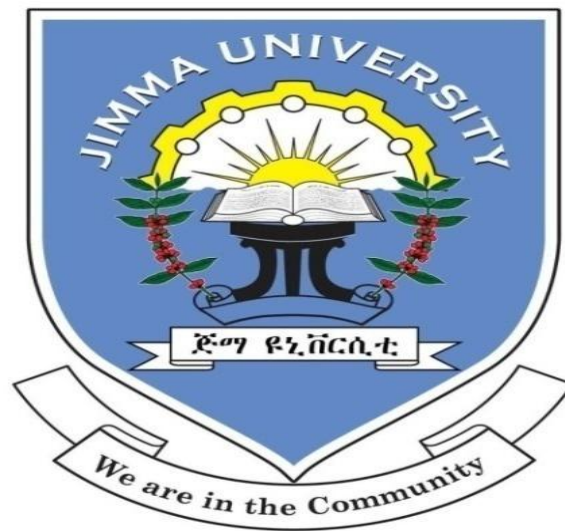# READNESS OF PUBLIC HEALTH INSTITUTIONS ON IMPLEMENTATION OF HUMAN RESOURCE INFORMATION SYSTEM (HRIS) AND ASSOCIATED FACTORS IN HORRO GUDURU WOLLEGA ZONE, OROMIYA REGIONAL STATE OF NORTH WEST ETHIOPIA, 2018 GC.

BY: MENGISTU LEMA (BSc)

A RESEARCH PAPER TO BE SUBMITTED TO JIMMA UNIVERSITY, COLLEGE OF PUBLIC HEALTH DEPARTMENT OF HEALTH ECONOMICS, MANAGEMENT AND POLICY IN PARTIAL FULFILLMENT FOR THE REQUIREMENT FOR MASTERS OF SCIENCE IN FIELD OF HUMAN RESOURCE MANAGEMENT FOR HEALTH (HRMH).

NOVEMBER, 2018

JIMMA, ETHIOPIA

READINESS OF PUBLIC HEALTH INSTITUTIONS ON IMPLEMENTATION OF HUMAN RESOURCE INFORMATION SYSTEM (HRIS) AND ASSOCIATED FACTORS IN HORRO GUDURU WOLLEGA ZONE, OROMIYA REGIONAL STATE OF NORTH WEST ETHIOPIA, 2018 GC.

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DECLARATION

I, the undersigned, declare that this thesis is my original work, has not been presented for a degree in this or any other university and that all sources of materials used for the thesis have been fully acknowledged.

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Abstract

Background: Human Resource Information System (HRIS) is one of the major modern Human Resource tools. The aims of this study were to identify the gap of critical factors that led to the readiness on implementation of Human Resource Information System (HRIS) in public health institutions of Horro Guduru Wollega Zone,Oromiya Regional State of North West Ethiopia.

Objective: to assess readiness on implementation of human resource information system and associated factors in the study area, 2018 GC.

Method: This study was conducted in all 49 public Health centers and 12 District health offices from August 13 – September 02, 2018GC. The study population consist all workers of woreda office and Health centers who have relation with Human Resource Information system. A structured questionnaire was used to collect the data. The questionnaire includes items on socio-demographic characteristics and questions used to assess Knowledge, Skill and Attitude towards the human Resource information system. The data was entered Epi data version 3.1software and analyzed using SPSS version 20 statistical packages. P-values less than 0.05 and/or odds ratios with 95% confidence interval were computed to identify the factors associated with readiness of HRIS implementation.

Results: Out of 232 sampled, 227 Health workers of all woreda Health office and Public Health centers those who have responsibility on HRIS implementation were participated in the study and the overall response rate was 97.8%. Telephone access AOR = 3.75, 95%CI (1.02,13.88), computer to use AOR = 4.04, 95%CI (1.13, 14.44), basic computer skill AOR = 1.48, 95%CI (1.06, 5.34), training AOR = 4.17, 95%CI (1.05, 13.6), internet access AOR = 1.87, 95%CI (1.37, 9.04), and Network access AOR = 1.34, 95%CI (1.04, 3.47), were independently associated with readiness on HRIS implementation and overall readiness to implement HRIS in public Health Institution of the Zone shows that 14%.

Conclusion and recommendation: Generally, the readiness of HRIS implementation was low. The Federal Ministry of Health (FMOH) and Oromiya Regional Health bureau should give attention to allocate budget for training and avail desk top computer. The Health centers should avail telephone access, internet access and Network access for the facility.

Key words: Human Resource Information System, Public Health institution, Readiness and Horro Guduru Wollega.

Acknowledgements

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Abbreviations /Acronyms

CBE   Community Based Education

e-HRM   electronic human resource management

FMOH   Federal Ministry of Health

HCs   Health Centers

HEP   Health Extension program

HIT   Health Information Technicians

HPs   Health posts

HR   Human Resource

HRH   Human Resource for Health

HRIS   Human Resource Information System

HRM   Human Resource Management

ICT   Information Communication Technology

IS   Information System

IT   Information Technology

ISDN   integrated services digital network

LAN technology   Local Area Network technology

MDGs   Millennium Development Goals

PASDEP   Plan for Accelerated and Sustainable Development to End Poverty

SHRM   Strategic HR Management

VHRM   virtual human resource management

WHO   World Health Organization

CHAPTER ONE: INTRODUCTION

1.1.Background

Globally, Human Resource Information System (HRIS) is started functional areas of the organization, designed to support the planning, administration and decision. However, several authors argued that the definition of DeSanctis narrows the scope to the HR position and neglects the adoption and deployment of the information systems in the corporate organization mentioned although HRIS includes hardware and software; it also includes people, forms, policies and procedures and data (1).

Human Resource Information System (HRIS) is comprises of databases, computer applications, hardware and software necessary to collect, record, store, manage, deliver, present and manipulate the data for human resources function. It is a systematic way of storing data and information for each individual employee to aid planning, decision making, and submitting of returns and reports to the external agencies. Human Resource Information System (HRIS) can be briefly defined as integrated systems used to gather, store and analyze information regarding an organization's human resources. Almost all HR processes can be done by using HRIS on a daily basis which can benefit the organization in several ways (2).

Readiness on HRIS implementation benefits an organization in their HR processes by increasing the efficiency and effectiveness and provides self-service HR (i.e. computer based training, online recruitment). For instance, as an implication of HRIS the automation of tasks and process reduce the use of resources (financial, material and human). Reduction of HR costs; less usage of paper as well as to assist managers in HR process are some of the examples of reduction of resource usages (2).

Human Resource Information System (HRIS) is one of the major modern Human Resource tools. HRIS is an efficient and well-organized catalyst for connecting Human Resource (HR) management and Information Technology (3). It is a database system that is developed to provide the necessary support to human resource management (HRM) in terms of collecting and analyzing Human Resource data, decision-making, and reporting of Human Resource information(4,5). It is increasingly becoming an integral part of national Human Resource for health performance assessment and a valuable tool for health systems strengthening (6, 7).

Readiness on (HRIS) implementation was support planning, administration, decision-making, and control. The system enhances applications such as employee selection and placement, payroll, pension and reimbursement management, ingestion and training projections, career-pathing, equity monitoring, and productivity evaluation. These information systems increase administrative efficiency and produce reports capable of improving decision-making (1).

In Ethiopia, The Federal Ministry of Health, start the implementation of HRIS supported by its technical partners, is involved in a number of Information Communication Technology (ICT) projects and services. Human Resource Information System (HRIS) is a link between Human Resource activities and processes with the information technology field. The basic focus of HRIS is to provide health facility managers with appropriate knowledge, information and tools to assist them in the management and development of their staff for effective delivery of service. (Concept notes and status of ICT programmes implementation (2, 8).

Typically, a HRIS includes data for personnel, payroll, benefit system, standardized reporting and ad hoc reporting. Most of the time the reporting is web based and can have different type of beneficiaries (Human Resources Personnel's, Training Institutions, Partners and other agencies that either use or produce HR data). The data and information generated from the HRIS can eventually be used for budget management, people management, learning development, workforce planning and others important purposes. The common challenge in reaching their goal is on understanding functional/features offered by the existing paper-based systems, as well as to determine how the process can be automated to offer a better system. (9).

However, the implementation status of HRIS was not known in our country, due to that this study was conducted to identify the gap of critical factors that led to the readiness on implementation of Human Resource Information System (HRIS) in the context of public health institution of Horro Guduru Wollega Zone,Oromiya Regional State of North West Ethiopia.

1.2.Statement of the Problem

WHO (World Health Organization) technical meeting to strengthen health workforce information systems through provide training in low-income countries, it was reported that the Human Resource Information System (HRIS) of the low-income countries tend to be defective with poor relationship to other information sources. Poor management of HR for health data, low attention of HRIS for health policy, and incompetency of employees in handling computerized information systems were the weaknesses reported from low-income countries (10, 11).

To achieve organizational goal, traditional human resource management (HRM) processes have been shifted to strategic HRM through a significant contribution of Information Technology (IT). Some organizations are busy intensifying of HRIS, while other organizations have failed to realize its short-term and long-term benefits given the misperception about HRIS and lack of managerial foresightedness. Realizing the magnitude of HRIS applications, researchers explored a broad array of influential factors for adoption decision and implementation of HRIS among business organizations major amount of studies on HRIS have been focusing on developed countries, such as, the US, Canada, and Western Europe, while scarce in developing countries (12)

The readiness of HRIS implementation has positive impact on the performance of health institutions and other healthcare organizations (13-15). However, its implementation in many low-income countries has been challenging such as shortage of expertise, technical difficulties, and shortage of finance, lack of technically skilled HR, and top management support failures and dedication have lagged the implementation process in many low-income countries (16,17). In addition, deficient HR knowledge by system designers, lack of appliances for HR users, lack of competent HRIS employees, failure to work in teams with other departments, and failure of information technology support were challenging (12, 16, 18, and 19).

The global review of information systems on HR for health reported that Ethiopia is one of the WHO designated HRH crisis country (12, 20). In Ethiopia, HRIS mainly relies on paper-based system by which the personnel department had to manually collect data from applicants and employees in order to keep employees' information (21). Moreover, there is poor readiness on

HRIS implementation and no proper mechanism to manage data about the existing health work force (22, 23). The whole process of HR system is time-consuming, and the core HR processes are liable to data discrepancies due to lack of reliable information system in place (21, 23 and 9).

The Advanced HRIS is crucial and timely for the efficient management of HR system in Ethiopia (23, 24). Because of this, in the new Health Sector Growth and Transformation Plan, the Ethiopian FMoH has planned to implement HRIS in health institutions aiming to revolutionize HRH core processes and facilitate health system strengthening (23,25). However, the implementation faces challenges and factors that hinder a successful implementation (23, 9 and 26).

Readiness of HRIS implementation is influenced by the Environmental factors, Organizational factors and capacity relations of employees, availability of skilled human power, organizational structure, and technological factors (14, 27 and 28). Evidence from Tanzania suggested that strong involvement of higher officials, reliable technical support for the system users, provision of training, and close follow up were the key factors for implementation of HRIS (16). Lack of internet connection, insufficient infrastructure, and pre-conceived negative experience of system users are also cited as challenges of implementation (16, 26).

Studying on readiness of HRIS implementation is crucial to success or failure. As system change often causes change resistance, successful change needs to have a common understanding of the objectives among all stakeholders, users, and implementers who have direct relationship with the HRIS implementation (28).

Human Resource Information System (HRIS) is currently in a pilot implementation phase in the Federal Ministry of Health and Regional Health Bureaus of Ethiopia. The aims of this study were to identify the gap of critical factors that led to the readiness on implementation of Human Resource Information System (HRIS) in public health institutions. It is important to understand the HRIS software was launched since 2011 at Federal Ministry of Health and then at Regional Health Bureaus and Zonal Health Department   but still not implemented at woreda and facility level to know the gap of readiness of HRIS implementation (9). Due to that this study was conducted to identify the gap of critical factors that led to the readiness on implementation of (HRIS) and associated factors.

1.3.Significance of the study

Using the Human Resource Information System (HRIS), employees' organization-wide can communicate more effectively with management, obtain access to information for personal advancement such as job availability and other career opportunities, and check basic data to ensure their own rights. Employees' input was very important during HRIS implementation as they were the end users. Job aids for different users also were identifying during the Health system implementation.

I will expect from Horro Guduru Wollega Zone health department and Oromiya regional State Health Bureau readiness for implement the Human resource information System (HRIS) at the grass root facility level for good data documentation and quality of service will improve the total activity performance of health institution. Then, this study was contributed the input for policy makers and planners in the area of HR information. Additionally the research can be used as a base line for the future scholars or scientific community and the addressed result of this may it be a great chance for Horro Guduru Wollega Zone health department to use appropriately the finding during their planning.

CHAPTER TWO: LITERATURE REVIEW

Readiness of HRIS implementation is influenced by the Socio demographic characteristics of employees Educational status, work experience, profession, lack of skilled human power, and organizational structure of Communication, Top Management support, budget and technological factors (14, 27). Evidence from Tanzania suggested that strong involvement of higher officials, reliable technical support for the system users, personal capacity relations of Training, IT Capacities of Staff, basic computer skill provision of training, modules of HRIS, lack of information technology support, and close follow up were the key success factors for implementation of HRIS (16).

However, lack of supportive supervision, insufficient infrastructure absence of telephone access, non reliable internet and Network connection, and comfortable computer to use and pre-conceived negative experience of system users are also cited as challenges of implementation. The theoretical Framework and Literature Review of this chapter presents relevant literature review gathered in relation to the Human Resource Information Systems (HRIS) of public health institution in important element of current scenario. It covers areas on over views of HRIS, Functional Modules of HRIS, Essentialities of HRIS, and Challenges in Implementing HRIS, Traditional View of HRIS and Modern Views of HRIS (16, 26).

2.1. Over views of HRIS

There are significance regarding the HRIS execution and it varies from organization to organization. Some organizations use HRIS in order to reduce cost, some use to bring acceleration in communication, some may use the system to re-orient HR activities to enhance an increase the strategic decision of the department (29). Therefore, the HRIS application can minimize the HR related expense because automation in the HR process helps to reduce number of employees in the firms and facilitate the monitoring and controlling information. Moreover, it permits managers in accessing into relevant information which help them to analyze information, make faster decision as well as communicate with people based on the necessity (30).

In the HRIS implementation, Information Systems unit plays significant roles in assisting the computerization of the HR segment both in the planning and development stage. It is necessary to provide computer training for the employees related to the HR function in order to achieve HRIS effectiveness. It has been found that one of the major problems regarding HR

management is the lack of technical training for information management. Availability of technical experts is required for successful implementation of HRIS depends much on the accessibility of human resource (30).

A similar study conducted in HRIS development and implementation in Bangladesh is gone through from many problems. It is because the HR employees directorates finish through excel at program. So they don't gain any benefits derived from HRIS. In contrast Nagi stated that they have positive effects on HRIS learning materials. IT infrastructure plays a positive role in the adoption of HRIS successfully. It requires well configured computers and high powerful- stored databases which facilitates and gathers as well as stores data and provides suitable and appropriate information process (31). IT infrastructure is critical success factor perceiving business value of the firm (32). Compatibility has been defined as the degree in which innovation is professed steady along with the current values and past experience required likely adopters (33). It depends on the level of knowledge with the innovation and its associate process (34). HRIS is functioned as interdepartmental activities related to HR and these may be matched with sectors of adopters. Rogers' model suggested that compatibility includes two dimensions; one is adopter's values and another is adopter practices. Adopters values relate to the cognitive compatibility and adopters practices relate to the practical and operational activity and compatibility (35).On the other hand, besides top management support, financial capability of the firm is much more important. The reason behind it that the top management of the firm has agreed or shown interest in implementing HRIS in the firm but if they have no adequate money or investing capability there will be no fruitful outcomes. The ultimate goal of implementing HRIS in a firm is to achieve competitive advantage from the market so that competitors reside outside the boundary. The firms which have adopted already HRIS are in competitive position and they will get long term in the consequence of HRIS implementation(35).

Several empirical studies show on competitive pressure is considered as a powerful factor of both IT implementation and diffusion. In the meantime, since organizations are moving into a knowledge-based economy, the densities grow continually to reduce HR costs for the long term as well as to serve a strategic role in the organization. Organizational structure is to be narrated in facilitate or restrain the implementation. It can be divulged by some parameters like the level of centralization within the firm and the extent of employee specialization within the

firm as well as formalization of diverse activities inside the firm. In the above mentioned parameters the extent of employee specialization is considered a strong ingredient or criteria in the technology adoption especially HRIS adoption in an organization (36).

One of the important segments for successful implementation of HRIS is top management support. If they don't give their consent, the process of implementing HRIS will be failed. In reality, top level management show their disinterest on IS integration like HRIS. Top level management thinks that spending time and investing money seem to be worthless. Along with this concept, sometimes they desire to gain short term benefit which is not possible rather they need to consider long tern benefit (37). Scholars in organizational behavior said that there is positive relationship between organization's success and its culture. Successful firms have the ability and capacity to accept and adopt the technological innovation in their culture along with the management process (38). Corporate culture stands on the heart of the firm's organization innovation (39). Organizational culture needs to be considered as a crucial factor in the case of success and failure of the IS adoption (40).

2.2. Functional Modules of HRIS

HRIS functions have been established in order to enable the information system to take of procedures and policies which have used to manage firm's human capital and the procedure that are required to activate both the computer's hardware and software applications (1). Some crucial HRIS functions include: Integrating the HRIS Technologies, Bringing efficiency greater than before, Increasing effectiveness (41). IT-Enabled Processes need to be given priority because information technology affects HR practices (42). HRIS administration encompasses a distinct supporting task within HR department. It can undoubtedly be said that functional modules of HRIS are the life blood for the firm and the firms which have deployed the technology started getting benefit (42)

2.3.Essentialities of HRIS

Company can easily follow the workforce gaps, labor quantity and quality, plan for future workforce meeting the company HR requirements through the HR knowledge management systems (43). In the meantime, HRIS upkeeps the range of planning for labor forces with proper information and ensure the supply and demand planning. Along with these benefits, it is possible through the use of HRIS, to help staffing with equal employment opportunities, separate applicant qualifications,

develop training programs, correct budget planning as well as ensure employee-labor relationships (42).

2.4. Challenges in Implementing HRIS

They stated that major barriers indicate designers" insufficient HR knowledge processes and due to this lack of knowledge it is difficult for designers to provide proper solutions of the problems. A survey was conducted by the Institute of Management and Administration on the major obstacles in management of HRIS. The obstacles that they included in the survey questionnaire included: deficient staff, insufficient budget, shortage of IT support, poor time management, and need for collaborating with other departments. Firms can be enabled to adapt the new technology if they feel to have competitive advantage. Nevertheless, many organizations resist new technology implementation like HRIS, unless benefits were perceived (44). One of the reasons for reluctance in adoption and implementation of HRIS is the need of huge funds (45). Huge cost of instituting, and maintenance of a HRIS is said to be the major barrier in HRIS implementation. The infrastructure cost along with the software packages expense and the installation cost for the implementation of HRIS are also high. Additionally, to capitalize on all HR possibilities, provision of personal computers to workers and Internet connection are required. It was identified that the transitional costs from traditional HR to an HRIS is high (46).

2.5. Traditional View of HRIS

To supply information required for effective management of the organization i.e. for decision making relating to human resource. Human resource departments hold the record of the employees of the organization including personal history, skills and salary etc. The basic level of HRIS is used to help to manage employment relationships within the organization and employees. In previously Companies were used to tracking data on paper and spreadsheets and its take time to manage record properly and its time consuming too. Typical HRIS Record employee information, wage and salary data, review dates, benefits, education and training, attendance, performance data,/ appraisal results etc (47).

2.6. Modern Views of HRIS

Leading management thinker suggest that ,"it is not technology, but the art of human and human management." That is the continuing challenges for executive in the 21stcentury (48). Similarly, future economic and strategic advantages will rest with the organization that can most effectively attract, develop and retain a diverse group of the best and the brightest human talent in the Market place. The effective management of the human resource in the firm to gain a competitive advantage in the market place requires timely and accurate information on current employees and potential employees in the labor market. With the evaluation of computer technology ,meeting this information requirement has been greatly enhanced through the creation of HRIS. With technological advancements many companies have realized the need to implement more sophisticated computerized systems, like Human Resource Information Systems. By moving to HRIS, companies are able to keep more accurate and up-to-date records, allowing them to better prepare for future growth in their companies. A computerized HRIS is designed to monitor, control and influence the movement of people from the time they join the organization till the time they leave it. Human resource information systems are built to reduce the manual work of HR expertise (49).

The field of HRM can be characterized as having encountered frequent and numerous innovations in technology. Some of the terms include the human resource information system (HRIS), electronic human resource management (e-HRM) and virtual human resource management (VHRM) (44).

A HRIS is a system used to acquire, store, manipulate, analyze, retrieve, and distribute pertinent information about an organization's human resources and after reviewing the many definitions of HRIS, as a system used to acquire, store, manipulate, analyze, retrieve, and distribute information regarding an organization's human resources(50). It is combination of database, hardware and software that are used to store data in the database from all departments of the organization and produce the required information on demand to human resource personnel (51).

HRIS enables numerous benefits to all of the stakeholders of Public health institution. Readiness on implementation of HRIS is explicit on the healthcare service delivery chain. Generally, HRIS helps the top Management personnel in their strategic decision making process regarding recruitment, selection, placement, termination, training, development, and payroll. However, the

HRIS for health system management includes several subsystems for effective healthcare delivery (52).

A robust HRIS can help administrators and policy makers to quickly respond to HR related questions affecting healthcare service delivery. The relative advantage is the belief of certain benefits in terms of economic profitability, costs reduction, performance improvement by savings in time and effort or in other ways. So, readiness of HRIS implementation will help the health sector to manage this shortage of workforce efficiently and effectively (53).

Conceptual Framework

Personal capacity relations

- Training
- IT Capacities of Staff
- basic computer skill
- Involvement

Socio demographic factors

- Educational status
- work experience
- sex
- profession

Readiness on HRIS implementation

Organizational factors

- Communication
- Top Management support
- Budget

Environmental factors

- Support of ICT department
- Support of HR department
- Government Regulation and Support
- Infrastructure

Figure 1: Conceptual frame work of readiness on implementation of HRIS modification from PLOS ONE | DOI:10.1371/journal.pone.0160366 August 5, 2016.

CHAPTER THREE: OBJECTIVES

3.1.General Objective

To assess the readiness of public Health Institution on implementation of HRIS and associated factors in Horro Guduru Wallega Zone, Oromiya Regional State of North West Ethiopia .

3.2.Specific Objectives

1. To assess the readiness of HRIS status.

2. To identify factors influencing the readiness of health workers for implementation of HRIS.

CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study area and period

4.1.1. Study period

This study was conducted in all 49 public Health centers and 12 District health offices from August 13 – September 02, 2018GC.

4.1.2. Study area

Horro Guduru Wollega Zone which is located 316 km to the North West away from capital city of Addis Ababa. The Zone has 11 rural districts and 01 administrative town. There were 49 Health Centers and 183 health posts. There were a total of 1359 workers out of which 780 of them are Health professionals and 579 of them are supportive staff .Among these 808 and 551 are males and females respectively.

4.2. Study design

An institution-based cross-sectional study was conducted using both quantitative and qualitative method of data collection.

4.3. Population

4.3.1. Source population

For quantitative: The source population was all District office and Health centers in the zone.

For the qualitative: The source population was all individuals who are working at management position at the District Health office in the zone.

4.4. Study population

For quantitative: The study population consisted all District office and Health centers who have relation with Human Resource Information system were identified and included in the zone those are at the time of the study conducted to fulfill the inclusion criteria.

For the qualitative: The study population was all 12 key informants District Health office head not included in the quantitative part.

4.5. Inclusion and exclusion criteria

4.5.1. The inclusion criteria: - All District Health office and Health centres served more than six months at the time of the study.

4.5.2. The exclusion criteria: - those health centres that are newly started less than 6 months of working experience were excluded from the study.

4.6. Sampling size and procedure

4.6.1. Sampling size determination

Purposively selected all 12 District Health office and 49 Health centers to identify factors associated with readiness on implementation of HRIS. Those were all Health center director, coordinator, Human resource personnel and HIT technicians (4x49=196) directly relate with HRIS implementation and all district Human resource department and HIT technicians (3x12=36) also directly relate with HRIS implementation. Totally 232 sample size was selected.

4.6.2. Sampling procedure

The all District office and Health centers who have relation with Human Resource related Information system of 49 Health centres and 12 district offices were identified.

All District office and Health centers who have related with Human Resource Information system were stratified in twelve districts the sample size was distributed to the twelve districts proportionate to the size of their health centers.

Schematic presentation of sampling procedure

Horro Guduru Wollega zone Health Department

= all 12 Districts and

= all 49Health Centers

| A/dong oro district =7HC | Horro Distri ct = 3HC | Horro Buluk District =4HC | Amur u distric t = 5HC | J/Jarte district =6HC | J/Ganat i district =4HC | A/Co men distric t =4HC | Gudur u district =5HC | Chomen Guduru district =2HC | H/Gudur u district =4HC | J/Rare district =4HC | Shambu district =1HC |

| 31H Ws | 15H Ws | 19H Ws | 23H Ws | 27H Ws | 19H Ws | 19HWs | 23H Ws | 11H Ws | 19H Ws | 19H Ws | 7HWs |

232 HWs

Figure 2: Schematic presentation of sampling procedure of respondents directly related with readiness on implementation of HRIS and associated factors in Horro Guduru Wallega Zone, North West of Oromiya Regional State, 2018.

4.7. Study variables

4.7.1. Dependant variables

- Readiness on Implementation of human resource information system.

4.7.2. Independent variables

- Socio demographic: educational status, work experience, profession.

- Infrastructure: availability of telephone access, availability of internet access, availability of Network access, Modules of HRIS, availability of information technology support and comfortable computer to use.

- Personal capacity relations**:** Training, IT Capacities of Staff, basic computer skill.

- Organizational factors: Communication, Top Management support, budget.

4.8. Operational definitions

Human Resource Information System (HRIS): is a form integration between human resource management (HRM) and Information Technology It merges HRM as a discipline and in particular basic HR activities and processes with the information technology.

Information System is a means of updating human resource information that we keep track of all our employees and information about them which is usually done in a database of the department, job title, grade, salary, worker history, position history, supervisor, training completed, special qualifications, ethnicity and date of birth of health information.

Health Workers: - are workers in public health that directly related with the readiness on implementation of human resource information system in the public health institutions.

Management position; - individuals who are at District health office and Health facilities to implement the human resource information system in public health institutions.

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4.9. Data collection tool

The questionnaire was adapted from Management Science for Health HRIS assessment tool; questions that could address the objectives of the study were gathered and adapted. The questions and statements are arranged in to major sections according to what specific issue they address. The data was collected by using a self-administered questionnaire consists of both open ended and closed ended questions. Liker scale 5 point rating scale is used to assess the employee Knowledge, Skill and attitude towards the human Resource information system. .

4.10. Data collection method

Data were collected from formal employees of health departments by using self-administered questionnaires. In-depth interview question were collected qualitative data from key informants of Woreda health office head. Finally, an observation checklist was used to observe HR infrastructure such as availability of telephone access, internet access, Network access, Modules of HRIS and information technology support comfortable, electric power availability, separate HR sections for HR core processes, availability of computer and its accessories, and necessary office setups.

4.11. Data quality management

One day training was given to 12 data collectors of Bsc holders and 2 supervisors. Close supervision was carried out during data collection process to ensure the completeness and consistency of the gathered information and errors for example missing values and incomplete questionnaire found during the process were checked.

The self-administered questionnaire for collecting the quantitative data was first prepared in English, translated to Afan Oromo. Data was collected using local language "Afan Oromo" to mitigate communication barrier. The entire data collection process was supervised by two supervisors.

4.12. Data analysis

After the completion of data collection, data were checked, and entered in to Epi data version 3.1software and analyzed by using SPSS version 20 statistical packages. Descriptive statistics like percentages, frequencies, cross tabulations were calculated by using P-value less than 0.05 and/or odds ratios with 95% confidence interval were computed to identify the factors associated with

readiness of HRIS implementation. In-depth interviews and observation checklists were used to collect data to triangulate with quantitative data.

4.13. Ethical consideration

Ethical clearance was obtained from Institutional Review Board of Jimma University institute of Public health. By explaining objectives of the study and its significance, relevant permission was obtained from the responsible bodies of the health office and administrations of regional, Zonal, woreda and health facility. At individual level after explaining the purpose of the study verbal consent of the study participant were performed.

4.14. Dissemination plan

The results of the study will be presented to Jimma University, Department of Health Economics, Management and Policy, and Communicated to the Regional Health Bureaus and Zonal Health Office. Besides, organizations working in this area such as, Johns Hopkins Program for International Education in Gynecology and Obstetrics (JHIPEGO), United States Agency for International Development (USAID) and other relevant organizations were informed to use the findings for modification of HRIS delivery strategies. Attempts will be made to present the results on scientific conferences and to publish the results of the study on local or international journal.

CHAPTER FIVE: RESULTS

5.1. Socio-demographic characteristics of the study

Out of 232 samples selected, 227 Health workers were participated in the study, and the overall response rate was 97.8%. The respondents were from 61 public health institution. Those of 49 public health centers and 12 District health offices. Of the total study respondents, 56 (24.7%) were females. Less than half 92 (40.5%) of them had first degree and above. Among the Health workers, their work experience, 40 (6.2%) had six month to <1 years of work experience. A total of 12 key informants participated in the in-depth interview of District Health office head (Table 1).

Table 1 Socio-demographic characteristics of Health Workers in Public Health Institution of Horro Guduru Wollega Zone, Oromiya Regional state of North West Ethiopia.(N= 227)

S.No	Variables	Frequency	Percent
1	Sex of the participant		
	Male	171	75.3
	Female	56	24.7
2	Educational status of the participant		
	College diploma and below	135	59.5
	First degree and above	92	40.5
3	Profession of participant		
	Health officer	35	15.4
	Nurse (Bsc or Diploma)	81	35.7
	Midwife (Bsc or Diploma)	5	2.2
	Laboratory (Bsc or Diploma)	7	3.1
	Pharmacist/Druggist	4	1.8
	Environmental Health (Bsc or Diploma)	12	5.3
	Others	83	36.6
4	work exprience of the participants		
	six month to <1 years	14	6.2
	1-5 years	102	44.9

	6-10 years	89	39.2
	11–15 years	12	5.3
	16–20 years	6	2.6
	21 -25 years	1	0.4
	26+ years	3	1.3

5.2. Overall readiness of HRIS implementation

More than three fourth of the respondents 187 (82.4%) had absence of personal computer for themselves. There were an availability of Internet and network access for 183 (80.6%) and 80(35.2) respondents respectively. About their office structure, more than half of the participants 157 (69.2%), were absence of separate room for Human Resource department. This was also realized by the observation made but each of the participants had their own seats to achieve their day to day activities.

Majority of the respondents 179 (78.9%) have desk top computers in their Human Resource department; this seems that they share the computer with other Human Resource staffs to implement their daily bases activity. Concerning the infrastructure 87 (38.3%) health institutions had telephone access in their working institution for office activity purpose, and 185 (81.5%) had electric power access. To assure their response it also confirmed by the observation made in the public health institution.

Generally, the Readiness on HRIS implementation was assessed depend on whether the value calculated from the total of 44 items analyzed was above or below the mean. Then, the overall readiness to implement HRIS in public Health Institution of Horro Guduru Wallega Zone health departments was 14% and we should say that readiness of implementation of HRIS to be low (Table 2).

Table2. HRIS infrastructure of the facility in Public Health Institution in Horro Guduru Wollega Zone, Oromiya Regional state of North West Ethiopia.(N= 227)

S.No	Variable	Frequency	Percentage
1	Telephone access of the facility		

	Yes	87	38.3
	No	140	61.7
2	Electric power access of the facility		
	Yes	185	81.5
	No	42	18.5
3	Availability of HRIS computer in HR section		
	Yes	179	78.9
	No	48	21.1
4	Personal computer of the participants		
	Yes	40	17.6
	No	187	82.4
5	Individual or Organizational Internet access		
	Yes	44	19.4
	No	183	80.6
6	Network access of the facility		
	Yes	147	64.8
	No	80	35.2
7	Separate HR room /section access of the facility		
	Yes	70	30.8
	No	157	69.2

A 28-year-old male District health office head said that: "*The infrastructure (telephone, electric power, office equipment, internet, office setup, network, desktop computers etc.) are not well furnished. Additionally, employees themselves are need training while they lack of skill to use computers*".

The majority of the respondents 213(93.8%) answered that their Human Resource had no budget for running their duty. Regarding information technology support 174 (76.7%) reported that lack of anyone in their organization being qualified to keep the computer running and to prevent from any virus attacking of their data.

During the observation sessions of this study, near to three fourth of the district health office and public health facilities Human Resource department were disorganized. It was observed that they had very crowded and unfavorable rooms. In the observation of the 61 institutions, 43 (70.4%) had lack of separate room for the Human Resource department.

More than four fifth 195 (85.9%) of respondents were lack of developed information technology infrastructure in their institution. The respondents were asked whether their computers were comfortable to use HRIS 87 (38.3%) answered that comfortable. Very less number11 (4.8%) also expect that HRIS software will be compatible with the current Human Resource activity (Table 3).

Table3. HRIS Skill of participants in Public Health Institution of Horro Guduru Wollega Zone, Oromiya Regional state of North West Ethiopia. (N= 227)

S.No	Variables	Frequency	Percent
1	Functional printer access of the facility		
	Yes	143	63.0
	No	84	37.0
2	Backup power supply		
	Yes	49	21.6
	No	178	78.4
3	Separate budget allocation for HR section		
	Yes	14	6.2
	No	213	93.8
4	Information technology supporter		
	Yes	53	23.3
	No	174	76.7
5	Developed information technology infrastructure (i.e., hardware, software, networks), and human expertise?		
	Yes	32	14.1
	No	195	85.9

6	computer comfortable to use		
	Yes	87	38.3
	No	140	61.7
7	use anti-virus for your computer		
	Yes	105	46.3
	No	122	53.7
8	HRIS software will be compatible with the HR workflow		
	Yes	11	4.8
	No	216	95.2
9	Do you know the modules of HRIS		
	Yes	61	26.9
	No	166	73.1
10	Do you know Advantages of HRIS		
	Yes	132	58.1
	No	95	41.9
11	basic computer skill/trained		
	Yes	137	60.4
	No	90	39.6

To verify the HRIS Knowledge of the participants the ability to install and configure HRIS, 173(76.2%) and 179 (78.9%) reported that they could not install neither configure the HRIS. In relation to this, 183 (80.6%) reported that they lack the skills to manipulate the features of HRIS.

A 26-years-old male District Health office mentioned that: "*In District and health facilities, Gender issue department, the Human Resource department, Good governance department, supply and logistic departments are organized together in one class. Due to this, we didn't expect separate budget and technology advancement as the whole. We don't have Information Communication Technology support and computer maintenance technicians*".

Concerning their perceived attitude about the importance of HRIS software, the majority of the respondents 178 (78.4%) answered that they believe HRIS are important. Greater than three fourth 162 (71.4%) of the respondents said that they have a role in the implementation of HRIS in their institution. When they asked about their fear of HRIS creating unemployment 56 (24.7%) respondents said that it would make them lose their jobs (Table 4).

Table4. HRIS Knowledge of Health Workers in Public Health Institution of Horro Guduru Wollega Zone, Oromiya Regional state of North west Ethiopia.(N= 227)

S.No	Variables	Frequency	Percent
1	install HRIS software		
	Yes	54	23.8
	No	173	76.2
2	configure the HRIS software		
	Yes	48	21.1
	No	179	78.9
3	manipulate all the HRIS modules		
	Yes	44	19.4
	No	183	80.6
4	HRIS is important for your organization		
	Yes	178	78.4
	No	49	21.6
6	have a readiness in implementation of HRIS		
	Yes	162	71.4
	No	65	28.6
7	receive training on HRIS		
	Yes	29	12.8
	No	198	87.2
8	manual or handbook on HRIS		
	Yes	67	29.5
	No	160	70.5

9	HRIS starting for all employees in your department		
	Yes	36	15.9
	No	191	84.1
10	HRIS will create unemployment		
	Yes	56	24.7
	No	171	75.3
11	responsible for full implementation of HRIS		
	Yes	169	74.4
	No	58	25.6
12	HRIS can enhance efficiency of HRM in the organization		
	Yes	188	82.8
	No	39	17.2
13	HRIS software be fully applicable in your organization		
	Yes	14	6.2
	No	213	93.8

From the all respondents' basic computer skills, 90 (39.6%) answered that they were absence of basic computer skill. Concerning the perceived knowledge about the HRIS 166 (73.1%) reported they did not know the modules of HRIS, while 95 (41.9%) did not know the advantages of HRIS.

Based on the introduction of HRIS 191 (84.1%) responded that there was no introduction of HRIS for all employees in their department. Training on readiness of HRIS implementation 198 (87.2%) of the respondents did not take any training. For instance, about their responsibility for the full implementation of HRIS 169 (74.4%) of them replied that they were responsible. The respondents were also asked whether HRIS will enhance efficiency of HRH for organizations. More than four fifths, 188 (82.8%), responded that it could help enhance HRH efficiency. Only, 14 (6.2%) of the respondents replied that HRIS is implemented in their institution.

Table5. Perception Questions on readiness on implementation of HRIS in Public Health Institution of Horro Guduru Wollega Zone, Oromiya Regional state.(N= 227)

S.No	Variables	Frequency	Percent
1	have a readiness on implementation of HRIS		
	Strongly disagree	6	2.6
	Disagree	36	15.9
	Neutral	26	11.5
	Agree	106	46.7
	Strongly agree	53	23.3
2	Top mgt commits financial, time and human resources to HRIS reform.		
	Strongly disagree	24	10.6
	Disagree	56	24.7
	Neutral	66	29.1
	Agree	63	27.8
	Strongly agree	18	7.9
3	Sizeable budget is allocated to the implementation and maintenance of the HRIS project in the Authority.		
	Strongly disagree	51	22.5
	Disagree	57	25.1
	Neutral	62	27.3
	Agree	45	19.8
	Strongly agree	12	5.3
4	Through use of HRIS, management provides planning and coordination to employees.		
	Strongly disagree	7	3.1
	Disagree	52	22.9
	Neutral	59	26.0
	Agree	80	35.2
	Strongly agree	29	12.8

5	decision making process by managers has been enhanced by the use of HRIS		
	Strongly disagree	9	4.0
	Disagree	42	18.5
	Neutral	39	17.2
	Agree	91	40.1
	Strongly agree	46	20.3
6	Organizational structure, roles and responsibility as implemented by HRIS is communicated to staff		
	Strongly disagree	11	4.8
	Disagree	42	18.5
	Neutral	46	20.3
	Agree	99	43.6
	Strongly agree	29	12.8
7	HRIS reform progress is communicated to employees on a regular basis		
	Strongly disagree	21	9.3
	Disagree	41	18.1
	Neutral	59	26.0
	Agree	79	34.8
	Strongly agree	27	11.9
8	Do you think Communication between managers and employees is encouraged as it motivates people during HRIS implementation		
	Strongly disagree	12	5.3
	Disagree	32	14.1
	Neutral	45	19.8
	Agree	86	37.9
	Strongly agree	52	22.9
9	Communication through HRIS enhances efficiency and effectiveness in the Organization		

	Strongly disagree	6	2.6
	Disagree	16	7.0
	Neutral	40	17.6
	Agree	108	47.6
	Strongly agree	57	25.1
10	Employees have access to relevant HRIS information		
	Strongly disagree	13	5.7
	Disagree	40	17.6
	Neutral	42	18.5
	Agree	103	45.4
	Strongly agree	29	12.8

A 32-year-old male District Health office head stated that, "*in our current situation clearly, those health workers need to have more perceived attitude concerning HRIS. Because, it is important for improvement of our performance activity and provides service quality to the customers.*"

Receive training and ready on HRIS implementation had only 29 (12.8%) and greater than four fifth 198 (87.2%) had no training of HRIS implementation. Ready on Modules of HRIS in health facilities had only one fourth 61 (26.9%).But near to three fourth 166 (73.1%) had no HRIS module at all. Less likely 14 (6.2%) of the health facilities had ready on HRIS software be fully applicable in their institution. But also the majority 213 (93.8%) of the health facilities HRIS software had not ready to apply in their institution.

Majority of 185 (81.5%) had electric power access and 179 (78.9%) health facilities had availability of computer were ready. The rest 42 (18.5%) and 48 (21.1%) of health facilities were absence of electric power and availability of computer had not ready for implementation of HRIS.Regarding the readiness on implementation of HRIS 87 (38.3%) of health facilities had telephone access was ready. But more than half 140 (61.7%) had no telephone access was not ready to implement HRIS in their facilities.

The ability to install and configure HRIS were 173(76.2%) and 179 (78.9%) reported that they could not ready to install neither configure the HRIS. In addition to this, 183 (80.6%) reported

that they do not have the skills to manipulate the features of HRIS. Internet and network access not available for readiness of HRIS implementation were 183 (80.6%) and 80(35.2) respondents respectively. Regarding their office structure more than half of them 157 (69.2%), had no separate room for Human Resource department.

Greater than three fourth 174 (76.7%) of the respondents thought had no ready for Information technology supporter while only 53 (23.3%) of the respondents were ready for technology supporter. Regarding budget allocation for Human Resource activity of readiness to HRIS software, the majority of the respondents 213 (93.8%) reported had no budget allocation for Human Resource activity.

Table-6 Readiness of Health facility for implementation of HRIS in Public Health Institution of Horro Guduru Wollega Zone, Oromiya Regional state of North west Ethiopia.(N= 227)

S.No	Variables	Readiness of HRIS implementation	
		Ready	Not ready
1	Telephone access of the facility	87(38.3)	140(61.7)
2	Electric power access of the facility	185(81.5)	42(18.5)
3	Availability of HRIS computer in HR section	179(78.9)	48(21.1)
4	Personal computer of the participants	40(17.6)	187(82.4)
5	Individual or Organizational Internet access	44(19.4)	183(80.6)
6	Network access of the facility	147(64.8)	80(35.2)
7	Separate HR room /section access of the facility	70(30.8)	157(69.2)
8	Functional printer access of the facility	143(63.0)	84(37.0)
9	Backup power supply	49(21.6)	178(78.4)
10	Budget allocation for HR section	14(6.2)	213(93.8)
11	Information technology supporter	53(23.3)	174(76.7)
12	Developed information technology infrastructure (i.e., hardware, software, networks), and human expertise?	32(14.1)	195(85.9)
13	computer comfortable to use	87(38.3)	140(61.7)
14	use anti-virus for your computer	105(46.3)	122(53.7)

15	HRIS software will be compatible with the HR workflow	11(4.8)	216(95.2)
16	Do you know the modules of HRIS	61(26.9)	166(73.1)
17	Do you know Advantages of HRIS	132(58.1)	95(41.9)
18	basic computer skill	137(60.4)	90(39.6)
19	install HRIS software	54(23.8)	173(76.2)
20	configure the HRIS software	48(21.1)	179(78.9)
21	manipulate all the HRIS modules	44(19.4)	183(80.6)
22	HRIS is important for your organization	178(78.4)	49(21.6)
23	have readiness in implementation of HRIS	162(71.4)	65(28.6)
24	receive training on HRIS	29(12.8)	198(87.2)
25	manual or handbook on HRIS	67(29.5)	160(70.5)
26	HRIS starting for all employees in your department	36(15.9)	191(84.1)
27	HRIS will create unemployment	171(75.3)	56(24.7)
28	responsible for full implementation of HRIS	169(74.4)	58(25.6)
29	HRIS can enhance efficiency of HRM in the organization	188(82.8)	39(17.2)
30	HRIS software be fully applicable in your organization	14(6.2)	213(93.8)

5.3. Factors of readiness of HRIS implementation

The personal capacity related factors mentioned by the respondents were "*Lack of staff commitment, no standard data handling system, poor personal competency or technical skill-related factors. Such as: poor computer ability, lack of competent Human Resource employees (like:-skills, knowledge, and attitude), poor reporting system, poor information communication skills and poor monitoring and evaluation system*".

Factors that all of the respondents participated in the in-depth interview listed on the readiness of HRIS implementation were: "*the environmental related factors: "These factors include infrastructure (like:-lack of telephone, network and internet access, lack of supply, absence of budget, inappropriate and non function of computers, no data backup and anti-virus application, lack of office equipment, low computer accessories availability, and frequent power interruptions*".

The next challenge explored from the in-depth interviews of this study were "*organizational related factors:-such as low commitment of health workers, top management support failure and lack of dedication, no team work with other departments, poor motivation to use information technology and no attention to HRIS implementation and Human Resource support process*".

5.4. Factors associated with readiness of HRIS implementation

Table7 Factors associated with readiness of HRIS implementation in Public Health Institution of Horro Guduru Wollega Zone, Oromiya Regional state of North west Ethiopia.(N= 227).

S.No	Variables	Readiness of HRIS implementation		sig	COR	AOR(95%CI)
		ready	Not ready			
1	Telephone access of the facility	87(38.3)	140(61.7)	0.001	0.30	3.75,95%CI(1.02-13.88)
2	computer comfortable to use	87(38.3)	140(61.7)	0.001	0.42	4.04,95%CI(1.13-14.44)
3	basic computer skill	137(60.4)	90(39.6)	0.004	0.42	1.48,95%CI(1.06-5.34)
4	receive training on HRIS	29(12.8)	198(87.2)	0.016	.022	4.17,95%CI(1.05-13.6)
5	Internet access	44(19.4)	183(80.6)	0.014	1.24	1.87,95%CI(1.37-9.04)
6	Network access of the facility	147(64.8)	80(35.2)	0.029	1.30	1.34,95%CI(1.04-3.47)

The study revealed that health workers who were degree holders 38% less likely ready in HRIS implementation. Telephone access of the facility had 3.75 times more likely to be ready for the implementation of HRIS and the reference groups were those of more respondents that without access of telephone. Employees who had basic computer skill and computer comfortable to use were 1.48 and 4.04 times more likely to be ready for the implementation of HRIS. Internet and network access of the facility had 1.87 and 1.34 times more likely to be ready for the implementation of HRIS.

The outcome variable was Readiness on Implementation of human resource information system and P-values less than 0.05 and/or odds ratios with 95% confidence interval were computed to identify the factors associated independently with readiness of HRIS implementation were telephone access AOR = 3.75, 95%CI (1.02,13.88), computer to use AOR = 4.04, 95%CI (1.13, 14.44), computer skill AOR = 1.48, 95%CI (1.06, 5.34), training AOR = 4.17, 95%CI (1.05, 13.6), internet access AOR = 1.87, 95%CI (1.37, 9.04), and Network access AOR = 1.34, 95%CI (1.04, 3.47).

CHAPTER SIX: DISCUSSION

Factors in readiness of HRIS implementation stated that major barriers indicate designers insufficient HR knowledge processes and due to this lack of knowledge it is difficult for designers to provide proper solutions of the problems. A survey was conducted by the Institute of Management and Administration on the major obstacles in management of HRIS. The obstacles that they included in the survey questionnaire included: deficient staff, insufficient budget, shortage of IT support, poor time management, and need for collaborating with other departments (44).

Additionally, to capitalize on all HR possibilities, provision of personal computers to workers and Internet connection are required. It was identified that the transitional costs from traditional HR to an HRIS is high (46).

Because of similar study was not conducted in our country context, the finding was compared with the low- income countries. A survey conducted in Bangladesh and a cross-sectional study from Pakistan indicated lack of information technology support as the main challenge in managing HRIS (13, 19). Similarly, a theoretical analysis in Malaysia on readiness of HRIS reported that organizational Human Resource room size was one of the factors for successful readiness of HRIS (52). This might be due to the reason that having no Human Resource section affects the privacy of employees. The multivariable logistic regression analysis identified that Educational status, availability of internet access, having separate HR section basic computer skills, and fear of unemployment due to HRIS implementation were found to be significantly associated with the readiness of HRIS implementation.

The study shows that shortage of finance, lack of competency, and poor stakeholders' commitment as factors of readiness on HRIS implementation. Similar to this, a study on HRIS implementation from Jordan shows insufficient capital and skills, shortage of money, and top management support failures and dedication as implementation challenges (17).

On the other hand, in my study shortage of telephone access, internet access, Network access, training, Modules of HRIS, educational status, work experience, lack of information technology support, basic computer skill, and lack comfortable computer to use was also significantly associated with readiness of HRIS implementation. This study aimed to assess the readiness of

HRIS implementation, identify associated factors, and explore the factors of readiness on HRIS implementation of Workers in Public Health Institution of Horro Guduru Wollega Zone, Oromiya Regional state of North West Ethiopia.

From the total of respondents, 56 (24.7)% of them fear that the HRIS will create unemployment and lose their job position. Another study from Bangladesh that shows 40% believed that implementation of HRIS would create an unemployment problem (13). This might be due to the employees' perception that if their work is supported by software, only small number of employees would consequently be required. However, whether having no fear of unemployment is related with HRIS implementation requires more investigation.

A study conducted in Bangladesh shows that lack of privacy was impeding the readiness on HRIS implementation (13). The current study shows that 40.7% of the respondents had no basic computer skills. A study conducted in Tanzania shows that computer skill was improved through training on data utilization. There was also, the necessary factor for successful HRIS implementation was training on data visualization. This might be due to the reason that training improves as computer skills among system users which ultimately affects readiness for HRIS implementation (20). A study conducted in India also indicated that HRIS software training is a key determinant of successful HRIS implementation. This is due to the reason that training enhances HR employees' skills on the use and installation of user-friendly systems (53).

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

7.1. Conclusion

Based on the finding of this study, the following conclusions are drawn: the overall readiness to implement HRIS in public Health Institution of Horro Guduru Wallega Zone health departments was 14%. This shows that readiness of implementation of HRIS is low. The availability of telephone access, availability of internet access, availability of Network access, training, basic computer skill, and comfortable computer to use were significantly associated with readiness of HRIS implementation. Lack of staff commitment, no standard data handling system, poor personal competency or technical skill: poor computer ability, lack of competent Human Resource employees of skills, knowledge, and attitude, lack of standard reporting system, poor information communication skills and lack of monitoring and evaluation system.

7.2. Recommendation

It was recommended that the Federal Ministry of Health (FMOH) should give especial attention for HRIS implementation system by allocating budget for training and avail comfortable computer to use.

The oromiya Regional Health bureau needs to have readiness on HRIS implementation to facilitate budget allocation for training, avail comfortable computer to use and capacitate the basic computer skill of Zonal Health office.

Zonal health department should have to be providing training, distribute comfortable computer and capacitate the basic computer skill of district health office and public health centers on readiness of HRIS implementation.

The Health centers should avail telephone access, internet access and Network access.

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Annex 1: Questionnaire

Part One: General information (Socio-demographic characteristics of the participants)

Name of woreda/Health center_____

Q1.socio demographic characteristics:

Q101	What is your Sex?	1.Male
		2.Female
Q102	What is your Educational Status?	1.certificate
		2.diploma
		3. First degree
		4. MSc /MPH./PhD
Q103	profession	1.Health officer
		2.Nurse(Bsc or Diploma)
		3.Midwife(Bsc or Diploma)
		4.Laboratory(Bsc or Diploma)
		5.Pharmacist/Druggist
		6.Environmental Health (Bsc or Diploma)
		7.others
Q104	What is your work experience?	1.<1 years ☐
		2.1-5 years ☐
		3.6-10 years ☐
		4.11–15 years ☐
		5. 16–20 years ☐
		6. 21 -25 years ☐
		7. 26+ years ☐

Part Two:

Q2. HRIS infrastructure

Q205	Telephone access	1.Yes 2.No
Q206	Electric power	1.Yes 2.No
Q217	Availability of HRIS computer in HR section	1.Yes 2.No
Q208	Personal computer	1.Yes 2.No
Q209	Individual or Organizational Internet access	1.Yes 2.No
Q210	Network access	1.Yes 2.No
Q211	Separate HR room /section	1.Yes 2.No
Q3. Skill Questions		
Q312	Functional printer access	1.Yes 2.No
Q313	Backup power supply	1.Yes 2.No
Q314	Separate budget allocation for HR section	1.Yes 2.No
Q315	Information technology supporter	1.Yes 2.No
Q316	Do you think that there is a developed information technology infrastructure (i.e., hardware, software, networks), and human expertise?	1.Yes 2.No

Q317	Is your computer comfortable to use?	1.Yes 2.No
Q318	Do you use anti-virus for your computer?	1.Yes 2.No
Q319	Do you think that HRIS software will be compatible with the HR workflow?	1.Yes 2.No
Q320	Do you know the modules of HRIS?	1.Yes 2.No
Q321	Do you know Advantages of HRIS?	1.Yes 2.No
Q322	Have you basic computer skill?	1.Yes 2.No
Q4. Knowledge Questions		
Q423	Can you install HRIS software?	1.Yes 2.No
Q424	Can you configure the HRIS software?	1.Yes 2.No
Q425	Can you manipulate all the HRIS modules?	1.Yes 2.No
Q426	Do you think that HRIS is important for your organization?	1.Yes 2.No
Q427	Do you think that you have readiness on implementation of HRIS?	1.Yes 2.No
Q428	Did you receive training on HRIS?	1.Yes 2.No
Q429	Is there a manual or handbook on HRIS?	1.Yes 2.No
Q430	Is there a starting of the HRIS for all employees in your department?	1.Yes 2.No
Q431	Do you think that HRIS will create	1.Yes

		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
	unemployment?		2.No			
Q432	Do you feel that you are responsible for full implementation of HRIS?		1.Yes 2.No			
Q433	Can HRIS enhance efficiency of HRM in the organization?		1.Yes 2.No			
Q434	Can HRIS software be fully applicable in your organization?		1.Yes 2.No			

Part Three: In order to obtain your views on the factors influencing implementation of HRIS, please select and circle the number that best fits response that you think is the most appropriate to each statement. Use the key below.

1. Strongly disagree   2. Disagree   3. Neutral   4. Agree   5. Strongly agree

	Statements	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Q5	**Attitude Questions**					
Q535	Do you thing to have a readiness on implementation of HRIS					
Q536	Do you thing top management commits financial, time and human resources to HRIS reform.	1	2	3	4	5
Q537	Do you thing a sizeable budget is allocated to the implementation and maintenance of the HRIS project in the Authority.	1	2	3	4	5
Q538	Do you thing through use of HRIS, management provides planning and coordination to	1	2	3	4	5

	employees.					
Q539	Do you thing decision making process by managers has been enhanced by the use of HRIS	1	2	3	4	5
Q6	Effective Communication					
Q640	Do you thing Organizational structure, roles and responsibility as implemented by HRIS is communicated to staff	1	2	3	4	5
Q641	Do you thing the HRIS reform progress is communicated to employees on a regular basis	1	2	3	4	5
Q642	Do you thing Communication between managers and employees is encouraged as it motivates people during HRIS implementation	1	2	3	4	5
Q643	Do you thing Communication through HRIS enhances efficiency and effectiveness in the Organization	1	2	3	4	5
Q644	Do you thing Employees have access to relevant HRIS information	1	2	3	4	5

Thank you for sharing your thoughts, Knowledge, skill and attitude!!!!!

Annex 2: Guide for In-Depth Interview

Profession_____ Role_____ Date _____

Introduction

Greeting;-Introduce yourself and Objective of the study.

We are going to talk about HRIS and factors affecting the implementation at public health institution. The purpose of this discussion is for you to share your ideas, perceptions and experiences about HRIS and factors affecting the implementation at public health centers. With me so that we can explore and identify the real causes for the problem and produce /find for the solution accordingly.

- Please give me some time?
- Consent to tape or note taking. Shall I continue?
    I.   Questions for In-Depth Interview.

1. How do you see the problem of HRIS implementation in health centers?

2. What do you think the most common problem on implementation of HRIS? Why?

3. What do think, will be the possible solution to solve the problem?

4. Can you mention some policy concerning the HRIS implementation?

5. What do you think will be the role of your institution to solve the problem?

6. What do you recommend to implement HRIS in the public health system?

7. From your experience, what possible suggestion do you have, to implement HRIS?

 8. If you have other idea you can add below.

_____

_____

Thank you for sharing your thoughts, perceptions and experiences!!!!!

Annex 3: Guide for observation check list

The observation checklist will be used to supplement the quantitative data. The contents of this checklist include items:

Q1 observation check list

Q1	Observe HR infrastructure	1. Electric power
		2.Telephone
		3.net work
Q2	Observe availability of separate HR sections for HR core processes	1.separate
		2. not separate
		3. no room
Q3	Observe availability of computer	1.HRIS Computer
		2. HRIS accessories
Q4	Observe availability of necessary office setups	1.appropriate lay out
		2.not appropriate lay out
Q5	Observe HRIS documents.	1.available
		2.Not available
Q6	Check HRIS software	1.available
		2. Not available