

Assessment of readiness of public health facilities to implement
community based health insurance and social health insurance schemes
in Jimma Zone, southwest Ethiopia.

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Abstract

Background: In response to the 2005 World Health Assembly, many developing countries of the world developed different risk pooling/prepayment mechanisms to ensure universal coverage of health services. Readiness of the health system to bear the responsibility of providing health services for all who are part of the insurance schemes is of critical importance.

Objectives: The objective of this study was to assess readiness of public health facilities to implement community based health insurance and social health insurance schemes.

Methods: A facility based quantitative cross sectional study complemented with qualitative methods was conducted in Jimma Zone. Six weredas of the 18 weredas were included in the study; and a total of 21 health facilities were selected out of 36 by lottery method. Data was collected by structured and interviewer administered questionnaire, and supplemented by observation. The collected data was analyzed by SPSS version 20.0 by doing descriptive statistics. The observation data supported the interviews data.

Results: Among a total 21 health facilities surveyed only 38.1% had all health professionals compared against the national standards. Mean and standard deviation of availability of basic amenities were 5.48 and 1.436 respectively. The availability of basic equipment was found to be below 75% of benchmarks in 14.8% of surveyed facilities. The availability of infection prevention supplies were found to be below 75% of 13 benchmarks selected in majority of facilities 52.3%. The availability of laboratory services were found to be below 75% of all (12) selected services in 90.4% of facilities. Mean and standard deviation of availability of essential medicines were 9.9 and 1.947 respectively. All of the surveyed facilities had governing board, 95.2% had management committee, 71.4% were informed about health insurances implementation and only 4.8% of facilities had unit/departments to coordinate health insurance schemes. All rates of availability were confirmed/ cross-checked by observations.

Conclusion: According to the findings in this study it is possible to conclude that the degree of readiness of the health facilities to bear the responsibility of providing services to all who will enroll in the insurance schemes is very low. Therefore, the concerned body must take immediate measure to improve the degree of readiness of public health facilities by equipping and staffing all health facilities as per the standards for effective implementation of the health insurances schemes.

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List of acronyms/ abbreviations

Acronyms	Explanations
AIDS	Acquired immune deficiency syndrome
BPR	Business Plan Reengineering
CBHI	Community based health insurance
CEO	Chief Executive Officer
EFY	Ethiopian fiscal year
ETB	Ethiopian Birr
FFS	Fee For Service
FMOH	Federal Ministry of Health
FP	Family planning
GOE	Government of Ethiopia
HH	House hold
HIV	Human immuno virus
HO	Health officer
HRH	Human resources for health
HSDP	Health Sector Development Program
HSM	health services management
IP	Infection prevention
OOP	Out of pocket payments
PFSA	Pharmaceutical Fund and Supply Agency
PMTCT	prevention of mother to child transmission
SHI	Social health insurance
SSA	Sub-Saharan Africa
TB	Tuberculosis
UHC	Universal health coverage
UHI	Universal health insurance
WHO	World Health organization
SHI	Social health insurance

Chapter one: Introduction

1.1 Background

In 2005, the World Health Assembly called for countries to move towards universal health service coverage, where all citizens have access to appropriate promotive, preventive, curative and rehabilitative services at an affordable cost(1). Furthermore Universal Health Coverage (UHC) as a goal of health policy development has gained wide acceptance at country and global levels, since the publication of the World Health Report 2010, and was seen as a critical component of sustainable development. This report recognized the important role of health care financing in achieving universal coverage(2, 3).

Accordingly many developing countries of the world developed different risk pooling mechanisms such as social health insurance, community based health insurance and others. This will definitely reduce financial barrier & improve access to health services by reducing out of pocket expenditure share from its high level and increase health services utilizations at every levels among population, specially the poor(4, 5).

Ethiopia, similar to other developing countries in the world has various policies and strategies aimed at improving access to a basic package of essential primary health care services. Basing these recently implemented Business Process Reengineering (BPR) of the health sector has introduced a three-tier health care delivery system: level one is a Wereda health system comprised of a primary hospital (to cover 60,000-100,000 people), health centers (1/15,000-25,000 population) and their satellite Health Posts (1/3,000-5,000 population) connected to each other by a referral system. The primary hospital, health centre and health posts form a Primary Health Care Unit (PHCU).Level two is a General Hospital covering a population of 1-1.5 million people; and level three is a Specialized Hospital covering a population of 3.5-5 million people(6).

Health center has an average of 20 staff and provides both preventive and curative services. It also serves as a referral center for patients coming from health posts. Health centers have an inpatient capacity of 11 beds. In addition to what a health center can provide, a primary hospital

provides emergency surgical services, including Caesarean sections and blood transfusions. It also serves as a referral center for patients from health centers in the hospital's catchment area. A primary hospital has an average inpatient capacity of 35 beds and a staff of 53 persons(7).

Financial protection is also of particular concern to the government of Ethiopia (GOE)(8, 9).To reduce the financial burden of user fees and premiums, the GOE has established various financial protection mechanisms. Among these the draft health insurance strategy defines how formal and informal sector employees and rural community and urban poor were covered by prepayment and risk sharing schemes. The draft strategy has objectives to reduce the burden of out of pocket (OOP) spending by households and, increase access to quality health services(10).

These objectives further imply that decreasing financial barrier increases quality health services access and utilization. Therefore to handle the increased service utilization of the population, readiness of health facility has a pivotal role. Moreover it is important to provide quality services. Readiness is defined as the cumulative availability of components required to provide services. It comprises tracer items for the following major domains: infrastructure/amenities, basic supplies/equipment including small surgery, standard precautions, laboratory tests, medicines and commodities and health professionals (11)..

1.2 Statement of the problem

While facilitating increased health care access through introduction of health insurance is an important and worthy endeavor, more people in the system means more demand for services that numerous health care systems are unable to accommodate due to workforce shortages, inadequate equipment and supplies, and infrastructure limitations. These inadequacies also negatively affect the readiness of health facilities and quality of services provided(12).

For example many countries across the globe are facing a challenge to meet their required number of health care workers, a shortage that directly affects the quality of care. Globally, the number of doctors per 1,000 population is expected to remain virtually the same between 2012 and 2015 (13).

In sub-Saharan Africa (SSA) the shortage of health work force is highest. For example in Mozambique lack of qualified health workers is barrier for accessing healthcare, particularly for the rural population. For example in Tete province there is only 2,000 health staff, of which only 63 are qualified doctors and 300 are nurses to serve a large population of 2 million people that mainly live in rural areas. That means on average, one medical doctor is responsible for the care of 30,000 people, while one nurse covers 8,000 people(14). Similarly in Uganda, although a comprehensive Human Resources for Health (HRH) policy and a strategy to address priority HRH constraints are in place and training of health workers has improved in recent years, the shortage of health workers and their unequal distribution remain major obstacles to access to quality health care, particularly in rural areas(15). In 2011, only 58% of approved posts in health facilities were filled by trained health workers in Uganda (16).

The variety of individuals providing health services in SSA makes it critical for governments to oversee quality of care and services for the entire system through accreditation and regulation mechanisms. At the individual facility level, it requires focused attention on quality assurance and improvement processes. This is because; quality has an impact on access. Perceived quality of care affects the demand for healthcare by both the rich and poor. As different evidence shows, the poor have fewer choices and tend to stop seeking care if the nearest services are not of sufficient quality(17). These imply that if services provided to the insured are low quality, being member by the community to the schemes decreased. Moreover the quality of services provided also negatively affected by facility readiness that provide services.

In order to achieve universal health coverage, the target was to build a cumulative total of 3,525 HCs at the end of EFY 2005. The number of newly constructed and completed HCs in EFY 2005 was 246, increasing the cumulative total of available HCs from 2,999 in EFY 2004 to 3,245 in EFY 2005, which was 92% of the target. Oromia was the region with the highest number of completed HCs (1,215). A total of 522 newly constructed HCs were equipped with necessary materials. In the same period, the total number of hospitals available in has reached 127 at the national level. With regard to Human Resource Development, FMOH has increased the intake and number of medical schools, and curtailed the brain drain by holding successive consultations

with new graduates. In particular, a total of 11,291 medical students were being trained in 24 medical schools in EFY 2005(18).

On the other hand, in Ethiopia health care financing mechanism was mainly depends on out of pocket payments, which is regressive & impedes access to health services. So in order to address this problem & create equitable financing mechanism, the government of Ethiopia is currently undertaking a number of activities to introduce health insurances. Further these schemes was implemented to cover about 50% of the population at the end of the HSDP IV period(19). So to efficiently implement health insurance schemes health facilities at every level particularly that may be contracted to provide services should be ready.

1.3 Significance of the study

Substantial investments have been and continue to be made to improve health services in countries with weak health systems. Moreover sound decisions about where to invest resources to improve health services require knowledge of the existing health infrastructure, the services currently offered, the systems needed to support the services, and the availability of equipment and consumable supplies. However, useful information on the status of services and the overall health systems within which they operate is rarely available.

In addition to this, the UHI is aimed at expanding health service coverage in Ethiopia to accelerate socio-economic development. Improved health services was delivered by health facilities with the required quality standards and commitment to offer services with the tariff stated in the contractual agreement to be entered with the agency can provide the services (20).

In countries where the facilities available to the insured population are inadequate, those who can afford it prefer to pay out of pocket or to buy private health insurance to gain access to better services. Over the long term, this phenomenon may endanger the whole system. Therefore the result of this study can use to provide important information for program managers and other concerned bodies to enable them provide proper interventions. Moreover it can be used as baseline information for further studies in this area.

Chapter Two: Literature review

While financial protection was the principal objective of UHC initiative, it was recognized that the delivery of UHC also requires the availability of adequate healthcare infrastructure, skilled health workforce and access to affordable drugs and technologies to ensure the entitled level and quality of care given to every citizen(20). Service provision or delivery is an immediate output of the inputs into the health system, such as the health workforce, procurement and supplies, and financing. Increased inputs should lead to improved service delivery and enhanced access to services. Ensuring availability of health services that meet a minimum quality standard and securing access to them are key functions of a health system. Availability is an aspect of comprehensiveness and refers to the physical presence or delivery of services that meet a minimum standard, which may serve as a starting point for determining methods to improve service delivery(21).

The key topic areas and core functional capacities of a facility assessment of service readiness include facility infrastructure and amenities, such as availability of water supply, telecommunications and electricity, basic medical equipment, such as weighing scales, thermometer and stethoscope, availability of health workforce (e.g. cadre of human resources, staff training and guidelines), drugs and commodities, availability of general/essential medicines, diagnostic facilities- availability of laboratory tests (e.g. HIV, malaria, tuberculosis (TB), others), Standard precautions on prevention of infections availability of general injection and sterilization, disposal and hygiene practices. and Specialized services, such as family planning, maternal and newborn care, child health, HIV/AIDS, tuberculosis, malaria and chronic diseases(22).

2.1 Health Work force

Developing capable, motivated and supported health workers is essential to achieve national and global health goals. At the heart of each and every health system, the work force is central to advancing health. There should be optimum number and professional mix of human resource for the effective coverage and quality of the intended services(23)

.

But different studies and reports in different setting showed that scarcity and other problems of healthcare providers. For example report of national statistics office showed that in Philippines

healthcare providers were inefficient and heavily concentrated in urban and wealthy communities, including cities in the NCR and in its neighboring provinces. Rural communities in greater need of healthcare have limited access to healthcare services. Although, the nationalization of the social healthcare insurance expanded the membership presence outside the urban areas, the challenge begins with promoting physical availability because in many areas no provider even exists to be accredited(24, 25).

2.2 Facility infrastructures/basic amenities

The quality of the health services available to the insured population is critical to the success of health insurance systems. Social health insurance gives the insured population a right to access these services. Yet the successful implementation of a health insurance schemes depends on the effective availability of services. The best-designed health insurance system remains an empty shell if a country does not have the infrastructure to provide the health services included in the benefits package. In turn, the existence of good-quality infrastructure/basic amenities will encourage the population to join the system and support it(26).

For example, globally, provision of WASH services in health care facilities is low, and the current levels of service are far less than the required 100% coverage. From the 54 countries represented in this report,38% of healthcare facilities do not provide users' access to an improved water source, 19% do not provide improved sanitation, and 35% do not have soap for hand washing. Provision of water was lowest in the African Region, with 42% of all health care facilities lacking an improved water source on-site or nearby (27).

In SSA the study done in assessment of facility readiness to provide general services is rare. But study done for assessment of specific service readiness showed different results. For example a study done for assessment of health facility readiness to provide family planning services in Ghana in 2007 showed most of the 136 facilities met the criteria for infrastructure (90%) (28). Moreover systematic review of available national data conducted on electricity access in health care facilities in sub-Saharan Africa, showed that on average, 26% of health facilities in the surveyed countries reported no access to electricity. Only 28% of health care facilities, on average, had reliable electricity among the 8 countries reporting data. Among 9 countries, an average of 7% of facilities relied solely on a generator. This review used different articles, as

well as through websites of development agencies, ministries of health, and national statistics bureaus of 11 countries (29).

2.3 Availability of basic equipment

A national report showed that, in Uganda less than 25% of facilities had all essential equipment and supplies for basic antenatal care, while basic equipment and supplies for conducting normal deliveries were available in only 33% of facilities offering delivery services. In many instances, basic emergency infrastructure, supplies and equipment for support services were inadequate(30).

2.4 Availability of standard precautions

Standard precautions are meant to reduce the risk of transmission of blood-borne and other pathogens from both recognized and unrecognized sources. They are the basic level of infection control precautions which are to be used, as a minimum, in the care of all patients. Worldwide escalation of the use of standard precautions would reduce unnecessary risks associated with health care. Promotion of an institutional safety climate helps to improve conformity with recommended measures and thus subsequent risk reduction. Provision of adequate staff and supplies, together with leadership and education of health workers, patients, and visitors, is critical for an enhanced safety climate in health-care settings(31).

As a cross-sectional study done in Ethiopia, west Gojjam zone to estimate waste generation rate and evaluate its management system in ten public health centers showed; Only four out of ten health centers used local type of incinerators, while others used open burning for the final handling of healthcare wastes. Biological wastes such as placenta were generally disposed and buried in non-watertight disposal pits. Operational guidelines were not found in all assessed health centers(32).

2.5 Availability of laboratory services

Provision of efficient laboratory services is an essential aspect of a functioning healthcare system. However, as a result of paucity of funds, irregular power supply, limited equipment, administrative bottlenecks and few licensed medical laboratory scientists at rural medical laboratories, several rural healthcare facilities are without functioning medical laboratories(33).

2.6 Availability of essential medicines

A survey of the availability and price of 32 medicines was conducted in a representative sample of public and private medicine outlets in four geographically defined areas in Bangladesh, Brazil, Malawi, Nepal, Pakistan and Sri Lanka. This survey showed in all countries < 7.5% of these 32 medicines were available in the public sector, except in Brazil, where 30% were available, and Sri Lanka, where 28% were available(34).

Ministry of Health report showed that in 2009 incidences of stock outs of drugs and informal charges become common in Uganda's health sector. Over the same period, in public health facilities, more than half of those visiting public health facilities reported lack of drugs as the reason for not using the public health facility. Moreover it was included in the report that over 74% of government health units reported monthly stock outs of tracer medicines(35).

The study carried out using the World Health Organization (WHO) Operational Package for Assessing and Monitoring Pharmaceutical Situation in Countries format for data collection in Sudan. This study used 30 types of essential medicines to give essential services. The study showed that, on average, availability of selected essential medicines at the public pharmacy was 80.6%(36).

2.6 Health insurance coordination and facility governance

In principles of Vet-Nam health insurances, district-level health facilities were expected to cooperate with provincial and district social security offices. However, there was no clear explanation on the more detailed role of each office. In particular, the problem of information dissemination has been reported. On the other hand, hospitals enjoy great autonomy, which appears to have created some unfavorable situations for the insured. For example the director can decide additional salary, bonuses and allowances for the workers within the 71% of net revenue as well as hiring and promoting workers. Consequently, a hospital (and potentially hospital workers) has a higher incentive to sell their services at a higher price. The hospital also prefer fee for services, even though the capitation is paid by the health insurance fund every month per enrolled patient regardless of the number of treatments and treatment types. Therefore, as an organizational practice, both the insurance administration and service deliveries have serious

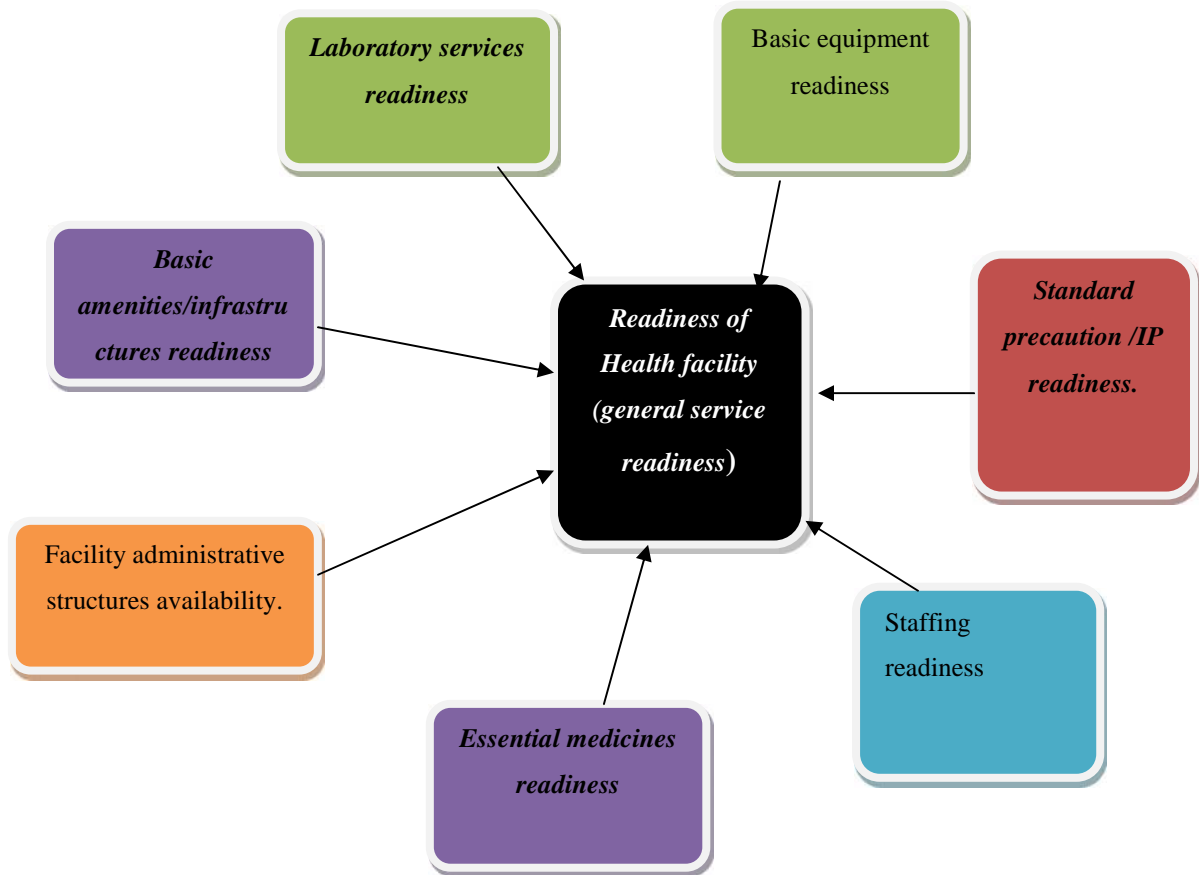
problems. In particular, both supplier-induced demand and FFS were challenges to the sustainability of Vietnam's health insurance(25).

The current health care system is complicated. When patients get care, they may interact with any number of physicians, nurses, medical assistants, or other trained professionals not to mention insurance and billing offices across multiple settings. If health care providers don't coordinate with each other, the consequences can be harmful to the patient. For example, medication errors, unnecessary or repetitive diagnostic tests, unnecessary emergency room visits, and preventable hospital admissions and readmissions all lead to lower quality of care, and ultimately, worse health outcomes. Poor coordination can also make care more expensive than it needs to be. Preventable hospitalizations and duplicative tests increase health care spending. For example in USA, inadequate care coordination is estimated to have caused between \$25 and \$45 billion in wasteful spending in 2011 alone due to avoidable complications and unnecessary hospital readmissions(37).

Conceptual framework

A conceptual framework used to assess facility readiness using selected indicators has been created after reviewing literatures(7, 28).

Figure 1 Conceptual framework of the study which developed by reviewing literatures.



Chapter Three: Objectives

3.1 General Objective

The general objective of this study was to assess degree of readiness of public health facilities to implement the newly proposed health insurances in Jimma Zone, southwest Ethiopia.

3.2 Specific objectives

- To assess staffing readiness of the facility.
- To assess infrastructural readiness of the facility.
- To assess basic equipments readiness of the facility.
- To assess standard precaution/IP readiness of the facility.
- To assess laboratory services readiness of the facility.
- To assess essential medicines readiness of the facility.
- To assess availability of facility administrating and health insurance schemes coordination structures.

Chapter Four: Methods and materials

4.1. Study Area and period

The study was conducted from March 20 to 30 2015 in Jimma zone, Oromia regional state, southwest Ethiopia which is located 353 Kilo meters to the southwest of Addis Ababa, the capital city of Ethiopia. In Jimma zone there are 17 rural weredas and 1 zonal level and 1 wereda level town administrations. In Jimma zone there are different health facilities owned by governments, private and NGOs. The government/public facilities are available from health posts to specialized hospital. CBHI was under piloting in one Wereda in this zone and a year later scaled up to other three woredas. There is a coordinating body of these schemes at zonal health department. There is insurance agency branch office, which coordinates over all activities of the schemes in Jimma Zone.

4.2. Study design

A facility based cross sectional study design was used.

4.3 Population

4.3.1. Source Population

Source population for this study included all public health facilities that were providing services in Jimma zone during the study period.

4.3.2. Study Population

Study population comprised of selected public health facilities that were providing services in six selected woredas of Jimma zone.

Inclusion Criteria: health facilities which served the community for at least 6 months and older were included.

Exclusion Criteria: New public health facilities, and which were on renovation were excluded. Since it may take for facilities to fulfill the requirements.

4.4. Sample Size Calculation and sampling procedure

To achieve better representation, 33% (6 weredas) of the 18 woredas in Jimma Zone were selected. In these woredas a total of twenty one (21) health facilities were selected. Among these

all three hospitals were selected purposively whereas 18 health centers were selected out of 36 health centers by lottery method.

4.5. Data Collection tool

Instrument: The interviewer-administered questionnaire was developed and adopted with modification from related studies, national health facility standard manuals and WHO reference manuals (38-42). It has seven sections. The first section contains question to assess availability of health professionals. The second section contains questions to assess the availability of basic amenities, i.e. information communication technology (ICT) infrastructures, water supply, electricity and ambulance services. The third section contains questions to assess availability of basic equipment, the fourth section contains questions to assess presence of standard precautions and supplies for infection prevention, fifth section assesses laboratory capacity, the sixth section assesses availability of essential medicines and the last section assess facility governing system. Furthermore all sections have checklists for observation.

4.6. Data collectors and Collection process

The principal investigator was responsible for the overall management and coordination of data collection process; for the development of the final questionnaire, for making the initial contact with and securing participation of the facilities selected, for identifying survey administrators and to train and assign them to facilities selected.

Accordingly twelve diploma nurse were selected, trained and assigned for data collection. Two persons were participated for interviewing one respondent. When one interviewed the other took notes for observation. Six supervisors were supervised data collection process.

In health centers, higher officials/Health center heads were interviewed for assessment of availability of health professionals, basic infrastructural amenities, infection prevention supplies and facility governing structures. Pharmacy departments head were interviewed for assessment of availability of essential medicines, Laboratory departments head were interviewed to assess availability of laboratory services, and OPDs head were interviewed for assessment of availability of basic equipment.

Whereas in hospitals, CEO was interviewed for facility governing structures; human resource directors was interviewed for assessment of availability of health professionals; and environmental health and sanitation coordinator was interviewed for availability of IP/precautions supplies. Pharmacy departments head were interviewed for assessment of availability of essential medicines, Laboratory departments head were interviewed to assess availability of laboratory services, and OPDs head were interviewed for assessment of availability of basic equipment.

After completion of interview based on notes which were taken by the second interviewer, the responses were cross checked by observing documents for staffing and governing structures/system. Also actual availability of basic amenities, basic equipment, IP supplies, laboratory services and equipment and essential medicines were crosschecked by observation.

4.7. Data Quality Assurance

The structured questionnaire was used after pre-tested on 1 health center and 1 primary hospital the same source population other than the sampled population and revision was considered as needed.

After data collection, each questionnaire was given a unique code by the principal investigator. The principal investigator prepared the template and entered data using Epi Data version 3.1 then exported to SPSS version 20.0. Frequencies were used to check for missed values and outliers. Any error identified at this time was corrected after revision of the original data using the code numbers.

4.8 Data analysis

After data quality was assured, simple frequencies were run to see the overall distribution of the study subject with the variables under study. The level of readiness was assessed based on the levels of availability of study variables by doing descriptive statistics and comparing against the facility standards. Moreover the observation data were supported the level of availability of variables under study.

4.8. Study Variables

To assess the readiness of health facilities the following variables were measured.

- Staffing readiness.
- Infrastructural readiness.
- Basic equipments readiness.
- Standard precaution/IP readiness.
- Laboratory services readiness.
- Essential medicines readiness.
- Availability of facility administering and Health insurance schemes coordination structures.

4.9 Operational definitions

Overall facility readiness- It the facility (health center and hospital) fulfilled all the criteria below was considered to be adequately ready to provide general OPD services for the insured communities. Facility fulfilled standard for staffing indicator, and had $\geq 75\%$ of set standard of infrastructures, basic equipment, IP, laboratory services and essential medicines indicators, and have administrative structure to administer facilities and health insurances(42).

Staffing readiness: This was measured by assessing availability of health professionals that can provide general outpatient services at primary hospitals and health centers. This means health facility that had all health professionals that can provide general OPD services for insured populations when compared against facility standards was considered ready with staffing.

- These are;
 1. Primary hospital should have the following health professionals who serve at OPD, Laboratory and pharmacy: - four GPs, eight Clinical nurse, four Laboratory professionals and four pharmacy professionals should be available.
 2. Health centers should have the following health professional who serve at OPD, Laboratory and pharmacy:- two health officers/BSc Nurse/BSc nurse, four clinical nurse, two Laboratory professionals and two pharmacy professionals.

Infrastructural readiness: The basic amenities of infrastructure that were included in the analysis are 8 items; power, improved water source, room with privacy, adequate sanitation facilities, fixed line/mobile phone, access to computer, internet, and emergency transportation. If

a facility (health center and hospital) had $\geq 75\%$ of these, it was considered to have the adequate infrastructure.

Basic equipment readiness: facilities (health center and hospital) with $\geq 75\%$ of items; blood pressure apparatus, stethoscope, adult scale, infant and child scale, thermometer, measuring tape, oxygen cylinder, oxygen concentrator and intravenous kits were considered ready with equipments.

Standard precautions/IP readiness: facilities (health center and hospital) with $\geq 75\%$ of 13 items; sterilization equipment, safe disposal of sharps and infectious wastes, sharps box, waste receptacle, disposable syringes, disinfectant, hand-washing soap and water or alcohol based hand rub, latex gloves, masks, gowns, eye protection, and guidelines, were considered ready for infection preventions.

Laboratory services readiness: facilities (health center and hospital) with $\geq 75\%$ of 12 test items; hemoglobin, blood glucose, malaria diagnostic capacity, urinalysis, HIV diagnostic capacity, DBS collection, TB microscopy, syphilis VDRL, general microscopy, urine pregnancy test, ALT and creatinine, were considered ready for laboratory services.

Essential medicines readiness: facilities (health center and hospital) with $\geq 75\%$ of 14 essential medicines available; amitriptyline, amoxicillin, atenolol, captopril, ceftriazone, ciprofloxacin, co-trimoxazole, diazepam, diclofenac, glibenclamide, omeprazole, paracetamol, hydralazine 25mg and salbutamol, were considered ready with essential medicines.

4.10 Ethical issues

Prior to data collection, ethical clearance was obtained from Research and Ethics committee of the College of public health and medical sciences. Written permission letter was also obtained from health management, economics and policy department. This letter was given to Jimma Zone Health Department and to respective health facilities and appropriate informed verbal consent was taken from the respondents. During the training of data collectors and supervisor, ethical issues was addressed as important component of the research.

4.11 Dissemination of results

After the study is accomplished, it will be presented to Jimma University College of Public Health and Medical Sciences. Subsequently, attempts will be made to present it on the annual and biannual meetings of Oromia regional health Bureau and other meetings in the region; moreover, attempts will also be made to present it on scientific conferences and publish it on scientific journals here or overseas. Findings will be submitted to Jimma University College of Public Health and Medical Sciences and to Oromia regional health Bureau, Jimma Zonal health departments and the donor/sponsoring organization.

Chapter Five: Results

In this study a total of 21 public health facilities were included. Among these 18(85.7%) were health center and 3 (4.3%) were district/primary hospitals. All of the surveyed facilities were serving the communities 24 hours per day.

5.1 Staffing

Among 3 primary hospitals surveyed only 2 had 4 general practitioners per each who serve at OPDs and 1 hospital had only 2 general practitioners. All three hospitals had more than 8 clinical nurses, more than 4 laboratory professionals and only 2 pharmacy professionals.

Among 18 health centers only 6 (33.3%) of facilities had ≥ 2 health officers/BSc nurse, 8 (44.4%) had only 1 health officers/BSc Nurse and 4 (22.2%) had no health officer/BSc nurse. All health centers had more than 4 clinical nurses. Sixteen (88.8%) of health centers had more than two pharmacy professionals and 2 health centers lacked. Majority (61.2%) of health centers had 2 laboratory professionals and 7 (38.8%) had one per each facility.

Among a total 21 health facilities surveyed 8 (38.1%) had all health professionals compared against the benchmarks developed from national standards while 13 (61.9%) did not have some of the professional categories.

Table 1; Number of health facilities that reported having health professionals compared against the standards.

Types of facility	Yes		No	
	Number	%	Number	%
Public primary hospitals	2	66.7	1	33.3
Public health centers	6	33.3	12	66.7

The availability of other health professionals was also assessed specifically.

All (3) hospitals had more than one anesthetist, x-ray technicians and IESO and one psychiatric nurse. There were 1 ophthalmic nurse and dental health professionals in 1 (33.3%) and 2 (66.7%)

of hospitals surveyed respectively. Only 1(33.3%) of hospitals had 2 physiotherapists and 2 (66.7%) lacked.

Nine (42.8%) of facilities had 1 HIT (health information technician) per each facility while 12 (57.1%) lacked HIT. Eight (38.1%) of facilities surveyed had 1 Environmental health professionals.

Furthermore the rates of availability of those professionals were confirmed by observing documents.

5.2 Infrastructural amenities

To assess this variables a total of eight (8) basic amenities were used as standard for analysis. Accordingly the availability of selected basic amenities were found to be below 6 (75%) of 8 basic amenities in the majority 13(61.9%) of facilities, and above 75% of 8 selected basic amenities in 8(38.9%) of all surveyed facilities. Mean and SD (standard deviation) of availability of basic amenities in the surveyed facilities were 5.48 and 1.436 respectively.

Among 21 surveyed facilities 13 (61.9 %) have fixed line telephone, no facility have mobile phone which were supported by the facility. All 21 (100%) of facilities had computers among which of only 2 (9.5%) had internet services. All of the facilities had electricity which was mainly from main electric lines and only 7 (33.3%) of facility had secondary sources of electricity which was fuel operated generator. Among those seven facilities which had generators as secondary source, only three of them had fuel for its operation on the date of the survey. All of facilities had water sources at less than 500 meters from the facility among which of about 5 (23.8%) got water from well, and 16 (76.2%) from pipe. Ten (47.6%) of facilities had ambulances stationed at the facility and only 6 (28.6%) had ambulances services from other areas/facilities. Sixteen (76.2%) of the facilities had OPD which has auditory and visual privacy. Among all facilities 11 (52.4 %) had enough outpatient latrine, whereas 4(19.0%) flush latrine, 6(28.6%) VIP latrine with hand washing facilities, and 11(52.4%) was VIP latrines without hand washing facilities.

Table 2: Number of health facility that had all basic infrastructural amenities which were set as standards, Jimma Zone, March, 2015.

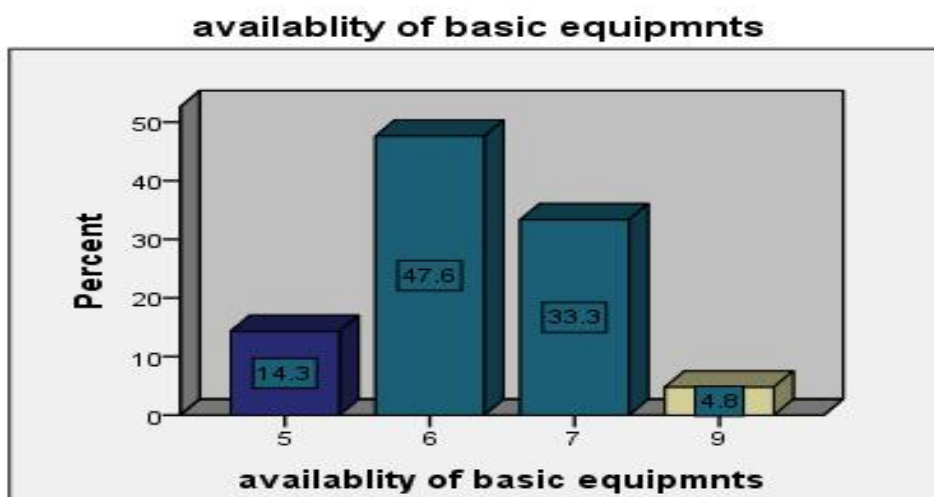
Types of facility	Yes		No	
	Number	%	Number	%
Public primary hospitals	1	33.3	2	66.7
Public health centers	0	0.0	18	100.0

5.3 Basic Equipment

Basic equipment selected as benchmarks for the analysis were nine. Accordingly the availability of basic equipment was found to be above 75% of nine basic equipment in majority 18(85.7%) of facilities, and below 75% of benchmarks in 3(14.8%) of surveyed facilities.

Among 21 facilities surveyed all had functional adult, child and infant weighing scale, measuring tape, and intravenous infusion kits. Whereas 20 (95.2%) had stethoscope and, only 1 (4.8%) lacked stethoscope. Twelve (57.2%) of facilities had functional thermometer and 4 (19.0%) and 5 (23.2%) had non functional and lacked thermometer respectively. Sixteen (76.2%) and, 5 (23.8%) had functional and non functional BP apparatus respectively. Only 2 (9.5%) of facilities had oxygen concentrator and majority of the facilities, 19 (90.5%) lacked it. Only 3 (14.3%) of the surveyed facilities had functional oxygen cylinder, 13 (61.9%) and 4 (19.0%) had oxygen cylinder which was not functioning and lacked respectively. The observation result also supported these findings.

Figure 2: Cumulative percentage availability of selected basic equipment in health facilities, Jimma, March, 2015.



Further the above graph showed that only 1 facility had all 9 basic equipment, 7 facilities had 7, 10 facilities had 6 and 3 facilities had 5 out of 9 basic equipment set as benchmark.

5.4 IP/precautions supplies

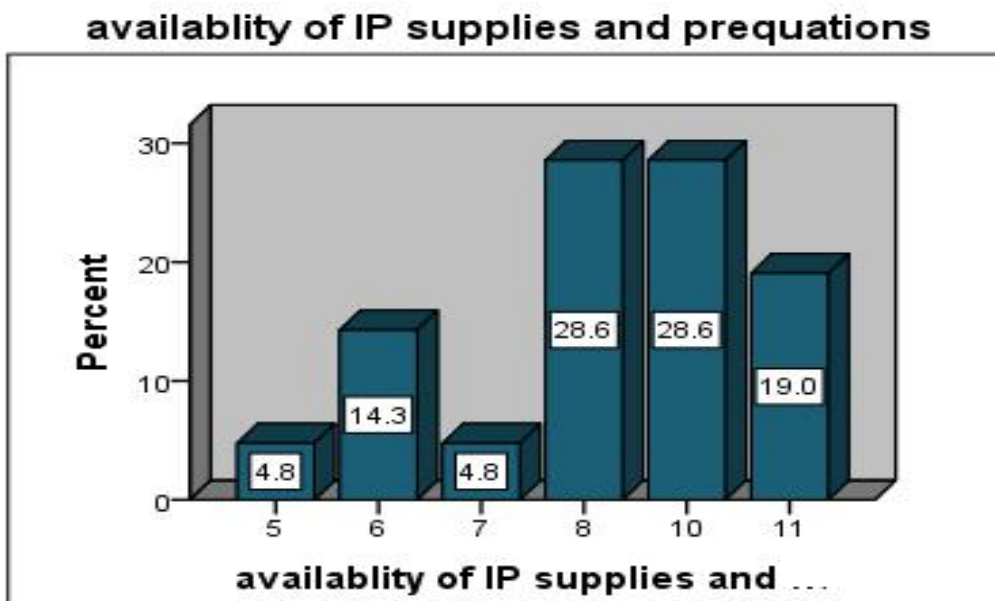
Thirteen items were used as benchmark for assessment of availability of IP/ precautions supplies. The availability of infection prevention supplies were found to be as follows.

Among 21 surveyed facilities 16 (76.2%) and 6 (23.8%) have functional and non functional electric autoclave respectively. Twelve (57.1%) of facilities had functional dry heat sterilizer whereas 3(14.3%) had non functional and 6(28.6%) lacked electric dry heat sterilizer. Non electric autoclave was only found in 2(9.5%) of facilities and 19(90.5%) lacked it. Ten (47.6%) of facilities had clean running water and 11(52.4%) had no clean running water. Soap for hand washing was available in 9(42.9%) of facilities and was not available in 12(57.1%). Alcohol based hand rub was available in majority 16(76.5%) of facilities and not available in 5(23.8%). Disposable gloves, waste receptacle and safety box were available in all facilities surveyed. Environmental disinfectant was available and not available in 20(95.2%) and 1(4.8%), disposable syringes were available and not available in 18(85.7%) and 3(14.3%), eye goggle was available and not available in 7(33.3%) and 14(66.7%), and medical mask was available and not available in 12(57.1%) and 9(42.9%) of facilities respectively. Moreover 4(19%) and 17 (81%) of facilities were using incineration and open field burning system of waste disposal respectively.

The availability of IP supplies were found to be below 75% of 13 benchmarks selected in majority of facilities 11 (52.3%) and above 75% in 10 (42.8%), of facilities. Mean and SD of availability of IP supplies were 8.81 and 1.965 respectively.

The following graph showed that no facility had all 13 IP supplies. One facility had 5 out of 13, 3 facilities had 6 out of 13, other 1 facility had 7 out of 13, six facilities had 8 out of 13, other six facilities had 10 out of 13 and four facilities had 11 out of 13 IP/precautions supplies respectively.

Figure 3; Cumulative availability of number of selected IP/precautions supplies in public health facilities, by percentage Jimma, March, 2015.



5.5 Laboratory services

For assessment of this services twelve laboratory services were selected as benchmarks and laboratory personnel were interviewed supported by observation of equipment.

Among 21 facilities surveyed 100% conduct malaria diagnosis and urinalysis both dip-stick and microscopic. Hemoglobin test was available in 9 (42.9%) and not available in 12 (57.1%) of facilities. Syphilis rabid test was available in 19 (90.5%) of facilities and was not available in only 2 (9.5%) of facilities. TB microscopic test was available in 13 (61.9%) and not available in 8 (38.1%) of facilities surveyed on the date of the survey. Creatinene and ALT test was available in only 2 (95%) of facilities and not available in 19 (90.5%) of facilities. HIV test was available and not available in 18 (85.7%) and 3 (14.3%) of facilities respectively. pregnancy test and General Microscopy services were available and not available in 11 (52.4%) and 10 (47.6%) of facilities respectively.

Table 3: Availability of laboratory services among public health facilities of Jimma zone, March, 2015.

S.No	Availability of laboratory services/tests		Frequency	Percent
1	Hemoglobin	No	9	42.9
		Yes	12	57.1
2	blood glucose	No	13	61.9
		Yes	8	38.1
3	Malaria diagnosis /BF	No	0	0.0
		Yes	21	100.0
4	Urinalysis	No	0	0
		Yes	21	100.0
5	HIV test	No	3	14.3
		Yes	18	85.7
6	DBS collection,	No	19	90.5
		Yes	2	9.5
7	TB microscopy,	No	8	38.1
		Yes	13	61.9
8	VDRL	No	2	9.5
		Yes	19	90.5
9	General microscopy	No	10	47.6
		Yes	11	52.4
10	Urine pregnancy test/HCG	No	10	47.6
		Yes	11	52.4
11	ALT	No	19	90.5
		Yes	2	9.5
12	Creatinine	No	19	90.5
		Yes	2	9.5

The availability of laboratory services were found to be below 75% of all (12) selected services in majority of facilities 19(90.4%), and above 75% in only 2 (9.6%) of facilities. Min and max availability of laboratory services among the facilities were found to be 3 and 9 respectively.

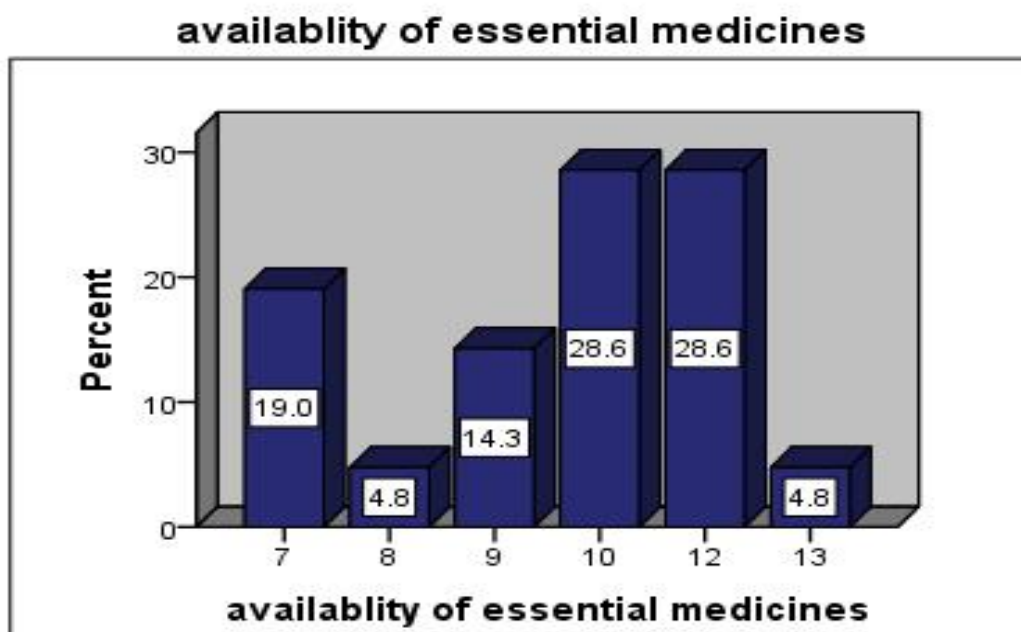
5.6 Essential medicines

Among the selected essential medicines amithriptiline, atenolol and captopril were observed available in 6 (28.6%) of facilities and was not available in 15 (71.4%) of facilities. Amoxacilline capsule, cotrimoxazole, ciprofloxacilline, diclofenec, omeprazole, and paracetamol were available in all facilities surveyed, whereas hydralazine 25mg tablet/capsule was not available in any of the facilities. Ceftriaxone was observed available and not available in 18 (85.7%) and 3 (14.3%) of facilities respectively. Glebinclamide and sulbutamol inhaler were observed available and not available in 17 (81%) and 4 (19%) of facilities and in 15 (71.4%) and 6 (28.6%) of facilities respectively. Diazepam capsule was observed available in 14 (66.7%) and not available in 7 (33.3%) of facilities.

The availability of essential medicines were found to be below 75%, of all (14) selected essential medicines in 8 (38.1%) and above 75% of all (14) selected essential medicines in 13 (61.9%) of all surveyed facilities. Mean and SD of availability of essential medicines were 9.9 and 1.947 respectively.

The following graph showed that no facility had all 14 essential medicines. Four facilities had 7,1 facility had 8, 3 facilities had 9, 6 facilities had 10, other 6 facilities had 12 and 1 facility had 13 out of 14 essential medicines set as benchmark for assessment of essential medicines readiness/availability.

Figure 4: Availability of essential medicines in public health facilities, Jimma, March, 2015.



5.7 Availability of Facility governing and Health insurance schemes coordinating structures

All of the surveyed facilities had governing board out of which 18(85.7%) had regular meeting and 3 (14.3%) did not have. Twenty (95.2%) of facility had management committee which have regular meeting on two weeks base and report activities regularly. Fifteen (71.4%) of facilities were informed about health insurances implementation whereas as 6(28.6) were not informed. Only 1 (4.8%) of facilities had unit/departments to coordinate HI schemes. Moreover agenda of board and management committee meeting supported this finding.

Table 4: level of availability of variables studied by percentages and counts, Jimma, March, 2015 (n=21).

S.No	Variables	No (%) of health facility
1	Availability of basic amenities. <75%	13 (61.9)
	>=75%	8 (38.1)
2	Availability of basic equipment .<75%	3 (14.8)
	>=75%	18 (85.2)
3	Availability of IP precautions and supplies. <75%	11(52.3)
	>=75%	10(47.7)
4	Availability of laboratory services <75%	19 (90.4)
	>=75%	2 (9.6)
5	Availability of essential medicines. <75%	8 (38.1)
	>=75%	13 (61.9)
6	Availability of facility governing board. Yes	21 (100)
	No	0
7	Availability of board meeting. Yes	18 (85.7)
	No	3 (14.3)
8	Availability of management committee Yes	20 (95.2)
	No	1 (4.8)
9	Regular meeting of mgt committee. Yes	20 (95.2)
	No	1 (4.8)
10	Informed about implementation of health insurance. Yes	15 (71.4)
	No	6 (28.6)
11	Unit to coordinate HI schemes. Yes	1 (4.8)
	No	20 (95.2)

Overall facility readiness

Finally, overall facility readiness to provide general services for insured community was assessed based on the set criteria and standard. Among 21 facilities 11 fulfilled the standard for staffing criteria, 8 for basic infrastructural amenities indicator, 18 for basic equipment, 10 for IP/precautions, 2 for laboratory services indicator and 13 for essential medicines indicator. Accordingly only 2(9.5%) of facilities fulfilled the criteria and ready.

Table 5: Facility readiness against each indicator, Jimma Zone, March, 2015.

Indicators	Yes		No	
	Number	%	Number	%
Staffing	11	52.3	10	47.7
Infrastructures	8	38.1	13	61.9
Basic equipment	18	85.7	3	14.3
IP/precautions	10	47.7	11	52.32
Laboratory services	2	9.5	19	90.5
Essential medicines	13	61.9	8	38.1

Chapter six: Discussion

General services readiness is the capacity of facility to provide general health services. This study was aiming to assess the readiness of public health facilities to implement the newly proposed health insurance schemes in Jimma zone using multiple variables that comprised seven indicators; staffing, basic infrastructural amenities, basic equipment, IP/standard precaution supplies, laboratory services, essential medicines and facility governance structures. Criteria to assess readiness were developed from national standard which was dependent on rate of availability of these indicators.

6.1 Staffing

There should be optimum number and professional mix of human resource for the effective coverage and quality of the intended services(23). The current study assessed the availability of health professionals that can provide general out-patient services and found that nearly one half (50%) of facilities surveyed lacked appropriate health professionals mix compared to the national standards.

Furthermore, majorities (5) of facilities which were below standard with health professionals were located in rural area/community. This finding contradicts with the above facts that say there should be optimum professional mix of human resources for effective coverage and quality of intended services, and resembles a report of national statistics office of Philippines. This report showed that healthcare providers were heavily concentrated in urban and wealthy communities. Rural communities in greater need of healthcare have limited access to healthcare services. Although, the nationalization of the social healthcare insurance expanded the membership presence outside the urban areas, the challenge begins with promoting physical availability because in many areas no provider even exists to be accredited(24).

6.2 Basic infrastructural amenities

The quality of the health services available to the insured population is critical to the success of health insurance systems. Meanwhile the availability of basic infrastructural amenities; power, improved water source, room with privacy, adequate sanitation facilities, communication equipment, access to computer, internet and emergency transportation is crucial for providing

quality services that met minimum standards. But this study showed different phenomenon in different facilities. Only 1 in 20 facilities fulfilled the criteria and over 60% of facilities had below 75% of 8 (below 6 of 8) of basic infrastructural amenities, fixed line telephone, computer, electric source, water source at less than 500 meters from the facility and consultation rooms with auditory and visual privacy. The areas where the facilities fell short were regarding the presence of internet and emergency transport stationed at the facilities, which were 1 in 10 and 1 in 2, respectively. In contrast to this a study done for assessment of health facility readiness to provide family planning services in Ghana in 2007 showed most of the 136 facilities met the criteria for infrastructure (90%). The difference might be due to increased infrastructural amenity standard selected for analysis and weak health system of current study area(28).

Power supply is the back bone of health facilities infrastructural amenity, i.e. many diagnostic services and medical equipment consume electric power for operation. Moreover, it is used as a source of light. In this study, all the facilities surveyed had power supply from main electric sources however they encounter interruptions. But only one-third of facilities had secondary source of electricity, generator which of only one-half of facilities had fuel for its operation. These imply that since main power supply line had interruption, there should be secondary source which are ready for 24 hours a day. When these finding is compared with findings of systematic review of availability of electricity in health facilities of SSA, which was only 26% of facility have electricity(29), it is very high. This might be due to the current study was used primary data from small sample size.

Communication equipment such as telephone/mobile, computer and internet are important for every facility. For example to get timely information, record keeping, reporting and other communication services. For this reasons, many activities were under taken by governments and non-governmental organizations. In contrast to this current study showed that only six in ten of facilities had fixed line telephone, all had computers but only one in ten of facilities had internet.

Moreover, water supply should be available for facilities to provide quality services. All of facilities surveyed had water sources at a distance of less than 500 meters from the facilities even though it was from different sources, that was one-fourth got from well and three-fourth got from

pipe. This finding is higher than water supply of other African regions health facilities, which was only 58% has an improved water source on-site or nearby. This report represented 54 countries (27).

Emergency transportation is also important to save life in cases of emergency by transporting to health facilities. In contrast to this less than one half of facilities surveyed had emergency transport/ambulances stationed at the facilities. One-fourth of facilities had ambulances stationed at wereda levels.

Patient privacy and enough sanitation/latrines facilities are needed for patient safety and satisfaction. To avail this government did different activities. As a result of this in this survey over three-fourth of facilities surveyed had consultation rooms with visual and auditory privacy. Moreover, more than one-half of facilities had enough latrine facility which was mainly VIP latrines. This is lower than WHO report of African regions which was stated that 81% of facilities have improved sanitation facilities/latrines(27).

6.3 Basic equipment

Even though all basic equipment; blood pressure apparatus, stethoscope, adult scale, infant and child scale, thermometer, measuring tape, oxygen cylinder, oxygen concentrator and intravenous kits should be available in all facilities to provide minimum standard quality services, only about 1 in 20 of health facility have all (9) basic equipment. A national report showed that, in Uganda less than 25% of facilities had all essential equipment and supplies for basic antenatal care(30). This is much higher than the current finding which might be due to increased number of basic equipment set as standards in current study.

The importance of basic equipment is broad. For example to prescribe drugs weight of the client should be measured, to diagnose different diseases vital signs should be taken. Moreover, they are important in cases of emergencies. Similar to this concerns this study showed all surveyed facilities had adult weighing scale, child and infant weighing scale, measuring tape and intravenous kits. In contrast to the above concerns some facilities lacked different basic equipment described above. For example thermometer was available in only one-half of facility; blood pressure measuring apparatus was not available in one-fourth of facilities. Moreover only

one in ten of facility had oxygen concentrator and one in seven of facility had functional oxygen cylinder. Majority 61.9% of facilities had non functional oxygen cylinders. In general these imply that equipment which were not available should be procured; and which were not functional should be maintained and prepared for services.

6.4 Infection prevention/standard precaution supplies

Infection prevention supplies and standard precautions should be available in all facilities to protect staffs, patients and other visitors from infection, while providing services. These could be mainly by processing equipment before reusing, by safely disposing wastes, by using personal protective materials and hand washing before and after every procedure. So for doing so at least sterilization equipment, safe disposal of sharps and infectious wastes, sharps box, waste receptacle, disposable syringes, disinfectant, hand-washing soap and water or alcohol based hand rub, latex gloves, masks, gowns, eye protection, and IP guidelines should be available in every facility. However, this study showed different findings. For example more than half of surveyed facilities have below 75% of all (13) selected items/supplies.

Even though equipment processing and sterilization should be undertaken before reusing any equipment, only three-fourth of facilities had functional electric autoclave, whereas, it is not functional in one-fourth of facilities. Moreover non electric autoclave was only present in one-fourth of facilities. On the other hand, hand washing with soap before and after any procedure is crucial for infection prevention. However, only one- half of facilities had clean running water with soap for hand washing. This is lower than WHO report of African regions health facilities which was 65%(27). But alcohol based hand rub was available in more than three- fourth of facilities.

Moreover to prevent infection the role of personal protective equipment such as latex gloves, eye goggles and medical masks are crucial. Similar to this fact all surveyed facilities had latex gloves. In contrast to this eye goggle was only available in one-fourth of facilities surveyed and nearly six in ten of facilities had medical masks. Effective waste disposal/management system has also important effect for infection prevention. To do so all facilities surveyed had safety box/sharp container and medical waste container. But only 4 (19%) of these facilities incinerate sharp wastes, while the rest uses open field burning. These finding implied construction of more

incinerators. As a cross-sectional study done in Ethiopia, west Gojjam zone to estimate waste generation rate and evaluate its management system in ten public health centers showed; four out of ten health centers used local type of incinerators, while others used open burning for the final handling of sharp wastes. Operational guidelines/IP were not found in all assessed health centers(32). In contrast to this majority 71.6% of facility had IP guidelines in the current findings. This difference is might be due to decreased sample size in current study.

6.5 Laboratory services

The availability of adequate laboratory services is important to diagnose different communicable and non-communicable diseases. However this study showed discrepancy with this fact. For example the availability of thirteen selected laboratory services; (hemoglobin, blood glucose, malaria diagnostic capacity, urine dipstick- protein, urine dipstick- glucose, HIV diagnostic capacity, DBS collection, TB microscopy, syphilis RDT, general microscopy, urine pregnancy test, ALT and creatinine), were found to be below 75% in more than 90% of facilities surveyed. This finding contradicts with the above facts.

Furthermore this study showed laboratory services which are used for diagnosis of non-communicable diseases were less available than laboratory services for diagnosis of communicable diseases. These conditions imply that communicable diseases were got more focus than non-communicable disease although the prevalence of non-communicable diseases are rising.

6.6 Essential medicines

This survey in which 21 public health facilities were participated, and 14 essential medicines (amitriptyline 25mg tablet, amoxicillin 500mg capsules, atenolol, captopril, ceftriazone, ciprofloxacin, co-trimoxazole, diazepam, diclofenac, glibenclamide, omeprazole, paracetamol, hydralazine 25mg , salbutamol) availability was assessed. Accordingly it showed that more than one-third of facilities surveyed had below 75% of 14 selected essential medicines, and less than two-third of surveyed facilities had above 75% of selected essential medicines. This finding differs with the WHO recommendation which said all health facilities should have at least those 14 selected essential medicines(43).

Moreover similar to availability of laboratory services availability discussed above, the availability of essential medicines for treatment of non-communicable diseases were less available than essential medicines for treatment of communicable diseases. This implies that more concerns were given to communicable diseases.

Furthermore the findings of this study different from the findings of different studies and MoH reports. For example a survey done to assess the availability of 32 essential medicines by taking representative samples from four different countries showed the availability of these essential medicines were 7.5% in public facilities of two countries and 30% and 28% in the other two countries(34). Similarly MoH report from Uganda showed only 26% of availability which is again below the current findings(35). On the other hand, a study done to assess the availability of essential medicines in public pharmacies in Sudan by using WHO operational packages and 30 types of essential medicines availability were found to be 80.6%(36). This finding was above the current finding. These contradictions could be due to weak health system of study area.

6.7 Facility governance and co-ordination structures

In this study the availability of facility governing board and management committee that have regular meeting, reporting system and health insurance schemes coordination were assessed. According to Ethiopian health care financing reform every public health facility should be governed by higher officials called health facility governing board. Moreover this reform stated that there should be management committee that has regular meeting for discussing and solving facility issues. Accordingly majority (85%) and more than 95% of facilities participated in this survey had governing board and management committee that that have regular meeting respectively.

Concerning health insurance schemes coordination and information disseminations this study showed that more than seven in ten of facilities surveyed have informed about implementation of health insurances. This similar to health insurance implementation problem occurred in Vet-nam. On the other hand, only one facility had unit/department to coordinate the schemes at facility level. The finding of this study contradicts with health insurance schemes coordination of vet-nam, in which all the facilities have unit/department to prevent the occurrence of problems such as preferring fee for services and supplier-induced demands (25).

Limitation of the study

Limitation of this study is that due to the absence of international standards to assess facility readiness, standards have been chosen to assess facility readiness without a strong base of support from existing literature. By lowering or increasing these standards/criteria, the results of this study can be greatly altered.

Chapter seven: Conclusions and Recommendations

7.1 Conclusions

According to the findings of this study it is possible to conclude that the degree of readiness of the health facilities to bear the responsibility of providing services to all who will enroll in the insurance schemes is very low.

The availability of health professionals is far below the minimum standards.

Other issues that can be concluded from this study are that availability of basic infrastructural amenities was very low. Basic equipment, IP/ standard precaution supplies, and essential medicines availability/readiness was low. Laboratory services availability was extremely low; although minimum standard was used for assessment and analysis. Moreover majority of equipment which observed available are not functional.

Even though the majority of facilities have better governance structures, the rate of availability of information about health insurance implementation is very low. Furthermore no facility has unit/department to coordinate the implementation of the schemes in the facilities.

7.2 Recommendations

Given what we have reported so far, the concerned body must develop appropriate intervention strategies to improve degree of readiness of public health facilities for effective implementation of health insurances schemes. Hence the following recommendations are forwarded for action:

1. To Oromia regional Health bureau

- ✓ Should recruit adequate number and mix health professional.
- ✓ Should allocate enough budgets to hospitals for purchasing essential medicines, IP supplies, laboratory equipment and supplies.
- ✓ Should purchase and distribute adequate basic equipment.
- ✓ Should facilitate mechanisms to maintain medical equipment and materials which are not functional.

2. To Jimma Zonal Health Department

- ✓ Should work as a representative of ORHB for recruiting of health professionals.
- ✓ Should distribute guidelines on health professionals' recruitment and retaining.
- ✓ Should maintain equipment and materials which are not functional.

3. To woreda administrations

- ✓ Should allocate enough budgets for health centers to buy medicines, supplies and equipment.
- ✓ Should participate in activities undertaken to avail health professionals.

4. To health facilities

- ✓ Should identify and report gaps of health professionals.
- ✓ Should identify equipment that need maintenance and report timely.
- ✓ Should purchase supplies, equipment and essential medicines.
- ✓ Should facilitate maintenance and renovation of infrastructural amenities.
- ✓ Should organize unit that coordinate implementation of health insurance schemes.

5. To other researchers

- ✓ More study should be undertaken to identify indicators that use to assess facility readiness, moreover the standards of these indicators should be identified.

Annexes

Annex one: References

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Annex Two: Instruments

FIND THE MANAGER, THE PERSON IN-CHARGE OF THE FACILITY, OR MOST SENIOR HEALTH WORKER RESPONSIBLE FOR OUTPATIENT SERVICES WHO IS PRESENT AT THE FACILITY. READ THE FOLLOWING GREETING:

Good day! My name is _____. We are here on behalf of Jimma University conducting assessment of health facilities to assist the government in knowing more about health services in Jimma Zone. Now I will read a statement explaining the study. Your facility was selected to participate in this study. We were asking you questions about various resources to provide health services. Information about your facility may be used by organizations supporting services in your facility, and researchers, for planning service improvement or for conducting further studies of health services. Neither your name nor that of any other health worker respondents participating in this study was included in the dataset or in any report; however, there is a small chance that any of these respondents may be identified later. Still, we are asking for your help to ensure that the information we collect is accurate. You may refuse to answer any question or choose to stop the interview at any time. However, we hope you will answer the questions, which will benefit the services you provide and the nation. If there are questions for which someone else is the most appropriate person to provide the information, we would appreciate if you introduce us to that person to help us collect that information. At this point, do you have any questions about the study? Do I have your agreement to proceed?

Interviewer's signature to ensure consent is obtained _____

Part I Facility Identification

- 101 Facility code_____
- 102 Facility type: Hospital/Health center,
- 103 Woreda, _____
- 104 Urban/Rural.
- 105 Name of health facility_____.
- 106 Number of catchment populations_____.

Part II Staffing

I have a few questions on staffing for this facility. Please tell me how many staff with each of the following qualifications is currently employed to this facility, and how many of them are required to your facility.

S.NO	Questions	Response/re sult	stand ard	skip
201	Gps/ medical doctors			
202	Specialist doctors all types			
203	Health officers/BSc Nurse			
204	Nurses all types			
205	Midwifery professionals			
206	Laboratory tech all types			
207	Pharmacy tech all types			
208	Anesthetists all types			
209	Health Information technicians			
210	X-ray technicians all types			
211	IESO(integrated emergency surgery officer)			
212	Ophthalmic nurse			
213	Psychiatric nurse			
214	Environmental Health			

215	Dental professional			
216	Physiotherapist			

Part III Basic Amenities - Communication ICT

301	Does this facility have a functioning land line telephone that is available to call outside at all times client services are offered?	1. Yes 2. No	
302	Does this facility have a functioning cellular telephone or a private cellular phone that is supported by the facility?	1. Yes 2. No	
303	Does a facility have functioning computer?	1. Yes 2. No	If yes how many_____
304	Is email or an internet today in the facility?	1. Yes 2. No	

Ambulance/ Transport for Emergency

305	Does this facility have a functional ambulance or other vehicle for emergency transportation for clients that is stationed at this facility or operates from this facility?	1. Yes 2. No	
306	Does this facility have access to an ambulance or other vehicle for emergency transport for clients that is stationed at another facility or that operates from another facility in near proximity?	1. Yes 2. No	
307	Is fuel for the ambulance or other emergency vehicle available today?	1. Yes 2. No 98. don't know	

Power Supply

308	Does your facility have electricity from any source (e.g. electricity grid, generator, solar, or other) including for stand-alone devices (EPI cold chain)?	1. Yes 2. No	
309	What is the electricity used for in the facility?	1. Only stand alone electrical medical devices (cold-chain,	

		<ul style="list-style-type: none"> suction machine, etc 2. Electric lightening(excluding communication) 3. Electric lightening and communication with 1 and 4. All electrical need of facility 	
310	What is electricity source for this facility?	<ul style="list-style-type: none"> 1. Central supply 2. Generator 3. Solar system 96 Other specify 	
311	Other than the main or primary source, does the facility have a secondary or backup source of electricity? IF YES: What is the secondary source of electricity?	<ul style="list-style-type: none"> 1. No secondary source 2. Fuel operated generator 3. Solar system 96 Other specify 	
312	During the past 7 days, was electricity available at all times from the main or any backup source when the facility was open for services?	<ul style="list-style-type: none"> 1. Always available no interruptions 2. Often available (interruption less than 2 hours per day) 3. Sometimes available(interruption more than 2 hours per day) 	
313	Is the generator functional?	<ul style="list-style-type: none"> 1. Yes 2. No 96 I don't know 	
314	Is there a fuel for generator?	<ul style="list-style-type: none"> 1. Yes 2. No 96 I don't know 	
315	If the above option is solar is it functional?	<ul style="list-style-type: none"> 1. Yes 2. No 	

		96 I don't know	
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Water supply and latrine

316	On average, how many hours per day is this facility open?	1. 4 hours or less 2. 5-8 hours 3. 8-16 hours 4. 24 hours	
316	What is the most commonly used source of water for the facility at this time?	1. Well 2. Pipe 3. River 4. Rain water	
316	Is a water outlet from this source available within 500 meters of the facility?	1. Yes 2. No	
319	Is there a room with auditory and visual privacy available for patient consultations?	1. Yes 2. No	
320	Is there a toilet (latrine) in functioning condition that is available for general outpatient and inpatient client use?	1. Yes 2. No	If no skip —
321	What types of toilet or latrine facilities are available? Select the most modern.	1. Flush/pour flush to piped sewer system or septic tank 2. pit latrine (ventilated improved pit (VIP))	

Part IV Basic Medical equipment and supply

Basic equipment

Please tell me if the following basic equipment and supplies used in the provision of client services are available and functional in this facility today.		Available(1)		Functioning(2)		I don't know(96)
		Yes(1)	No(2)	Yes(1)	No(2)	
401	Adult weighing scale					
402	Child and infant weighing scale					
403	Measuring tape/board					
404	stethoscope					
405	thermometer					
406	Blood pressure measuring apparatus					
407	Oxygen concentrator					
408	Oxygen cylinder					
409	Intravenous infusion kits					

Part V Infection Control

501	Does this facility have any guidelines on standard precautions for infection prevention?	1. Yes 2. No
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PROCESSING OF EQUIPMENT FOR REUSE

Please tell me if the following items used for processing of equipment for reuse are available and functional in the facility today.		Available(1)		Functioning(2)		I don't know(96)
		Yes(1)	No(2)	Yes(1)	No(2)	
502	Electric autoclave (pressure & wet heat)					
503	Non electric autoclave					
504	Electric dry heat sterilizer					
505	Electric boiler or steamer (no pressure)					
506	Non-electric pot with cover for boiling/steam					
507	Heat source for non-electric equipment					

Healthcare waste management

508	How does this facility <i>finally</i> dispose of sharps waste (e.g., filled sharps boxes)?	1. Burn incinerator 2. Open burning 3. Damp without burning 4. Disposed off site	Observe waste disposal sites
509	How does this facility <i>finally</i> dispose of medical waste other than sharps boxes?	1. Burn incinerator 2. Open burning 3. Damp without burning 4. Disposed off site	
Please tell me if the following resources/supplies used for infection control are available in the general outpatient area of this facility today.		Available(1)	Not available(2)
510	Clean running water (piped, bucket with tap, or pour pitcher)		
511	Hand-washing soap/liquid soap		
512	Alcohol based hand rub		
513	Disposable latex gloves		
514	Waste receptacle (pedal bin) with lid and plastic bin liner		
515	Sharps container ("safety box")		
516	Environmental disinfectant (e.g., chlorine, alcohol)		
517	Disposable syringes with disposable needles		
518	Auto-disable syringes		
519	Eye goggle		
520	Medical mask		

Part VI Diagnostic services

601	Does this facility offer any of the following tests/ Investigations/ diagnosis	Yes(1)	No(2)	Don't conduct(98)
602	Parasitology:			
	Stool microscopy			
	Blood film for malaria and other hemoparasite/ malaria rapid test			
603	Urine and body fluid analysis:			
	Urinalysis			
	CSF analysis			
	HCG test			
604	Hematology:			
	Hemoglobin/ Hematocrit			
	Total WBC count			
	Differential white cell count			
	Peripheral blood film			
	ESR			
605	Serology:			
	ASO/RF/RPR/VDRL			
	Blood Group and Rh			
606	Bacteriology:			
	Gram stain			
	Ziehl Neelson stain			
	Indian Ink			
607	Chemistry			
	Blood glucose			
608	Mycology:			
	KOH test			

609	Liver function tests			
	ALKP			
	AST			
	ALT			
	GGT			
	Total bilirubine			
	Direct bilirubine			
	Total protein			
	Albumin			
610	Renal function tests			
	Urea			
	Creatinine			
	Uric acid			
611	Urine and body fluid analysis:			
	Ascitic fluid			
	Pleural fluid			
612	Hematology:			
	Platelet count			
613	Serology:			
	H.Pylori			
	HBs Ag			
	HCV			
	ASO			
	HIV test			
	DBS			
	Salmonella Typhi-O			
	Salmonella Typhi-H			
	Proteus-OX19			
	Blood Group: Anti-A, Anti-B, Anti-D, Compatibility testing and Crossmatch			

614	HIV antibody testing by ELISA			
615	CD4 count for HIV patients			
616	Does this facility perform diagnostic x-rays, ultrasound, or computerized tomography?			
617	Does this facility perform diagnostic ultrasound?			
618	Does this facility perform diagnostic tomography?			

I would like to know if the following general equipment items are available and functional		Available and functional(1)	Available and not functioning(2)	Not available(3)
619	microscope			
620	Glass slides and cover slips			
621	Refrigerator			
622	Glucometer			
623	Glucometer test strips (with valid expiration date)			
624	Colorimeter or haemoglobinometer			
625	HemoCue			
626	Wright-Giemsa stain or other acceptable malaria parasite stain (e.g. Field Stain A and B)			
627	Centrifuge			
628	White blood counting chamber			
629	ELISA washer			
630	ELISA reader			
631	Incubator			
632	Specific assay kit- HIV antibody testing by ELISA			
633	Biochemistry analyzer			
634	CD4 machine			
635	Specific assay kit(s)- liver function test			

636	Specific assay kit(s)- renal function test			
637	Specific assay kit- serum electrolyte test			
638	Specific assay kit- syphilis serology			
639	Gram stains			
640	Specific assay kit- cryptococcal antigen test			
641	Vortex mixer			
642	Pipettes			
643	Biochemistry analyzer			
644	x-ray			
645	ultrasound			
646	ECG			

Part VII Essential Medicines availability

The following section asks about the availability of essential Medicines for treatment of non exempted services that provided to the clients in this facility.

Does the facility have the following essential drugs for management different health problems?		Available(1)	Not available (2)	If available observe the drugs.
701	Amitriptyline 25 mg capsule/tablet			
702	Amoxicillin 500 mg capsule/tablet			
703	Atenolol 50 mg capsule/tablet			
704	Captopril 25 mg capsule/tablet			
705	Ceftriaxone 1 g/vial injection			
706	Ciprofloxacin 500 mg capsule/tablet			
707	Co-trimoxazole 8+40 mg/ml suspension			
708	Diazepam 5 mg capsule/tablet			
709	Diclofenac 50 mg capsule/tablet			
710	Glibenclamide 5 mg capsule/tablet			
711	Omeprazole 20 mg capsule/tablet			
712	Paracetamol 24 mg/ml suspension			
713	Salbutamol 0.1 mg/dose inhaler			
714	Hydralazine 25mg 20 mg capsule/tablet			

Part VX Governance, Reporting system and health insurance coordinating unit

The following section asks about availability of health insurance coordinating unit and condition of reporting and management system in the facilities.

801	Does the facility have governing board?	1. Yes 2. No	If no skip___
802	Does the board have a regular meeting?	1. Yes 2. No	If yes observe the last month agenda.
803	Does the facility have management committee?	1. Yes 2. No	If no skip___
804	Does the committee have regular meeting?	1. Yes 2. No	If yes observe the agenda of last month.
805	Does the facility regularly report activities to the concerned body?	1. Yes 2. No	If yes observe the copy of the last month.
806	Does the facility informed about health insurance implementations?	1. Yes 2. No	If no skip___
807	Is there specific unit to coordinate the schemes in the facility?	1. Yes 2. No	If yes contact the unit and observe.