

Republic of Kenya



Ministry of Health

**MINI-SERVICE AVAILABILITY AND READINESS
ASSESSMENT
(MINI-SARA)**

2016 SURVEY REPORT



Nairobi, February 2017

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Mini-Service Availability and Readiness Assessment, Survey Report
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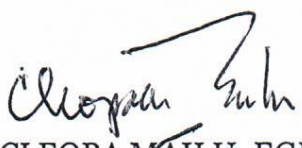
Foreword

The Kenyan "Service Availability and Readiness Assessment" provides a snapshot of the current status of health service provision in Kenya in 2016. The study used an international standard questionnaire instrument and indicators adopted for Kenya in line with the Kenya Essential Service Package (KEPH) outlined to Kenyans during the review period. Data was collected from a sample of 19 Counties and health facilities to provide a representative reflection of health services in the country as a whole.

The survey provides estimates of general health care availability and readiness, as well as detailed assessments of specific areas of health care provision. The publication represents a major contribution to effective monitoring of health service delivery in the country. As well as filling an immediate information gap, the survey provides a monitoring and evaluation function. A "baseline" situation assessment was done in 2013 against which future progress may be judged. The report also responds to the increased demand for accountability by publishing objective measures of service delivery capability. In highlighting areas of strength and weakness, the report is aimed at highlighting critical issues for health planners and managers to priorities effort and allocates resources.

It is my hope that this report will assist in filling the gaps identified in the Mid-term review of the Kenya Health Sector Strategic Plan (KHSSP) 2014-18. We envisage that it will be used by all stakeholders in the health sector in order to raise standards of service delivery.

I look forward to your support for strengthening the health systems and future participation to assess the results of our collective efforts. On behalf of the Ministry of Health, I express appreciation to the Global Fund to fight AIDS, Tuberculosis and Malaria for providing the financial support required for this study and to the WHO, and my Ministry technical team for conducting the survey and producing the report.



**DR. CLEOPA MAILU, EGH
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Acknowledgement

The Ministry of Health wishes to greatly acknowledge the contribution of organizations and individuals to the successful completion of the mini Kenya Service Availability and Readiness Assessment (SARA) 2016. This survey was undertaken to inform the Mid Term Review (MTR) report of the Kenya Health Sector Strategic (KHSSP 2014-2018) and investment plan.

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Executive Summary

Background

The 2016 service availability and readiness assessment (SARA) was carried out to inform the mid-term review of Kenya's Health Sector Strategic and Investment Plan (KHSSP) 2014-2018. Service availability refers to the physical presence of delivery of services. Service readiness on the other hand refers to the ability or capacity of health facilities to provide services - as measured by the presence of tracer items such as medical equipment, human resources, medicines, and laboratory and imaging services. The SARA 2016 becomes the second SARA survey in Kenya that provides a good understanding of progress with service availability and readiness of health facilities since the last assessment report in 2013.

The survey was conducted in a nationally-representative sample of 250 facilities across 19 counties in Kenya. Structured interviews with key informants on the availability of services and capacity of health facilities to provide the services using the adapted SARAM 2013 questionnaire was carried out. The facilities were selected through a multistage stratified random sampling method designed to give a representative national sample. Sampling weights were applied to reflect the probability of sampling at each stage of the sampling design to allow for a national estimate of service availability and readiness. The survey was a collaborative effort involving national and international partners under the leadership of the Kenya Ministry of Health. The two survey results were compared and the two studies showed a positive correlation hence comparison of the indices. Using a paired sample t-Test revealed a improvement, though not significant at 5%, of 17.2% with $t=2.474$, $p=0.069$ in general service readiness index for SARAM 2013 and SARA 2016; A greater improvement can be noticed if a Census is conducted.

Survey Findings

Service Availability

The assessment of service availability was based on the presence of the key service intervention package outlined in the Kenya Essential Service Package for Health (KEPH) services. The two studies provided the status of service provision for the different KEPH services across the country with similar essential service package outlined in KEPH. The mean service availability index score for KEPH has significantly improved from the last SARAM 2013 across all service areas with an average of 41% of health facilities providing across all the six objectives in SARAM 2013 results to 55% realised in SARA 2016. Overall, the percentage of health facilities providing all KEPH services had a marginal increase of 5% to 16% up from 11% reported in SARAM 2013 results.

Much improvements of service availability was along the objective two of the KHSSP that moved from 37% to about 62% of health facilities reporting offering at least a service to Halt and reverse the burden of NCDs. There was minimal improvement in availability of KEPH services in provision of services to minimise exposure to health risks and reducing the burden of violence and injuries with 3% and 8% up from 51% and 40% realised in SARAM 2013 and SARA 2016 respectively. The growth of infrastructure has generally improved with increase in specific service interventions across the country while bed population ratios remained low at 14 per 10,000 which were more similar to what was reported in the MTR of the KHSSP 2014-2018.

Elimination of communicable conditions service availability readiness index moved from 54% in 2013 to 71% in 2016. Generally health facilities providing all services for elimination communicable conditions moved from 2% to 23% in 2013 and 2016 respectively. Significant improvements were realised with 62% of the health facilities providing the services in 2016 from 37% recorded in 2013. However, the number of health facilities offering all services reduced from 5% to 0% in the same period. There was minimal improvement in availability of KEPH services in provision of reducing violence and injuries from 40% to 48% but all health facilities offering services were not reported but was 7% in 2013. Slightly more than 20% of the health facilities were ready and provided essential health services with number of health facilities offering all services doubling. Moreover, minimal improvement was realised in exposure to health risk factors with 3% increase. The mean availability index was overall at 55% up from 44% in 2013 while, about 5% of the health facilities provided all the health services.

On Specific service availability, the percentage of health facilities providing some services doubled in SARA 2016 compared to SARAM 2013. This included services like Maternity services (from 35% - 72%), and institutional screening for NCDs (from 28% - 63%). Generally there was marked improvement across all services with immunization in 64% of the health facilities in SARAM 2013 to 85% in SARA 2016; child health services in 88% up from 70% realised in SARAM 2013; antenatal care services with 89% of the health facilities providing the services up from 68% in SARAM 2013; HIV/STI prevention with 88% of the surveyed facilities proving service; Pre-hospital care in 56% of the health facilities; Reproductive health in 86% and percentage of health facilities proving general OPD services increasing from 77% in SARAM 2013 to 96% in 2016. This could be probably due to the on-going increased infrastructure development by the County Governments and the managed equipment services projects in public health facilities in counties to improve access to health-care.

Capacity to provide health services

Assessment of capacity to provide services was based on the presence of the four critical inputs needed for provision of services. The capacity was around;

- a. Physical Health Facility availability or presence of the health facility;
- b. Health Infrastructure and equipment availability: availability and functionality of the critical physical infrastructure, equipment, transport and ICT;
- c. Health workforce availability: availability of different health workers' by cadre and skills for the past two years;
- d. Health products availability: availability of the critical health products used as tracer items.

a. Physical health infrastructure availability

A total of 250 health facilities both public and private were visited. Based on sample frame of about 10,000 health facilities, there was unequal distribution in counties hence the weighting using proportionate sampling to determine the number of health facilities to conduct SARA. A total of 245 out of 250 facilities responded giving a 98% respond rate. There were marked improvements with mean availability of services in 50% and percentage of health facilities offering all services at 67%.

b. Health infrastructure and medical equipment

The availability of physical infrastructure and functionality status of the equipment for actual provision of health services was functional in over 90% of the selected facilities and functional medical equipment according to the KEPH levels i.e. Dispensaries and health centres (primary level - levels 2 and 3), hospitals for levels 4, 5 and 6 (primary Hospital for basic referral services, secondary hospitals and tertiary hospitals). Close to three-quarters (72%) of the health facilities expected to have radiology units, had them functional. The mean availability index of functional of all the physical infrastructure and medical equipment stood at 94% in 2016.

On basic equipment, the percentage of health facilities with basic equipment has generally improved to over 80% in health facilities apart from Light Source which was in 63% of the health facilities in SARAM 2013 to 65% in SARA 2016. Overall, the mean availability of at least one tracer items increased about double from 42% in SARAM 2013 to 83% in SARA 2016 while, the percentage of facilities with all items reduced by about 20%.

Integrated Maternal Child health (MCH) and Family planning services grew up from 64% in 2013 to 84% in 2016, while accidents and emergency services went up by two fold from 27% in 2013 to 52% in 2016 respectively. Consequently, inpatient services moved from 14 of the health facilities to 40% in 2016. Clinical laboratory was provided in 75% of the health facilities while, specialized laboratory services propagated from 4% in 2013 to 21% in 2016. The other services that has benefited from devolution and Managed equipment services was Imaging services which is being provided and available in 29% of the sampled health facilities from 2% realized in 2013, while, physiotherapy and orthopedic services went up from 4% to slightly above 30%.

c. The availability of health workforce

There was no sufficient data collected (three out of nineteen counties and therefore not used). There is need for the national and county governments to enhance use of the integrated human resource for health information systems (iHRIS) to allow comparison of the core human resource per population ratio and link with other services. This should be prioritized before next census or SARA exercise.

d. The availability of health products

The assessment of availability of medical products was based on the presence of the following tracer items that each are vital thus: essential medicines for children; vaccines; essential health products for maternal health; lifesaving commodities; HIV products; Tuberculosis products; Malaria products; NCD products; and General medicines. The items were considered available if they were observed and confirmed by the interviewers to be viable and valid (not expired or spoilt). A major limitation of this assessment is that, it did not consider the quantity of the medical products in stock; an item was considered available even if only one was in stock.

Vaccines: on immunisation services a total of 11 tracer vaccinations were used to assess the capacity of the health facilities to establish readiness to provide immunization services. About 7 out of 11 health facilities had at least 70% of the health facilities with vaccine in stock. Vaccines were available in the health facilities with the highest being Tetanus Toxoid vaccine (82%) and the lowest being HPV vaccine (7%). Rabies (23%), Typhoid (12%) and yellow fever (9%) were among the least available vaccines in the facilities.

Essential medicines for children: a total of 11 tracer items was assessed thus; Amoxicillin syrup/suspension, ACT, Paracetamol, syrup/suspension, Procaine benzylpenicillin powder for injection, Zinc tablets, Vitamin A capsules, ORS sachets, Gentamicin injectable, Ceftriaxone powder for injection, Ampicillin powder for injection and Morphine granule, injectable or cap/tab. Most of the

facilities had essential medicines for children in over 70% of the health facilities with mean availability of 72%. The availability of essential medicines for children varied depending on the type of medicine, with the availability high for some medicines and very low for others. Amoxicillin syrup/suspension was the most commonly available, with the medicine available in 84% of facilities followed by ORS (77%) and Morphine was the least availability, with the medicine available in less than a third (30%) of the facilities.

Essential medicines for mothers: The availability of essential medicines for mothers was generally low. Out of the 12 essential medicines for mothers that were assessed that is Gentamicin injectable, Misoprostol cap/tab, Benzathine benzylpenicillin powder for injection, Oxytocin injectable, Sodium chloride injectable solution, Nifedipine cap/tab, Magnesium sulfate injectable, Ampicillin powder for injection, Betamethasone or Dexamethasone injectable, Calcium gluconate injectable and Metronidazole injectable; one third of the tracer items were available in more than 70% of the health facilities with the highest number of health facilities reporting gentamicin injectable (75%), Misoprostol cap/tab (75%), Benzathine benzylpenicillin powder for injection and Oxytocin injectable reported in 73% of the health facilities surveyed. Injectable metronidazole was least available, with the medicine available in only 28% of the facilities, followed by calcium gluconate (41%) and Betamethasone or dexamethasone (41%). Lifesaving commodities observed in stock and validly available were low for Magnesium sulphate, a medicine that is essential for preventing or controlling seizures associated with pregnancy induced hypertension (raised blood pressure), was in only 56% of the facilities in Kenya while, antenatal corticosteroids (53%) in slightly half of the health facilities. On average, 64% of the health facilities had at least one tracer medicines for mothers.

Essential drugs for NCDs: Assessment of availability of medicines for non-communicable diseases (NCDs) was based on the presence of 10 tracer drugs that were considered to be particularly important for treating NCDs namely; Epinephrine injection, Glucose 50% (or 10%) injectable solution, Prednisolone cap/tab, Furosemide 40mg tabs (Thiazides), Enalapril 5 mg cap/tab (Vasodilatation) , Metformin cap/tab, Hydrochlorthiazide 25mg tab, Atenolol 50 mg cap/tab (Beta-blockers), Aspirin 300mg tab, Insulin injection, Amlodipine 5mg tab (Calcium channel blockers) and Beclomethasone 50mcg/dose inhaler to establish service readiness. Epinephrine injection was the most available and stocked drug in three quarters (75%) of the health facilities visited while least identified tracer items in stock was Beclomethasone 50mcg/dose inhaler in one third of the health facilities (34%).

Laboratory supplies: To enable us measure health facilities readiness, 14 tracer

items were used measure the availability of laboratory supplies which ranged from 40% (Buffer tablets) to 77% (gloves). Among the essential items used were Gloves (77%) , Needles (76%) , Cotton wool (74%), Normal Saline (71%), Applicator sticks (71%), Alcohol swabs (70%) , Gauze rolls (69%), Urine containers (68%), Stool containers (65%), Surgical blades (62%), Filter papers (59%), Tourniquet (59%), while least provided tracer item were Scalp vein needles(46%), and Buffer tablets (40%). Blood transfusion services were offered in only 64% of hospitals and in 54% of maternity and nursing homes.

General Service readiness

General Service readiness refers to the overall capacity of health facilities to provide general health services. Readiness in this case was defined as the availability of components (tracer items from the key components) required to provide services in the following five domains:

- a. basic amenities
- b. basic equipment
- c. standard precautions for infection prevention
- d. diagnostic capacity
- e. essential medicines

The capacity for the health facility to provide general health services was assessed using the five domain areas with various tracer items required as key components available and assessed to enable each of the domain area be ready to provide service thus;

a. Basic amenities

The provision of an enabling working environment is a basic requirement for an effective and functional health care delivery system. Such enabling environment includes the physical infrastructure and the availability of basic requirements for delivering quality services. The assessment of availability of basic amenities was based on the presence of the following seven tracer items that were considered to be particularly important and that were enquired about during the survey:

- i. A room with privacy
- ii. Power supply
- iii. Communication equipment
- iv. An improved water source
- v. Sanitation facilities

- vi. A computer with internet access
- vii. An emergency transportation

Generally, there was some improvement in availability of basic amenities required to provide service. However, the overall mean availability dropped by 17% with 63% of health facilities with at least one tracer item to provide basic services in 2016 from 80% in 2013. Another reduction was witnessed in the health facilities with all items from 47% in 2013 down to 14% in 2016. Sanitation facilities improved from 36% of the health facilities reported in SARAM 2013 to 91% in SARA 2016 results while consultation rooms increased in 18% of the health facilities to 54%, power source from 32% to 53%, improved power source from 44% to 58%, emergency transport improved from 49% to 70% and computers with internet facilities from 5% to 48% in health facilities assessed in SARAM 2013 and 2016 respectively.

b. Basic equipment

This looks at the availability of critical equipment, required for cross cutting delivery of health services. Facilities were assessed on the availability of the following basic equipment items:

- i. adult weighing scale
- ii. child/infant weighing scale,
- iii. thermometer,
- iv. Stethoscope,
- v. blood pressure machines and
- vi. light source.

There was a general improvement on availability of basic equipment to provide essential services with mean availability of tracer items of 83% up from 74% while the percentage of health facilities with all tracer items reported to have gone down from 67% to 55% in SARAM 2013 and SARA 2016 showing the inequities that are still in counties. The results showed that light source increased in health facilities and from the sampled facilities reported 65% up from 31% reported in SARAM 2013, infant weigh scales also reported in double the health facilities from 42% to 82%, while stethoscopes from 63% to 89%, blood pressure machines from 76% to 87% and adult weighing scales from 76% to 86%. None of the basic equipment are available 100%.

c. Standard precautions

Clients and health staff Safety is an essential part of the health service delivery system. Health care workers must be able to work in a safe working environment and provide services in a manner safest to their clients. The service readiness with respect to standard precautions was assessed based on the availability of the following 9 tracer items:

- i. safe disposal of sharps,
- ii. safe final disposal of infectious wastes,
- iii. appropriate storage of sharps wastes,
- iv. appropriate storage of infectious waste,
- v. disinfectant,
- vi. disposable or auto-disable syringes,
- vii. soap and water or alcohol based hand rub,
- viii. latex gloves, and
- ix. guidelines on standard precautions

Generally there was some improvement in availability of the tracer items for standard precautions to provide services with at least 76% of the health facilities with at least one tracer item compared to 66% realised in SARAM 2013. Relating to facilities having standard precautions for infection prevention and control, the availability of at least one tracer item improved in SARA 2016 to 76% of the health facilities to provide services while the percentage of facilities with all items dropped from 68% to 15% demonstrating the huge disparities in counties. Appropriate storage of sharp waste, availability of disinfectant, availability of latex gloves, and availability of appropriate storage of infectious wastes and safe final disposal of infectious waste went down by between 14% - 73% in the two surveys. Moreover, some tracer items improved between the two surveys thus; safe final disposal of sharps from 66% to 88%, availability of soap and water from 62% to 80%, availability of disposable or auto disable syringes from 66% to 87% and guidelines for standard precautions from 82% to 87% of the health facilities surveyed.

d. Diagnostic Capacity

To establish capacity of health facilities to offer critical diagnostic services 8 tracer items were assessed to establish the readiness of the laboratory to provide basic diagnostic clinical services using the following:

- i. Capacity to carry out test for Malaria

- ii. Capacity to carry out tests for HIV
- iii. Capacity to check for Blood glucose
- iv. Capacity to check for Haemoglobin
- v. Capacity to check for syphilis using rapid test
- vi. Capacity to check urine dipstick for glucose
- vii. Capacity to check urine dipstick for protein
- viii. Capacity to carry out urine test for pregnancy

The results indicate that 75% of the health facilities surveyed were able provide clinical laboratory services while, ultra sound scans was now available in 30% of the health facilities compared to 6% in SARAM 2013. The units that were able to provide Imaging X-ray services also went up from 11% in SARAM 2013 to 29% in SARA 2016. The rest of the specialised services showed urge disparities for CT scans and MRI low in the sampled counties.

e. Essential medicines

To enable us measure essential medicines availability, 14 tracer items were assessed to determine availability and the readiness of the health facility to provide key services. Overall, 16% of the health facilities assessed had all items while slightly more than two thirds (69%) of the health facilities had at least one tracer item available to provide essential services. Amoxicillin was the most (85%) available items available, followed by paracetamol suspension (81%), contrimoxazole suspension (79%), diclofenac (78%), Ciprofloxacin (76%), Ceftriaxone injection (73%) and Diazepam (70%) in the health facilities surveyed. The least available tracer items were Simvastatin (30%), atenolol (58%) and Gilibenlamide (64%) in less than two thirds of the health facilities.

General Service readiness score

Overall General Service Readiness Index score between the two surveys 2013 and 2016 improved from 57% to 63% of the health facilities in Kenya. The basic amenities index score almost doubled to 83% from 47% realised in SARAM 2013 while, the basic equipment index score was in 76% of the health facilities surveyed in SARA 2016 up from 67% recorded in SARAM 2013. The readiness index score for standard precautions moved up by 3% to 76% from 73% realised previously in SARAM 2013.

Consequently essential medicines index score was almost three quarters (73%) of the health facilities up from less than half (41%) of the health facilities with essential medicines readiness available and recorded in SARAM 2013. The general

service readiness score (or index) differed by facility level. The score for hospitals (78%) was higher than elsewhere i.e. hospitals had 78% of the items of general services that were enquired about during the survey. The score was 67% for health centres, 65% for dispensaries, and 73% for medical clinics. The general service readiness score in the hospitals, health centers, dispensaries and medical clinics survey in 2016 was higher compared to 2013 SARAM with 72%, 55% and 53% recorded in SARAM 2013 respectively. By managing authority, there was almost an equal increase in general readiness but private for profit and private not for profit had higher readiness index compared to public with an index score of 77% while private not for profit with 75% and public with 71%, respectively.

Specific Service Readiness

The specific services focused in the Survey of availability and readiness to provide eight specific services for the following services: Maternal health, Non-communicable Diseases, HIV/AIDS, Tuberculosis, Malaria, Child health, Surgical care and Diagnostic services. All these have been much described in detail as Family planning services, Antenatal care services, Delivery services (normal delivery and basic emergency obstetric care), Routine child immunization, Preventive and curative services for children under five years of age, Adolescent health services, Malaria services, Tuberculosis diagnosis and treatment, HIV counseling and testing, HIV/AIDS care and support, Antiretroviral prescription and client management, Prevention of mother-to-child transmission of HIV (PMTCT), Sexually-transmitted infections services, Diabetes services, Cardiovascular disease services, Chronic respiratory disease management, Basic surgical services, advanced surgical services, high-level diagnostics and Blood transfusion services;

a. HIV Service availability and Readiness

Over 80% of hospitals provided all the HIV/STI services, while over 70% of all primary health care facilities, except for medical clinics, provided these services. The overall availability of the other ARVs in hospitals was over 70% with the exception of Stavudine and Zidovudine. Dispensaries and standalone clinics had a very low availability of ARVs ranging from 0 to 33%. Most public and private not for profit facilities had first line ARVs available compared to the private for profit.

Assessment of readiness for HIV was based on the presence of 9 numbers of items that were considered particularly important for providing HIV services. Of the items that were enquired about 17% of the facilities had all of them. On average, 44% of the health facilities had at least what was considered items available first line to provide HIV/AIDS services. Due to the inclusion of stavudine and zidovudine based drugs, which are currently not considered as first line medication. The overall HIV service readiness index was 44% compared to 67% in SARAM 2013.

b. Tuberculosis service Readiness

More than half of the facilities had TB commodities. Streptomycin and Rifampicin were the least stocked commodities in 33% and 37% facilities respectively. More than 75% of hospitals had the fixed dose combinations for treatment of TB, while only 60% and 61% had rifampicin and isoniazid. The availability of TB drugs in health centers and dispensaries was generally low. The overall TB service readiness index was in 46% of the health facilities compared to 60% in 2013.

c. Malaria Services Availability and readiness

Kenya has four malaria zones: the high endemic zone around Lake Victoria and in the coastal region, the semi-endemic zone in the arid regions of Northern and North-Eastern Kenya, malaria epidemic zones in the highlands of Western Kenya and low malaria endemic zone mostly in Central Kenya. Regardless of their location, all facilities in Kenya are expected to offer malaria services; this however was not the case. Half (50%) of the facilities reported that they offered malaria services. Readiness for malaria services: Assessment of readiness for malaria services was done among facilities that indicated that they offered malaria services. It was based on the presence of the following:- Paracetamol cap/tab (adult oral formulation), ACT (Artemether + Lumefantrine), Rapid diagnostic test kits, Quinine 300mg/ml injection, Insecticide treated bednets, SP (Sulfadoxine + Pyrimethamine) tabs, Protective gear for IRS, and Spray pumps for Indoor Residual Spraying 9 items that were considered to be particularly important and that were enquired about during the survey: On average, facilities had 54% of the items available.

Over 70% of facilities by level of care had the first line medication (ACT), for treatment of malaria, with hospitals and dispensaries having as high 84% and 85% respectively. Other malaria commodities like quinine, SP, protective gears and spray pumps for IRS and insecticide treated nets were generally low across the facilities both by level and by managing authority. The overall Malaria service readiness index was 54 compared to 70% in 2013.

d. Child health preventive and curative care service availability and readiness

Child health services had an overall mean availability of 71% though the percentage of facilities offering all services was 23%. Over 90% percent of all facilities by level of care offered immunization services except for the medical clinics where only 32% offered this service bringing down the overall number of facilities offering immunization services to 85%. Integrated vector management was the least service offered by the facilities. Child specific drug items were readily available

with amoxicillin syrup in 85% of the health facilities surveyed and oral rehydration sachets and zinc for the management of diarrhoeal available in 77% and 79% of the health facilities respectively.

e. Maternal health service availability and readiness

Out of the facilities sampled, more than 80% provided antenatal care, reproductive health, immunization, integrated MCH/family planning and prevention of mothers-to-child transmission of HIV services. Most services for the mothers were generally available in more than 70% of the health facilities including skilled deliveries (72%). The mean availability of maternal health services was 50% with hospitals having the highest (72%) number of the facilities offering the services while medical clinic/standalone, VCT having the lowest (20%) number of facilities offering the services. The availability of lifesaving drugs for the mother was available in over two thirds of the health facilities with Oxytocin at 73% and magnesium sulphate available in 56% of the health facilities. Drugs for the new-borns were in at least 75% of the health facilities.

f. Adolescent Health service Availability and readiness

About 23% of the health facilities assessed offered comprehensive youth friendly services. HIV and STI prevention was the most in (88%) of the facilities, while substance abuse was provided in 50% of the facilities.

g. Non-communicable diseases availability and readiness

The mean availability of NCD services offered in the facilities surveyed was 20%. Forty-two percent of the hospitals provided these services compared to primary facilities with most of the facilities (82%) offering workplace and health safety and least offered (27%) was rehabilitation services. About 30% of the public facilities provided the NCD services compared to private not for profit and private for profit while, none of the primary health facilities provided all NCD services. The mean availability of NCD services offered in the facilities surveyed was 20%. However, the overall NCD service readiness index was 40% which showed an increase from 34% in SARAM 2013. Most facilities should be encouraged to offer these services since NCDs cases are increasing.

h. Neglected tropical Diseases

Most of the sampled facilities (86%) were noted to be offering screening for communicable diseases, with less than half of the facilities (47%) offering NTD services.

i. Surgical services Availability and readiness

The overall Surgical Care Services Readiness Index decreased to 35% in 2016 from 48% in 2013. Less than 51% of the facilities were able to provide surgical procedures, as outpatient, or inpatient and emergency procedures, with most of these procedures performed in hospitals. However, 93% of facilities were able to manage injuries. Increased specialists and increase of theater equipment through MES will come a long way in increasing the overall access to surgical services.

j. Other services

More than half (67%) of the facilities sampled offered all other services.

k. Blood transfusion services readiness

Blood transfusion services was available in 44% of the facilities, with a mean availability of tracer items for blood transfusion at 20%. Thirty-one percent of the facilities had blood storage refrigerator and guidelines on the appropriate use of blood and blood transfusion, while, at least 1 trained staff on appropriate use of blood and safe blood transfusion. Being an essential service, means of increasing access to and supply of blood, blood products and storage facilities should be sought.

Health Leadership and partnerships

The Health leadership and partnership readiness looked at the availability of critical capacity and actions needed for stewardship of the health agenda in the sampled counties. As outlined in the Kenya Health Sector Strategic and Investment Plan (KHSSP 2014 - 2018), the Health Sector Leadership and Governance is built around three thrusts:

a. Improving Health Stewardship by Government for the Health agenda. Stewardship relates to the management function of the Government, through the Ministry responsible for Health both at National and County levels and is built around implementation of the mandate outlined in executive order No. 2.

b. Implementation of appropriate systems for Health Governance. Governance segments to the functioning of the institutions by which the authority of the State of Kenya is exercised. These address the regulatory and legal functions that all actors in the sector have to adhere to, and are built around the sector legal and regulatory framework.

c. Consolidating Health Partnership arrangements. Partnership relates to the inter-relations and coordination of different actors working towards the

same goals, and is built around the adherence to the sector partnership Code of Conduct and partnership frameworks.

i. Health stewardship readiness

The health stewardship readiness was measured using 9 tracer items that included, Annual work planning, monthly management meetings held, functional committees, at least 4 supervisory visits in a year among others. 59% of the health facilities had annual work plans in place and 56% of them had been supervised. Better stewardships readiness has been experienced compared to what was experienced in SARAM 2013, with a marked improvement in functioning infection prevention committees from 24% to 53%, and functioning work/quality improvement committees from 27% to 51%. Generally 46% of the health facilities had experienced health stewardship readiness to facilitate service delivery.

ii. Health partnership readiness

Health partnership readiness was assessed using five tracer items of: clearly demarcated areas of responsibilities; link to support groups; quarterly stakeholders meeting; annual stakeholders meeting and county stakeholder's forum. In SARAM 2013, all this tracer items were below 50%. However, the indicators are still generally low, where by health facilities had clearly demarcated areas of responsibility being highest at 58%, quarterly and annual stakeholders meetings was 41% and 39% respectively and health facilities participation in county stakeholder forums the lowest at 33%. Actualization of the partnership framework being developed at the health sector will enhance partner engagements since all partnership structures have been well defined.

iii. Health governance readiness

The measurement of readiness for health governance had four indicators: board meetings held at least 2 times a year; constituted functional corruption committees; independent managed suggestion boxes and fully constituted health facility committees. Marked improvement in governance between the two years was seen especially on corruption prevention from SARAM 2013 with 14% to SARA 2016 with 55%. However, the indicator on fully constituted health facility boards recorded none of the health facilities with fully constituted boards while 55% of them had corruption prevention committee.

Abbreviations and Acronyms

ACT	Artemether Combined Therapy
CSO	Civil Society Organizations
DHIS2	District Health Information System
DQR	Data Quality Review
HFA	Health Facility Assessment
HPV	Human Papilloma Virus
HRH	Human Resources for Health
IDSR	Integrated Disease Surveillance and Response
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Nets
KEPH	Kenya Essential Package for Health
KHSSP	Kenya Health Sector Strategic Plan
KMHFL	Kenya Master Health Facility List
KSPA	Kenya Service Provision Assessment
MNCAH	Maternal Neonatal Child and Adolescent Health
MTC	Medicines and Therapeutic Committee
MTR	Mid-Term Review
NCD	Non-Communicable Diseases
NGO	Non-Governmental Organization
RDT	Rapid Detection Tests
SARA	Service Availability and Readiness Assessment
SARAM	Service Availability and Readiness Assessment Mapping
SDG	Sustainable Development Goals
STI	Sexually Transmitted Infection
TB	Tuberculosis
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

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Chapter 1

Introduction

1.1 Background

The health sector in Kenya through the stewardship of the Ministry of Health adopted the Kenya Health Sector Strategic plan (KHSSP) 2014-2018, which provides a framework to guide the health sector priorities, and implementation arrangements at all levels including partnership arrangement for this period. The Vision 2030, which is Kenya's Development Blue Print, also guides the health sector priorities by laying emphasis on strengthening health systems in the country, as one of the strategies towards national development. The Kenya Policy Framework (2014 - 2030) guides, directs and coordinates the operation of Vision 2030.

The constitution of Kenya under article 43 emphasizes that every person has the right to health, which includes, the right to the highest attainable standard of health, including reproductive health care. This has come with an increased demand for accountability and the need to demonstrate results at country and county levels, especially with devolution of health services. The main aim of the devolution of health services was to enhance service delivery in a more efficient and effective manner with a clear focus to citizens.

In this context, it was therefore important to have a clear status and capacity of health services provision across the country, to serve as a benchmark for counties to follow up on investments and their impacts in health. This would assist the counties to track response of health systems to increased inputs and improved processes over time and their impact on health outcomes and health status.

The Service Availability and Readiness Assessment Mapping (SARAM), 2013, was designed to provide this benchmark. The SARAM, 2013 followed a standard methodology developed by the World Health Organisation (WHO) in collaboration with the United States Agency for International Development (USAID). SARAM, 2013 tools were designed as a systematic set of tracer indicators to

assess health facility service availability and readiness, thereby filling a critical gap in measuring and tracking progress in health system strengthening. The Kenyan mini-SARA, 2016 was built upon previous and current approaches designed to assess service delivery including the SARAM, 2013 and the Kenya Service Provision Assessment (KSPA) tool developed by ICF International under the USAID-funded MEASURE DHS (Monitoring and Evaluation to Assess and Use Results, Demographic and Health Surveys) project, among others. It draws on best practices and lessons learned from the many countries that have implemented health facility assessments as well as guidelines and standards developed by WHO technical programmes and the work of the International Health Facility Assessment Network (IHFAN).

1.2 Elements of SARA

Service availability was assessed through a systematic survey, using a set of tracer indicators of service availability. It involved mapping of the existing inputs needed to provide the service; Human Resources (numbers, and basic skills), Infrastructure (physical infrastructure, equipment, transport, and ICT), and Health Products to generate reliable information on the availability of basic equipment, basic amenities, essential medicines, and diagnostic capacities. It also looked at the availability of the health worker knowledge on the methods of provision of the service, and the ability to appropriately mix the required inputs to deliver the service.

Facility readiness was assessed through the same systematic survey, and generated information on the basic health-care interventions relating to family planning, child health services, basic and comprehensive emergency obstetric care, HIV, TB, malaria, and non-communicable conditions, neglected tropical diseases, surgeries, blood transfusion and laboratory. Readiness assessment looked at functionality of critical inputs needed for provision of services for example health worker knowledge and ability to mix inputs.

1.3 SARA Framework

The framework of SARA is represented in Figure 1.1 which is characterized by capacity and readiness to provide services.

1.4 Kenya Mini-SARA

The Kenya mini-SARA was necessitated by the need for vital information not routinely available, to inform Mid-Term Review (MTR) of the KHSSP, 2014-

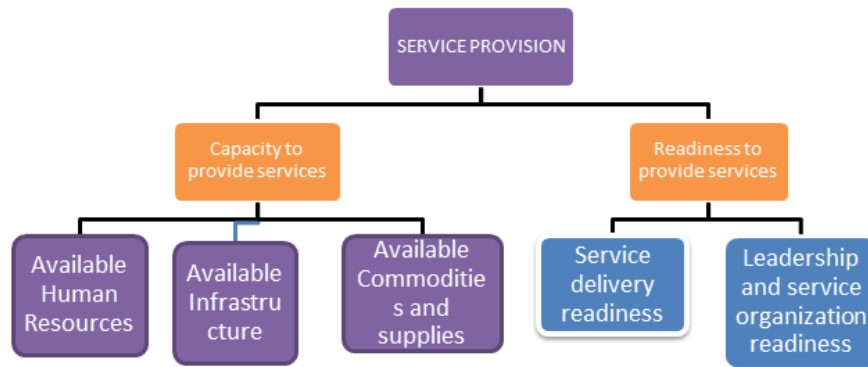


Figure 1.1: SARA framework

2018. It generated information on the various investments (inputs) that would inform the various outputs and roadmap for the remaining period of the strategic plan. The Mini-SARA used methodologies like previous assessments of service availability and readiness assessment mapping in Kenya, ensuring direct comparability of the findings. It was conducted in 19 counties unlike the country wide SARAM, 2013 census. A complete SARAM census is scheduled to be undertaken in 2017.

1.5 Objectives of the mini-SARA

1.5.1 General Objective

The overarching objective of the exercise was to conduct an integrated Mini-SARA that would generate reliable information on health service delivery including service availability, such as the availability of key human and infrastructure resources, and on the readiness of health facilities to provide the basic health-care interventions. The results from the exercise were expected to inform the MTR process for KHSSP (2014-2018) and in the development of subsequent health sector plans.

1.5.2 Specific objectives

- a. To detect changes and measure progress in health system strengthening over time.
- b. To identify approaches that are critical to achieving the SDGs, such as implementing interventions to reduce child and maternal mortality, reduce HIV/AIDS, tuberculosis and malaria, respond to the increasing burden of non-communicable and neglected diseases.
- c. To generate an evidence base to feed into the KHSSP 2014- 2018, to better inform the development of the roadmap for the remaining period and to guide more effective country/county and partner investments.

- d. Generate the status and readiness of health facilities to offer key health interventions outlined as a health package to be offered to the citizens, including availability of knowledge, supplies, and capacities needed to ensure available inputs are being used to produce required outputs.

Chapter 2

Methodology for Kenya Mini-SARA

2.1 Introduction

The Mini-SARA was carried out during the period of November-December 2016, involving sampled facilities in 19 counties. Facilities sampled included public health facilities (facilities owned by and managed by the Ministry of Health, county governments, and other government institutions), Private not for profit Facilities (facilities owned and managed by Faith Based Health services, NGOs, CSO's and other non-profit/public benefit organizations), Private-for-profit facilities (facilities manned by private individuals, organisations, or groups, as profit making enterprises).

2.2 Sampling Methodology

The sampling strategy used was aimed at getting a nationally representative sample by taking a simple random sample of facilities within each stratum (facility type and managing authority) at the national level. List sampling from the Kenya Master Health Facility List (KMHFL) was used due to its relative simplicity in sample selection, as a list of all facilities is available in Kenya. It also has the advantage of obtaining a sample that is usually regionally and nationally representative. A total of 250 facilities were visited during the exercise. The steps followed in the sampling methodology were as follows;

2.2.1 Determination of eligible facilities

The characteristics of the facilities that form the study population was agreed upon based on the following;

- a. Managing authority - Private, NGO/FBO and Public
- b. Facility level - Primary health facilities (Levels 2 and 3), Hospitals (Levels 4 and 5)

2.2.2 Construction of sampling frame

The KMHFL served as the sampling frame for this survey. The KMHFL contains a list of all registered health facilities in Kenya by managing authority, facility level, location, among other forms of disaggregation. All the facilities have been assigned a unique number to identify them.

2.2.3 Determination of strata

A stratified sampling plan was followed for the survey that ensured representation across the various strata/domains of the eligible facilities. The sampling frame was partitioned into strata. The defined strata were;

- Public hospitals (Levels 4, 5 and 6)
- Private hospitals (Levels 4 and 5)
- FBO/NGO hospitals (Levels 4 and 5)
- Public primary health facilities (Levels 2 and 3)
- Private primary health facilities (Levels 2 and 3)
- NGO/FBO primary health facilities (Levels 2 and 3)

2.2.4 Sample size determination

Calculation of the sample size was done for a nationally representative sample, stratified by facility type, and managing authority.

- The sampling frame categorized by facility type/managing authority was as follows, Table 2.1;

Table 2.1: Sample Frame population of health facilities

Facility type/managing authority	Total number of facilities
Hospital - public	315
Hospital - private	148
Hospital - FBO/NGO	100
Primary Health Facility - public	4,873
Primary Health Facility - private	3,644
Primary Health Facility - FBO/NGO	1,451
Total	10,531

- The following formula was used to determine the number of primary health facilities and hospitals within each stratum, to be included in the sample.

$$n = \left(\frac{(Z^2 \times p \times q) + ME^2}{\frac{Z^2 \times p \times q}{N} + ME^2} \right) \times d \quad (2.1)$$

where:

n = sample size

Z = is the abscissa of the normal curve that cuts off an area at the tails (1 - equals the desired confidence level, i.e., 95% which is 1.96)

ME = margin of error ($15p$ = the anticipated proportion of facilities with the attribute of interest.

$q = 1 - p$

d = design effect (1 for stratified sampling)

Determination of the sample was based on the 5 core indicators of the Data Quality Review (DQR), Malaria, Tuberculosis, HIV, immunization and maternal health. TB indicator resulted into the highest sample size of 220 facilities, Table 2.2. The TB service coverage was as follows: Average 60%, public facilities was 68%, private facilities was 47% while NGO/FBO facilities was 61% according to SARAM, 2013 report.

The sample was adjusted by 13% to account for non-response or missing facilities. This adjustment resulted in a sample of 250 facilities. The facilities were proportionally allocated to the defined strata of Managing Authority and Facility Level.

c. Proportional allocation of facilities by managing authority and facility level

The final agreed sample size of 250 was proportionally allocated to the various strata using the formula;

$$n = \frac{x}{220} \times 250 \quad (2.2)$$

Where,

n = the final sample size for each stratum after adjustment

x = the initial sample size for each stratum before adjustment.

and tabulated in Table 2.3.

The final sample size contained a total of 112 hospitals and 138 primary health facilities for public, private and NGO/FBO managing authorities.

2.2.5 Selection of health facilities

a. Sampling of counties

All the 47 counties were zoned according to the Kenya Monitoring and Evaluation performance review into ten (10) zones based on proximity, access and regional balance. 19 counties were randomly selected from the 10 clusters using Microsoft Excel. The clusters of the counties are presented in Table 2.4.

Table 2.2: Proportion of interest (p) obtained from the TB indicator (SARAM 2013)

Facility type	Hospitals	Primary	Z	p	q	ME	Primary facility	Hospitals	Total sample size
Hospital- public	315	0	1.96	0.68	0.32	0.15	0	34	34
Hospital- private	148	0	1.96	0.47	0.53	0.15	0	34	34
Hospital - FBO/NGO	100	0	1.96	0.61	0.39	0.15	0	30	30
Primary Health Facility - public	0	4,873	1.96	0.68	0.32	0.15	38	0	38
Primary Health Facility - private	0	3,644	1.96	0.47	0.53	0.15	43	0	43
Primary Health Facility - FBO/NGO	0	1,451	1.96	0.61	0.39	0.15	41	0	41
Total	563	9,968					122	98	220

Table 2.3: Sample size tabulation

Facility type	Number of facilities	Initial Sample size (Before adjustment)	Final sample size (After adjustment)
Hospital-public	315	34	39
Hospital-private	148	34	39
Hospital-FBO/NGO	100	30	34
Primary Health Facility-public	4,873	38	43
Primary Health Facility-private	3,644	43	49
Primary Health Facility-FBO/NGO	1,451	41	46
Total	10,531	220	250

Table 2.4: County Clusters

No.	County	Cluster/Zone	No.	County	Cluster/Zone
1	Elgeyo Marakwet	1	25	Kisumu	6
2	Baringo	1	26	Kisii	6
3	Nakuru	1	27	Homa Bay	6
4	Laikipia	1	28	Nairobi	7
5	Narok	2	29	Makueni	7
6	Nandi	2	30	Machakos	7
7	Kericho	2	31	Kitui	7
8	Bomet	2	32	Kajiado	7
9	Vihiga	3	33	Nyeri	8
10	Kakamega	3	34	Nyandarua	8
11	Busia	3	35	Murang'a	8
12	Bungoma	3	36	Kirinyaga	8
13	Tharaka Nithi	4	37	Kiambu	8
14	Samburu	4	38	Tana River	9
15	Meru	4	39	Taita Taveta	9
16	Marsabit	4	40	Mombasa	9
17	Isiolo	4	41	Lamu	9
18	Embu	4	42	Kwale	9
19	Wajir	5	43	Kilifi	9
20	Mandera	5	44	West Pokot	10
21	Garissa	5	45	Uasin Gishu	10
22	Siaya	6	46	Turkana	10
23	Nyamira	6	47	Trans Nzoia	10
24	Migori	6			

b. Sampling of facilities

The county referral hospitals and all level 6 hospitals were sampled purposively due to the high work load, and range of infrastructure. The remaining facilities were then selected randomly across the various strata. Proportional allocation of these facilities to the various counties was done and the results are presented Table 2.5.

2.2.6 Proportional allocation of facilities to the 19 counties

Nineteen (19) counties had allocation per level of care and managing authority was done as per the Table 2.6.

2.2.7 Data collection and analysis

This survey used the SARAM data collection tools developed by WHO and were customized to include indicators on health leadership and partnership. These tools were hosted on the live site of DHIS2. A chart book was developed.

a. Training

The training on the tools was done in a cascaded manner starting with a 'master' training of trainers where the trainers of trainers were taken through the hard copy tools, and through the DHIS in terms of access of the tools and data. Thereafter, a training of trainers was done, for the county supervisors. Preference was given to those who had participated in the SARAM 2013. Piloting of the tools was done and feedback given on the challenges faced, and corrective action taken. Health records and information officers were selected as research assistants since they were familiar with DHIS2 and had data entry rights. Training of these research assistants on the tools was done together with testing of tools by pairing the research assistants and performing mock interviews.

b. Data collection

Data collection was based on key informant interviews in the selected facilities and observation of key items. This was done over 10 days, by thirty-one (31) teams of two (2) research assistants each, and two supervisors, one from the county and the other from the national level, who monitored the data collection process. There were three overall country coordinators whose work was to oversee the implementation of the survey. One questionnaire was administered per facility. This information was originally filled in manually, due to internet challenges, and information transferred to the SARA tool kit on DHIS2 live site at the end of each day. Data on the DHIS2 was verified and checked for completeness by the supervisors. At the end of the data collection and entry process, all SARA data

Table 2.5: Proportionate allocation per cluster

County	Cluster	County Referral (Purposive) sample size	Total Level 4 HF	Sample Size (Level 4)	Total Primary HF	Sample Size (Primary facilities)	Total Sample size per cluster
Elgeyo Marakwet	1	1	8	3	124	4	9
Nakuru	1	1	27	12	414	14	27
Nandi	2	1	6	3	197	7	11
Kericho	2	1	14	6	208	7	14
Vihiga	3	1	4	2	93	3	6
Bungoma	3	1	10	4	176	6	11
Tharaka Nithi	4	1	7	3	125	4	8
Marsabit	4	1	4	2	109	4	7
Garissa	5	1	14	6	151	5	12
Siaya	6	1	12	5	170	6	12
Kisii	6	1	23	10	146	5	17
Makueni	7	1	12	5	279	10	15
Kajiado	7	1	14	6	297	10	18
Nyeri	8	1	10	4	424	15	20
Murang'a	8	1	10	4	278	10	14
Tana River	9	1	1	0	66	2	3
Mombasa	9	1	19	8	303	11	20
Uasin Gishu	10	1	13	6	183	6	14
Turkana	10	1	9	4	212	7	12
Sub-Total		19	217	93	3955	137	250

from the 19 counties was downloaded from the DHIS2 into Microsoft Excel for cleaning.

c. Data cleaning and analysis

Data was cleaned by checking for duplicates, and any misclassifications. The cleaned data was then coded using an excel chart book. Analysis was done using Microsoft Excel, with generation of tables, charts, and indices. Report writing followed based on the findings of the various outputs whilst making comparisons to the previous SARAM 2013 results.

2.2.8 Mechanisms for data quality assurance

Data entry into the DHIS2 was through assigned research assistants who had specific log in rights thus ensuring data integrity. To ensure timeliness, collected data was entered into DHIS2 at the end of each day. Reliability of the data was ensured by use of documented methods of data collection and analysis. There was routine crosschecking and verification by the supervisors in the various facilities. Outliers were being flagged before the end of the exercise.

Chapter 3

Service Availability

3.1 Introduction

This chapter starts by presenting information on availability of KEPH services. It provides for the status of provision of different KEPH services across the Country. In this section, the reader is able to appreciate which services are currently being provided with comparative figures from 2013 SARAM. Service Availability relates to physical presence of; Service Interventions provided by the facility, and available Human Resources for Health (HRH), Infrastructure (physical, equipment and Communication) and Health Products to facilitate provision of the interventions. Access to health services is anchored in law and health services should be equitably distributed to allow physical access and facilitate programming in the health sector. It is also important that services are significantly integrated to allow efficient utilisation of the resources.

Figure 3.1 shows that the mean availability index scope for KEPH has significantly improved from the last SARAM with between 4 - 40% increase in specific service interventions for the specific objectives of the KHSSP 2014-2018. Elimination of communicable conditions service availability readiness index moved from 54% in 2013 to 71% in 2016. Generally health facilities providing all services for elimination communicable conditions moved from 2% to 23% in 2013 and 2016 respectively.

The government promised to reverse the rising burden of Non-communicable conditions, in the year under review, significant improvements were realised with 62% of the health facilities providing the services in 2016 from 37% recorded in 2013. However, the number of health facilities offering all services reduced from 5% to 0% in the same period. There was minimal improvement in availability of KEPH services in provision of reducing violence and injuries from 40% to 48% but all health facilities offering services were not reported but was 7% in 2013. Slightly more than 20% of the health facilities were ready and provided essential health services with number of health facilities offering all services doubling. Moreover,

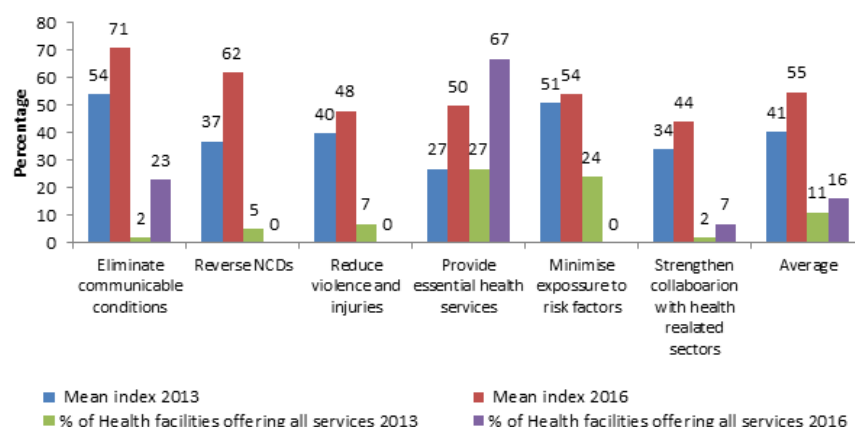


Figure 3.1: Mean Availability and scope of provision of KEPH services 2013 and 2016

minimal improvement was realised in exposure to health risk factors with 3% increase. The mean availability index was overall at 55% up from 44% in 2013 while, about 5% of the health facilities provided all the health services.

The mapping of health services was done against the Kenya Essential Package for Health, (KEPH) - which is the comprehensive service package to be offered. The number of facilities providing the KEPH services varied significantly, and depended on the specific set of services. Generally, all the services have drastically increased. For instance the proportion of health facilities providing immunisation services increased from 64% in 2013 to 85% in 2016. Marked increase on services was across all the service interventions, especially institutions screening for NCDs increased from 28% in 2013 to 68% of the health facilities in 2016. Other significant increase was realised in the number of facilities offering maternity services with two fold from 35% in 2013 to 72% in 2016. This was across all services as shown in Figure 3.2.

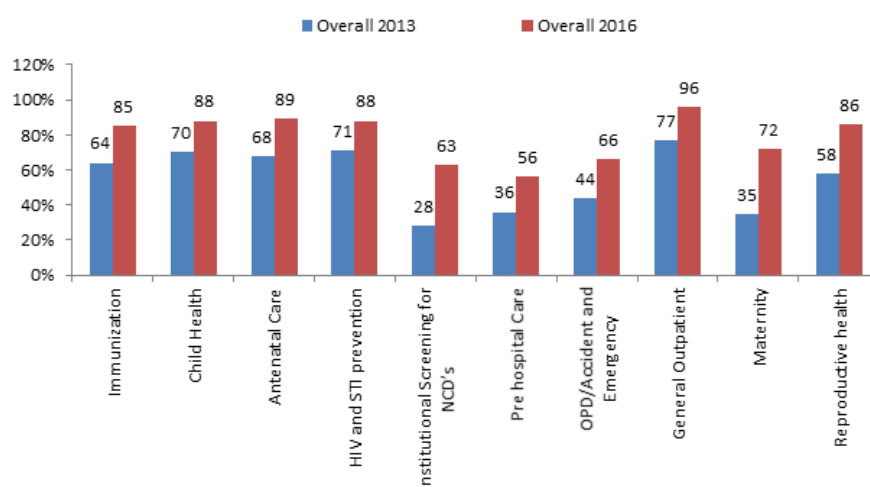


Figure 3.2: Selected service availability 2013 and 2016

Figure 3.3 shows some of the specific and specialized services. Integrated Maternal Child health (MCH) and Family planning services grew up from 64% in 2013 to 84% in 2016, while accidents and emergency services went up by two fold from 27% in 2013 to 52% in 2016 respectively. Consequently, inpatient services moved from 14 of the health facilities to 40% in 2016. Clinical laboratory was provided in 75% of the health facilities while, specialized laboratory services propagated from 4% in 2013 to 21% in 2016. The other services that has benefited from devolution and Managed equipment services was Imaging services which is being provided and available in 29% of the sampled health facilities from 2% realized in 2013. Moreover, physiotherapy and orthopedic services went up from 4% to slightly above 30%.

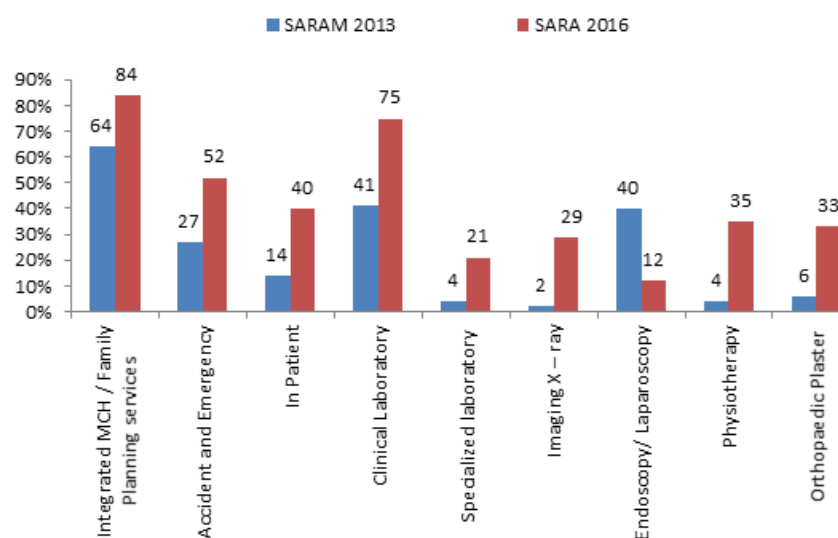


Figure 3.3: Specific and specialized service availability 2013 and 2016

Generally most of the services (over 90%) were offered in Hospitals and Health centres with more in public facilities followed closely by private not for profit but was less in private for profit. Appendix I shows the details of all the KEPH services across the tiers of care. Most of the medical clinics did not offer a wide range of services, of note, maternal and child health services, but offered general outpatient care.

3.2 Elimination of communicable conditions

Figure 3.4 shows that the mean availability of services to eliminate communicable conditions in 2016 was 71% up from 54% reported in 2013 with hospitals having higher mean availability compared to primary care services as shown in Table 3.1. Least was in medical clinics with less than 50% of facilities offering the services. Public health facilities also had more than three quarters (77%) of the health facilities providing services to eliminate communicable conditions but least was in private for profit health facilities at 58%. The percentage of health

Table 3.1: Services on elimination of communicable conditions provided by KEPH

Variable	Type of facility						Managing authority		
	Total	Hospital	Primary Care facilities				Public	Private, not-for-profit	Private, for-profit
			1	2	3	4			
Total number of facilities	245	99	34	60	38	14	143	36	66
Mean availability of services (%)	71	82	77	69	44	69	77	72	58
Percent of facilities offering all services (%)	23	29	29	12	18	21	24	31	17
Specific services (%)									
Immunization	85	98	94	90	32	93	94	92	62
Child health	88	99	91	90	53	93	95	92	71
Screening for communicable conditions	86	95	91	73	74	100	88	92	79
Antenatal care	89	98	100	93	55	79	97	86	76
Prevention of mothers-to-child transmission of HIV	80	93	94	78	34	79	91	81	55
Integrated vector management	49	68	53	48	11	21	61	39	30
Good hygiene practices	93	95	97	87	89	100	92	97	91
HIV and STI prevention	88	95	94	87	68	86	92	92	77
Port health	8	9	12	5	3	14	8	8	6
Control and prevention of NTD's	47	71	41	35	18	29	54	44	35

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

facilities providing all services also generally increased across from mean of 2% to 23%. Less than 50% of medical clinics offered specific services, apart from good hygiene practices and screening for communicable conditions where over 70% of these facilities offered these services. Generally a great improvement in service availability to eliminate communicable conditions.

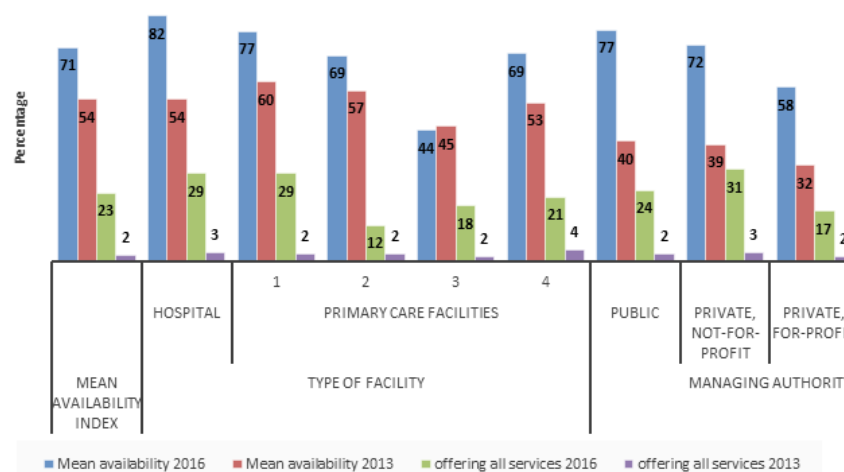


Figure 3.4: Mean availability of services for eliminating communicable conditions 2013 and 2016

3.3 Burden of non-communicable conditions

The mean availability of services to halt and reverse the rising burden of non-communicable conditions increased to 62% in 2016 compared to 37% across all facilities, Table 3.2 and Figure 3.5. The availability was higher at hospital level with 80 compared to primary levels with less than two thirds availability. Health promotion and education for NCD's and Workplace health and safety was the most common services with mean availability of 80% and 82% respectively while, the percent of facilities offering all services was minimal at zero percent compared to 5% in 2013. Most public facilities offered services for halting and reversing the rising burden of non-communicable diseases compared to the private facilities. Comparative analysis show that service availability for non-communicable conditions increased generally with more than two thirds (68%) of public facilities providing the services.

3.4 Burden of violence and injuries

Table 3.3 showed that the mean availability of service to reduce the burden of violence and injuries stood at 48% up from 40% in 2013. Overall, 93% of all facilities provided services on management of injuries, but only 27% provided rehabilitative services. 86% of hospitals had OPD/accident emergency services

Table 3.2: Services on burden of non-communicable conditions provided by KEPH

Variable	Type of facility					Managing authority			
	Total	Hospital	Primary Care facilities			Public	Private, not-for-profit	Private, for-profit	
			1	2	3				4
Total number of facilities	245	99	34	60	38	66	143	36	66
Mean availability of services (%)	62	80	63	50	37	59	68	61	51
Percent of facilities offering all services (%)	0	1	3	2	2	7	1	3	1
Specific services (%)									
Health promotion and education for NCD's	80	91	82	77	58	64	85	72	71
Institutional screening for NCD's	63	75	71	48	53	57	65	64	59
Rehabilitation	27	56	9	10	0	14	36	22	9
Workplace health and safety	82	91	82	78	58	93	84	92	71
Food quality and safety	60	87	71	35	18	64	70	53	42

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

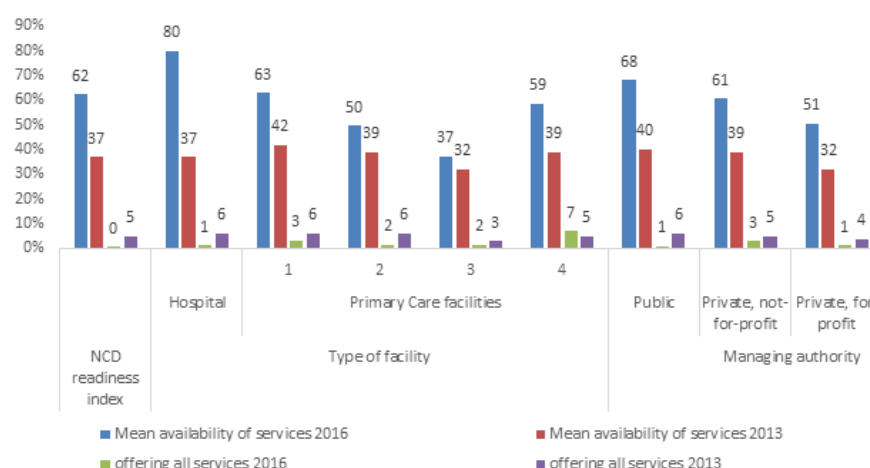


Figure 3.5: Mean availability of services for reversing the rising burden of non-communicable conditions

offered compared to dispensaries and medical clinics, where less than 50% of these facilities offered this service. By managing authority, facilities were similar in terms of availability of services to reduce the burden of injuries and violence. There was a general increase in the facilities offering services to reduce burden of injury in 2016 compared to 2013 as shown in Figure 3.6.

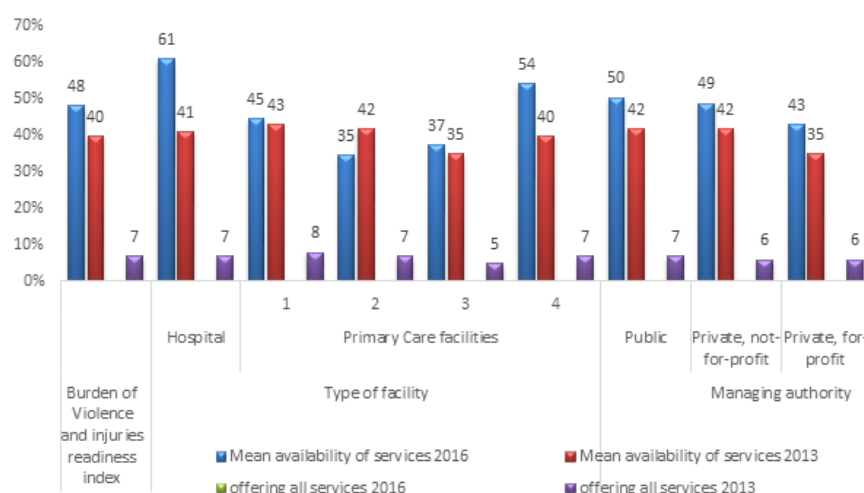


Figure 3.6: Mean availability of services for reducing the violence and injuries 2013 and 2016

3.5 Essential health services

From Table 3.4 and Figure 3.7 the mean availability of services to provide essential health services stood at 50%, which was an increase from 27% in 2013, with 67% of facilities offering all essential services. Seventy-nine percent of hospitals offered essential health services compared with the medical clinics where only 43% offered essential services. There has been a general increase in facilities that

Table 3.3: Services on burden of violence and injuries provided by KEPH

Variable	Type of facility				Managing authority		
	Total	Hospital	Primary Care facilities				Private, not-for-profit
			1	2	3	4	
Total number of facilities	245	99	34	60	38	66	143
Mean availability of services (%)	48	61	45	35	37	54	50
Percent of facilities offering all services (%)	0	0	0	0	0	0	0
Specific services (%)							
Health Promotion and education on violence / injuries	0	0	0	0	0	0	0
Pre-hospital care	56	67	53	38	47	79	57
OPD/accident and emergency	66	86	68	40	50	79	66
Management for injuries	93	97	94	85	89	100	92
Rehabilitation	27	56	9	10	0	14	36

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

offer essential services per facility level, and per managing authority, compared to 2013. Palliative care, comprehensive youth friendly services and specialized laboratory services are the least services offered in the facilities at less than 30% of facilities offering these services.

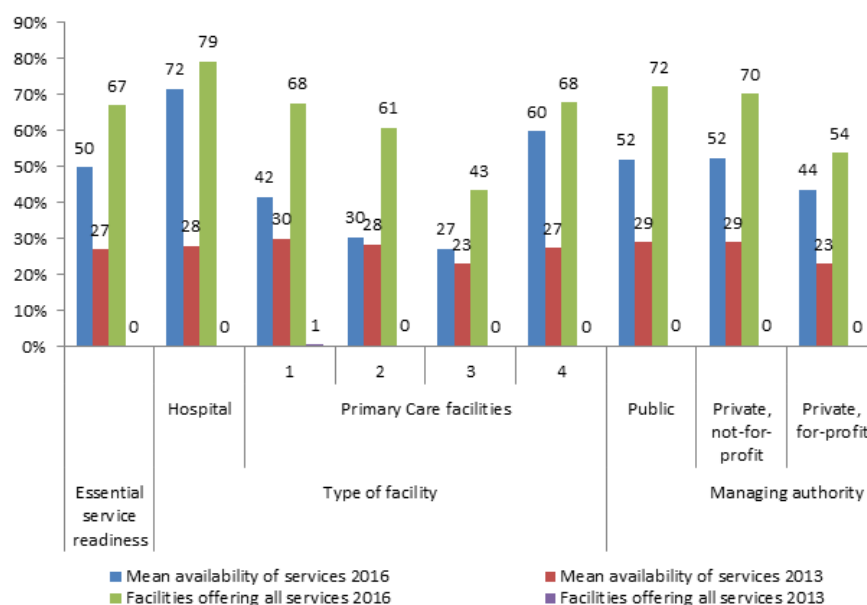


Figure 3.7: Mean availability Essential service index 2013 and 2016

3.6 Exposure to health risk factors

Figure 3.8 and Table 3.5 shows that there was a slight increase in mean availability of services that minimize exposure to risk factors from 54%, compared to 51% in 2013. Health promotion including health education services was offered in 86% of facilities. Most medical clinics did not offer services to reduce exposure to health risk factors. Close to two thirds of the hospitals provided the service. Moreover, in terms of micronutrient deficiency control, this was not commonly available (16%) in medical clinics, compared to 65% of all other facilities.

3.7 Collaborations with Health related sectors

Table 3.6 and Figure 3.9 indicate that there was a general increase in 2016 for collaboration with the health related sectors compared to 2013. The mean availability of services in health-related sectors was 44% compared to 34% in 2013, with only 7% of facilities offering all services. Hospitals had the highest mean availability of services at 64%, which was an increase from 37% in 2013. There was no much different in health facilities offering sanitation and hygiene, and safe water services which stood at 87% and 85% respectively in 2013 and 2016. Only 23% of facilities had road infrastructure and transport.

Table 3.4: Summary of essential health services provided by KEPH

Variable	Type of facility				Managing authority	
	Total	Hospital	Primary Care facilities			Private, not-profit
			1	2	3	
Total number of facilities	245	99	34	60	38	66
Mean availability of services (%)	50	72	42	30	27	60
Percent of facilities offering all services (%)	67	79	68	61	43	68
Specific services (%)						
<i>General outpatient</i>	96	97	100	93	95	100
<i>Integrated MCH/family planning services</i>	84	94	88	85	58	79
<i>Accident and emergency</i>	52	69	41	33	39	79
<i>Emergency life support</i>	39	58	26	17	26	71
<i>Maternity</i>	72	97	94	48	18	86
<i>Newborn services</i>	57	83	41	48	16	57
<i>Reproductive health</i>	86	98	91	80	55	100
<i>Inpatient</i>	40	74	24	7	11	64
<i>Clinical laboratory</i>	75	98	82	42	55	86
<i>Specialized laboratory</i>	21	47	3	0	3	14
<i>Imaging X-ray</i>	29	65	3	0	8	29
<i>Pharmaceutical</i>	77	91	85	63	53	79
<i>Blood safety</i>	33	63	9	7	8	57
<i>Rehabilitation</i>	27	56	9	10	0	14
<i>Palliative care</i>	16	28	9	3	11	21
<i>Specialized clinics</i>	37	70	18	7	11	50
<i>Comprehensive youth friendly services</i>	23	40	15	2	11	43
<i>General operations</i>	33	64	12	3	13	50

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

Table 3.5: Services on exposure to health risk factors provided by KEPH

Variable	Type of facility						Managing authority		
	Total	Hospital	Primary Care facilities				Public	Private, not- for-profit	Private, for-profit
			1	2	3	4			
Total number of facilities	245	99	34	60	38	66	143	36	66
Mean availability of services (%)	54	63	54	49	35	54	58	56	43
Percent of facilities offering all services (%)	0	0	0	0	0	0	0	0	0
Specific services (%)									
Health promotion including health education	86	93	88	82	74	86	90	89	76
Sexual education	73	84	74	65	55	79	76	78	64
Substance abuse	50	64	41	48	29	36	55	50	39
Micronutrient deficiency control	59	77	68	48	16	71	68	64	36
Physical activity	0	0	0	0	0	0	0	0	0

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

Table 3.6: Collaborations with health related sectors on KEPH services

Variable	Type of facility		Managing authority			
	Readiness index	Hospital	Primary Care facilities			Private, not-for-profit
			1	2	3	4
Total number of facilities	245	99	34	60	38	66
Mean availability of services (%)	44	64	37	25	22	54
Percent of facilities offering all services (%)	7	12	6	3	0	7
Specific services (%)						
Safe water	85	94	91	73	68	100
Sanitation and hygiene	87	97	94	72	71	100
Nutrition services	72	95	79	57	34	57
Pollution control	55	71	56	37	34	71
Housing	36	59	32	23	3	21
School health	53	68	76	45	16	29
Food fortification	33	47	21	25	18	36
Population management	33	47	21	25	18	36
Road infrastructure and transport	23	29	29	12	18	21

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

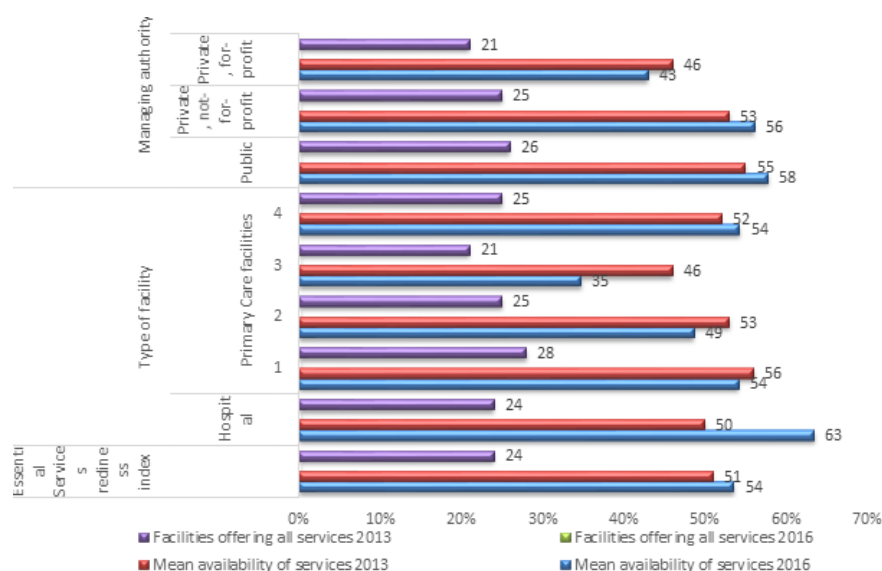


Figure 3.8: Mean availability of services for minimizing exposure to health risk factors 2013 and 2016

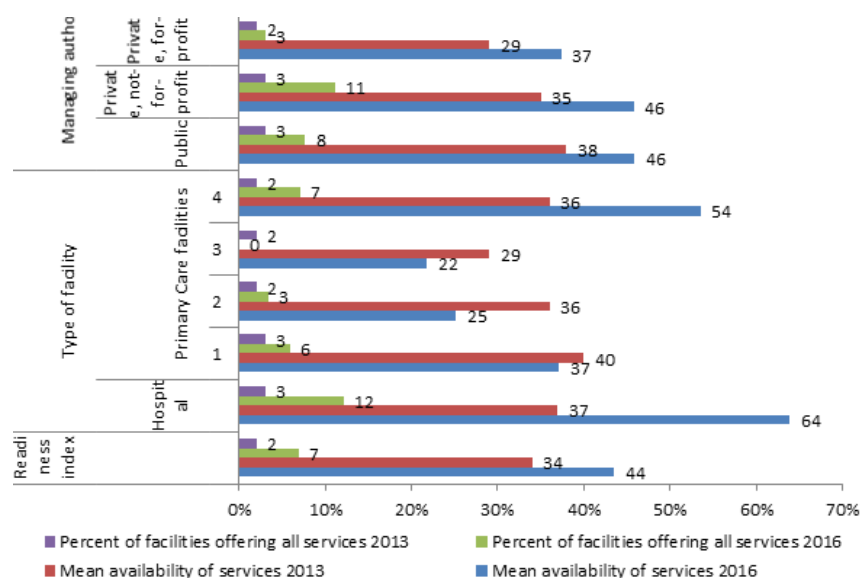


Figure 3.9: Mean availability of health related sectors 2013 and 2016

3.8 Physical health facility availability (infrastructure) and medical equipment

Figures 3.10 and 3.11 denote the physical availability and functions of the various units and equipment in health facilities. Generally over 95% of the units had basic infrastructure available and functional or working order. These include administrative offices, casualty units, communication equipment, CSSD units, Dental units, Eye and ENT units, inpatients, imaging units, ICU and High depended units, Kitchen and laboratory units all at 95%) and laundry units at 93% functional. The mean functionality of the units was available in 94% of the health facilities with the least available and functional as radiology units (72%).

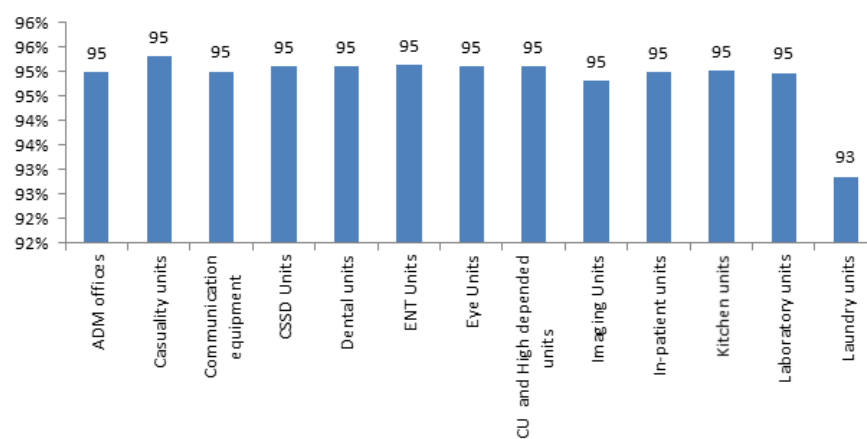


Figure 3.10: Mean availability index for Functional units and medical equipment (a)

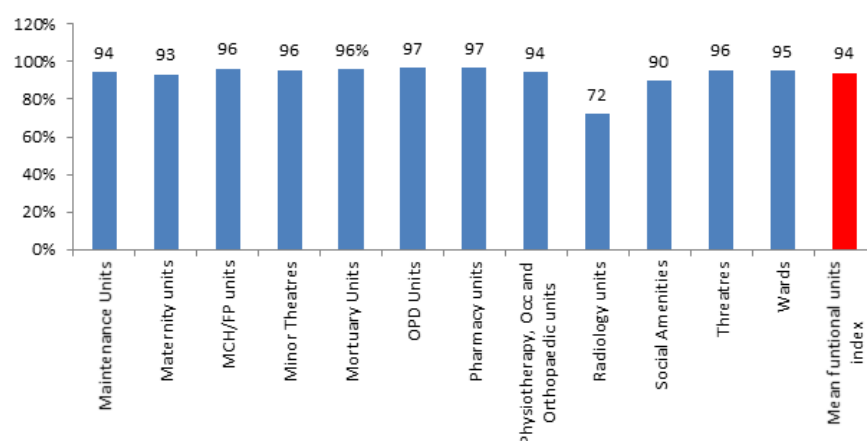


Figure 3.11: Mean availability index for Functional units and medical equipment (b)

3.9 Bed population ratios

The Bed population ratio here provides the key infrastructural that is used to determine the capacity of the health facility to provide accommodation services to the patients. Figure 3.12 demonstrates the number of available beds per 10,000 population. There are still large disparities among counties with some having a bed population ratio of 5 inpatient beds per 10,000 population while, others have 25 inpatient beds per 10,000. As shown in Figure 3.12, about 21% of them have below 10 inpatient beds per 10,000 population. The national average is 14 inpatient beds per 10,000 which were lower than 14.1 reported in SARAM 2013 denoting no statistical deference. There has been minimal increase in the number of beds across the counties. However, as expressed by the counties, there was disparities among counties with some with over five (5) times over others thus Kericho and Nyeri counties with the highest of 25 and 23 beds per 10,000 while least were Turkana 5 inpatient beds per 10,000 and Nandi and Murang'a

with 8 per 10,000 indicating large disparities.

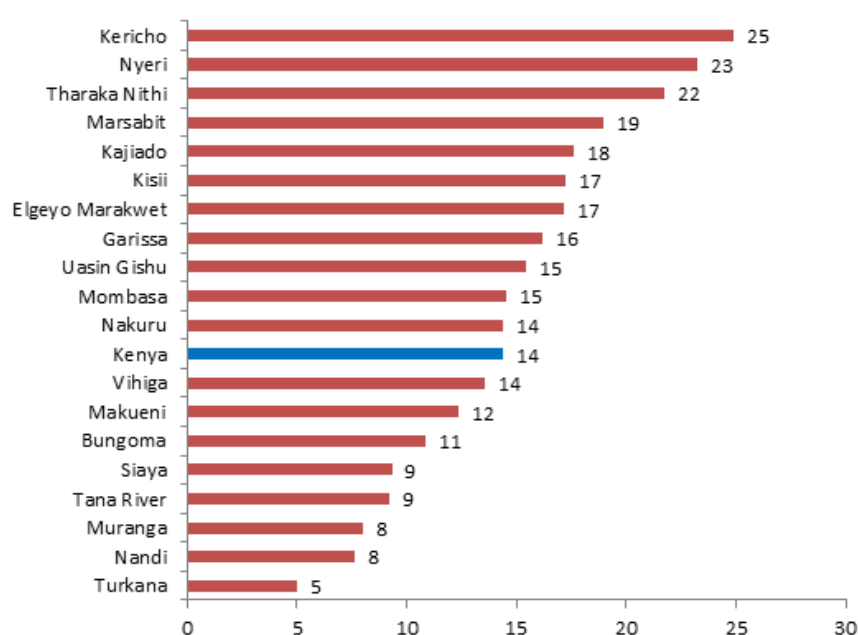


Figure 3.12: Bed population ratio/10,000 population by selected counties

3.10 Human resources for health availability

There was no sufficient data collected using the excel templates (three out of nineteen counties and therefore not used). There is need for the national and county governments to enhance use of the integrated human resource for health information systems (iHRIS) to allow comparison of the core human resource per population ratio and link with other services. This should be prioritized before next census or SARA exercise.

Chapter 4

General Services Readiness

4.1 Introduction

Service readiness looks at the capacity of the health facilities to provide required services as per the Kenya essential package for health. This specifically refers to the availability of basic requirements to provide services i.e. infrastructure, amenities, basic equipment, standard precautions for infection control, diagnostic tests, medicines and commodities.

A facility may have the required infrastructure, and staff for a maternity unit, but without basic equipment, or services like water/electricity to allow it provide quality maternity services. Such a facility is rated as not 'ready' for maternity services provision. It may have the required staff and equipment for provision of child health services, but the staff do not have the up to date skills in providing the services. Such a facility is not 'ready' for child health services provision. A facility may have the staff, infrastructure and commodities for running immunization services, but the vaccines are expired/poorly stored that they are not potent. Such a facility is not 'ready' for immunization services provision.

Readiness is therefore a critical element in assuring access to quality health services, which affects utilization patterns. Significant investments may be made into improving inputs (building facilities; hiring staff; buying equipment, etc.), but if the facilities are not made 'ready' to provide services, then the utilization of the services will not be as expected since the investments would not be used maximally. Physical access to services can only be assured, if inputs are made available, are functional, and the facility is ready to provide the service. WHO considers the general Service Readiness as the overall capacity of health facilities to provide general health services. General Service readiness is described by an index using the five general service readiness domains. A score is generated per domain based on the number of domain elements present, then an overall general readiness score is calculated based on the mean of the five domains.

Service Specific Readiness refers to the ability of health facilities to offer a specific service and the capacity to provide that service measured through selected tracer items that include trained staff, guidelines, equipment, diagnostic capacity, and medicines and commodities. In this assessment the focus was on three elements of service readiness;

a. General Service Readiness

Looking at the overall readiness of facilities to provide all Health Services they are expected to provide. The general service readiness was obtained from four critical readiness variables - standard precautions, basic amenities, basic equipment and essential medicines.

b. Service specific readiness

Looking at readiness of facilities to provide specific health services - focusing on HIV, TB, Malaria, Immunization, Child Health, maternal health, NCD's and surgical services. Basic amenities and standard precautions are all considered cross cutting, and should be available for all services. Tracer equipment and essential medicines are defined for each program area.

c. Health leadership readiness

Looking at the availability of critical capacity and actions needed for stewardship of the health agenda.

Figure 4.1 shows the percentage availability of services. Overall 96% of the health facilities surveyed provided general outpatient services up from 77% in 2013. Slightly more than three quarters (77%) were able to provide pharmaceutical services an increase of 13% experienced in earlier survey while, less than 50% of the health facilities (40%) provided inpatient services. The least offered with no increment in health facilities providing services was specialized services in 37% of the health facilities having specialized clinics.

4.2 General Service Readiness index

From Figure 4.2, the service readiness index was 63%, implying that 63% of all health facilities are ready to provide KEPH services. This represents a 6% point increase from 57% in SARAM 2013. Of these, 83% have the basic amenities to provide services representing 36% increase from 47% to 76% have the basic equipment required, from 67%, there was also an improvement in the percentage of facilities with essential medicines from 41% to 73%. The percentage of facilities with standard precautions increased marginally from 73% to 76%.

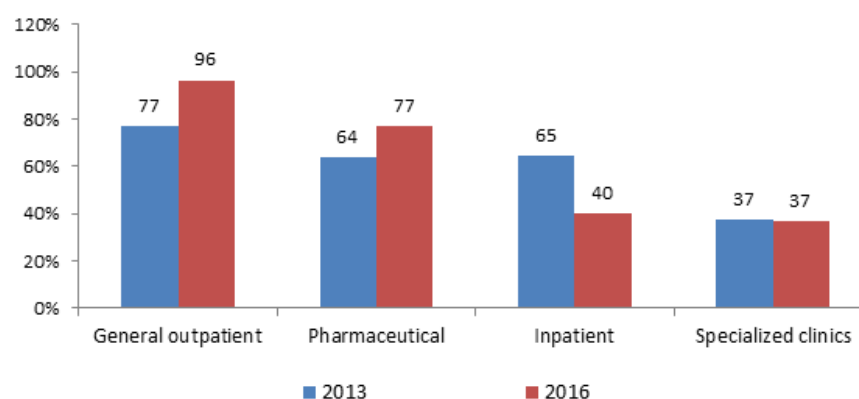


Figure 4.1: Percentage of facilities offering general service area services

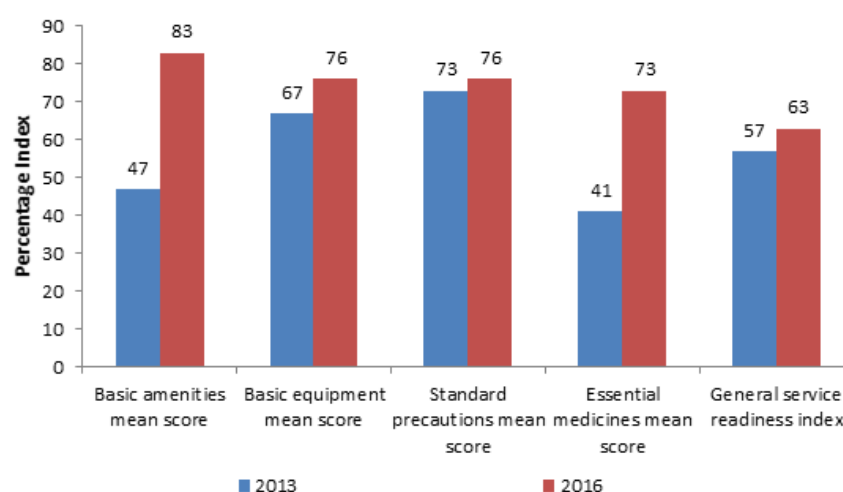


Figure 4.2: General Service readiness index and domain scores

Using the different levels of care, the survey showed that across all the domains, maternity/nursing home had the highest general service readiness scores of over 85% followed by hospitals (78%), medical clinic/stand-alone VCT (73%), dispensary (65%) and health centers (67%) respectively. It is important to note that the dispensaries had the least score on essential medicines, Figure 4.3.

Figure 4.4 shows that basic amenities score was highest among the private for profit providers at 69% followed by private not for profit at 64% while in the public sector 61% of the health facilities reported having basic amenities. Relating to the availability of essential medicines 77% of the private not for profit reported having essential medicines, 71% of the private for profit facilities, and 66% of public facilities reported presence of essential medicines. It was notable that more than 80% of all the sampled health facilities regardless of managing authority reported availability of basic equipment. Relating to the standard precautions, 79% of private for profit health facilities reported putting in place standard precautions, while 77% were reported in private, not for profit and 74% of public facilities

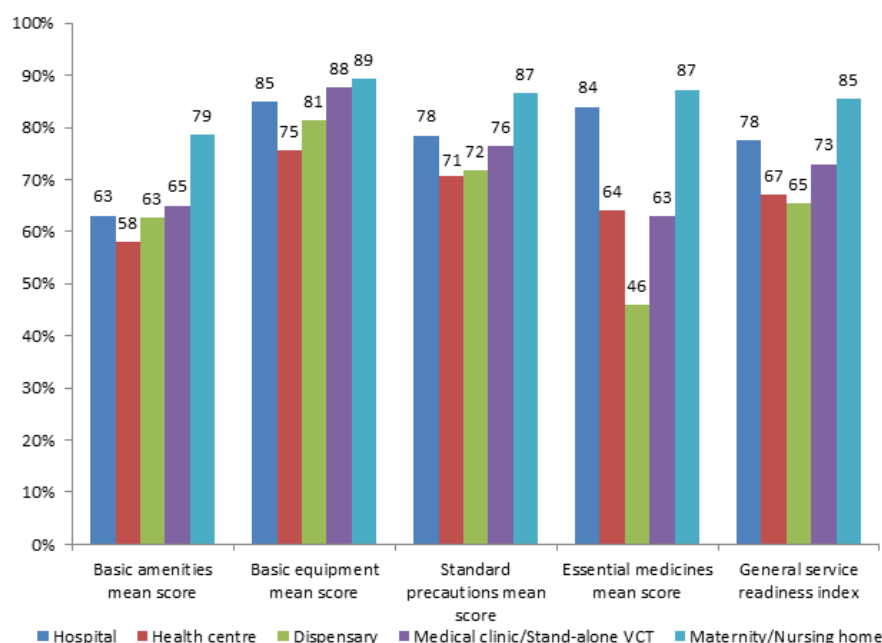


Figure 4.3: General Service readiness by level of care

reported availability of standard precautions in place.

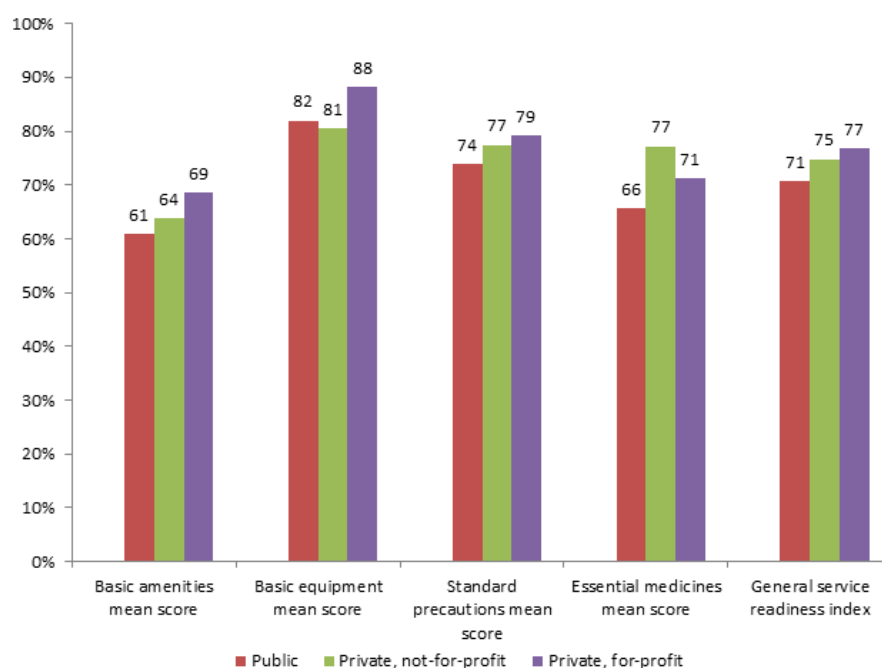


Figure 4.4: General Service readiness by Manning Authority

4.2.1 Availability of basic amenities

The provision of an enabling working environment is a basic requirement for an effective and functional health care delivery system. Such enabling environment includes the physical infrastructure and the availability of basic requirements for

delivering quality services. Service readiness for basic amenities was assessed based on the availability of the following tracer items: room with privacy, power supply, communication equipment, improved water source, adequate sanitation facilities, and computer with internet access, and emergency transportation.

Figure 4.5 shows that, 63% of health facilities had at least one tracer item available at the time of the survey. There were however only 14% of the health facilities with all the items. It is however noted that only 53% of the health facilities had a power source while 58% had an improved water source and 48% of the health facilities reporting to have computers with internet connectivity. Consultation rooms are also minimal and reported availability in 54% of the health facilities hence the need for more physical infrastructure.

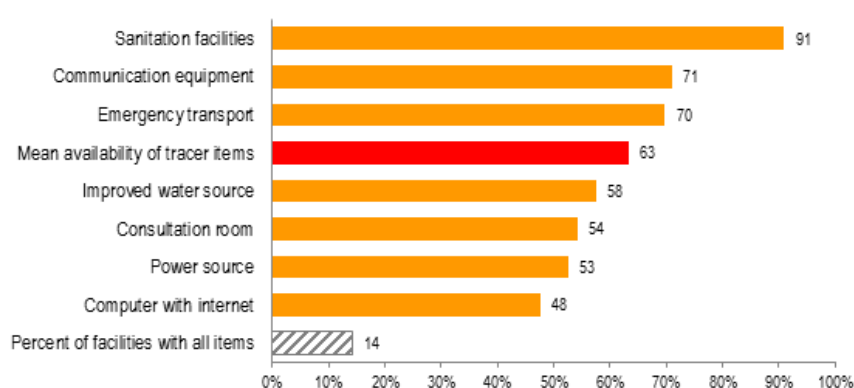


Figure 4.5: Percentage of facilities with basic amenities items available

4.2.2 Availability of basic equipment

This looked at the availability of critical equipment, required for cross cutting delivery of health services. Facilities were assessed on the availability of the following basic equipment items: adult weighing scale, child/infant weighing scale, thermometer, stethoscope, blood pressure machines and light source. Figure 4.6 shows that at least one tracer item (the mean) of basic equipment was available in 83% of the health facilities with 55% of the facilities having all the tracer items. The most available items were thermometers in 91% of the health facilities while the least available items was light source in less than two thirds of the health facilities (65%).

4.2.3 Availability of standard precautions

Patients and health staff safety is an essential part of the health service delivery system. Health care workers must be able to provide a safe working environment and provide services in a manner safest to their clients. Service readiness with respect to standard precautions was assessed based on the availability of the

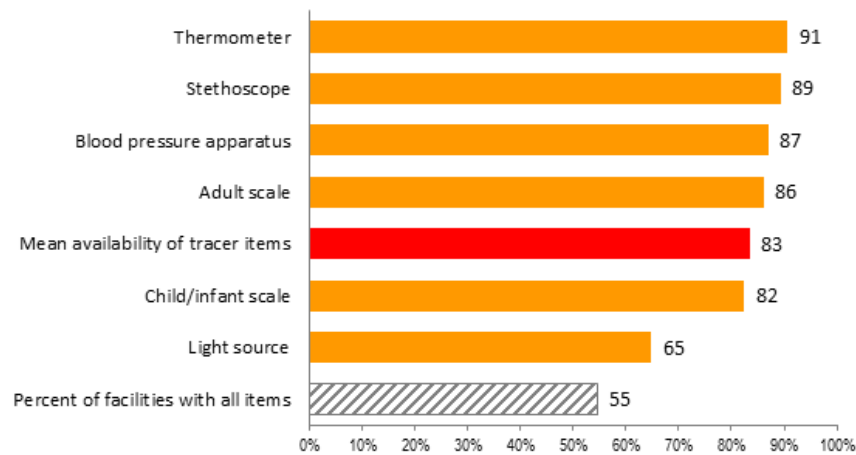


Figure 4.6: Percentage of facilities with basic equipment items available

following 9 tracer items: safe disposal of sharps, safe final disposal of infectious wastes, appropriate storage of sharps wastes, appropriate storage of infectious waste, disinfectant, disposable or auto-disable syringes, soap and water or alcohol based hand rub, latex gloves, and guidelines on standard precautions. Relating to facilities having standard precautions for infection prevention and control, 76% of the facilities reported mean availability of tracer items as seen in Figure 4.7. The availability of tracer items was however variable with 15% of the facilities with all the tracer items. The most available items were Safe final disposal of sharps (88%), Disposable or disable syringes and guidelines for standard precautions (87%) and soap and water or alcohol based hand rub (80%).

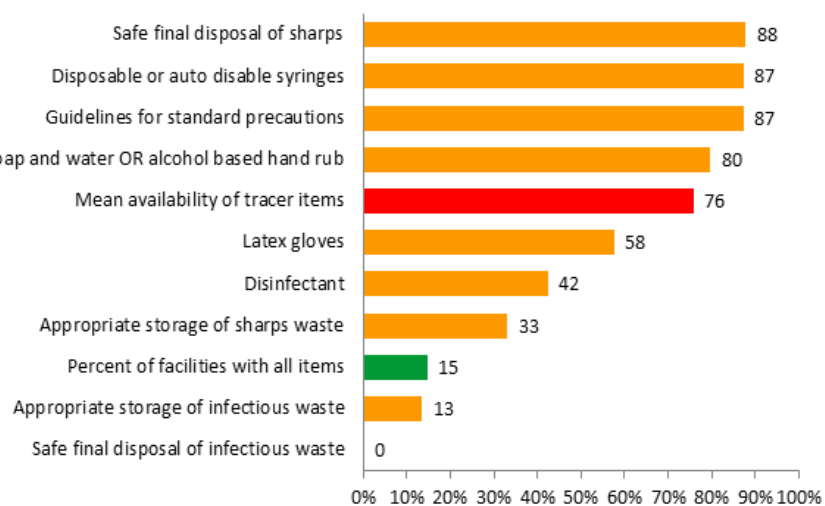


Figure 4.7: Percentage of facilities with standard precautions for infection prevention items available

4.2.4 Diagnostic capacity

Diagnostic capacity is critical for any well-functioning health system. Figure 4.8 shows that among the facilities visited, 75% of the facilities reported offering clinical laboratory services, 30% of the facilities were offering ultra sound, 29% offering X-ray imaging and 21% were providing specialized laboratory services. Magnetic Resonance imaging availability was in 7% of the health facilities, while Computerised Tomography scans were in 9% of the health facilities.

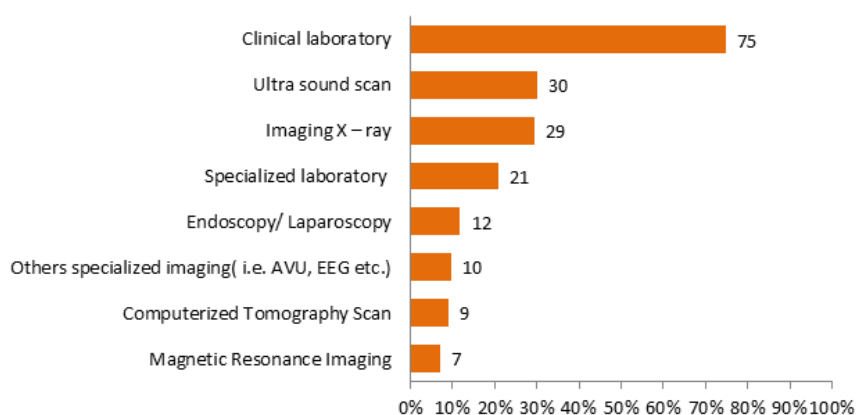


Figure 4.8: Percentage of facilities offering specialized diagnostic services

4.2.5 Availability of essential medicines

None availability of medicines is commonly cited as the most important element of quality by health care consumers, and the absence of medicines is a key factor in the underuse of public health services. Facilities were assessed on whether they had the following 14 essential medicines in stock on the day of the assessment: Amitriptyline, Amoxicillin, Atenolol, Captopril, Ceftriaxone injection, Ciprofloxacin, Co-trimoxazole suspension, Diazepam, Diclofenac, Glibenclamide, Omeprazole, Paracetamol suspension, Salbutamol inhaler, and Simvastatin. Only medicines that were observed at the facility with valid expiration date were considered. Figure 4.9 demonstrates that on average availability of facilities with essential medicines were in 69% of the facilities reporting the presence of essential medicines at the time of the interview. The availability of different tracer essential medicines was variable with essential medicines for acute condition being more available at over 70%, compared with those of chronic conditions which ranged from 30-68%. Only 16% of facilities had all essential medicines present.

Figure 4.10 demonstrates that overall there was improvement in the availability of essential medicines in SARA 2016 compared to SARAM 2013 with the average availability of tracer medicines in 69% of the health facilities up from 41% experienced three years ago. Generally the percentage of health facilities with all tracer items (medicines) was 16% eight times what was recorded in SARAM

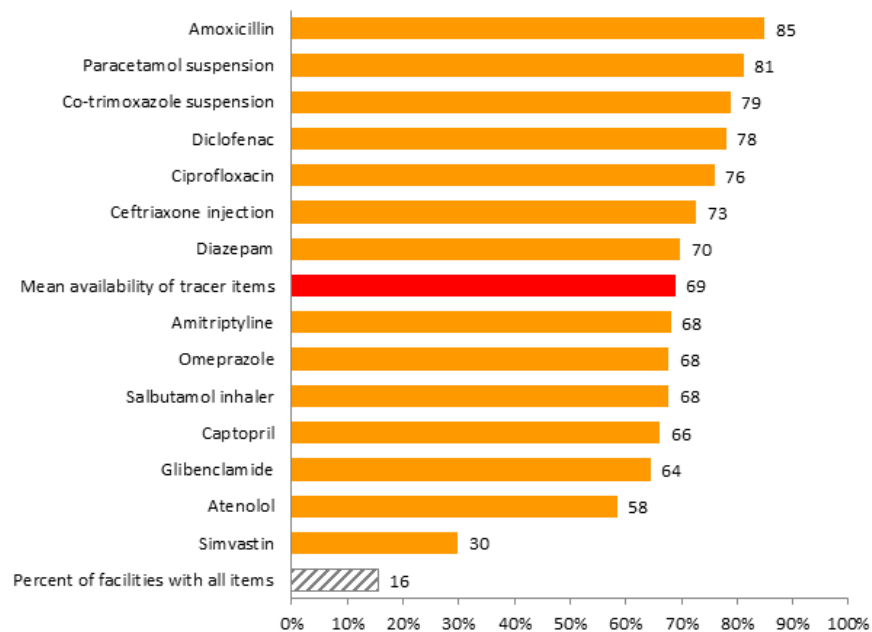


Figure 4.9: Percentage of facilities with essential medicines items available

2013 (2%). Amoxicillin, paracetamol, contrimoxazole suspensions, Diclofenac, and ciprofloxacin were mostly available in more than three quarters (75%) of the health facilities. The least available items were Simvastatin (30%) and Atenolol (58%) with similar trend that was recorded in the 2013 SARAM census.

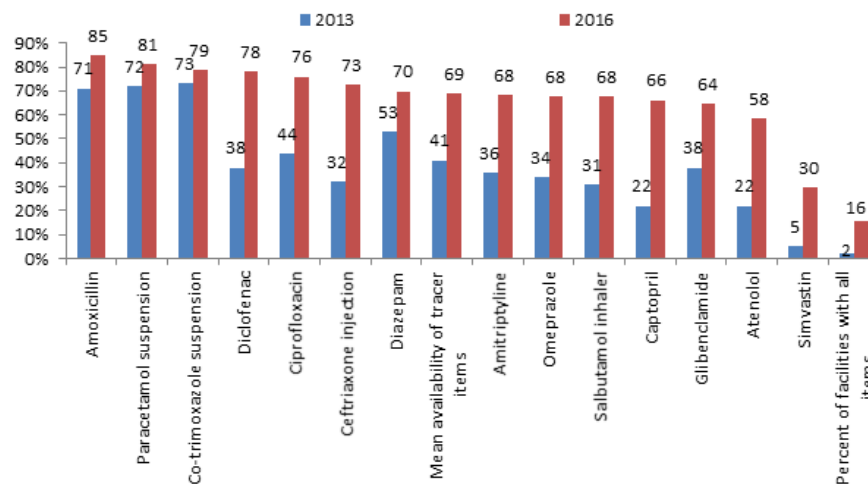


Figure 4.10: Comparative Percentage of facilities with essential medicines items available 2013 and 2016

Chapter 5

Specific Service Availability and Readiness

5.1 MCH/Family planning service availability and readiness

Table 5.1 is a summary of maternal child health and family health service availability in Kenya. Integrated Maternal and Child Health (MCH) and family planning services were offered in 84% of the facilities with hospitals having the highest availability (94%) while the primary care facilities ranged from 58% to 88%. The Public facilities had a higher availability of this service (92%) compared to the private (for profit (70%) and not for profit (81%).

Reproductive health services were offered in 86% of the facilities; hospitals (98%), primary care facilities ranging from 55% to 100%. The lowest availability for this service was in the private for-profit facilities (70%).

Maternity service availability was 71%, with the highest being in hospitals (97%) and public facilities (84%). Though Maternity services are not expected to be offered in Dispensaries and medical clinics hence the low service availability of 48% and 18% respectively.

With regard to newborn services, slightly more than half of the facilities (57%) offered the service, with the private for profit and health centres reporting lower rates at 36% and 41% respectively.

Among all the service categories in Family health, Comprehensive youth friendly services was the least available (23%). The service was more available in other primary care facilities (43%) and hospitals (40%) and least available in dispensaries (2%).

Table 5.1: Maternal health services by level of care and managing authority

Variable	Type of facility						Managing authority		
	Total	Hospital	Primary Care facilities				Public	Private, not-for-profit	Private, for-profit
			1	2	3	4			
Total number of facilities	245	99	34	60	38	66	143	36	66
Mean availability of services	50	72	42	30	27	60	52	52	44
Percent of facilities offering all services	67	79	68	61	43	68	72	70	54
Specific services									
Integrated MCH/family planning services	84	94	88	85	58	79	92	81	70
Maternity	72	97	94	48	18	86	84	72	45
Newborn services	57	83	41	48	16	57	66	58	36
Reproductive health	86	98	91	80	55	100	93	89	70
Comprehensive youth friendly services	23	40	15	2	11	43	23	22	23

KEY: 1-Health Centre; 2-Dispensaries; 3-medical clinics/standalone VCT's; 4-Others

5.2 Child health preventive and curative care service availability and readiness

Table 5.2 denoted that the Mean availability of child health services was 71%, however, the percentage of facilities offering all services was low at 23%. Immunization services were offered in 85% of the facilities with hospitals having the highest (98%) and medical clinics/standalone VCTs having the lowest (32%). In general a higher percentage of the public facilities (94%) offer the service compared to the private facilities (for profit-6% and not for profit-92%). Child health services were available in 88% of the facilities with most hospitals (99%) offering the service. Among the primary care facilities, the service was least available in medical clinics/standalone VCTs (53%) and highest in "others" (93%). This service was available in 95% of the public facilities and 71% of the private for profit.

Overall, 86% of the facilities performed screening for communicable conditions, 95% being in hospitals. This service was available in all primary care facilities in the "others" category but only in 73% of the dispensaries. The private not for profit facilities reported the highest availability of this service at 92% while the private for profit recorded the least at 72%.

Eighty nine percent of the facilities offered antenatal care services, with all health centres offering the service. This was a slight increase of 21% from what was in SARAM 2013. Medical clinics/standalone VCTs and private for profit facilities had lower rates at 55% and 76% respectively. Regarding Prevention of mothers-to-child transmission of HIV, health centres also reported the highest rate at 94% and medical clinics/standalone VCTs reported the lowest at 34%.

All facilities in the "others" primary care category reported having good hygiene practices, while only 87% of the dispensaries reported having the service. Almost

half of the facilities offered integrated vector management which was least available in medical clinics/standalone VCTs and private for profit facilities. Maternity services was almost doubled the number recorded in SARAM 2013 of 37% to 72% as shown in Figure 5.1.

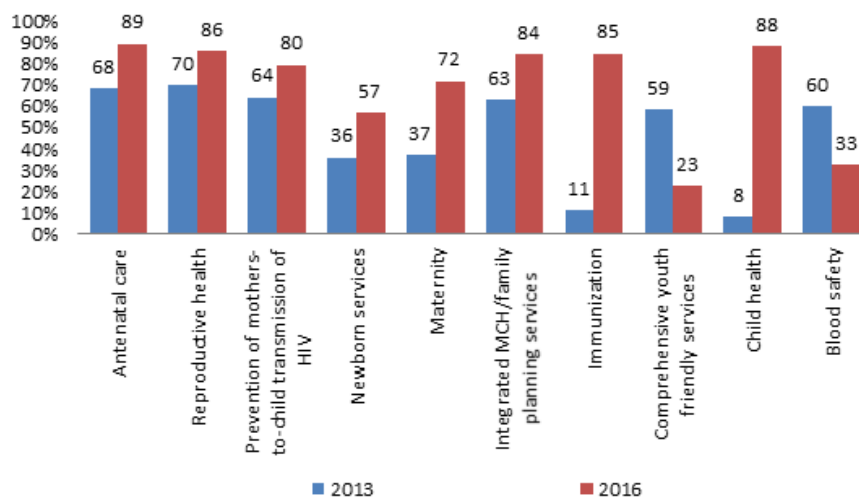


Figure 5.1: RMNCAH service availability

Table 5.2: Child health services by level of care and authority

Variable	Type of facility						Managing authority		
	Total	Hospital	Primary Care facilities				Public	Private, not-for-profit	Private, for-profit
			1	2	3	4			
Total number of facilities	245	99	34	60	38	14	143	36	66
Mean availability of services	71	82	77	69	44	69	77	72	58
Percent of facilities offering all services	23	29	29	12	18	21	24	31	17
Specific services									
Immunization	85	98	94	90	32	93	94	92	62
Child health	88	99	91	90	53	93	95	92	71
Screening for communicable conditions	86	95	91	73	74	100	88	92	79
Antenatal care	89	98	100	93	55	79	97	86	76
Prevention of mothers-to-child transmission of HIV	80	93	94	78	34	79	91	81	55
Integrated vector management	49	68	53	48	11	21	61	39	30
Good hygiene practices	93	95	97	87	89	100	92	97	91

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

5.2.1 Valid Vaccines observed in stock

Figure 5.2 shows that generally, most of the vaccines were available in the health facilities with the highest being Tetanus Toxoid vaccine (82%) and the lowest being HPV vaccine (7%). Rabies (23%), Typhoid (12%) and yellow fever (9%) were among the least available vaccines in the facilities. None of the vaccines were available 100%.

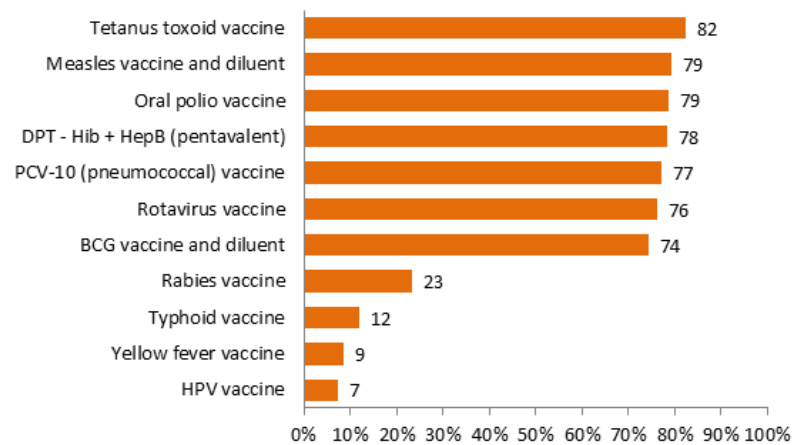


Figure 5.2: Percentage of facilities that have vaccines observed in stock and valid

5.2.2 Valid essential medicines for children in stock

Figure 5.3 showed that most of the facilities had valid essential medicines for children in stock in over 70% of the health facilities (72% mean availability). Eighty four percent of the facilities had Amoxicillin syrup/suspension, 77% had ORS while, less than one third (30%) had Morphine.

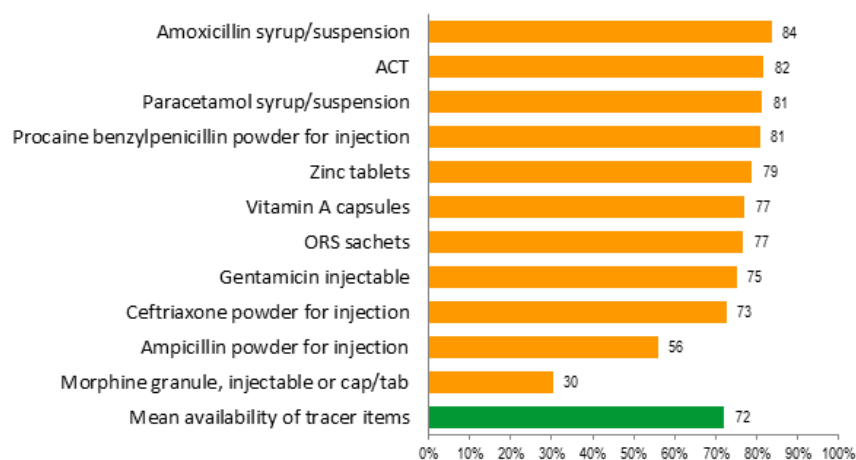


Figure 5.3: Percentage of facilities that have essential medicines for children observed in stock and valid

5.3 Antenatal Care service Availability and Readiness

Figure 5.4 shows that more than 80% of health facilities sampled provided antenatal care (89%), reproductive health (86%), immunization (85%), integrated MCH/family planning (84%) and prevention of mothers-to-child transmission of HIV services (80%). However, comprehensive youth friendly and blood safety services were offered in less than 50% of the health facilities with 33% and 23%

of the facilities respectively.

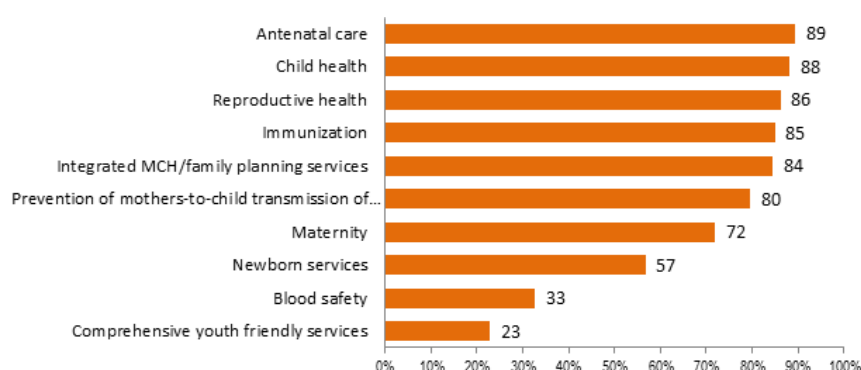


Figure 5.4: Percentage of facilities offering MNCAH services

5.4 Basic and comprehensive obstetric care availability and readiness

5.4.1 Lifesaving commodities observed in stock and valid

Figure 5.5 demonstrates that all lifesaving commodities were in stock and valid across all the categories. The availability however was low for Magnesium sulphate (56%) in maternal category, Antenatal corticosteroids (53%) in the new born category and Amoxicillin 500mg cap/tab (59%) in the child category as shown in Figure 5.5.

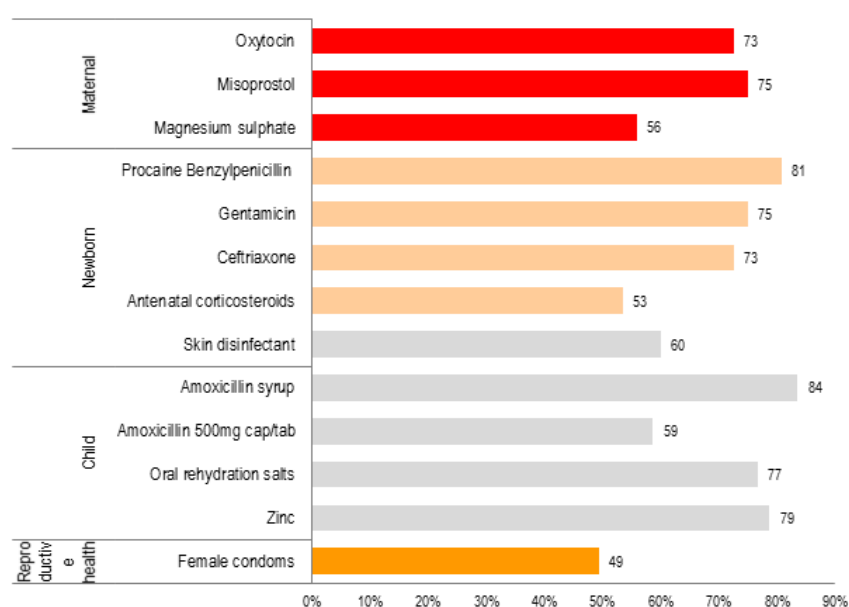


Figure 5.5: Percentage of facilities that have lifesaving commodities observed in stock and valid

More than 70% of the health facilities had oxytocin (73%) essential during delivery while newborn drugs were available in at least more than 50% of the health facilities. Procaine Benzylpenicillin was available in 81% of the health facilities followed by Gentamicin (75%), Ceftriaxone (73%) and skin disinfectant in 60% of the surveyed health facilities. The most essential drugs for the child was also available in over 70% of the health facilities with the highest number of facilities reporting having Amoxicillin syrup (84%), Zinc (79%) and Oral rehydration sachets (77%). The least available item was Amoxicillin 500 mg Caps/tab. To product unwanted pregnancies, female condoms were available in 49% of the health facilities surveyed.

5.4.2 Essential medicines for mothers

A summary of the availability of valid essential medicines for mothers in stock is shown in Figure 5.6. At least one tracer item for essential medicines for mothers was available in 64% of the facilities. The most available item were Gentamicin injectable (75%), Misoprostol cap/tab (75%) while the least availability was metronidazole (28%) and calcium gluconate injectable (41%) in less than 50% of the health facilities.

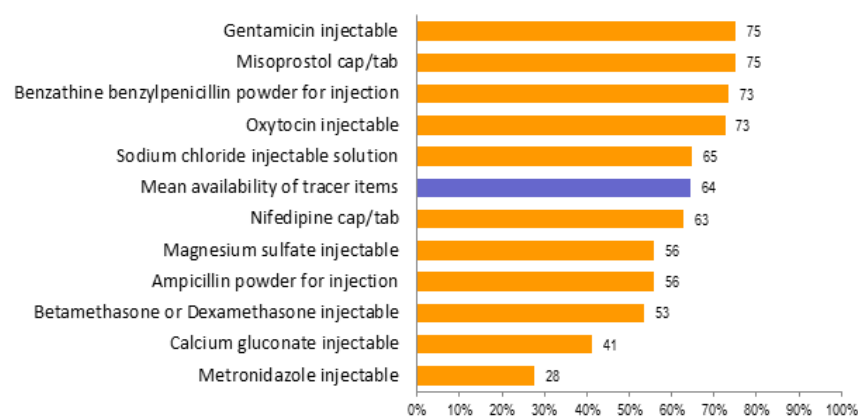


Figure 5.6: Percentage of facilities that have essential medicines for mothers observed in stock and valid

5.5 Adolescent health service availability and readiness

Table 5.3 shows that Comprehensive youth friendly services are offered in 23% of the facilities. Forty percent of the hospitals offered the service while dispensaries were the lowest at 2% among the primary care facilities. However, the service was equally available across the public and private facilities. School health services were offered in 53% of the facilities with the service being available in 68% of the hospitals. Among the primary care facilities, health centres were leading in offering this service at 76% while the medical clinics/standalone VCTs were the lowest at 16%. This service was available in 71% of the public and only 20% of

the private for profit facilities.

Reproductive health services were offered in 86% of the facilities and 98% of the hospitals. The service was also offered in all the "Others" category of primary care facilities while 55% of the medical clinics/standalone VCTS offered it. This service was available in 93% of the public and 70% of the private for profit facilities. HIV and STI prevention services and sexual education were available in 88% and 73% of the facilities respectively. Substance abuse services were offered in 50% of the facilities and 64% of the hospitals. These services were available in 55% of the public and 39% of the private for profit facilities.

Table 5.3: Adolescent services by level of care and agency

		Type of facility					Managing authority		
		Primary Care facilities					Public	Private, not-	Private,
Health Service	Total	Hospital	1	2	3	4		for-profit	for-profit
<i>Comprehensive youth friendly services</i>	23	40	15	2	11	43	23	22	23
<i>School health</i>	53	68	76	45	16	29	71	44	20
<i>Reproductive health</i>	86	98	91	80	55	100	93	89	70
<i>HIV and STI prevention</i>	88	95	94	87	68	86	92	92	77
<i>Sexual education</i>	73	84	74	65	55	79	76	78	64
<i>Substance abuse</i>	50	64	41	48	29	36	55	50	39

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

5.6 HIV/AIDS service availability and readiness

Table 5.4 shows that HIV and STI prevention services were offered in 88% and 95% of the hospitals. Among the primary care facilities 94% of the health centres and 68% of the medical clinics/standalone VCTs offered the service. This service was also available in 92% of the public and 88% of the private for profit facilities. Of all the facilities, 80% offered prevention of mothers-to-child transmission of HIV services with 93% being hospitals. However, this service was in 55% of the private for profit facilities.

Table 5.4: Service availability for HIV/AIDS

		Type of facility					Managing authority		
		Primary Care facilities					Public	Private, not-	Private,
Variable	Total	Hospital	1	2	3	4		for-profit	for-profit
Specific services									
<i>Antenatal care</i>	89	98	100	93	55	79	97	86	76
<i>Prevention of mothers-to-child transmission of HIV</i>	80	93	94	78	34	79	91	81	55
<i>HIV and STI prevention</i>	88	95	94	87	68	86	92	92	88
<i>Sexual education</i>	73	84	74	65	55	79	76	78	64
<i>Health promotion including health education</i>	86	93	88	82	74	86	90	89	76

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

5.6.1 Availability of ARVs in Products in Health facilities

Figure 5.7 shows that all first line ARV drugs were available in 17% of the facilities with Stavudine+Lamivudine+Nevirapine and Zidovudine syrup and Zidovudine being the least stocked at 20%, 21% and 31% respectively. There was a general improvement in the availability of first line drugs ARV drugs in health facilities in 2016 compared to 2013. However, the percentage of facilities with all first line drugs reduced slightly from 18% in 2013 to 17% in 2016.

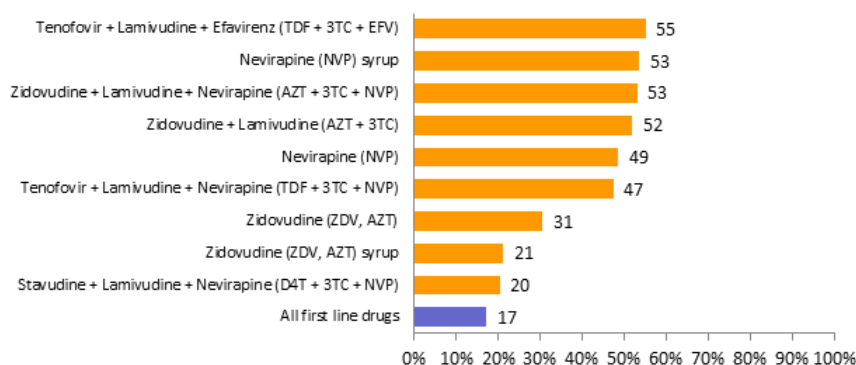


Figure 5.7: Percentage of facilities that have ARVs observed in stock and valid

Table 5.5 shows that hospitals, health centres and Maternity and Nursing homes were better stocked with 27% of hospitals with all first line drugs than the health centres, dispensaries and Medical clinics/standalone VCTs. Public facilities were well stocked with the ARVs with more than 60% of each items available compared to the private facilities. Health facilities in the urban were well stocked (63%) with ARVs compared to those in the rural (53%). Overall 17% of the health facilities had all the first line ARVs drugs.

5.7 Tuberculosis service readiness and availability

Figure 5.8 shows that there was a general improvement in the availability of Tuberculosis (TB) commodities in the health facilities in 2016 compared to 2013. Slightly more than 50% of the health facilities had Isoniazid (51%), Isoniazid plus Rifampicin (52%) and Isoniazid plus Rifampicin combined with Pyrazinamide and Ethambutol (55%). Streptomycin 1gm injection and Rifampicin were the least available TB commodities across the facilities at 33% and 37% respectively.

Table 5.6 shows that Streptomycin 1gm injection and Rifampicin were the least available TB commodities across the facilities at 33% and 37% respectively. Hospitals and health centres were better stocked with TB commodities with over 80% availability and readiness than the dispensaries, medical clinics/standalone VCTs and maternity/nursing homes. Public and private for profit facilities were better stocked compared to the private not for profit facilities. Health facilities

Table 5.5: HIV Health Products by Type of Health Facility and managing Authorities

Type of Medicine	Facility type			Maternity/ Nursing home		Managing authority		Urban/ Rural		Overall %
	Hosp	H/C	Disp	Stand-alone VCT		Public	Private, not-for-profit	Urban	Rural	
Zidovudine (ZDV, AZT)	47	50	13	3	14	41	33	41	33	30
Zidovudine (ZDV, AZT) syrup	35	26	10	0	14	27	25	27	25	21
Nevirapine (NVP)	77	68	25	5	21	63	61	63	61	49
Nevirapine (NVP) syrup	82	74	33	5	21	71	58	71	58	53
Stavud+ Lamivud+										
Nevirapine (D4T + 3TC + NVP)	28	29	17	0	14	26	22	26	22	20
Zidovud+ Lamivud (AZT + 3TC)	81	74	27	8	21	67	58	67	58	51
Zidovud+ Lamivud +										
Nevirapine (AZT + 3TC + NVP)	80	71	32	11	29	68	61	68	61	53
Tenofovir + Lamivud +										
Nevirapine (TDF + 3TC + NVP)	72	65	27	8	29	61	53	61	53	47
Tenofovir + Lamivudine +										
Efavirenz (TDF + 3TC + EFV)	81	71	37	13	29	70	61	70	61	55
All first line drugs	27	23	9	2	9	22	18	61	53	17

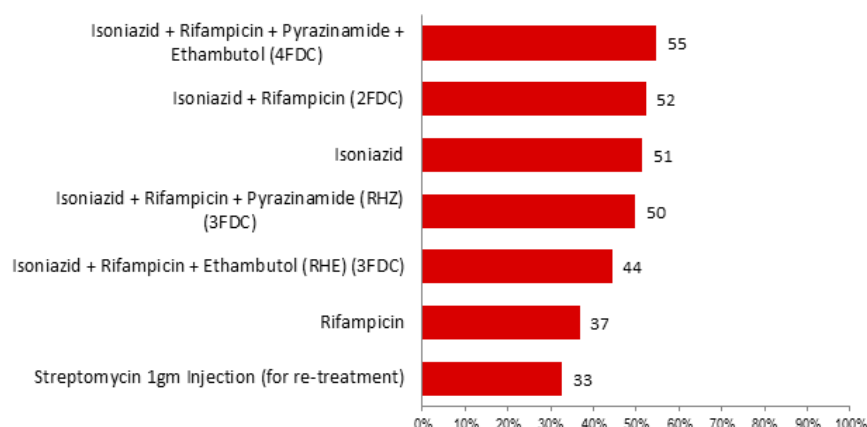


Figure 5.8: Percentage of facilities that have tuberculosis medicines observed in stock and valid

in the urban were well stocked with TB commodities compared to those in the rural.

5.8 Malaria services availability and readiness

Figure 5.9 shows that there was a general improvement in the availability of Malaria commodities in the health facilities in 2016 with over 80% of the health facilities (82%) with the first line essential drug for treatment of malaria (ACT) and this was good encouraging compared to less than 75% in 2013. However, the availability of Quinine 300mg/ml injection in the facilities declined from 58% in 2013 to 47% in 2016. Hospitals and maternity/nursing homes were better stocked with the malaria commodities than the health centers, dispensaries and medical clinic/standalone VCTs as shown in Table 5.7. While, Private-not-for-profit facilities were better stocked with other malaria commodities than the public facilities except for Insecticide treated bed nets (for patients, their families & households), spray pumps for IRS and protective gear for IRS (goggles, boots, gloves). This was also replicated by the health facilities in the rural setting compared to those that were in the urban.

5.9 Non-communicable diseases availability and readiness

Table 5.8 shows the mean availability of NCD services offered in the facilities surveyed was 20%. Close to 50% of the Hospitals (42%) provided these services compared to primary facilities with most of the facilities (82%) offering workplace and health safety and least (27%) offered was rehabilitation services. About 30% of the public facilities provided the NCD services compared to private not for profit and private for profit while, none of the health facilities provided all NCD services.

Table 5.6: Percentage availability of Tuberculosis products by type of health facility and managing authority

Type of Medicine	Facility type				Managing authority		
	Medical clinic/ Stand-alone VCT				Private, not-for-profit		
	Hosp	H/C	Disp	Maternity/ Nursing home	Public	Private, not-for-profit	Urban/ Rural
Streptomycin 1gm	61	29	12	14	41	31	41
Injection (for re-treatment)	83	68	25	29	64	53	64
Isoniazid	60	44	17	36	43	42	43
Rifampicin	83	62	32	29	66	50	66
Isoniazid + Rifampicin (2FDC)							
Isoniazid + Rifampicin +							
Pyrazinamide (RHZ) (3FDC)	84	59	23	21	64	44	64
Isoniazid + Rifampicin +							
Ethambutol (RHE) (3FDC)	76	47	22	21	57	36	57
Isoniazid + Rifampicin +							
Pyrazinamide + Ethambutol (4FDC)	83	68	38	36	70	58	70
Total number of facilities	99	34	60	14	143	36	99
							34

Table 5.7: Percentage availability of Malaria products by type of health facility and managing authority

Type of Medicine	Facility type			Managing authority			Urban/ Rural		Overall %
	Hosp	H/C	Disp	Medical clinic/ Stand-alone VCT	Maternity/ Nursing home	Public	Private, not-for-profit	Private, for-profit	
ACT (AL)	84	79	85	71	86	85	83	74	82
Quinine 300mg/ml injection	56	35	30	50	86	34	72	64	47
Artemether oily injection 80mg/ml	54	24	20	45	79	33	47	56	41
SP tabs	38	24	20	26	57	27	39	36	31
Paracetamol cap/tab (adult oral formulation)	90	85	78	79	86	83	97	80	84
Insecticide treated bednets for patients, their families & households	59	53	43	13	50	55	42	32	47
Spray pumps for IRS	39	29	5	3	21	27	19	17	23
RDTt kits	74	71	63	42	71	66	83	55	66
Protective gear for IRS (goggles, boots, gloves)	49	32	8	3	50	31	28	29	30
Total number of facilities	99	34	60	38	14	143	36	66	245

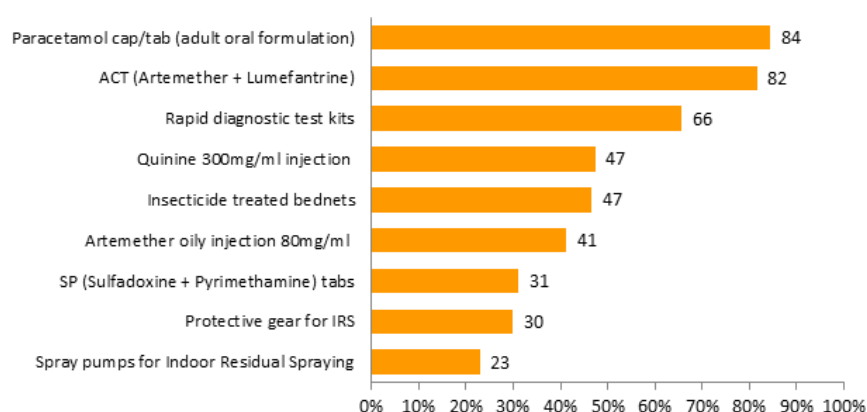


Figure 5.9: Percentage of facilities that have malaria medicines observed in stock and valid

Table 5.8: Percentage of health facilities proving NCD services by level and managing authority

Variable	Type of facility						Managing authority		
	Total	Hospital	Primary Care facilities				Public	Private, not-for-profit	Private, for-profit
			1	2	3	4			
Total number of facilities	245	99	34	60	38	14	143	36	66
Mean availability of services	20	42	9	3	0	7	27	14	8
Percent of facilities offering all services	0	1	3	2	2	7	1	3	1
Specific services									
Health promotion and education for NCDs	80	91	82	77	58	64	85	72	71
Institutional screening for NCDs	63	75	71	48	53	57	65	64	59
Rehabilitation	27	56	9	10	0	14	36	22	9
Workplace health and safety	82	91	82	78	58	93	84	92	71
Food quality and safety	60	87	71	35	18	64	70	53	42

KEY: 1-Health Centre; 2-Dispensaries; 3-medical clinics/standalone VCT's; 4- Others

Figure 5.10 shows the comparative for NCD service index. Overall, NCD service readiness index increased from 34% in 2013 to 40% in the year 2016 demonstrating that there is a slight increase of the NCD services to enable the country realise its objectives of halt and reversing the burden of Non-communicable diseases. This could have been attributed to the increase of these services in the hospitals through the managed equipment Services which moved from 51% to 63% in 2013 and 2016 respectively. However, there was a slight decline of these services in the health centres and dispensaries with over 20%. A gradual increase was also noted in both public (2%) and private not for profit (3%) facilities while private for profit had a notable 10% increase in NCD services in 2016 compared to 2013. Most of the facilities (80%) offered health promotion and education for Non Communicable Diseases (NCDs), with 63% of them offering institutional screening, 53% community screening, 35% Physiotherapy, 33% offered Orthopaedic plaster, while only 16% offered palliative care services as visualised in Figure 5.11.

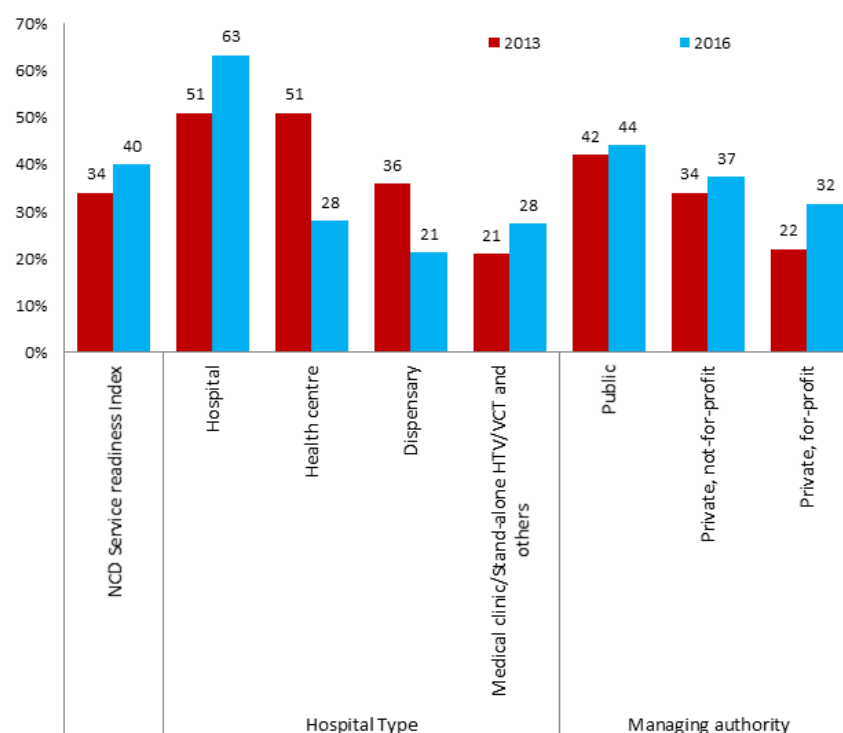


Figure 5.10: NCD Service readiness in Kenya 2013 and 2016

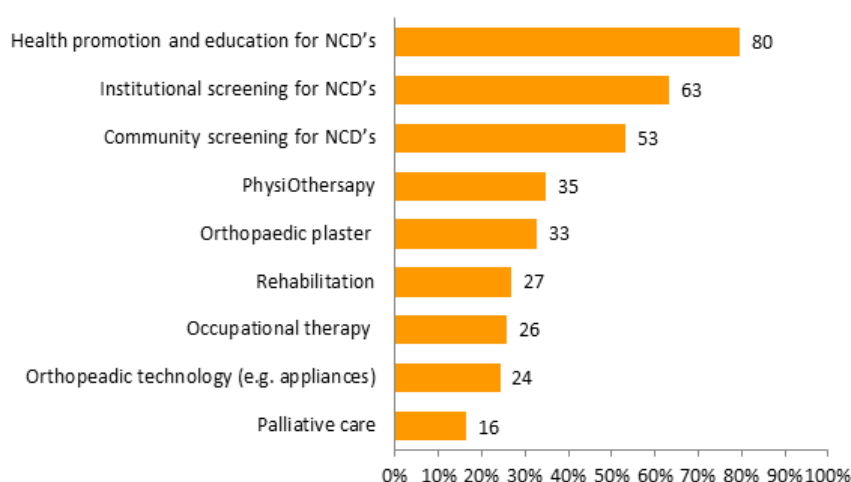


Figure 5.11: Percentage of facilities offering non-communicable disease services

5.9.1 Readiness to provide non-communicable disease services

A total of twelve (12) tracer drug items as shown in Figure 5.12 above were used to establish service readiness. Epinephrine injection was the most available and stocked drug in Three quarters (75%) of the health facilities visited 75%. The other tracer items available in stock and valid in more than 55% of the health facilities were, Prednisolone cap/tab, Glucose 50% (or 10%) injectable solution in 71% of the health facilities respectively. The other essential tracer medicines were

Furosemide 40 mg tabs (67%), Enalapril 5 mg cap/tab (66%), Metformin cap/tab (64%), Hydrochlorthiazide 25 mg tab (62%), Atenolol 50 mg cap/tab (58%) and Aspirin 300 mg tab (57%), while the least available stocked drugs were less than 50% with Beclomethasone 50mcg/dose inhaler (34%) and Amlodipine 5mg tab (Calcium channel blocker) (43%).

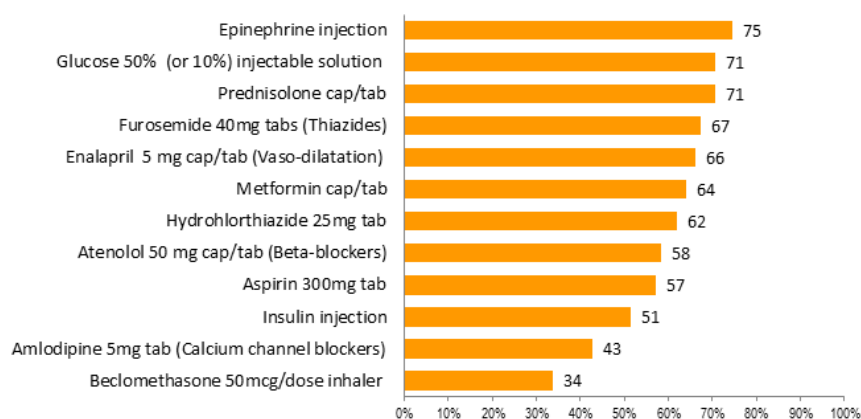


Figure 5.12: Percentage of facilities that have non-communicable disease medicines observed in stock and valid

During the review, essential medicine list (63%) and integrated clinical management and referral guidelines (52%) were available in more than 50% of the facilities while only 40% of the facilities had Medicine and Therapeutic committees, Figure 5.13.

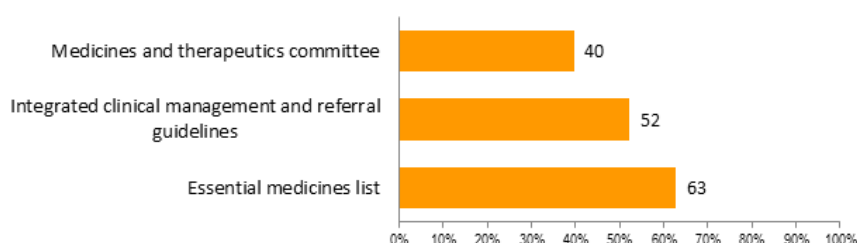


Figure 5.13: Percentage of facilities with therapeutic readiness items

Figure 5.14 indicates that most of the facilities had focal persons to report on priority disease (73%) and Submitted weekly IDSR report to the next level (75%) while, few facilities (26%) had Isolation room for admitting infectious disease cases and 43% had committee in place to responds to disease outbreaks.

5.10 Neglected tropical Diseases

Neglected Tropical Diseases is classified under the communicable disease. Table 5.9 shows that less than half (47%) of the health facilities had services of control and prevention of NTDs out of which 71% of the facilities were hospitals, with 3% of the services offered at the medical clinic/stand-alone VCT. Most health

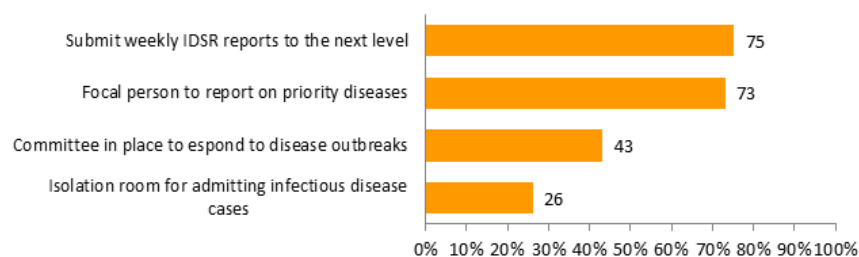


Figure 5.14: Percentage of facilities with IDSR capacity

facilities (93%) had good hygiene practices and offered screening for communicable diseases (86%). Based on the managing authority, 54% of the health facilities offered NTD services in public facilities and 35% in private for profit facilities.

Table 5.9: Neglected Tropical Diseases

Variable	Total	Type of facility					Managing authority		
		Hospital	Primary Care facilities				Public	Private, not-for-profit	Private, for-profit
			1	2	3	4			
Total number of facilities	245	99	34	60	38	14	143	36	66
Mean availability of services	71	82	77	69	44	69	77	72	58
Percent of facilities offering all services	23	29	29	12	18	21	24	31	17
Specific services									
Screening for communicable conditions	86	95	91	73	74	100	88	92	79
Integrated vector management	49	68	53	48	11	21	61	39	30
Good hygiene practices	93	95	97	87	89	100	92	97	91
Port health	8	9	12	5	3	14	8	8	6
Control and prevention of NTD's	47	71	41	35	18	29	54	44	35

KEY: 1-Health Centre; 2-Dispensaries; 3-medical clinics/standalone VCT's; 4-Others

5.11 Strengthen collaboration with other health related sectors

Table 5.10 shows that the mean availability of health facilities providing services to ensure collaboration with other health related services was in 44% of the health facilities. More than 70% of the facilities assessed offer quite a good range of services with other health related sectors as shown in Figure 5.15. For instance, sanitation and hygiene was in 87% of the health facilities, health promotion in 86%, safe water in 86% and nutritional services in 72% of the health facilities, whereas, less than a quarter (23%) of the facilities offer road infrastructure and transport services. The other least services below 50% available for collaboration with other health related sectors were population management and food fortification and housing with 33% and 36% respectively.

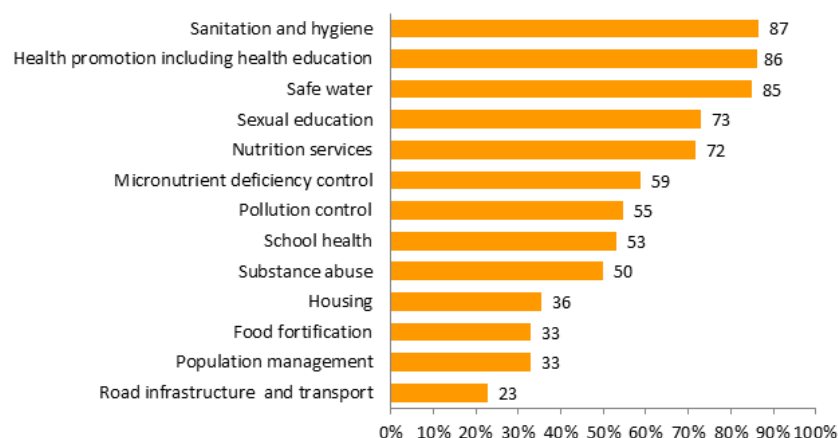


Figure 5.15: : Percentage of facilities offering services in the area of the facility

Table 5.10: Percentage of facilities providing collaborating with related sectors

Variable	Total	Type of facility					Managing authority		
		Hospital	Primary Care facilities				Public	Private, not-for-profit	Private, for-profit
			1	2	3	4			
Total number of facilities	245	99	34	60	38	14	143	36	66
Mean availability of services	44	64	37	25	22	54	46	46	37
Percent of facilities offering all services	7	12	6	3	0	7	8	11	3
Specific services									
Safe water	85	94	91	73	68	100	85	89	82
Sanitation and hygiene	87	97	94	72	71	100	90	86	80
Nutrition services	72	95	79	57	34	57	81	69	53
Pollution control	55	71	56	37	34	71	59	53	47
Housing	36	59	32	23	3	21	48	31	12
School health	53	68	76	45	16	29	71	44	20
Food fortification	33	47	21	25	18	36	38	22	27
Population management	33	47	21	25	18	36	38	22	27
Road infrastructure and transport	23	29	29	12	18	21	24	31	17

KEY: 1-Health Centre; 2-Dispensaries; 3-medical clinics/standalone VCT's; 4-Others

5.12 Surgical services availability and readiness

Figure 5.16 shows that most of the health facilities (93%) were offering management of injuries services while, less than half (39%) of the facilities provided emergency life support. Slightly more than half (52%) of the health facilities provided accident and emergency services and pre-hospital care (56%). Moreover, outpatient accident and emergency was in two thirds (66%) of the health facilities sampled.

Figure 5.17 shows that half (51%) of the surgical operation services offered were done in outpatient, while, Emergency and general operations were provided in one third (33%) of the health facilities, whereas less than a quarter (22%) of the facilities offered specialized operations.

Table 5.11 demonstrates that emergency operation services were available in 66%

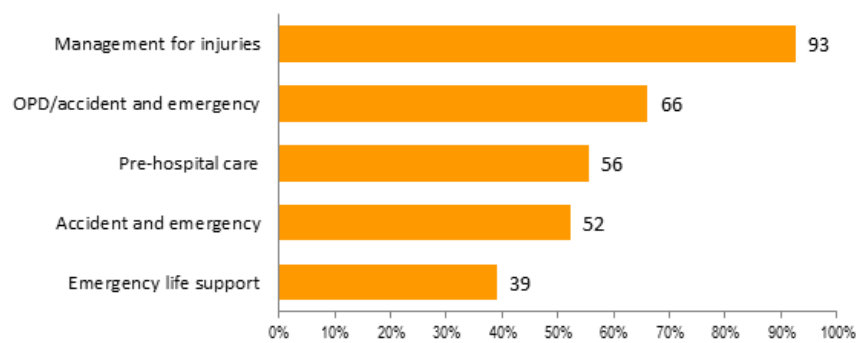


Figure 5.16: Percentage of facilities offering emergency services

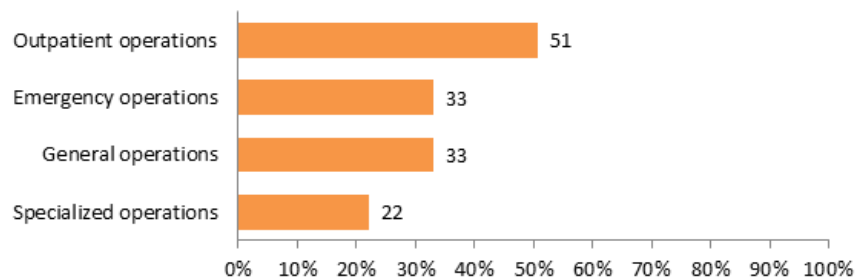


Figure 5.17: Percentage of facilities offering surgical services

of the hospitals while the services were available in 5% of the dispensaries. Under the managing authority, the services were available in one third of the health facilities with 31% in public facilities compared to the 36% in the private for profit and private not for profit health facilities.

General operations services were available in 64% of the hospitals, while 3% were available at the dispensary level. For the managing authority, 39% of the private not for profit were offering the services compared to 30% of the public facilities. Consequently 76% of the hospitals offered Outpatient operations, while a quarter (25%) of the dispensaries provided the services. There was no significant difference between the public facilities, private for profit and private not-for-profit.

Specialized operation services were available in less than 50% of the hospitals (44%), while none were performed at the dispensary level. It was important to note that Private for profit had the majority (32%) of the specialised services offered in health facilities and least (17%) was in public facilities. More important was that most of these services were available in rural facilities.

The overall Surgical Care Services readiness Index decreased by 13% from 48% in SARA2016 to 35% in 2013, Figure 5.18. Two thirds of the hospitals (63%) provided the services. Less than a quarter (18%) of the health centres and 8% of the dispensaries provided surgical care services. Most of these services were

Table 5.11: Percentage of health facilities providing surgical services by level and Manning authority

Facility type	Emergency operations	General operations	Outpatient operations	Specialized operations
Hospital	66	64	76	44
Health centre	6	12	47	6
Dispensary	5	3	25	0
Medical clinic/Stand-alone VCT	11	13	26	8
Maternity/Nursing home	50	50	57	36
Managing authority				
Public	31	30	51	17
Private, not-for-profit	36	39	50	22
Private, for-profit	36	36	50	32
Urban/Rural				
Urban	31	30	51	17
Rural	36	39	50	22

realised in private for profit in 38% of the health facilities followed by private not for profit (37%) while, only about a third occurred in public health facilities. The big decline could be attributed to the reduction of cases or poor reporting or increase in the number of health facilities providing services in the counties (denominator).

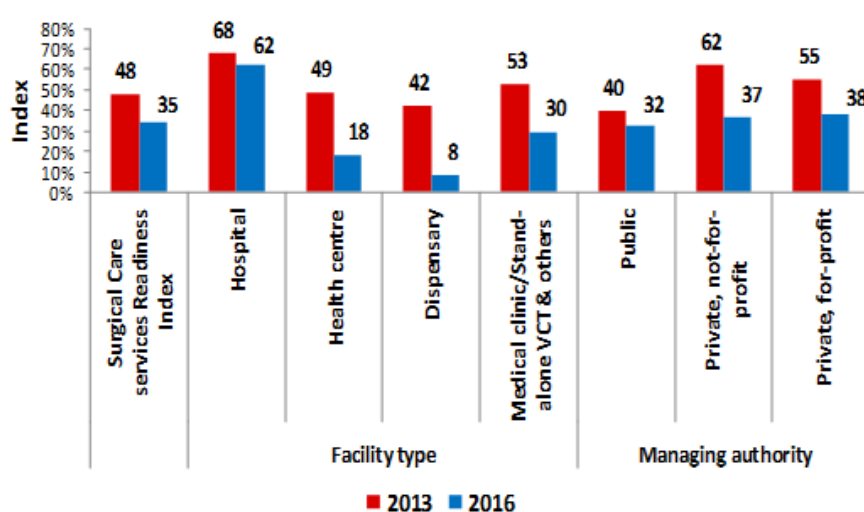


Figure 5.18: Readiness index for provision of surgical services 2013 and 2016

5.13 Other services

Table 5.12 shows that more than half (67%) of the facilities under review offer provided other services out of which 79% are hospitals and less than one third (27%) of the medical clinics/standalone and VCTs centres. Most (72%) of the facilities were public followed closely with private not for profit (70%) and less

than two thirds (54%) of the private for profit facilities. Close to one third are providing imaging services and blood safety with 29% and 33% respectively.

5.14 Laboratory and laboratory supplies

Figure 5.19 demonstrates that more than 70% of the facilities had gloves (77%), needles (76%), cotton wool (74%), normal saline and applicator sticks (71%) for laboratory services. However, it's good to note that buffer tablets (40%) and scalp vein needles (46%) were least available laboratory supplies in health facilities visited respectively.

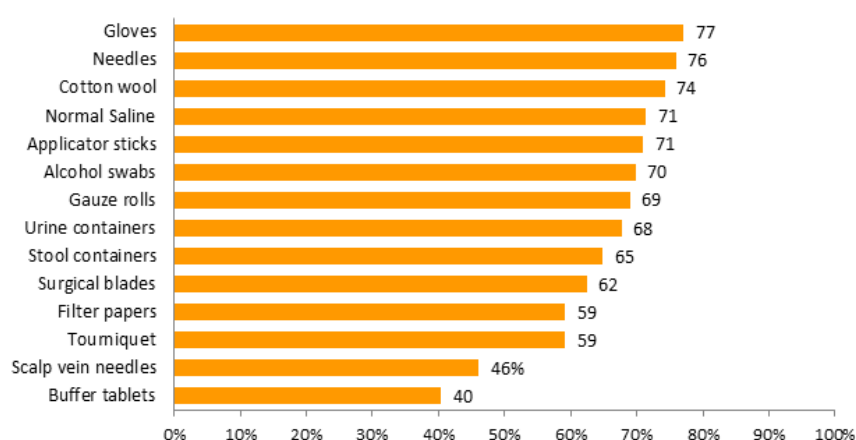


Figure 5.19: Percentage of facilities with laboratory supplies

Table 5.13 shows that more than 80% of the hospitals (82%) and health centers (81%) had laboratory essential supplies available while only 36% of the dispensaries had the supplies. More than three quarters (79%) of these supplies were in Private not for profit facilities and at rural facilities where most population is a good indication of access for laboratory services compared to about two thirds (2/3) of the public health facilities (63%) had laboratory supplies.

More than 80% of the facilities had examination and surgical Gloves (86% and 83% respectively), safety boxes, and cotton wool 400 gms was in 84% of the health facilities, while, zinc oxide strapping 75cmx45m BPC was in 81% of the health facilities visited, Figure 5.20. The least tracer items were in less than 50% of the health facilities thus; Endotracheal cuffed tube size 7.0 (39%), suction catheters with regulatory valve size 14FG (44%), and suction catheters with regulatory valve size 6FG, and polyglycolic acid 2/0 RBM 40mmx75cm in 47% of the health facilities visited and 49% had giving sets, blood, double chambers.

Table 5.12: All other services

Variable	Type of facility				Managing authority		
	Total	Hospital	Primary Care facilities				Private, not-for-profit
			1	2	3	4	
Total number of facilities	245	99	34	60	38	66	143
Mean availability of services	67	79	68	61	43	68	72
Percent of facilities offering all services	50	72	42	30	27	60	52
Specific services							
<i>General outpatient</i>	96	97	100	93	95	100	97
<i>Integrated MCH/family planning services</i>							
<i>Accident and emergency</i>	84	94	88	85	58	79	92
<i>Emergency life support</i>	52	69	41	33	39	79	49
<i>Maternity</i>	39	58	26	17	26	71	34
<i>Newborn services</i>	72	97	94	48	18	86	84
<i>Reproductive health</i>	57	83	41	48	16	57	66
<i>Inpatient</i>	86	98	91	80	55	100	93
<i>Clinical laboratory</i>	40	74	24	7	11	64	41
<i>Specialized laboratory</i>	75	98	82	42	55	86	75
<i>Imaging X â&Agrave; ray</i>	21	47	3	0	3	14	23
<i>Pharmaceutical</i>	29	65	3	0	8	29	30
<i>Blood safety</i>	77	91	85	63	53	79	80
<i>Rehabilitation</i>	33	63	9	7	8	57	31
<i>Palliative care</i>	27	56	9	10	0	14	36
<i>Specialized clinics</i>	16	28	9	3	11	21	17
<i>Comprehensive youth friendly services</i>	37	70	18	7	11	50	36
<i>General operations</i>	23	40	15	2	11	43	23
	33	64	12	3	13	50	30

KEY: 1 - Health Centre; 2 - Dispensaries; 3 - medical clinics/standalone VCT's; 4 - Others

Table 5.13: Availability of Laboratory commodities by facility type and managing authority

Tracer indicator	Facility type					Managing authority			Urban/ Rural	
	Hosp	H/C	Disp	Medical clinic/ Stand-alone VCT	Maternity/ Nursing home	Public	Private, not-for-profit	Private, for-profit	Urban	Rural
Alcohol swabs	85	92	59	93	80	68	71	38	68	71
Applicator sticks	91	91	53	94	74	89	83	53	89	83
Buffer tablets	42	37	8	47	28	64	64	39	68	71
Cotton wool	47	45	21	47	37	68	71	38	89	83
Filter papers	93	93	71	86	71	89	83	53	68	71
Gloves	85	92	59	93	80	64	6	39	89	83
Needles	91	91	53	94	74	68	71	38	68	71
Normal Saline	42	37	8	47	28	89	83	53	89	83
Scalp vein needles	47	45	21	47	37	64	64	39	68	71
Surgical blades	93	93	71	86	71	68	71	38	89	83
Tourniquet	85	92	59	93	80	89	83	53	68	71
Urine containers	91	91	53	94	74	64	64	39	89	83
Stool containers	42	37	8	47	28	68	71	38	68	71
Gauze rolls	47	45	21	47	37	89	83	53	89	83
Index	82	81	36	44	85	63	79	60	63	79

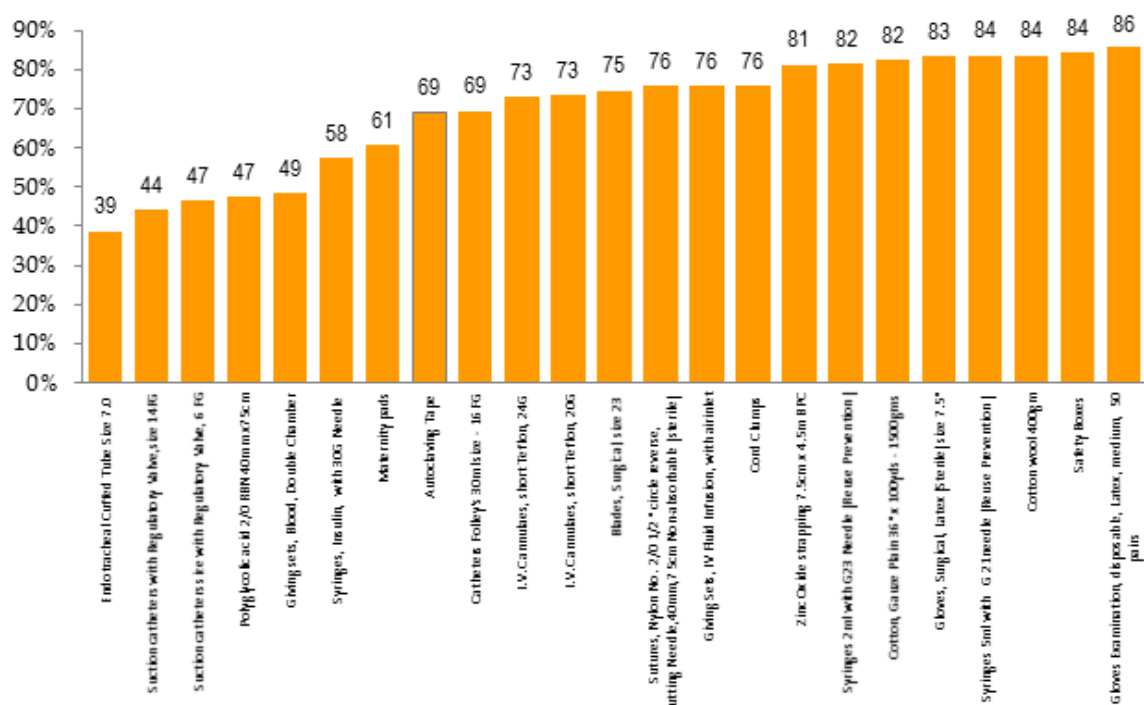


Figure 5.20: Percentage of facilities with laboratory non-pharmaceutical supplies

5.15 Blood transfusion services

During the review, it was noted that blood transfusion services was available in 44% of the facilities surveyed among which 64% were offered in hospitals, while 54% in Medical/Nursing homes as shown in Table 5.14. There was no much difference for this services provided in Public (46%) and Private not for profit (46%) while, 37% of the private for profit facilities provided the services. There was no difference for this services provided in both urban and urban with less than 50%.

Table 5.14: Blood transfusion services

Health facility type	Offers blood transfusion (%)	Total number of facilities
Hospital	64	99
Health centre	37	34
Dispensary	25	60
Medical clinic/Stand-alone VCT	22	38
Maternity/Nursing home	54	14
Managing authority		
Public	46	143
Private, not-for-profit	46	36
Private, for-profit	37	66
Urban/Rural		
Urban	46	120
Rural	46	125
Total	44	245

Table 5.14 denotes that among all health facilities visited, less than half (44%) of them had tracer items for blood transfusion, and none of these facilities had all the tracer items with mean availability of the tracer items of 20%. While Figure 5.21 shows that almost one third (31%), of the facilities had blood storage refrigerator and guidelines on the appropriate use of blood and blood transfusion, while, at least 1 trained staff on appropriate use of blood and safe blood transfusion, and Blood supply sufficiency was in 21% and 18% respectively.

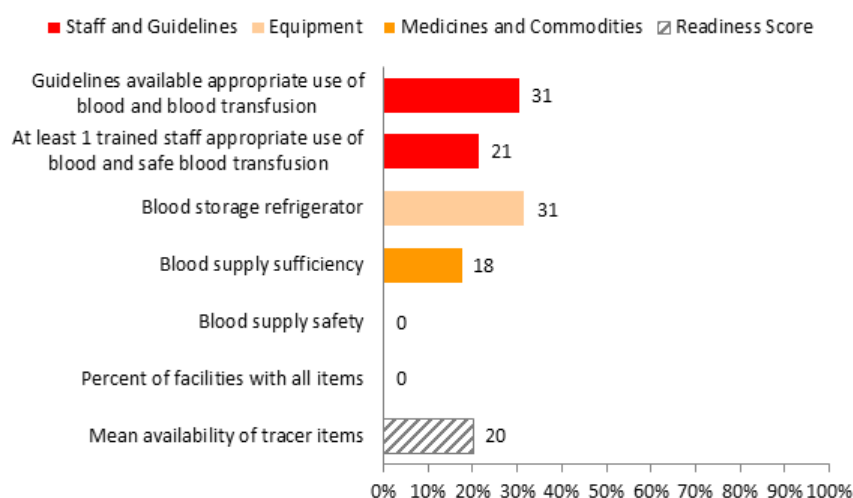


Figure 5.21: Percentage of facilities with essential medicines items available

5.16 Specialized services

Figure 5.22 shows that specialised services are available but in minimal values. During the review, only 9% of the facilities offered re-constructive surgery, 7% offered chemotherapy and dialysis, while none of the facilities offered organ transplant.

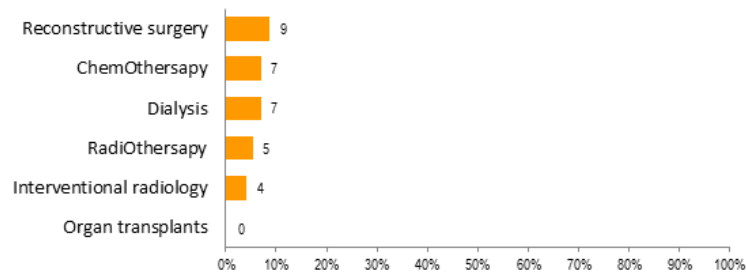


Figure 5.22: Percentage of facilities offering specialized services

The most specialized service offered was reconstructive surgery while the least specialized service offered was Interventional radiology. No organ transplant was done at all in any of the facilities. Table 5.15 shows that Chemotherapy services were being offered in only 16% of the hospitals, while 3% of the services were offered in the medical clinic/standalone VCTs. This service was not available at the health center dispensary and maternity/nursing home. 13% of the Private for profit facilities offered these services compared to 4% of the public facilities.

Table 5.15: Specialized services by facility type and managing authority

Facility type	Chemotherapy	Dialysis	Interventional radiology	Organ transplants	Radiotherapy	Reconstructive surgery
Hospital	16	17	9	0	12	19
Health centre	0	0	0	0	0	3
Dispensary	0	0	0	0	0	0
Medical clinic/ Stand-alone VCT	3	0	3	0	0	0
Maternity/ Nursing home	0	0	0	0	7	7
Managing authority						
Public	4	7	3	0	6	5
Private, not-for-profit	6	0	0	0	8	11
Private, for-profit	14	11	9	0	3	15
Others	-	-	-	-	-	-
Urban/Rural						
Urban	4	7	3	0	6	5
Rural	6	0	0	0	8	11

Dialysis services were only available in 17% of the hospitals. However, 10% of

the private for profit facilities offered the services compared to 7% of the public facilities. Interventional radiology services were available in 8% of the hospitals whereas, 3% of the services were available in the medical clinic/standalone VCT. However, 9% of the private for profit facilities offered the services compared to 2% of the public facilities. None of the facilities visited offered Organ transplant services.

The mean availability of Radiotherapy services was available in 5% of the health facilities with 11% of the hospitals whereas, 7% of the services were available in Maternity/Nursing homes. However, 8% of the private for not profit facilities offered the services compared to 3% of the private for profit facilities. Reconstructive Surgery services were available in 19% of the hospitals while, 7% of the services were available in Health Centers. However, 15% of the private for profit facilities offered the services compared to 5% of the public facilities. None of the rural health facilities are offering these specialized services.

Chapter 6

Health Leadership and Partnerships

The Health leadership and partnership readiness looked at the availability of critical capacity and actions needed for stewardship of the health agenda in the sampled counties. As outlined in the Kenya Health Sector Strategic and Investment Plan (KHSSP 2014-2018), the Health Sector Leadership and Governance is built around three thrusts:

- a. Improving Health Stewardship by Government for the Health agenda. Stewardship relates to the management function of the Government, through the Ministry responsible for Health both at National and County levels and is built around implementation of the mandate outlined in executive order No. 2.
- b. Implementation of appropriate systems for Health Governance. Governance segments to the functioning of the institutions by which the authority of the State of Kenya is exercised. These address the regulatory and legal functions that all actors in the sector have to adhere to, and are built around the sector legal and regulatory framework.
- c. Consolidating Health Partnership arrangements. Partnership relates to the inter-relations and coordination of different actors working towards the same goals, and is built around the adherence to the sector partnership Code of Conduct and partnership frameworks.

The County Government Act 2012, the Public Finance Management Act 2012 and the Public Finance Management Regulations 2015 has provided for relevant structures that enables the country realise its goals. Consolidating Health Partnership arrangements relates to the inter-relations and coordination of different actors working towards the same goals, and is built around the adherence to the sector partnership Code of Conduct signed by the various actors. A solid leadership and operational partnerships are key in the implementation of the health sector goals as outlined in Kenya Health Policy 2014-2030.

Governance structures and systems in this report is expressed at two fronts at the health facility level, there should exist boards and health facility committees at respective hospitals, health centers and dispensaries with a common planning framework. SARA 2016 assesses the health leadership in Kenya by looking at health service provision points, organised capacity and leadership readiness to deliver health services.

6.1 Service delivery organization readiness

In SARAM 2016, the organisation of service delivery in the sampled counties showed a marked improvement generally in all the seven (7) tracer indicators namely;

- a. Functional community units in all areas of responsibility
- b. Community units submitting monthly reports
- c. All community units carried-out community dialogue and action days at least once a quarter in the past financial year
- d. Adequate registers for data collection for the past 12 months
- e. Adequate summary forms for data collection for the past 12 months
- f. Submitted regular reports in the past 12 months
- g. Regular feedback to the community in the past 12 months.

Figure 6.1 shows that there is an increase by between 5%-44% in each of the specific indicator for service delivery organisation showing a positive move towards primary health care in counties. The functional community units increased nearly two times from 28% to 49% while, 40% of the units submitted their monthly reports in SARA 2016 compared with 27% in SARAM 2013. Adequate registers for data collection for the past 12 months went down by almost half to 34% down from 57% while, adequate summary forms for data collection for the past 12 months was available in 67% of the health units up from 58% of the units.

Submitted regular reports in the past 12 months were in 67% of the health facilities in 2016 compared to 62% in 2013 SARAM. Finally regular feedback to the community in the past 12 months increased to about three fold from 36% to 80% while community dialogued and action days improved by 12% from 26% to 38% respectively. Private not for profit health facilities were slightly more advantaged and had better readiness capacity compared to public realised in 2013 SARAM. Much readiness was seen in hospitals, followed by dispensaries, Health centres in modesty unlike the clinics.



Figure 6.1: Percentage of facilities with organization of service delivery capacity

6.2 Health stewardship readiness

The Ministry of Health relates health stewardship which is built around implementation of the mandate that requires strong government stewardship for proper regulation and multi-sectoral collaboration. In the assessment of the health stewardship readiness, nine (9) tracer indicators were assessed. These were;

- All 12 management meetings in the past year
- Annual work plan for July 2015 - June 2016
- Mortality audits for all maternal deaths from July 2015 - 2016
- All 4 medicines and therapeutic committee meetings in the past year
- Community outreach in the area of responsibility in the past year
- At least 4 supervisory visits in the past year
- Functioning workplace health and safety committee
- Functioning infection prevention committee
- Functioning work quality improvement in place

Better stewardships readiness was experienced much higher in over 50% of the health facilities in Dispensaries, nursing homes, and medical clinics compared to hospitals and health centres as shown in table 29. Private for-profit health facility had good stewardship readiness followed by Public health facilities but was least realised in private not-for-profit health facilities.

Figure 6.2 and Table 6.1 show that at least 4 supervisory visits were done in 56% of the health facilities unlike 55% that was realised during the past SARAM from higher levels. All the 12 management meetings in past year were 46% in the year

July 2015 to June 2016 up from 34% of the facilities in 2012/2013. There was less marginal improvement on Annual work planning from 56% to 59% realised in the health facilities. Mortality audits for all maternal deaths are still rarely done at the health facilities with 36% of the health facilities done between July 2015-June 2016 from 15% reported between July 2012-June 2013.

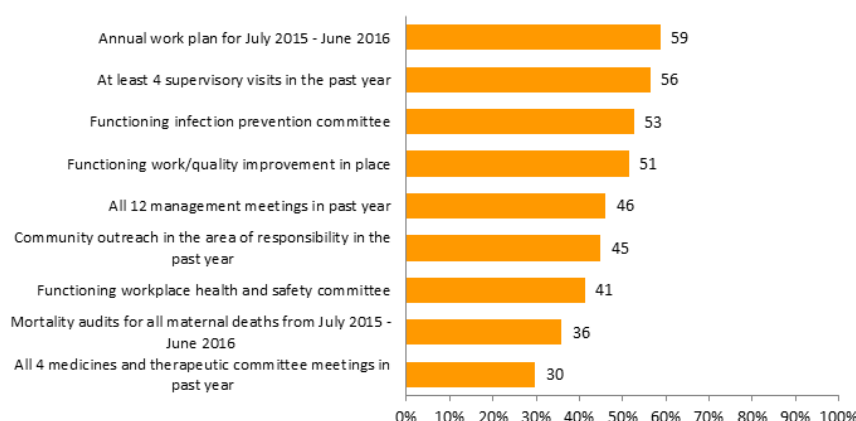


Figure 6.2: Percentage of facilities with health stewardship capacity

All 4 medicines and therapeutic committee (MTC) meetings in past year went up about twofold (30%) more than what was reported in SARAM 2013 in 16% of the facilities. Health facilities managed to conduct community outreach in the area of their responsibilities increased by 8% in the past year to 45% of the health facilities while, functional workplace health and safety committee, infection prevention, and work quality improvement committee were in 53% and 51% respectively indicating a 100% increase from what was realised and reported in 2013.

6.3 Health partnership readiness

Health partnership in the sector aims at ensuring that partnership Code of Conduct and partnership framework are adhered to. To establish the health partnership readiness, six (6) tracer indicators were used to assess the health facilities thus;

- Clearly demarcated area of responsibility
- All 4 quarterly meetings with stakeholders in area of responsibility in past year
- Annual stakeholder meeting with stakeholders in the area of responsibility in 2015/2016
- Link to support groups operating within communities in the facility area of responsibility

Table 6.1: Health stewardship readiness by facility type, managing authority by urban and rural 2016

Tracer indicator	Hosp	H/C	Disp	alone	VCT	home	Public	profit	for-profit	Urban	Rural	Overall %
All 12 management meetings in past year	46	38	48	45	57	45	45	36	53	45	36	46
Annual work plan for July 2015 -June 2016	62	56	50	63	71	57	57	56	65	57	56	59
Mortality audits for all maternal deaths from July 2015-June 2016	37	24	43	32	36	39	39	22	36	39	22	36
All 4 medicines and therapeutic committee meetings in past year	23	21	40	32	50	26	26	28	39	26	28	30
Community outreach in the area of responsibility in the past year	48	32	43	53	36	46	46	36	47	46	36	45
At least 4 supervisory visits in the past year	55	50	53	66	71	52	52	61	64	52	61	56
Functioning workplace health and safety committee	33	29	43	58	71	34	34	33	62	34	33	41
Functioning infection prevention committee	48	44	55	61	71	50	50	47	62	50	47	53
Functioning work/quality improvement in place	54	41	43	58	79	50	50	44	59	50	44	51
Total Health facilities	99	34	60	38	14	143	143	36	66	120	125	245

- e. Participate in sub-county/county health stakeholders forum in the past year
- f. Partners directly supporting/working

Generally there was a slight improvement in the area of health partnership readiness efforts but not sufficient enough with three out of six tracer indicators slightly above 50% while the rest remained below 50% but with between 2% to 8% improvement. Table 6.2 shows that about two thirds (62%) of the hospitals had clearly demarcated areas of responsibilities and partners directly working with health facilities (64%). Similarly, results were in standalone medical clinics (58%/61%) and nursing homes (71%/50%) and least experienced in health centres (47%/53%). Overall, 59% of the health facilities had partners directly working with them with 58% clearly demarcated areas of responsibility. This was realised more in public health facilities (59%/61%) compared with private for profit and private not for profit health facilities as shown in Table 6.2.

Figure 6.3 shows that clearly demarcated area of responsibility reported a marked improvement of 9% from 47% in 2013 to 58% of the health facilities in 2016. Facilities are expected to hold quarterly stakeholders meetings in a year; therefore, the proportion of facilities that held all 4 quarterly meetings with stakeholders in area of responsibility in past year was 41% in 2016 compared with 34% in 2013. It was also noted that 39% of the health facilities in 2016 had annual stakeholders compared to 32% noted in 2012/2013. The link to the support groups operating within communities in the facility area of responsibility was 11% more with 52% up from 41%, while the proportion of the facilities participating in the stakeholder's forum was at 33% in 2016 compared to 31% in the previous SARAM 2013.

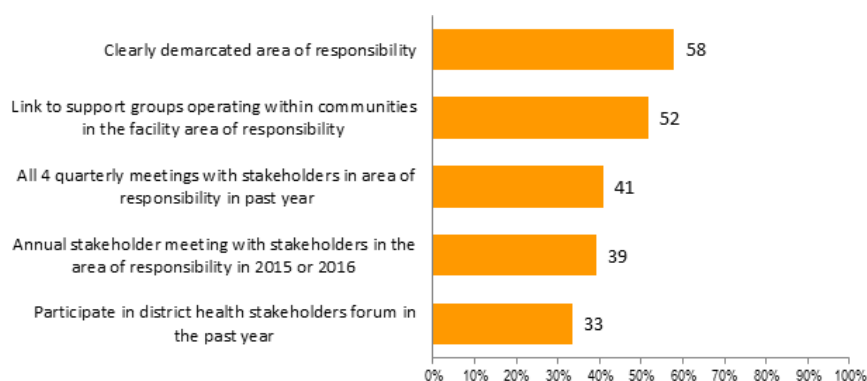


Figure 6.3: Percentage of facilities with health partnership capacity

6.4 Health governance readiness

Health Governance provides for the functioning of the institutions by which the authority of the State of Kenya is exercised. These are built around the sec-

Table 6.2: Health partnership readiness by facility type and manning authority in 2016

Facility type	Clearly demarcated area of responsibility	All 4 quarterly meetings with stakeholders in area of responsibility in past year	Annual stakeholder meeting with stakeholders in the area of responsibility in 2015 or 2016	Link to support groups operating within communities in the facility area of responsibility	Participate in district health stakeholders forum in the past year	Partners directly supporting/working
Hospital	62	36	31	52	27	64
Health centre	47	29	26	47	24	53
Dispensary	55	42	43	45	33	55
Medical clinic/						
Stand-alone VCT	58	53	61	68	58	61
Maternity/Nursing home	71	64	50	50	36	50
Managing authority						
Public	59	40	36	52	30	61
Private, not-for-profit	56	33	31	42	22	50
Private, for-profit	58	47	50	58	47	59
Others	0	0	0	0	0	0
Urban/Rural						
Urban	59	40	36	52	30	61
Rural	56	33	31	42	22	50
Total	58	41	39	52	33	59

tor legal and regulatory frameworks. The Health Governance structures are: community health Committees, health facility committees, hospital boards and committees. In the assessment of the health governance readiness; four (4) Tracer indicators were used notably;

- a. Fully constituted boards/health facility committees
- b. Board met at least 2 times in the past financial year
- c. Corruption prevention committee in place.
- d. Independently managed suggestion box

None of the health facilities recorded a fully constituted board or health facility committees compared to 54% of the health facilities in 2013. The facility committees and boards are expected to meet at least once in 6 months and 64% of them had boards/committee meetings held in the past year compared to 49% of the health facilities in 2013. As part of the national values, corruption prevention is critical. This improved significantly almost by four times to 55% up from only 14% of the health facilities that had corruption prevention committees in place during SARA 2013. Consequently, there was a slight drop of health facilities with client's feedback independently managed suggestion boxes from 26% to 25% between the two surveys as shown in Figure 6.4.

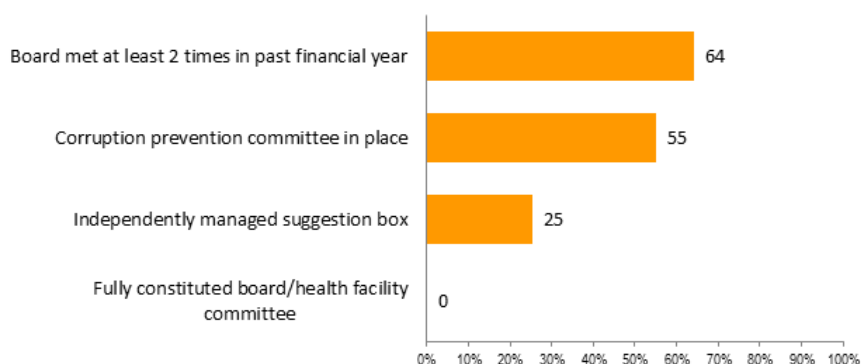


Figure 6.4: Percentage of facilities with health governance capacity

In conclusion, the two survey results were compared and the two studies showed a positive correlation hence comparison of the indices. Using a paired sample t-Test revealed an improvement of 17.2% with $t=2.474$, $p=0.069$ in general service readiness index for SARAM 2013 and SARA 2016, though not statistically significant at 5%. An improvement can be noticed if a Census is conducted as shown in Table 6.3.

Table 6.3: Summary table statistical significance for the two surveys SARAM 2013 and SARA 2016

Comparison	SARAM value (15%)	
	SARAM 2013 (%)	SARA 2016 (%)
General service readiness index	57	63
Basic amenities mean score	47	83
Basic equipment mean score	67	76
Standard precautions mean score	73	76
Essential medicines mean score	41	73
Statistical significance	t=2.474, p=0.069	
Brief description		
1. The two studies show a positive correlation;		
2. Using a paired sample T-test revealed a significant improvement of 17.2% in general service readiness index for SARAM 2013 and SARA 2016;		
3. A greater improvement can be noticed if a Census is conducted.		

Chapter 7

Conclusions and Recommendations

This section offers a few concluding observations regarding;

- a. the SARA process and lessons learned
- b. Important findings from the survey regarding general service availability, readiness as well as specific service availability and readiness.
- c. The leadership, partnership and governance of the general health services

7.1 General comments

This was the second time that the SARA tool had been implemented in Kenya; first in 2013 widely known as SARAM 2013 with results from National census shared widely. There are a number of lessons that will help to improve future health facility assessment surveys;

a. Questionnaire tools and Sampling frame

The Kenyan national SARA coordinating committee adapted and reviewed the original WHO tool used in SARA 2013 excluding some sections removed in SARA 2013 such as availability of critical services for Tuberculosis, some drug items dropped from essential lists just to mention a few that are not in the current chart book and questionnaire. It is therefore; recommended that subsequent surveys use the new adapted instruments with additional information including the adaptation of QOC, Service provision assessments among others that may add value to the country.

b. Data collection and analysis

Data collection for the two surveys has been using the standard WHO questionnaire, collected by research assistants acquitted with the exercise. Data entry

is online using the web-based system DHIS 2, downloaded into MS excel and running validation checks and chart book. Future SARA in Kenya should be Comprehensive for health facilities by counties, Mapping, to establish baselines for counties to update KMHFL. Again use DHIS 2 lives with the correct Mapping software's, field tablets and capacity of Research Assistance is very critical.

c. Planning and time allocation

A major survey exercise requires careful advance planning and preparation as well as adequate time to chase up data gaps and anomalies, data cleaning, analysis and write up. Future SARA surveys should benefit from greater lead time and realistic time lines for completing the exercise, capacity of RAs on tools, data entry and report. Also analysis should be carried out in workshop basis with the participation of key team players including counties, national MOH, Census bureau and partners.

d. Missing service availability elements

This SARA reported on health facility bed density (using the information from DHIS2) and health workforce density and composition (using health workforce data collected from facilities human resource census) and outpatient per capita utilization from about 85% of the health facilities. Future SARA should also collect this information from the health facilities including re-categorization of beds separating general beds and maternity beds. Use of the Ms excel tool as sharing platform. A comprehensive national Kenya Master Health facility list with unique identifiers, available services, and basic static infrastructure and equipment information is ideal for Kenya.

e. Kenya Master Health Facility list (KMHFL)

At the time of assessment, the census of all health facilities in 2013 (both country-wide and within counties) was incomplete lists with names without further information on services available and this has remained a challenge. Most health facilities had unique identifier, making matching of data to the same facility possible. A Comprehensive Kenya Master Health Facility List with Unique identifiers, Geo-coded, services, equipment, infrastructure and linking to human resource for health data base and DHIS 2 is therefore recommended to be developed to facilitate inter-exchange and share the information collected from the health facilities. This will also help in building electronic systems for collecting information and uniquely identified by counties including management of supplies, services and infrastructure inventory.

7.2 General Service availability

In the Mid-term review of the KHSSP Health facility density (facilities per 10,000 population) varied from a ratio of 1:5 fold across the counties included in this SARA. The equity of health facility distribution is certainly a cause for concern and merits closer examination so that new infrastructure can be prioritized for the deprived areas. Facility density is a proxy measure for access to health care. Kenya averagely has enough facilities to serve her population. The main challenges are health facilities meeting the infrastructure norms and standards laid down. It is therefore recommended that in sparsely-populated areas counties to consider having many, smaller facilities (yielding a higher facility-per-10,000) while in densely populated areas it will make sense to have fewer, larger facilities meeting the norms and standards.

Generally, there was substantial improvement in infrastructure development across counties to increase physical availability with over 90% of the available medical equipment functional. However, facilities providing all services were generally low compared to the results of SARAM 2013 showing improved physical space but not fully equipped to provide all services. This shows devolution at work. This should be sustained through Managed equipment service or preventive equipment maintenance units. Priority should be given to fully equip the health facilities to the norms and standards to provide all comprehensive services.

OPD visits per capita utilization per year are a superior measure of effective access to health care. The findings from SARA 2016 showed 2 visits per person per year and MTR about 3 visits per person per year. This shows that in Kenya this was progressively improving to the WHO recommendations of 5 visits per person per year. May be data collection and documentation in health facilities may be an issue or access to healthcare is not good enough and therefore community strategies for demand of healthcare and introduction of comprehensive services need be encouraged. Also hire health records and information personnel to correctly collect statistics or use electronic where possible.

7.3 General Service readiness

The General Service Readiness (GSR) index score particularly increased from 57% to 63% in SARA 2013 and 2016. All improvement was across all the tracer areas for standard precautions, diagnostics, essential medicines, basic equipment and basic amenities. It is not surprising that a high proportion of facilities did not have a power source (electricity), improved water source, computers with internet and communication equipment. Moreover, the national and county governments should invest majorly in these basic amenities to provide good working environment for the health providers.

To facilitate effective planning and management of health care services, effective referral and efficient allocation of resources, improved communications, and computers with internet is critical and both governments should take it priority to facilitate information entry into DHIS2, exchange and prompt dissemination.

The assessment established an important deficit in the capability of most health facilities to perform basic/common diagnostic tests. This deficit was not restricted to clinics, but was also evident to a surprising extent at health centres and hospitals. The results for standard precautions to prevent infections were encouraging and good with most of the basic items such as soap and water available apart from the final disposal of sharps and infectious waste. Proper mechanisms for final waste disposals should be initiated by county governments.

The basic equipment score appeared to be modesty but major difference were experienced in counties. Continue equipping health facilities to allow them comprehensively provide essential health services.

The overall medicines score improved from 53% to 69% but still low. Among the 15 tracer items included in the assessment 16% of all items available which was quite lower than what was experienced in SARA 2013 but 69% had at least 1 tracer item to provide the service. There was no much difference between hospitals, health centres and Maternity Nursing homes. However, the fact that less than 20% of all health facilities had all items in the five domain needs to be addressed seriously to strengthen the health system and provide essential health services; It is highly recommended that four policy briefs in areas of:

- a. Diagnostics,
- b. Basic equipment for health
- c. health products and technologies, and
- d. basic amenities and infrastructure with areas that may need capital investments should be developed

7.4 Specific service availability

It was encouraging to note that many of the basic primary curative and preventive services were supposedly available with about two thirds or more of the health facilities and drugs available in over 70% for specific services that included Malaria, antenatal care (89%), child immunization (85%), BEmOC (69%) and family planning. However, adolescent health, provision of ART, Tuberculosis services, Non communicable Communication Diseases (NCDs), Neglected tropical

diseases, CEmOc, basic and advance surgery, blood transfusion or advanced diagnostics health facilities were minimally provided. Investment and strengthening specific services is highly recommended.

The capability to provide comprehensive emergency obstetric care was provided exclusively in 29% of the health facilities (hospitals). The need to equip facilities to provide the nine signal functions is essential for obstetric emergencies and saving the lives of women and children and this will drastically reduce the high number of maternal deaths and neonatal deaths experienced previously and see the gains from free delivery services.

As the burden of chronic disease rises. Kenya need to put up systems for early diagnosis and halting the rising burden and almost all health facilities should be able to provide basic screening services. This has drastically improved though the base need be maintained and supported.

7.5 Specific service readiness

The readiness results were unusual in their variability. It was across all specific services and domains. Each service demonstrated very different pattern of readiness with regard to specific discrepancies. This made it difficult to summarize concisely the specific service readiness results with most areas having less than one third of the health facility with all tracer items available. The specific service readiness results will be of particular interest to every national program managers or directors to identify particular deficits in service provision at present and should serve as a baseline against which future progress may be measured in future SARA surveys or assessments.

In conclusions further analysis of the results by specific programmes or services to show the inequities in specific areas is required; further development of policy briefs that could inform policy implications and propose for an integrated comprehensive Health facility assessment exercise in all counties using adapted tools is recommended; building of human resources for health capacity and database prior to the exercise is equally critical to build health systems.

Bibliography

- [1] Commission on Revenue Allocation. (2011) Kenya county factsheet.
- [2] Executive Order No 2 on organization of the Government of the Republic of Kenya (May 2013).
- [3] First Uasin Gishu County integrated development plan 2013-2017, Uasin Gishu County.
- [4] Government of Kenya, 2013: Kenya Service Availability and Readiness Assessment Mapping (SARAM). Ministry of Health, Nairobi Kenya.
- [5] Kenya Health Policy, 2013-2014, Ministry of Health ministerial strategic and investment plan July 2014- June 2018, Ministry of Health.
- [6] Ministry of Health Strategic Plan (2014-2018)
- [7] Ministry of Health Service Charter for health service delivery, MOH. 2013.
- [8] Performance contract between the government of Kenya and the cabinet secretary ministry of health for the period July 2013-June 2014
- [9] The Kenya Master Facility List, Ministry of Health.

Appendix I

Service Availability by type of facility and manning authority SARA 2016

CODE	Variable	Overall	Type of facility					Managing authority		
			Hospital	Primary Care facilities				Public	Private, not-for-profit	Private, for-profit
				1	2	3	4			
2001	Immunization	85%	98%	94%	90%	32%	93%	94%	92%	62%
2002	Child Health	88%	99%	91%	90%	53%	93%	95%	92%	71%
2003	Screening for communicable conditions	86%	95%	91%	73%	74%	100%	88%	92%	79%
2004	Antenatal Care	89%	98%	100%	93%	55%	79%	97%	86%	76%
2005	Prevention of Mother to Child HIV Transmission	80%	93%	94%	78%	34%	79%	91%	81%	55%
2006	Integrated Vector Management	49%	68%	53%	48%	11%	21%	61%	39%	30%
2007	Good hygiene practices	93%	95%	97%	87%	89%	100%	92%	97%	91%
2008	HIV and STI prevention	88%	95%	94%	87%	68%	86%	92%	92%	77%
2009	Port health	8%	9%	12%	5%	3%	14%	8%	8%	6%
2010	Control and prevention neglected tropical diseases	47%	71%	41%	35%	18%	29%	54%	44%	35%
2011	Health Promotion and education for NCD's	80%	91%	82%	77%	58%	64%	85%	72%	71%
2012	Institutional Screening for NCD's	63%	75%	71%	48%	53%	57%	65%	64%	59%
2013	Community screening for NCD's	53%	64%	62%	48%	21%	64%	61%	56%	35%
2014	Rehabilitation	27%	56%	9%	10%	0%	14%	36%	22%	9%
2015	Workplace health and safety	82%	91%	82%	78%	58%	93%	84%	92%	71%
2016	Food quality and safety	60%	87%	71%	35%	18%	64%	70%	53%	42%
2017	Health Promotion and education	89%	98%	91%	80%	79%	79%	93%	83%	82%
2018	Pre hospital Care	56%	67%	53%	38%	47%	79%	57%	56%	52%
2019	OPD/Accident and Emergency	66%	86%	68%	40%	50%	79%	66%	69%	64%
2020	Management for injuries	93%	97%	94%	85%	89%	100%	92%	97%	91%
2021	General Outpatient	96%	97%	100%	93%	95%	100%	97%	100%	94%
2022	Integrated MCH / Family Planning services	84%	94%	88%	85%	58%	79%	92%	81%	70%

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