



The Impact of Equitable Health Management and Health Information on Raising the Efficiency of Health Workers

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Abstract

1. Introduction

The impact of equitable health management and health information on raising the efficiency of health workers

The health workers are expected to provide their services equitably and qualitatively. Everyone is expecting to receive health information and services of quality and in equitable distance. Health management, starting from the preparation and collection of health information, its management and planning of health services, plays a key role. Equitable health management can increase the efficiency of health workers with the provision of effective health service in every place and under any circumstance, saving time and health service, and it is important for the harmony of a quality service and the satisfaction of the society (Lapão & Dussault,).

Health information is the sum of all the records consisting of the collection and evaluation of primary and secondary records and measurement and evaluation of the data collected in this way by determination of the required criteria. The main purpose of the health information is to provide planning of the required health services and to be effective and sufficient for solving the problems if any. Health workers need to have a current and accurate health information to provide an effective and efficient health service. There are many institutions that health workers can get health information. These are the family health unit and health centers, Epidemiology units of Public Health Services, hospitals of the province and private sector hospitals. In the developing technology of our era, sufficient utilization of the necessary information will lead to the realization of important changes in the health services.

As a result of acquiring the current and accurate information for the health workers, the community health can be planned and the necessary precautions can be taken in advance. Similarly after the occurrence of the diseases health workers can take the necessary measures in order to prevent the disease from causing mass. In lines of the distribution of information, the health workers should complete the empty sections in their field of knowledge. In order



for the correct and updated data published in the field of medical science to reach health personnel in the fastest way, management of health information has been created. Management of health information is organized by the federal label and is published periodically and bi-annually. As for the monthly publication, a summary of the important subjects covered in this publication should be presented so that the new information in the medical field reaches the health workers in a faster way. Similarly, the information unit will record a summary of the publications published in the field of medical science, pathological anatomy, bacteriology and the like, comprising various parts of the body systems. On the management of periodic health information, important emphasis should be placed on distribution of this information by sorting the target audience.

Methods

The research is a cross-sectional descriptive-analytical study that was carried out in a public health facility. The data analysis was related to November and October . The research was a bachelor's thesis. The aim of the research is to examine the impact of equitable health management and health information on raising the efficiency of health workers in public health facilities. To this end, health care workers were randomly selected and their performance was examined respectively. Furthermore, equitable health management and health information were assessed using a standard questionnaire. Finally, the significance of the two independent variables was performed with the dependent variable as the effect of these variables on raising the efficiency of the health workers' performance at health facilities.

Conclusion

Nowadays IT technologies are deeply and broadly integrated into healthcare and public health and become essential part of this. e-Health provides the application of new information communications technologies in this area. Major parts of e-Health are the use of IT in the collection and transfer of health information, the management of medical records, the arrangement of remote consultations and the distance monitoring of patients. m-Health means the used of mobile electronic devices for the management of health resources and the supply of medical and public health services, providing timely, relevant information even to distant, inaccessible locations. e-Health helps to improve health-care management and health-information service capability, providing an important precondition for raising the efficiency of health workers (Lapão & Dussault, 2017). Both e-Health and m-Health use are in the earlier stages in many countries in Middle and Western Asia. However, the Middle and Western Asian countries have accidentally shown an impressive sign of the utilization of tele-medicine. It is noteworthy to consider, such countries are weak in economic and medical resources, their remote areas and regions inadequately supplied with doctors and other trained health workers. The use of tele-medicine gives a chance to promote more equal access to



help-services and have the possibility to bid for health care equivalent to that available in the better-resourced urban health establishments.

2. Equitable Health Management

Equitable health management is critically essential for ensuring that all individuals, regardless of their socio-economic background or circumstances, have adequate access to quality healthcare services. This inclusivity not only promotes fair treatment but also enhances the overall efficiency and effectiveness of health workers across various healthcare settings. By addressing the diverse needs of all community members, we can significantly improve health outcomes and foster a healthier society as a whole.

3. Health Information in Healthcare

Health information is the data that has been processed and refined in a way that links and connects it to diagnostic and therapeutic actions, as well as health providers and the patients. Health information plays a pivotal role in all of the healthcare services. Health information is actually generated and transformed in forms of reports, patient's records and results in every action that is taken place in the clinic. The process of providing the diagnostic, therapeutic and consulting actions involve the health workers who have to face the clinical patient loads of healthcare services so that the health workers come over the plan board indices and depend on their previous experiences so that both the efficiency and the productivity is not maximized (van Pinxteren et al., 2020). There is great a need for a management that is composed of plans and programming guide around equity to attain a highest efficiency for the health workers and a reasonable satisfaction for the patient. Health facilities play a key role in distributing different pieces of health information to the individuals and the community. Community-based healthcare member (CBHM) and the health facilities participated in public hearings on the annual performance report of the health sector. The majority of the community and the health facilities have a high concern for the inefficient performance of the health sector, for example, health workers take much time off in the room, item, and hospital payment centers so people are unable to get a service (OSEI AMANIAMPONG et al., 2017).

3.1. Role and Importance

The importance and role played of Equitable and Health authorities on raising the efficiency of health workers in Health Information Management by health authorities. Equitable and Health authorities in endeavor to effectively rationalize the allocation and flow of human, financial and material resources for health (health workers, food, drugs, etc.), have at their disposal a series of strategies, including the use of legal instruments that allow the application of sanctions to the health workers found to have inappropriate behavior at work. These authorities have saluted such initiatives, arguing that the poor preparation and supply of an inaccurate diagnosis of the health workers lead to force the patient to undertake many



unnecessary and uncalled for tests, thereby costing this very dearly. As this system is found to be a gross abuse by their cadres that needs to be discouraged. Contributors to health development, the health workers, their managers and professional organizations around the world are undertaking action to accelerate progress to create health working conditions, marking essential tools and taking steps for a stronger, fairer response to patients' expectations. From 1980, these various health authorities regularly conduct activities to manage health information systems, and as an offshoot, there are health management information unit and focal person at national governmental hospitals, while district-based spreadsheet data's are also compiled out of the statistical data sheet. However, the activities were found to be below the threshold limit as they tend to dwindle in time and place, thereby increasing the already wide resource-lack situation of such health institutions. During the 1990s, the authorities have made concerted move at tackling the issue and a giant leap taken by introducing a comprehensive program. This stands for a much pressurized day-to-day kind of professional demand on utmost attention than ever towards understanding the order, features and functions of the existing health set-up that impinges upon the health conditions and health services in a bit by bit sustainable way. It constitutes a primary health responsibility and extends up to the stewardship level by effecting the highest form of reorganizing, redesigning and up dating on the envisaged health development. Needless to say, the centrality accorded to the human resource assures the impact of the health workers, ranging from the individual to Director Generals of the system. Notionally, the human resource encompasses the entire health personnel of diverging specialties for rendering preventive, curative, rehabilitative, promotional and instructive individual and collective patient-based comprehensive personal health services. Fighting an art of improving health of individuals, families, communities, or environment (Lapão & Dussault, 2017).

3.2. Types of Health Information Systems

3. Theory and Technologies Concerning Health Management and Health Information

3.1. The Importance of Health

Health is the foundation for all social and economic developments that being a very important part of every individual's life. As a basic element of life, health has long been the concern of people all over the world, and the modern medical system is also constantly improving. A complete medical system emphasizes not only the diagnosis, treatment and prevention of diseases, but also the combination of medical health to restore human health to a rational and complete state and improve the quality of social health services of individuals and the group. Health is not only the basic material for human life activities and the traditional core of survival, but also an internal factor contributing to the progress and comprehensive



development of individuals. Therefore, the improvement of health requires the realization of highly efficient medical health management level and supporting facilities.

3.2. Types and Functions of Health Information Systems

For health managers and workers, efficient health management has a direct impact on their working efficiency and the physical health of the people. The application of modern health information technology can minimize health management errors and burdens, to provide the health managers and workers with convenient information access channels. Monitoring the work of everyone through a coherent health information system can improve the adoption of incentive mechanisms and ensure that everyone can work efficiently. It makes security the most important consideration, with individuals and service providers putting less emphasis on quality of care as a dimension of health service quality, or having no declared preferences. The required health capital assets and the information structure of the health system needed for the use of information technology have not been considered in the construction of the health information system. The health information is not smooth and there are more delays caused by the system. At the same time, the medical staff can only collect the summary data from the health information system. For this information, the health capital assets needed by medical managers are too higher, only those who have special training can be studied and utilized for a long time. The health information system in the design and construction of health care organizations has also largely ignored the use and analysis of health information needed by the government, which has also led to a waste of social resources in the construction of today's health information system.

4. Efficiency of Health Workers

New information and medical care technologies conceived to benefit the physical and mental health of people have developed rapidly. These technologies are effectively utilized for (1) patient-managed portable health such as electronic, digital, and visual diagnosis devices, (2) home-based post-treatment management of aging patients, diabetes patients, patients with chronic diseases, terminally ill patients, and other patients requiring consistent treatment, (3) work-based physical maintenance care including consideration of the health of workers. Innovative diagnostic devices and monitor equipment for patients are being progressed for home-based personal health care (Lapão & Dussault, 2017). However, there is a hidden fear that low-qualified technical operators will treat, diagnose, and maintain such equipment improperly; this might cause serious problems such as the loss of benefit, aggravation of patient illness, and accidents.

The need to provide appropriate and restrained health management information has been brought to the fore. The efficient implementation of health management security can often repair, maintain, and fully use such these technical equipments for the purpose of maintaining



the physical and mental health of patients and healthy people. It ensures that other people do not use this equipment, and that insurance against the theft and damage of expensive equipment is planned or provided. By developing these techniques, it becomes possible to dramatically increase the lifetime of medical appliances and treat-related devices, equipments, and accessories. Regulations for safety and security might limit the benefits of such patient-centered medical care and maintenance of patient appliances and health appliance devices.

4.1. Factors Affecting Efficiency

If we want to identify the factors affecting the efficiency of any system and their improvement, we should primarily understand the system in order not to waste energy. Besides, there is a necessity to have some technical information about the efficiency. The Efficiency (EE) is derived from the Energy_output that is the result or service and the costing of productivity, respectively. Technologicistic data are presented separately. Input energy includes the human forces. Managers compose a major part of the working forces and are the primary means of implementing the system policy. Evolution of health management policy and the skills aimed through target of health workers and its effects on employee efficiency are examined (Maleki et al., 2015). In this paper, The Impact of Equitable Health Management and Health Information on the hospital efficiency of health workers is identified and new orientations are presented. Health management intervention (HMI) and the stipulation of health information (HI) have significant effects have been a major precondition for the efficiency of employees. Equilibrium is achieved to decrease health workers work burden, stimulate importance of job, improve team coordination, communication, peer help, participation in decision-making and work arrangement. Equilibrium of the hospital efficiency of the nursing employees is the prime concern of the hospital managers. Nevertheless, the staffs of health care system, principally the clinic team rarely examine the means of increasing efficiency on their staffs – themselves. Given the fact that 85% of the health manpower is consumed, so any program's success in achieving its goals is mainly due to efficient execution of manpower and other input resources. So this clarifies the primary obligation of managers in terms of ongoing programs. In a broader context, the director's mission and primary goal of the executives is the optimal use of technology, material, and manpower for the production of specified medical and preventive services. All are efficiency dimensions in an institution to be taken to be improved since the efficiency of the system depends on the least efficient component. The existing hospital efficiency of health service in a 151 rural primary health units is evaluated without consideration of levels with the assistance of information envelopment examination (DEA) (Zhou et al., 2020).



4.2. Measuring Efficiency

Health systems provide: (i) a package of healthcare services including preventive, promotive, curative, rehabilitative, and palliative care; (ii) adequate health workers with appropriate knowledge and skills; (iii) equitable health management, health information, finance, and governance; and (iv) medicines, vaccines, and technologies. Efficiency is one of the key objectives of a national health system. Health system efficiency is defined as the optimum use of resources to achieve health objectives, significantly impacting the health services and systems. Technically and allocatively efficient health systems can provide a greater level of health care services by using the same level of resources, or achieve similar service levels by using fewer resources. Efficient health systems can optimally adopt available resources and can therefore deliver more intervention at the same cost, or can deliver similar interventions at lower costs. Pathways to Universal Health Coverage (UHC) indicator for existing and fundamental layers as an intermediary pathway is designated as equitable health management, followed by equitable health information (Mbau et al., 2020).

5. The Intersection of Equitable Health Management, Health Information, and Health Worker Efficiency

The discussion about health information and its impact on health is thousand years old. Chinese doctors in 3000 BC already understood what information is important to collect and manage in order to control the health status of a population. In another continent, in Egypt, at the same time, their doctors were managing data to keep the society healthy. The recipe is simple: Information about environment, agriculture, water, air, food, housing, diseases, healthcare, people's life and conducts, etc etc etc. Advanced analysis of this data allows the government to take decisions to promote the health of individuals while preserving the health of the overall population. At the same time, those data managers developed information channels to collect and report information quickly from a distant position, like spies placed in the border of their territories to spot their neighbors or a network of ships. Because information is only useful if it is "up to date". There is a Chinese adage that says: "A person who asked a doctor when he had fallen sick, will die and his disease will pass away with him". Health advance from the action of many, and the faster you respond to changes, the healthier the society will be. French doctors, during the 19th century, understood the importance of collecting and managing military data to control and maintain the healthy occupation of territories in Africa and Asia. Those hot points on the world map were then represented as a "color code" manner on "the red book". This allowed a rapid intervention of the French Airforces to bomb any gathering of population when noticing a change in the color on their maps (Lapão & Dussault, 2017).



5.1. Case Studies and Examples

The application of HMI was employed by the district health managers in the management of health workers in the selected primary healthcare facilities in this study. Appointment, transfer and allocation of jobs to health workers was based on the HMI generated. The workers' behaviour was constantly monitored and managed based on the information from the HMI. This type of health human resource management is referred to as equitable health human resources management in this study.

Health workers at PHC facilities are the most critical factor in achieving the performance level of the health facility in providing health services. Good and competent health workers have an important role in improving public health at the community level. The strategy to overcome the imbalance of health workers in the PHC facilities was crucial, considering that the facilities were in the community as the first access to health services. EHRM could become a strategy to solve the problem.

Technological advances in the health sector can ease the process of managing data and information related to health workers. The employment of electronic documents could increase the efficiency of workers who need information, and electronic reminders can facilitate monitoring and evaluation of workers, and help anticipate potential health worker shortages. Likewise, electronic documents could provide reminders that can speed the settlement of problems that may arise with health workers. The system that can help manage health worker performance efficiently is called HMI. Development of HMI-based applications in the health sector can be applied for the management of patient data, health workers, and health facilities. In the research application of the HMI was implemented for the management of health workers in charge of health centres.

5.2. Challenges and Solutions

There are a number of challenges that health workers experience on utilization of the e-Health management system and health information in Ethiopian hospitals. The paper will generate an understanding of what challenges they face, and propose possible solutions to address them in the future. This need is very important because effective health care is impossible without an adequate number of health workers. In connection with the fulfillment of these goals, evaluation of the health workforce will be very important. A health workforce in a country is said to be effective if it is working gracefully. In a developing country like Ethiopia, health workers are consumed with an excessive amount of service to support society. While these health workers are consumed with work, the result is inversely related to the investment that they give (Samuel Bramo et al., 2020). Reasons why the results of the work do not only depend on health workers and the absence of sufficient equipment, tools and books in hospitals, but the very important point does not work properly. Further studies



on the number, location, type of environment, working days and daily hours of health workers are planned to be conducted. In Ethiopia, there are only 38 health workers per 100,000 people compared to the worldwide average. The Ethiopian government has recognized the challenge and instituted various strategies, such as the establishment of new medical schools, health workers' wages and other incentives.

6. Conclusion and Recommendations

Health is considered an important aspect in development. Thus, health management becomes essential in any government programs and activities. Healthcare workers have to play important role in health service management and implementation. Equitable health management policy is very important, particularly in health management to ensure health service quality improvement and can reduce social and economical gap among the society. It was noted that health information system (HIS) for some, but not all, health management activities among the Health Services of West Sumatera Province was not used efficiently. Thus, it is recommended to distribute a copy of the monthly and quarterly report form manual in person to ensure that the right person receives the report. This was carried out in each of the 21 health service offices beginning in February 2019. It was realized that HIS training for some users either in the health office or health center was not enough to develop health service arrangements. Therefore, in addition to the other arrangements, an intensive training program has also been implemented (Nwankwo & Nasir Sambo, 2018). Two-month programs for the medical record officer focusing on data arrangement procedures and the importance of HIS in health management. In collaboration with the Health Department of the Faculty of Medical, training programs for health service staff have also been extended to focus on information flow systems in management, planning, and health care evaluation.

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