Assessing the readiness of health facilities to provide non-communicable disease services in Kenya

African Population and Health Research Center

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Executive Summary

Why chronic disease management?

Non-communicable diseases (NCDs) tend to develop over a long period causing premature mortality, dysfunction, and reduced quality of life. These NCDs include cancers, cardiovascular diseases, chronic respiratory diseases, diabetes, mental health conditions, and injuries, among others. NCDs result from a combination of several factors including genetic, physiological, behavioural, and environmental factors. Globally, it is estimated that 71% of all deaths disproportionally affecting low-and-middle-income countries result from NCDs. In Kenya, for example, 39% of the reported mortality is attributed to NCDs, with half of these reported as premature deaths, occurring below the age of 70 years. Addressing the burden of NCDs requires a responsive healthcare system and a robust policy environment.

What we did

This report provides an overview of the current state of the healthcare system in regard to the management of NCDs from a national survey of 258 healthcare facilities in Kenya. The survey was conducted by the African Population and Health Research Center (APHRC) between June 2019 and December 2020. The healthcare facilities were assessed on their "readiness" or capacity to provide services for five major NCDs: diabetes, cardiovascular disease, chronic respiratory disease, cervical cancer, and mental illnesses based on the availability of specific services for each condition. The overarching aim was to assess the current capacity of healthcare facilities at different levels of care in delivering NCDs care in the country by examining the availability of specific services for the five major chronic conditions.

What we found

Most healthcare facilities had basic equipment for the diagnosis of NCDs. However, important gaps were identified in the overall readiness of the health facilities to manage NCDs, particularly the availability of essential medicines and commodities, as well as the lack of trained staff and national guidelines for the management of NCDs. Primary health care facilities (levels II and III) and public facilities had limited capacity to manage NCDs compared to hospitals and private facilities.

Abbreviations and Acronyms

AIGHD	Amsterdam Institute for Global Health and Development
APHRC	African Population and Health Research Center
BPMDs	Blood Pressure Measuring Devices
CRD	Chronic Respiratory Disease
CVD	Cardiovascular Disease
KHMFL	Kenya Health Master Facility List
LMICs	Low- and Middle-Income Countries
NCDs	Non-communicable Diseases
NGOs	Non-Governmental Organizations
PHC	Primary Health Care
SARA	Services Availability and Readiness Assessment
SSA	Sub-Saharan Africa
WHO	World Health Organization
WHO PEN	WHO Package of Essential Non-communicable Diseases Interventions

Contents

1 Introduction

1.1 Background

Non-communicable diseases (NCDs) is one of the major global public health challenges in the 21st century, undermining socio-economic development around the world[1]. In low-resource settings, NCDs drain household resources due to the associated high healthcare costs, and often cause income loss, resulting in poverty. The main types of NCDs are cardiovascular diseases (CVD), diabetes, cancers, and chronic respiratory diseases (CRD) and these share four risk factors: harmful alcohol use, unhealthy diet, tobacco use, and physical inactivity[2]. Furthermore, mental health is a growing chronic health concern, often co-existing with other non-communicable diseases[3]. An estimated 41 million annual deaths are caused by NCDs worldwide, and nearly 80% of these deaths occur in low- and middle-income countries (LMICs)[4]. Kenya, like many other LMICs, is experiencing an increasing burden of NCDs[5] with NCDs accounting for 39% of all deaths, over half of the hospital admissions, and more than half of hospital deaths[6].

Characteristics of NCDs:	Modifiable risk factors:	Common types of NCDs:
Chronic illnesses	Harmful alcohol use	Diabetes
Multiple risk factors	Unhealthy diet	Cardiovascular disease
Impaired function/disability	Tobacco use	Chronic respiratory disease
Reduced quality of life	Physical inactivity	Cancers
Premature deaths (<70 years)		Mental illnesses

1.2 Why should we focus on the assessment of NCD management?

In most LMICs, the increasing burden of NCDs is often not matched with appropriate healthcare systems. The current healthcare systems in Sub-Saharan Africa (SSA) were mostly designed to offer sporadic responses to acute infectious diseases. It is therefore important to identify the current gaps in service delivery for NCDs and to explore strategies for improving essential services for NCDs management. Assessing the capacity of healthcare facilities at different levels of care in delivering NCDs management is the first step to providing a better understanding of the healthcare system need that require improvement. This local evidence is needed for decision-making.

1.3 What we did

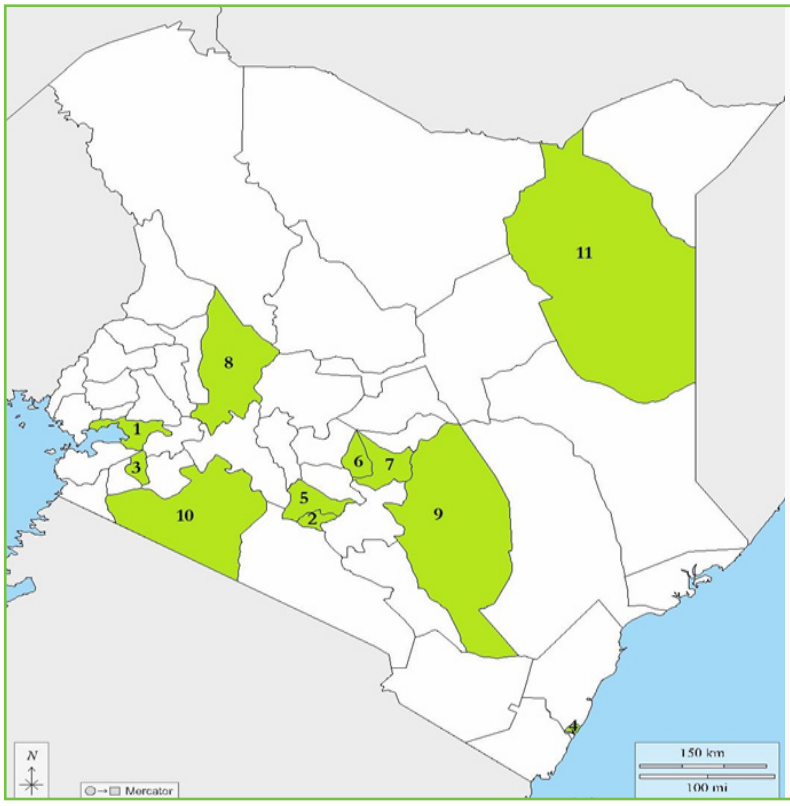
The African Population and Health Research Center (APHRC) conducted a national survey of healthcare facilities in 2019 - 2020. This report presents an overview of the findings with a focus on the healthcare system readiness in providing NCD services in Kenya. A random sample of 258 facilities were assessed on their readiness to provide services for diabetes, CVD, CRD, cervical cancer, and mental illnesses based on the availability of specific tracer items and domains for each condition.

2

Methodology for facility assessment survey

2.1 Study overview and setting

A cross-sectional survey was conducted between June 2019 and December 2020, involving a sample of health facilities from 11 counties (Figure 1) in six geo-political regions in Kenya, namely: Nairobi, Central, Coast & North-Eastern, Eastern, Nyanza & Western, and Rift valley. The sample included level II to VI facilities, both public (managed by the government) and private (including facilities managed by private enterprises, Faith-based organizations, Non-Governmental Organizations (NGOs), and other non-profit organizations) healthcare facilities. The study involved a quantitative assessment of the "capacity" or "readiness" of the health facilities to manage NCDs in Kenya.



1 = Kisumu
2 = Nairobi
3 = Nyamira
4 = Mombasa
5 = Kiambu
6 = Kirinyaga
7 = Embu
8 = Baringo
9 = Kitui
10 = Narok
11 = Wajir

Blank map retrieved and adapted from: https://d-maps.com/ [Accessed: 16 May 2022]

Figure 1: Map of Kenya counties included in the sample of health facilities assessed

2.2 Sampling methodology

A multistage sampling strategy was used to select a nationally representative sample of health facilities. The Kenya Health Master Facility List (KHMFL) of 2019 was used as the sampling frame for this survey. Firstly, Kenya was stratified into six geo-political regions. Then from each region, an independent two-stage sample was drawn. In the first stage, two counties were randomly selected in each of the 5 regions. Nairobi was considered an independent region as it had two sub-counties selected randomly (Figure 1). The counties were sampled with probability proportional to size, with size being the total number of healthcare facilities in the respective county. In the second stage, health facilities were sampled in each county/sub-county in the case of Nairobi. A stratified simple random sampling by the level of care (Levels II to IV) and type of management (private or public) was used to select the health facilities. The study also sampled level V hospitals at the regional level and targeted all national referral hospitals (level VI) for possible inclusion.

2.3 Data collection

A total of 258 health facilities consented to participate in the study (Table 1). A structured facility assessment questionnaire designed and modified based on the World Health Organization Package of Essential Non-communicable Disease Interventions (WHO PEN) was utilized to assess the specific healthcare services available for NCDs in the sample. A healthcare worker working at the selected health facility who was conversant with services at the facility was identified to respond to the facility assessment questionnaire. In health facilities with several departments, a respondent was identified in each department. A questionnaire was completed at each facility, and where it was feasible, direct observations were made by the interviewers.

The following criteria had to be met for health facility respondents:

(i) The healthcare professionals should have worked for at least one year in the facility with a good understanding of the facility's capacity and chronic diseases-related services provided by the facility.

(ii) The healthcare professionals should have voluntarily been willing to participate in the study and able to provide information related to the management of NCDs.

Table 1: Sampled health facilities, by level of care and type of management (N=258)

Health facility level	Level of sampling	Private	Public	Total
Level VI	National	0	3	3
Level V	Regional	3	5	8
Level IV	County	10	9	19
Level III	County	21	67	88
Level II	County	49	91	140
Total		**83**	**175**	**258**

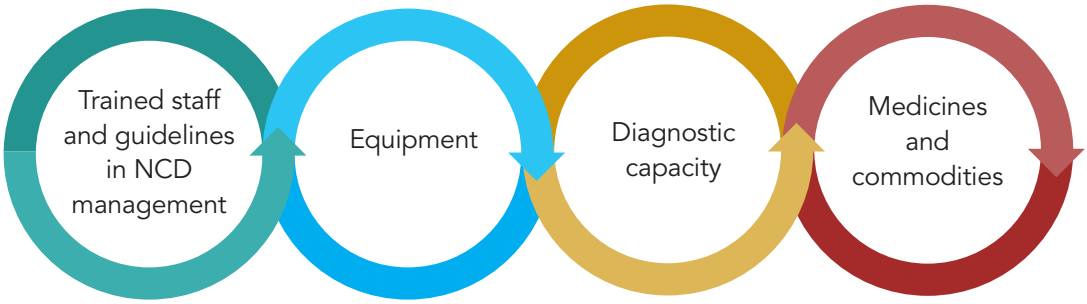
*Sample size calculations: We estimated an initial sample size of 301 health facilities using the formula commonly used to calculate the sample size for SARA surveys that are nationally representative10. This translates to a response rate of 86%.

3

Data analysis

3.1 Indicators of service-specific availability and readiness

Availability of NCD-specific services was assessed by determining the percentage proportion of facilities that provided diagnosis and/or management services for each condition, separately. The facilities that offered services for each of the conditions were then further assessed on their capacity (service readiness) to provide NCD services based on a list of predefined tracer items for service domains. These included trained staff and guidelines in NCD management, equipment, diagnostic capacity, and medicines and commodities. The service readiness scores were calculated as the mean percentage availability of the tracer indicators, following the WHO recommended methodology for Service Availability and Readiness Assessment (SARA) surveys[11]. Analysis results were weighted to take into account the national distribution of facilities.



4

Main findings

4.1 Facility background characteristics

Table 2 shows the distribution of facilities included in the study sample. Of the surveyed facilities, 68% (n=175) were public health facilities. The study consisted mostly of primary health facilities; for which 54% (n=140) were Level II and 34% (n=88) were Level III facilities. In addition, the sample included three of the five national referral hospitals (Level VI) in the country (i.e., Moi Teaching and Referral Hospital, Kenyatta National Hospital and Mathari Hospital) and eight regional hospitals (Level V).

Table 2: Frequency distribution of surveyed facilities by level, managing authority and region (N=258)

Background characteristics	Number of facilities (n)	Percent of total (%)
Facility level		
Level II	140	54.3
Level III	88	34.1
Level IV	19	7.4
Level V	8	3.1
Level VI	3	1.2
Managing authority		
Private	83	32.2
Public	175	67.8
Region		
Central	39	15.1
Coast & North-Eastern	45	17.4
Eastern	45	17.4
Nairobi‡	36	14.0
Rift valley	46	17.8
Western & Nyanza	47	18.2
Overall (Full sample)	**258**	**100.0**

‡ Nairobi: level II–IV facilities were sampled at the sub-county level, included (private/public): Dagoretti (8/7), Kamukunji (1/1), Makadara (1/2), Mathare (0/1), Starehe (1/5), and Westlands (1/4).

4.2 Specific service availability and readiness findings

To assess the readiness of facilities, we first determined whether NCD-specific services were offered among the facilities (service-specific availability), calculated as the proportion of facilities offering diagnosis and/or management services for each of the conditions. Next, we then determined the capacity each facility had to provide a specific service (service-specific readiness), measured through consideration of tracer items listed before. It should be noted that, for service-specific readiness calculations, facilities that did not offer the specific service were not included in the readiness calculations as these facilities would not be expected to be "ready" to provide a service which they do not offer.

4.2.1 Specific service availability

Nearly two-thirds (65%) of the facilities surveyed offered diagnosis and/or management for CVD (Table 3). Additionally, CRD and diabetes were reported as conditions for which most facilities were able to provide diagnosis and/or management services across all levels of care. However, private facilities were more likely to offer diabetes services than public facilities (Table 3). There were no notable differences in CVD or CRD service availability by managing authority. However, one of the concerns was that very few facilities (less than half) were able to offer mental health services (41%) or cervical cancer screenings (24%).

Table 3: Percentage of facilities that offer diagnosis and/or management services for NCDs, by facility level, type of managing authority and region (N=258)

	Diabetes (n=212)	Cardiovascular disease (n=168)	Chronic respiratory disease (n=242)	Cervical cancer screening (n=63)	Mental illnesses (n=105)
Facility level	**%**	**%**	**%**	**%**	**%**
Level II	71	58	91	14	33
Level III	94	66	97	25	45
Level IV	95	95	100	58	47
Level V	100	100	100	100	88
Level VI	100	100	100	67	100
Managing authority					
Private	90	66	95	22	24
Public	78	65	93	26	49
Region					
Central	90	72	87	26	62
Coast & North-Eastern	89	51	98	29	24
Eastern	87	78	93	11	40
Nairobi	94	64	92	19	33
Rift valley	63	50	96	26	43
Western & Nyanza	74	77	96	34	43
Overall (Full sample)	**82**	**65**	**94**	**24**	**41**

4.2.2 Diabetes service readiness

The readiness of facilities to provide diabetes services was assessed based on the availability of 12 specific tracer items enquired about during the survey as listed below:

Staff and guidelines	Equipment	Diagnostics	Medicines and commodities
National guidelines for diabetes diagnosis and treatment Staff trained for diabetes diagnosis and treatment	Weighing scale Measuring tape	Blood glucose test Urine dipstick- protein, Urine dipstick- ketones	Metformin capsules/tablets Glibenclamide capsules/ tablets Insulin regular injectable Gliclazide tablet or glipizide tablet

Figure 2 shows the percentage availability of tracer items for the different service domains for diabetes. Overall, the facilities had a mean diabetes readiness score of 74% (95% CI: 70 - 77), i.e., on average facilities had 9 out of the 12 tracer items available. A high percentage of facilities had the equipment and diagnostic capabilities, such as blood glucose testing, available in 94% of the facilities and weighing machines available in all facilities providing diabetes services. Despite this, just over half of the facilities had staff training (54%) and national guidelines (59%) on diabetes care. The lowest readiness was in the essential medicines and commodities domain. The essential drugs for managing diabetes (e.g., insulin, metformin) were available in just over half of the facilities providing this service, and only 35% had glibenclamide available. Only 12% of the facilities reported that they had all the tracer items for managing diabetes available.

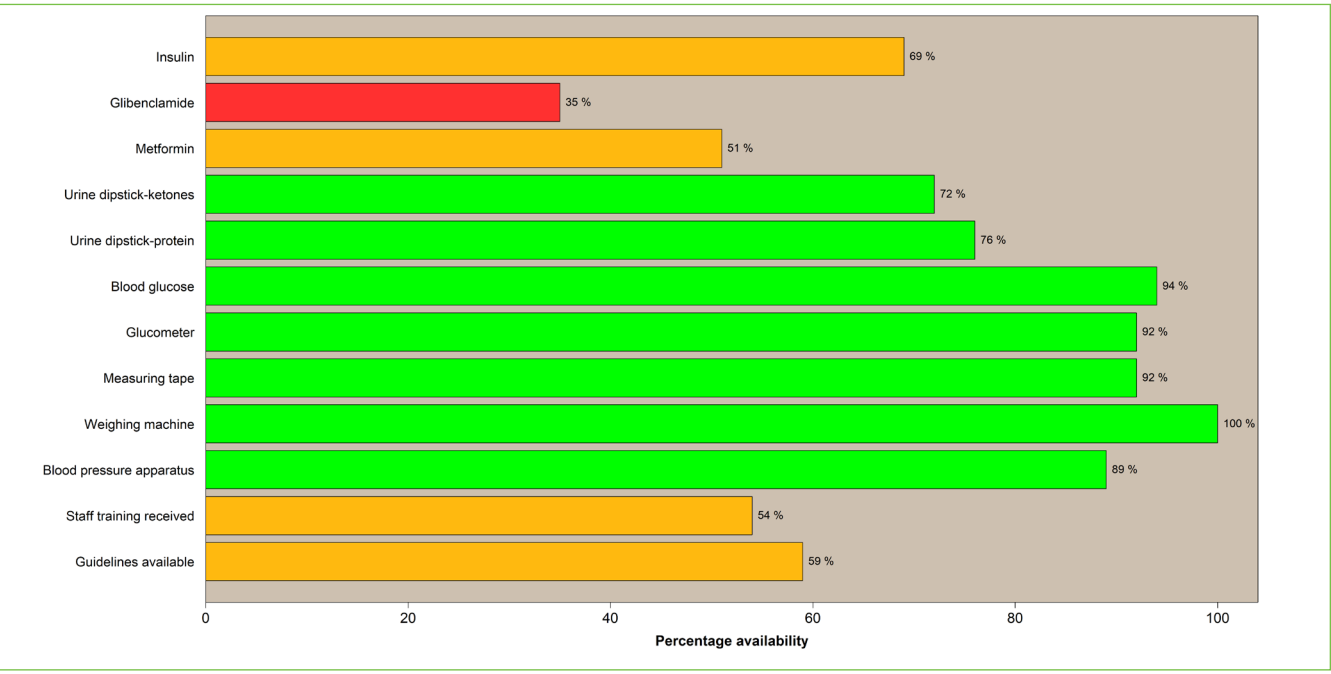


Figure 2: Percentage of facilities with tracer items for diabetes services among facilities that provide this service (N=212)

When comparing facilities at different levels of care (Table 4), the readiness to manage diabetes was lower in Levels II and II compared to levels 3-5-Levels. Furthermore, readiness appeared to be higher in private compared to public health facilities.

Table 4: Percentage domains and readiness scores among facilities that offered diabetes services, by facility level and type (N=212)

	Staff & Guidelines	Equipment	Diagnostics	Medicines & Commodities	Mean readiness score (95% CI)
Facility Level	**%**	**%**	**%**	**%**	**%**
Level II	58	93	74	51	72 (67 - 77)
Level III	42	92	92	45	72 (66 - 77)
Level IV	87	99	97	88	94 (89 - 98)
Level V	100	100	100	96	99 (99 - 100)
Level VI	100	100	89	89	94 (93 - 96)
Facility Type					
Private	62	94	86	62	79 (73 - 84)
Public	48	91	69	39	65 (61 - 69)
Overall	**57**	**93**	**80**	**53**	**74 (70 - 77)**

4.2.3 Cardiovascular disease service readiness

The readiness of facilities to provide CVD services was assessed based on the availability of specific tracer items listed below:

Staff and guidelines	Equipment	Medicines and commodities
Guidelines for diagnosis and treatment of chronic cardiovascular conditions	Stethoscope	ACE inhibitor (enalapril)
Staff trained in diagnosis and management of chronic cardiovascular conditions	Blood pressure apparatus	Thiazide
	Weighing scale	Beta-blocker (atenolol)
		Calcium channel blocker (amlodipine)
		Aspirin (acetylsalicylic acid) capsules/tablets
		Hydrochlorothiazide tablet or other thiazide diuretic tablet

Generally, the mean readiness score for CVD services was moderately high (69%; 95% CI: 66 - 72), and seemed to be driven mostly by the high availability of service equipment domain tracer items (Figure 3Despite of this, very few facilities (38%) had access to national guidelines, and just over half (53%) had staff trained in this area. The availability of essential medicines and commodities for CVD varied widely. For example, a high proportion of facilities had Hydrochlorothiazide (77%), yet only just over half of the facilities had either beta-blocker (50%) or calcium channel-blocker (55%) medications available.

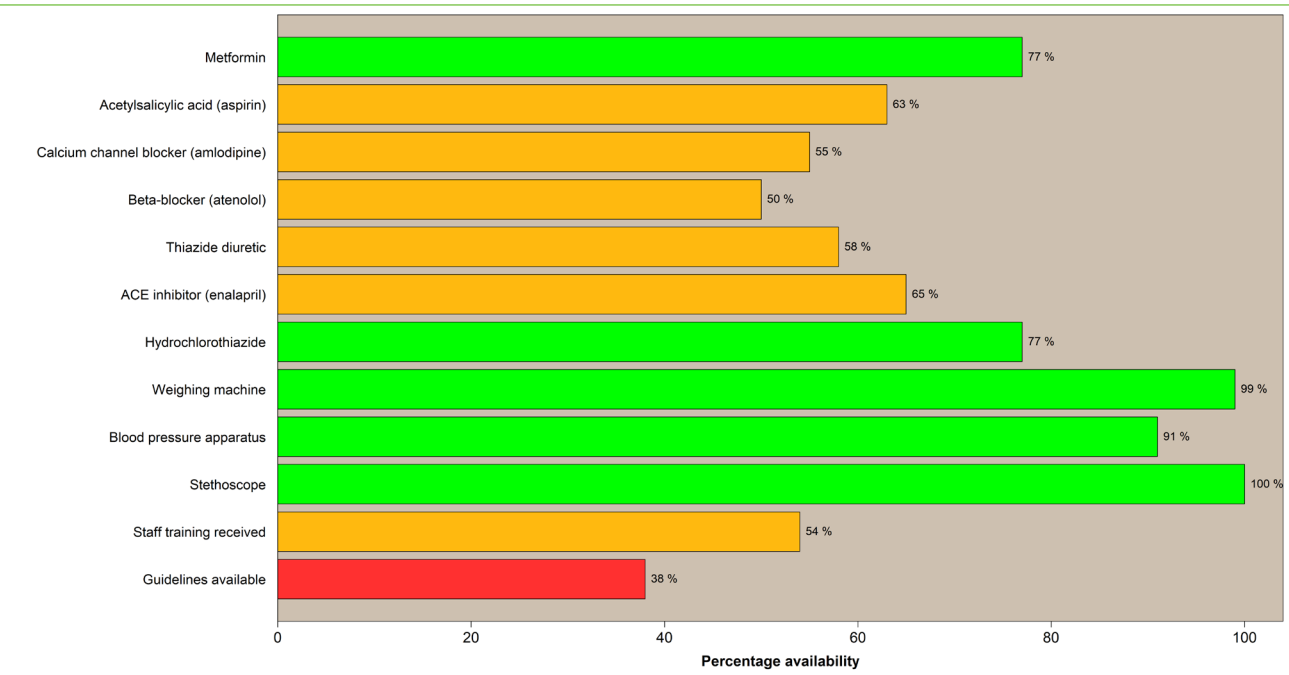


Figure 3: Percentage of facilities with tracer items for CVD services among facilities that provide this service (N=168)

Primary health care facilities (II/III) had less capacity to provide CVD services (Table 5), with noticeable shortcomings in the availability of trained staff and national guidelines for this service. Similarly, private health facilities had higher readiness to offer CVD services compared to public health facilities.

Table 5: Percentage domains and readiness scores for facilities that offered services for cardiovascular disease, by facility level and type (N=168)

	Staff & Guidelines	Equipment	Medicines & Commodities	Mean readiness score (95% CI)
Facility Level	**%**	**%**	**%**	**%**
Level II	42	96	61	67 (62 - 72)
Level III	47	97	58	66 (60 - 72)
Level IV	66	100	88	87 (81 - 94)
Level V	100	93	84	89 (82 - 96)
Level VI	100	100	100	100 (100 - 100)
Facility Type				
Private	54	98	75	77 (72 - 82)
Public	36	95	50	59 (55 - 63)
Overall	**46**	**97**	**64**	**69 (66 - 72)**

4.2.4 Chronic respiratory disease service readiness

The readiness of facilities to provide CRD services was assessed based on the availability of specific tracer items listed below:

Staff and guidelines	Equipment	Medicines and commodities
Guidelines for diagnosis and management of CRD Staff trained in diagnosis and management of CRD	Stethoscope Peak flow meter Spacers for inhalers	Epinephrine injectable

Although the majority of facilities reported that they offered services for CRD, the overall mean readiness score was very low (47%; 95% CI: 45 - 50). Except for stethoscope, which was available in almost all the facilities (99%) providing this service, the mean availability of the rest the of tracer items was relatively low (Figure 4). For example, very few facilities (15%) had a peak flow meter and just over half of the facilities had national guidelines (52%) and trained staff (53%) in CRD diagnosis and/or management.

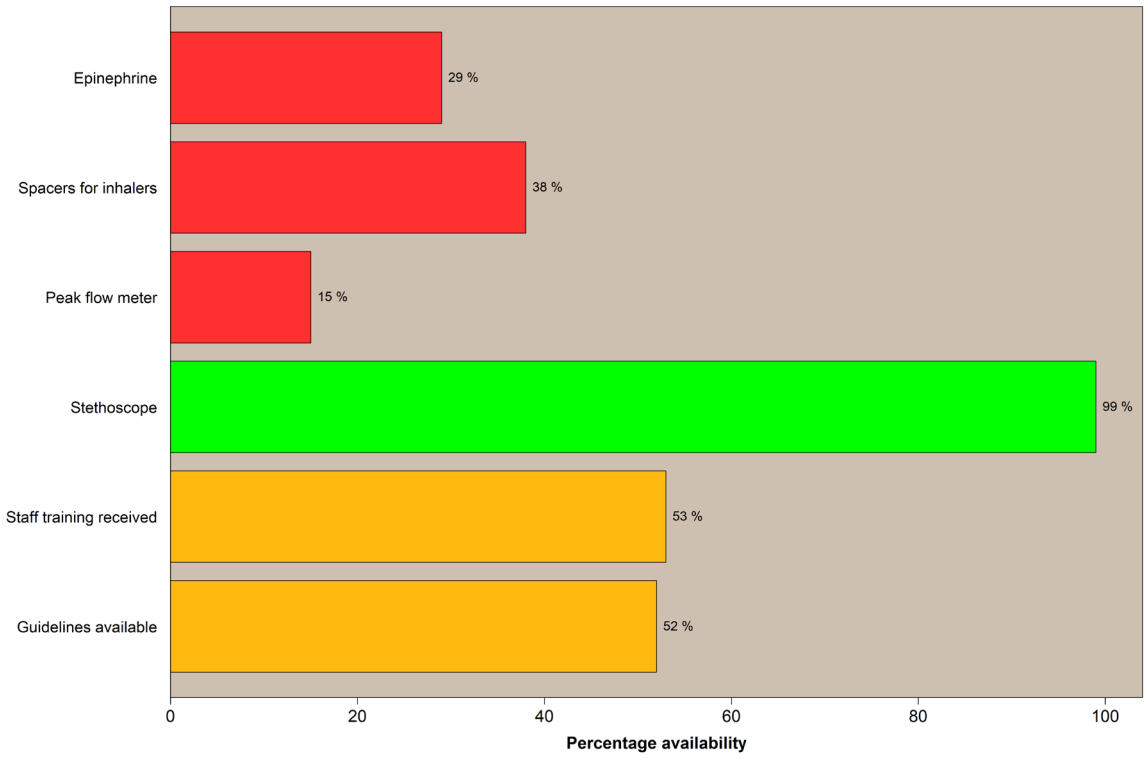


Figure 4: Percentage of facilities with tracer items for CRD services among facilities that provide this service (N=242)

There were also differences in facility readiness by level of care (Table 6). Training and guidelines as well as medicine and commodity availability were relatively poor across all levels of care and facility types.

Table 6: Percentage domains and readiness scores for facilities that offered services for CRD, by facility level and type (N=242)

	Staff & Guidelines	Equipment	Medicines & Commodities	Mean readiness score (95% CI)
Facility Level	**%**	**%**	**%**	**%**
Level II	52	55	30	46 (41 - 51)
Level III	44	57	34	45 (39 - 51)
Level IV	74	71	66	71 (63 - 78)
Level V	94	72	67	78 (57 - 98)
Level VI	100	83	67	83 (72 - 94)
Facility Type				
Private	56	58	48	54 (48 - 60)
Public	48	55	17	40 (37 - 44)
Overall	**52**	**57**	**34**	**47 (45 - 50)**

4.2.5 Cervical cancer service readiness

Very few facilities (24%) offered services for cervical cancer prevention and control. Nonetheless, we assessed these facilities on their readiness to provide this service based on the availability of four tracer items below:

Staff and guidelines	Equipment	Medicines and commodities
Guidelines for cervical cancer prevention and control Staff trained in cervical cancer prevention and control	Speculum	Acetic acid

Overall, cervical cancer had a mean service readiness score of 83% (95% CI: 79 - 88). Furthermore, the result showed that for those few facilities providing this service, the majority of them had the necessary tracer items (Figure 5). For example, 95% had acetic acid and 85% had speculum available. The percentage of facilities with staff who had received training in cervical cancer prevention and control was also high (87%). However, it is important to note that these percentages are based on a small subset of the sampled facilities, hence these results should not be over-interpreted.

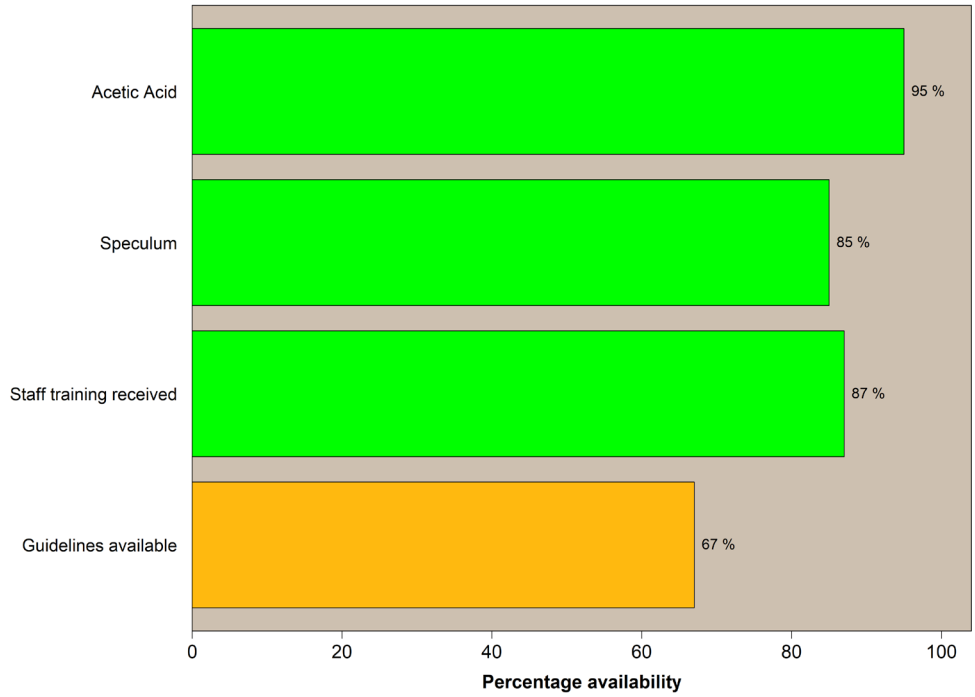


Figure 5: Percentage of facilities with tracer items for cervical cancer screening services among facilities that provide this service (N=63)

For this small subset of facilities providing cervical cancer services, the capacity to provide this service did not vary widely by level or type of facility (Table 7). This result is not surprising as it was already observed above that most of the facilities offering this service had the necessary tracer items for service delivery.

Table 7: Percentage domains and readiness scores for facilities that offered services for cervical cancer prevention and control, by facility level and type among facilities that provide this service (N=63)

	Staff & Guidelines	Equipment	Medicines & Commodities	Mean readiness score (95% CI)
Facility Level	**%**	**%**	**%**	**%**
Level II	74	92	98	85 (75 - 94)
Level III	78	89	94	84 (77 - 92)
Level IV	80	66	89	79 (69 - 89)
Level V	100	78	89	92 (87 - 96)
Level VI	100	100	100	100 (100 - 100)
Facility Type				
Private	72	97	97	84 (76 - 93)
Public	82	73	92	82 (77 - 88)
Overall	**77**	**85**	**95**	**83 (79 - 88)**

4.2.6 Mental health services readiness

The most common types of mental illnesses diagnosed in the facilities were depression, which was diagnosed in 81% (n=85) of the facilities offering this service, followed by epilepsy (74%; n=77), anxiety (66%; n=69) and psychosis (65%; n=68). Other mental health disorders or neurological conditions such as autism, dementia, postpartum psychosis (or puerperal psychosis), bipolar disorder, and somatic symptom disorder were rarely diagnosed at the facilities. Furthermore, all of the facilities offering this service had very low staffing levels within their mental health departments. For example, only 8% (n=15) of the facilities reported that they had psychiatrists working in their mental health departments. In most cases in these facilities, nurses were the main mental health providers.

We thus assessed facilities on their readiness to provide mental health services based on the availability of 20 tracer items, falling under three categories: (i) staff and training, (ii) support services and (iii) medicines for mental illnesses and neurological disorders as below:

Staff and guidelines	Support services	Mental health and neurological medicines
Guidelines for diagnosis and management of mental illnesses Staff trained in the diagnosis and management of mental illnesses	Psychosocial support Private counselling service room In-patient services Rehabilitation services	Thiamine Nicotidamine Chlorpromazone Disulfiram Diazepam Clonidine Haloperidol Chlorpromozine Amitriptylline Fluotexin Haluperidol Zuklopenthixole Fluphenorezine Trifluerozine

Overall, facilities had a mean readiness score of 26% (95% CI: 25 - 27). Very few facilities (6%) had national guidelines for the diagnosis and/management of mental illnesses and only half of the facilities had at least 1 staff trained on delivery of mental health services (Figure 6). Despite this, most of the facilities provided support services for mental health in the form of psychosocial support (76%) and private counselling service rooms (81%). However, these efforts seemed to be hampered by the lack of availability of in-patient (7%) and rehabilitation services (32%), as well as lack of various medicines for mental health patients (48% or less). Diazepam and amitriptyline were the most commonly available medications for mental illnesses, nonetheless less than half of the facilities had the capacity to prescribe these drugs.

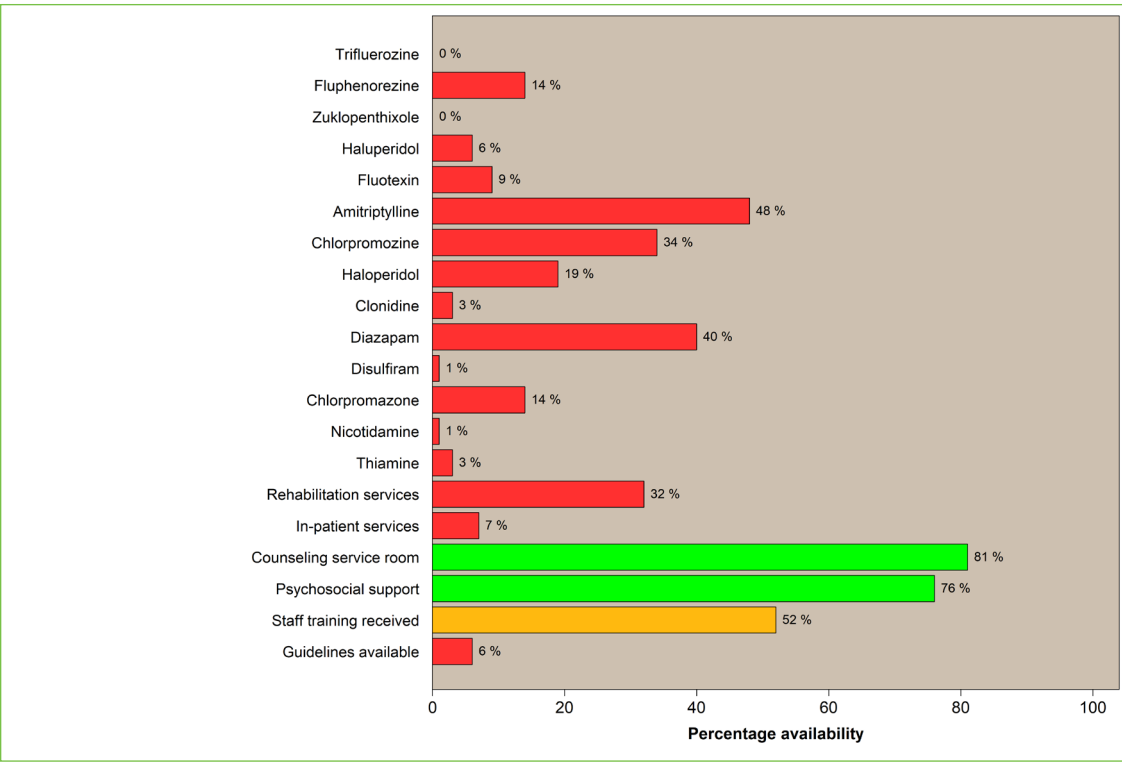


Figure 6: Percentage of facilities with tracer items for mental health services among facilities that provide this service (N=105)

***Psychosocial support includes:** Psychotherapy, Social support, Counseling, Rehabilitation activities, Interpersonal and social training, Psycho-educational treatments.

The level of readiness to provide mental health services varied mostly by level but not by type of facility (Table 8). The results showed that higher-level facilities had more capacity to offer mental health services. Since only about 41% of the sampled facilities offered diagnosis and management services for mental illnesses.

Table 8: Percentage domains and readiness scores for facilities that offered services for mental health, by facility level and type for facilities that provide this service (N=105)

	Staff & Guidelines (%)	Equipment (%)	Medicines & Commodities (%)	Mean readiness score (95% CI)
Facility Level	Percent (%)	Percent (%)	Percent (%)	Percent (%)
Level 2	30	48	9	23 (21 - 25)
Level 3	22	51	21	30 (26 - 35)
Level 4	32	52	35	41 (21 - 61)
Level 5	75	78	51	61 (54 - 68)
Level 6	83	83	57	67 (67 - 67)
Facility Type				
Private	36	51	10	25 (20 - 30)
Public	24	47	16	27 (25 - 29)
Total	**29**	**49**	**14**	**26 (25 - 27)**

5

Discussion and conclusion

In this section, we make some concluding observations about the current state of health facilities in Kenya with regard to their readiness or capacity to provide NCD services. Specifically, we highlight important findings from the survey regarding:

a) Specific service availability.

b) Specific service readiness.

c) Implications for policy

Specific service availability

In general, the availability of services for diabetes, CVD and CRD diagnosis and/or management was relatively good (available in at least two-thirds of the facilities). There were, however, differences in service availability among facility types and levels. Comparatively, more private facilities offered diabetes services than public ones. Primary care facilities had less capacity to provide CVD diagnosis and/or management services compared to hospitals. In most facilities, however, services for cervical cancer and mental illnesses were unavailable, particularly at lower levels of care. It is therefore imperative that routine screening for cervical cancer and mental health management be made widely available at primary care centers in Kenya.

Specific service readiness

Firstly, it was encouraging to observe that basic equipment for NCD interventions were widely available in most facilities, including those at the lowest levels of care. However, the overall readiness to offer these services was low and the study revealed significant gaps. Facilities lacked the essential medicines for specific NCD conditions that they were managing. Furthermore, the capacity of facilities to manage NCDs was further hampered by the insufficient availability of trained staff and the lack of policy documents and national guidelines for the management of NCDs by service providers.

Of the five chronic conditions investigated, diabetes was identified as one area the facilities had a reasonably high capacity to provide services, however, this was mostly driven by the availability of equipment as opposed to other service domain indicators. On the other hand, mental health service readiness was found to be very poor across all levels and types of care.

Of concern, the results revealed that even though CRD services were reportedly the most available among the facilities, the overall readiness to provide this service was generally poor and below the WHO recommended voluntary global target levels[12].

Facilities offering cervical cancer services were found to have high readiness scores for this condition because they had the necessary domain tracer items.

Implications for policy

The findings of this study have important policy implications for NCD management in Kenya. Despite CVD being the most prevalent of the NCDs in the country, facilities were less prepared to manage this condition compared to diabetes. There is therefore a need for services to be prioritized according to disease burden. The gaps identified in terms of service availability and readiness, as well as the disparities by type and level of care, coupled with sub-optimal availability of essential medicines, emphasize the need for a "complete package" approach to expand the capacity of health facilities to deliver NCD services in Kenya. Our findings add valuable insights into the management of NCDs in limited-resource settings, revealing how a fragmented approach can frustrate or slow down the progress towards improving NCD services at all levels irrespective of existing structures. Thus, to bridge the gap between population and health care needs for NCDs, more concerted efforts are required in delivering a "complete-package" approach for NCD services.

Recommendations

Based on our current findings, we offer the following recommendations:

- Firstly, more support is needed at the primary healthcare level to improve the management of NCDs. Since these facilities are the first point of care and are more accessible to the majority of the population, it is therefore imperative that their capacity is strengthened. The main capacity-building initiatives include training staff on the management of NCDs, providing adequate national treatment guidelines and increasing the supply of medicines. Secondly, there is a need to increase for services to CVDs which is the most prevalent NCD and accounts for more than half of the deaths caused by NCDs, yet most healthcare facilities have prioritized other less prevalent diseases over CVD.
- Thirdly, more resources are needed from the county governments to support public health facilities in delivering the NCD services. Rich experiences from the private facilities that have better NCD management can inform the planning of NCD services in the public health care facilities.
- Lastly, there is a need to expand cervical cancer screening and mental health services to make them widely available as part of routine care across all levels of care.

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