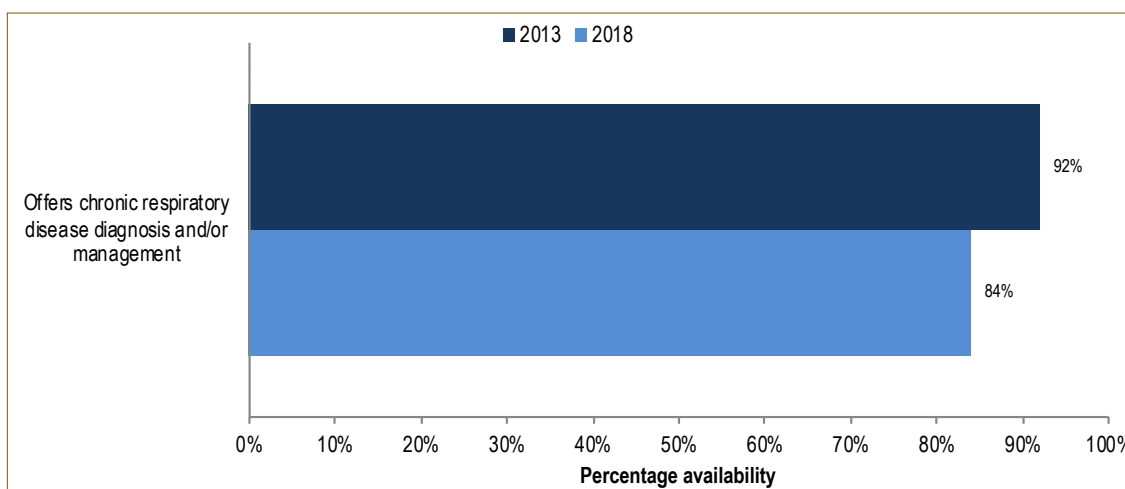
Comparison of 2013 SPA to 2018/2019 HHFA: Availability of CRD services

Figure 90 compares changes between the 2013 SPA survey and the 2018/2019 HHFA survey in the percentage of hospitals that offer CRD services.

- There was a decrease in the percentage of hospitals that offered CRD services in 2018/2019 (84%) compared to 2013 (92%).

⁶⁰ Gowshall, M., & Taylor-Robinson, S. D. (2018). The increasing prevalence of non-communicable diseases in low-middle income countries: the view from Malawi. *International journal of general medicine*, 11, 255.

Figure 90. Percentage of hospitals that offer chronic respiratory disease services, 2013 (N=113), 2018/2019 (N=101)



Service readiness

Readiness to provide CRD services was assessed based on the presence of the 11 tracer items found in Table 29. Figure 91 shows the percentage of hospitals that have tracer items for CRD services available among hospitals that provide the service.

- Only 9% of hospitals had all 11 items needed to offer CRD services.
- On average, hospitals had 7–8 of the 11 tracer items for CRD services, for an overall readiness score of 69 out of 100.
- Availability of staff and guidelines items was variable with 78% of hospitals having guidelines on CRD diagnosis and management and 58% of hospitals having at least 1 trained staff in CRD diagnosis and management.
- Availability of equipment items for CVD services was also variable with 98% of hospitals having a stethoscope and oxygen, 72% of hospitals having spacers for inhalers, and 35% of hospitals having peak flow meters.
- Availability of medicines and commodities items was variable with the most available medicine being salbutamol inhaler (91%) and the least available medicine being beclomethasone inhaler (32%).

Figure 91. Percentage of hospitals that have tracer items for chronic respiratory disease services among hospitals that provide this service (N=85), Malawi 2018/2019

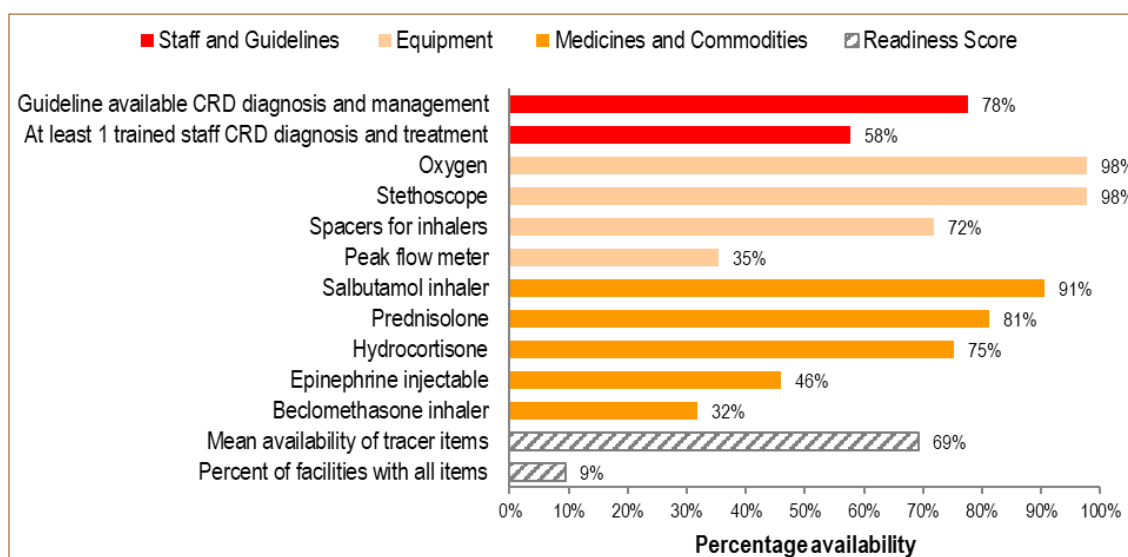


Table 92 and Table 93 show the availability of tracer items for chronic respiratory disease tracer items among hospitals that provide the service by region, facility type, managing authority, and by urban vs. rural location.

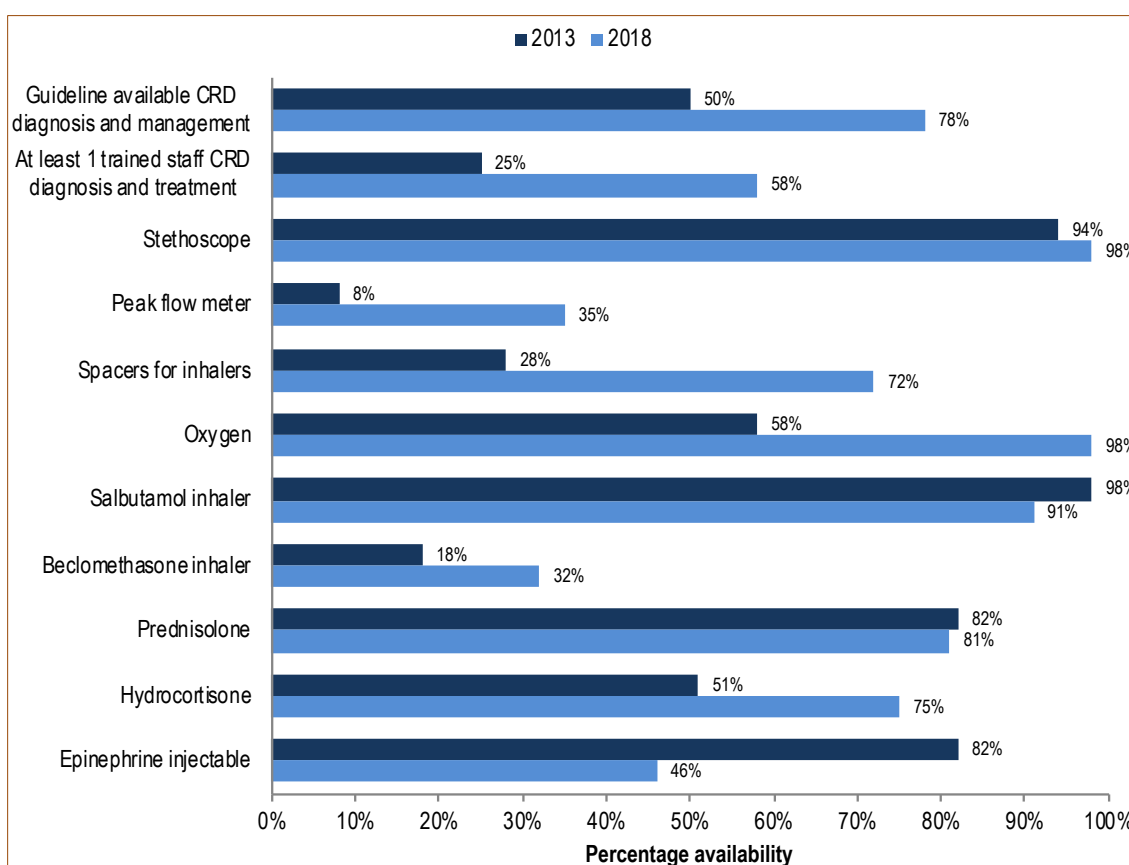
- Hospitals in the Southern region had the highest mean availability of CRD service tracer items (72%) compared to hospitals in the Central (70%) and Northern (64%) regions. Hospitals in the Southern region had greater availability of epinephrine injectable (58%) compared to hospitals in the Northern (41%) and Central (38%) regions.
- CHAM hospitals had the greatest availability of guidelines for CRD diagnosis and management (92%), at least one trained staff in CRD diagnosis and management (61%), and beclomethasone inhaler (39%).
- One hundred per cent (100%) of private for-profit hospitals had a stethoscope, spacers for inhalers, oxygen, salbutamol inhaler, prednisolone, and hydrocortisone. However, no private for-profit hospital had all tracer items for CRD.
- Government hospitals had, on average, 64% of the tracer items for CRD services. Government hospitals had the lowest availability of six of the 11 tracer items compared to CHAM and private for-profit facilities.
- Hospitals located in urban areas had higher mean availability of CRD service items than hospitals in rural areas (73% and 66%, respectively). Hospitals in urban areas had greater availability of all tracer items compared to hospitals in rural areas, except for oxygen (rural: 98%, urban: 97%) and spacers for inhalers (both 72%).

Comparison of 2013 SPA to 2018/2019 HHFA: Readiness of CRD services

Figure 92 shows the percentage of hospitals that had tracer items for CRD services among hospitals that provide the service from the 2013 SPA survey and the 2018/2019 HHFA survey.

- Eight of the 11 CRD tracer items were available at a greater percentage of hospitals in 2018/2019 compared to 2013, including a stethoscope, oxygen, and at least one trained staff in CRD diagnosis and management.
- Spacers for inhalers showed the largest increase in availability from 2013 to 2018/2019. 28% of hospitals had this item in 2013 compared to 72% of hospitals in 2018/2019.
- Epinephrine injectable showed the largest decrease in availability from 2013 to 2018/2019. 82% of hospitals had this item in 2013 compared to 46% of hospitals in 2018/2019.

Figure 92. Percentage of hospitals that have tracer items for chronic respiratory disease services among hospitals that provide this service, 2013 (N=104), 2018/2019 (N=85)



Cervical cancer care

Cervical cancer is a growing problem in Malawi. Each year it is estimated that 2316 new cases of cervical cancer occur in Malawi.⁶¹ The Ministry of Health and Population implemented a cervical cancer screening and treatment programme, however, another study found that the programme was missing many diagnoses with only 18% of the cancer cases with a laboratory verified diagnosis.⁶² Improved screening, diagnosis, and treatment would aid in cancer prevention. Items necessary for hospitals to provide cervical cancer care are outlined in Table 30.

Table 30. Tracer items needed to provide cervical cancer services

Domain	Tracer items
Trained staff and guidelines	<ul style="list-style-type: none"> ■ Guidelines for cervical cancer prevention and control ■ Staff trained in cervical cancer prevention and control in the past two years

Service availability

Figure 93 shows the percentage of hospitals that offer cervical cancer services in Malawi.

- Sixty-nine per cent (69%) of hospitals in the country offered cervical cancer services.

Figure 93. Percentage of hospitals that offer cervical cancer services (N=101), Malawi 2018/2019

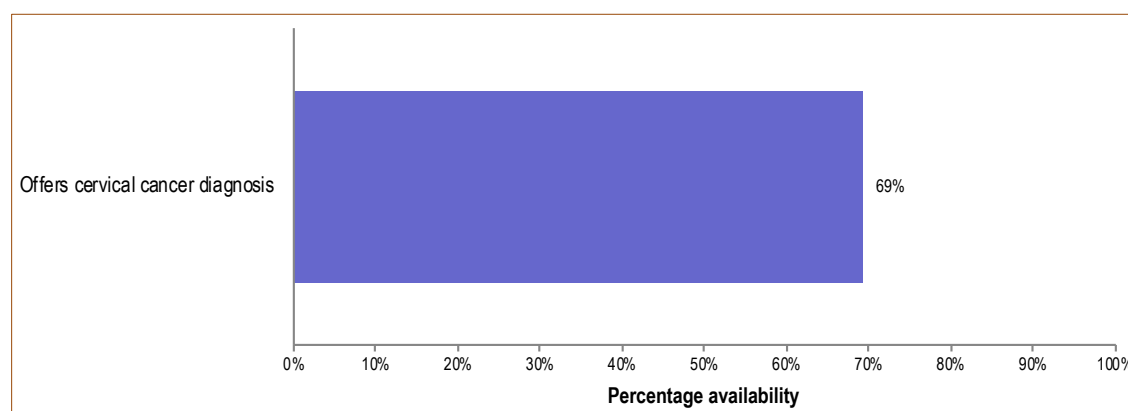


Table 94 shows the percentage of hospitals offering cervical cancer services by region, facility type, managing authority, and urban vs. rural location.

- The highest percentage of hospitals that offered cervical cancer services were in the Northern region (86%) compared to 71% of hospitals in the Central region and 59% of hospitals in the Southern region.
- Eighty-two per cent (82%) of government hospitals offered cervical cancer services compared to 68% of CHAM hospitals and only 11% of private for-profit hospitals. No private non-profit hospital offered cervical cancer services.
- Rural hospitals were more likely to offer cervical cancer services than urban hospitals (71% and 67%, respectively).

Service readiness

Readiness to provide cervical cancer prevention and control services was assessed based on the presence of the two tracer items found in Table 30. Figure 94 shows the percentage of hospitals that have tracer items for cervical cancer services available among hospitals that provide the service.

- Ninety per cent (90%) of hospitals had staff trained in cervical cancer prevention and control.
- Eighty-nine per cent (89%) of hospitals had guidelines for cervical cancer prevention and control.

⁶¹ World Health Organization: WHO/ICO Information Centre on HPV and Cervical Cancer (HPV Information Centre): Summary Report 2010. Geneva: World Health Organization.

⁶² Msyamboza, K. P., Dzamalala, C., Mdokwe, C., Kamiza, S., Lemerani, M., Dzowela, T., & Kathyola, D. (2012). Burden of cancer in Malawi; common types, incidence and trends: national population-based cancer registry. BMC research notes, 5(1), 149.

- Hospitals had, on average, 89% of cervical cancer tracer items. In addition, 84% of hospitals had all cervical cancer tracer items.

Figure 94. Percentage of hospitals that have tracer items for cervical cancer services among hospitals that provide this service (N=70), Malawi 2018/2019

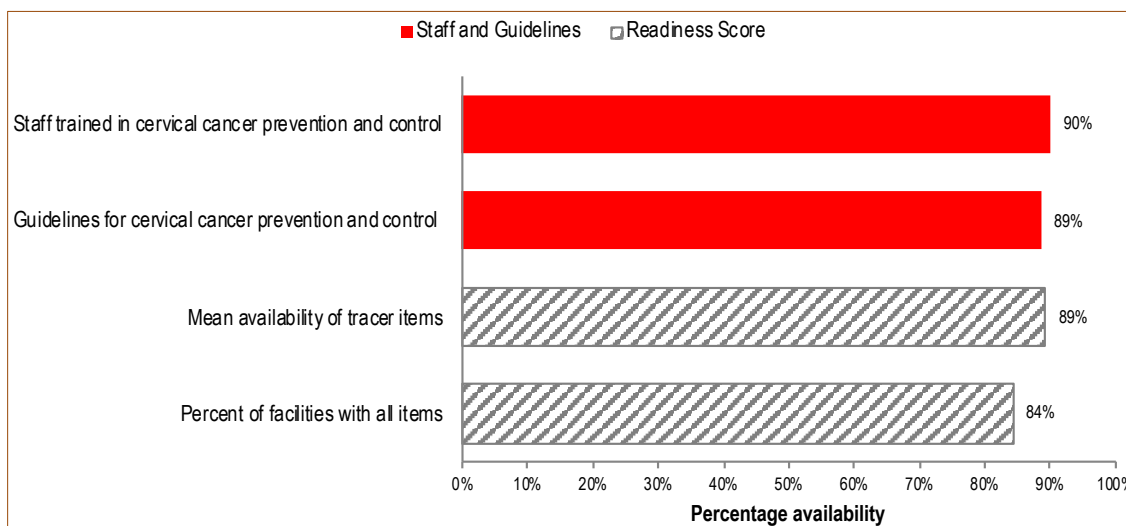


Table 95 shows the availability of tracer items for cervical cancer service readiness among hospitals that provide the service by region, facility type, managing authority, and by urban vs. rural location.

- Hospitals in the Southern region had the highest mean availability of cervical cancer service tracer items (98%) compared to hospitals in the Northern (89%) and Central (80%) regions. Hospitals in the Northern and Southern regions were more likely to have guidelines for cervical cancer prevention and control (95% and 96%, respectively) than hospitals in the Central region (76%).
- One hundred per cent (100%) of private for-profit hospitals had guidelines for cervical cancer prevention and control, compared to 93% of CHAM hospitals and 85% of government hospitals.
- One hundred per cent (100%) of private for-profit hospitals had staff trained in cervical cancer prevention and control, compared to 86% of CHAM hospitals and 93% of government hospitals.
- Hospitals located in urban areas had higher mean availability of cervical cancer service items than hospitals in rural areas (92% and 86%, respectively). Guidelines for cervical cancer prevention and control were available at a slightly greater percentage of hospitals in rural areas than urban areas (89% compared to 88%). Staff trained in cervical cancer prevention and control were available at a greater percentage of hospitals in urban areas than rural areas (97% compared to 84%).

5.4 Tracer medicines

In addition to essential medicines, the HHFA also captured tracer medicines availability (infectious disease medicines, noncommunicable disease medicines, mental health and neurological medicines, and palliative care medicines). Table 96, Table 97, Table 98, Table 99 and Table 100 show the percentage of facilities with infectious disease medicines, noncommunicable disease medicines, mental health and neurological medicines, and palliative care medicines availability by region, facility type, managing authority and urban vs. rural location.

Infectious disease medicines

Table 96 shows the percentage of facilities with infectious disease medicines available by region, facility type, managing authority and urban vs. rural location.

- Cotrimoxazole cap/tab was most available infectious disease medicine (83%) and fluconazole cap/tab was least available infectious disease medicine (27%).
- Hospitals had the greatest availability of six of the seven infection disease medicines, including co-trimoxazole cap/tab (99%), ceftriaxone injection (94%), and amoxicillin cap/tab (91%). Ciprofloxacin cap/tab were available at a greater percentage of clinics (81%) than hospitals (73%).
- Health posts had the lowest availability of all infectious disease medicines and were particularly limited in ceftriaxone injection (3%), ciprofloxacin cap/tab (3%), and fluconazole cap/tab (0%).
- CHAM facilities had the greatest availability of me-/albendazole cap/tab (82%), ceftriaxone injection (64%), co-trimoxazole cap/tab (95%), and fluconazole cap/tab (39%) compared to other managing authority types.
- Private non-profit facilities had the greatest availability of ciprofloxacin cap/tab (97%) and metronidazole cap/tab (91%).
- Health facilities in urban areas a greater availability of all infectious disease medicines compared to rural facilities.

Noncommunicable disease medicines

Table 97 and Table 98 show the percentage of facilities with noncommunicable disease medicines available by region, facility type, managing authority and urban vs. rural location.

- Paracetamol cap/tab was the most available noncommunicable disease medicine (84%) while glyceryl trinitrate sublingual tablet was the least available noncommunicable disease medicine (3%).
- Clinics had the greatest availability of omeprazole tablets (75%). Hospitals had the greatest availability of all other noncommunicable disease medicines compared to all other facility types. Almost all hospitals had aspirin cap/tab (94%), ibuprofen tablet (92%), and paracetamol cap/tab (98%).
- CHAM, private for-profit, and NGO facilities had greater availability of all noncommunicable disease medicines compared to government facilities.
- CHAM facilities had the greatest availability of amlodipine tablet or alternative calcium channel blocker (44%), beta blocker (62%), and furosemide cap/tab (66%), but were limited in availability of gliclazide tablet or glipizide tablet (3%).
- Health facilities in urban areas had a greater availability of all noncommunicable disease medicines compared to rural facilities.

Mental health and neurological medicines

Table 99 shows the percentage of facilities with mental health and neurological medicines available by region, facility type, managing authority and urban vs. rural location.

- Overall, the availability of mental health and neurological medicines was very low. The most available medicines, including amitriptyline tablet, diazepam tablet, and phenobarbital tablet, were available at only 5% of facilities.
- The least available medicines were lithium tablet (0%), fluphenazine injection (1%), and lorazepam injection (1%).
- Mental health and neurological medicines were available at a much greater percentage of hospitals than any other facility type. Hospitals were the only facility type to have fluoxetine tablet (20%), fluphenazine injection (14%), haloperidol tablet (29%), and lorazepam injection (11%).
- CHAM facilities had the greatest availability of all mental health and neurological medicines, followed by government facilities. No private non-profit and NGO facilities had mental health and neurological medicines.
- Health facilities in urban areas had greater availability of all mental health and neurological medicines compared to rural facilities, except for lithium tablet, which was available at 1% of rural facilities.

Palliative care medicines

Table 100 shows the percentage of facilities with palliative care medicines available by region, facility type, managing authority and urban vs. rural location.

- The most available palliative care medicine was paracetamol (84%). The least available palliative care medicines were only available at 1% of facilities and included hyoscine butylbromide injection, lorazepam tablet, and senna preparation (laxative).
- Hospitals had a greater availability of all palliative care medicines compared to other facility types. Hospitals were the only facility type to have haloperidol injection (24%), hyoscine butylbromide injection (14%), lorazepam tablet (11%), metoclopramide injection (20%), morphine granule, injectable or cap/tab (44%), and senna preparation (laxative) (10%).
- CHAM facilities had the greatest availability of dexamethasone injection (57%), metoclopramide injection (9%), and morphine granule, injectable or cap/tab (10%).
- Health facilities in urban areas had greater availability of all palliative care disease medicines compared to rural facilities.

5.5 Advanced diagnostics and high-level diagnostic equipment

Advanced diagnostic services

Advanced diagnostic services include laboratory tests that are generally performed at hospitals. The following type of advanced diagnostic tests were assessed:

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

Figure 95 shows the percentage of hospitals offering advanced diagnostic services.

- On average, hospitals could perform 5–6 out of the 12 advanced diagnostic services (44% mean availability).
- The most available advanced diagnostic service was blood typing (ABO and Rhesus) and cross match (by anti-globulin or equivalent), which was available at 70% of hospitals.
- The least available advanced diagnostic service was HIV antibody testing (ELISA), which was only available at 4% of hospitals.

Figure 95. Percentage of hospitals that offer advanced diagnostic services (N=101), Malawi 2018/2019

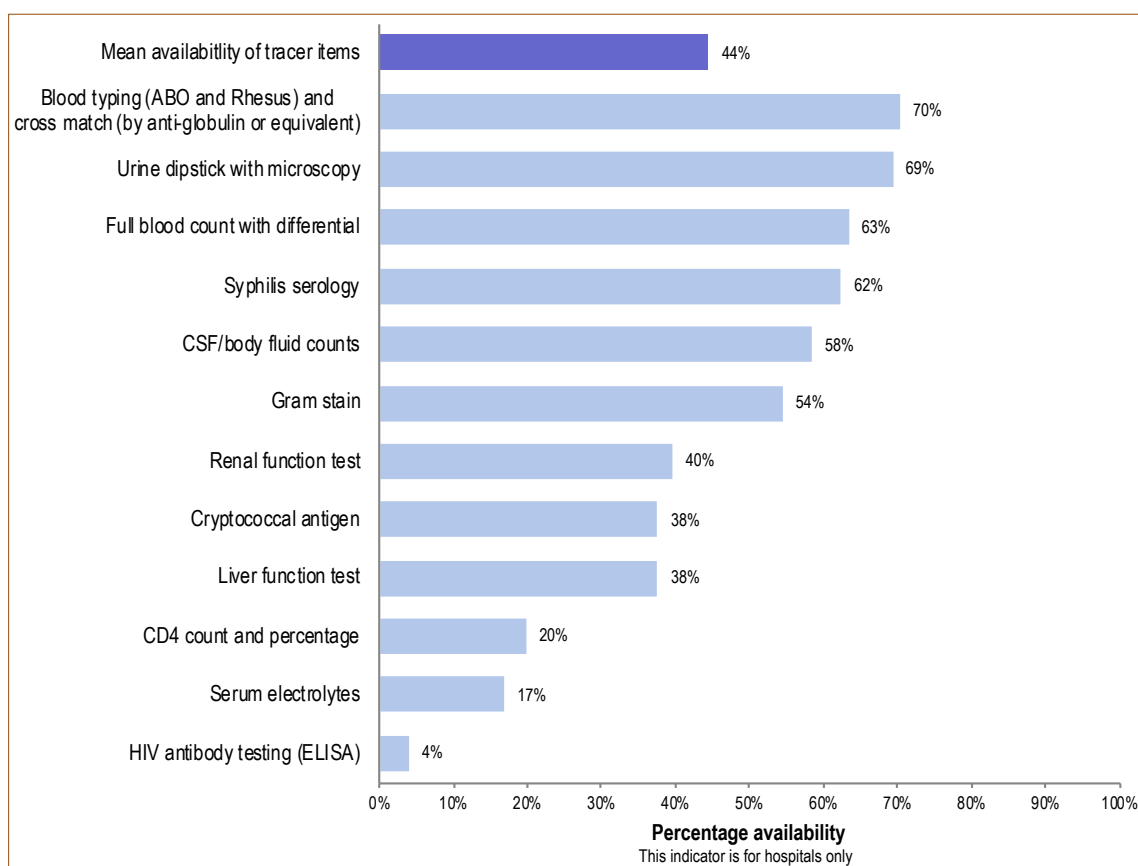


Table 101 shows the percentage of hospitals offering advanced diagnostic services by region, facility type, managing authority and urban vs. rural location.

- Hospitals in the Central region had the highest mean availability of advanced diagnostic services (48%) compared to hospitals in the Southern (47%) and Northern (33%) regions.
- Private non-profit hospitals had the greatest availability of full blood count with differential (100%) and blood typing (100%), however they did not have any other advanced diagnostic services.
- CHAM facilities had greater availability of all advanced diagnostic services than government facilities, except for CD4 count and percentage, HIV antibody testing (ELISA), and cryptococcal antigen.
- Hospitals located in urban areas had greater availability of all advanced diagnostic services compared to rural areas, except for HIV antibody testing (ELISA), which was available at 4% of hospitals in both rural and urban areas.

High-level diagnostic equipment

High-level diagnostic equipment service availability at hospitals was assessed based on the presence of the three types of diagnostic equipment (X-ray, ECG, and ultrasound). Figure 96 shows the percentage of hospitals that have high-level diagnostic equipment.

- On average, hospitals had 1–2 out of the 3 high-level diagnostic equipment items (43% mean availability).
- The most available high-level diagnostic equipment item was an ultrasound machine, which was available at 53% of hospitals.
- The least available high-level diagnostic equipment item was an ECG, which was available at 27% of hospitals.

Figure 96. Percentage of hospitals that have high-level diagnostic equipment available (N=101), Malawi 2018/2019

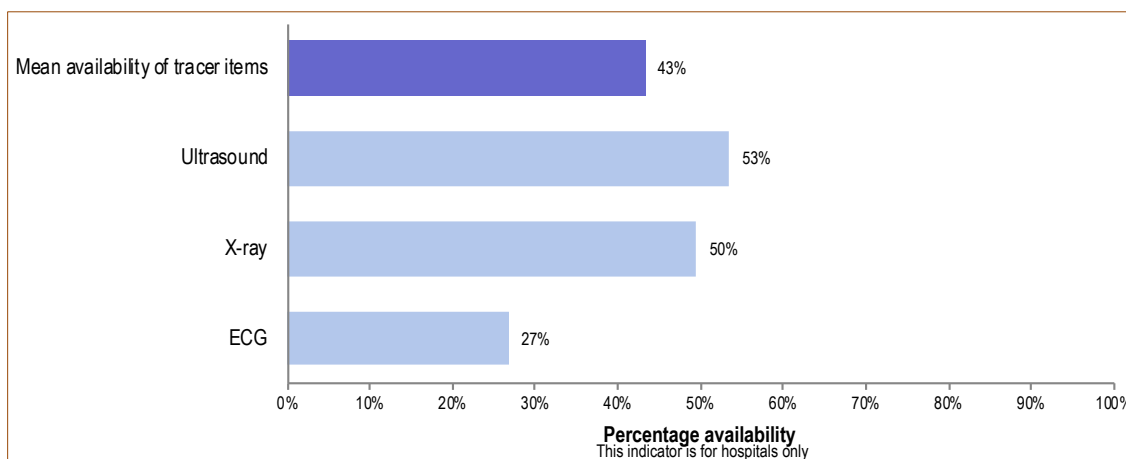


Table 102 shows the percentage of hospitals with high-level diagnostic equipment by region, facility type, managing authority and urban vs. rural location.

- CHAM facilities had greater availability of X-ray (61%) and ultrasound (68%) diagnostic equipment compared to government facilities (50% and 52%).
- Government facilities had greater availability of ECG (30%) compared to CHAM facilities (29%).
- No private for-profit or private non-profit facilities had any high-level diagnostic equipment.
- Hospitals located in urban areas had, on average, 50% of high-level diagnostic equipment. Hospitals in rural areas had, on average, 37% of high-level diagnostic equipment. Urban facilities had greater availability of all advanced diagnostic services compared to rural facilities.

6. Clinical quality of care

Key findings

- Based on the clinical vignettes, the majority of providers demonstrated an ability to both diagnose and treat tuberculosis (88%), diabetes (78%), and pneumonia (75%); less than a quarter of the providers demonstrated an ability to both diagnose and treat malaria with anaemia (25%) and diarrhoea with severe dehydration (23%). For anaemia in pregnancy, 59% of providers mentioned the correct diagnosis and treatment.
- Overall adherence to guidelines, i.e. the average proportion of relevant clinical assessment components mentioned by the providers, for the six conditions was 53%. Adherence was highest for malaria with anaemia and lowest for diarrhoea with dehydration. Adherence to clinical guidelines was generally higher among doctors as compared to other provider cadres.
- Although most providers were able to diagnose postpartum haemorrhage (91%) and neonatal asphyxia (81%), on average, providers mentioned only half of the treatment actions required for the appropriate management of the conditions (52% and 53%, respectively). Adherence to clinical guidelines for assessing the conditions was higher for neonatal asphyxia (56%) than for postpartum haemorrhage (47%).
- The average proportion of items providers mentioned in their assessment on nutrition for a sick child ranged from 27% for pneumonia to 33% for diarrhoea while the average proportion of items providers mentioned related to counselling on nutrition for a sick child ranged from 31% for pneumonia to 58% for diarrhoea.

Recent evidence has shown that inputs availability is a necessary but insufficient condition to ensure that service coverage translates into better health outcomes. The recent Lancet Commission on High Quality Health Systems emphasized the need to deliver better clinical care; i.e. to ensure that providers have the knowledge, skills and competencies to care for patients. In this survey clinical knowledge was measured using eight vignettes (see section 0 for a detailed description of the methodology). The eight vignettes included common childhood illnesses (diarrhoea with severe dehydration, pneumonia, and malaria with anaemia), adult illnesses (tuberculosis and type 2 diabetes), pregnancy-related conditions (anaemia in pregnancy), and maternal and neonatal emergencies (postpartum haemorrhage and neonatal asphyxia). The capacity of a health provider to appropriately assess, diagnose, and manage these cases is required at all levels of care to prevent the development of complications, reduce disease progression and severity, improve neonatal and pregnancy outcomes, and reduce disease transmission for communicable diseases. The emergency cases, if diagnosed early, can be managed with a set of rapid appropriate actions to avoid death. The first section focuses on the six childhood, adult and pregnancy-related cases. The second and third sections are on maternal/neonatal complications and nutrition, respectively.

6.1 Correct diagnosis, treatment, and adherence to guidelines for childhood, adult and pregnancy-related cases

For each clinical case assessed through a vignette, a set of criteria was defined for correct diagnosis and treatment. The criteria used are detailed in Table 31. For correct diagnosis and treatment, all criteria had to be met for a health provider to be considered as correct. According to the questionnaire, a diagnosis was considered correct and complete if a composite response encompassed the illness and its associated comorbidities. For example, for childhood illnesses, diarrhoea and its associated dehydration and malaria with anaemia. In this section, we present the results for diarrhoea and malaria with and without the associated co-morbidities in order to further understand the gap in provider knowledge for these conditions. However, for the overall performance of the six conditions, only the full diagnosis of the disease with the relevant co-morbidities is considered.

Table 31. Criteria used to define correct diagnosis and treatment for childhood, pregnancy-related and adult clinical cases

Clinical case	Correct diagnosis required	Correct treatment required
Child		
Malaria with anaemia	<ul style="list-style-type: none"> ■ Malaria OR simple malaria ■ Anaemia 	<ul style="list-style-type: none"> ■ Coartem/LA: Twice daily for 3 days (total 6 doses) ■ Iron (+/- folic acid) ■ Paracetamol (PCM)
Malaria	<ul style="list-style-type: none"> ■ Malaria OR simple malaria 	<ul style="list-style-type: none"> ■ Coartem/LA: Twice daily for 3 days (total 6 doses) ■ Paracetamol (PCM)
Diarrhoea with severe dehydration	<ul style="list-style-type: none"> ■ Diarrhoea OR acute diarrhoea ■ Dehydration OR severe dehydration 	<ul style="list-style-type: none"> ■ Oral rehydration solution (ORS) OR rehydration using nasogastric tube (NGT) ■ IV fluids OR referral to another facility OR referral to another health provider ■ Zinc
Diarrhoea	<ul style="list-style-type: none"> ■ Diarrhoea OR acute diarrhoea 	<ul style="list-style-type: none"> ■ ORS ■ Zinc
Pneumonia	<ul style="list-style-type: none"> ■ Pneumonia OR acute respiratory infection 	<ul style="list-style-type: none"> ■ Amoxicillin (+/- dosage specified) ■ Antipyretic (PCM +/- dosage specified)
Pregnant women		
Anaemia in pregnancy (at first ANC visit during second trimester)	Pregnancy with anaemia (+/- iron deficiency anaemia)	<ul style="list-style-type: none"> ■ Iron (60mg) ■ Tetanus toxoid immunization ■ Insecticide-treated net ■ Malaria prophylaxis
Adult		
Pulmonary tuberculosis	<ul style="list-style-type: none"> ■ Tuberculosis 	<ul style="list-style-type: none"> ■ Rifampicin, isoniazid, pyrazinamide, and ethambutol OR Combination therapy OR 4 drugs for 2 months, then 2 drugs for 4 months OR Follow up in TB clinic
Type 2 diabetes	<ul style="list-style-type: none"> ■ Diabetes OR type 2 diabetes 	<ul style="list-style-type: none"> ■ Oral hypoglycaemic medicines OR insulin when hypoglycaemic medicines are ineffective

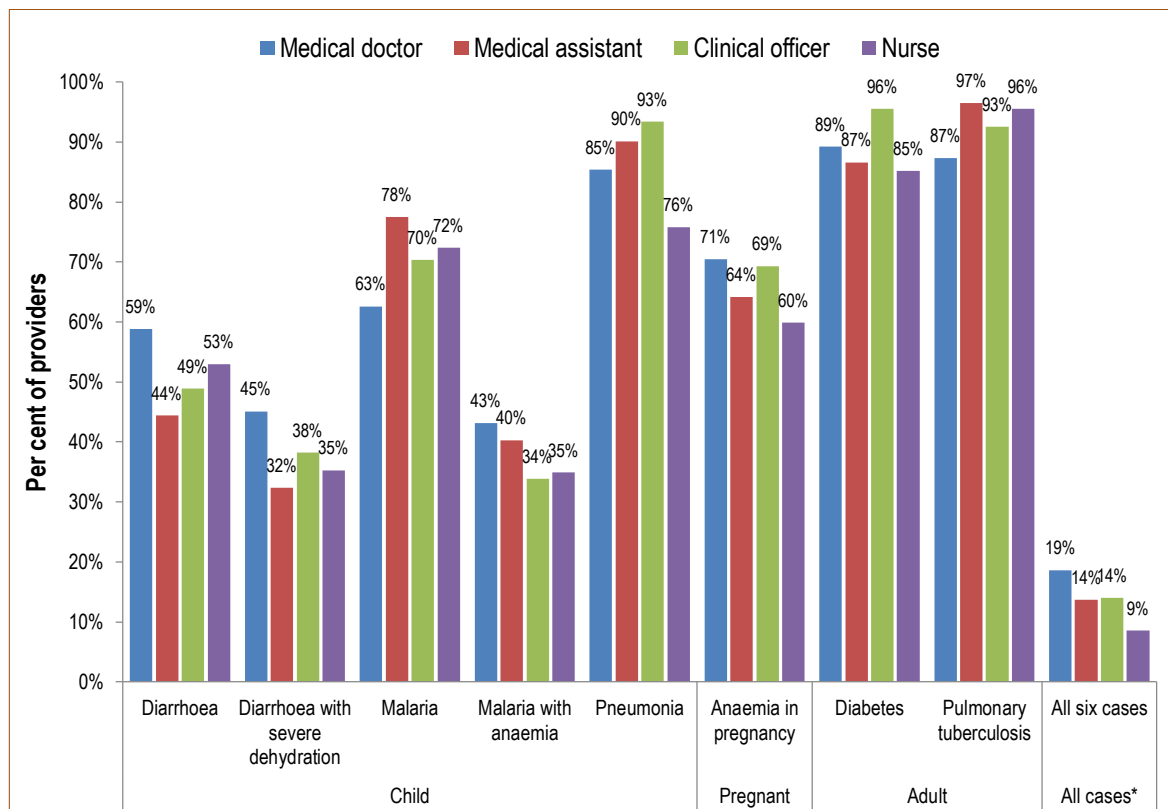
Note: +/- means with or without.

Correct diagnosis

Correct diagnosis was measured as the unweighted average number of the six cases correctly diagnosed, expressed as a proportion. Detailed results for correct diagnosis by region, type of facility, managing authority, urban/rural, and cadre of health provider are presented in Table 104 and Figure 97 shows the correct diagnosis for clinical cases by health provider cadre.

- Only 13% of providers gave the correct diagnosis for all six conditions. Correct diagnosis for all six conditions was lowest in the North (5%) as compared to the Central (12%) and Southern (15%) regions. Medical doctors were most likely to correctly diagnose all six conditions (19%) as compared to medical assistants (14%), clinical officers (14%), and nurses (9%).
- For the vignettes for childhood illnesses, most health providers correctly diagnosed pneumonia (93%) as compared to diarrhoea with severe dehydration (34%) and malaria with anaemia (38%). The cadre with the highest proportion of health workers with correct diagnosis of pneumonia was clinical officers (93%), followed by medical assistants (90%), then medical doctors (85%) and nurses (76%).
- Less than half of all providers correctly diagnosed diarrhoea with severe dehydration (35%). When not accounting for the co-morbidity of severe dehydration, the proportion of providers with a correct diagnosis of simple diarrhoea increased to 48%.
- Less than half of all providers correctly diagnosed malaria with anaemia (38%). When not accounting for the co-morbidity of anaemia, the proportion of providers with a correct diagnosis increased to 75%.
- Anaemia in pregnancy was correctly diagnosed by 65% of providers. The cadre with the highest proportion of health workers with correct diagnosis of anaemia in pregnancy was medical doctors (71%) followed by clinical officers (69%), then medical assistants (64%), then and nurses (60%). Correct diagnosis of anaemia in pregnancy was higher in the North (76%) than in the Central (60%) and Southern (66%) regions.
- Adult illnesses, type 2 diabetes and pulmonary tuberculosis, were correctly diagnosed by the majority of providers, 88% and 95% respectively.

Figure 97. Proportion of health providers with a correct diagnosis for clinical cases by health provider cadre (N=1433), Malawi 2018/2019

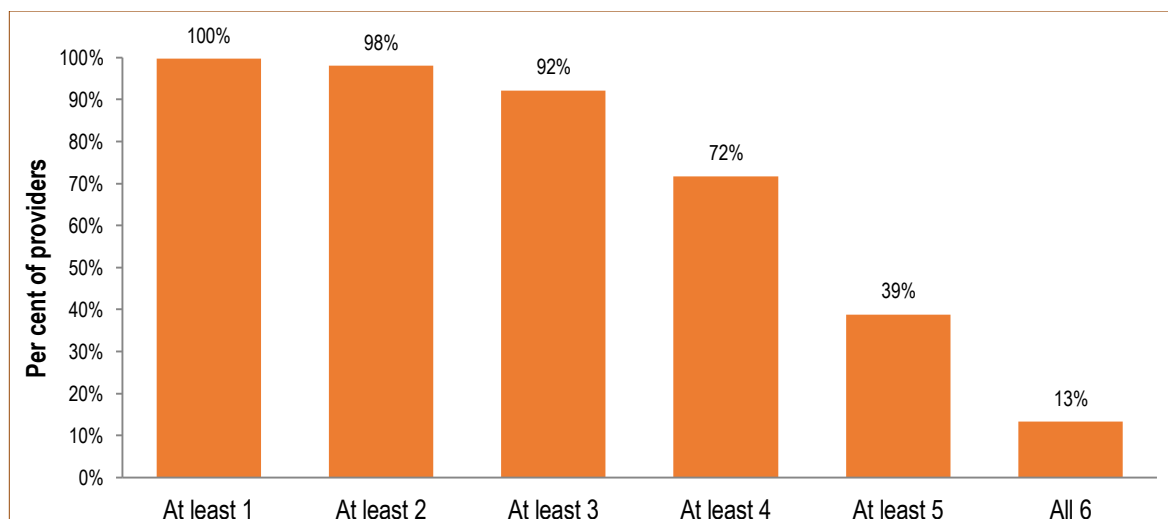


* All cases excluding simple diarrhoea and malaria.

Figure 98 shows the proportion of health providers stating the correct diagnosis by number of clinical cases.

- All providers were able to correctly diagnose at least one clinical case. Over 92% of providers correctly diagnosed at least three clinical cases and 98% of providers correctly diagnosed at least two clinical cases.
- Only 72% of providers correctly diagnosed at least four cases, 39% of providers correctly diagnosed at least five cases, and 13% of health providers correctly diagnosed all six clinical cases.

Figure 98. Proportion of health providers who mentioned the correct diagnosis of childhood, pregnancy-related, and adult clinical cases by the total number of correct cases (N=1433), Malawi 2018/2019

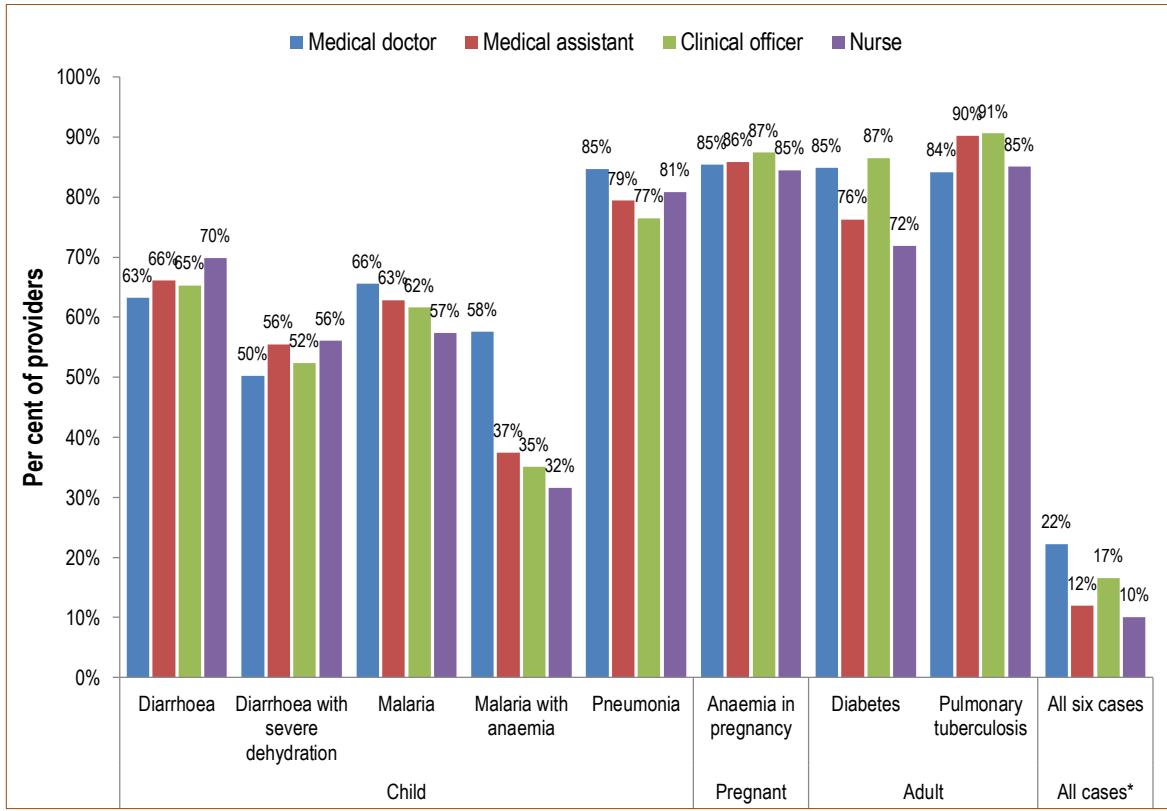


Correct treatment

It is expected that apart from an accurate diagnosis, health providers should be able to provide appropriate treatment based on the recommended guidelines. Table 105 shows detailed results of correct treatment by region, type of facility, managing authority, urban/rural, and health provider cadre and Figure 99 shows the proportion of providers who mentioned the correct treatment for each of the clinical cases presented in vignettes by health provider.

- Only 13% of all providers mentioned the correct treatment for all six conditions. Correct treatment for all six conditions was lowest in the North (5%) as compared to the Central (12%) and Southern (15%) regions. Medical doctors were most likely to state a correct treatment for all six conditions (22%) as compared to medical assistants (12%), clinical officers (17%), and nurses (10%).
- For the vignettes for childhood illnesses, most health providers stated the correct treatment for pneumonia (79%) as compared to diarrhoea with severe dehydration (55%) and malaria with anaemia (37%).
- About half of all providers stated the correct treatment for diarrhoea with severe dehydration (55%). When zinc was excluded from the treatment criteria for diarrhoea with severe dehydration the proportion of providers correctly treating diarrhoea with severe dehydration rose to 71%. When not accounting for the co-morbidity of severe dehydration, the proportion of providers that stated the correct treatment for simple diarrhoea was 67% and increased to 88% when zinc was excluded from the treatment criteria.
- The facility type with the highest proportion of health workers who stated the correct treatment for diarrhoea with dehydration was at health posts (96%) compared to 61% in clinics, 55% in hospitals, 54% in health centres, and 36% in dispensaries.
- Less than half of all providers stated the correct treatment for malaria with anaemia (37%). When not accounting for the co-morbidity of anaemia, the proportion of providers stating the correct treatment increased to 62%. For malaria with anaemia, 25% of providers in the northern region mentioned the correct treatment as compared to 37% in the Central and 39% in the Southern regions. Notably, for malaria with anaemia, apart from doctors (58%), less than half of each cadre mentioned the correct treatment (37% of medical assistants, 35% of clinical officers, and 32% of nurses). This clinical case was associated with the lowest proportion of health worker cadres providing a correct treatment.
- The proportion of providers who stated the correct treatment for anaemia in pregnancy was high overall (86%) and showed little variation by provider cadre, facility type, managing authority, or region.
- The majority of providers stated the correct treatment for type 2 diabetes and pulmonary tuberculosis (78% and 89% respectively).

Figure 99. Proportion of providers who mentioned the correct treatment of childhood, pregnancy-related, and adult clinical cases by health provider cadre (N=1433), Malawi 2018/2019

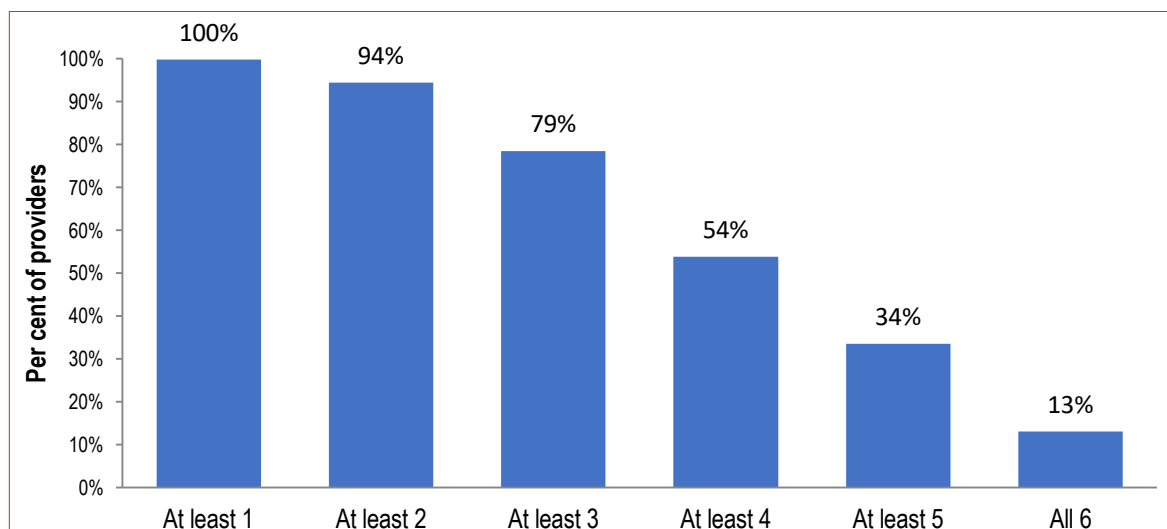


* All cases excluding simple diarrhoea and malaria

Figure 100 shows the proportion of health providers stating the correct treatment by number of clinical cases.

- All providers were able to state the correct treatment for at least one clinical case. Over 94% of providers stated the correct treatment for at least two clinical cases and 79% of providers stated the correct treatment for at least three clinical cases.
- Fifty-four per cent (54%) of providers stated the correct treatment for at least four cases, 34% of providers stated the correct treatment for at least five cases, and 13% of health providers stated the correct treatment for all six clinical cases.

Figure 100. Proportion of providers who mentioned the correct treatment of childhood, pregnancy-related, and adult clinical cases by the number of correct cases (N=1433), Malawi 2018/2019

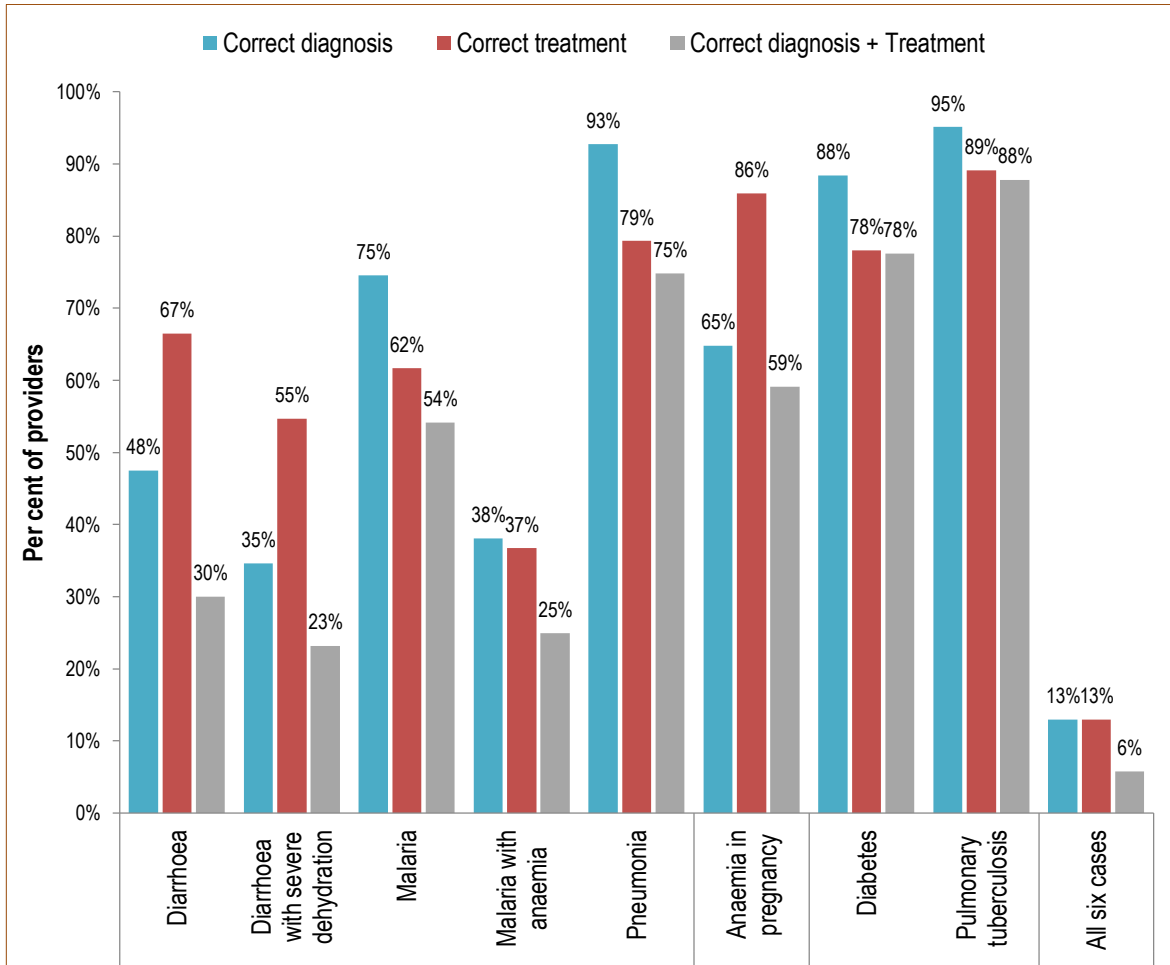


Overall correct diagnosis and correct treatment

Detailed performance of health providers to both diagnose and state the correct treatment for the six conditions by region, managing authority, type of facility, urban/rural, and provider cadre are shown in Table 106 while Figure 101 shows the proportion of providers who mentioned the correct diagnosis, correct treatment, and both correct diagnosis and correct treatment of the six clinical cases.

- Overall the proportion of health providers who correctly stated the diagnosis and treatment for all six conditions was 6%. The proportion was lowest in North (less than 1%) followed by the Central (6%) and Southern regions (7%). Considering the type of health facility, the lowest proportion of health workers who mentioned the correct diagnosis and treatment were from dispensaries and health posts (less than 1% both) compared to hospitals (9%), clinics (7%) and health centres (4%).
- Nurses had the lowest proportion of providers who correctly stated the diagnosis and treatment for malaria with anaemia, pneumonia, anaemia in pregnancy, and diabetes as compared to other cadres of health workers.
- Slightly more health providers from CHAM facilities mentioned the correct diagnosis and treatment for malaria with anaemia (27%) compared to 24% from government facilities. A similar trend was observed for anaemia in pregnancy (63% for CHAM vs. 58% for government facilities) and pulmonary tuberculosis (90% for CHAM vs. 88% for government facilities).
- Among the vignettes for childhood illnesses, the case for which providers most often mentioned the correct diagnosis and correct treatment was pneumonia (72%). This case was associated with the highest correct diagnosis (88%). The case for which providers least often mentioned the correct diagnosis and correct treatment was diarrhoea with severe dehydration (23%). Among the vignettes for childhood illnesses, it was generally observed that the proportion of providers who correctly diagnosed the case was greater than those who mentioned the correct treatment apart from diarrhoea and diarrhoea with severe dehydration where the correct treatment proportion was higher than the correct diagnosis (Diarrhoea: correct treatment of 67% versus correct diagnosis of 48%; diarrhoea with severe dehydration: correct treatment of 55% versus correct diagnosis of 35%).
- For the anaemia in pregnancy case, on average 59% of health providers were able to correctly diagnose and state the correct treatment.
- For diabetes and pulmonary tuberculosis, the proportion of health workers who mentioned the correct diagnosis, correct treatment, and both correct diagnosis and correct treatment of the cases ranged from 70% to 91%. In general, for the vignettes for adult cases of diabetes and adult tuberculosis, health providers had a higher rate of correct diagnosis and correct treatment (diabetes 78% and tuberculosis 88%) compared to vignettes for childhood illnesses (23–75%) and pregnancy (59%). The proportion of health providers who were able to correctly diagnose and state the correct treatment for all the six clinical cases was: correct diagnosis 13%, correct treatment 13% and combined correct diagnosis and treatment 6%.

Figure 101. Proportion of health providers who mentioned the correct diagnosis and correct treatment of childhood, pregnancy-related, and adult clinical cases (N=1433), Malawi 2018/2019

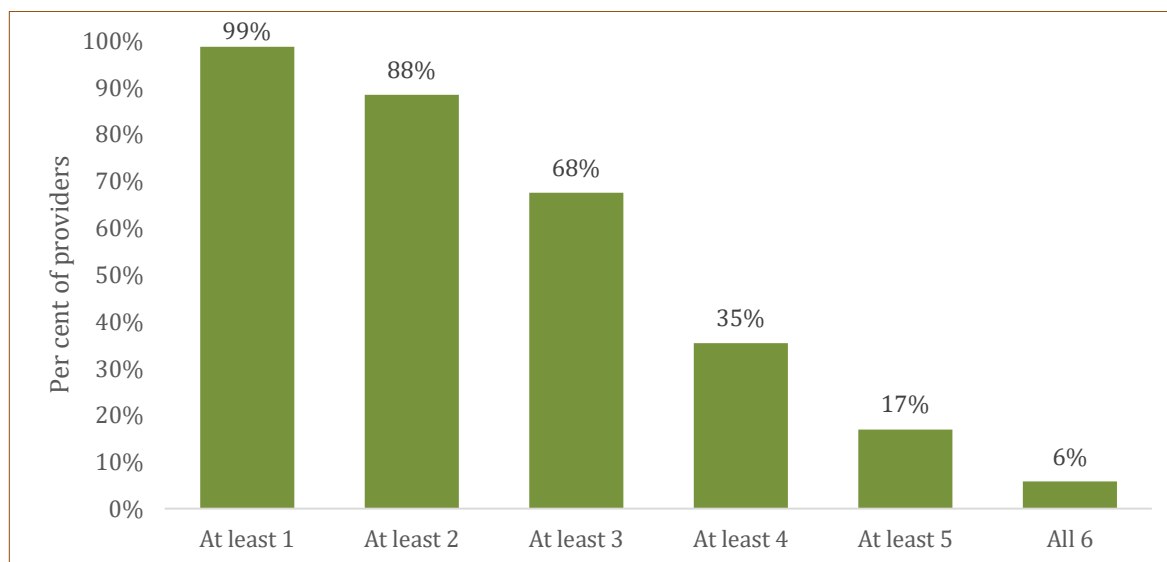


* All cases excluding simple diarrhoea and malaria

Figure 102 shows the proportion of health providers stating the correct diagnosis and correct treatment by number of clinical cases.

- Almost all providers (99%) stated an accurate diagnosis and treatment for at least one clinical case and 88% of providers stated an accurate diagnosis and treatment for at least two clinical cases.
- There was a decreasing trend in the proportion of health workers who stated both the correct diagnosis and treatment as the number of cases increased.
- Six per cent (6%) of providers correctly stated the correct diagnosis and correct treatment for all six clinical cases.

Figure 102. Proportion of health providers who mentioned the correct diagnosis and correct treatment of childhood, pregnancy-related, and adult clinical cases by number of cases (N=1433), Malawi 2018/2019



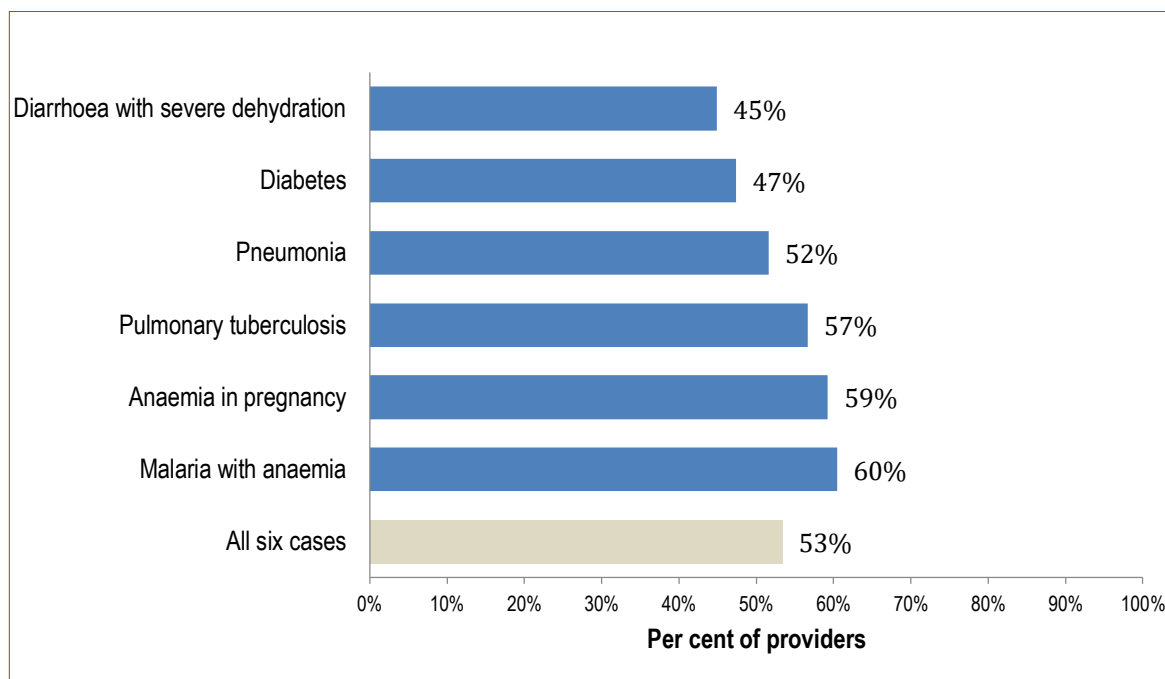
Adherence to clinical guidelines

To make the appropriate diagnosis of any clinical case, a systematic assessment of the patient has to be conducted. This assessment involves identifying specific symptoms, conducting relevant observations, physical examination, and medical tests specific to the presenting complaint. A well-conducted clinical assessment leads to a higher likelihood of accurately diagnosing and treating the condition. Malawi has standard guidelines and protocols for the systematic assessment of most cases and should be available in all facilities providing health care; as the guidelines supplement knowledge attained during medical or nursing education to standardise and guide practice. By adhering to these standard guidelines, health providers are able to conduct standardized assessment of cases and diagnose and treat them appropriately.

Adherence to clinical guidelines was calculated as an unweighted average of the share of relevant history taking questions, observations, examinations, and medical tests stated for the six cases (diarrhoea with severe dehydration, malaria with anaemia, pneumonia, anaemia in pregnancy, type 2 diabetes, and pulmonary tuberculosis). Table 107 shows detailed results of adherence to clinical guidelines by region, level of facility, managing authority and cadre while Figure 103 shows the adherence to clinical guidelines for the clinical cases presented in the vignettes nationally.

- Health providers mentioned around half (53%) of the relevant components of clinical assessment across all six conditions.
- The highest proportion of relevant components of clinical assessment mentioned by providers were for malaria with anaemia (60%), anaemia in pregnancy (59%), and pulmonary tuberculosis (57%). The lowest proportion of relevant components of clinical assessment mentioned by providers were for diarrhoea with severe dehydration (45%), diabetes (47%), and pneumonia (52%).
- In all scenarios except anaemia in pregnancy, doctors mentioned more clinical assessment components than other health providers.
- For anaemia in pregnancy, nurses on average mentioned more relevant clinical assessment components (68%) compared to doctors (64%), clinical officers (63%) and medical assistants (55%).

Figure 103. Adherence to clinical guidelines for childhood, pregnancy-related and adult clinical cases (N=1433), Malawi 2018/2019



6.2 Correct diagnosis, management, and adherence to guidelines of maternal and neonatal complications

The two vignettes for maternal and neonatal complications were postpartum haemorrhage and neonatal asphyxia, which are common causes of avoidable maternal and neonatal deaths in Malawi and other low-income countries. Appropriate assessment, diagnosis and management of these cases can reduce these avoidable deaths. No sophisticated equipment or technologies are required to assess, diagnose, and appropriately manage these cases. Therefore, apart from the availability of equipment to manage the cases, health providers should have the appropriate knowledge to assess, diagnose, and manage these common maternal and neonatal complications.

Table 32 shows the criteria used to define correct diagnosis and management of postpartum haemorrhage and neonatal asphyxia. For diagnosis of either emergency case, all components of the criteria had to be mentioned by the health provider in order to be considered as correct. The proportion of relevant symptoms, observations, physical examination, and medical investigations constituted adherence to clinical guidelines; the proportion of appropriate treatment actions constituted correct management of the case.

Table 32. Criteria used to classify correct diagnosis and management of maternal and neonatal clinical cases

Case	Diagnosis	Management of case
Postpartum haemorrhage	Postpartum haemorrhage	<ul style="list-style-type: none"> ■ Determine cause ■ Stimulate uterine contractions abdominally ■ Bimanual massage ■ Intravenous line ■ Intramuscular oxytocin (+/- dose) ■ Intravenous oxytocin (+/- dose schedule) ■ Blood transfusion ■ Surgery: If other measures fail to stop bleeding, subtotal or total hysterectomy ■ Foley catheter

Case	Diagnosis	Management of case
Neonatal asphyxia	Neonatal asphyxia	<ul style="list-style-type: none"> ■ Call for help ■ Dry baby ■ Keep baby warm ■ Clear airway ■ Position neck slightly extended to keep airway clear ■ Clear airway with aspirator/sucker ■ Stimulate breathing – rubbing back ■ Neutral position ■ Start ventilation with bag and mask ■ Give 5 good inflation breaths ■ Check heart rate (femoral or cord or auscultate) ■ Check breathing ■ Continue to 30 ventilations/minute ■ Check if chest rises during ventilation ■ Stop every 1–2 minutes and check HR or breathing ■ Stop ventilation if HR >100 ■ Chest compressions ■ Provide oxygen

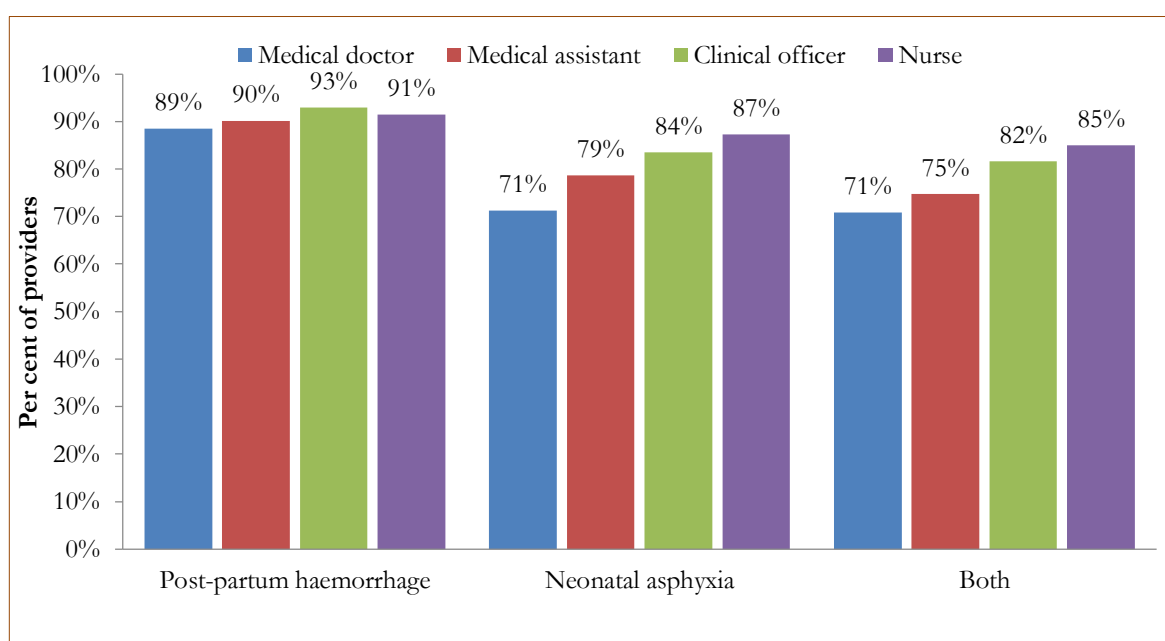
Note: +/- mean with or without.

Correct diagnosis

Detailed results of correct diagnosis of maternal and neonatal complications are shown by region, facility type, managing authority, urban/rural, and provider cadre in Table 108 while Figure 104 shows the proportion of providers mentioning the correct diagnosis for maternal and neonatal cases by health provider cadre.

- Overall 91% of providers correctly diagnosed postpartum haemorrhage, 81% of providers correctly diagnosed neonatal asphyxia, and 78% of providers correctly diagnosed both conditions.
- For postpartum haemorrhage, clinical officers had the highest proportion of health providers mentioning the correct diagnosis (93%) followed by nurses (91%), medical assistants (90%) and lastly, medical doctors (89%).
- For neonatal asphyxia, nurses had the highest proportion of health providers who correctly diagnosed the case (87%), followed by clinical officers (84%), medical assistants (79%) and lastly, medical doctors (71%).
- For both clinical cases combined, nurses had the highest correct diagnosis (85%) compared to all other cadres, with medical doctors having the lowest (71%).

Figure 104. Proportion of providers who mentioned the correct diagnosis of maternal and neonatal cases by provider cadre (N=1433), Malawi 2018/2019

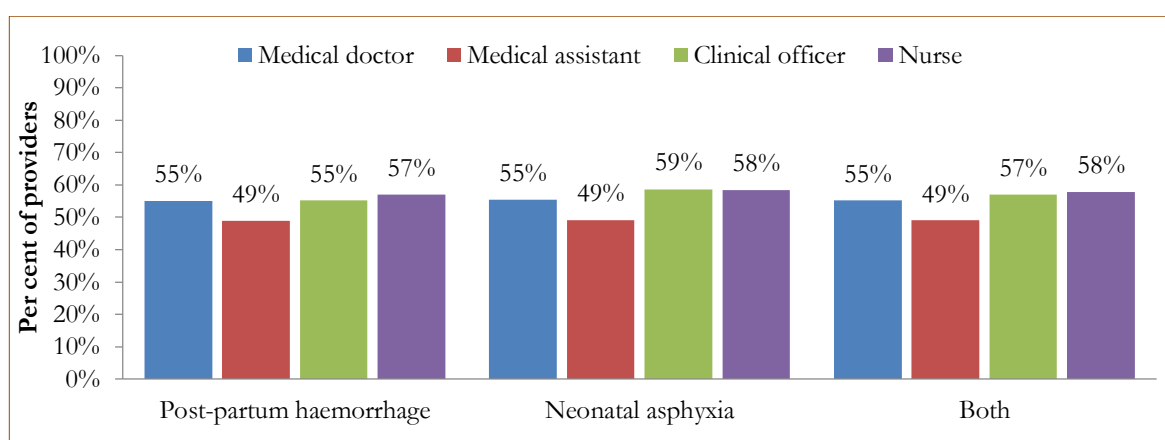


Correct management of condition

Detailed results of correct management of maternal and neonatal complications are shown by region, facility type, managing authority, urban/rural, and provider cadre in Table 108 while Figure 105 shows the proportion of providers mentioning the correct treatment actions required for the management of maternal and neonatal cases by health provider cadre.

- Overall providers mentioned, on average, 52% of correct treatment actions required for the management of postpartum haemorrhage, 53% of correct treatment actions required for the management of neonatal asphyxia, and 53% of correct treatment actions required for the management of both conditions.
- There were small differences in the proportion of treatment actions mentioned for the management of postpartum haemorrhage and neonatal asphyxia by health provider cadre. The highest correct treatment was among clinical officers (59%) for neonatal asphyxia and lowest was among medical assistants for neonatal asphyxia (49%) and postpartum haemorrhage (49%). Nurses mentioned more treatment actions for both cases (58%) compared to other cadres of health providers.

Figure 105. Proportion of correct treatment actions mentioned for management of maternal and neonatal cases by provider cadre (N=1433), Malawi 2018/2019

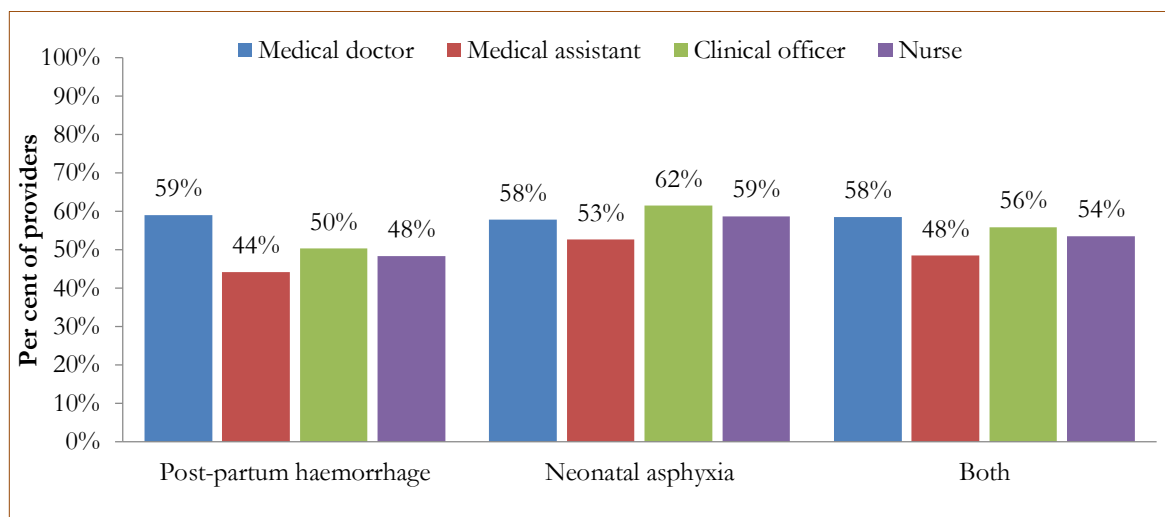


Adherence to clinical guidelines

Detailed results of adherence to clinical guidelines for maternal and neonatal complications are shown by region, facility type, managing authority, urban/rural, and provider cadre in Table 108 while Figure 106 shows the adherence to guidelines for maternal and neonatal cases by provider cadre. Note: Nurses are mainly responsible for managing both cases in most health care settings in Malawi.

- Overall providers mentioned, on average, 47% of the clinical guidelines' components for postpartum haemorrhage, 56% of the clinical guidelines' components for neonatal asphyxia, and 51% of the clinical guidelines' components for both conditions.
- Adherence by health providers to clinical guidelines for maternal and neonatal complications ranged from 44% to 62%. Adherence to the guidelines for both complications was higher for medical doctors (58%) than the other cadres (mean adherence to guidelines for clinical officers, medical assistants, and nurses was 56%, 54% and 48%, respectively).

Figure 106. Adherence to guidelines for maternal and neonatal cases by provider cadre (N=1433), Malawi 2018/2019

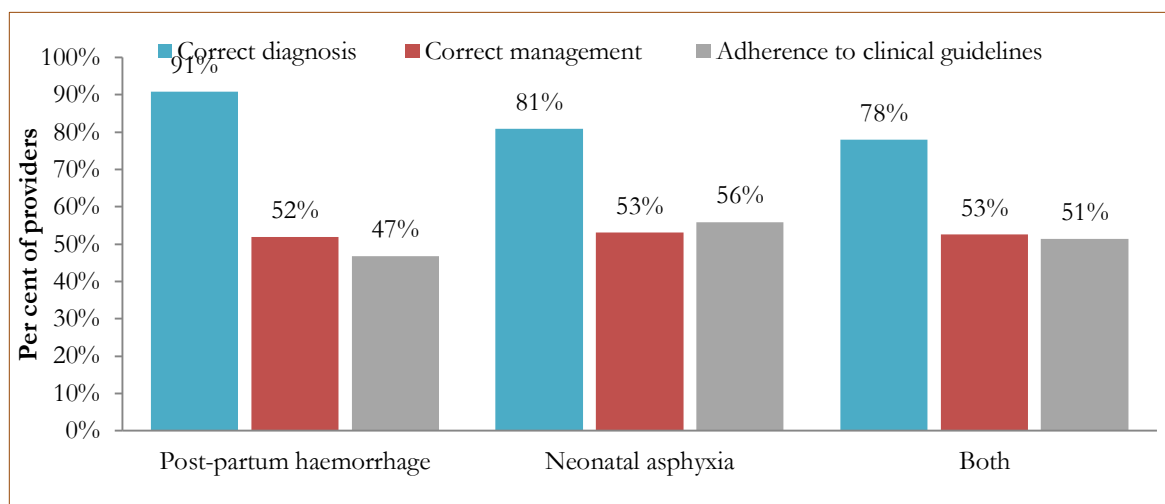


Overall correct diagnosis, management, and adherence to clinical guidelines

Detailed results of correct diagnosis, correct management, and adherence to clinical guidelines for maternal and neonatal complications are shown by region, facility type, managing authority, urban/rural, and provider cadre in Table 108 while Figure 107 shows correct diagnosis, correct management, and adherence to clinical guidelines for maternal and neonatal cases nationally.

- Individually, postpartum haemorrhage and neonatal asphyxia were correctly diagnosed by 91% and 81% of the health providers, respectively.
- Health providers were able to mention half of the appropriate treatment actions required for the management of postpartum haemorrhage (52%) and neonatal asphyxia (53%).
- Health providers adherence to clinical standards for the assessment of neonatal asphyxia (56%) was higher as compared to postpartum haemorrhage (47%).
- For both emergency cases combined, 78% of providers mentioned the correct diagnosis, 53% the correct treatment, and 51% the correct adherence to guidelines.
- Adherence to clinical guidelines for postpartum haemorrhage was higher among doctors (59%) than medical assistants (44%), clinical officers (50%), and nurses (48%).
- In general, health providers from the Central region scored lower than providers from the North and South regions. This difference is notable for correct management of neonatal asphyxia where the providers from the Central region scored 48% as compared to 62% in the North and 55% in the South.
- Correct management of postpartum haemorrhage and neonatal asphyxia was higher in hospitals (56% and 59%, respectively) as compared to other facility types.

Figure 107. Correct diagnosis, correct management, and adherence to clinical guidelines for maternal and neonatal cases (N=1433), Malawi 2018/2019



6.3 Appropriate assessment and counselling on nutrition for sick children

The Integrated Management of Childhood Illness (IMCI) is an integrated approach to child health that focuses on the well-being of the whole child. IMCI aims to reduce death, illness, and disability, and to promote improved growth and development among infants and children aged less than five years. IMCI includes both preventive and therapeutic elements that are implemented by families and communities as well as by health workers in facilities.⁶³ In health facilities, the IMCI strategy focuses on infants and children presenting with an illness and promotes the accurate identification of childhood illnesses in outpatient settings, ensures appropriate combined treatment of all major illnesses, strengthens the counselling of caregivers, and speeds up the referral of severely ill children. Nutrition assessment is integral to the evaluation of sick infants and children and is also central to the care of the well child and promote their health and development. IMCI therefore includes algorithms for use by health workers based at primary health care facilities and health surveillance assistants at community level (village clinics) that reflect WHO recommendations on assessment and counselling on nutrition for sick children.

Through the three vignettes covering common childhood illnesses (diarrhoea with severe dehydration, pneumonia, and malaria with anaemia), providers were evaluated on their ability to appropriately assess and counsel on nutrition for sick children. The criteria used to define appropriate assessment and counselling on nutrition for sick children is detailed in Table 33. For both appropriate assessment and counselling on nutrition for sick children, the proportion of relevant items mentioned is presented.

Table 33: Criteria for evaluating appropriate assessment and counselling on nutrition for sick children

Case	Assessment	Counselling
Diarrhoea	<ul style="list-style-type: none"> ■ Asked client about feeding or breastfeeding during illness ■ Assessed for signs of severe malnutrition ■ Assessed for pallor of palms or conjunctiva ■ Assessed for oedema/swelling of feet ■ Weighed child ■ Measured height/length of child ■ Checked weight against growth chart ■ Measured MUAC ■ Asked if child received vitamin A 	<ul style="list-style-type: none"> ■ Information on feeding child ■ Emphasis on not withholding feeding, especially breastfeeding
Pneumonia	<ul style="list-style-type: none"> ■ Asked client about child appetite during illness 	<ul style="list-style-type: none"> ■ Information on feeding child

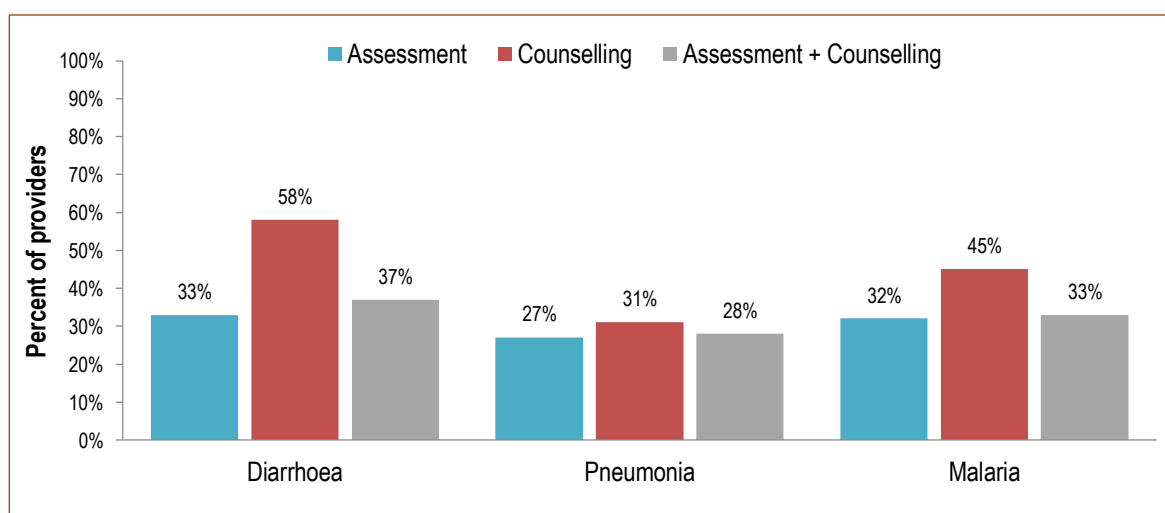
⁶³ World Health Organization; UNICEF. Model IMCI handbook: Integrated Management of Childhood Illness. Geneva: World Health Organization; 2005 (<http://apps.who.int/iris/bitstream/10665/42939/1/9241546441.pdf>).

Case	Assessment	Counselling
	<ul style="list-style-type: none"> ■ Asked client about child ability to drink during illness ■ Assessed for pallor of palms or conjunctiva ■ Assessed for oedema/swelling of feet ■ Weighed child ■ Measured height of child ■ Checked weight against growth chart ■ Measured MUAC ■ Asked if child received vitamin A 	<ul style="list-style-type: none"> ■ Explain the importance of nutrient-dense foods and examples of food that can be given ■ Follow-up appointment to assess nutritional status in 30 days
Malaria	<ul style="list-style-type: none"> ■ Asked client about child appetite during illness ■ Assessed for pallor of palms or conjunctiva ■ Assessed for oedema/swelling of feet ■ Weighed child ■ Measured height of child ■ Checked weight against growth chart ■ Checked height for age against growth chart ■ Measured MUAC ■ Asked if child received vitamin A 	<ul style="list-style-type: none"> ■ Information on feeding child

Table 109 shows the proportion of providers with appropriate assessment and counselling on nutrition for sick children by region, facility type, managing authority, urban vs. rural location, and by provider cadre while Figure 108 shows the proportion of providers with appropriate assessment and counselling on nutrition for sick children by case.

- The average proportion of items providers mentioned in their assessment on nutrition for a sick child ranged from 27% for pneumonia to 33% for diarrhoea.
- The average proportion of items providers mentioned in their counselling on nutrition for a sick child ranged from 31% for pneumonia to 58% for diarrhoea.
- The average proportion of items providers mentioned in their assessment and counselling on nutrition for a sick child ranged from 28% for pneumonia to 37% for diarrhoea.
- There was little variation in the assessment and counselling scores based on provider cadre, managing authority, and urban/rural location.

Figure 108. Proportion of providers with appropriate assessment and counselling on nutrition for sick children by case (N=1433), Malawi 2018/2019



7. Client experience

Key findings

- Most pregnant women attending ANC (78%) and caregivers of under-five children (73%) chose a health facility because it was close to home.
- Most ANC clients (61%) reported walking to the health facility and the average distance antenatal clients travelled to access a health facility for ANC services in Malawi was 6.2 km. Only 20% of ANC clients reported having to pay for transportation to the health facility. On average, the transportation cost for ANC clients who paid for transportation to the health facility was MK 753.1. The average waiting time for an ANC client to be seen by a provider was 41.3 minutes.
- The majority of caregivers of under-five sick children (75%) reported walking to the health facility and the average distance that caregivers travelled to access under-five health services in Malawi was 5.4 km. Only 20% of caregivers of under-five children reported having to pay for transportation to the health facility. On average, the transportation cost for caregivers of under-five children who paid for transportation to the health facility was MK 383.7. The average waiting time for an under-five client to be seen by a provider was 38 minutes.
- Only 17% of ANC clients reported receiving all eight ANC components. However, on average, ANC clients received 75% of the components. In terms of physical examinations and assessments, most antenatal clients had their weight measured (91%) and uterine height measured (79%). However, fewer ANC clients had their blood pressure checked (69%). In terms of drug administration and immunization, there was a reasonably high proportion of women receiving iron/folic acid supplementation (89%) and asked if they have ever received a TT injection (71%). The most common counselling provided at ANC was on HIV (93%), followed by exclusive breastfeeding (54%), and lastly on diet (52%).
- Only 4% of under-five child visits reported receiving all seven service components. However, on average, under-five child visits received 40% of the components. Most of the children had their age assessed (88%), while only 58% of the children were weighed, 14% had their height measured, 27% had their weight or height plotted, and 21% were told if the child's weight and height were adequate. Fifty per cent (50%) of under-five visits reported having a physical exam and 22% of under-five visits reported receiving counselling on continuous feeding of a sick child.
- In general, there was positive client feedback on antenatal care services. Most antenatal clients were satisfied with the operating hours (88%), number of days the facility is open (91%), time spent with health provider (92%), and the cleanliness of the facility.
- In general, there was positive client feedback on the quality of under-five care provided. 94% of under-five child visits reported that they had trust in the skill and abilities of the health worker, 89% reported the facility was open for an adequate number of days in a week, 88% reported it was easy to discuss health problems, 88% reported that the health worker spent sufficient time, 85% reported that the facility had adequate opening hours, and 84% reported that the facility was clean.

Apart from the availability, readiness, and capacity to provide health services, a high-quality health care system is expected to be responsive to clients' needs. Health system responsiveness was defined as "the ability of the health system to meet the population's legitimate expectations regarding their interaction with the health system, apart from expectations for improvements in health or wealth".⁶⁴ While being recognized as one of the three key objectives of a quality health care system, clients' responsiveness remains the least studied performance indicator. A client experience influences his/her perceptions, attitude, and health care utilization behaviour. If the client experience is unsatisfactory, (s)he is unlikely to seek care in the future. A client's experience may also highlight supply side issues requiring attention. From the exit interviews, factors influencing health seeking behaviour, resources used, and perceptions of the provider or the health facility, and care provided were explored. For the Malawi HHFA, exit interviews were conducted with pregnant women receiving ANC and caretakers of sick children.

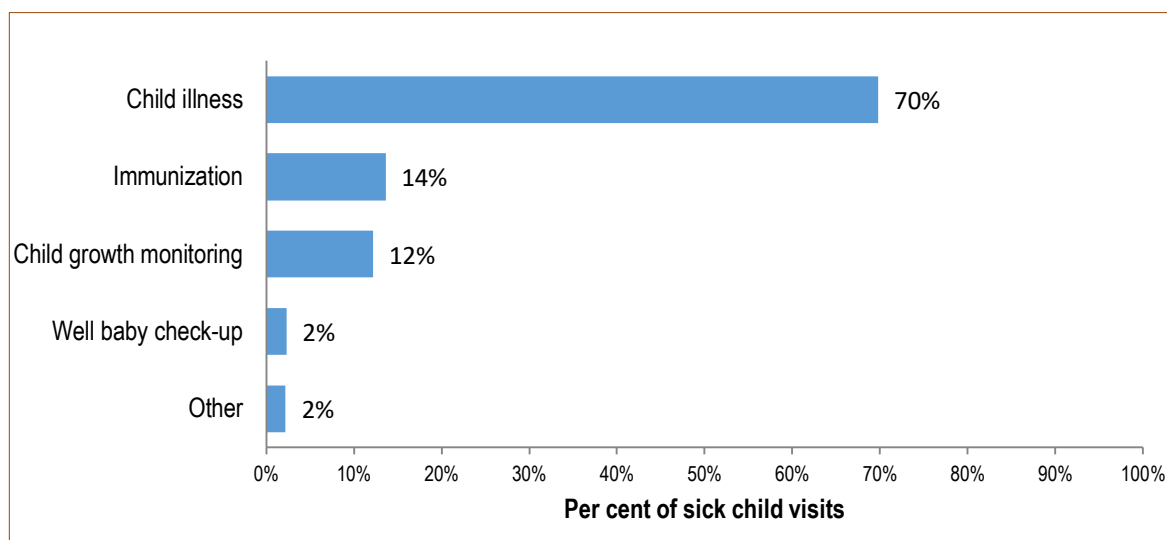
⁶⁴ Retrieved from <https://www.who.int/responsiveness/hcover/en/> on December 19th, 2019.

7.1 Purpose for visit

During the exit interviews caregivers of under-five children were asked the purpose of the child's visit to the health facility (Figure 109).

- Most children were brought to the health facility due to illness (70%), followed by immunization (14%) and child growth monitoring (12%).

Figure 109. Purpose of taking the child to the health facility (N=2333), Malawi 2018/2019



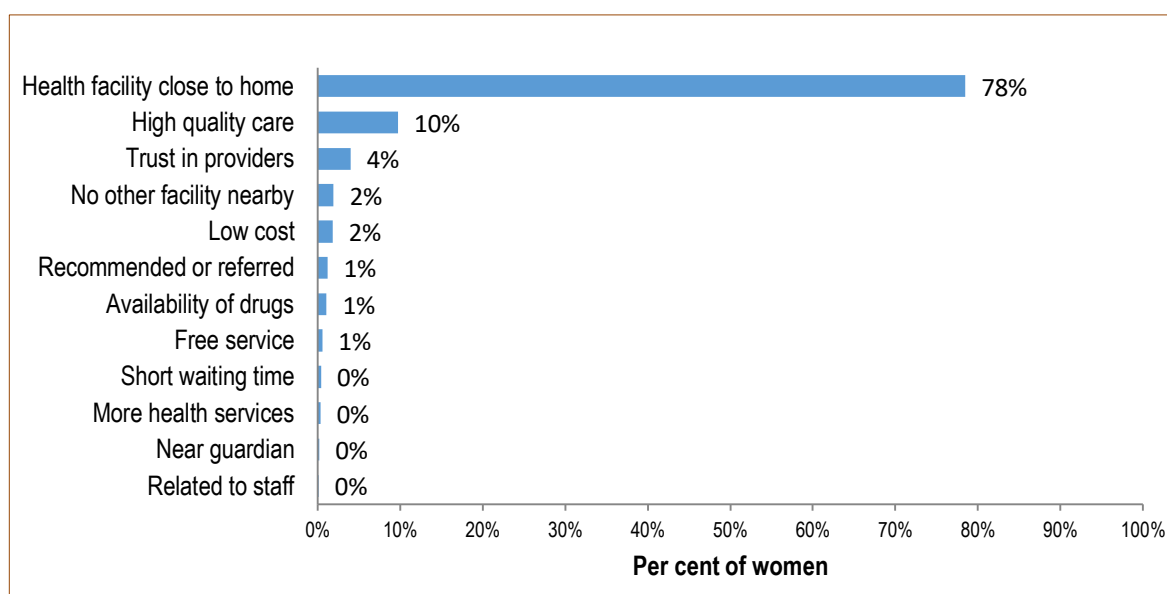
7.2 Reasons for choice of facility

Antenatal care

Table 110 shows reasons provided by pregnant women for choosing the health facility where they received ANC by region, facility type, managing authority, and urban vs. rural location while Figure 110 shows the reasons provided by pregnant women for choosing the health facility where they received ANC nationally.

- The majority (78%) of pregnant women chose the health facility they visited for ANC because the health facility was close to their home.
- Other reasons for choosing a particular health facility included high quality of care (10%) and trust in the provider (4%), though these were not strong determinants of facility choice.
- The main reason given for choosing to visit a government health facility for ANC services was that the facility was close to home (82%). However, the main reasons for choosing to visit a private for-profit health facility for ANC service were that the facility was close to home (50%) and the facility was believed to have high quality care (28%).
- For hospitals, 59% and 22% of ANC clients chose the facility primarily due to the location being close to home and high-quality care, respectively. In contrast, for health centres, more clients (83%) chose the facility primarily due to the location being close to home and less so due to the quality of care (8%).

Figure 110. Reasons for choice of health facility to receive ANC (N=1724), Malawi 2018/2019

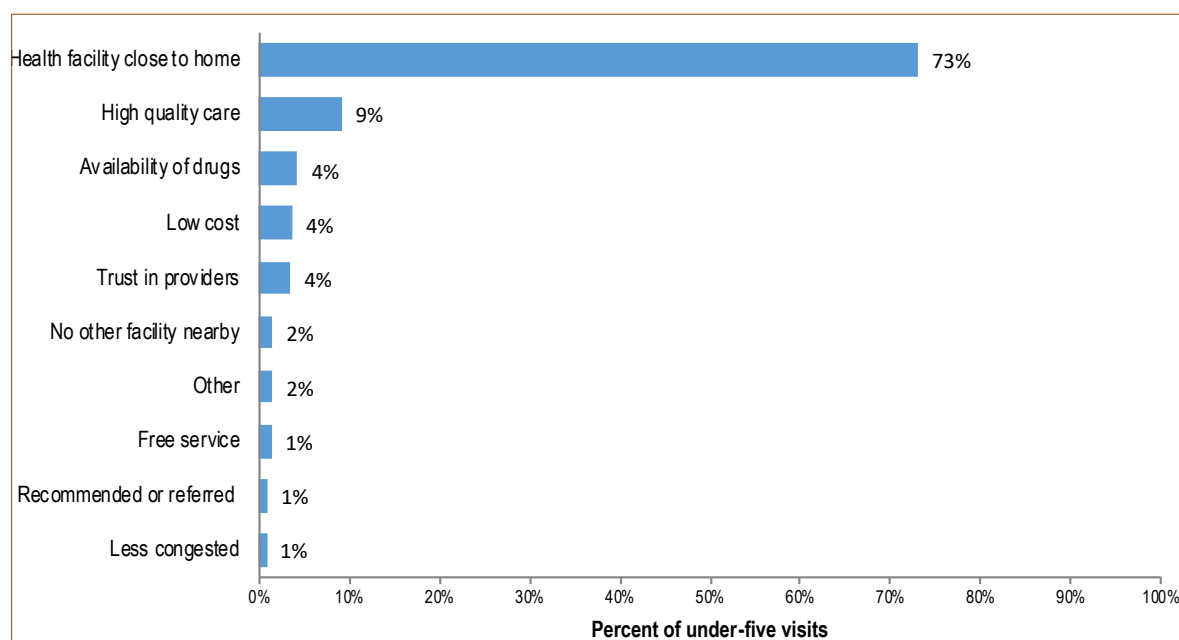


Under five care

Table 111 shows reasons provided by caretakers of under-five children for choosing the health facility where they received services by region, facility type, managing authority, and urban vs. rural location while Figure 111 shows the reasons provided by caretakers of under-five children for choosing the health facility where they were received services nationally.

- The majority (73%) of caretakers of under-five children chose the health facility they visited because the health facility was close to home.
- Other reasons for utilizing the health facility included high quality of care (9%), availability of drugs (4%), low cost (4%), and trust in the provider (2%), though these weighted significantly less in the facility choice.
- Relatively fewer clients primarily chose to visit a hospital because it was located close to their home (57%) as compared to clients who went to a health post (93%) or health centre (79%). Relatively more clients chose to visit a hospital because of high quality care (18%) as compared to clients who went to a clinic (15%) or health centre (6%).
- More clients chose a government health facility because it was located close to their home (80%) as compared to clients who went to a CHAM facility (65%) or private for-profit (54%) facility.

Figure 111. Reasons for choice of health facility to receive under-five child care (N=2331), Malawi 2018/2019



7.3 Distance travelled, transport costs, and waiting times

The Health Sector Strategic Plan 2017–2022 emphasizes the need to ensure equitable access to health care services through the essential health package (EHP). The aim of the EHP is to ensure timely universal free access to a quality EHP, irrespective of ability-to-pay and geographic location, to all people in Malawi. In order to determine issues related to access to care, women attending ANC and caregivers of under-five children were interviewed regarding distance to health facility in kilometres, whether they paid for transportation, the cost of transport to get to the health facility and waiting time to be seen by the health provider.

Antenatal care

Table 112 shows the primary mode of transportation to the health facility for ANC clients by region, facility type, managing authority, and urban/rural while Figure 112 shows the most common modes of transportation to the facility for ANC clients nationally.

- Most ANC clients (61%) reported walking to the health facility and 21% reported using bicycle as a mode of transport to the health facilities. None of the ANC clients interviewed reported using an ambulance to go to a health facility. Private mode of transportation accounted for 10% of the ANC client's main mode of transportation and public transportation accounted for only 6% of the all the seven common modes of transportation readily available in Malawi.
- There was little regional variation apart from a higher proportion of women walking to HFs in the Northern region (71%) compared to Central and Southern regions (56% and 61% respectively).
- In rural areas there was a higher proportion of women who walked and used a bicycle (64% and 22% respectively) compared to women in the urban areas where the proportion was 45% and 13% respectively.

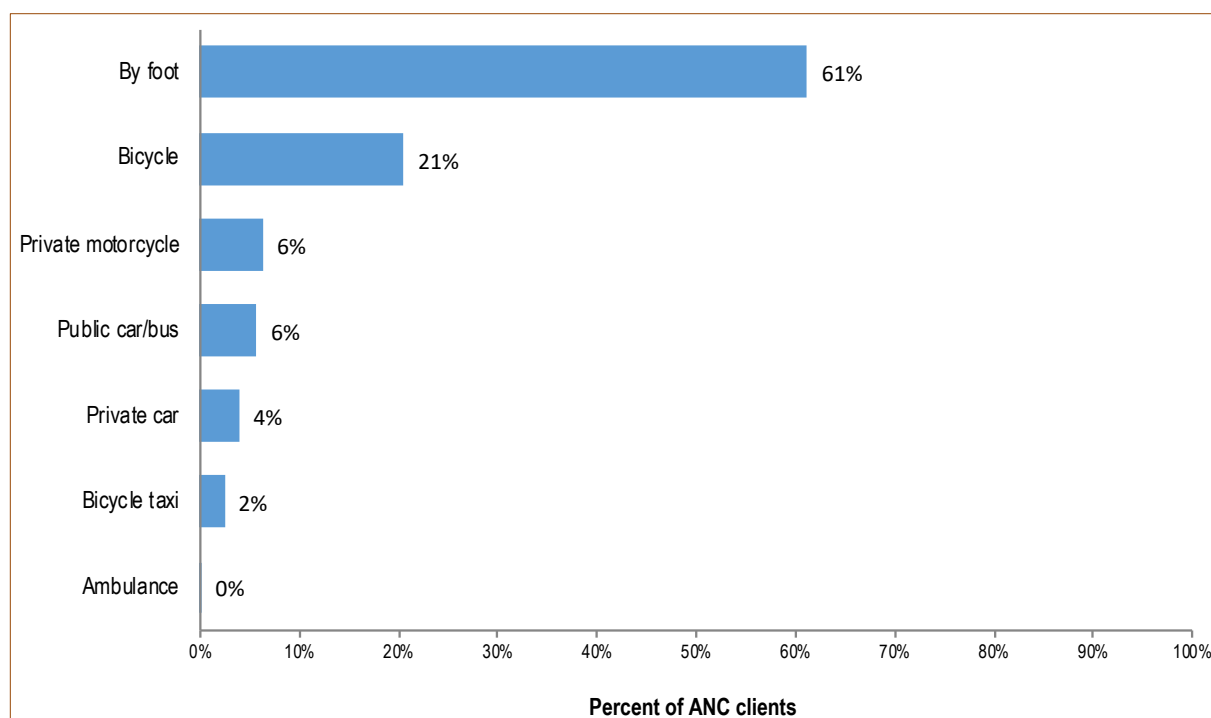
Figure 112. Primary mode of transportation for ANC clients (N=1784), Malawi 2018/2019

Table 113 shows the mean distance travelled to the health facility, the transport cost, and waiting time for ANC clients by region, facility type, managing authority, and urban vs. rural location.

- The average distance antenatal clients travelled to access a health facility for ANC services in Malawi was 6.2 km, with the longest mean distance reported for the Northern region (7.7 km) compared to the Central and Southern regions of (6.4 km and 5.5 km, respectively).
- Only 20% of ANC clients reported having to pay for transportation to the health facility. On average, the transportation cost for ANC clients who paid for transportation to the health facility was MK 753.1.
- Antenatal clients visiting a dispensary spent less on transportation (MK 287.90) as compared to clients visiting a hospital (MK 654.6), health centre (MK 832.1), or clinic (MK 604.2). As expected, antenatal clients did not incur any cost on transportation when they utilized services at a health post. However, it was observed that antenatal clients in rural areas spent more on transportation cost than those in urban areas, which was estimated at MK 825.40 and MK 545.10, respectively.
- The average waiting time for an ANC client to be seen by a provider was 41.3 minutes. Private for-profit facilities tended to see ANC clients faster, with a waiting time of less than 23 minutes, compared to government and CHAM health facilities (43.1 and 39.5 minutes, respectively). Antenatal clients also spent less time waiting at a dispensary (27.8 minutes) as compared to other types of health facilities such as hospitals (39.2 minutes) or health centres (43.2 minutes).

Under five care

Table 114 shows the primary mode of transportation to the health facility for under-five child visits by region, facility type, managing authority, and urban/rural while Figure 113 shows the most common modes of transportation to the facility for under-five child visits nationally.

- Most caregivers of under-five sick children (75%) reported walking to the health facility, while 13% used bicycles, 6% used public transport, 4% used private vehicles, 2% used private motorcycles, and only 1% used a bicycle taxi. None of the caregivers of under-five sick children reported using an ambulance to go to a health facility.

- There were no major regional differences in proportion of clients who walked to the health facility (Northern 77%; Central 73%; and South 74%).
- However, in the rural areas it was more common to walk (78%) followed by using a bicycle (13%) compared to the urban areas where 59% walked and 16% public used a car/bus.

Figure 113. Primary mode of transportation for under-five child visits (N=2333), Malawi 2018/2019

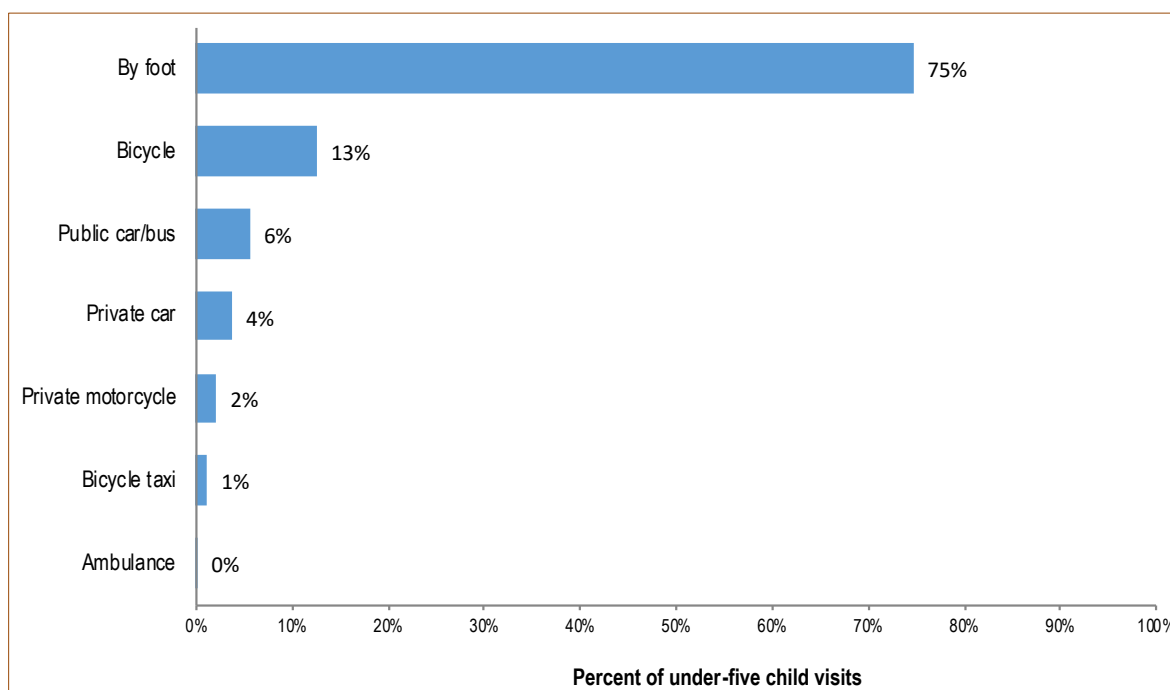


Table 115 shows the mean distance travelled to the health facility, the transport cost, and waiting time for under-five child visits by region, facility type, managing authority, and urban vs. rural location.

- The average distance that caregivers travelled to access under-five health services in Malawi was 5.4 km. The distance to the health facility was highest in the Northern region (7.4 km) compared to the Central (4.7 km) and Southern regions (5.0 km).
- Only 20% of caregivers of under-five children reported having to pay for transportation to the health facility. On average, the transportation cost for caregivers of under-five children who paid for transportation to the health facility was MK 383.7.
- Although the proportion of caregivers paying for transportation from the North (16%) was slightly lower than the other two regions, the average amount paid was higher in the North (MK 546.50) than in the Central (MK 374.5) and Southern regions (MK 326.80).
- A higher proportion of caregivers accessing under-five care from the urban facilities (40%) paid for transport than from rural facilities (11%). In addition, caregivers accessing and paying for under-five care from urban facilities paid more (MK 594.80) than those accessing and paying for under-five care from rural facilities (MK 297.50).
- Caregivers accessing under-five care from hospitals and clinics were more likely to pay for services (30% and 34% respectively) compared to those accessing health centres, dispensaries, and health posts (13%, 4%, and 1%, respectively). In addition, the cost of care was higher at clinics (MK 539.60) and hospitals (427.90) as compared to other facility types.
- The average waiting time for an under-five client to be seen by a provider was 38 minutes.
- Health centres reported the highest waiting time (44 minutes) to be seen by the health provider for under five care, while clinics reported the lowest waiting time (17 minutes). Clients waited the longest when attending government facilities (47 minutes) and the shortest at private for-profit facilities (15 minutes).

7.4 Components of care provided by health workers

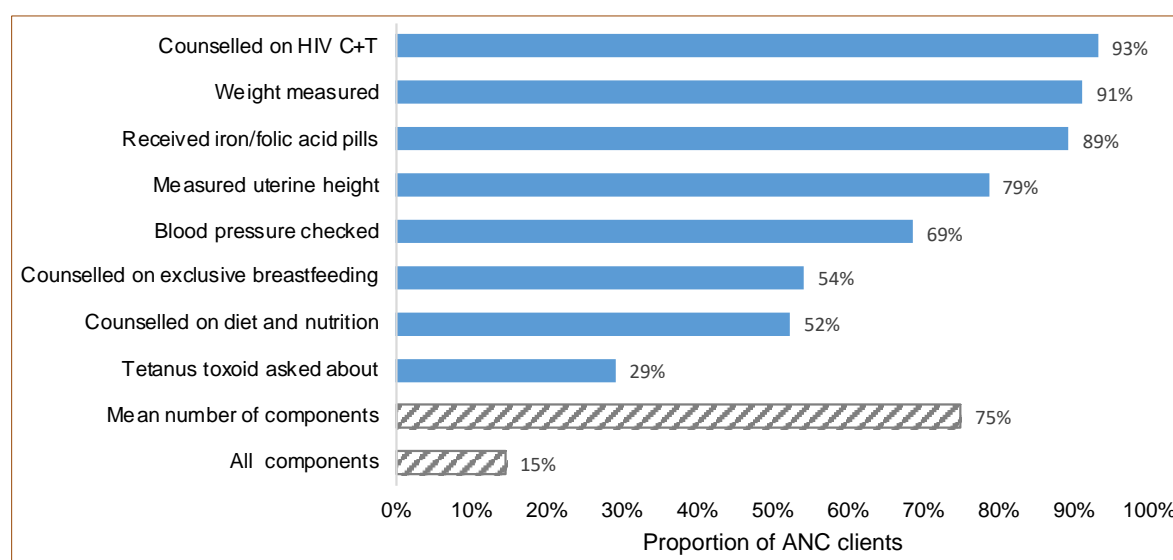
Antenatal care

Malawi follows the 2016 WHO guidelines on providing antenatal care which recommend at least eight visits and recommends specific components of care at each antenatal care visit. Components of care include history taking, examination, observation and clinical investigation, obstetric complications, pelvic examination, laboratory investigations, drug administration and immunization, and client education and counselling. The analysis presented below examines the components of care that should be provided at all ANC visits.

Table 116 shows the components of antenatal care received during ANC attendance by region, facility type, managing authority, and urban vs. rural location while Figure 114 shows the components of antenatal care received during ANC attendance nationally.

- In terms of physical examinations and assessments, most antenatal clients had their weight measured (91%) and uterine height measured (79%). However, fewer ANC clients had their blood pressure checked (69%).
- In terms of drug administration and immunization, there was a reasonably high proportion of women receiving iron/folic acid supplementation (89%) and asked if they have ever received a TT injection (71%).
- The most common counselling provided at ANC was on HIV (93%), followed by exclusive breastfeeding (54%), and lastly on diet (52%).
- Only 17% of ANC clients reported receiving all eight ANC components. However, on average, ANC clients received 75% of the components.
- There were several notable differences between components of care provided in rural and urban facilities. More clients attending ANC in urban facilities were weighed (urban: 96% vs rural: 90%), had blood pressure measured (urban: 85% vs. rural: 66%), had uterine height measured (urban: 81% vs. rural: 78%), and were asked about previous tetanus toxoid injection (urban: 77% vs. rural: 70%).

Figure 114. Components of antenatal care received during ANC attendance (N=1785), Malawi 2018/2019



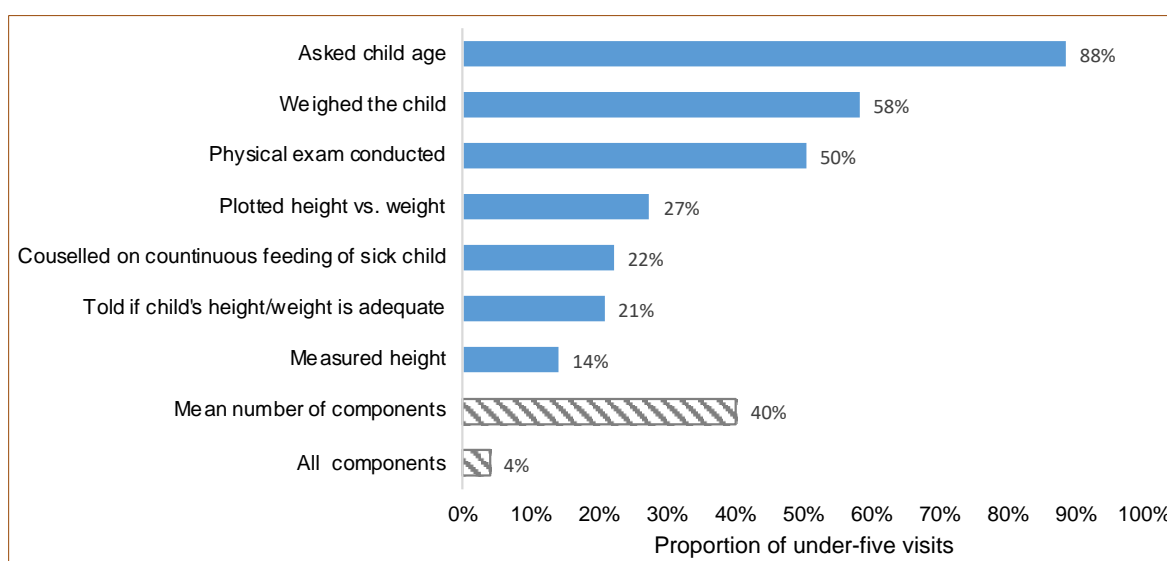
Under five care

The 2018–2019 HHFA assessed the components of child care received as reported by the caregivers of under-five children.

Table 117 shows the components of care received during under-five child visits by region, facility type, managing authority, and urban vs. rural location while Figure 115 shows the components of under-five child care received nationally.

- Most of the children had their age assessed (88%), 58% of the children were weighed, 14% had their height measured, 27% had their weight or height plotted, and 21% were told if the child’s weight and height/weight were adequate.
- Fifty per cent (50%) of under-five visits reported having a physical exam and 22% of under-five visits reported receiving counselling on continuous feeding of a sick child.
- Only 4% of under-five child visits reported receiving all seven service components. However, on average, under-five child visits received 40% of the components.
- The average number of service components received by under-five children was higher in the South (46%) as compared to the Central (37%) and Northern regions (33%).
- As compared to rural facilities, a higher proportion of children who accessed under-five care from urban facilities were weighed (72% urban vs. 55% rural), had their height/weight plotted on growth chart (34% urban vs. 26% rural), and had a physical exam (55% urban vs. 59% rural).
- Few children overall (14%) had their height measured and this varied by region. The lowest proportion of under-five child visits where the height was measured was in the Northern region (9%) compared to the Central (11%) and Southern (19%) regions.

Figure 115. Components of under-five care provided to caregivers (N=2333), Malawi 2018/2019



7.5 Client feedback regarding facility, provider, and quality of care provided

Antenatal care

Table 118 shows the proportion of ANC clients satisfied with the health facility, health workers, and quality of ANC service by region, facility type, managing authority, and urban vs. rural location while Table 34 shows client feedback on the health facility, health workers, and quality of ANC services nationally.

- In general, there was very positive client feedback on antenatal care services.
- Most antenatal clients were satisfied with the operating hours (88%), number of days the facility is open (91%), time spent with health provider (92%), and the cleanliness of the facility (87%).
- A few clients thought the facility was not clean (9%) and operating hours were inadequate (8%).
- On average, ANC clients were satisfied with 90% of the feedback items while 62% of ANC clients were satisfied with all the feedback items.

- Although ANC clients were generally satisfied with the services, there were slight differences in satisfaction levels by managing authority. On average, clients attending ANC in government facilities were satisfied with 89% of the feedback items. This was slightly lower as compared to CHAM facilities (95%) and NGO facilities (97%). Clients were less satisfied with the opening hours (85%) and cleanliness (83%) of government facilities as compared to CHAM facilities (93% and 96%, respectively).
- In addition, there were small differences in the proportion of ANC clients satisfied by facility type. For example, 87% of ANC clients visiting a hospital reported the health staff were courteous and respectful as compared to 100% of ANC clients visiting a health post.

Table 34: Client feedback on health facility, health workers, and quality of ANC services (N=1785)

	Agree (%)	Neither agree or disagree (%)	Disagree (%)	Not applicable (%)
Facility opening hours are adequate	88%	3%	8%	1%
Number of days the facility is open is adequate	91%	3%	6%	0%
Facility is clean	87%	4%	9%	0%
Health staff are courteous and respectful	90%	7%	3%	0%
It is easy to discuss health concerns with the provider	90%	4%	5%	0%
Provider explained the condition well	89%	4%	7%	0%
Provider dedicated sufficient time to the client	92%	3%	4%	0%
Trust in skills and abilities of the health workers	95%	3%	2%	0%
Overall quality of services provided was satisfactory	94%	3%	3%	0%

Under-five care

Table 119 shows the proportion of under-five child visits satisfied with the health facility, health workers, and quality of service by region, facility type, managing authority, and urban vs. rural location while Table 35 shows client feedback on the health facility, health workers, and quality of services nationally.

- In general, there was positive client feedback on the quality of under-five care provided.
- Ninety-four per cent (94%) of under-five child visits reported that they had trust in the skill and abilities of the health worker, 89% reported the facility was open for an adequate number of days in a week, 88% reported it was easy to discuss health problems, 88% reported that the health worker spent sufficient time, 85% reported that the facility had adequate opening hours, and 84% reported that the facility was clean.
- There were a few under-five child caregivers that reported dissatisfaction with the facility opening hours (11%) and with the cleanliness of the facility (11%). In addition, 17% of under-five child caregivers did not think the health worker spent sufficient time with them.
- On average, caregivers of under-five children were satisfied with 88% of the feedback items while 54% of caregivers of under-five children were satisfied with all the feedback items.
- All caregivers of under-five children who received care from an NGO facility agreed that the facility was clean while 79% of those who went to government facilities agreed that the facility was clean. The proportion of caregivers of under-five children who agreed that the facility was clean was similar for CHAM facilities (93%) and private for-profit facilities (96%).
- All clients who went to NGO facilities also agreed that the health staff were courteous and respectful compared to 86% of clients who went to government facilities, 92% of clients who went to private for non-profit facilities, and 93% of clients who went to CHAM facilities.
- More clients visiting rural health facilities (94%) thought that health staff were courteous and respectful than did clients visiting urban health facilities (88%).

Table 35. Client feedback on health facility, health workers and quality of under-five care (N=2330), Malawi 2018/2019

	Agree (%)	Neither agree or disagree (%)	Disagree (%)	Not applicable (%)
Facility opening hours are adequate*	85%	4%	11%	0%
Number of days the facility is open is adequate	89%	3%	8%	0%
Facility is clean	84%	4%	11%	0%
Health staff are courteous and respectful	90%	7%	3%	0%
It is easy to discuss health concerns with the provider	88%	4%	6%	2%
Provider explained the condition well	77%	4%	17%	2%
Provider dedicated sufficient time to the client	88%	2%	9%	1%
Trust in skills and abilities of the health workers	94%	3%	3%	0%
Overall quality of services provided was satisfactory	94%	3%	3%	0%

* For this variable, N=2331

8. Facility management

Key findings

- Most government (70%) and CHAM (76%) hospitals had a Hospital Advisory Committee (HAC). On average, government hospital HACs met five times in 2017 while CHAM hospital HACs met less often (three times in the same period).
- The majority of government (96%), CHAM (95%) and private for-profit (100%) hospitals had mechanisms of obtaining patients opinions on health services delivered and informing the hospital staff of patients' opinions. The most common complaints by patients overall were inconvenient opening hours (72%) followed by unavailability of doctors (39%).
- Government hospitals received on average 5.3 supervision visits (approximately once every two months) and CHAM hospitals received on average 3.5 visits (approximately once every three months) in 2017.
- The most common constraints affecting the functioning of the hospital were unavailability of doctors in government (75%) and CHAM hospitals (51%) and unavailability of medicines in government (62%) and CHAM (35%) hospitals.
- Less than half of the Government and CHAM hospitals had monthly data review meetings (38% and 38%, respectively) and 11% of government hospitals and 8% CHAM hospitals did not conduct any such meeting.

Facility management is an important contributor to a health facility performance. The quality of health care delivered at hospitals and patient health outcomes are dependent not only on the availability of physical inputs and competent providers, but also on how well the facility is managed, its leadership, and financing modalities. This chapter explores the management context of hospitals in Malawi.

There are three major categories of health service providers in Malawi: public-sector facilities, not-for-profit private facilities (including CHAM, NGO, and others), and for-profit private facilities. The public sector provides services free of charge to the population. Under the decentralization policy, the Ministry of Local Government and Rural Development is responsible for the delivery of services at the district and lower levels. District Councils are mandated to manage district health systems and are responsible for governance, leadership, planning, budgeting, allocating resources, and monitoring the implementation of activities as well as ensuring accountability, efficiency, and effectiveness in the delivery of public services. The MoHP provides technical guidance at the central level and is responsible for providing overall governance, leadership, and technical guidance for the health system in Malawi. The central government makes annual budgetary allocations to each district assembly jurisdiction. The funds are managed by the district health management teams (DHMTs) under the responsibility of the local authorities, thus enabling local solutions to health problems to be developed and implemented and allowing funds to be used more efficiently. CHAM facilities charge user fees for care except for growth monitoring, vaccination, community-based preventive health care services, and the treatment of specific communicable diseases such as tuberculosis, STIs, and leprosy. As a way of improving access to health services, the Government has extended contractual support to CHAM through the introduction of service level agreements. Under this arrangement, district health officers contract CHAM health facilities to provide an agreed upon range of EHP services to the catchment population at no fee. This arrangement aims to improve poor people's access to health services by removing financial barriers and by strengthening government's partnership with nongovernment partners. Modalities exist for MoHP supervision and monitoring of CHAM and other private-sector facilities. The NGOs and private facilities DHMTs, which in turn report to the District Executive Committee and MoHP. MoHP standards and protocols guide their activities.

8.1 Governance and accountability

In Malawi the National Decentralization Policy, and later the Local Government Act, provides a governance structure for managing health service delivery at district level. The Health Advisory Committee (HAC) is responsible for providing advice to the District Executive Committee (DEC) which is in turn responsible for the overall district development policy, including for the health sector, the prioritization of interventions to be implemented, and approval of all expenditures. Hospitals were asked about the availability of a HAC, the total number of its members, and whether their committees were active. Additionally, hospitals are expected to have patient feedback mechanisms where they can obtain feedback on the health services they are providing and later act on it. Hospitals were asked whether they have these patient feedback mechanisms, whether they had a mechanism of informing hospitals staff of the patients' opinion, and whether they had acted on them in the preceding 12 months. Table 36 shows survey findings on accountability mechanisms at hospitals by managing authority:

- Seventy-one per cent (71%) of hospitals in the country have a HAC established.
- Most government hospitals (70%) and CHAM hospitals (76%) had HACs established at the time of the survey. There were no HACs in place at private for-profit hospitals, but they are not expected to have one in the current district governance structure.
- The average number of HAC members was 12 across the country; similar average size was found in government hospital HACs (12) and the CHAM hospital HACs (11).
- Government hospital HACs were generally more active, meeting on average five times in the preceding 12 months compared to CHAM HACs which met less times (three times in preceding 12 months).
- Most hospitals in the country (95%) had a mechanism for obtaining patient opinions and for informing staff on the patients' opinion (95%).
- In 66% of the hospitals, there were changes occurring due to patients' opinions in the preceding 12 months across the country. The proportion was approximately similar among government and CHAM hospitals (60% and 67%, respectively) which were higher than private for-profit hospitals (50%).

Table 36. Accountability mechanisms at hospitals (N=86), Malawi 2018/2019

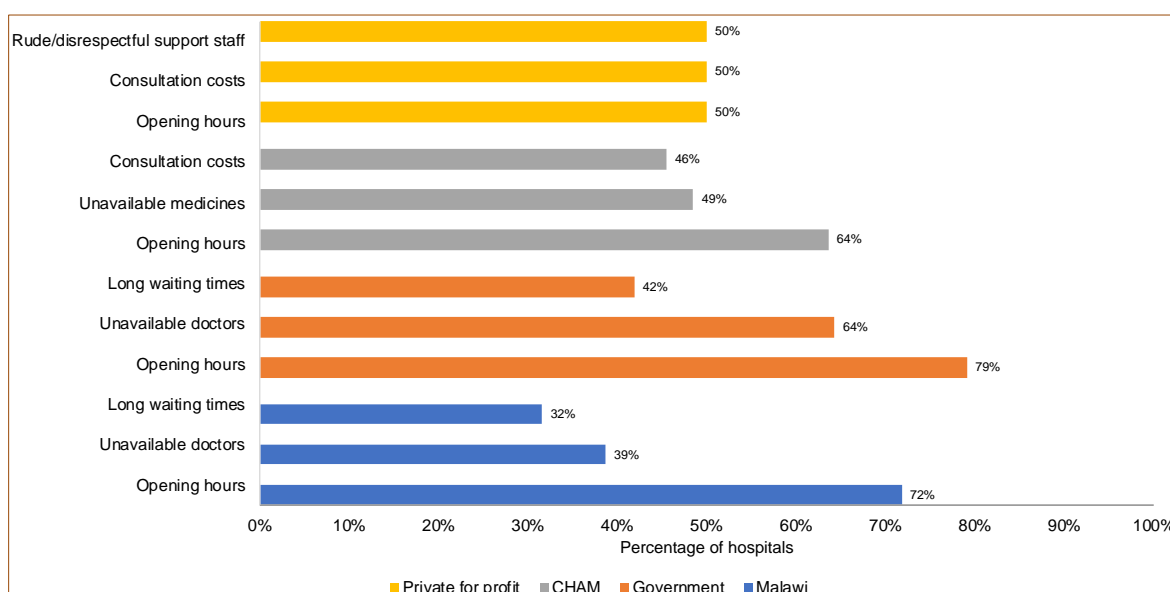
	Malawi	Government N=47	CHAM N=37	Private for-profit N=2
Health advisory committee (HAC)				
Percentage of hospitals with HAC in place	71%	70%	76%	0%
Mean number of HAC members	12	12	11	0
Mean number of times HAC met over past 12 months	4	5	3	0
Patients' responsiveness				
Percentage of hospitals that obtain information on patients' opinion through client surveys, a complaint/suggestion box or another method	95%	96%	95%	100%
Percentage of hospitals with a formal mechanism to inform staff about patients' opinion	95%	96%	95%	100%
Percentage of hospitals with changes that have occurred as a result of patient opinion in the last 12 months	66%	66%	67%	50%

8.2 Patient feedback mechanism on health delivery

Hospitals are expected to have patient feedback mechanisms where they can obtain feedback on the health services they are providing and take action accordingly. Hospitals were asked about the most commonly reported complaints by patients (Figure 116).

- Across all hospitals in Malawi, the most common complaint reported by patients was the hospital having inconvenient opening hours (72%) followed by unavailability of doctors (39%) and lastly long waiting times (32%). The same complaints and in the same order were observed for government hospitals (79% opening hours; 64% unavailability of doctors; and 42% long waiting hours).
- For CHAM, the patient complaints were slightly different from government. Although, the most common complaint was the inconvenient opening hours (64%), unavailability of medicines (49%) and consultation costs (46%) were mentioned.
- Among private for-profit hospitals the most common patient complaints were rude/disrespectful support staff (50%), consultation hours (50%), and inconvenient opening hours (50%).

Figure 116. Top three reported patient complaints at hospitals by managing authority (N=86), Malawi 2018/2019

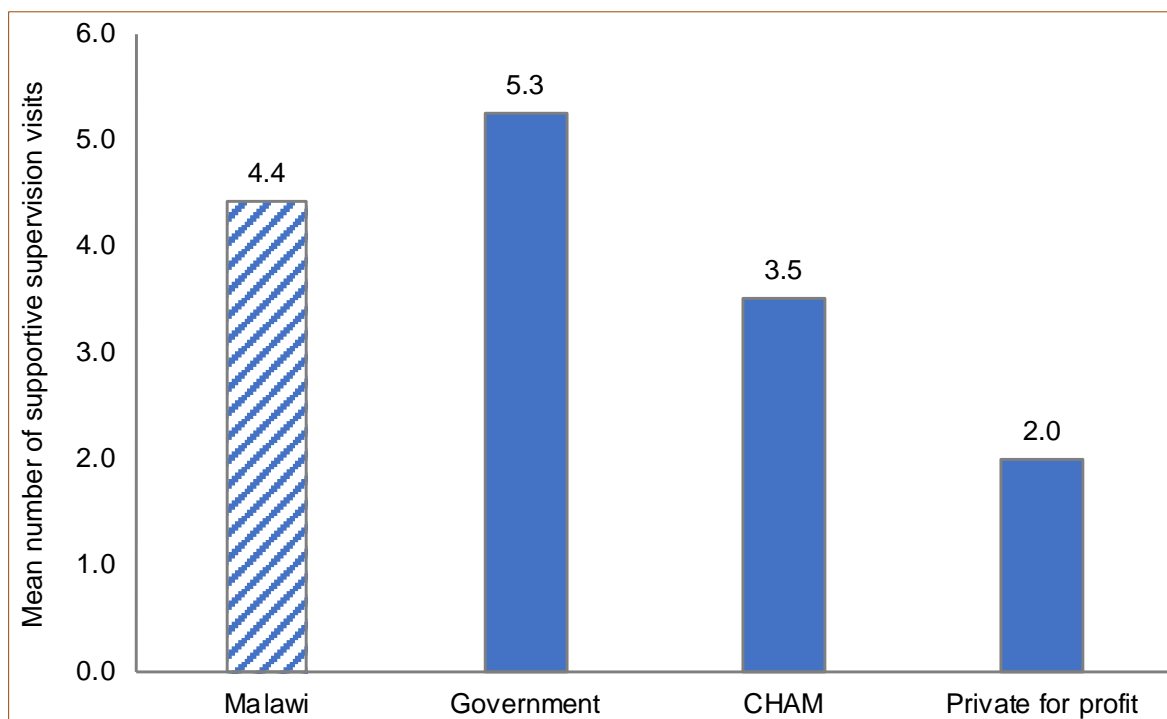


8.3 Management and leadership

Providing timely and quality supervisory support to health facilities is an important part of ensuring quality health service delivery. Supervision of facilities ensures that required standards are maintained and that gaps and challenges in the provision of services are identified and addressed in a timely way. Hospitals were asked about the number of times a supportive supervision or mentoring was conducted at their facility in the previous year, i.e. 2017 (Figure 117).

- The mean number of supportive visits in the last year across all hospitals in Malawi was 4.4.
- Government hospitals received on average 5.3 visits (approximately one every two months) in 2017.
- CHAM hospitals received 3.5 visits (approximately one every three months) in 2017.
- Private for-profit received 2.0 visits (approximately once every six months) in 2017.

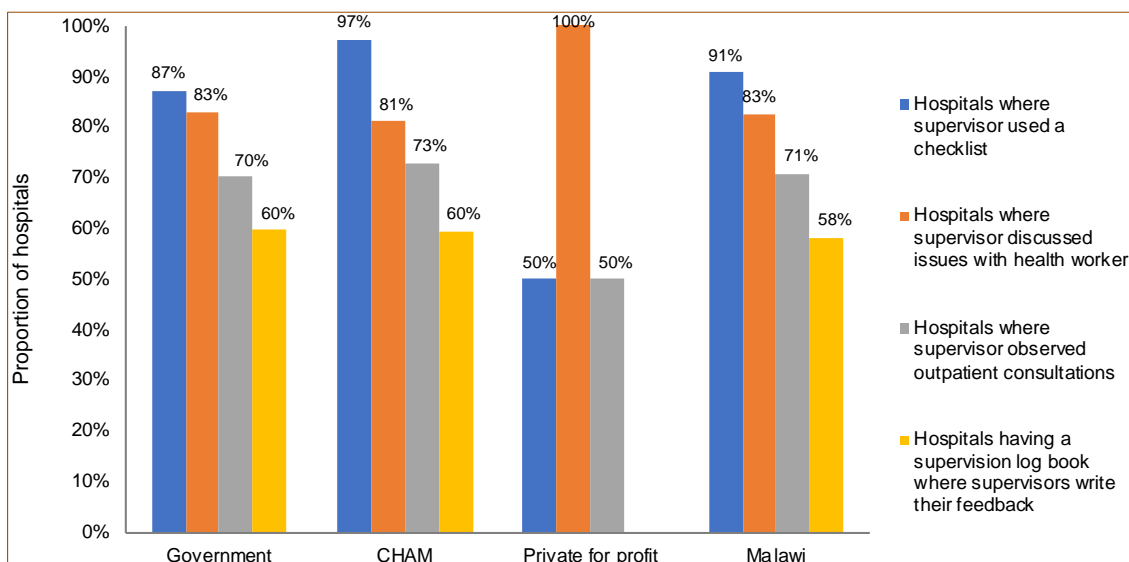
Figure 117. Mean number of supportive supervision or mentoring visits received at hospitals by managing authority (N=84), Malawi 2018/2019



Technical supervision is a key factor in human resource appraisal and an important part of accountability for both the provider and the supervising body. In order to determine the level/quality of the supervision received, hospitals were asked whether the supervisor used a checklist, sat down to discuss with health workers issues that he/she observed, actually observed outpatient consultations, and lastly used a log book to record their feedback. Figure 118 shows the components of supervision support received by hospitals by managing authority.

- Across hospitals in Malawi, in 91% of hospitals supervisors used a checklist while only 58% had a supervision logbook in place.
- For most of the Government (87%) and CHAM hospitals (97%), the supervisor used a checklist, while in private for-profit hospitals this was done only in 50% of hospitals.
- In a high proportion of hospitals, the supervisor sat down and discussed with health worker the issues at the facility (83% of government, 81% of CHAM, and 100% of private for-profit hospitals).
- The proportion of hospitals where the supervisor observed outpatient consultations was higher among government (70%) and CHAM (73%) hospitals as compared to private for-profit hospitals (50%).
- About 60% of government and CHAM hospitals had a supervision logbook; no private for-profit facility had a supervision logbook.

Figure 118. Components of supervision support received by hospitals (N=84), Malawi 2018/2019

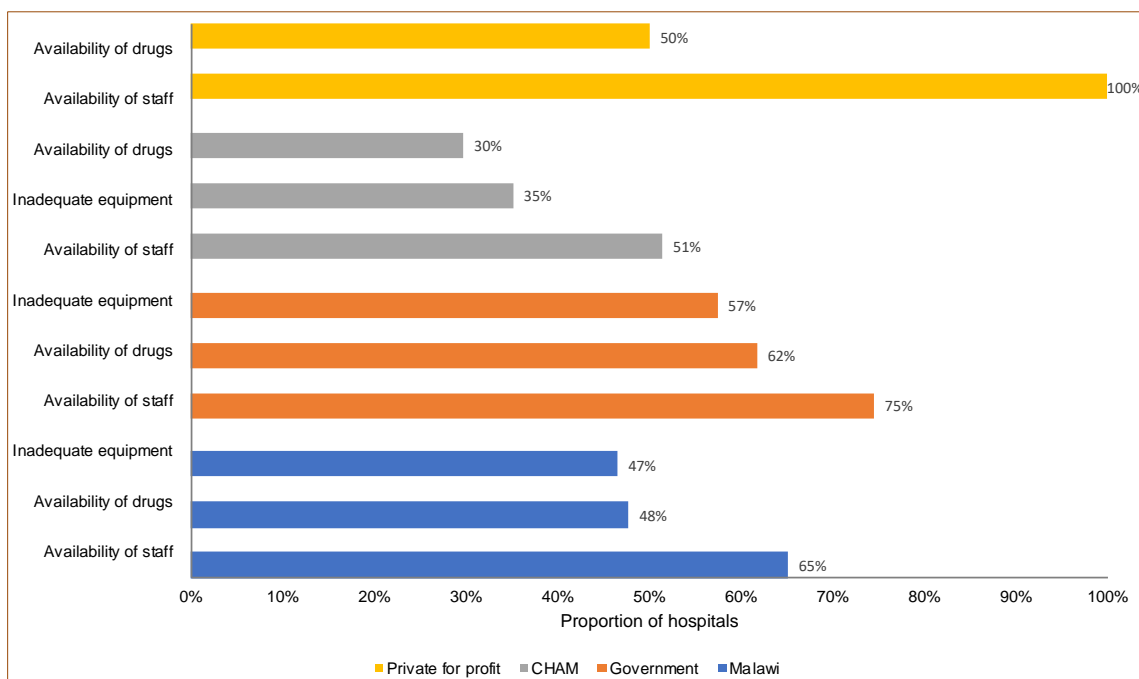


Hospitals must be able to identify important constraints that affect the functioning of a hospital. Hospitals were asked the top three binding constraints to the well-functioning of the hospital.

Figure 119 shows the top three most binding constraints to the well-functioning of the hospital by managing authority.

- Across all hospitals in Malawi, the most common constraint was the availability of staff (65%) followed by availability of drugs (48%) and inadequate equipment (47%).
- Among government hospitals, the most common constraint was the availability of staff (75%) followed by availability of drugs (62%) and inadequate equipment (57%).
- Among CHAM hospitals, the most common constraint was availability of staff (51%) followed by inadequate equipment (35%) and availability of drugs (30%).
- Among private for-profit hospitals, the most common constraints were the availability of staff (100%) and availability of drugs (50%).

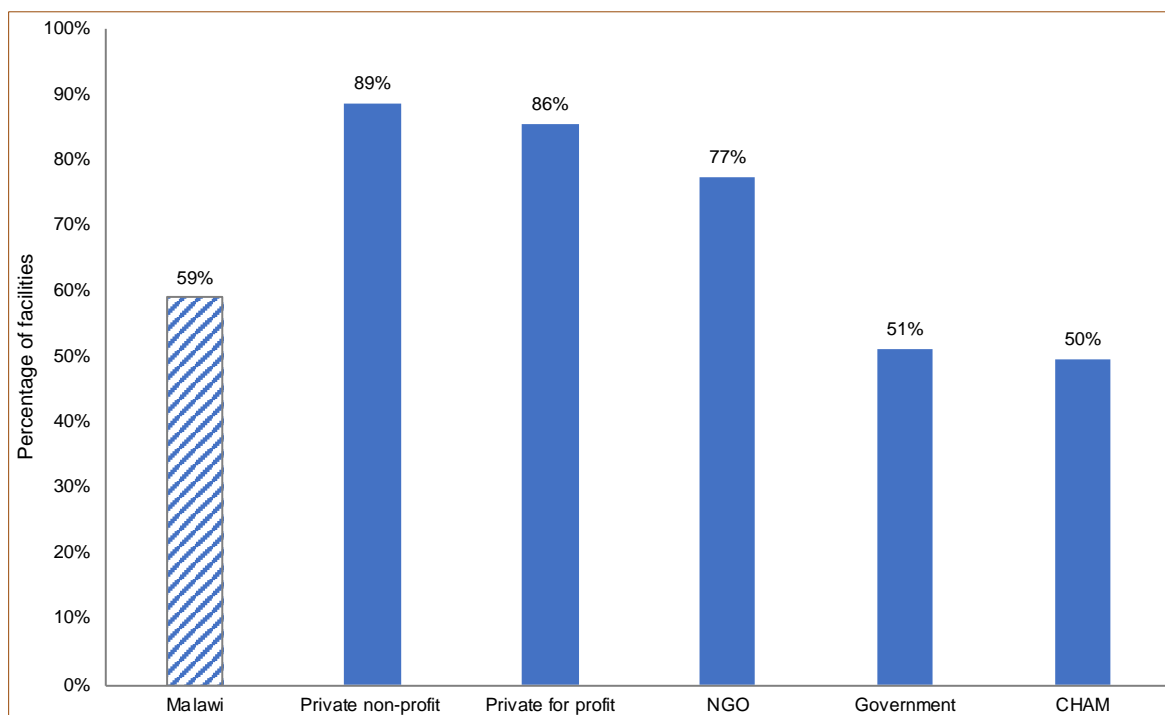
Figure 119. Top three binding constraints to the well-functioning of the hospital by managing authority (N=86), Malawi 2018/2019



Human resources are a key component of an effective health delivery system and it is important that apart from having the right skills, health workers are motivated to work. One indicator for human resource management is the proportion of staff that are paid on time. Figure 120 shows the percentage of staff paid on time on the last 12 months by managing authority. This is based on the staff interviewed for absenteeism on the second visit to the health facility and includes providers working at all facility types (i.e. not restricted to hospitals).

- In Malawi, 59% of staff were paid on time in the preceding 12 months.
- The best performing facilities in terms of paying staff on time were private for non-profit facilities where 89% of staff were paid on time.
- Seventy-seven per cent (77%) of the staff at NGO facilities and 86% of the staff at private for-profit facilities were paid on time.
- The poorly performing facilities in terms of paying staff on time were CHAM and government facilities where 50% of staff and 51% of staff were paid on time respectively.

Figure 120. Percentage of staff paid on time on the last 12 months by managing authority (N=2993), Malawi 2018/2019

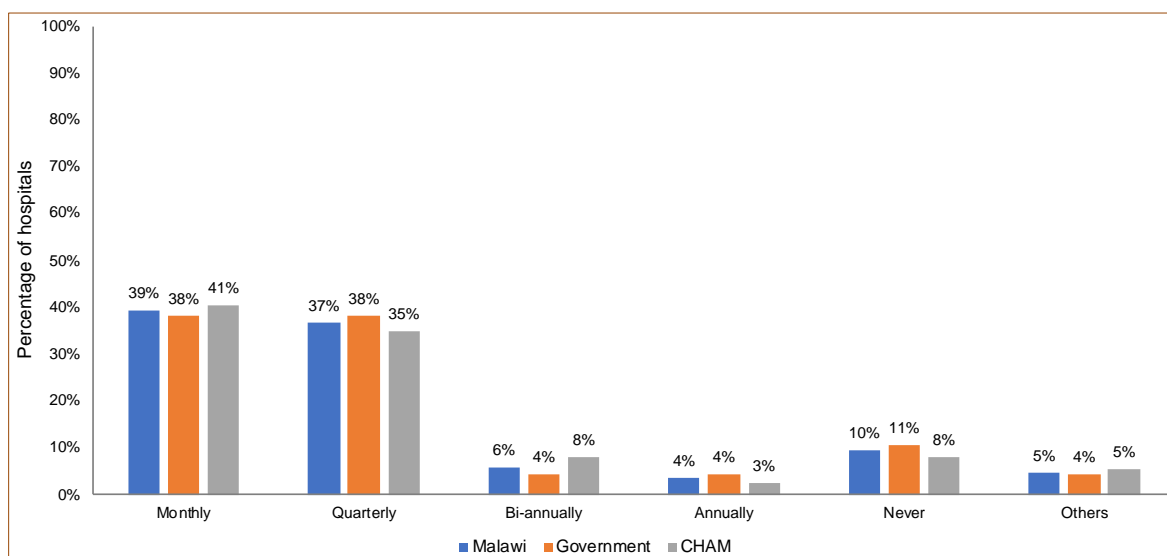


8.4 Review of routine health information

Regular quality review of routine health information remains critical for monitoring the performance of the health sector and identify gaps and actions needed. Hospitals were firstly asked on how frequently data review meetings were held. Figure 121 shows the frequency of data review meetings conducted at hospitals by managing authority. This analysis excludes private for-profit hospitals as there is not a system for routine data quality review at these hospitals.

- Overall the majority of hospitals in the country had at minimum quarterly data review meetings; 39% had monthly review meetings and another 37% had quarterly review meetings.
- Generally, government hospitals and CHAM hospitals had either monthly review meetings (38% and 38%, respectively) or quarterly review meetings (41% and 35% respectively).
- Four per cent (4%) of government hospitals and 3% of CHAM hospitals had annually or less frequent data review meetings.
- Eleven per cent (11%) of government hospitals and 8% of CHAM hospitals had no data review meetings.

Figure 121. Frequency of data review meetings conducted at hospitals (N=84) by managing authority, Malawi 2018/2019



Hospitals were also asked how frequently there was data quality supervision from the national and zonal level.

Table 37 shows the frequency of data quality supervision from the national and zonal level at hospitals by managing authority. This analysis excludes private for-profit hospitals as there is not a system for data quality supervision at these hospitals.

- Overall, the highest frequency of data quality supervision meetings from the national level was annually (32%). However, meetings from zonal and district level were more frequent, reported to be more often quarterly (54% and 48% respectively).
- Among government and CHAM hospitals it was more common to have review meetings annually from national level (32% and 32% respectively) while at zonal level it was more common for them to be quarterly (62% and 43% respectively).
- Most of the Government hospitals had quarterly (49%) followed by monthly (19%) data quality supervision from the district level.
- 17% of government hospitals and 5% of CHAM hospitals never had data quality supervision from the district level.

Table 37: Frequency of data quality supervision from the national and zonal level at hospitals by managing authority (N=84), Malawi 2018/2019

	Monthly	Quarterly	Bi-annually	Annually	Never	Others
Data quality supervision from the national level						
Malawi	5%	30%	13%	32%	16%	5%
Government	2%	30%	17%	32%	15%	4%
CHAM	8%	30%	8%	32%	16%	5%
Data quality supervision from the zone						
Malawi	10%	54%	7%	12%	13%	5%
Government	9%	62%	9%	9%	11%	2%
CHAM	11%	43%	5%	16%	16%	8%
Data quality supervision from the district						
Malawi	20%	48%	7%	7%	12%	6%
Government	19%	49%	2%	11%	17%	2%
CHAM	22%	46%	14%	3%	5%	11%

9. Conclusions and recommendations

Availability of basic health services is improving but remains below target levels. The 2018–19 Malawi HHFA survey generally shows an increase in the availability of basic health services in health facilities compared to the 2013 SPA. Despite this increase, the survey shows that Malawi has not yet met the targets set by WHO with regard to infrastructure, health workforce, inpatient bed capacity, and health provider caseload. Provider absenteeism remains relatively significant (18%), although this was mostly sanctioned, with the highest rates in tertiary health facilities (28%). This is also partly reflected in the high caseload in Malawi where health workers are managing on average 40 patients per day. This caseload is substantially higher than the caseload seen in other countries in the region including Kenya, Tanzania, and Sierra Leone which were 13, 10 and 8 patients per day, respectively. It is important to prioritize human and infrastructure support at health posts and small health facilities with 1–2 health workers. Strategies to improve the health infrastructure and workforce will be critical in order to improve health service availability. Re-engaging nurses to provide more patient consultations, as the survey results show only 31% of nurses provide patient consultations, should be explored to help provide a cost-effective strategy to reduce the caseload.

Readiness to deliver services has seen some improvement since 2013, however many facilities lack the trained staff, guidelines, equipment, medicines and commodities, and diagnostic capacity required to deliver health interventions. Inputs are important as they are the foundation upon which providers can assess and treat patients. The lack of basic medical equipment, drugs, and vaccines in facilities is concerning. Only 31% of health facilities had all basic equipment items, 22% of health facilities had all standard precautions for infection prevention items, 6% of health facilities had basic diagnostic capacity, and no facilities had all 24 essential medicines.

Capacity for health providers to provide quality clinical care impacts the health of the population. The capacity for health workers to provide quality clinical care was satisfactory for adult clinical conditions, but not for under-five clinical conditions. In general, according to the vignettes, health provider capacity to diagnose, treat, and adhere to clinical guidelines for adult and pregnancy related clinical conditions was high and 78%–89% of health providers were able to mention the correct treatment of pregnancy-related and adult conditions (anaemia in pregnancy, type 2 diabetes and tuberculosis). However, low capacity to correctly diagnose and treat common under-five conditions related to malaria, diarrhoea, and pneumonia was observed. Less than 25% of health workers provided the correct diagnosis and treatment for malaria with anaemia and diarrhoea with severe dehydration. In addition, nurses performed particularly poorer than other cadres of health workers. In Malawi it is recommended that strategies to improve the quality of clinical care be considered. These may include both pre-service and in-service training and should focus on supportive supervision and monitoring of the quality of clinical service delivery. These strategies should additionally involve institutions training and regulating health professionals in Malawi.

Client's experience influences their perceptions, attitude, and health utilization behaviour. Having a facility close to a client remains the main reason for visiting a particular health facility for antenatal care or under-five child health services. Most of the population will travel by foot or bicycle to their health facility, however for ANC services, the average distance (6.3 km) and transport cost (MK 147.70) remain high. Although the distance to health facilities for under-five services was comparatively less (5.4 km) the costs were higher (MK 383.70) than for ANC services, most likely because more than one individual would be traveling to the health facility. The comprehensiveness of the components of the ANC or under-five service that clients receive once they make it to the health facility significantly varies. Some important and basic components of care like nutrition counselling and measuring of weight and height are not regularly done for under-five care. Clients were least satisfied with services received at a government health facility (46%) compared to facilities managed by other authorities. Strategies around providing basic health services closer to the client, ideally community-based with good supervision, monitoring of service delivery, and a focus on the client experience could address some of the barriers to access and provision of quality services.

Management of health facilities including governance, accountability, leadership, and supervision are critical to delivering quality health service. Overall there was a good governance structure and accountability mechanisms in place at hospitals in Malawi. This was especially observed among government and CHAM hospitals where HACs were established and functioning. Most hospitals (95%) had mechanisms of receiving and acting on patient feedback. The most common complaints reported by patients across hospitals were inconvenient opening hours at facilities (72%), unavailability of doctors (39%), and long waiting times (32%). There were noticeable binding constraints to health care delivery, and these significantly varied by managing authority. Across all hospitals in the country, the most common constraint was the availability of staff (65%) followed by availability of drugs (48%) and inadequate equipment (47%). It was further observed that a large proportion of health workers were not paid on time (59%) which can critically demotivate staff and lead to poor quality delivery and increases in absenteeism. Staff not being paid on time was particularly high in government and CHAM facilities (51% and 50% respectively) which provide the bulk of health services to the Malawian population. Malawi must critically consider innovative health financing systems to try to improve the timely delivery of health services.

Annex 1: Tables

Table 38. Health facility, inpatient bed, and maternity bed density indicators by district, Malawi 2018/2019

	Total number of facilities/10 000 population	Number of inpatient beds/10 000 population	Number of maternity beds per 1000 pregnant women	Facility density score (TARGET = 2)	Inpatient beds score (TARGET = 25)	Maternity beds score (TARGET = 10)
Balaka	0.0	8.96	10.45	25	36	104
Blantyre	0.88	13.83	13.76	44	55	138
Chikwawa	0.87	5.11	4.22	44	20	42
Chiradzulu	0.54	16.83	11.78	27	67	118
Chitipa	1.41	13.88	9.27	70	56	93
Dedza	0.62	7.76	6.31	31	31	63
Dowa	0.37	4.37	2.53	19	17	25
Karonga	1.00	12.17	9.75	50	49	98
Kasungu	0.53	3.76	2.41	26	15	24
Likoma	3.81	51.46	15.21	191	206	152
Lilongwe	0.41	9.95	7.78	20	40	78
Machinga	0.46	5.21	5.97	23	21	60
Mangochi	0.50	9.78	9.62	25	39	96
Mchinji	0.44	10.05	9.70	22	40	97
Mulanje	0.60	8.14	4.56	30	33	46
Mwanza	0.55	24.14	11.06	28	97	111
Mzimba North	0.76	10.09	16.23	38	40	162
Mzimba South	0.53	12.37	13.69	26	49	137
Neno	0.85	18.11	17.71	42	72	177
Nkhata bay	0.94	16.20	14.32	47	65	143
Nkhotakota	0.98	10.24	4.12	49	41	41
Nsanje	0.76	15.39	6.49	38	62	65
Ntcheu	0.84	7.21	5.04	42	29	50
Ntchisi	0.41	8.77	5.26	21	35	53
Phalombe	0.43	8.28	7.96	22	33	80
Rumphi	1.27	13.69	14.39	63	55	144
Salima	0.46	6.54	15.17	23	26	152
Thyolo	0.78	10.19	13.98	39	41	140
Zomba	0.59	18.00	8.82	30	72	88
Malawi	0.62	10.07	8.70	31	40	87

Table 39. Health workforce density indicator by district, Malawi 2018/2019

	Core health workforce per 10 000 population	Health workforce density score (TARGET = 23)
Balaka	22.08	96
Blantyre	17.94	78
Chikwawa	10.40	45
Chiradzulu	11.37	49
Chitipa	4.26	19
Dedza	15.73	68
Dowa	5.62	24
Karonga	11.20	49
Kasungu	6.66	29
Likoma	35.26	153
Lilongwe	6.73	29
Machinga	9.04	39
Mangochi	6.91	30
Mchinji	4.94	21
Mulanje	11.20	49
Mwanza	14.23	62
Mzimba North	14.63	64
Mzimba South	4.72	21
Neno	15.15	66
Nkhata bay	9.84	43
Nkhotakota	12.42	54
Nsanje	10.65	46
Ntcheu	9.26	40
Ntchisi	11.71	51
Phalombe	7.24	31
Rumphi	13.60	59
Salima	10.21	44
Thyolo	10.69	46
Zomba	18.85	82
Malawi	10.42	45

Table 40. Health care worker (HCW) characteristics* by region, facility type, managing authority, urban vs. rural location, and provider cadre (N=11 722), Malawi 2018/2019

	Agency responsible for paying salary (%) (N=11 672)			Highest level of education (%) (N=11 598)			Gender (%) (N=11 687)		Age (years) (N=11 200)	Type of consultations conducted (%) (N=11 669)				Total number of HCWs
	Government	NGO	No salary	Primary	Secondary	Higher level education	Male	Female (%)	Mean age	Outpatient	Inpatient	Both inpatient & outpatient	No consultations	
Region														
North	82%	16%	2%	0%	26%	74%	60%	40%	38	17%	5%	22%	57%	1,444
Centre	83%	16%	1%	1%	40%	60%	56%	44%	38	19%	0%	16%	65%	4,240
South	76%	23%	1%	1%	44%	55%	55%	45%	38	14%	1%	14%	72%	6,038
Facility type														
Hospital	78%	22%	1%	0%	9%	91%	52%	48%	35	4%	3%	38%	55%	3,283
Health centre	90%	10%	1%	1%	57%	41%	57%	43%	38	18%	0%	7%	74%	6,555
Dispensary	89%	11%	1%	1%	66%	32%	59%	42%	39	18%	1%	2%	79%	426
Clinic	22%	71%	7%	0%	13%	87%	56%	44%	40	38%	1%	7%	54%	1,211
Health post	99%	0%	0%	2%	90%	8%	70%	30%	41	10%	0%	0%	90%	247
Managing authority														
Government	95%	5%	1%	1%	48%	51%	57%	43%	37	15%	1%	15%	69%	7,613
CHAM	67%	32%	1%	1%	31%	68%	53%	47%	37	9%	1%	21%	69%	2,771
Private for-profit	15%	76%	9%	1%	7%	92%	57%	43%	40	35%	1%	9%	55%	848
Private non-profit	13%	87%	0%	0%	22%	78%	56%	45%	40	33%	0%	7%	60%	244
NGO	26%	69%	5%	0%	21%	79%	55%	46%	37	39%	2%	5%	54%	246
Urban/rural														
Rural	86%	13%	1%	1%	52%	47%	60%	40%	38	16%	1%	12%	72%	7,898
Urban	66%	32%	2%	0%	15%	85%	47%	53%	37	16%	2%	24%	58%	3,824
Health care worker cadre*														
Clinical staff	69%	28%	3%	0%	1%	99%	73%	27%	36	46%	1%	45%	8%	2,439
Nurses and midwives	65%	34%	1%	0%	1%	99%	32%	68%	35	11%	3%	17%	69%	3,593
Auxiliary staff	60%	40%	0%	0%	5%	95%	72%	28%	33	6%	0%	11%	83%	621
Preventive services staff	97%	3%	0%	2%	92%	6%	63%	37%	40	6%	0%	0%	93%	5,069
Malawi	79%	19%	1%	1%	40%	59%	56%	44%	37	16%	1%	16%	67%	11,722

* Clinical staff includes medical, dental, and physiotherapy personnel; auxiliary staff includes pharmacy, laboratory, and radiology personnel; preventive services staff includes environmental health, nutrition officers, and health surveillance assistants.

Table 41. Service utilization (outpatient visits and hospital discharges) density indicators by district, Malawi 2018/2019

	Outpatient visits per person/year	Hospital discharges per 100/year	Outpatient visits score (TARGET = 5)	Hospital discharges score (TARGET = 10)
Balaka	0.89	4.06	18	41
Blantyre	0.61	9.38	12	94
Chikwawa	0.43	2.91	9	29
Chiradzulu	0.73	5.74	15	57
Chitipa	0.78	6.80	16	68
Dedza	0.35	3.40	7	34
Dowa	0.28	2.72	6	27
Karonga	0.96	5.64	19	56
Kasungu	0.19	2.99	4	30
Likoma	5.05	11.82	101	118
Lilongwe	0.89	4.53	18	45
Machinga	0.69	2.85	14	28
Mangochi	0.77	5.65	15	56
Mchinji	0.50	8.75	10	87
Mulanje	0.51	3.58	10	36
Mwanza	1.11	7.85	22	79
Mzimba North	0.64	2.48	13	25
Mzimba South	0.79	4.43	16	44
Neno	1.23	5.21	25	52
Nkhata bay	1.87	5.08	37	51
Nkhotakota	1.15	5.49	23	55
Nsanje	0.37	5.44	7	54
Ntcheu	0.28	2.36	6	24
Ntchisi	0.56	7.03	11	70
Phalombe	0.36	5.30	7	53
Rumphi	1.14	6.69	23	67
Salima	0.35	4.11	7	41
Thyolo	3.16	3.72	63	37
Zomba	0.65	2.60	13	26
Malawi	0.75	4.72	15	47

Table 42. General service availability index by district, Malawi 2018/2019

	Health services infrastructure index	Health workforce index	Service utilization index	Service availability index
Balaka	55	96	29	60
Blantyre	79	78	53	70
Chikwawa	35	45	19	33
Chiradzulu	71	49	36	52
Chitipa	73	19	42	44
Dedza	42	68	21	44
Dowa	20	24	16	20
Karonga	65	49	38	51
Kasungu	22	29	17	23
Likoma	183	153	110	149
Lilongwe	46	29	32	36
Machinga	35	39	21	32
Mangochi	54	30	36	40
Mchinji	53	21	49	41
Mulanje	36	49	23	36
Mwanza	78	62	50	63
Mzimba North	80	64	19	54
Mzimba South	71	21	30	40
Neno	97	66	38	67
Nkhata bay	85	43	44	57
Nkhotakota	44	54	39	46
Nsanje	55	46	31	44
Ntcheu	40	40	15	32
Ntchisi	36	51	41	43
Phalombe	45	31	30	35
Rumphi	87	59	45	64
Salima	67	44	24	45
Thyolo	73	46	50	57
Zomba	63	82	20	55
Malawi	52.8	45.3	31.2	43.1

Table 43. Availability of basic amenities tracer items by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Power source	Improved water source	Consultation room	Sanitation facilities	Communication equipment	Computer with internet	Emergency transport	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region										
North	49%	89%	95%	87%	51%	20%	56%	8%	64%	208
Centre	49%	93%	88%	87%	49%	23%	61%	8%	64%	399
South	51%	94%	91%	88%	43%	19%	65%	8%	64%	499
Facility type										
Hospital	54%	100%	96%	96%	83%	66%	87%	28%	83%	101
Health centre	43%	93%	93%	87%	39%	11%	78%	3%	64%	492
Dispensary	52%	89%	90%	95%	34%	2%	56%	0%	60%	62
Clinic	66%	96%	93%	93%	59%	30%	47%	13%	69%	355
Health post	17%	70%	64%	60%	13%	0%	11%	0%	33%	96
Managing authority										
Government	41%	89%	88%	83%	35%	10%	65%	3%	59%	575
CHAM	44%	96%	95%	92%	56%	36%	80%	11%	71%	165
Private for-profit	63%	95%	92%	94%	57%	24%	39%	12%	66%	250
Private non-profit	81%	98%	94%	94%	63%	29%	87%	19%	78%	63
NGO	64%	100%	96%	91%	75%	62%	57%	19%	78%	53
Urban/rural										
Rural	44%	90%	89%	85%	39%	12%	65%	3%	61%	760
Urban	64%	98%	94%	93%	64%	39%	56%	18%	73%	346
Malawi	50%	93%	91%	88%	47%	21%	62%	8%	64%	1,106

Table 44. Availability of basic equipment tracer items by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Adult scale	Child scale	Thermometer	Stethoscope	Blood pressure apparatus	Light source	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region									
North	80%	64%	80%	78%	80%	38%	27%	70%	208
Centre	86%	64%	86%	88%	86%	43%	29%	75%	399
South	89%	70%	89%	86%	87%	46%	34%	78%	499
Facility type									
Hospital	97%	89%	97%	97%	97%	75%	69%	92%	101
Health centre	89%	84%	89%	91%	92%	51%	40%	83%	492
Dispensary	79%	76%	79%	79%	69%	8%	6%	65%	62
Clinic	94%	40%	94%	94%	95%	41%	20%	77%	355
Health post	32%	44%	32%	13%	13%	1%	0%	22%	96
Managing authority									
Government	78%	77%	78%	78%	76%	37%	29%	71%	575
CHAM	96%	80%	96%	92%	95%	67%	53%	88%	165
Private for-profit	93%	41%	93%	96%	96%	40%	23%	77%	250
Private non-profit	94%	63%	94%	89%	90%	35%	22%	78%	63
NGO	96%	36%	96%	92%	92%	70%	28%	81%	53
Urban/rural									
Rural	82%	74%	82%	82%	81%	40%	31%	74%	760
Urban	94%	50%	94%	94%	95%	51%	30%	80%	346
Malawi	86%	67%	86%	85%	85%	43%	31%	75%	1,106

Table 45. Availability of standard precautions for infection prevention tracer items by region, type of facility, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Safe final disposal of sharps	Safe final disposal of infectious waste	Appropriate storage of sharps waste	Appropriate storage of infectious waste	Disinfectant	Disposable or auto-disable syringes	Soap and water OR alcohol-based hand rub	Latex gloves	Guidelines for standard precautions	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region												
North	80%	71%	93%	67%	74%	90%	76%	88%	49%	25%	76%	208
Centre	67%	63%	92%	75%	73%	90%	71%	90%	41%	21%	74%	399
South	74%	70%	96%	73%	83%	94%	73%	94%	43%	21%	78%	499
Facility type												
Hospital	84%	82%	97%	90%	91%	98%	89%	94%	74%	50%	89%	101
Health centre	74%	66%	97%	78%	80%	94%	67%	96%	46%	17%	78%	492
Dispensary	63%	55%	92%	63%	68%	89%	60%	85%	23%	6%	66%	62
Clinic	75%	73%	93%	75%	80%	92%	89%	94%	44%	27%	79%	355
Health post	55%	50%	79%	29%	44%	76%	35%	58%	9%	4%	48%	96
Managing authority												
Government	68%	61%	94%	70%	73%	91%	59%	89%	42%	17%	72%	575
CHAM	82%	78%	98%	79%	86%	95%	85%	95%	50%	29%	83%	165
Private for-profit	72%	70%	92%	71%	79%	93%	90%	93%	36%	20%	77%	250
Private non-profit	86%	84%	95%	84%	84%	86%	92%	90%	49%	29%	83%	63
NGO	81%	83%	96%	85%	83%	92%	89%	96%	64%	49%	86%	53
Urban/rural												
Rural	73%	66%	94%	71%	74%	91%	65%	90%	41%	18%	74%	760
Urban	73%	72%	93%	77%	84%	93%	90%	94%	49%	30%	81%	346
Malawi	73%	68%	94%	73%	77%	92%	73%	91%	43%	22%	76%	1,106

Table 46. Availability of laboratory diagnostics tracer items by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Haemoglobin	Blood glucose	Malaria diagnostic capacity	Urine dipstick-protein	Urine dipstick-glucose	HIV diagnostic capacity	Syphilis rapid test	Urine test for pregnancy	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region											
North	13%	32%	89%	17%	16%	73%	57%	48%	4%	43%	208
Centre	15%	40%	89%	22%	21%	76%	61%	60%	8%	48%	399
South	13%	38%	86%	26%	25%	81%	60%	59%	5%	48%	499
Facility type											
Hospital	52%	86%	98%	69%	66%	97%	92%	90%	36%	81%	101
Health centre	11%	28%	96%	14%	12%	98%	82%	58%	2%	50%	492
Dispensary	5%	16%	84%	8%	8%	74%	32%	37%	0%	33%	62
Clinic	11%	50%	83%	32%	32%	59%	39%	65%	5%	46%	355
Health post	0%	1%	52%	0%	0%	23%	5%	3%	0%	11%	96
Managing authority											
Government	10%	23%	88%	11%	9%	85%	66%	45%	3%	42%	575
CHAM	30%	58%	96%	45%	42%	94%	82%	81%	17%	66%	165
Private for-profit	12%	52%	84%	34%	36%	50%	36%	72%	6%	47%	250
Private non-profit	10%	33%	75%	17%	14%	75%	40%	37%	2%	38%	63
NGO	9%	58%	85%	40%	38%	87%	64%	74%	4%	57%	53
Urban/rural											
Rural	11%	27%	87%	16%	13%	82%	64%	51%	5%	44%	760
Urban	19%	60%	88%	39%	40%	69%	52%	72%	8%	55%	346
Malawi	14%	37%	88%	23%	22%	78%	60%	57%	6%	47%	1,106

Table 47. Availability of essential medicines by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Amlodipine tablet or alternative calcium channel blocker	Amoxicillin syrup/suspension/dispersible tablet	Amoxicillin tablet	Ampicillin injection	Aspirin cap/tab	Beclomethasone Inhaler	Beta blocker	Carbamazepine tablet	Ceftriaxone injection	Enalapril tablet or alternative ACE inhibitor	Fluoxetine tablet	Gentamicin injection	Glibenclamide tablet	Haloperidol tablet	Insulin regular injection	Magnesium sulphate injectable	Metformin tablet	Omeprazole tablet or alternative	Oral rehydration solution	Oxytocin injection	Salbutamol inhaler	Simvastatin tablet or other statin	Thiazide	Zinc sulphate tablet or syrup	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities	
Region																												
North	19%	66%	69%	10%	65%	13%	27%	4%	33%	21%	3%	66%	33%	3%	10%	43%	36%	35%	75%	54%	63%	6%	64%	48%	0%	35%	208	
Centre	24%	59%	59%	17%	81%	14%	39%	6%	59%	27%	1%	69%	38%	3%	11%	56%	35%	49%	66%	61%	64%	8%	61%	45%	0%	38%	399	
South	26%	63%	62%	16%	82%	12%	37%	5%	53%	25%	2%	77%	29%	2%	12%	48%	34%	48%	80%	55%	64%	13%	57%	60%	0%	39%	499	
Facility type																												
Hospital	53%	84%	91%	59%	94%	33%	73%	51%	94%	69%	20%	81%	88%	29%	70%	91%	81%	70%	93%	94%	90%	22%	85%	73%	1%	70%	101	
Health centre	15%	52%	48%	12%	85%	7%	33%	1%	54%	12%	0%	88%	18%	0%	3%	81%	19%	31%	74%	90%	69%	7%	71%	44%	0%	37%	492	
Dispensary	10%	44%	44%	3%	71%	2%	18%	0%	37%	11%	0%	60%	11%	0%	0%	13%	16%	19%	65%	15%	45%	3%	47%	26%	0%	22%	62	
Clinic	37%	82%	85%	14%	84%	20%	43%	0%	52%	39%	0%	67%	50%	0%	10%	14%	57%	75%	79%	23%	68%	13%	55%	69%	0%	42%	355	
Health post	0%	28%	30%	0%	14%	1%	1%	0%	3%	2%	0%	6%	1%	0%	0%	3%	2%	2%	40%	2%	5%	2%	4%	24%	0%	7%	96	
Managing authority																												
Government	8%	43%	41%	12%	72%	7%	24%	6%	48%	11%	2%	70%	18%	3%	8%	62%	17%	16%	65%	67%	59%	5%	56%	31%	0%	30%	575	
CHAM	44%	84%	87%	28%	88%	18%	62%	13%	64%	42%	5%	88%	46%	6%	19%	82%	48%	83%	89%	89%	73%	16%	77%	83%	1%	54%	165	
Private for-profit	42%	87%	88%	16%	83%	24%	46%	0%	62%	43%	0%	69%	56%	0%	12%	16%	63%	82%	80%	20%	70%	14%	61%	75%	0%	44%	250	
Private non-profit	27%	63%	73%	8%	83%	8%	24%	0%	29%	24%	0%	62%	32%	0%	14%	19%	40%	43%	78%	27%	56%	13%	46%	54%	0%	33%	63	
NGO	47%	85%	83%	15%	89%	15%	53%	0%	30%	43%	0%	74%	43%	0%	8%	17%	49%	79%	87%	55%	72%	15%	60%	79%	0%	44%	53	
Urban/rural																												
Rural	15%	53%	52%	12%	75%	8%	28%	3%	46%	16%	1%	71%	23%	1%	7%	59%	23%	33%	70%	67%	59%	8%	58%	44%	0%	33%	760	
Urban	44%	82%	85%	23%	86%	24%	54%	10%	65%	45%	4%	75%	56%	5%	20%	29%	62%	75%	82%	35%	73%	13%	63%	70%	0%	48%	346	
Malawi	24%	62%	62%	15%	79%	13%	36%	5%	52%	25%	2%	72%	33%	3%	11%	50%	35%	46%	74%	57%	64%	10%	60%	52%	0%	38%	1,106	

Table 48. General service readiness index and domain scores by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Basic amenities mean score	Basic equipment mean score	Standard precautions mean score	Diagnostics mean score	Essential medicines mean score	General service readiness index	Total number of facilities
Region							
North	64%	70%	76%	43%	35%	58%	208
Centre	64%	75%	74%	48%	38%	60%	399
South	64%	78%	78%	48%	39%	61%	499
Facility type							
Hospital	83%	92%	89%	81%	70%	83%	101
Health centre	64%	83%	78%	50%	37%	62%	492
Dispensary	60%	65%	66%	33%	22%	49%	62
Clinic	69%	77%	79%	46%	42%	63%	355
Health post	33%	22%	48%	11%	7%	24%	96
Managing authority							
Government	59%	71%	72%	42%	30%	55%	575
CHAM	71%	88%	83%	66%	54%	72%	165
Private for-profit	66%	77%	77%	47%	44%	62%	250
Private non-profit	78%	78%	83%	38%	33%	62%	63
NGO	78%	81%	86%	57%	44%	69%	53
Urban/rural							
Rural	61%	74%	74%	44%	33%	57%	760
Urban	73%	80%	81%	55%	48%	67%	346
Malawi	64%	75%	76%	47%	38%	60%	1,106

Table 49. Percentage of facilities offering family planning services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019 (Part 1)

	Offers family planning services	Combined oral contraceptives	Progestin-only contraceptives	Combined injectable contraceptives	Progestin-only injectable contraceptives	Male condoms	Female condoms	Total number of facilities
Region								
North	88%	79%	62%	30%	38%	83%	63%	208
Centre	82%	76%	60%	24%	44%	77%	63%	399
South	77%	71%	57%	28%	33%	72%	55%	499
Facility type								
Hospital	70%	68%	60%	39%	36%	68%	61%	101
Health centre	90%	88%	74%	28%	55%	88%	71%	492
Dispensary	82%	73%	66%	31%	27%	79%	61%	62
Clinic	72%	63%	43%	28%	25%	62%	47%	355
Health post	74%	56%	35%	8%	8%	70%	41%	96
Managing authority								
Government	93%	88%	73%	31%	44%	90%	71%	575
CHAM	58%	53%	45%	11%	39%	56%	45%	165
Private for-profit	72%	64%	41%	30%	23%	60%	43%	250
Private non-profit	62%	54%	40%	21%	25%	62%	48%	63
NGO	79%	74%	60%	34%	49%	77%	70%	53
Urban/rural								
Rural	83%	77%	63%	26%	41%	79%	62%	760
Urban	76%	69%	51%	29%	30%	68%	53%	346
Malawi	81%	75%	59%	27%	38%	76%	59%	1,106

Table 50. Percentage of facilities offering family planning services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019 (Part 2)

	IUCD	Implant	Cycle beads for standard days method	Emergency contraceptive pills	Male sterilization	Female sterilization	Total number of facilities
Region							
North	21%	64%	20%	57%	6%	9%	208
Centre	27%	67%	23%	61%	7%	14%	399
South	26%	58%	25%	54%	9%	12%	499
Facility type							
Hospital	54%	65%	30%	64%	31%	48%	101
Health centre	26%	84%	36%	70%	5%	10%	492
Dispensary	10%	56%	10%	55%	2%	2%	62
Clinic	26%	47%	12%	51%	7%	10%	355
Health post	2%	8%	1%	5%	1%	1%	96
Managing authority							
Government	27%	77%	33%	64%	8%	13%	575
CHAM	15%	45%	16%	43%	7%	12%	165
Private for-profit	25%	46%	8%	52%	2%	5%	250
Private non-profit	13%	29%	5%	41%	2%	3%	63
NGO	60%	70%	36%	64%	43%	55%	53
Urban/rural							
Rural	21%	65%	26%	56%	5%	9%	760
Urban	36%	55%	17%	58%	14%	20%	346
Malawi	25%	62%	23%	57%	8%	12%	1,106

Table 51. Availability of tracer items for family planning at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=892), Malawi 2018/2019

	At least one trained staff family planning	Blood pressure apparatus	Combined oestrogen progesterone oral contraceptive pills	Progestin-only contraceptive pills	Injectable contraceptives	Condoms	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region									
North	66%	79%	79%	60%	64%	88%	28%	73%	183
Centre	63%	85%	77%	55%	55%	90%	17%	71%	326
South	61%	89%	69%	51%	49%	91%	18%	68%	383
Facility type									
Hospital	61%	96%	89%	69%	70%	97%	32%	80%	71
Health centre	67%	91%	81%	68%	65%	98%	28%	78%	445
Dispensary	82%	71%	65%	61%	33%	92%	18%	67%	51
Clinic	52%	96%	68%	34%	44%	84%	8%	63%	254
Health post	59%	11%	39%	24%	24%	61%	1%	36%	71
Managing authority									
Government	68%	79%	77%	63%	56%	93%	23%	73%	536
CHAM	57%	92%	75%	60%	65%	94%	30%	74%	96
Private for-profit	47%	96%	66%	34%	44%	79%	8%	61%	179
Private non-profit	56%	95%	62%	26%	33%	97%	8%	62%	39
NGO	74%	98%	79%	45%	74%	98%	17%	78%	42
Urban/rural									
Rural	67%	82%	75%	58%	56%	92%	22%	72%	628
Urban	52%	94%	71%	45%	50%	87%	15%	66%	264
Malawi	63%	85%	74%	55%	54%	90%	20%	70%	892

Table 52. Percentage of facilities offering antenatal care services by region, type of facility, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers antenatal care	Iron supplementation	Folic acid supplementation	IPTp	Tetanus toxoid vaccination	Monitoring for hypertensive disorder of pregnancy	Total number of facilities
Region							
North	62%	62%	52%	59%	59%	59%	208
Centre	60%	59%	50%	59%	59%	56%	399
South	60%	59%	47%	59%	58%	56%	499
Facility type							
Hospital	95%	94%	84%	95%	91%	94%	101
Health centre	96%	95%	78%	95%	95%	90%	492
Dispensary	37%	34%	26%	35%	37%	35%	62
Clinic	19%	19%	15%	17%	17%	17%	355
Health post	9%	9%	6%	8%	9%	7%	96
Managing authority							
Government	76%	74%	61%	75%	75%	70%	575
CHAM	90%	89%	79%	89%	88%	88%	165
Private for-profit	18%	18%	16%	16%	15%	17%	250
Private non-profit	43%	43%	32%	43%	43%	43%	63
NGO	19%	19%	13%	15%	17%	17%	53
Urban/rural							
Rural	72%	71%	59%	71%	71%	68%	760
Urban	34%	34%	29%	32%	31%	32%	346
Malawi	60%	59%	49%	59%	59%	57%	1,106

Table 53. Availability of tracer items for antenatal care at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=667), Malawi 2018/2019

	Guidelines available antenatal care	ANC check-lists and/or job-aids	At least one trained staff antenatal care	Blood pressure apparatus	Haemoglobin test	Urine dipstick protein test	Iron tablets	Folic acid tablets	Tetanus toxoid vaccine	IPT drug	ITNs	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region														
North	70%	69%	33%	91%	19%	21%	81%	81%	91%	95%	95%	4%	68%	129
Centre	63%	65%	46%	92%	18%	26%	95%	85%	92%	95%	95%	5%	70%	239
South	64%	70%	42%	95%	17%	27%	94%	81%	89%	89%	89%	4%	69%	299
Facility type														
Hospital	88%	89%	64%	97%	55%	71%	98%	93%	90%	94%	94%	26%	85%	96
Health centre	60%	66%	38%	93%	11%	14%	92%	82%	94%	95%	95%	1%	67%	472
Dispensary	43%	48%	35%	91%	4%	17%	96%	83%	91%	83%	83%	0%	61%	23
Clinic	75%	58%	45%	100%	18%	49%	88%	72%	70%	72%	72%	0%	65%	67
Health post	67%	56%	33%	56%	0%	0%	67%	56%	56%	78%	78%	0%	49%	9
Managing authority														
Government	64%	69%	41%	91%	13%	14%	92%	82%	94%	94%	94%	2%	68%	436
CHAM	67%	70%	47%	98%	32%	49%	92%	85%	91%	95%	95%	14%	75%	148
Private for-profit	70%	63%	37%	100%	20%	65%	91%	78%	61%	78%	78%	0%	67%	46
Private non-profit	56%	52%	37%	100%	7%	22%	89%	78%	85%	74%	74%	0%	61%	27
NGO	70%	80%	40%	90%	10%	40%	90%	70%	80%	90%	90%	0%	68%	10
Urban/rural														
Rural	64%	68%	41%	93%	13%	19%	92%	83%	93%	93%	93%	4%	69%	550
Urban	68%	67%	44%	97%	38%	55%	92%	79%	80%	85%	85%	7%	72%	117
Malawi	65%	68%	42%	93%	18%	26%	92%	82%	91%	92%	92%	4%	69%	667

Table 54. Percentage of facilities offering delivery services (N=1006) and basic obstetric care services (N=568) by region, facility type, managing authority, and urban vs. rural location

	Offers delivery services	Total number of facilities	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*	Neonatal resuscitation*	BEmONC**	Mean availability of BEmONC signal functions	Total number of facilities offering delivery services
Regions												
North	54%	208	93%	96%	71%	69%	68%	59%	96%	39%	79%	112
Centre	54%	399	96%	99%	90%	73%	84%	66%	98%	50%	87%	216
South	48%	499	96%	99%	87%	71%	80%	56%	98%	42%	84%	240
Facility type												
Hospital	92%	101	100%	100%	95%	94%	95%	92%	98%	88%	96%	93
Health centre	90%	492	95%	98%	85%	66%	77%	54%	98%	35%	82%	441
Dispensary	6%	62	100%	100%	50%	75%	25%	50%	100%	25%	71%	4
Clinic	8%	355	83%	90%	66%	76%	69%	66%	90%	48%	77%	29
Health post	1%	96	100%	100%	100%	100%	100%	0%	100%	0%	86%	1
Managing authority												
Government	66%	575	97%	99%	87%	73%	78%	62%	98%	44%	85%	379
CHAM	88%	165	94%	98%	88%	70%	85%	57%	99%	46%	84%	145
Private for-profit	11%	250	86%	86%	61%	71%	79%	75%	96%	54%	79%	28
Private non-profit	17%	63	82%	100%	55%	45%	55%	27%	73%	9%	62%	11
NGO	9%	53	100%	100%	100%	60%	60%	40%	100%	40%	80%	5
Urban/rural												
Rural	64%	760	96%	99%	86%	69%	77%	57%	98%	41%	83%	483
Urban	25%	346	95%	96%	81%	81%	87%	79%	96%	64%	88%	85
Malawi	51%	1,106	96%	98%	85%	71%	79%	60%	97%	45%	84%	568

* BEmONC signal function

**BEmONC facilities must provide all seven signal functions

Table 55. Availability of tracer items for basic emergency obstetric and newborn care at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=568), Malawi 2018/2019 (Part 1)

	Guidelines for essential childbirth care	Check-lists and/or job-aids for essential childbirth care	At least one staff trained in essential childbirth care	Staff trained in newborn resuscitation	Emergency transport	Sterilization equipment	Examination light	Suction apparatus	Manual vacuum extractor	Vacuum aspirator or D&C kit	Delivery bed	Total number of facilities
Region												
North	60%	64%	32%	54%	74%	43%	59%	76%	42%	31%	76%	112
Centre	55%	58%	43%	61%	81%	39%	56%	75%	48%	39%	34%	216
South	67%	68%	41%	68%	85%	56%	59%	86%	49%	38%	65%	240
Facility type												
Hospital	81%	77%	60%	75%	90%	83%	77%	87%	80%	70%	96%	93
Health centre	57%	61%	37%	60%	80%	38%	54%	78%	41%	30%	48%	441
Dispensary	50%	25%	0%	50%	100%	25%	50%	75%	50%	25%	50%	4
Clinic	66%	59%	34%	55%	76%	72%	62%	76%	41%	34%	48%	29
Health post	0%	0%	0%	100%	100%	100%	0%	0%	0%	0%	0%	1
Managing authority												
Government	61%	64%	41%	65%	79%	41%	52%	75%	46%	32%	47%	379
CHAM	60%	65%	40%	60%	87%	53%	72%	90%	52%	48%	74%	145
Private for-profit	57%	57%	25%	46%	82%	71%	64%	93%	57%	50%	64%	28
Private non-profit	73%	55%	45%	64%	82%	82%	45%	64%	18%	9%	55%	11
NGO	40%	80%	20%	60%	100%	80%	80%	100%	40%	40%	80%	5
Urban/rural												
Rural	59%	62%	39%	60%	80%	42%	54%	78%	43%	32%	51%	483
Urban	71%	74%	47%	74%	89%	75%	78%	91%	73%	66%	79%	85
Malawi	61%	64%	40%	63%	82%	47%	58%	80%	47%	37%	55%	568

Table 56. Availability of tracer items for basic emergency obstetric and newborn care at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=568), Malawi 2018/2019 (Part 2)

	Gloves	Infant weighing scale	Blood pressure apparatus	Soap and running water OR alcohol-based hand rub	Antibiotic eye ointment	Injectable uterotonic	Injectable antibiotic	Magnesium sulphate (injectable)	Skin disinfectant	Intravenous solution with infusion set	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region													
North	96%	84%	88%	79%	72%	96%	87%	77%	91%	55%	6%	68%	112
Centre	95%	83%	92%	69%	83%	99%	94%	95%	88%	60%	2%	69%	216
South	98%	86%	94%	69%	93%	98%	93%	90%	88%	67%	5%	74%	240
Facility type													
Hospital	96%	86%	96%	88%	98%	100%	99%	97%	92%	84%	18%	86%	93
Health centre	97%	85%	91%	66%	82%	98%	91%	89%	88%	57%	1%	68%	441
Dispensary	100%	100%	100%	75%	100%	100%	100%	75%	100%	50%	0%	67%	4
Clinic	93%	69%	97%	90%	97%	97%	90%	83%	79%	69%	0%	71%	29
Health post	100%	100%	0%	100%	0%	100%	100%	100%	100%	0%	0%	48%	1
Managing authority													
Government	96%	85%	89%	63%	78%	98%	90%	89%	87%	53%	3%	68%	379
CHAM	97%	86%	97%	88%	99%	99%	99%	93%	94%	83%	9%	78%	145
Private for-profit	93%	71%	96%	93%	96%	96%	89%	79%	86%	86%	0%	74%	28
Private non-profit	100%	91%	100%	82%	91%	100%	91%	82%	82%	36%	0%	69%	11
NGO	100%	80%	100%	80%	100%	100%	80%	100%	100%	40%	0%	76%	5
Urban/rural													
Rural	96%	85%	91%	68%	84%	98%	91%	89%	88%	59%	3%	69%	483
Urban	98%	80%	96%	89%	92%	100%	99%	92%	91%	79%	11%	82%	85
Malawi	96%	84%	92%	71%	85%	98%	92%	90%	88%	62%	4%	71%	568

Table 57. Percentage of facilities offering delivery services that offer caesarean section, blood transfusion and CEmONC services, by region, facility type, managing authority, and urban vs. rural location (N=568), Malawi 2018/2019

	Caesarean section	Blood transfusion	CEmONC*	Mean availability of CEmONC signal functions*	Total number of facilities offering delivery services
Regions					
North	11%	14%	10%	64%	112
Centre	14%	18%	14%	71%	216
South	13%	14%	12%	68%	240
Facility type					
Hospital	68%	82%	66%	91%	93
Health centre	1%	1%	1%	64%	441
Dispensary	0%	0%	0%	56%	4
Clinic	28%	21%	21%	65%	29
Health post	0%	0%	0%	67%	1
Managing authority					
Government	9%	10%	8%	68%	379
CHAM	20%	27%	20%	71%	145
Private for-profit	39%	36%	29%	70%	28
Private non-profit	0%	9%	0%	49%	11
NGO	20%	20%	20%	67%	5
Urban/rural					
Rural	6%	8%	6%	66%	483
Urban	55%	55%	51%	81%	85
Malawi	13%	15%	12%	68%	568

* Comprehensive emergency obstetric care (CEmONC) consist of the seven obstetric signal functions and the availability of blood transfusion services and caesarean section.

Table 58. Availability of tracer items for CEmOC at facilities offering caesarean section services by region, facility type, managing authority, and urban vs. rural location (N=75), Malawi 2018/2019 (Part 1)

	Guidelines available CEmOC	At least 1 trained staff CEmOC	Staff trained in surgery	Staff trained in anaesthesia	Oxygen	Blood typing	Cross match testing	Blood supply sufficiency	Blood supply safety	Lidocaine 5%	Total number of facilities
Region											
North	100%	50%	100%	92%	92%	92%	92%	33%	83%	50%	12
Centre	77%	65%	100%	87%	100%	87%	87%	48%	90%	45%	31
South	91%	72%	97%	100%	97%	84%	81%	47%	78%	56%	32
Facility type											
Hospital	89%	67%	98%	94%	97%	89%	86%	44%	87%	56%	63
Health centre	50%	75%	100%	75%	100%	75%	75%	25%	75%	75%	4
Dispensary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	88%	50%	100%	100%	100%	75%	88%	63%	63%	0%	8
Health post	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority											
Government	88%	71%	100%	97%	94%	91%	85%	47%	88%	68%	34
CHAM	93%	72%	97%	90%	100%	83%	83%	34%	83%	52%	29
Private for-profit	73%	36%	100%	91%	100%	82%	91%	64%	73%	0%	11
Private non-profit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
NGO	0%	0%	100%	100%	100%	100%	100%	100%	100%	0%	1
Urban/rural											
Rural	89%	64%	96%	96%	96%	89%	82%	39%	79%	57%	28
Urban	85%	66%	100%	91%	98%	85%	87%	49%	87%	47%	47
Malawi	87%	65%	99%	93%	97%	87%	85%	45%	84%	51%	75

Table 59. Availability of tracer items for CEmONC at facilities offering caesarean section services by region, facility type, managing authority, and urban vs. rural location (N=75), Malawi 2018/2019 (Part 2)

	Epinephrine (injectable)	Halothane (inhalation)	Atropine (injectable)	Thiopental (powder)	Suxamethonium bromide (powder)	Ketamine (injectable)	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region									
North	67%	75%	75%	50%	25%	75%	0%	72%	12
Centre	48%	58%	71%	45%	45%	94%	0%	72%	31
South	56%	69%	66%	44%	31%	88%	3%	72%	32
Facility type									
Hospital	52%	75%	78%	51%	41%	89%	2%	75%	63
Health centre	75%	25%	50%	25%	25%	75%	0%	63%	4
Dispensary	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	63%	13%	13%	13%	0%	88%	0%	57%	8
Health post	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority									
Government	50%	82%	85%	68%	44%	88%	3%	78%	34
CHAM	62%	69%	72%	34%	41%	86%	0%	72%	29
Private for-profit	45%	9%	18%	9%	0%	91%	0%	55%	11
Private non-profit	0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
NGO	100%	0%	0%	0%	0%	100%	0%	56%	1
Urban/rural									
Rural	54%	68%	79%	50%	39%	89%	0%	73%	28
Urban	55%	64%	64%	43%	34%	87%	2%	71%	47
Malawi	55%	65%	69%	45%	36%	88%	1%	72%	75

Table 60. Percentage of facilities that offer blood transfusion services, by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers blood transfusion	Total number of facilities
Region		
North	8%	208
Centre	10%	399
South	7%	499
Facility type		
Hospital	78%	101
Health centre	1%	492
Dispensary	0%	62
Clinic	3%	355
Health post	0%	96
Managing authority		
Government	6%	575
CHAM	25%	165
Private for-profit	6%	250
Private non-profit	3%	63
NGO	2%	53
Urban/rural		
Rural	5%	760
Urban	16%	346
Malawi	8%	1,106

Table 61. Percentage of facilities that have tracer items for blood transfusion services among facilities that provide this service by region, facility type, managing authority, and urban vs. rural location (N=94), Malawi 2018/2019

	Guidelines available appropriate use of blood and blood transfusion	At least 1 trained staff appropriate use of blood and safe blood transfusion	Blood storage refrigerator	Blood typing	Cross match testing	Blood supply sufficiency	Blood supply safety	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region										
North	100%	82%	94%	88%	94%	29%	88%	18%	82%	17
Centre	95%	73%	98%	85%	85%	53%	93%	28%	83%	40
South	100%	78%	97%	86%	89%	51%	84%	30%	84%	37
Facility type										
Hospital	99%	78%	97%	89%	89%	46%	89%	28%	84%	79
Health centre	100%	75%	100%	75%	75%	50%	100%	0%	82%	4
Dispensary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	91%	64%	91%	73%	91%	64%	82%	27%	79%	11
Health post	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority										
Government	100%	80%	97%	94%	91%	51%	91%	37%	87%	35
CHAM	98%	78%	98%	83%	85%	34%	85%	15%	80%	41
Private for-profit	93%	67%	93%	80%	93%	67%	87%	33%	83%	15
Private non-profit	100%	100%	100%	50%	50%	100%	100%	50%	86%	2
NGO	100%	0%	100%	100%	100%	100%	100%	0%	86%	1
Urban/rural										
Rural	98%	70%	100%	88%	88%	40%	85%	20%	81%	40
Urban	98%	81%	94%	85%	89%	54%	91%	31%	85%	54
Malawi	98%	77%	97%	86%	88%	48%	88%	27%	83%	94

Table 62. Percentage of facilities offering child immunization services, by region, type of facility, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers child immunization services	Child immunizations offered daily in facility	Child immunizations offered weekly in facility	Child immunizations offered monthly in facility	Child immunizations offered quarterly in facility	Child immunizations offered other basis in facility	Total number of facilities
Region							
North	80%	30%	30%	18%	0%	1%	208
Centre	72%	49%	17%	6%	0%	1%	399
South	70%	44%	20%	5%	0%	2%	499
Facility type							
Hospital	93%	77%	13%	1%	0%	2%	101
Health centre	98%	69%	26%	2%	0%	1%	492
Dispensary	84%	44%	26%	13%	0%	2%	62
Clinic	23%	7%	9%	5%	0%	2%	355
Health post	98%	5%	42%	51%	0%	0%	96
Managing authority							
Government	96%	59%	26%	10%	0%	1%	575
CHAM	96%	66%	25%	4%	0%	1%	165
Private for-profit	17%	6%	6%	2%	0%	2%	250
Private non-profit	60%	6%	27%	24%	0%	3%	63
NGO	25%	13%	6%	4%	0%	2%	53
Urban/rural							
Rural	89%	52%	26%	10%	0%	1%	760
Urban	38%	23%	9%	3%	0%	2%	346
Malawi	73%	43%	21%	8%	0%	1%	1,106

Table 63. Availability of tracer items for routine child immunization at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=803) Malawi 2018/2019 (Part 1)

	At least one staff trained child immunization	Refrigerator	Sharps container	Auto-disable syringes	Temperature monitoring device in refrigerator	Adequate refrigerator temperature	Immunization cards	Total number of facilities
Region								
North	87%	81%	93%	89%	72%	83%	82%	166
Centre	82%	88%	94%	85%	79%	90%	70%	287
South	81%	90%	97%	85%	79%	91%	72%	350
Facility type								
Hospital	91%	98%	98%	95%	93%	99%	87%	94
Health centre	83%	94%	97%	89%	84%	95%	81%	481
Dispensary	90%	88%	94%	77%	83%	88%	62%	52
Clinic	76%	82%	96%	73%	65%	85%	54%	82
Health post	77%	48%	81%	77%	40%	51%	41%	94
Managing authority								
Government	86%	88%	94%	87%	79%	89%	75%	552
CHAM	80%	90%	98%	92%	80%	92%	77%	158
Private for-profit	67%	88%	98%	79%	71%	93%	62%	42
Private non-profit	74%	76%	95%	61%	61%	79%	50%	38
NGO	85%	85%	100%	77%	69%	85%	77%	13
Urban/rural								
Rural	84%	88%	95%	86%	78%	89%	74%	673
Urban	78%	85%	94%	83%	75%	88%	68%	130
Malawi	83%	87%	95%	86%	78%	89%	73%	803

Table 64. Availability of tracer items for routine child immunization at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=803) Malawi 2018/2019 (Part 2)

	Measles vaccine	DPT–HepB–Hib vaccine	Oral polio vaccine	BCG vaccine	Rotavirus vaccine	Pneumococcal vaccine	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region									
North	86%	87%	87%	87%	86%	87%	44%	85%	166
Centre	91%	93%	92%	91%	93%	92%	42%	88%	287
South	94%	96%	94%	94%	96%	93%	44%	89%	350
Facility type									
Hospital	99%	99%	99%	98%	97%	97%	68%	96%	94
Health centre	95%	98%	96%	97%	97%	96%	47%	92%	481
Dispensary	98%	98%	98%	96%	98%	90%	38%	89%	52
Clinic	85%	85%	84%	78%	85%	84%	24%	79%	82
Health post	67%	66%	66%	65%	68%	65%	15%	62%	94
Managing authority									
Government	91%	94%	92%	92%	93%	92%	45%	89%	552
CHAM	94%	96%	94%	94%	95%	94%	46%	90%	158
Private for-profit	88%	90%	90%	79%	90%	88%	29%	83%	42
Private non-profit	79%	79%	79%	79%	79%	74%	18%	74%	38
NGO	85%	85%	77%	85%	85%	85%	62%	83%	13
Urban/rural									
Rural	92%	93%	92%	92%	93%	92%	44%	88%	673
Urban	88%	91%	90%	85%	89%	89%	39%	85%	130
Malawi	91%	93%	92%	91%	93%	91%	43%	88%	803

Table 65. Percentage of facilities offering key child preventive and curative care services, by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers preventive and curative care for under-5s	Diagnosis/treat malnutrition	Vitamin A supplementation	Iron supplementation	ORS and zinc supplementation to children with diarrhoea	Child growth monitoring	Treatment of pneumonia	Administration of amoxicillin for the treatment of pneumonia in children	Treatment of malaria in children	Total number of facilities
Region										
North	93%	87%	82%	72%	91%	85%	95%	94%	95%	208
Centre	89%	74%	73%	76%	87%	77%	91%	90%	92%	399
South	87%	72%	75%	77%	88%	76%	90%	90%	92%	499
Facility type										
Hospital	93%	94%	93%	90%	93%	93%	95%	97%	95%	101
Health centre	99%	98%	96%	92%	96%	99%	98%	98%	99%	492
Dispensary	89%	82%	90%	79%	90%	85%	85%	84%	94%	62
Clinic	75%	41%	36%	61%	79%	39%	85%	83%	85%	355
Health post	84%	72%	86%	32%	77%	94%	81%	81%	86%	96
Managing authority										
Government	95%	91%	93%	80%	91%	96%	93%	92%	95%	575
CHAM	98%	95%	95%	90%	95%	98%	96%	98%	98%	165
Private for-profit	76%	42%	34%	65%	84%	35%	90%	90%	91%	250
Private non-profit	75%	51%	63%	60%	70%	60%	78%	76%	76%	63
NGO	70%	40%	34%	62%	77%	45%	81%	79%	81%	53
Urban/rural										
Rural	94%	87%	88%	79%	90%	91%	94%	93%	95%	760
Urban	78%	52%	49%	69%	84%	49%	86%	85%	87%	346
Malawi	89%	76%	75%	76%	88%	78%	92%	91%	93%	1,106

Table 66. Availability of tracer items for curative and preventive child health services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=982) (Part 1), Malawi 2018/2019

	Guidelines for IMCI	Staff trained in IMCI	Staff trained in growth monitoring	Child and infant scale	Length/height measuring equipment	Thermometer	Stethoscope	Growth chart	Haemoglobin	Test parasite in stool	Total number of facilities
Region											
North	65%	64%	59%	54%	62%	79%	77%	73%	13%	17%	194
Centre	42%	54%	52%	47%	68%	87%	89%	64%	15%	23%	356
South	40%	57%	51%	56%	73%	90%	88%	64%	13%	24%	432
Facility type											
Hospital	66%	64%	63%	81%	90%	97%	98%	86%	55%	82%	94
Health centre	53%	66%	67%	73%	89%	89%	92%	81%	11%	19%	487
Dispensary	36%	69%	71%	40%	76%	84%	85%	60%	4%	2%	55
Clinic	25%	34%	22%	20%	37%	95%	95%	38%	11%	17%	265
Health post	51%	67%	46%	10%	30%	33%	12%	44%	0%	0%	81
Managing authority											
Government	53%	68%	63%	61%	79%	80%	80%	76%	11%	20%	545
CHAM	55%	62%	67%	71%	88%	96%	91%	77%	30%	40%	162
Private for-profit	24%	31%	18%	17%	29%	95%	96%	37%	12%	20%	191
Private non-profit	23%	47%	49%	49%	66%	96%	94%	47%	9%	11%	47
NGO	35%	30%	27%	35%	57%	97%	92%	46%	5%	8%	37
Urban/rural											
Rural	49%	64%	61%	60%	78%	84%	83%	72%	12%	17%	713
Urban	35%	41%	31%	33%	47%	95%	94%	49%	20%	36%	269
Malawi	45%	57%	53%	52%	69%	87%	86%	66%	14%	22%	982

Table 67. Availability of tracer items for curative and preventive child health services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=982) (Part 2), Malawi 2018/2019

	Malaria diagnostic capacity	ORS packet	Amoxicillin syrup/ suspension	Co-trimoxazole syrup/ suspension	Paracetamol syrup/ suspension	Vitamin A capsules	Me-/albendazole cap/tab	Zinc tablets or syrup	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region											
North	91%	75%	66%	16%	38%	62%	77%	48%	0%	58%	194
Centre	91%	65%	58%	32%	51%	43%	71%	45%	1%	55%	356
South	90%	83%	63%	34%	63%	43%	70%	62%	0%	59%	432
Facility type											
Hospital	100%	94%	84%	44%	78%	57%	84%	73%	2%	78%	94
Health centre	97%	74%	52%	17%	45%	54%	70%	44%	0%	61%	487
Dispensary	91%	71%	47%	16%	47%	55%	60%	29%	0%	52%	55
Clinic	86%	82%	87%	60%	78%	28%	81%	74%	0%	54%	265
Health post	59%	42%	28%	1%	6%	44%	41%	26%	0%	30%	81
Managing authority											
Government	91%	67%	43%	8%	32%	50%	63%	32%	0%	54%	545
CHAM	98%	89%	85%	49%	84%	66%	81%	84%	1%	73%	162
Private for-profit	87%	82%	91%	59%	82%	24%	81%	79%	0%	53%	191
Private non-profit	79%	87%	70%	64%	70%	51%	87%	64%	0%	59%	47
NGO	92%	89%	86%	70%	86%	30%	81%	84%	0%	58%	37
Urban/rural											
Rural	90%	71%	54%	20%	45%	50%	67%	45%	0%	57%	713
Urban	92%	85%	84%	55%	77%	36%	82%	74%	0%	59%	269
Malawi	91%	75%	62%	30%	54%	47%	71%	53%	0%	57%	982

Table 68. Percentage of facilities offering key child nutrition services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers child preventative and curative care services	Malnutrition diagnosis and treatment	Growth monitoring	Health surveillance assistants provide nutrition services	Facility has a system for linking clients with community-based services for food security support	Facility has a system for linking clients with community-based services for nutrition screening/monitoring	Total number of facilities
Regions							
North	93%	87%	85%	75%	33%	65%	208
Centre	89%	74%	77%	63%	20%	51%	399
South	87%	72%	76%	57%	25%	49%	499
Facility type							
Hospital	93%	94%	93%	91%	39%	75%	101
Health centre	99%	98%	99%	96%	39%	81%	492
Dispensary	89%	82%	85%	60%	19%	53%	62
Clinic	75%	41%	39%	12%	4%	9%	355
Health post	84%	72%	94%	53%	17%	47%	96
Managing authority							
Government	95%	91%	96%	86%	34%	74%	575
CHAM	98%	95%	98%	90%	33%	75%	165
Private for-profit	76%	42%	35%	8%	3%	5%	250
Private non-profit	75%	51%	60%	30%	16%	27%	63
NGO	70%	40%	45%	21%	8%	11%	53
Urban/rural							
Rural	94%	87%	91%	79%	30%	67%	760
Urban	78%	52%	49%	27%	12%	21%	346
Malawi	89%	76%	78%	63%	25%	53%	1,106

Table 69. Availability of tracer items for child nutrition services at facilities offering child preventative and curative care services by region, facility type, managing authority, and urban vs. rural location (N=982), Malawi 2018/2019

	Guidelines community management of acute malnutrition (CMAM)	Staff trained nutrition and growth monitoring	Infant weighing scale	Child weighing scale	MUAC tape for children	Child health passport with growth chart	Vitamin A capsules	Zinc sulphate tablets/syrup	Ready to use therapeutic food (RUTF)	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Regions												
North	61%	59%	56%	68%	82%	73%	62%	48%	60%	10%	63%	194
Centre	46%	52%	56%	69%	80%	64%	43%	45%	60%	6%	57%	356
South	47%	51%	61%	75%	78%	64%	43%	62%	58%	5%	60%	432
Facility type												
Hospital	77%	63%	84%	90%	95%	86%	57%	73%	88%	14%	79%	94
Health centre	68%	67%	82%	85%	96%	81%	54%	44%	90%	10%	74%	487
Dispensary	36%	71%	44%	78%	84%	60%	55%	29%	60%	0%	57%	55
Clinic	12%	22%	23%	49%	40%	38%	28%	74%	9%	0%	33%	265
Health post	32%	46%	17%	42%	89%	44%	44%	26%	6%	0%	39%	81
Managing authority												
Government	63%	63%	67%	79%	93%	76%	50%	32%	76%	5%	67%	545
CHAM	63%	67%	81%	81%	94%	77%	66%	84%	84%	19%	77%	162
Private for-profit	9%	18%	20%	47%	32%	37%	24%	79%	5%	0%	30%	191
Private non-profit	23%	49%	51%	77%	81%	47%	51%	64%	21%	2%	52%	47
NGO	30%	27%	35%	51%	51%	46%	30%	84%	24%	0%	42%	37
Urban/rural												
Rural	58%	61%	67%	77%	89%	72%	50%	45%	72%	7%	66%	713
Urban	26%	31%	37%	58%	53%	49%	36%	74%	26%	3%	43%	269
Malawi	49%	53%	59%	72%	79%	66%	47%	53%	59%	6%	60%	982

Table 70. Percentage of facilities offering adolescent health services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	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
Region								
North	75%	59%	76%	61%	54%	14%	60%	208
Centre	76%	59%	67%	63%	56%	21%	62%	399
South	79%	50%	65%	52%	50%	19%	63%	499
Facility type								
Hospital	95%	58%	63%	59%	58%	36%	91%	101
Health centre	97%	70%	82%	72%	68%	18%	94%	492
Dispensary	79%	60%	69%	63%	48%	11%	52%	62
Clinic	58%	39%	55%	42%	45%	20%	27%	355
Health post	27%	27%	47%	40%	4%	0%	5%	96
Managing authority								
Government	85%	68%	81%	72%	62%	19%	75%	575
CHAM	94%	41%	47%	42%	39%	10%	88%	165
Private for-profit	50%	35%	54%	38%	45%	18%	24%	250
Private non-profit	65%	41%	51%	46%	33%	10%	41%	63
NGO	87%	64%	74%	64%	60%	53%	38%	53
Urban/rural								
Rural	81%	59%	70%	63%	54%	15%	71%	760
Urban	68%	45%	62%	47%	52%	27%	41%	346
Malawi	77%	55%	68%	58%	53%	19%	62%	1,106

Table 71. Availability of essential medicines for mothers, by region, facility type, managing authority, and urban vs. rural location (N=1106) (Part 1), Malawi 2018/2019

	Oxytocin injectable	Sodium chloride injectable solution	Calcium gluconate injectable	Magnesium sulphate injectable	Ampicillin powder for injection	Gentamicin injectable	Metronidazole injectable	Misoprostol cap/tab	Azithromycin cap/tab or oral liquid	Total number of facilities
Region										
North	54%	52%	7%	43%	10%	66%	15%	11%	51%	208
Centre	61%	55%	14%	56%	17%	69%	29%	18%	62%	399
South	55%	47%	11%	48%	16%	77%	25%	11%	61%	499
Facility type										
Hospital	94%	87%	50%	91%	59%	81%	82%	59%	91%	101
Health centre	90%	73%	10%	81%	12%	88%	23%	8%	73%	492
Dispensary	15%	27%	0%	13%	3%	60%	5%	0%	42%	62
Clinic	23%	27%	8%	14%	14%	67%	20%	15%	52%	355
Health post	2%	6%	0%	3%	0%	6%	0%	0%	2%	96
Managing authority										
Government	67%	57%	10%	62%	12%	70%	22%	9%	58%	575
CHAM	89%	77%	20%	82%	28%	88%	39%	25%	79%	165
Private for-profit	20%	31%	9%	16%	16%	69%	24%	13%	55%	250
Private non-profit	27%	32%	6%	19%	8%	62%	16%	3%	40%	63
NGO	55%	23%	9%	17%	15%	74%	13%	42%	68%	53
Urban/rural										
Rural	67%	57%	9%	59%	12%	71%	21%	9%	59%	760
Urban	35%	38%	15%	29%	23%	75%	32%	24%	61%	346
Malawi	57%	51%	11%	50%	15%	72%	25%	14%	60%	1,106

Table 72. Availability of essential medicines for mothers, by region, facility type, managing authority, and urban vs. rural location (N=1106) (Part 2), Malawi 2018/2019

	Cefixime cap/tab	Benzathine benzylpenicillin powder for injection	Betamethasone or Dexamethasone injectable	Nifedipine cap/tab	Hydralazine injection	Methyldopa tablet	Mean availability of tracer items	Total number of facilities
Region								
North	10%	50%	22%	28%	15%	21%	30%	208
Centre	16%	51%	33%	41%	22%	28%	38%	399
South	16%	44%	34%	38%	24%	29%	36%	499
Facility type								
Hospital	44%	87%	77%	76%	76%	85%	76%	101
Health centre	10%	82%	26%	31%	24%	29%	44%	492
Dispensary	2%	6%	10%	10%	5%	6%	14%	62
Clinic	20%	7%	38%	49%	11%	19%	26%	355
Health post	0%	1%	0%	2%	0%	0%	2%	96
Managing authority								
Government	10%	60%	20%	18%	19%	21%	34%	575
CHAM	19%	86%	56%	74%	48%	61%	58%	165
Private for-profit	21%	10%	43%	56%	15%	23%	28%	250
Private non-profit	11%	16%	14%	29%	10%	8%	20%	63
NGO	34%	8%	47%	47%	11%	28%	33%	53
Urban/rural								
Rural	10%	58%	25%	29%	21%	25%	36%	760
Urban	25%	24%	46%	55%	22%	31%	36%	346
Malawi	15%	47%	31%	37%	21%	27%	36%	1,106

Table 73. Availability of essential medicines for children, by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Amoxicillin syrup/suspension/ dispersible tablet	Ampicillin powder for injection	Ceftriaxone powder for injection	Gentamicin injectable	Procaine benzylpenicillin powder for injection	ORS sachets	Zinc sulphate tablets or syrup	Artemisinin combination therapy (ACT)	Artesunate rectal or injectable forms	Vitamin A capsules	Morphine granule, injectable or cap/tab	Paracetamol syrup/suspension	Mean availability of tracer items	Total number of facilities
Region														
North	66%	10%	33%	66%	38%	75%	48%	89%	67%	59%	5%	38%	49%	208
Centre	59%	17%	59%	69%	33%	66%	45%	83%	66%	40%	4%	51%	49%	399
South	63%	16%	53%	77%	33%	80%	60%	79%	64%	38%	4%	62%	52%	499
Facility type														
Hospital	84%	59%	94%	81%	47%	93%	73%	92%	85%	54%	44%	76%	74%	101
Health centre	52%	12%	54%	88%	35%	74%	44%	90%	86%	53%	0%	45%	53%	492
Dispensary	44%	3%	37%	60%	26%	65%	26%	76%	60%	50%	0%	42%	41%	62
Clinic	82%	14%	52%	67%	38%	79%	69%	79%	45%	24%	0%	74%	52%	355
Health post	28%	0%	3%	6%	4%	40%	24%	47%	19%	41%	0%	6%	18%	96
Managing authority														
Government	43%	12%	48%	70%	30%	65%	31%	83%	73%	48%	5%	30%	45%	575
CHAM	84%	28%	64%	88%	39%	89%	83%	88%	84%	65%	10%	84%	67%	165
Private for-profit	87%	16%	62%	69%	37%	80%	75%	80%	46%	21%	0%	79%	54%	250
Private non-profit	63%	8%	29%	62%	32%	78%	54%	71%	33%	40%	0%	57%	44%	63
NGO	85%	15%	30%	74%	47%	87%	79%	81%	55%	26%	0%	83%	55%	53
Urban/rural														
Rural	53%	12%	46%	71%	31%	70%	44%	81%	71%	48%	2%	44%	48%	760
Urban	82%	23%	65%	75%	40%	82%	70%	85%	53%	31%	8%	73%	57%	346
Malawi	62%	15%	52%	72%	34%	74%	52%	82%	65%	43%	4%	53%	51%	1,106

Table 74. Availability of lifesaving commodities, by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Female condoms	Implants	Emergency contraceptives	Oxytocin	Misoprostol	Magnesium sulphate	Injectable antibiotics	Antenatal corticosteroids	Skin disinfectant	Amoxicillin	Oral rehydration salts	Zinc sulphate	Total number of facilities
Region													
North	51%	54%	52%	54%	11%	43%	30%	22%	69%	66%	75%	48%	208
Centre	52%	59%	54%	61%	18%	56%	49%	33%	75%	59%	66%	45%	399
South	42%	42%	51%	55%	11%	48%	50%	34%	71%	63%	80%	60%	499
Facility type													
Hospital	55%	58%	56%	94%	59%	91%	85%	77%	91%	84%	93%	73%	101
Health centre	62%	66%	61%	90%	8%	81%	50%	26%	86%	52%	74%	44%	492
Dispensary	42%	40%	45%	15%	0%	13%	27%	10%	52%	44%	65%	26%	62
Clinic	36%	39%	53%	23%	15%	14%	45%	38%	68%	82%	79%	69%	355
Health post	8%	5%	3%	2%	0%	3%	2%	0%	7%	28%	40%	24%	96
Managing authority													
Government	56%	60%	55%	67%	9%	62%	43%	20%	69%	43%	65%	31%	575
CHAM	41%	41%	39%	89%	25%	82%	60%	56%	88%	84%	89%	83%	165
Private for-profit	30%	40%	56%	20%	13%	16%	54%	43%	69%	87%	80%	75%	250
Private non-profit	33%	16%	25%	27%	3%	19%	22%	14%	68%	63%	78%	54%	63
NGO	68%	68%	70%	55%	42%	17%	25%	47%	70%	85%	87%	79%	53
Urban/rural													
Rural	49%	51%	48%	67%	9%	59%	41%	25%	71%	53%	70%	44%	760
Urban	45%	49%	60%	35%	24%	29%	58%	46%	73%	82%	82%	70%	346
Malawi	47%	50%	52%	57%	14%	50%	46%	31%	72%	62%	74%	52%	1,106

Table 75. Percentage of facilities offering malaria services, by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offer diagnosis or treatment of malaria	Malaria diagnostic testing (RDT or microscopy)	Malaria diagnosis by clinical symptoms	Malaria diagnosis by RDT	Malaria diagnosis by microscopy	IPT	Total number of facilities
Region							
North	99%	98%	13%	97%	13%	59%	208
Centre	97%	96%	27%	96%	22%	59%	399
South	94%	93%	24%	93%	22%	59%	499
Facility type							
Hospital	97%	96%	23%	95%	80%	95%	101
Health centre	99%	99%	29%	99%	11%	95%	492
Dispensary	92%	90%	15%	89%	5%	35%	62
Clinic	96%	95%	20%	95%	24%	17%	355
Health post	80%	80%	6%	80%	0%	8%	96
Managing authority							
Government	96%	96%	23%	95%	13%	75%	575
CHAM	98%	98%	28%	96%	37%	89%	165
Private for-profit	97%	96%	22%	96%	29%	16%	250
Private non-profit	92%	89%	29%	89%	16%	43%	63
NGO	92%	89%	11%	89%	11%	15%	53
Urban/rural							
Rural	96%	95%	24%	95%	12%	71%	760
Urban	96%	95%	20%	95%	37%	32%	346
Malawi	96%	95%	23%	95%	20%	59%	1,106

Table 76. Availability of tracer items for malaria services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=1062), Malawi 2018/2019

	Guidelines available IPT	At least 1 trained staff diagnosis and treatment of malaria	At least 1 trained staff IPT	Malaria diagnostic capacity	First-line antimalarial in-stock	Paracetamol cap/tab	IPT drug	ITN	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region											
North	46%	67%	26%	90%	89%	83%	71%	71%	13%	68%	205
Centre	40%	70%	27%	92%	85%	85%	77%	77%	15%	69%	386
South	40%	69%	24%	90%	82%	87%	70%	70%	12%	66%	471
Facility type											
Hospital	84%	87%	64%	99%	93%	98%	93%	93%	50%	89%	98
Health centre	61%	74%	34%	97%	90%	87%	94%	94%	16%	79%	489
Dispensary	23%	79%	9%	91%	82%	81%	72%	72%	4%	64%	57
Clinic	12%	59%	9%	85%	80%	93%	49%	49%	3%	55%	341
Health post	8%	51%	4%	64%	57%	35%	13%	13%	0%	31%	77
Managing authority											
Government	53%	74%	32%	92%	86%	79%	81%	81%	17%	72%	551
CHAM	61%	73%	39%	99%	89%	94%	91%	91%	24%	80%	161
Private for-profit	11%	59%	7%	86%	81%	94%	55%	55%	2%	56%	243
Private non-profit	29%	59%	21%	78%	72%	84%	48%	48%	10%	55%	58
NGO	14%	55%	8%	90%	84%	96%	37%	37%	0%	53%	49
Urban/rural											
Rural	49%	71%	29%	90%	84%	82%	79%	79%	15%	70%	729
Urban	24%	65%	17%	91%	86%	95%	59%	59%	8%	62%	333
Malawi	41%	69%	25%	91%	84%	86%	73%	73%	13%	68%	1,062

Table 77. Availability of HIV/AIDS care and support services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	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	Care for paediatric HIV/AIDS patients	Provide/prescribe preventative treatment for TB	Preventative treatment for opportunistic infections	Family planning counselling	Provide condoms	Total number of facilities
Region													
North	59%	55%	38%	16%	11%	42%	36%	49%	30%	52%	56%	55%	208
Centre	59%	55%	32%	20%	12%	38%	32%	48%	35%	54%	54%	53%	399
South	57%	56%	35%	18%	12%	43%	35%	52%	44%	53%	54%	54%	499
Facility type													
Hospital	91%	90%	87%	70%	57%	80%	74%	85%	76%	90%	85%	80%	101
Health centre	86%	82%	45%	17%	9%	66%	54%	79%	59%	82%	81%	81%	492
Dispensary	37%	34%	26%	18%	8%	16%	15%	32%	19%	31%	35%	34%	62
Clinic	28%	26%	15%	10%	6%	10%	8%	16%	12%	22%	24%	25%	355
Health post	5%	3%	2%	0%	0%	3%	2%	1%	1%	2%	5%	5%	96
Managing authority													
Government	69%	65%	41%	21%	12%	53%	44%	61%	49%	65%	67%	67%	575
CHAM	84%	82%	48%	25%	22%	67%	56%	79%	56%	81%	73%	70%	165
Private for-profit	22%	22%	13%	11%	6%	7%	5%	14%	12%	18%	18%	19%	250
Private non-profit	51%	49%	32%	11%	13%	25%	19%	33%	22%	41%	43%	51%	63
NGO	36%	34%	19%	6%	4%	17%	15%	25%	15%	30%	32%	32%	53
Urban/rural													
Rural	65%	62%	37%	18%	11%	49%	40%	59%	44%	61%	61%	61%	760
Urban	43%	41%	29%	19%	14%	24%	21%	30%	25%	36%	38%	38%	346
Malawi	58%	56%	34%	18%	12%	41%	34%	50%	38%	53%	54%	54%	1,106

Table 78. Availability of tracer items for HIV/AIDS care and support services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=641), Malawi 2018/2019

	Guidelines available clinical management HIV/AIDS	Guidelines available palliative care	At least 1 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	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region													
North	95%	48%	84%	84%	48%	5%	98%	30%	89%	97%	2%	68%	122
Centre	96%	38%	91%	87%	49%	13%	96%	35%	93%	93%	3%	69%	234
South	97%	36%	91%	89%	50%	14%	97%	46%	94%	93%	5%	71%	285
Facility type													
Hospital	99%	80%	96%	100%	83%	30%	100%	79%	100%	88%	18%	86%	92
Health centre	97%	29%	91%	92%	54%	6%	97%	40%	90%	95%	1%	69%	421
Dispensary	87%	35%	83%	70%	0%	4%	100%	0%	83%	100%	0%	56%	23
Clinic	92%	40%	82%	63%	12%	21%	92%	7%	97%	91%	0%	60%	100
Health post	60%	40%	40%	40%	0%	0%	100%	0%	80%	80%	0%	44%	5
Managing authority													
Government	97%	40%	91%	91%	47%	8%	97%	47%	89%	98%	3%	70%	395
CHAM	98%	36%	91%	95%	78%	14%	99%	39%	98%	83%	5%	73%	139
Private for-profit	93%	45%	89%	64%	30%	36%	91%	9%	100%	89%	4%	65%	56
Private non-profit	84%	28%	72%	63%	9%	13%	97%	9%	94%	97%	3%	57%	32
NGO	100%	32%	84%	79%	11%	5%	100%	11%	89%	89%	0%	60%	19
Urban/rural													
Rural	96%	36%	90%	90%	52%	9%	97%	40%	91%	94%	2%	69%	492
Urban	96%	48%	90%	81%	40%	23%	95%	36%	98%	92%	7%	70%	149
Malawi	96%	39%	90%	88%	49%	12%	97%	39%	92%	93%	3%	69%	641

Table 79. Availability of ART services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers ARV prescription or ARV treatment follow-up services	ART prescription	Provide treatment follow-up services for persons on ART	Total number of facilities
Region				
North	63%	62%	60%	208
Centre	65%	65%	62%	399
South	66%	66%	63%	499
Facility type				
Hospital	97%	96%	91%	101
Health centre	96%	96%	94%	492
Dispensary	52%	52%	52%	62
Clinic	33%	31%	27%	355
Health post	6%	6%	5%	96
Managing authority				
Government	78%	77%	75%	575
CHAM	91%	91%	88%	165
Private for-profit	28%	26%	24%	250
Private non-profit	56%	54%	41%	63
NGO	43%	40%	38%	53
Urban/rural				
Rural	73%	73%	71%	760
Urban	48%	46%	41%	346
Malawi	65%	65%	62%	1,106

Table 80. Availability of tracer items for ART services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=723), Malawi 2018/2019

	Guidelines available ART	At least 1 trained staff ART prescription and management	Complete blood count (CBC)	CD4 or viral load	Renal function test	Liver function test	3 first line ARVs	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region										
North	96%	95%	15%	5%	5%	5%	95%	1%	45%	132
Centre	98%	94%	17%	6%	10%	9%	95%	2%	47%	261
South	98%	91%	16%	11%	8%	8%	94%	2%	47%	330
Facility type										
Hospital	97%	96%	66%	20%	41%	39%	96%	10%	65%	98
Health centre	99%	94%	4%	6%	1%	1%	97%	0%	43%	471
Dispensary	94%	91%	0%	0%	0%	0%	84%	0%	38%	32
Clinic	95%	88%	28%	9%	14%	14%	88%	3%	48%	116
Health post	67%	83%	0%	0%	0%	0%	67%	0%	31%	6
Managing authority										
Government	98%	94%	10%	8%	5%	4%	96%	2%	45%	446
CHAM	99%	93%	24%	5%	13%	12%	96%	1%	49%	150
Private for-profit	99%	87%	43%	17%	25%	25%	97%	9%	56%	69
Private non-profit	89%	89%	11%	0%	3%	3%	77%	0%	39%	35
NGO	91%	91%	13%	4%	4%	4%	83%	0%	42%	23
Urban/rural										
Rural	98%	93%	8%	6%	3%	3%	95%	0%	44%	557
Urban	96%	92%	43%	14%	24%	23%	93%	7%	55%	166
Malawi	98%	93%	16%	8%	8%	8%	95%	2%	46%	723

Table 81. Availability of PMTCT services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers services for PMTCT	HIV counselling & testing to HIV+ pregnant women	HIV counselling & testing to infants born to HIV+ pregnant women	ARV prophylaxis to HIV+ women	ARV 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
Region									
North	61%	60%	60%	47%	58%	58%	59%	59%	208
Centre	60%	60%	58%	49%	58%	58%	56%	58%	399
South	60%	59%	58%	51%	58%	58%	58%	58%	499
Facility type									
Hospital	92%	91%	92%	80%	90%	91%	92%	91%	101
Health centre	96%	95%	94%	78%	94%	93%	92%	94%	492
Dispensary	37%	34%	34%	34%	34%	35%	35%	32%	62
Clinic	21%	20%	18%	17%	18%	18%	18%	18%	355
Health post	6%	5%	5%	3%	3%	3%	4%	6%	96
Managing authority									
Government	75%	74%	73%	63%	73%	73%	72%	73%	575
CHAM	89%	88%	88%	71%	88%	88%	87%	88%	165
Private for-profit	20%	19%	18%	16%	17%	17%	17%	17%	250
Private non-profit	41%	40%	37%	33%	38%	38%	37%	37%	63
NGO	25%	25%	25%	19%	23%	23%	21%	23%	53
Urban/rural									
Rural	71%	71%	70%	60%	70%	69%	69%	70%	760
Urban	36%	34%	34%	28%	32%	33%	33%	33%	346
Malawi	60%	59%	59%	50%	58%	58%	58%	58%	1,106

Table 82. Availability of tracer items for PMTCT services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=666), Malawi 2018/2019

	Guidelines available PMTCT	Guidelines infant and young child feeding	At least 1 trained staff PMTCT	At least 1 trained staff infant and young child feeding	Room with visual and auditory privacy	HIV diagnostic capacity for adults	DBS for diagnosing newborn HIV	Zidovudine syrup	Nevirapine syrup	Maternal ARV prophylaxis	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region													
North	88%	73%	56%	43%	1%	98%	79%	9%	78%	92%	0%	62%	127
Centre	81%	61%	74%	54%	4%	99%	81%	20%	86%	93%	0%	65%	240
South	89%	68%	78%	51%	3%	99%	86%	17%	85%	93%	0%	67%	299
Facility type													
Hospital	95%	91%	84%	71%	3%	99%	85%	24%	89%	96%	1%	74%	93
Health centre	87%	63%	72%	47%	2%	99%	89%	15%	89%	96%	0%	66%	470
Dispensary	65%	61%	65%	43%	9%	100%	78%	26%	61%	87%	0%	60%	23
Clinic	77%	59%	65%	54%	5%	96%	49%	16%	55%	73%	0%	55%	74
Health post	67%	50%	33%	17%	0%	83%	33%	17%	17%	50%	0%	37%	6
Managing authority													
Government	85%	66%	73%	49%	3%	99%	86%	16%	87%	96%	0%	66%	431
CHAM	93%	69%	73%	52%	3%	99%	87%	18%	88%	95%	1%	68%	147
Private for-profit	73%	55%	61%	49%	6%	94%	57%	20%	57%	86%	0%	56%	49
Private non-profit	85%	69%	77%	73%	0%	100%	54%	4%	62%	58%	0%	58%	26
NGO	85%	77%	69%	38%	8%	100%	77%	31%	85%	85%	0%	65%	13
Urban/rural													
Rural	86%	64%	73%	48%	3%	99%	85%	16%	86%	94%	0%	65%	543
Urban	85%	76%	72%	61%	4%	98%	73%	17%	76%	89%	1%	65%	123
Malawi	86%	66%	72%	51%	3%	99%	83%	17%	84%	93%	0%	65%	666

Table 83. Availability of TB services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers TB services	TB diagnosis	TB diagnostic testing (microscopy, culture, rapid test, or X-ray)	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
Region												
North	62%	34%	32%	24%	30%	2%	8%	6%	27%	29%	56%	208
Centre	43%	34%	32%	26%	31%	1%	6%	6%	31%	32%	40%	399
South	49%	40%	38%	28%	38%	3%	8%	6%	36%	40%	46%	499
Facility type												
Hospital	91%	90%	88%	71%	87%	20%	45%	58%	88%	87%	88%	101
Health centre	73%	55%	52%	40%	51%	1%	6%	1%	50%	56%	70%	492
Dispensary	34%	19%	18%	6%	18%	0%	3%	0%	13%	11%	34%	62
Clinic	13%	9%	7%	5%	7%	1%	2%	1%	5%	5%	7%	355
Health post	28%	0%	0%	0%	0%	0%	0%	0%	0%	0%	26%	96
Managing authority												
Government	65%	48%	45%	34%	44%	2%	10%	6%	45%	47%	62%	575
CHAM	71%	56%	55%	42%	55%	5%	12%	18%	51%	55%	68%	165
Private for-profit	12%	9%	6%	6%	6%	2%	2%	2%	4%	5%	5%	250
Private non-profit	21%	16%	14%	8%	14%	0%	2%	2%	10%	10%	19%	63
NGO	21%	13%	11%	9%	11%	0%	0%	2%	9%	13%	15%	53
Urban/rural												
Rural	58%	42%	39%	30%	39%	1%	5%	5%	38%	42%	56%	760
Urban	29%	26%	24%	19%	24%	5%	13%	10%	21%	21%	23%	346
Malawi	49%	37%	34%	26%	34%	2%	8%	6%	33%	35%	46%	1,106

Table 84. Availability of tracer items for TB services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=544) (Part 1), Malawi 2018/2019

	Guidelines available diagnosis & treatment of TB	Guidelines available management of HIV & TB co-infection	Guidelines available MDR-TB	Guidelines available TB infection control	At least 1 trained staff diagnosis & treatment of TB	At least 1 trained staff management of HIV & TB co-infection	At least 1 trained staff MDR-TB	At least 1 trained staff TB infection control	Total number of facilities
Region									
North	76%	75%	63%	77%	73%	71%	68%	72%	129
Centre	83%	83%	64%	80%	74%	73%	64%	70%	172
South	87%	91%	69%	86%	81%	83%	70%	80%	243
Facility type									
Hospital	98%	97%	86%	96%	89%	86%	80%	88%	92
Health centre	87%	89%	68%	86%	79%	80%	71%	78%	359
Dispensary	52%	48%	29%	43%	62%	67%	43%	52%	21
Clinic	64%	69%	49%	67%	71%	69%	56%	64%	45
Health post	33%	37%	33%	37%	22%	26%	22%	22%	27
Managing authority									
Government	83%	84%	66%	82%	76%	77%	67%	75%	373
CHAM	89%	91%	74%	88%	79%	78%	73%	79%	117
Private for-profit	77%	80%	47%	73%	80%	77%	63%	70%	30
Private non-profit	62%	62%	46%	46%	62%	77%	62%	62%	13
NGO	64%	55%	36%	64%	82%	64%	45%	73%	11
Urban/rural									
Rural	82%	84%	65%	81%	75%	76%	67%	75%	444
Urban	87%	86%	71%	84%	85%	80%	72%	77%	100
Malawi	83%	85%	66%	82%	77%	77%	68%	75%	544

Table 85. Availability of tracer items for TB services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=544) (Part 2), Malawi 2018/2019

	TB microscopy	HIV diagnostic capacity	System for diagnosis of HIV among TB clients	All first-line TB medications	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region							
North	34%	80%	70%	29%	13%	66%	129
Centre	28%	97%	92%	52%	15%	72%	172
South	34%	98%	95%	59%	17%	78%	243
Facility type							
Hospital	61%	99%	99%	82%	42%	88%	92
Health centre	29%	100%	95%	52%	12%	76%	359
Dispensary	14%	95%	86%	10%	0%	50%	21
Clinic	27%	78%	58%	20%	2%	58%	45
Health post	0%	19%	7%	0%	0%	22%	27
Managing authority							
Government	28%	94%	89%	54%	15%	73%	373
CHAM	42%	99%	96%	50%	20%	78%	117
Private for-profit	37%	73%	57%	27%	7%	63%	30
Private non-profit	46%	85%	69%	23%	15%	58%	13
NGO	27%	91%	82%	27%	0%	59%	11
Urban/rural							
Rural	28%	94%	89%	48%	12%	72%	444
Urban	51%	91%	85%	59%	29%	77%	100
Malawi	32%	94%	88%	50%	15%	73%	544

Table 86. Availability of STI services by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers services for STIs	Diagnosis of STIs	Prescribe treatment for STIs	Total number of facilities
Region				
North	82%	81%	82%	208
Centre	88%	87%	88%	399
South	89%	89%	89%	499
Facility type				
Hospital	97%	97%	97%	101
Health centre	99%	99%	99%	492
Dispensary	81%	79%	81%	62
Clinic	90%	90%	90%	355
Health post	10%	10%	10%	96
Managing authority				
Government	83%	83%	83%	575
CHAM	95%	95%	95%	165
Private for-profit	91%	91%	91%	250
Private non-profit	87%	87%	87%	63
NGO	89%	89%	89%	53
Urban/rural				
Rural	85%	85%	85%	760
Urban	92%	92%	92%	346
Malawi	87%	87%	87%	1,106

Table 87. Availability of tracer items for STI services at facilities offering the service by region, facility type, managing authority, and urban vs. rural location (N=963), Malawi 2018/2019

	Guidelines available diagnosis and treatment of STIs	At least 1 trained staff diagnosis and treatment of STIs	Syphilis rapid test	Condoms	Metronidazole	Ciprofloxacin	Ceftriaxone injectable	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region										
North	93%	72%	69%	88%	92%	63%	40%	12%	74%	170
Centre	91%	68%	69%	89%	87%	60%	65%	15%	76%	350
South	92%	63%	67%	87%	88%	61%	58%	16%	74%	443
Facility type										
Hospital	97%	87%	93%	88%	93%	72%	94%	40%	89%	98
Health centre	92%	70%	83%	95%	86%	47%	54%	13%	75%	486
Dispensary	88%	60%	38%	96%	78%	32%	44%	4%	62%	50
Clinic	91%	56%	43%	76%	92%	85%	55%	13%	71%	319
Health post	70%	50%	40%	60%	80%	30%	30%	0%	51%	10
Managing authority										
Government	91%	73%	79%	97%	86%	36%	57%	10%	74%	477
CHAM	97%	69%	86%	83%	91%	88%	66%	32%	83%	157
Private for-profit	89%	55%	38%	70%	93%	84%	63%	15%	70%	227
Private non-profit	91%	45%	44%	93%	82%	80%	29%	9%	66%	55
NGO	98%	72%	70%	91%	96%	94%	32%	15%	79%	47
Urban/rural										
Rural	91%	68%	74%	92%	86%	52%	52%	14%	74%	646
Urban	93%	63%	55%	80%	93%	79%	68%	17%	76%	317
Malawi	92%	67%	68%	88%	88%	61%	57%	15%	74%	963

Table 88. Availability of cardiovascular disease services amongst hospitals by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Offers cardiovascular disease diagnosis and/or management	Total number of facilities
Region		
North	95%	22
Centre	89%	35
South	70%	44
Facility type		
Hospital	82%	101
Health centre	N/A	0
Dispensary	N/A	0
Clinic	N/A	0
Health post	N/A	0
Managing authority		
Government	90%	50
CHAM	88%	41
Private for-profit	22%	9
Private non-profit	0%	1
NGO	N/A	0
Urban/rural		
Rural	85%	52
Urban	80%	49
Malawi	82%	101

Table 89. Availability of tracer items for cardiovascular disease services at hospitals offering the service by region, facility type, managing authority, and urban vs. rural location (N=83) (Part 1), Malawi 2018/2019

	Guidelines available CVD diagnosis and management	At least 1 trained staff CVD diagnosis and management	Stethoscope	Blood pressure apparatus	Adult scale	Oxygen	ACE inhibitors	Total number of facilities
Region								
North	76%	62%	100%	95%	95%	95%	43%	21
Centre	81%	48%	100%	94%	97%	100%	74%	31
South	77%	65%	97%	100%	97%	97%	81%	31
Facility type								
Hospital	78%	58%	99%	96%	96%	98%	69%	83
Health centre	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Dispensary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Health post	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority								
Government	64%	60%	100%	96%	93%	96%	58%	45
CHAM	94%	56%	97%	97%	100%	100%	83%	36
Private for-profit	100%	50%	100%	100%	100%	100%	50%	2
Private non-profit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
NGO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Urban/rural								
Rural	75%	50%	98%	95%	95%	98%	70%	44
Urban	82%	67%	100%	97%	97%	97%	67%	39
Malawi	78%	58%	99%	96%	96%	98%	69%	83

Table 90. Availability of tracer items for cardiovascular disease services at hospitals offering the service by region, facility type, managing authority, and urban vs. rural location (N=83) (Part 2), Malawi 2018/2019

	Hydrochlorothiazide tablet	Beta blockers	Calcium channel blockers	Aspirin	Metformin	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region								
North	86%	76%	38%	95%	100%	14%	80%	21
Centre	97%	74%	45%	100%	87%	16%	83%	31
South	71%	81%	68%	97%	71%	29%	83%	31
Facility type								
Hospital	84%	77%	52%	98%	84%	20%	82%	83
Health centre	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Dispensary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Health post	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority								
Government	87%	80%	40%	98%	73%	16%	79%	45
CHAM	83%	75%	64%	97%	97%	28%	87%	36
Private for-profit	50%	50%	100%	100%	100%	0%	83%	2
Private non-profit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
NGO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Urban/rural								
Rural	80%	77%	55%	100%	84%	20%	81%	44
Urban	90%	77%	49%	95%	85%	21%	84%	39
Malawi	84%	77%	52%	98%	84%	20%	82%	83

Table 91. Availability of chronic respiratory disease services amongst hospitals by region, facility type, managing authority, and urban vs. rural location (N=101), Malawi 2018/2019

	Offers chronic respiratory disease diagnosis and/or management	Total number of facilities
Region		
North	100%	22
Centre	91%	35
South	70%	44
Facility type		
Hospital	84%	101
Health centre	N/A	0
Dispensary	N/A	0
Clinic	N/A	0
Health post	N/A	0
Managing authority		
Government	90%	50
CHAM	93%	41
Private for-profit	22%	9
Private non-profit	0%	1
NGO	N/A	0
Urban/rural		
Rural	88%	52
Urban	80%	49
Malawi	84%	101

Table 92. Availability of tracer items for chronic respiratory disease services at hospitals offering the service by region, facility type, managing authority, and urban vs. rural location (N=85) (Part 1), Malawi 2018/2019

	Guideline available CRD diagnosis and management	At least 1 trained staff CRD diagnosis and treatment	Stethoscope	Peak flow meter	Spacers for inhalers	Oxygen	Salbutamol inhaler	Total number of facilities
Region								
North	73%	50%	95%	27%	64%	95%	100%	22
Centre	81%	59%	100%	34%	75%	100%	91%	32
South	77%	61%	97%	42%	74%	97%	84%	31
Facility type								
Hospital	78%	58%	98%	35%	72%	98%	91%	85
Health centre	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Dispensary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Health post	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority								
Government	67%	56%	100%	38%	60%	96%	84%	45
CHAM	92%	61%	95%	32%	84%	100%	97%	38
Private for-profit	50%	50%	100%	50%	100%	100%	100%	2
Private non-profit	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
NGO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Urban/rural								
Rural	76%	52%	96%	28%	72%	98%	89%	46
Urban	79%	64%	100%	44%	72%	97%	92%	39
Malawi	78%	58%	98%	35%	72%	98%	91%	85

Table 93. Availability of tracer items for chronic respiratory disease services at hospitals offering the service by region, facility type, managing authority, and urban vs. rural location (N=85) (Part 2), Malawi 2018/2019

	Beclomethasone inhaler	Prednisolone	Hydrocortisone	Epinephrine injectable	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region							
North	27%	73%	64%	41%	5%	64%	22
Centre	31%	84%	78%	38%	9%	70%	32
South	35%	84%	81%	58%	13%	72%	31
Facility type							
Hospital	32%	81%	75%	46%	9%	69%	85
Health centre	N/A	N/A	N/A	N/A	N/A	N/A	0
Dispensary	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	N/A	N/A	N/A	N/A	N/A	N/A	0
Health post	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority							
Government	27%	67%	64%	42%	9%	64%	45
CHAM	39%	97%	87%	50%	11%	76%	38
Private for-profit	0%	100%	100%	50%	0%	73%	2
Private non-profit	N/A	N/A	N/A	N/A	N/A	N/A	0
NGO	N/A	N/A	N/A	N/A	N/A	N/A	0
Urban/rural							
Rural	28%	80%	70%	37%	7%	66%	46
Urban	36%	82%	82%	56%	13%	73%	39
Malawi	32%	81%	75%	46%	9%	69%	85

Table 94. Availability of cervical cancer services amongst hospitals by region, facility type, managing authority, and urban vs. rural location (N=101), Malawi 2018/2019

	Offers cervical cancer diagnosis	Total number of facilities
Region		
North	86%	22
Centre	71%	35
South	59%	44
Facility type		
Hospital	69%	101
Health centre	N/A	0
Dispensary	N/A	0
Clinic	N/A	0
Health post	N/A	0
Managing authority		
Government	82%	50
CHAM	68%	41
Private for-profit	11%	9
Private non-profit	0%	1
NGO	N/A	0
Urban/rural		
Rural	71%	52
Urban	67%	49
Malawi	69%	101

Table 95. Availability of tracer items for cervical cancer services at hospitals offering the service by region, facility type, managing authority, and urban vs. rural location (N=70), Malawi 2018/2019

	Guidelines for cervical cancer prevention and control	Staff trained in cervical cancer prevention and control	Per cent of facilities with all items	Mean availability of tracer items	Total number of facilities
Region					
North	95%	84%	84%	89%	19
Centre	76%	84%	72%	80%	25
South	96%	100%	96%	98%	26
Facility type					
Hospital	89%	90%	84%	89%	70
Health centre	N/A	N/A	N/A	N/A	0
Dispensary	N/A	N/A	N/A	N/A	0
Clinic	N/A	N/A	N/A	N/A	0
Health post	N/A	N/A	N/A	N/A	0
Managing authority					
Government	85%	93%	83%	89%	41
CHAM	93%	86%	86%	89%	28
Private for-profit	100%	100%	100%	100%	1
Private non-profit	N/A	N/A	N/A	N/A	0
NGO	N/A	N/A	N/A	N/A	0
Urban/rural					
Rural	89%	84%	81%	86%	37
Urban	88%	97%	88%	92%	33
Malawi	89%	90%	84%	89%	70

Table 96. Infectious disease medicines availability by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Me-/albendazole cap/tab	Amoxicillin cap/tab	Ceftriaxone injection	Co-trimoxazole cap/tab	Ciprofloxacin cap/tab	Fluconazole cap/tab	Metronidazole cap/tab	Total number of facilities
Region								
North	76%	69%	33%	83%	54%	23%	78%	208
Centre	70%	59%	59%	85%	54%	22%	80%	399
South	68%	62%	53%	83%	57%	32%	80%	499
Facility type								
Hospital	84%	91%	94%	99%	73%	80%	92%	101
Health centre	70%	48%	54%	96%	46%	20%	86%	492
Dispensary	56%	44%	37%	81%	29%	10%	66%	62
Clinic	78%	85%	52%	81%	81%	32%	88%	355
Health post	39%	30%	3%	17%	3%	0%	11%	96
Managing authority								
Government	62%	41%	48%	81%	30%	20%	73%	575
CHAM	82%	87%	64%	95%	85%	39%	88%	165
Private for-profit	79%	88%	62%	78%	82%	34%	89%	250
Private non-profit	78%	73%	29%	84%	76%	27%	76%	63
NGO	77%	83%	30%	94%	87%	30%	91%	53
Urban/rural								
Rural	66%	52%	46%	83%	46%	20%	75%	760
Urban	81%	85%	65%	85%	77%	42%	89%	346
Malawi	71%	62%	52%	83%	55%	27%	80%	1,106

Table 97. Noncommunicable disease medicines availability by region, facility type, managing authority, and urban vs. rural location (N=1106) (Part 1), Malawi 2018/2019

	Amlodipine tablet or alternative calcium channel blocker	Aspirin cap/tab	Beclomethasone inhaler	Beta blocker (e.g. bisoprolol, metoprolol, carvedilol, atenolol)	Enalapril tablet or other ACE inhibitor e.g. lisinopril, ramipril, perindopril	Epinephrine injectable	Furosemide cap/tab	Glibenclamide cap/tab	Gliclazide tablet or glipizide tablet	Total number of facilities
Region										
North	19%	65%	13%	27%	21%	23%	38%	33%	2%	208
Centre	24%	81%	14%	39%	27%	24%	50%	38%	5%	399
South	26%	82%	12%	37%	25%	20%	41%	29%	4%	499
Facility type										
Hospital	53%	94%	33%	73%	69%	43%	78%	88%	8%	101
Health centre	15%	85%	7%	33%	12%	25%	41%	18%	1%	492
Dispensary	10%	71%	2%	18%	11%	6%	21%	11%	0%	62
Clinic	37%	84%	20%	43%	39%	19%	52%	50%	9%	355
Health post	0%	14%	1%	1%	2%	1%	4%	1%	0%	96
Managing authority										
Government	8%	72%	7%	24%	11%	19%	31%	18%	1%	575
CHAM	44%	88%	18%	62%	42%	35%	66%	46%	3%	165
Private for-profit	42%	83%	24%	46%	43%	20%	63%	56%	10%	250
Private non-profit	27%	83%	8%	24%	24%	16%	21%	32%	6%	63
NGO	47%	89%	15%	53%	43%	28%	47%	43%	11%	53
Urban/rural										
Rural	15%	75%	8%	28%	16%	20%	37%	23%	2%	760
Urban	44%	86%	24%	54%	45%	26%	58%	56%	9%	346
Malawi	24%	79%	13%	36%	25%	22%	44%	33%	4%	1,106

Table 98. Noncommunicable disease medicines availability by region, facility type, managing authority, and urban vs. rural location (N=1106) (Part 2), Malawi 2018/2019

	Glucose 50% injection	Glyceryl trinitrate sublingual tablet	Hydrochlorothiazide tablet or other thiazide diuretic tablet	Hydrocortisone injection	Ibuprofen tablet	Insulin regular injection	Isosorbide dinitrate tablet	Metformin tablet	Ormeprazole tablet or alternative such as pantoprazole, rabeprazole	Paracetamol cap/tab	Prednisolone cap/tab	Salbutamol inhaler	Simvastatin tablet or other statin e.g. atorvastatin, pravastatin, fluvastatin	Total number of facilities
Region														
North	55%	2%	64%	18%	52%	10%	2%	36%	35%	83%	35%	63%	6%	208
Centre	62%	5%	61%	25%	73%	11%	5%	35%	49%	83%	51%	64%	8%	399
South	59%	3%	57%	21%	74%	12%	4%	34%	48%	85%	44%	64%	13%	499
Facility type														
Hospital	84%	12%	85%	74%	92%	70%	16%	81%	70%	98%	79%	90%	22%	101
Health centre	69%	1%	71%	8%	71%	3%	1%	19%	31%	87%	34%	69%	7%	492
Dispensary	50%	0%	47%	10%	47%	0%	0%	16%	19%	74%	21%	45%	3%	62
Clinic	56%	6%	55%	34%	82%	10%	7%	57%	75%	91%	65%	68%	13%	355
Health post	3%	0%	4%	1%	6%	0%	1%	2%	2%	34%	3%	5%	2%	96
Managing authority														
Government	55%	1%	56%	8%	57%	8%	1%	17%	16%	77%	23%	59%	5%	575
CHAM	79%	5%	77%	39%	84%	19%	5%	48%	83%	93%	75%	73%	16%	165
Private for-profit	57%	7%	61%	34%	86%	12%	10%	63%	82%	93%	70%	70%	14%	250
Private non-profit	56%	3%	46%	22%	65%	14%	8%	40%	43%	83%	43%	56%	13%	63
NGO	66%	6%	60%	53%	83%	8%	4%	49%	79%	91%	72%	72%	15%	53
Urban/rural														
Rural	59%	1%	58%	14%	62%	7%	2%	23%	33%	80%	34%	59%	8%	760
Urban	60%	8%	63%	39%	85%	20%	10%	62%	75%	93%	68%	73%	13%	346
Malawi	59%	3%	60%	22%	69%	11%	4%	35%	46%	84%	45%	64%	10%	1,106

Table 99. Mental health and neurological medicines availability by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Amiripryline tablet	Carbamazepine tablet	Chlorpromazine injection	Diazepam tablet	Diazepam injection or diazepam rectal tubes	Fluoxetine tablet	Fluphenazine injection	Haloperidol tablet	Lorazepam injection	Lithium tablet	Phenobarbital tablet	Phenytoin tablet	Valproate sodium tablet	Total number of facilities
Region														
North	5%	4%	4%	4%	5%	3%	0%	3%	1%	0%	5%	4%	2%	208
Centre	5%	6%	5%	5%	6%	1%	2%	3%	1%	0%	6%	4%	1%	399
South	4%	5%	4%	5%	4%	2%	1%	2%	1%	1%	5%	4%	2%	499
Facility type														
Hospital	49%	51%	47%	46%	50%	20%	14%	29%	11%	4%	54%	44%	17%	101
Health centre	1%	1%	1%	0%	1%	0%	0%	0%	0%	0%	1%	0%	0%	492
Dispensary	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	62
Clinic	0%	0%	0%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	355
Health post	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	96
Managing authority														
Government	5%	6%	5%	4%	5%	2%	2%	3%	1%	0%	5%	5%	2%	575
CHAM	15%	13%	13%	13%	16%	5%	4%	6%	3%	2%	16%	12%	4%	165
Private for-profit	1%	0%	1%	1%	1%	0%	0%	0%	0%	0%	1%	0%	0%	250
Private non-profit	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	63
NGO	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	53
Urban/rural														
Rural	3%	3%	3%	3%	3%	1%	1%	1%	1%	1%	3%	2%	1%	760
Urban	9%	10%	9%	9%	8%	4%	2%	5%	2%	0%	10%	8%	3%	346
Malawi	5%	5%	5%	5%	5%	2%	1%	3%	1%	0%	5%	4%	2%	1,106

Table 100. Palliative care medicines availability by region, facility type, managing authority, and urban vs. rural location (N=1106), Malawi 2018/2019

	Dexamethasone injection	Haloperidol injection	Hyoscine butylbromide injection	Ibuprofen	Lorazepam tablet	Metoclopramide injection	Morphine granule, injectable or cap/tab	Paracetamol	Senna preparation (laxative)	Total number of facilities
Region										
North	22%	4%	1%	52%	1%	3%	5%	83%	1%	208
Centre	33%	1%	1%	73%	1%	2%	4%	83%	1%	399
South	33%	3%	1%	74%	1%	2%	4%	85%	1%	499
Facility type										
Hospital	78%	24%	14%	92%	11%	20%	44%	98%	10%	101
Health centre	25%	0%	0%	71%	0%	0%	0%	87%	0%	492
Dispensary	10%	0%	0%	47%	0%	0%	0%	74%	0%	62
Clinic	38%	0%	0%	82%	0%	0%	0%	91%	0%	355
Health post	0%	0%	0%	6%	0%	0%	0%	34%	0%	96
Managing authority										
Government	19%	2%	1%	57%	1%	1%	5%	77%	1%	575
CHAM	57%	7%	6%	84%	3%	9%	10%	93%	4%	165
Private for-profit	43%	0%	0%	86%	0%	1%	0%	93%	0%	250
Private non-profit	14%	0%	0%	65%	0%	0%	0%	83%	0%	63
NGO	47%	0%	0%	83%	0%	0%	0%	91%	0%	53
Urban/rural										
Rural	25%	2%	1%	62%	1%	1%	2%	80%	1%	760
Urban	46%	4%	2%	85%	2%	4%	8%	93%	2%	346
Malawi	31%	2%	1%	69%	1%	2%	4%	84%	1%	1,106

Table 101. Availability of advanced diagnostic services amongst hospitals by region, facility type, managing authority, and urban vs. rural location (N=101), Malawi 2018/2019

	Serum electrolytes	Full blood count with differential	Blood typing (ABO and Rhesus) and cross match (by anti-globulin or equivalent)	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 availability of tracer items	Total number of facilities
Region														
North	5%	45%	64%	23%	23%	9%	0%	45%	23%	45%	64%	55%	33%	22
Centre	14%	66%	77%	37%	34%	11%	6%	77%	40%	63%	80%	69%	48%	35
South	25%	70%	68%	50%	48%	32%	5%	59%	43%	52%	64%	52%	47%	44
Facility type														
Hospital	17%	63%	70%	40%	38%	20%	4%	62%	38%	54%	69%	58%	44%	101
Health centre	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Dispensary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Clinic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Health post	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Managing authority														
Government	14%	60%	68%	40%	38%	26%	6%	62%	48%	58%	72%	62%	46%	50
CHAM	24%	68%	78%	41%	39%	10%	2%	73%	34%	61%	78%	68%	48%	41
Private for-profit	0%	56%	44%	33%	33%	33%	0%	22%	0%	11%	22%	0%	21%	9
Private non-profit	0%	100%	100%	0%	0%	0%	0%	0%	0%	0%	0%	0%	17%	1
NGO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
Urban/rural														
Rural	15%	48%	62%	33%	31%	13%	4%	60%	27%	42%	65%	48%	37%	52
Urban	18%	80%	80%	47%	45%	27%	4%	65%	49%	67%	73%	69%	52%	49
Malawi	17%	63%	70%	40%	38%	20%	4%	62%	38%	54%	69%	58%	44%	101

Table 102. High-level diagnostic equipment availability amongst hospitals by region, facility type, managing authority, and urban vs. rural location (N=101), Malawi 2018/2019

	X-ray	ECG	Ultrasound	Mean availability of tracer items	Total number of facilities
Region					
North	45%	23%	50%	39%	22
Centre	54%	29%	66%	50%	35
South	48%	27%	45%	40%	44
Facility type					
Hospital	50%	27%	53%	43%	101
Health centre	N/A	N/A	N/A	N/A	0
Dispensary	N/A	N/A	N/A	N/A	0
Clinic	N/A	N/A	N/A	N/A	0
Health post	N/A	N/A	N/A	N/A	0
Managing authority					
Government	50%	30%	52%	44%	50
CHAM	61%	29%	68%	53%	41
Private for-profit	0%	0%	0%	0%	9
Private non-profit	0%	0%	0%	0%	1
NGO	N/A	N/A	N/A	N/A	0
Urban/rural					
Rural	44%	19%	46%	37%	52
Urban	55%	35%	61%	50%	49
Malawi	50%	27%	53%	43%	101

Table 103. Total number of health workers administered the vignettes by health facility type and provider cadre (N=1433), Malawi 2018/2019

	Hospital	Health centre	Dispensary	Clinic	Health post	Total number of providers
Provider cadre						
Medical doctor	19	9	1	29	0	58
Medical assistant	98	408	35	100	9	650
Clinical officer	167	49	10	151	0	377
Nurse	104	143	10	91	0	348
Malawi	388	609	56	371	9	1,433

Table 104. Correct diagnosis for clinical conditions by region, facility type, managing authority, urban/rural, and provider cadre (N=1433), Malawi 2018/2019

	Child					Pregnant women	Adult		All six cases*	Total number of providers
	Diarrhoea	Diarrhoea with severe dehydration	Malaria	Malaria with anaemia	Pneumonia	Anaemia in pregnancy	Diabetes	Pulmonary tuberculosis		
Region										
North	45%	28%	54%	29%	96%	76%	88%	100%	5%	251
Centre	47%	32%	81%	40%	91%	60%	88%	90%	11%	565
South	49%	38%	75%	39%	93%	66%	89%	98%	17%	617
Facility type										
Hospital	54%	40%	71%	33%	95%	64%	94%	93%	14%	388
Health centre	44%	32%	76%	44%	92%	66%	86%	98%	13%	609
Dispensary	44%	31%	71%	23%	92%	65%	86%	94%	6%	56
Clinic	53%	35%	75%	27%	90%	59%	88%	88%	13%	371
Health post	39%	7%	82%	2%	98%	16%	80%	43%	0%	9
Managing authority										
Government	49%	34%	76%	39%	94%	65%	86%	96%	12%	765
CHAM	40%	34%	70%	37%	92%	67%	93%	96%	15%	286
Private for-profit	59%	38%	70%	33%	89%	60%	89%	86%	15%	249
Private non-profit	53%	41%	85%	48%	89%	55%	93%	90%	16%	66
NGO	40%	27%	82%	32%	94%	62%	88%	94%	12%	67
Urban/rural										
Rural	46%	34%	74%	39%	92%	66%	87%	96%	14%	950
Urban	51%	37%	75%	37%	94%	63%	91%	93%	12%	483
Provider cadre										
Medical doctor	59%	45%	63%	43%	86%	71%	89%	87%	19%	58
Medical assistant	44%	32%	78%	40%	95%	64%	87%	97%	14%	650
Clinical officer	49%	38%	70%	34%	97%	69%	96%	93%	14%	377
Nurse	53%	35%	72%	35%	82%	60%	85%	96%	9%	348
Malawi	48%	35%	75%	38%	93%	65%	88%	95%	13%	1,433

* All cases excluding simple diarrhoea and malaria.

Table 105. Correct treatment for clinical conditions by region, facility type, managing authority, urban/rural, and provider cadre (N=1433), Malawi 2018/2019

	Child					Pregnant women	Adult		All six cases*	Total number of providers
	Diarrhoea	Diarrhoea with severe dehydration	Malaria	Malaria with anaemia	Pneumonia	Anaemia in pregnancy	Diabetes	Pulmonary tuberculosis		
Region										
North	61%	51%	49%	25%	74%	89%	84%	92%	5%	251
Centre	66%	51%	67%	37%	78%	81%	77%	83%	12%	565
South	68%	58%	61%	39%	82%	89%	78%	93%	15%	617
Facility type										
Hospital	65%	55%	58%	34%	82%	85%	86%	91%	18%	388
Health centre	67%	54%	64%	39%	77%	88%	73%	90%	11%	609
Dispensary	50%	36%	57%	23%	87%	81%	78%	90%	5%	56
Clinic	73%	61%	60%	33%	81%	80%	82%	78%	15%	371
Health post	98%	96%	86%	57%	80%	80%	80%	71%	7%	9
Managing authority										
Government	66%	56%	61%	35%	79%	86%	74%	90%	12%	765
CHAM	67%	52%	63%	41%	81%	88%	85%	90%	14%	286
Private for-profit	72%	60%	63%	36%	78%	81%	82%	80%	17%	249
Private non-profit	60%	42%	74%	37%	75%	88%	90%	87%	13%	66
NGO	71%	61%	68%	41%	79%	76%	79%	88%	16%	67
Urban/rural										
Rural	68%	56%	62%	37%	79%	87%	77%	89%	13%	950
Urban	64%	53%	62%	36%	81%	84%	82%	89%	14%	483
Provider cadre										
Medical doctor	63%	50%	66%	58%	85%	85%	85%	84%	22%	58
Medical assistant	66%	56%	63%	37%	79%	86%	76%	90%	12%	650
Clinical officer	65%	52%	62%	35%	77%	87%	87%	91%	17%	377
Nurse	70%	56%	57%	32%	81%	85%	72%	85%	10%	348
Malawi	67%	55%	62%	37%	79%	86%	78%	89%	13%	1,433

* All cases excluding simple diarrhoea and malaria.

Table 106. Correct diagnosis and correct treatment for clinical conditions by region, facility type, managing authority, urban/rural, and provider cadre (N=1433), Malawi 2018/2019

	Child					Pregnant women	Adult		All six cases*	Total number of providers
	Diarrhoea	Diarrhoea with severe dehydration	Malaria	Malaria with anaemia	Pneumonia	Anaemia in pregnancy	Diabetes	Pulmonary tuberculosis		
Region										
North	31%	20%	35%	13%	71%	68%	82%	92%	0%	251
Centre	28%	23%	62%	29%	73%	53%	77%	81%	6%	565
South	31%	24%	53%	25%	77%	62%	77%	92%	7%	617
Facility type										
Hospital	36%	29%	52%	23%	78%	59%	86%	90%	9%	388
Health centre	26%	21%	56%	28%	73%	61%	73%	89%	4%	609
Dispensary	24%	13%	57%	14%	79%	48%	78%	88%	0%	56
Clinic	37%	26%	50%	18%	76%	54%	81%	77%	7%	371
Health post	36%	7%	80%	0%	77%	16%	80%	32%	0%	9
Managing authority										
Government	31%	23%	55%	24%	75%	58%	74%	88%	6%	765
CHAM	24%	22%	53%	27%	75%	63%	85%	90%	5%	286
Private for-profit	38%	28%	52%	24%	74%	56%	82%	77%	10%	249
Private non-profit	31%	25%	65%	22%	66%	52%	90%	85%	3%	66
NGO	27%	23%	58%	24%	74%	55%	78%	88%	1%	67
Urban/rural										
Rural	30%	23%	54%	24%	74%	60%	76%	88%	6%	950
Urban	29%	24%	55%	26%	78%	57%	81%	89%	5%	483
Provider cadre										
Medical doctor	32%	29%	51%	36%	80%	67%	85%	82%	7%	58
Medical assistant	29%	22%	56%	26%	77%	58%	76%	89%	5%	650
Clinical officer	31%	26%	53%	24%	75%	64%	86%	89%	9%	377
Nurse	32%	23%	49%	20%	68%	56%	71%	85%	4%	348
Malawi	30%	23%	54%	25%	75%	59%	78%	88%	6%	1,433

* All cases excluding simple diarrhoea and malaria.

Table 107. Adherence to clinical guidelines for clinical conditions by region, facility type, managing authority, urban/rural, and provider cadre (N=1,433), Malawi 2018/2019

	Child			Pregnant women	Adult		Average adherence across all six cases	Total number of providers
	Diarrhoea with severe dehydration	Malaria with anaemia	Pneumonia	Antenatal care during pregnancy	Diabetes	Pulmonary tuberculosis		
Region								
North	47%	64%	54%	66%	52%	61%	57%	251
Centre	42%	58%	50%	58%	44%	51%	51%	565
South	46%	61%	52%	59%	49%	59%	54%	617
Facility type								
Hospital	50%	64%	57%	66%	57%	62%	59%	388
Health centre	42%	59%	49%	56%	42%	54%	50%	609
Dispensary	38%	58%	49%	56%	42%	55%	50%	56
Clinic	48%	63%	54%	58%	51%	57%	55%	371
Health post	44%	60%	46%	63%	49%	53%	53%	9
Managing authority								
Government	44%	59%	51%	58%	46%	56%	52%	765
CHAM	45%	62%	52%	63%	48%	57%	55%	286
Private for-profit	50%	62%	54%	58%	53%	58%	56%	249
Private non-profit	50%	69%	59%	67%	58%	63%	61%	66
NGO	46%	62%	53%	54%	48%	58%	54%	67
Urban/rural								
Rural	44%	60%	51%	59%	45%	56%	53%	950
Urban	47%	62%	53%	60%	52%	58%	55%	483
Provider cadre								
Medical doctor	53%	70%	64%	64%	57%	64%	62%	58
Medical assistant	43%	60%	51%	55%	45%	55%	51%	650
Clinical officer	49%	63%	55%	63%	56%	61%	58%	377
Nurse	44%	59%	47%	68%	44%	53%	52%	348
Malawi	45%	60%	52%	59%	47%	57%	53%	1,433

Table 108. Correct diagnosis, correct management, and adherence to clinical guidelines for maternal and neonatal conditions by region, facility type, managing authority, urban/rural, and provider cadre (N=1,433), Malawi 2018/2019

	Correct diagnosis			Correct management			Adherence to clinical guidelines			Total number of providers
	Postpartum haemorrhage	Neonatal asphyxia	Both	Postpartum haemorrhage	Neonatal asphyxia	Both	Postpartum haemorrhage	Neonatal asphyxia	Both	
Region										
North	96%	92%	89%	54%	62%	58%	52%	62%	57%	251
Centre	88%	75%	73%	50%	48%	49%	43%	54%	48%	565
South	92%	83%	79%	53%	55%	54%	49%	56%	52%	617
Facility type										
Hospital	92%	84%	83%	56%	59%	58%	53%	61%	57%	388
Health centre	92%	80%	77%	51%	51%	51%	44%	55%	49%	609
Dispensary	91%	89%	86%	41%	57%	49%	43%	45%	44%	56
Clinic	81%	76%	69%	47%	50%	48%	45%	51%	48%	371
Health post	80%	80%	77%	45%	48%	46%	41%	52%	47%	9
Managing authority										
Government	91%	81%	78%	51%	51%	51%	45%	55%	50%	765
CHAM	93%	83%	80%	56%	57%	57%	50%	59%	55%	286
Private for-profit	82%	73%	68%	47%	50%	48%	46%	49%	48%	249
Private non-profit	90%	73%	71%	60%	65%	62%	58%	67%	62%	66
NGO	92%	85%	82%	52%	57%	54%	48%	56%	52%	67
Urban/rural										
Rural	91%	82%	78%	52%	54%	53%	46%	56%	51%	950
Urban	90%	79%	77%	51%	52%	52%	48%	56%	52%	483
Provider cadre										
Medical doctor	89%	71%	71%	55%	55%	55%	59%	58%	58%	58
Medical assistant	90%	79%	75%	49%	49%	49%	44%	53%	48%	650
Clinical officer	93%	84%	82%	55%	59%	57%	50%	62%	56%	377
Nurse	91%	87%	85%	57%	58%	58%	48%	59%	54%	348
Malawi	91%	81%	78%	52%	53%	53%	47%	56%	51%	1,433

Table 109. Appropriate assessment and counselling on nutrition for sick children by region, facility type, managing authority, urban vs. rural location, and by provider cadre (N=1433), Malawi 2018/2019

	Assessment			Counselling			Assessment + Counselling			Number of providers
	Diarrhoea	Pneumonia	Malaria	Diarrhoea	Pneumonia	Malaria	Diarrhoea	Pneumonia	Malaria	
Region										
North	36%	30%	37%	62%	31%	49%	41%	30%	38%	251
Centre	31%	24%	28%	49%	23%	31%	34%	24%	28%	565
South	34%	29%	33%	64%	37%	54%	39%	31%	35%	617
Facility type										
Hospital	37%	35%	37%	61%	40%	48%	41%	36%	38%	388
Health centre	31%	24%	28%	55%	25%	45%	36%	24%	30%	609
Dispensary	27%	22%	34%	68%	46%	26%	35%	28%	33%	56
Clinic	34%	27%	35%	63%	33%	41%	39%	29%	36%	371
Health post	13%	26%	29%	72%	57%	59%	24%	34%	32%	9
Managing authority										
Government	33%	27%	31%	59%	30%	45%	37%	27%	33%	765
CHAM	32%	28%	30%	55%	30%	43%	36%	28%	32%	286
Private for-profit	35%	37%	35%	57%	33%	43%	39%	30%	36%	249
Private non-profit	43%	28%	41%	75%	54%	63%	48%	41%	44%	66
NGO	32%	27%	30%	61%	35%	47%	37%	30%	32%	67
Urban/rural										
Rural	33%	26%	31%	58%	30%	44%	37%	27%	32%	950
Urban	34%	30%	34%	58%	34%	46%	38%	31%	35%	483
Provider cadre										
Medical doctor	38%	37%	39%	52%	43%	51%	40%	39%	41%	58
Medical assistant	31%	24%	30%	57%	27%	42%	36%	25%	31%	650
Clinical officer	35%	32%	35%	62%	37%	44%	40%	33%	36%	377
Nurse	35%	29%	32%	58%	32%	51%	39%	30%	34%	348
Malawi	33%	27%	32%	58%	31%	45%	37%	28%	33%	1,433

Table 110. Reasons provided by pregnant women for choosing the health facility where they received ANC by region, facility type, managing authority, and urban vs. rural location (N=1724), Malawi 2018/2019

	Location close to home	Low cost	Trust in providers	High quality care	Availability of drugs	No other facility nearby	Recommendation or referral	Free service	Short waiting times	Staff/related to staff	More health services	Near guardian	Total number of ANC clients
Region													
North	77%	1%	6%	7%	2%	5%	1%	0%	0%	0%	1%	1%	341
Centre	78%	3%	5%	9%	1%	2%	1%	1%	0%	0%	0%	0%	638
South	79%	2%	4%	10%	1%	2%	1%	1%	1%	0%	0%	0%	745
Facility type													
Hospital	59%	1%	7%	22%	3%	2%	4%	0%	0%	0%	1%	0%	275
Health centre	83%	2%	3%	8%	0%	2%	1%	1%	1%	0%	0%	0%	1,275
Dispensary	93%	0%	2%	0%	2%	0%	0%	0%	0%	4%	0%	0%	55
Clinic	71%	6%	8%	9%	3%	2%	0%	0%	0%	0%	0%	0%	97
Health post	86%	0%	0%	9%	5%	0%	0%	0%	0%	0%	0%	0%	22
Managing authority													
Government	82%	2%	3%	7%	1%	3%	1%	1%	0%	0%	0%	0%	1,194
CHAM	74%	1%	6%	16%	0%	1%	2%	0%	1%	0%	1%	0%	401
Private for-profit	50%	4%	11%	28%	6%	0%	0%	0%	2%	0%	0%	0%	54
Private non-profit	83%	4%	6%	4%	0%	0%	4%	0%	0%	0%	0%	0%	54
NGO	81%	14%	0%	5%	0%	0%	0%	0%	0%	0%	0%	0%	21
Urban/rural													
Rural	82%	2%	4%	8%	1%	2%	1%	1%	0%	0%	0%	0%	1,493
Urban	57%	2%	7%	22%	3%	2%	6%	1%	0%	1%	0%	0%	231
Malawi	79%	2%	4%	10%	1%	2%	1%	1%	0%	0%	0%	0%	1,724

Table 111. Reasons provided by caretakers of children under-five for choosing the health facility where they received under-five sick child services by region, facility type, managing authority, and urban vs. rural location (N=2,250), Malawi 2018/2019

	Location close to home	Low cost	Trust in providers	High quality care	Availability of drugs	No other facility nearby	Recommendation or referral	Free service	Less congested	Other	Total number of under-five clients
Region											
North	73%	1%	2%	10%	6%	4%	1%	2%	0%	1%	430
Centre	73%	5%	4%	9%	4%	1%	0%	2%	1%	1%	819
South	76%	4%	4%	9%	3%	1%	1%	1%	1%	2%	1,001
Facility type											
Hospital	57%	6%	5%	18%	6%	1%	3%	3%	0%	2%	272
Health centre	79%	3%	2%	6%	4%	2%	0%	2%	1%	1%	1,329
Dispensary	78%	3%	5%	7%	5%	1%	1%	0%	0%	0%	149
Clinic	62%	7%	6%	15%	5%	1%	1%	0%	1%	3%	388
Health post	93%	2%	2%	2%	2%	0%	0%	0%	0%	0%	112
Managing authority											
Government	80%	3%	3%	5%	3%	2%	1%	2%	0%	1%	1,395
CHAM	65%	3%	2%	18%	6%	1%	1%	0%	2%	1%	422
Private for-profit	54%	10%	8%	18%	7%	0%	1%	0%	0%	2%	264
Private non-profit	86%	1%	2%	3%	4%	1%	0%	0%	0%	4%	104
NGO	74%	0%	3%	22%	0%	0%	0%	0%	0%	2%	65
Urban/rural											
Rural	78%	3%	3%	7%	4%	2%	1%	1%	1%	1%	1,840
Urban	58%	5%	7%	17%	4%	1%	2%	2%	0%	3%	410
Malawi	74%	4%	3%	9%	4%	1%	1%	1%	1%	1%	2,250

Table 112. Primary mode of transportation for ANC clients by region, facility type, managing authority, and urban vs. rural location (N=1784), Malawi 2018/2019

	By foot	Bicycle	Private car	Public car/ bus	Private motorcycle	Bicycle taxi	Ambulance	Total number of ANC clients
Region								
North	71%	7%	6%	7%	8%	1%	0%	350
Centre	56%	26%	4%	5%	8%	1%	0%	661
South	61%	22%	3%	6%	5%	4%	0%	773
Facility type								
Hospital	43%	22%	13%	11%	8%	4%	0%	275
Health centre	65%	20%	2%	5%	6%	2%	0%	1,335
Dispensary	58%	22%	2%	11%	6%	2%	0%	55
Clinic	55%	21%	9%	7%	4%	4%	0%	97
Health post	82%	18%	0%	0%	0%	0%	0%	22
Managing authority								
Government	63%	20%	3%	6%	6%	2%	0%	1,242
CHAM	58%	23%	5%	5%	7%	2%	0%	413
Private for-profit	43%	17%	20%	13%	6%	2%	0%	54
Private non-profit	74%	15%	2%	2%	2%	6%	0%	54
NGO	52%	24%	14%	0%	10%	0%	0%	21
Urban/rural								
Rural	64%	22%	3%	4%	6%	2%	0%	1,537
Urban	45%	13%	13%	15%	9%	6%	0%	247
Malawi	61%	21%	4%	6%	6%	2%	0%	1,784

Table 113. Mean distance travelled, transport cost, and waiting time for ANC clients by region, facility type, managing authority, and urban vs. rural location, Malawi 2018/2019

	Distance to facility (km) (N=1775)	Proportion who paid for transport (N=1784)	Transport cost to the facility for those who paid (in MK) (N=353)	Waiting time to be seen by a provider (minutes) (N=1784)
Region				
North	7.7	21%	689.6	44.2
Centre	6.4	20%	906.2	38.3
South	5.5	20%	653.3	42.5
Facility type				
	7.5	35%	654.6	39.2
Health centre	6.3	17%	832.1	43.2
Dispensary	3.5	15%	287.9	27.8
Clinic	4.2	25%	604.2	30.9
Health post	2.8	5%	0	32
Managing authority				
Government	6.1	19%	721.4	43.1
CHAM	7.0	22%	904.5	39.5
Private for-profit	5.6	22%	404.2	23
Private non-profit	4.1	22%	512.5	33.5
NGO	4.1	19%	1,025.0	36.3
Urban/rural				
Rural	6.4	17%	825.4	42.3
Urban	5.4	37%	545.1	35.1
Malawi	6.2	20%	753.1	41.3

Table 114. Primary mode of transportation for under-five children by region, facility type, managing authority, and urban vs. rural location (N=2333), Malawi 2018/2019

	By foot	Bicycle	Private car	Public car/bus	Private motorcycle	Bicycle taxi	Ambulance	Total number of under-five clients
Region								
North	77%	9%	4%	6%	2%	2%	1%	448
Centre	73%	14%	4%	5%	3%	1%	0%	844
South	74%	13%	3%	7%	2%	1%	0%	1,041
Facility type								
Hospital	80%	11%	3%	4%	2%	1%	0%	272
Health centre	70%	17%	2%	7%	4%	1%	0%	1,412
Dispensary	51%	14%	12%	17%	3%	3%	1%	149
Clinic	80%	13%	5%	1%	1%	1%	0%	388
Health post	65%	8%	9%	14%	3%	2%	0%	112
Managing authority								
Government	62%	16%	8%	10%	3%	2%	0%	1,457
CHAM	78%	13%	2%	4%	3%	1%	0%	443
Private for-profit	88%	8%	2%	2%	0%	0%	0%	264
Private non-profit	59%	13%	10%	13%	2%	3%	1%	104
NGO	93%	7%	0%	0%	0%	0%	0%	65
Urban/rural								
Rural	78%	13%	2%	4%	3%	1%	0%	1,847
Urban	59%	9%	12%	16%	1%	2%	1%	486
Malawi	75%	13%	4%	6%	2%	1%	0%	2,333

Table 115. Mean distance travelled, transport cost, and waiting time for under-five children by region, facility type, managing authority, and urban vs. rural location, Malawi 2018/2019

	Distance to facility (km) (N=2317)	Proportion who paid for transport (N=2333)	Transport cost to the facility for those who paid (in MK) (N=356)	Waiting time to be seen by a provider (minutes) (N=2332)
Region				
North	7.4	16%	546.5	38
Centre	4.7	17%	374.5	35
South	5.0	18%	326.8	39
Facility type				
Hospital	7.5	30%	427.9	36
Health centre	5.5	13%	302.3	44
Dispensary	4.1	4%	166.7	40
Clinic	4.3	34%	539.6	17
Health post	3.5	1%	50.0	28
Managing authority				
Government	5.6	12%	306.6	47
CHAM	5.2	19%	312.9	26
Private for-profit	5.0	41%	542.7	15
Private non-profit	3.1	14%	376.2	27
NGO	5.0	31%	782.6	23
Urban/rural				
Rural	5.4	11%	297.5	45
Urban	5.0	40%	594.8	25
Malawi	5.4	17%	383.7	38

Table 116. Components of antenatal care received during ANC by region, facility type, managing authority, and urban vs. rural location (N=1785), Malawi 2018/2019

	Weighed	Blood pressure checked	Uterine height measured	Received iron/folic acid pills	Asked if ever received TT injection	Advice on diet	Advice on importance of exclusive breastfeeding	Discussed HIV counselling and testing at this or a previous visit	Mean number of components	All components	Total number of ANC clients
Region											
North	93%	71%	76%	86%	71%	46%	50%	91%	73%	13%	351
Centre	85%	59%	76%	92%	67%	49%	49%	92%	71%	13%	661
South	95%	76%	82%	88%	74%	58%	60%	95%	79%	23%	773
Facility type											
Hospital	95%	87%	73%	85%	76%	52%	59%	92%	77%	19%	275
Health centre	91%	63%	80%	90%	69%	51%	52%	93%	73%	16%	1,335
Dispensary	86%	66%	86%	93%	80%	70%	73%	100%	82%	25%	56
Clinic	95%	90%	73%	89%	76%	60%	60%	98%	80%	16%	97
Health post	73%	91%	95%	91%	68%	82%	55%	91%	81%	32%	22
Managing authority											
Government	89%	61%	79%	90%	70%	50%	53%	93%	73%	16%	1,242
CHAM	97%	85%	78%	88%	72%	58%	55%	93%	78%	19%	414
Private for-profit	98%	91%	83%	91%	87%	57%	61%	98%	83%	24%	54
Private non-profit	85%	83%	65%	78%	70%	52%	56%	96%	73%	9%	54
NGO	86%	90%	81%	86%	76%	81%	67%	100%	83%	38%	21
Urban/rural											
Rural	90%	66%	78%	90%	70%	52%	55%	93%	74%	17%	1,538
Urban	96%	85%	81%	84%	77%	52%	48%	94%	77%	17%	247
Malawi	91%	69%	79%	89%	71%	52%	54%	93%	75%	17%	1,785

Table 117. Components of under-five care received during child visit by region, facility type, managing authority, and urban vs. rural location (N=2333), Malawi 2018/2019

	Ask child age	Weigh the child	Measure height	Plotted height or weight on growth chart	Provider told you if child's weight and height/weight is adequate	Physical exam	Counselling on continuous feeding of a sick child	Mean number of components	All components	Total number of under-five clients
Region										
North	89%	39%	9%	16%	10%	55%	17%	33%	2%	448
Centre	89%	58%	11%	26%	14%	44%	16%	37%	1%	844
South	88%	67%	19%	34%	30%	54%	30%	46%	7%	1,041
Facility type										
Hospital	87%	70%	16%	33%	19%	54%	20%	43%	6%	272
Health centre	90%	53%	12%	26%	20%	47%	21%	38%	3%	1,412
Dispensary	84%	68%	21%	28%	24%	64%	32%	46%	5%	149
Clinic	88%	61%	14%	23%	21%	62%	23%	42%	5%	388
Health post	84%	71%	16%	43%	22%	24%	22%	40%	0%	112
Managing authority										
Government	89%	55%	14%	26%	20%	46%	22%	39%	3%	1,457
CHAM	88%	65%	14%	36%	25%	53%	23%	43%	5%	443
Private for-profit	88%	61%	13%	22%	19%	66%	19%	41%	5%	264
Private non-profit	86%	44%	15%	19%	22%	55%	31%	39%	7%	104
NGO	89%	78%	18%	38%	23%	54%	18%	46%	6%	65
Urban/rural										
Rural	89%	55%	13%	26%	20%	49%	22%	39%	3%	1,847
Urban	88%	72%	19%	34%	25%	55%	22%	45%	7%	486
Malawi	88%	58%	14%	27%	21%	50%	22%	40%	4%	2,333

Table 118. ANC clients satisfied with health facility, health workers, and quality of care of ANC visit by region, facility type, managing authority, and urban vs. rural location (N=1785), Malawi 2018/2019

	Facility opening hours are adequate	Number of days facility is open is adequate	Facility is clean	Health staff are courteous and respectful	Easy to discuss health concerns with the provider	Provider explained the condition well	Provider dedicated sufficient time to the client	Trust in skills and abilities of the health workers	Overall quality of services provided was satisfactory	Mean number of items satisfied with	Satisfied with all items	Total number of ANC clients
Region												
North	85%	90%	80%	91%	91%	92%	93%	93%	92%	83%	62%	351
Centre	89%	92%	88%	91%	90%	89%	93%	95%	94%	85%	64%	661
South	87%	91%	89%	88%	90%	86%	91%	95%	94%	84%	60%	773
Facility type												
Hospital	89%	93%	84%	87%	88%	91%	92%	96%	93%	85%	62%	275
Health centre	87%	91%	87%	90%	91%	88%	92%	94%	94%	84%	61%	1,335
Dispensary	86%	91%	91%	91%	84%	86%	93%	96%	93%	83%	61%	56
Clinic	91%	93%	93%	93%	95%	88%	91%	98%	97%	87%	71%	97
Health post	82%	77%	64%	100%	96%	100%	100%	96%	100%	85%	50%	22
Managing authority												
Government	85%	89%	83%	88%	89%	87%	91%	94%	93%	82%	56%	1,242
CHAM	93%	96%	96%	92%	94%	92%	96%	97%	96%	88%	75%	414
Private for-profit	94%	96%	91%	98%	94%	93%	93%	98%	98%	88%	76%	54
Private non-profit	93%	94%	94%	89%	91%	87%	87%	93%	89%	85%	69%	54
NGO	95%	100%	95%	100%	100%	86%	100%	100%	100%	92%	81%	21
Urban/rural												
Rural	88%	90%	87%	90%	90%	88%	92%	95%	94%	84%	62%	1,538
Urban	89%	94%	87%	89%	92%	94%	93%	95%	95%	85%	63%	247
Malawi	88%	91%	87%	90%	90%	89%	92%	95%	94%	84%	62%	1,785

Table 119. Under-five clients satisfied with health facility, health workers, and quality of care of under-five visit by region, facility type, managing authority, and urban vs. rural location (N=2333), Malawi 2018/2019

	Facility opening hours are adequate	Number of days facility is open is adequate	Facility is clean	Health staff are courteous and respectful	Easy to discuss health concerns with the provider	Provider explained the condition well	Provider dedicated sufficient time to the client	Trust in skills and abilities of the health workers	Overall quality of services provided was satisfactory	Mean number of items satisfied with	Satisfied with all items	Total number of under-five clients
Region												
North	86%	86%	76%	91%	93%	79%	91%	93%	89%	87%	51%	448
Centre	86%	86%	86%	89%	87%	74%	87%	95%	90%	86%	51%	844
South	85%	85%	87%	88%	87%	78%	87%	94%	90%	87%	57%	1,041
Facility type												
Hospital	90%	90%	86%	90%	90%	82%	87%	96%	92%	89%	63%	272
Health centre	84%	84%	83%	87%	88%	74%	87%	93%	88%	85%	50%	1,412
Dispensary	79%	79%	79%	88%	87%	78%	89%	94%	91%	85%	46%	149
Clinic	92%	92%	95%	95%	89%	83%	94%	96%	94%	92%	68%	388
Health post	80%	80%	67%	88%	81%	79%	80%	94%	91%	82%	41%	112
Managing authority												
Government	81%	81%	79%	86%	87%	75%	85%	93%	87%	84%	46%	1,457
CHAM	93%	93%	93%	93%	92%	79%	93%	97%	93%	92%	65%	443
Private for-profit	94%	94%	96%	95%	92%	83%	95%	96%	96%	93%	71%	264
Private non-profit	87%	87%	93%	92%	82%	77%	92%	92%	90%	88%	63%	104
NGO	94%	94%	100%	100%	89%	86%	92%	100%	99%	95%	75%	65
Urban/rural												
Rural	84%	84%	82%	88%	88%	88%	87%	94%	89%	87%	51%	1,847
Urban	91%	91%	92%	94%	90%	88%	93%	96%	93%	92%	66%	486
Malawi	85%	85%	84%	89%	88%	88%	88%	94%	90%	88%	54%	2,333

Annex 2: Master facility list (MFL)

Annex 3: Questionnaire
