



**Report on Availability of Essential Medicines,
Medical Supplies and Bed Capacity
in Hospitals in Tanzania Mainland**

March 2013



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Abbreviations

| | |
|--------|--|
| DDH | District Designated Hospital |
| DHS | Demographic Health Survey |
| DMO | District Medical Officer |
| ICESCR | International Covenant on Economic, Social and Cultural Rights |
| MoHSW | Ministry of Health and Social Welfare |
| MSD | Medical Stores Department |
| MTEF | Medium Term Expenditure Framework |
| NBS | National Bureau of Statistics |
| SPSS | Statistical Package for Social Sciences |
| URT | United Republic of Tanzania |
| WHO | World Health Organization |

Acknowledgements

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Executive Summary

Most diseases, especially infectious diseases, are either preventable or treatable with a relatively small amount of medicines available. In Tanzania essential medicines, medical supplies and equipment are poorly available in most of the public health facilities, leading to unnecessary suffering and even deaths of innocent citizens. The issue of poor availability has been raised several times by citizens and more recently by doctors (during the recent doctors' strike - January, 2012), where amongst other things doctors were particularly unhappy about the chronic unavailability of medicines, medical supplies and bed capacity across the country, especially in public referral hospitals.

In March 2012 Sikika conducted a survey in 54 public hospitals across Tanzania - mainland, to inquire about out-of-stock essential medicines, medical supplies (including laboratory supplies) and available bed capacity.

In this survey, the study population covered district, regional and referral hospitals. The sample selection involved both random and purposeful sampling methods. Of the 54 facilities surveyed, 43 were district hospitals from which 40 hospitals were selected at random and three purposively in areas where Sikika operates. The remaining 11 were regional referral hospitals, which were selected purposively. Telephone interviews were conducted and the information collected was entered and analyzed by the use of the Statistical Software for Social Sciences (SPSS).

Results show that a majority, (94%), of hospitals reported being out of stock of one or more essential medical supplies, 96% were out of stock in one or more essential medicines. The specific items commonly out-of-stock were gloves (in 83% of the hospitals), sutures (48%), gauze (39%) for medical supplies, and quinine (43%) and metronidazole (31%) for medicines. The majority, 52% and 59% of hospitals were lacking in essential medicines and medical supplies for a period exceeding 4 weeks.

With regard to bed capacity, certain wards had occupancy rates above 100%, that is, had admitted more patients than there were beds for them. The wards, which were overburdened by patients, were Prisoners, Postnatal, Antenatal, Female and Male medical wards.

Poor availability of essential medicines, medical supplies and equipment continues to plague public health facilities. Concrete measures need to be taken by the authorities charged with the responsibility. In order to address the challenges discussed in the report, Sikika recommends the introduction of buffer stocks for both medicines and medical supplies; and carrying out a thorough hospital bed needs assessment focusing on areas and wards identified in the report as being particularly challenged and responding to the needs as required.

Chapter 1: Introduction and Literature Review

A. Introduction

Availability of essential medicines and medical supplies (including laboratory supplies) in Tanzania's public health facilities has been chronically unsatisfactory for sometime. The responsible authorities have on previous occasions claimed to have identified the source of the problem. As a case in point, in 2011 and again 2012, the then Minister(s) of Health and Social Wealthfare promised to re-organize the Medical Stores Department (MSD) as one of the steps towards a better health system in Tanzania (The Citizen, 2011; Habarileo, 2012). Despite the minister's word, poor availability (including frequent stock-outs) of essential medicines and supplies is still alarming.

Poor availability of essential medicines, medical supplies, and equipment goes against the government's commitments in so far as human rights are concerned. The 1948 United Nations' Universal Declaration of Human Rights (UDHR) states that "everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing, and medical care" (Article 25). The International Covenant on Economic, Social and Cultural Rights (ICESCR) also recognizes the right to health in Article 12. Both of these instruments are recognized by the Government of Tanzania (URT, 1998) and place a certain international obligation on Tanzania to ensure that these rights are respected (Article 9f).

Sikika advocates for quality health services to all Tanzanians, and as part of its regular advocacy strategy it carries out research and sets forth recommendations. This survey was conducted to assess availability of essential medicines, medical supplies and bed capacity and its utilization in selected hospitals.

B. Literature review

Ensuring that the country possesses a reliable medical supply system is a major challenge, which the central government through the Ministry of Health and Social Welfare must continually address. To do this, the government should set effective plans and policies, together with sufficient budgets for the implementation of such plans and policies. In Tanzania this is done at two levels - central (national) and local (district) levels. In the current structure, in Sikika's view, the local procurement and distribution of medicines and medical supplies is set up to mitigate the inefficiencies of the central system, local governments are mandated to use locally collected funds to purchase medicines from private suppliers, but unfortunately even at this level there are still many challenges to be addressed. There are documented difficulties in accessing local alternative sources of funds for medicines and other medical supplies (EHG, 2007; URT 2007b). Some of the problems facing health management teams include the incapability of health facilities to order medicines correctly, predict medical needs, and manage stocks. Funding is one of the main problems, it is generally the case that the budget allocated for the health sector (and within that, for medicines and medical supplies), is not sufficient to cater for all of the needs. For example the 2011/12 budget needs for medicine and medical supplies was 198 billion Tanzanian shillings, but only 78.6 billion Tanzanian shillings were allocated (MoHSW based on MTEF 2011 pg. 24 and 69 cited in Sikika 2012). Research has also revealed that the resources available are not being effectively and efficiently utilized. Other problems noted include incomplete supply by the MSD of medicine requests from health facilities (with average to below average MSD order fulfillment), long ordering cycle (facilities were restricted to ordering on quarterly basis), late supply of medicines and medical supplies to designated health facilities by the MSD (Sikika, 2011).

With regards to hospital bed capacity and utilization, Sikika did not find any specific detailed study conducted in Tanzania to assess bed capacity, other than periodic WHO surveys. WHO statistics indicate that Tanzania currently has about 7 beds per 10,000 people compared to 14 beds per 10,000 people in Kenya. The highest number of beds Tanzania has ever had over the last 50 years was 14.9 beds per 10,000 people, in 1960 (Tanzania - hospital beds 2012). Currently, scenes of two or

more expectant women in a bed, or some even sleeping on the floor have become quite common in public hospitals in Tanzania (Mwananchi, July 24 2012) and yet complaints on the dire conditions have gone unanswered. Of recent, doctors have called on the government to address bed capacity problems in Tanzanian hospitals).

In developed countries bed capacity has been a subject of interest to a number of research scientists. According to Abolnikov and Zachariah (2010), the potential for bed crisis increases once hospital bed occupancy rates exceed 85%, where bed crisis is defined as a “possibility of delays in allocating a specific bed or possibility of a patient being rejected” (pg94). In the Tanzanian context bed crisis means the potential for patients to share a hospital bed, sleeping on the floor or being rejected. Looking at bed occupancy alone may not give a full picture of the bed utilization situation in a hospital, as average bed capacity tends to underestimate the real demand for beds. There is need to carry out a thorough modeling using a standard based model analysis applicable in most service industries (Green, 2002). According to Green, hospitals need “to plan capacity based on standards that reflect the ability to place patients in appropriate beds in a timely fashion rather than target occupancy levels” (Green, 2002 pg2). These two studies will guide our analysis and discussion of the results of this survey.

Chapter 2: Objectives

Overall Objective

The broad objective was to get a snapshot on common out-of-stock essential medicines and medical supplies in hospitals, and also to ascertain bed capacity versus usage of such beds in different types of wards within the hospitals.

The objective was formulated to meet one of Sikika's advocacy goals "improved availability of medicines and medical supplies" and bed capacity to cater for the broader mission of quality health services to all Tanzanians.

Specific Objectives

The survey was designed to meet the following specific objectives

- i) To determine the proportion of out of stock medicines and medical supplies within the health facilities
- ii) To determine the proportion of medicines and medical supplies that are in short supply within the selected health facilities
- iii) To determine the average number of days the medicines and medical supplies have been out-of-stock or in short supply
- iv) To gain insight on the functioning of medical laboratories
- v) To assess bed capacity occupancy rates within the selected facilities according to ward types

Chapter 3: Methodology

Study design

This research survey employed an explorative descriptive cross-sectional study design, which was chosen, so as to provide sufficient information regarding availability of medicines, medical supplies and bed capacity in the study area. In addition the design sought to inquire on items that were deemed to be in short supply or out of stock for whatever reason at the time. It was designed to some extent, to give a quantitative description of the problems in terms of relative numbers of the sampled populations experiencing the problems, i.e. out-of-stock and or short supply of medicines as well as bed capacity versus ward occupancy rates for in patients.

Population and Sampling Technique

There are a total of 95 government owned hospitals in Tanzania, which includes District, and Regional hospitals as well as the National hospital. A sample of 54 public hospitals including district designated hospitals (DDH), were selected for the study¹. Of the 54 hospitals surveyed, 43 were district hospitals of which 40 were selected at random and three purposively in areas where Sikika works. The remaining 11 were regional referral hospitals, which were selected purposively. The 54 hospitals surveyed represent 57%, so the sample can be considered to be representative.

Data collection, Processing and Analysis

An interview schedule consisting of closed and open-ended questions was designed to capture information on availability of medical supplies, medicines and bed capacity of the hospitals. Interviews were carried out over the phone.

¹ The planned study area was 70 districts (from which district hospitals were to be selected), 60 of which were to be selected at random and 10 from areas where Sikika operates. All regional and referral hospitals were to be included in the survey.

The interviews involved mostly senior officials; in the case of districts it was the District Medical Officer (DMO) who in turn provided telephone numbers for staff at the hospital who would be helpful in answering the questions. The concerned officials from the hospitals were contacted using an existing Sikika database. If the responsible person could not provide the necessary information, the designated hospital official was requested to provide telephone contacts of the next likely individual who possessed the necessary information to answer the survey questions. The individuals were briefed about Sikika and the nature of the study and were further assured of confidentiality. Most of the interviewees were medical doctors in charge who when interviewed were able to provide a general overview of the status on availability of medicines and medical supplies at their facilities. Pharmacists provided more specific information concerning medicines and medical supplies. Matrons or patrons provided information on bed capacity and occupancy levels per wards in their hospitals.

The questionnaire, which was written in Kiswahili, was first pre-tested for one day. The pre-test consisted of 10 interview schedules, which were later excluded from the survey. After the pre-test, it was found that it was difficult for the respondents to give average bed occupancy rates over a certain period, as it required them to access long-term records and perform the calculations manually. Following this limitation, the questionnaire was edited, altering the question to capture the minimum and maximum bed occupancy for December 2011 and January 2012.

Data analysis was done by the use of Microsoft Excel and the Statistical Package for Social Sciences (SPSS). The results were presented in form of frequency, percentages and also graphically in terms of figures to allow for easy comparison and interpretation of information. In addition tables were also used to summarize various information for simplicity. Regarding bed occupancy, the information was color coded so as to give a pictorial presentation of the situation. **Green** represents a situation where bed occupancy on the day was below available capacity (bed capacity > occupancy), **Yellow** represents 100% occupancy where all available beds were occupied by individual patients (bed capacity = occupancy) and **Red** a situation where the number of admitted patients exceeded available bed capacity (bed capacity < occupancy)

Chapter 4: Research findings

The findings showed that a majority 96% (52) and 94% (51) of hospitals reported at least one or more out-of-stock medicines and medical supplies respectively. The days when medical supplies were out of stock were recorded. The minimum number of days was 4 with a maximum of 336 days. In addition the number of days when medicines were out of stock was 7 with a maximum of 672 days. Over half of the facilities surveyed had one or more essential medicines or medical supplies out of stock for a period exceeding 4 weeks.

Types of out-of-stock medicines and medical supplies

Out-of-stock medicines

The survey results captured the list of out-of-stock medicines as provided by the hospitals. The top 10 medicines that were frequently mentioned by the participants were assembled (see Table 1 below). The list comprises of three commonly used classes of medicines namely, antimalarial, antibiotics and analgesics or “painkillers”. ALu (Artemether/ Lumefrantrine), one of the antimalarial appearing on the list, is the medicine of choice used to treat malaria whereas quinine is used against severe malaria. Both medicines were found to be out-of-stock in a significant proportion of the hospitals surveyed as it is seen on Table 1. An antibiotic is a group of essential medicines that are vital in the treatment of common infections. The analgesics or “painkillers” are a group of medicines, which act to relieve pain. (Table 1 shows the name and type of medicines, as well as the number of facilities reporting the particular item out-of-stock.)

Table 1: Top ten out-of-stock medicines (n= 54)

| SN | Name of Top 10 Out-of-stock Medicines | Frequency of Reporting Stock-out N (%) | Type of Medicine |
|----|---------------------------------------|--|-------------------------|
| 1 | Quinine | 23 (43%) | Antimalarial |
| 2 | Amoxicillin capsules (Adult) | 22 (41%) | Antibiotic |
| 3 | Metronidazole tablets | 17 (31%) | Antibiotic |
| 4 | Amoxicillin syrup (Child) | 14 (26%) | Antibiotic |
| 5 | Cloxacillin capsules | 11 (20%) | Antibiotic |
| 6 | ALu | 10 (19%) | Antimalarial |
| 7 | Ampicillin tablets/ injection | 9 (17%) | Antibiotic |
| 8 | Ampicloxy capsules | 9 (17%) | Antibiotic |
| 9 | Diclofenac tablets | 8 (15%) | Analgesic / Pain Killer |
| 10 | Paracetamol tablets | 8 (15%) | Analgesic/ Pain Killer |

Out-of-stock period for medicines was also captured in the survey, whereby 51.9% (27) of health facilities reported being out-of-stock for more than four weeks, 40.7% (22) reported out-of-stock between 1 to 4 weeks, followed by a minority, 5.6% (3) and 3.7% (2) who commented having out-of-stock medicines for less than a week and not having any problems with out-of-stock medicines respectively (Table 2).

Table 2: Length of time medicines were out of stock as reported by hospitals N=52

| Length of time | *Number of hospitals (%) |
|------------------|--------------------------|
| Less than 1 week | 3 (6%) |
| 1 - 4 weeks | 22 (42%) |
| More than 4weeks | 27 (52%) |

* Number of hospitals reporting at least one or more out-of-stock medicines
Out-of-stock medical supplies and equipment

Out-of-stock medical supplies and equipment

Concerning shortages of medical supplies, the largest proportion (52 out of 54) hospitals reported shortages of one or more essential medical supplies. The most common out-of-stock items in this category were gloves. Gloves are a vital piece of medical supply used to protect both patient and health professionals from infections particularly during high-risk medical procedures which require physical contact. Stock-out of the item in the majority (83%) of the hospitals presents a major health risk. Notable also on this list are cotton wool, surgical sutures (thread), and gauze, which are used in cleansing, stitching and dressing wounds as in the case of patients with open wounds or during child delivery. Blood pressure monitor - a very important medical equipment, features in the top ten list of ; 28% of the hospitals that reported it was not available (table 3).

Table 3: Top ten out-of-stock medical supplies and equipment N = 54

| S/N | TOP 10 MEDICAL SUPPLIES & EQUIPMENT | Hospitals reporting stock-outs n (%) |
|-----|--|--------------------------------------|
| 1 | Gloves (surgical & examination) | 45 (83%) |
| 2 | Suture (Catgut ,Vicryl, chromic / nylon) | 26 (48%) |
| 3 | Gauze | 21 (39%) |
| 4 | X-ray films | 16 (30%) |
| 5 | Syringes | 15 (28%) |
| 6 | Blood pressure machines (Equipment) | 15 (28%) |
| 7 | Bandage | 12 (22%) |
| 8 | Intravenous giving sets | 11 (20%) |
| 9 | Cotton wool | 11 (20%) |
| 10 | Urine bag | 11 (20%) |

Concerning the length of time where medical supplies were out of stock at the hospitals, 59% (30) reported the medical supplies were out of stock for more than four weeks from the time of interview, 37% (19) of the hospitals reported out-of-stock between 1 to 4 weeks. A minority 3.7% (2), reported out-of-stock for a period of less than a week. This is summarized in Table 4.

Table 4: Length of time medical supplies were out of stock as reported by facilities (n= 51)

| Length of time | *Number of facilities n (%) |
|-------------------|-----------------------------|
| Less than 1 week | 2(4%) |
| 1 - 4 weeks | 19 (37%) |
| More than 4 weeks | 30 (59%) |

* Number of hospitals reporting at least one or more out-of-stock medical supplies

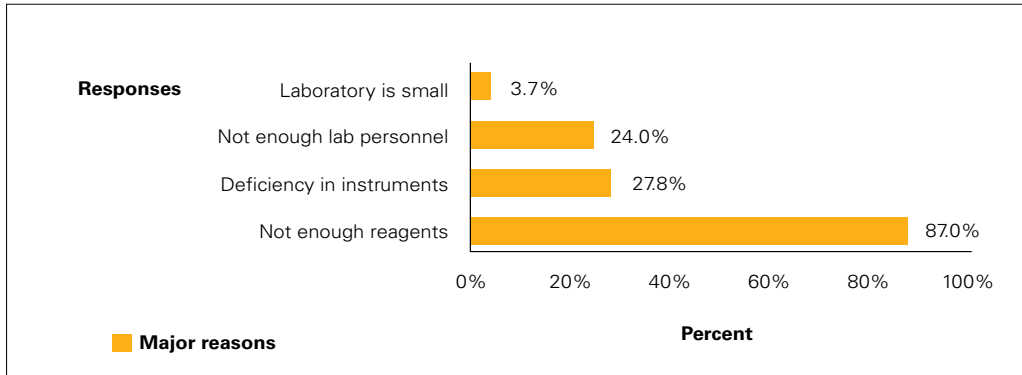
Health Workers' Experience on Functionality of Medical Laboratories

Laboratory technologists were asked to comment on the functionality² of the laboratories and potential causes of sub-optimal performance where it applied. Their perceptions were grouped into three categories namely, poor, average and functioning well. The results show that a majority (74%) of laboratories function at average performance, while 17% function poorly. A minority (9%) of the hospitals reported that their medical laboratories were functioning at optimum level. Major reasons given by the laboratory technologists as to why laboratories do not function at optimum level were lack of reagents (87%), insufficient working instruments or equipment³ (28%), shortage of laboratory personnel (24%) and laboratory space being too small to accommodate the necessary staff and equipment (4%) (Figure 1)

2 The question required them to indicate functionality in terms of percentage. The answers were then grouped into three categories, namely, poor = 0 to 50%, average = 51% to 84% and functioning well = 85% and above.

3 Laboratory equipment or instruments here include centrifuge machines, bunsen burners, spatulas etc.

Figure 1: Reasons for unsatisfactory laboratory functioning N = 54



NB: respondents were allowed to give more than one answer

Bed capacity, bed occupancy and wards

As already stated, information on this section was mainly provided by matrons or patrons in-charge of the wards. In general the hospitals surveyed had differing numbers and types of wards. The hospitals had 31 different types of wards⁴, with one hospital having 16 different types of wards and another 3 wards, but on average the facilities had 7 wards. With regard to bed-ward occupancy rates, data on the minimum and maximum number of patients admitted in the wards in December 2011 and January 2012 was recorded. The minimum and maximum points and the months were selected for convenience to the interviewees. This was done because interviewees needed to access records, and sometimes it took too long for others to access such records. The information captured gives a snapshot of best and worst case scenarios in December 2011 and January 2012.

Pediatric Wards

Of the 54 surveyed hospitals 98% (53) reported having a pediatric ward, where the minimum number of bed capacity reported was 9 and the maximum was 70 beds. In table 5, information on the hospitals surveyed that had pediatric wards is presented.

⁴ Wards are based on services offered

The data revealed that 9 out of the 53 hospitals (17%) had bed occupancy rates of more than 100% in the pediatric ward for December 2011 and January 2012. In one day of December 2011 at least 42% (22) of the hospitals had two or more children sharing a bed or sleeping on the floor. This percentage increased to 52% in January 2012. The situation in a few specific hospitals (13%) was particularly dire for the whole of the two months (December 2011 and January 2012) where occupancy rates were above 100%. These included Chato (150%), Chunya (139%), Nachingwea (133%), Namtumbo (363%), Ngorongoro (146%), Sumbawanga district hospital (108%), and Tabora regional hospital (116%). Namtumbo hospital has a capacity of 11 beds in its pediatric ward and yet it consistently had over forty children admitted in this ward.

Table 5: Pediatric ward bed capacity - minimum and maximum occupancy numbers in December 2011 and January 2012

| Ward No. 1: Pediatrics | | | | | | |
|------------------------|---------------|--------------|----------------------------------|-----|----------------------------------|-----|
| No. | Facility Name | Bed Capacity | Occupancy Dec 2011 Bed Occupancy | | Occupancy Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Biharamulo | 44 | 29 | 45 | 38 | 72 |
| 2 | Bukoba RH | 60 | 16 | 21 | 18 | 26 |
| 3 | Bukombe DH | 15 | 15 | 16 | 15 | 17 |
| 4 | Chato DH | 20 | 30 | 50 | 32 | 43 |
| 5 | Chunya DH | 18 | 26 | 35 | 25 | 35 |
| 6 | Geita DH | 30 | 10 | 28 | 8 | 55 |
| 7 | Hai DH | 9 | 7 | 15 | 6 | 19 |
| 8 | Hanang DH | 27 | 20 | 27 | 22 | 30 |
| 9 | Handeni DH | 31 | 18 | 52 | 24 | 46 |
| 10 | Ilala/Amana | 52 | 52 | 70 | 52 | 68 |
| 11 | Iringa RH | 55 | 50 | 58 | 48 | 59 |
| 12 | Karagwe DH | 60 | 3 | 11 | 2 | 19 |
| 13 | Kigoma RH | 26 | 5 | 18 | 3 | 25 |
| 14 | Kilema DDH | 28 | 5 | 14 | 7 | 28 |
| 15 | Kilindi DH | 10 | 3 | 7 | 7 | 10 |
| 16 | Kilolo DDH | 26 | 11 | 38 | 8 | 93 |
| 17 | KiN/ M'nyam | 30 | 25 | 50 | 45 | 70 |
| 18 | Kiteto DH | 35 | 1 | 19 | 1 | 14 |
| 19 | Kongwa DH | 24 | 3 | 12 | 3 | 13 |
| 20 | Kwimba DH | 32 | 35 | 47 | 28 | 60 |
| 21 | Lindi RH | 25 | 20 | 30 | 15 | 30 |
| 22 | Lushoto DH | 24 | 11 | 15 | 6 | 11 |
| 23 | Magu DH | 30 | 5 | 22 | 1 | 30 |
| 24 | Makete DH | 18 | 8 | 18 | 10 | 15 |
| 25 | Manyoni DH | 27 | 3 | 10 | 3 | 11 |
| 26 | Maswa DH | 30 | 1 | 18 | 2 | 11 |
| 27 | Mbalali DH | 10 | 9 | 10 | 10 | 14 |

| | | | | | | |
|----|-------------|-------------|------------|-------------|-------------|-------------|
| 28 | Mbinga DH | 21 | 3 | 5 | 3 | 6 |
| 29 | Mbozi DH | 36 | 7 | 27 | 7 | 22 |
| 30 | Misenyi DDH | 48 | 16 | 27 | 20 | 35 |
| 31 | Mpwapwa D | 26 | 4 | 20 | 6 | 24 |
| 32 | Mtwara RH | 17 | 4 | 15 | 5 | 20 |
| 33 | Mufindi DH | 30 | 0 | 6 | 0 | 7 |
| 34 | Muleba DH | 70 | 30 | 45 | 50 | 62 |
| 35 | Musoma DH | 27 | 3 | 18 | 9 | 21 |
| 36 | Nachingwea | 30 | 40 | 45 | 45 | 53 |
| 37 | Namtumbo | 11 | 48 | 50 | 40 | 47 |
| 38 | Newala DH | 31 | 8 | 17 | 9 | 14 |
| 39 | Ngorongoro | 39 | 57 | 160 | 69 | 174 |
| 40 | Nyamagana | 12 | 16 | 18 | 7 | 15 |
| 41 | Rorya DDH | 40 | 9 | 38 | 21 | 65 |
| 42 | Ruangwa DH | 16 | 2 | 6 | 3 | 7 |
| 43 | Rufiji DH | 20 | 20 | 60 | 30 | 50 |
| 44 | Rungwe DH | 26 | 20 | 26 | 25 | 32 |
| 45 | Same DH | 30 | 20 | 25 | 25 | 30 |
| 46 | Shinyanga R | 24 | 1 | 8 | 1 | 12 |
| 47 | Singida RH | 38 | 38 | 48 | 30 | 50 |
| 48 | Sumbawanga | 26 | 30 | 45 | 28 | 37 |
| 49 | Tabora DH | 50 | 58 | 69 | 60 | 69 |
| 50 | Tandahimba | 24 | 10 | 25 | 16 | 35 |
| 51 | Tanga/Bomb | 45 | 27 | 35 | 31 | 37 |
| 52 | Ukerewe DH | 26 | 22 | 29 | 24 | 28 |
| 53 | Urambo DH | 35 | 1 | 17 | 8 | 22 |
| | sum | 1594 | 915 | 1640 | 1011 | 1898 |
| | Avg | 30 | 17 | 31 | 19 | 36 |

Key:

Red = More patients than beds available (Occupancy > Capacity)

Yellow = Patients and available beds are equal (Occupancy = Capacity)

Green = Fewer patients than beds available (Occupancy < Capacity)

Maternity Wards

Of the 54 hospitals surveyed 87% (47) had a maternity ward, though occupancy rates for one of the surveyed hospitals (Ilala) were not submitted. The minimum number of bed capacity reported was 5 whereas the maximum was 60. In December 2011 and January 2012, fifteen percent (7) of hospitals with maternity wards had occupancy rates of above 100%. Looking at the broader picture, 55% of the hospitals had occupancy rates of above 100% in at least one day in December 2011 or January 2012. A closer analysis at individual hospital levels revealed that Chunya, Lushoto, Namtumbo, Rungwe, Tabora district hospitals and Tanga regional hospital had admitted more patients in their maternity wards than their bed capacities through out the months of December 2011 and January 2012. Chunya, Namtumbo and Tabora District hospitals had both pediatric and maternal wards admitting more patients than available beds.

Table 6: Maternity ward bed capacity - minimum and maximum occupancy patient numbers in December 2011 and January 2012

| Ward no.13 Maternity / Labour ward | | | | | | |
|------------------------------------|-------------------------|--------------|------------------------|-----|------------------------|-----|
| S/N | Hospital | Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Min | Max | Min | Max |
| 1 | Bihalamuro DH | 33 | 14 | 39 | 14 | 34 |
| 2 | Bukoba RH | 26 | 12 | 18 | 15 | 20 |
| 3 | Bukombe DH | 15 | 11 | 13 | 10 | 16 |
| 4 | Chato DH | 23 | 20 | 22 | 20 | 22 |
| 5 | Chunya DH | 20 | 31 | 38 | 33 | 40 |
| 6 | Hai DH | 45 | 22 | 30 | 25 | 41 |
| 7 | Hanang DH | 18 | 18 | 55 | 18 | 22 |
| 8 | Handeni DH | 17 | 16 | 39 | 11 | 32 |
| 9 | Ilala/Amana RRH | 20 | 0 | 0 | 0 | 0 |
| 10 | Iringa RH | 40 | 44 | 52 | 40 | 48 |
| 11 | Karagwe DH | 45 | 3 | 20 | 6 | 20 |
| 12 | Kigoma RH | 27 | 3 | 12 | 4 | 13 |
| 13 | Kilindi DH | 15 | 6 | 8 | 10 | 14 |
| 14 | Kilolo DDH | 33 | 16 | 52 | 18 | 116 |
| 15 | Kinondoni/M'nyamala RRH | 12 | 10 | 27 | 6 | 18 |

| | | | | | | |
|----|----------------|------|-----|------|-----|------|
| 16 | Kongwa DH | 24 | 2 | 10 | 3 | 9 |
| 17 | Kwimba DH | 25 | 20 | 31 | 23 | 34 |
| 18 | Lindi RH | 31 | 30 | 45 | 32 | 47 |
| 19 | Lushoto DH | 25 | 26 | 38 | 29 | 38 |
| 20 | Magu DH | 24 | 24 | 37 | 10 | 33 |
| 21 | Makete DH | 22 | 11 | 19 | 13 | 20 |
| 22 | Manyoni DH | 30 | 8 | 22 | 5 | 14 |
| 23 | Maswa DH | 30 | 3 | 13 | 4 | 13 |
| 24 | Mbalali DH | 10 | 8 | 12 | 11 | 14 |
| 25 | Mbozi DH | 38 | 14 | 42 | 13 | 44 |
| 26 | misenyi | 24 | 18 | 30 | 20 | 30 |
| 27 | Morogoro RH | 28 | 3 | 14 | 2 | 20 |
| 28 | Mpwapwa DH | 25 | 18 | 41 | 24 | 43 |
| 29 | Mtwara RH | 40 | 22 | 44 | 24 | 56 |
| 30 | Mufindi DH | 30 | 1 | 11 | 1 | 8 |
| 31 | Muleba DH | 60 | 10 | 15 | 15 | 17 |
| 32 | Musoma DH | 40 | 8 | 22 | 9 | 25 |
| 33 | Nachingwea DH | 30 | 5 | 55 | 24 | 50 |
| 34 | Namtumbo DH | 5 | 21 | 25 | 20 | 26 |
| 35 | Newala DH | 7 | 1 | 4 | 1 | 3 |
| 36 | Nyamagana DH | 9 | 7 | 11 | 5 | 15 |
| 37 | Rorya DDH | 36 | 24 | 32 | 24 | 36 |
| 38 | Ruangwa DH | 16 | 2 | 7 | 4 | 10 |
| 39 | Rufiji DH | 17 | 10 | 34 | 5 | 10 |
| 40 | Rungwe DH | 20 | 25 | 30 | 26 | 28 |
| 41 | Same DH | 14 | 12 | 15 | 20 | 25 |
| 42 | Singida RH | 36 | 35 | 42 | 35 | 40 |
| 43 | Sumbawanga RH | 28 | 18 | 28 | 22 | 34 |
| 44 | Tabora DH | 40 | 51 | 52 | 51 | 60 |
| 45 | Tanga/Bombo/RH | 45 | 67 | 82 | 60 | 80 |
| 46 | Ukerewe DH | 30 | 27 | 38 | 22 | 29 |
| 47 | Urambo DH | 20 | 4 | 19 | 6 | 20 |
| | sum | 1248 | 761 | 1345 | 793 | 1387 |
| | Avg | 27 | 16 | 29 | 17 | 30 |

Other Wards

In addition to the Pediatric and Maternity wards, there were 27 other categories of wards in the hospitals surveyed, some hospitals having more categories than others. In table 7, a summary of the conditions in the different categories of the wards, the table shows the percentage of hospitals having the said type of ward percentage of hospitals recording more than 100% occupancy rates in December and January; and also the percentage of occupancy rates below 100% for both months. Tables for individual hospitals/wards are attached in the annexes.

Table 7: Hospitals reporting occupancy rates greater than 100% throughout December 2011 and January 2012 in specific wards (n = 54)

| Type of Ward | No. of hospitals having this category of ward | % of hospitals with Occupancy > bed capacity through out Dec & Jan | % of hospitals with occupancy < bed capacity through out Dec & Jan |
|-----------------------|---|--|--|
| Prisoners | 1 | 100 | 0 |
| Postnatal | 10 | 30 | 20 |
| Antenatal | 12 | 17 | 8 |
| Neonatal | 6 | 17 | 17 |
| Female medical | 48 | 17 | 38 |
| Male medical | 49 | 16 | 37 |
| Post Cesarean Sectio | 7 | 14 | 14 |
| Maternity/Labour | 47 | 13 | 28 |
| Paediatric (general) | 53 | 13 | 38 |
| Female Surgical | 25 | 4 | 52 |
| Grade 1 & 2 | 24 | 4 | 75 |
| Ophthalmology | 1 | 0 | 0 |
| Obs & Gynecology | 9 | 0 | 22 |
| NHIF/ Insurance | 3 | 0 | 33 |
| Male Infectioous | 8 | 0 | 38 |
| Psychaitric | 7 | 0 | 43 |
| Male surgical | 27 | 0 | 44 |
| Intensive care | 6 | 0 | 50 |
| Paediatric Infectious | 2 | 0 | 50 |
| Paediatric Surgical | 2 | 0 | 50 |
| Male TB | 8 | 0 | 75 |

| | | | |
|------------------------|---|---|-----|
| Pregnancy Complication | 4 | 0 | 75 |
| Female TB | 7 | 0 | 86 |
| Disability | 1 | 0 | 100 |
| Female Infectious | 1 | 0 | 100 |
| Female Surgical septic | 1 | 0 | 100 |
| General Ward | 1 | 0 | 100 |
| Male Surgical septic | 1 | 0 | 100 |
| VVF | 1 | 0 | 100 |
| Medical | 1 | 0 | 0 |

Eleven wards (in the table above) seem to have carried the heaviest burden in terms of occupancy rates exceeding capacity. These wards are Prisoners, Postnatal, Antenatal, Female medical, Neonatal, Male medical, Post cesarean, Maternity, Paediatric, Female surgical and Grade 1&2. Leaving out the Prisoners, Neonatal and Post cesarean wards the rest of the ward types can be found in more than 20% of the hospitals surveyed.

Other Observations

Respondents were asked open questions on what is usually done and also what they think should be done to address shortages in hospital bed capacity. Below we present questions asked and responses to them from the 29 hospitals, which responded.

What do hospitals do if there are more patients than the number of beds available?

Forty-five percent (45%) of the respondents said that the usual practice is to have two or more patients sharing a bed; 52% said some of the patients would sleep on the floor, and the rest (3%) said that they did not have any capacity problems.

What should be done to address bed shortage in hospitals?

Seventy-two percent (72%) said that the number of wards need to be increased, 14% said that the number of beds needs to be increased, and 3.4% called on the government to improve the condition at health centers and dispensaries so as to relieve pressure at the hospital level.

Chapter 5: Discussion

Provision of hospital services in terms of essential medicines, supplies and equipment as well as in-patient services is unsatisfactory. This is echoed by complaints by patients, politicians and even service providers (Sikika, 2011a&b). Responsible authorities have thus far failed to solve the chronic shortages of medicines/ medical supplies and in-patient congestions. Ministers and other high authorities have on several occasions promised drastic changes, but not much has been achieved so far (ibid).

Essential medicines

Since availability of medicines is a major indicator of quality in health care (Alba et al., 2010), persistent shortages and/or stock-outs of medicines in Tanzanian hospitals suggest a low or poor quality of healthcare, which the government should address. The survey results showed that the majority of facilities had stock-outs of antibiotics, analgesics (pain killers), and anti-malarial medicines and other medical supplies within an average period of 3 months. These are essential medicines used to treat or prevent illnesses - infectious diseases, alleviate pain and treat malaria. Antibiotics are vital in the treatment of common infections afflicting large proportions of citizens visiting health facilities, particularly children under 5 years. Like malaria, childhood infections are amongst the top five causes of death in children under⁵ (www.who.int/mediacentre/factsheets/fs178/en/index.html). Malaria, as indicated earlier is one of the leading causes of death in Tanzania (URT 2007a pg. 3), hence stock-outs of ALu and Quinine need to be addressed with the required sense of urgency, which is currently lacking. In May 2012, using data from the "SMS for life monitoring tool"⁵ (Barrington et al, 2010), Sikika reported serious shortages of ALu across the country's public facility; 37% of all facilities reported being completely out of any type of ALu.⁶ By July 2012 this number had fallen to 26%, but considering that the stocks of ALu were then available at the MSD one would wonder why such a vital medicine should be lacking in the needy facilities.

5 SMS for life is a system designed to monitor availability of the antimalarial – ALu used by the National Malaria Control Program and the Ministry of Health.

6 There are 4 types of ALu tablets to cater for various weight / age categories. If at least one type is available, usually dosage adjustments are made for the different weight/ age categories. So the situation is only critical when all four types are out of stock.

Stock-outs of essential medicines do contribute to increased mortality (Hamel et al, 2011), and stock-outs of essential anti-malarial drugs contributed to increased mortality rates in rural Kenya between 2008 and 2009.

Essential medical supplies

The type of out-of-stock medical supplies reported included gloves, gauze, sutures, syringes, and intravenous giving sets, x-ray films, bandages, cotton wool and urine bags. These supplies are used for various examinations and surgical procedures, and absence or lack of such supplies can contribute to the quality of care and influence morbidity and mortality rates. As noted, items like surgical gloves prevent cross-infections between patients and health workers when used appropriately. Hospital-acquired infections are easily transmitted if appropriate measure such as thorough cleaning of hands and wearing of protective clothing including gloves are not taken. Often unavailability of essential medical supplies such as sutures can lead to unnecessary referrals to higher-level facilities at the cost of time to the patient and increased patient burdens at the higher facilities (Sikika, 2011a). Also, unavailability of medical supplies has been reported as one of the delays causing increased maternal deaths (Gabrysch et al, 2009), the other being staff shortages.

In our survey it was also seen that the functionality of our laboratories was less than satisfactory in most cases. Having a proper functioning medical laboratory is important as proper laboratory results enable the practitioner to make accurate diagnosis, which increases the chances of successful treatment. The National Health Laboratory Strategic Plan 2009 -2015 (URT 2009p.2), lists 30 weaknesses including the four mentioned by our respondents. These are lack of working space, shortage of laboratory personnel, lack of reagents and other necessary instruments. Without vital laboratory tests, a doctors diagnosis can not be certain especially in cases where disease symptoms/patterns are similar. Some doctors have even gone further to equate coping with such deficiency to “pretending to be doctors” (McAllester, 2012).

The majority of the hospitals had to wait for more than four weeks to get potential items. Using the ILS system, hospitals are allowed to order whenever they need items so long as funds are available. What could help to mitigate some of these stock-out instances is for hospitals to hold buffer stock which cover at least two or three months of projected usage of the essential medicines. Ordering then should be done as soon as the stock levels reach buffer levels. This exercise also requires accurate information keeping, that is, updating of stock cards as stocks are utilized.

Bed capacity vis-à-vis occupancy rates

With regards to bed occupancy, a number of the individual health facilities had bed occupancies above 100% in the pediatric and maternity wards in December 2011 and January 2012. According to Abolnikov and Zachariah (2010), the potential for bed crisis increases once hospital bed occupancy rates exceed 85%. Bed crisis, as stated earlier, in our case means the potential for patients sleeping more than one per bed, or sleeping on the floor or being rejected. When we apply this test to our results we find that approximately 64% of the hospitals having a pediatric ward had bed occupancy rates of greater than 85% at least once in December 2011 and January 2012. Also, with regard to maternity wards, 77% of health facilities had bed occupancy of greater than 85% in the same period.

Apart from the Pediatric and Maternity wards, other wards, which seemed to be overwhelmed by patients, are Postnatal, Antenatal, Male and Female medical wards. As seen on Table 7, a significant number of hospitals had more patients than available beds in specific wards in December and January.

Our analysis was based on bed occupancy rates. However, basing on occupancy rates alone may not be the most reliable way of judging hospital bed needs (Green, 2002). The occupancy rates reported could have been an underestimation, which means that reviews carried out by district and regional health officials should not base only on average occupancy rates. They should include model analysis (ibid). This study may serve to provide a guide as to where to start such an activity and on which wards to focus more. Particular districts / regions which particularly stood out were Chunya, Namtumbo district hospitals and Tabora regional hospitals. With

regard to wards, analysis should start on the Postnatal, Antenatal, Female and Male medical, Neonatal, Post cesarean, Maternity and Pediatric wards. This survey could not find any recent comparative study on hospital bed occupancy rates per ward in Tanzania, so it is difficult to form an opinion as to whether the situation is getting better or worse. But one can speculate that based on the fact that the rate of population growth is high (NBS & ICF Macro 2011pg. 2) whereas the financial resources allocated to health (health expenditure per citizen) are not being increased as fast. It is thus feasible to argue that the situation is getting worse (Sikika, 2012: 12). Furthermore, by using WHO statistics one can see that the ratio of beds to population has decreased by 50% from 1960 where on average Tanzania had 14.9 beds per 10,000 people, and now she has only 7 beds per 10,000 people (Tanzania hospital beds- <http://www.indexmundi.com/facts/tanzania/hospital-beds>).

Chapter 6: Conclusions and recommendations

Availability of medicines and medical supplies is vital for treating various illnesses, and in so doing aid to reduce morbidity, mortality and the overall burden of disease. Sikika's survey findings showed that a majority of health facilities had several numbers of medicines and medical supplies that were out of stock within an average period of between 2 to 4 months. Concerning bed capacity and bed occupancy, it shows that the number of beds within some health facilities was not sufficient, and patients had to either share a bed or alternatively to sleep on the floor. These finding are important to consider because they affect the overall quality of care and disrupt service delivery.

To help address some of the challenges highlighted in this study and based on knowledge from other studies Sikika recommends the following

Introduce a system of buffer stocks in hospitals

Hospitals should establish buffer stocks - levels which when reached managers should start ordering the items about to run out. The remaining stock (the buffer stock) should be such that it can last to cover two to three months as the institution awaits new stocks. So ordering should be done as soon as stock levels reach the buffer levels. This means that hospitals would keep operating for a while should there be problems at the MSD. A successful implementation of buffer stocks would require a good record keeping system.

Conduct a hospital beds needs assesment

The Ministry of Health and the councils should carry out a thorough beds needs assesment for each of the hospitals and where appropriate, increase the number of beds and or wards in the hospitals with high bed occupancy rates. This will help to cut down possibilities (or numbers) of patients sleeping on the floor or being turned away due to lack of beds and mattresses in hospitals.

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Annexes

Annex 1: Female medical ward

| Ward No: 2 Female Medical | | | | | | |
|---------------------------|-------------------------|-------------------|------------------------|-----|------------------------|-----|
| S/N | Facility Name | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Biharamulo DH | 71 | 23 | 48 | 27 | 43 |
| 2 | Bukoba RH | 18 | 2 | 5 | 5 | 7 |
| 3 | bukombe | 15 | 12 | 15 | 14 | 14 |
| 4 | Chato DH | 20 | 25 | 30 | 23 | 35 |
| 5 | Chunya DH | 20 | 42 | 53 | 35 | 42 |
| 6 | Geita DH | 15 | 5 | 17 | 6 | 14 |
| 7 | Hai DH | 7 | 11 | 12 | 11 | 15 |
| 8 | Hanang DH | 22 | 19 | 25 | 18 | 20 |
| 9 | Ilala/Amana RRH | 45 | 30 | 45 | 30 | 45 |
| 10 | Iringa RH | 35 | 35 | 45 | 35 | 40 |
| 11 | Kigoma RH | 21 | 0 | 12 | 0 | 9 |
| 12 | Kilolo DDH | 29 | 31 | 102 | 13 | 99 |
| 13 | Kinondoni/M'nyamala RRH | 37 | 35 | 74 | 35 | 74 |
| 14 | Kiteto DH | 30 | 1 | 14 | 1 | 8 |
| 15 | Kongwa DH | 24 | 1 | 8 | 2 | 9 |
| 16 | Kwimba DH | 26 | 22 | 35 | 18 | 30 |
| 17 | Lindi RH | 26 | 20 | 40 | 21 | 42 |
| 18 | Lushoto DH | 25 | 16 | 25 | 13 | 22 |
| 19 | Magu DH | 24 | 7 | 17 | 3 | 20 |
| 20 | Makete DH | 27 | 16 | 29 | 17 | 23 |
| 21 | Manyoni DH | 24 | 2 | 10 | 1 | 2 |
| 22 | Maswa DH | 30 | 1 | 9 | 1 | 9 |
| 23 | Mbalali DH | 10 | 10 | 10 | 14 | 15 |
| 24 | Mbinga DH | 38 | 4 | 8 | 5 | 9 |
| 25 | Mbozi DH | 34 | 5 | 14 | 6 | 21 |
| 26 | Misenyi DDH | 36 | 52 | 61 | 55 | 70 |
| 27 | Morogoro RH | 25 | 8 | 30 | 11 | 32 |
| 28 | Moshi rural/Kilema DDH | 50 | 40 | 45 | 30 | 47 |

| | | | | | | |
|----|----------------|-------------|------------|-------------|------------|-------------|
| 29 | Mpwapwa DH | 14 | 3 | 10 | 5 | 16 |
| 30 | Mtwara RH | 25 | 7 | 23 | 6 | 20 |
| 31 | Mufindi DH | 30 | 1 | 11 | 1 | 8 |
| 32 | Muleba DH | 60 | 6 | 12 | 12 | 15 |
| 33 | Musoma DH | 22 | 3 | 11 | 3 | 13 |
| 34 | Nachingwea DH | 30 | 20 | 62 | 28 | 54 |
| 35 | Namtumbo DH | 6 | 21 | 35 | 22 | 35 |
| 36 | Newala DH | 16 | 17 | 18 | 14 | 25 |
| 37 | Ngorongoro DH | 24 | 34 | 61 | 26 | 56 |
| 38 | Nyamagana DH | 26 | 10 | 23 | 8 | 19 |
| 39 | Ruangwa DH | 16 | 2 | 5 | 2 | 6 |
| 40 | Rungwe DH | 25 | 25 | 35 | 35 | 45 |
| 41 | Same DH | 23 | 15 | 32 | 34 | 40 |
| 42 | Shinyanga RH | 26 | 1 | 11 | 1 | 11 |
| 43 | Singida RH | 14 | 22 | 26 | 14 | 25 |
| 44 | Tabora DH | 30 | 34 | 42 | 44 | 50 |
| 45 | Tandahimba DH | 24 | 18 | 30 | 10 | 30 |
| 46 | Tanga/Bombo/RH | 35 | 42 | 50 | 50 | 73 |
| 47 | Ukerewe DH | 17 | 16 | 23 | 10 | 21 |
| 48 | Urambo DH | 35 | 2 | 12 | 1 | 12 |
| | sum | 1282 | 774 | 1370 | 776 | 1390 |
| | Avg | 27 | 16 | 29 | 16 | 29 |

Annex 2: Male medical ward

| Ward No. 3 Male Medical | | | | | | |
|-------------------------|-------------------------|-------------------|------------------------|-----|------------------------|-----|
| S/N | Facility Name | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Biharamulo DH | 44 | 9 | 20 | 12 | 28 |
| 2 | Bukoba RH | 18 | 7 | 10 | 4 | 10 |
| 3 | Bukombe DH | 15 | 10 | 13 | 8 | 11 |
| 4 | Chato DH | 20 | 24 | 30 | 20 | 34 |
| 5 | Chunya DH | 20 | 35 | 42 | 40 | 45 |
| 6 | Geita DH | 15 | 5 | 18 | 5 | 13 |
| 7 | Hai DH | 6 | 10 | 13 | 14 | 16 |
| 8 | Hanang DH | 18 | 20 | 23 | 20 | 24 |
| 9 | Handeni DH | 11 | 8 | 17 | 16 | 36 |
| 10 | Ilala/Amana RRH R | 36 | 36 | 36 | 20 | 36 |
| 11 | Iringa RH | 35 | 38 | 40 | 40 | 42 |
| 12 | Kilolo DDH | 48 | 8 | 16 | 18 | 86 |
| 13 | Kinondoni/M'nyamala RRH | 17 | 20 | 30 | 12 | 56 |
| 14 | Kiteto DH | 32 | 1 | 5 | 1 | 19 |
| 15 | Kongwa DH | 20 | 1 | 5 | 1 | 8 |
| 16 | Kwimba DH | 21 | 23 | 29 | 20 | 25 |
| 17 | Lindi RH | 26 | 22 | 35 | 22 | 35 |
| 18 | Lushoto DH | 25 | 17 | 62 | 16 | 20 |
| 19 | Magu DH | 27 | 5 | 29 | 7 | 17 |
| 20 | Makete DH | 16 | 8 | 13 | 8 | 15 |
| 21 | Manyoni DH | 16 | 4 | 7 | 1 | 5 |
| 22 | Maswa DH | 17 | 1 | 7 | 1 | 6 |
| 23 | Mbalali DH | 10 | 3 | 12 | 12 | 15 |
| 24 | Mbinga DH | 30 | 2 | 5 | 3 | 7 |
| 25 | Mbozi DH | 18 | 4 | 18 | 2 | 11 |
| 26 | Misenyi DDH | 20 | 18 | 20 | 16 | 20 |
| 27 | Morogoro RH | 29 | 7 | 25 | 10 | 29 |
| 28 | Moshi rural/Kilema DDH | 28 | 22 | 41 | 30 | 61 |
| 29 | Mpwapwa DH | 14 | 2 | 14 | 2 | 8 |

| | | | | | | |
|----|----------------|-------------|------------|-------------|------------|-------------|
| 30 | Mtwara RH | 20 | 4 | 18 | 11 | 20 |
| 31 | Mufindi DH | 30 | 0 | 5 | 1 | 3 |
| 32 | Muleba DH | 55 | 5 | 10 | 7 | 13 |
| 33 | Musoma DH | 28 | 2 | 9 | 3 | 11 |
| 34 | Nachingwea DH | 30 | 34 | 51 | 40 | 45 |
| 35 | Namtumbo DH | 6 | 29 | 32 | 30 | 35 |
| 36 | Newala DH | 16 | 4 | 12 | 5 | 12 |
| 37 | Ngorongoro DH | 20 | 17 | 31 | 18 | 26 |
| 38 | Nyamagana DH | 12 | 5 | 10 | 4 | 8 |
| 39 | Rorya DDH | 36 | 15 | 26 | 9 | 26 |
| 40 | Ruangwa DH | 16 | 3 | 8 | 2 | 5 |
| 41 | Rufiji DH | 20 | 15 | 30 | 10 | 20 |
| 42 | Rungwe DH | 25 | 25 | 32 | 20 | 30 |
| 43 | Same DH | 24 | 20 | 30 | 28 | 35 |
| 44 | Shinyanga RH | 24 | 1 | 12 | 1 | 8 |
| 45 | Singida RH | 14 | 12 | 20 | 12 | 16 |
| 46 | Tabora DH | 23 | 25 | 35 | 32 | 40 |
| 47 | Tandahimba DH | 24 | 12 | 29 | 5 | 22 |
| 48 | Tanga/Bombo/RH | 37 | 53 | 61 | 54 | 69 |
| 49 | Urambo DH | 35 | 1 | 8 | 1 | 8 |
| | sum | 1147 | 652 | 1104 | 674 | 1190 |
| | Avg | 23 | 13 | 23 | 14 | 24 |

Annex 3: Male surgical ward

| Ward No. 4 Male Surgical | | | | | | |
|--------------------------|---------------------------|-------------------|------------------------|-----|------------------------|-----|
| S/N | Facility Name | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Bukoba RH | 16 | 1 | 2 | 1 | 3 |
| 2 | Geita DH | 17 | 9 | 19 | 7 | 13 |
| 3 | Handeni DH | 15 | 12 | 16 | 10 | 23 |
| 4 | Ilala/Amana RRH | 35 | 5 | 50 | 5 | 39 |
| 5 | Iringa RH | 16 | 36 | 32 | 15 | 34 |
| 6 | Karagwe DH | 14 | 1 | 7 | 1 | 13 |
| 7 | Kigoma RH | 35 | 2 | 10 | 2 | 11 |
| 8 | Kilindi DH | 26 | 4 | 35 | 23 | 35 |
| 9 | Kinondoni / M'nyamala RRH | 8 | 12 | 5 | 4 | 5 |
| 10 | Lindi RH | 26 | 13 | 35 | 23 | 35 |
| 11 | Manyoni DH | 8 | 1 | 3 | 1 | 4 |
| 12 | Maswa DH | 14 | 1 | 4 | 1 | 5 |
| 13 | Mbalali DH | 35 | 3 | 40 | 30 | 35 |
| 14 | Mbozi DH | 11 | 3 | 10 | 2 | 9 |
| 15 | Morogoro RH | 37 | 16 | 28 | 11 | 28 |
| 16 | Moshi rural / Kilema DDH | 28 | 15 | 30 | 18 | 31 |
| 17 | Mpwapwa DH | 21 | 8 | 19 | 7 | 16 |
| 18 | Mtwara RH | 31 | 8 | 34 | 7 | 18 |
| 19 | Mufindi DH | 30 | 0 | 5 | 0 | 8 |
| 20 | Musoma DH | 33 | 2 | 12 | 2 | 10 |
| 21 | Newala DH | 36 | 3 | 16 | 5 | 10 |
| 22 | Rorya DDH | 29 | 8 | 24 | 12 | 7 |
| 23 | Shinyanga RH | 29 | 1 | 7 | 1 | 6 |
| 24 | Singida RH | 14 | 15 | 15 | 14 | 24 |
| 25 | Tabora DH | 5 | 18 | 4 | 15 | 5 |
| 26 | Tanga/Bombo/RH | 25 | 42 | 22 | 37 | 20 |
| 27 | Ukerewe DH | 17 | 15 | 23 | 10 | 20 |
| | sum | 611 | 254 | 507 | 264 | 467 |
| | Avg | 21 | 9 | 17 | 9 | 16 |

Annex 4: Female surgical ward

| Ward No. 5 Female surgical | | | | | | |
|----------------------------|-------------------------|-------------------|------------------------|------------|------------------------|------------|
| S/N | Name of Facility | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Bukoba RH | 16 | 3 | 6 | 2 | 5 |
| 2 | Geita DH | 16 | 10 | 18 | 9 | 15 |
| 3 | Handeni DH | 23 | 16 | 32 | 15 | 16 |
| 4 | Ilala/Amana RRH | 20 | 6 | 10 | 5 | 10 |
| 5 | Iringa RH | 30 | 30 | 35 | 29 | 34 |
| 6 | Karagwe DH | 10 | 2 | 8 | 3 | 12 |
| 7 | Kigoma RH | 24 | 1 | 9 | 1 | 8 |
| 8 | Kilindi DH | 8 | 3 | 6 | 4 | 5 |
| 9 | Kinondoni/M'nyamala RRH | 35 | 29 | 35 | 37 | 45 |
| 10 | Lindi RH | 12 | 5 | 7 | 4 | 5 |
| 11 | Manyoni DH | 8 | 0 | 1 | 1 | 1 |
| 12 | Maswa DH | 16 | 1 | 5 | 1 | 4 |
| 13 | Mbozi DH | 14 | 5 | 12 | 8 | 15 |
| 14 | Misenyi DDH | 24 | 9 | 15 | 15 | 20 |
| 15 | Morogoro RH | 20 | 8 | 18 | 7 | 18 |
| 16 | Moshi rural/Kilema DDH | 4 | 2 | 3 | 25 | 40 |
| 17 | Mpwapwa DH | 22 | 8 | 18 | 8 | 21 |
| 18 | Musoma DH | 23 | 1 | 9 | 5 | 1 |
| 19 | Newala DH | 15 | 8 | 15 | 4 | 15 |
| 20 | Ruangwa DH | 8 | 0 | 1 | 1 | 3 |
| 21 | Shinyanga RH | 21 | 1 | 10 | 1 | 5 |
| 22 | Singida RH | 16 | 11 | 20 | 14 | 19 |
| 23 | Sumbawanga RH | 25 | 29 | 35 | 30 | 34 |
| 24 | Tabora DH | 23 | 20 | 25 | 30 | 34 |
| 25 | Tanga/Bombo/RH | 35 | 40 | 52 | 35 | 40 |
| | sum | 468 | 248 | 405 | 294 | 425 |
| | Avg | 19 | 10 | 16 | 12 | 17 |

Annex 5: Obstetrics & Gynaecology

| Ward No.6 Obstetrics & Gynaecology | | | | | | |
|------------------------------------|-----------------|-------------------|------------------------|-----|------------------------|-----|
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Ilala/Amana RRH | 35 | 35 | 35 | 35 | 35 |
| 2 | Lindi RH | 14 | 10 | 20 | 15 | 20 |
| 3 | Morogoro RH | 18 | 8 | 28 | 5 | 23 |
| 4 | Mtwara RH | 25 | 4 | 25 | 8 | 20 |
| 5 | Musoma DH | 27 | 2 | 12 | 8 | 2 |
| 6 | Shinyanga RH | 23 | 1 | 8 | 1 | 11 |
| 7 | Singida RH | 17 | 14 | 21 | 15 | 23 |
| 8 | Tanga/Bombo/RH | 45 | 50 | 62 | 45 | 51 |
| 9 | Ukerewe DH | 15 | 11 | 18 | 13 | 17 |
| | sum | 219 | 135 | 229 | 145 | 202 |
| | Avg | 24 | 15 | 25 | 16 | 22 |

Annex 6: Antenatal ward

| Ward No. 7 Antenatal | | | | | | |
|----------------------|-------------------------|-------------------|------------------------|------------|------------------------|------------|
| S/N | Facility | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Geita DH | 10 | 38 | 46 | 22 | 38 |
| 2 | Ilala/Amana RRH | 15 | 14 | 15 | 15 | 16 |
| 3 | Iringa RH | 28 | 56 | 84 | 56 | 84 |
| 4 | Kinondoni/M'nyamala RRH | 20 | 22 | 40 | 12 | 50 |
| 5 | Makete DH | 30 | 20 | 32 | 20 | 25 |
| 6 | Morogoro RH | 18 | 5 | 15 | 3 | 16 |
| 7 | Moshi rural/Kilema DDH | 35 | 25 | 36 | 35 | 42 |
| 8 | Newala DH | 16 | 4 | 17 | 4 | 15 |
| 9 | Ngorongoro DH | 35 | 37 | 47 | 34 | 61 |
| 10 | Shinyanga RH | 19 | 10 | 32 | 13 | 29 |
| 11 | Singida RH | 36 | 43 | 43 | 36 | 44 |
| 12 | Tandahimba DH | 12 | 12 | 25 | 10 | 28 |
| | sum | 274 | 286 | 432 | 260 | 448 |
| | Avg | 23 | 24 | 36 | 22 | 37 |

Annex 7: Postnatal ward

| Ward No. 8 Postnatal | | | | | | |
|----------------------|-------------------------|-------------------|------------------------|------------|------------------------|------------|
| S/N | Facility | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Geita DH | 16 | 14 | 30 | 10 | 19 |
| 2 | Ilala/Amana RRH | 25 | 70 | 75 | 70 | 75 |
| 3 | Kinondoni/M'nyamala RRH | 37 | 30 | 40 | 50 | 80 |
| 4 | Morogoro RH | 16 | 10 | 32 | 12 | 36 |
| 5 | Moshi rural/Kilema DDH | 10 | 5 | 9 | 7 | 12 |
| 6 | Mpwapwa DH | 34 | 42 | 64 | 36 | 56 |
| 7 | Newala DH | 23 | 15 | 18 | 8 | 18 |
| 8 | Shinyanga RH | 15 | 1 | 2 | 0 | 0 |
| 9 | Singida RH | 16 | 13 | 16 | 10 | 16 |
| 10 | Tandahimba DH | 12 | 15 | 30 | 15 | 30 |
| | sum | 204 | 215 | 316 | 218 | 342 |
| | Avg | 20 | 22 | 32 | 22 | 34 |

Annex 8: Neonates/ Neonatal ward

| Ward No. 9 Neonates | | | | | | |
|---------------------|---------------------------|-------------------|------------------------|------------|------------------------|------------|
| S/N | Facility | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Bukombe | 13 | 13 | 14 | 8 | 14 |
| 2 | Ilala/Amana RRH | 17 | 17 | 20 | 17 | 24 |
| 3 | Kigoma RH | 12 | 1 | 5 | 1 | 4 |
| 4 | Kinondoni/M'nyamala RRH R | 20 | 40 | 69 | 40 | 69 |
| 5 | Morogoro RH | 20 | 12 | 40 | 20 | 40 |
| 6 | Mtwara RH | 7 | 1 | 11 | 1 | 8 |
| | sum | 89 | 84 | 159 | 87 | 159 |
| | Avg | 15 | 14 | 27 | 15 | 27 |

Annex 9: Post Cesarean Section & Pregnancy Complications ward

| Ward No.10 Post Cesarean | | | | | | |
|--------------------------|-------------------------|-------------------|------------------------|------------|------------------------|------------|
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Bukoba RH | 36 | 5 | 7 | 19 | 24 |
| 2 | Chato DH | 23 | 35 | 55 | 30 | 60 |
| 3 | Geita DH | 16 | 9 | 19 | 5 | 12 |
| 4 | Ilala/Amana RRH | 18 | 18 | 18 | 18 | 18 |
| 5 | Kinondoni/M'nyamala RRH | 22 | 15 | 40 | 21 | 35 |
| 6 | Magu DH | 20 | 1 | 15 | 2 | 25 |
| 7 | Mtwara RH | 19 | 4 | 12 | 11 | 19 |
| | sum | 154 | 87 | 166 | 106 | 193 |
| | Avg | 22 | 12 | 24 | 15 | 28 |

Annex 10: Intensive care unit and male infectious diseases ward

| Ward no. 12 ICU | | | | | | |
|-----------------|--------------|-------------------|------------------------|-----------|------------------------|-----------|
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Iringa RH | 10 | 10 | 11 | 10 | 11 |
| 2 | Karagwe DH | 3 | 0 | 0 | 0 | 1 |
| 3 | Misenyi DDH | 2 | 1 | 2 | 1 | 2 |
| 4 | Morogoro RH | 6 | 1 | 3 | 1 | 4 |
| 5 | Musoma DH | 6 | 0 | 3 | 0 | 3 |
| 6 | Shinyanga RH | 10 | 1 | 6 | 0 | 0 |
| | sum | 37 | 13 | 25 | 12 | 21 |
| | Avg | 6 | 2 | 4 | 2 | 4 |

Male infection ward

| Ward No.14 Male Infectious | | | | | | |
|----------------------------|----------------|-------------------|------------------------|------------|------------------------|------------|
| S/N | Facility | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Hai DH | 2 | 0 | 1 | 2 | 7 |
| 2 | Karagwe DH | 12 | 1 | 4 | 1 | 4 |
| 3 | Maswa DH | 14 | 0 | 0 | 0 | 0 |
| 4 | Mpwapwa DH | 12 | 0 | 8 | 24 | 43 |
| 5 | Mtwara RH | 17 | 1 | 8 | 2 | 6 |
| 6 | Singida RH | 18 | 14 | 18 | 13 | 18 |
| 7 | Tanga/Bombo/RH | 45 | 20 | 22 | 18 | 24 |
| 8 | Ukerewe DH | 34 | 31 | 39 | 10 | 22 |
| | sum | 154 | 67 | 100 | 70 | 124 |
| | Avg | 19 | 8 | 13 | 9 | 16 |

Annex 11: Psychiatric wards & male TB wards

Psychiatric Ward

| Ward No.15 PSYCHATRIC | | | | | | |
|-----------------------|----------------|-------------------------------|------------------------|------------|------------------------|------------|
| S/N | Facility | Ward Bed Capacity Per Ward | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Min | Max | Min | Max |
| 1 | Iringa RH | 40 | 35 | 45 | 35 | 46 |
| 2 | Kigoma RH | 6 | 1 | 2 | 0 | 2 |
| 3 | Kiteto DH | 21 | 1 | 2 | 1 | 9 |
| 4 | Lindi RH | 6 | 1 | 2 | 1 | 2 |
| 5 | Morogoro RH | 25 | 15 | 21 | 16 | 26 |
| 6 | Tabora DH | 30 | 28 | 34 | 20 | 30 |
| 7 | Tanga/Bombo/RH | 45 | 30 | 41 | 35 | 39 |
| | sum | 173 | 111 | 147 | 108 | 154 |
| | Avg | 25 | 16 | 21 | 15 | 22 |

Male TB ward

| Ward No.16 Male_TB patients | | | | | | |
|-----------------------------|----------------|-------------------|------------------------|-----------|------------------------|-----------|
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Geita DH | 6 | 1 | 2 | 1 | 4 |
| 2 | Handeni DH | 23 | 4 | 10 | 5 | 9 |
| 3 | Iringa RH | 35 | 30 | 32 | 28 | 30 |
| 4 | Manyoni DH | 8 | 1 | 2 | 1 | 4 |
| 5 | Musoma DH | 12 | 0 | 2 | 1 | 3 |
| 6 | Newala DH | 14 | 1 | 6 | 0 | 2 |
| 7 | Tandahimba DH | 24 | 0 | 0 | 0 | 0 |
| 8 | Tanga/Bombo/RH | 40 | 32 | 40 | 30 | 35 |
| | sum | 162 | 69 | 94 | 66 | 87 |
| | Avg | 18 | 8 | 10 | 7 | 10 |

Annex 12: Female TB wards

| Ward No. 17 Female_TB patients | | | | | | |
|--------------------------------|---------------|-------------------|------------------------|-----------|------------------------|-----------|
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Bukoba RH | 22 | 4 | 6 | 3 | 6 |
| 2 | Chato DH | 20 | 8 | 15 | 7 | 13 |
| 3 | Geita DH | 6 | 1 | 4 | 0 | 0 |
| 4 | Mtwara RH | 40 | 11 | 26 | 6 | 12 |
| 5 | Musoma DH | 16 | 0 | 13 | 1 | 3 |
| 6 | Newala DH | 10 | 0 | 0 | 0 | 0 |
| 7 | Ngorongoro DH | 32 | 5 | 16 | 6 | 13 |
| | sum | 146 | 29 | 80 | 23 | 47 |
| | Avg | 18 | 4 | 10 | 3 | 6 |

Annex 13: Grade I & II wards

| Ward No.18 GRADE I & II | | | | | | |
|-------------------------|----------------|-------------------|------------------------|------------|------------------------|------------|
| S/N | Facility | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | Per Ward | Min | Max | Min | Max |
| 1 | Biharamulo DH | 8 | 1 | 2 | 2 | 4 |
| 2 | Bukoba RH | 14 | 1 | 2 | 3 | 5 |
| 3 | Bukombe | 15 | 5 | 7 | 4 | 5 |
| 4 | Geita DH | 16 | 7 | 15 | 5 | 15 |
| 5 | Kigoma RH | 16 | 0 | 5 | 0 | 3 |
| 6 | Lindi RH | 5 | 1 | 2 | 1 | 3 |
| 7 | Lushoto DH | 11 | 3 | 4 | 3 | 9 |
| 8 | Magu DH | 10 | 1 | 7 | 1 | 6 |
| 9 | Manyoni DH | 10 | 0 | 0 | 1 | 2 |
| 10 | Misenyi DDH | 10 | 5 | 8 | 6 | 9 |
| 11 | Morogoro RH | 16 | 1 | 5 | 1 | 6 |
| 12 | Mpwapwa DH | 6 | 0 | 2 | 0 | 2 |
| 13 | Mtwara RH | 8 | 1 | 7 | 2 | 7 |
| 14 | Musoma DH | 20 | 0 | 3 | 0 | 4 |
| 15 | Newala DH | 8 | 2 | 8 | 2 | 6 |
| 16 | Ngorongoro DH | 5 | 13 | 14 | 10 | 15 |
| 17 | Rorya DDH | 12 | 2 | 9 | 5 | 18 |
| 18 | Rungwe DH | 9 | 5 | 8 | 5 | 9 |
| 19 | Shinyanga RH | 14 | 1 | 7 | 1 | 4 |
| 20 | Singida RH | 5 | 3 | 5 | 2 | 5 |
| 21 | Tabora DH | 12 | 4 | 5 | 5 | 6 |
| 22 | Tandahimba DH | 12 | 2 | 15 | 1 | 8 |
| 23 | Tanga/Bombo/RH | 20 | 11 | 15 | 9 | 15 |
| 24 | Ukerewe DH | 9 | 1 | 3 | 0 | 2 |
| | sum | 271 | 70 | 158 | 69 | 168 |
| | Avg | 11 | 3 | 7 | 3 | 7 |

Annex 14: Prisoners, VVF, Insurance, Ophthalmology, Disability, Premature, Female Infectious, General, Paed. Infectious, Male & Female Surgical wards

| Ward No. 19 Prisoners | | | | | | |
|--|---------------|-------------------|------------------------|-----|------------------------|-----|
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Tabora DH | 40 | 49 | 55 | 50 | 55 |
| Ward No. 20 Vesico Viginal Fistula (VVF) | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Lindi RH | 24 | 5 | 15 | 5 | 15 |
| Ward No.21 Insurance patients/ BIMA | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Lindi RH | 10 | 7 | 8 | 5 | 10 |
| 2 | Nachingwea DH | 24 | 12 | 18 | 10 | 13 |
| 3 | Rungwe DH | 20 | 12 | 16 | 10 | 20 |
| Ward No. 22 OPTHAMOLOGY | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Singida RH | 24 | 20 | 24 | 19 | 24 |
| Ward No. 23 Disability | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Rorya DDH D | 36 | 1 | 18 | 16 | 18 |
| Ward No.24 Pre-mature babies | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Mtwara RH | 3 | 1 | 2 | 0 | 0 |

| Ward No.25 Female Infectious | | | | | | |
|---------------------------------------|--------------|-------------------|------------------------|-----|------------------------|-----|
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Mpwapwa DH | 12 | 1 | 8 | 0 | 10 |
| Ward No.26 General | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Karagwe DH | 74 | 3 | 17 | 1 | 30 |
| Ward No. 27 Paediatric infectious | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Morogoro RH | 20 | 5 | 21 | 9 | 25 |
| 2 | Shinyanga RH | 25 | 1 | 2 | 1 | 3 |
| Ward No.28 Medical | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Morogoro RH | 30 | 11 | 29 | 13 | 39 |
| Ward No. 29 Paediatric Surgical | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Morogoro RH | 20 | 10 | 20 | 10 | 20 |
| 2 | Shinyanga RH | 23 | 1 | 12 | 1 | 6 |
| Ward No. 30 Male Surgical Infectious | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Morogoro RH | 20 | 5 | 15 | 5 | 13 |
| Ward No:31 Female Surgical Infectious | | | | | | |
| S/N | District | Ward Bed Capacity | Dec 2011 Bed Occupancy | | Jan 2012 Bed Occupancy | |
| | | | Per Ward | Min | Max | Min |
| 1 | Shinyanga RH | 24 | 1 | 6 | 1 | 8 |

Annex 15: Questionnaire in English

QUESTIONS TO ASSESS STATUS OF MEDICINES, MEDICAL SUPPLIES AND BED CAPACITY IN THE DISTRICT, REGIONAL, REFFEREAL AND NATIONAL HOSPITALS IN TANZANIA MAIN LAND

Date_____ starting time_____ Finishing time_____

1. Name of the hospital_____
2. Type of hospital_____
3. District_____
4. Region_____

| S/N | 5. Names of interviewee | 6. Gender (Male/ Female) | 7. Title | 8. Duration of employment | 9. Telephone number |
|-----|-------------------------|--------------------------|----------|---------------------------|---------------------|
| i | | | | | |
| ii | | | | | |
| iii | | | | | |
| iv | | | | | |

MEDICAL SUPPLIES

10 Do you have stock out of any medical supplies in your hospital?

Yes No **(If no go to question number 12)**

11 (i) What kind of medical supplies are currently out of stock in your hospital?

Is Absorbent gauze available? Yes No

(ii) For how long have these been out of stock? _____

12 Take an example of one of medical supplies. How does it's shortage/stock out affected service provision

(i) As a service provider *(Interviewer record the response if it is based on stock out or shortage)* _____

(ii) To the patients *(Interviewer record the response if it is based on stock out or shortage)* _____

13 (i) In your perception describe the performance of your hospital laboratory (Answers should range from 0% to 100%)

(ii) Reasons for not performing at optimum (100%)? _____

MEDICINES

14 Are there any medicines which are currently out of stock?

Yes No **(If no go to question number 16)**

(i) Which medicines are currently out of stock?

(ii) For how long have those medicines been out of stock?

15 What are the causes of the shortages/stock outs of medicines in your hospital? *(Interviewer record the response if it is based on stock out or shortage)*

BEDS

A. (i) How many in-patients wards does your hospital have? _____

| S/N | A: TYPES OF WARDS | B: NUMBER OF BEDS | | C: NUMBER OF PATIENTS ADMITTED | | | |
|-----|-------------------|-------------------|--------|--------------------------------|--------|--------------|--------|
| | | | | DESEMBER 2011 | | JANUARY 2012 | |
| | | Male | Female | Male | Female | Male | Female |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |

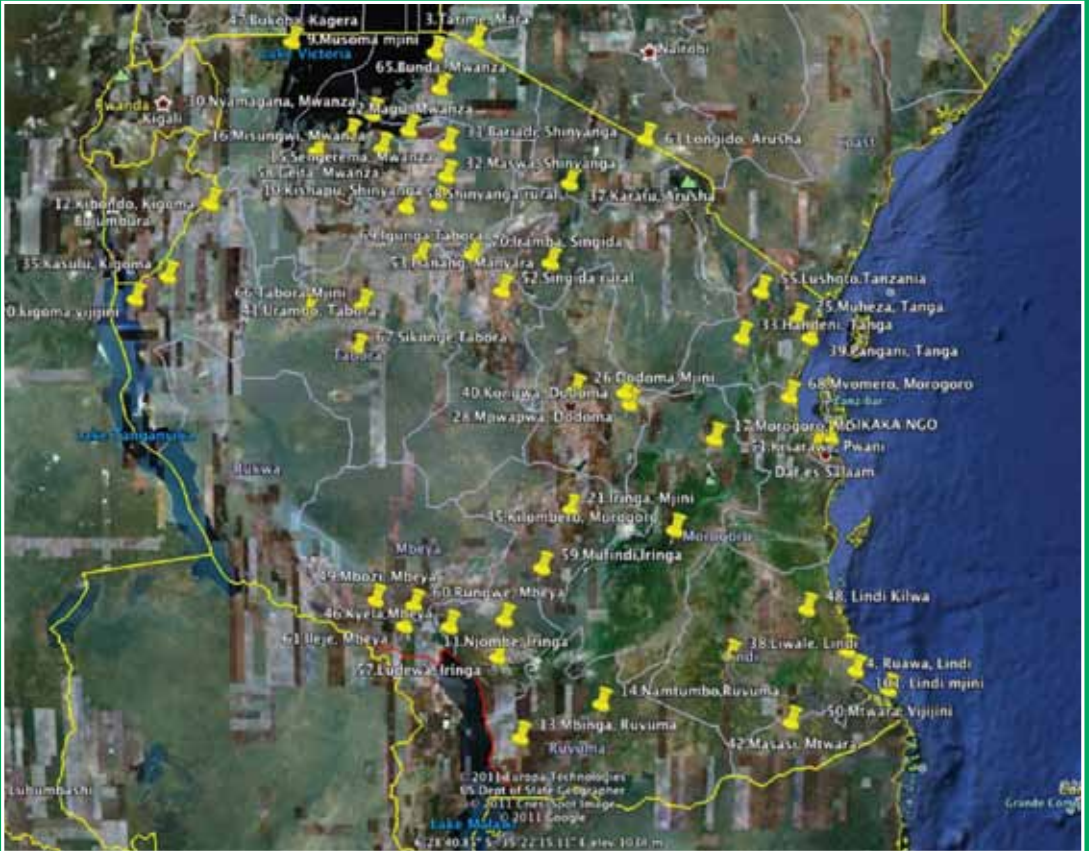
ii) List them ***(Interviewerà Fill the table below; Section A)***

- B. (i) What is the bed capacity of each ward? _____
- (ii) Describe in each ward ***(Interviewerà Fill the table below; Section B, differentiate between male and female wards)***
- C. (i) what was the average number of patients admitted per day in each ward for December 2011 and January 2012 ***(Interviewerà Fill the table below; Section C)***
- (ii) List the averages of each ward
- D. What do you do in a situation that number of admitted patients exceeds bed capacity?

E. What do you think can be done to solve the problem? _____

17. If the number of admitted patients exceeds the bed capacity, what does the hospital authority usually do?

18. Interviewer record any other recommendations from the interviewee about this questionnaire



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