

Innovative Leadership Strategy to Strengthening Community Health Education in Remote Areas



Debie K. R. Kalalo¹, Joulanda A.M. Rawis², Henny N. Tambingon³, Joseph Kambey⁴

¹Doctoral Student of Education Management Study Program, Universitas Negeri Manado, Indonesia

^{2,3,4}Lecturer of Education Management Study Program, Universitas Negeri Manado, Indonesia

ABSTRACT: Indonesia is one of 57 countries worldwide that are facing a human resources crisis in the health sector. The shortage of health workers is particularly acute in underdeveloped areas, hindering Indonesia's overall development. This situation is further compounded by the low retention rate of health workers in these areas. This study aims to analyze innovative leadership strategies that can strengthen public health education in remote areas. This study used descriptive research methods. The results indicate that the implementation of innovative leadership strategies in Indonesia faces many ethical and legal obstacles. The development of innovative leadership is not aligned with the current regulations. However, creative social innovation approaches can enhance access to and quality of health services for vulnerable remote areas, while also increasing agency among intervention communities. This process promotes empowerment, which supports the sustainable strengthening of community systems and the achievement of community health goals and beyond. To revitalize primary healthcare efforts, strengthening community health systems should prioritize increasing health financing and innovative investments, strengthening logistics management systems, and fostering community ownership and partnerships. The government should sustain their actions aligned with global and regional sustainable initiatives to ensure that no one is left behind.

KEYWORDS: Innovative Leadership, Health Education, Remote Areas

I. INTRODUCTION

Indonesia has a population of 234 million and is among the most densely populated countries in the world. Its territory is made up of around 17,000 islands situated in Asia's climate-vulnerable regions. Despite covering only 7% of the country's total land area, around 60% of the population resides on the island of Java. The nation is classified as a middle-income country. However, the country's health system faces significant challenges due to its unique geographic, demographic, socio-cultural, and economic circumstances. Since the decentralization of the health system in 2001, local governments have been given the authority to manage health services, including health human resources, in their respective regions (Kurniati & Efendi, 2010).

The healthcare system in Indonesia is currently facing significant challenges regarding its health human resources. According to the 2006 World Health Report, Indonesia is one of the 57 countries experiencing a critical shortage of healthcare workers. This shortage severely limits these countries' ability to improve their healthcare systems and provide equitable access to necessary primary healthcare services ((WHO), 2006). The shortage of healthcare workers also presents a major obstacle in achieving the Millennium Development Goals and Universal Health Coverage. The most critical challenges facing Indonesia's health human resources include inadequate numbers and quality of essential healthcare professionals, a discrepancy between supply and demand, and an imbalance in distribution between urban, rural, and remote areas. A lack of information also hampers policy development and planning efforts for human resources in health (Farhansyah et al., 2022). Additionally, poor retention strategies, primarily due to inadequate remuneration, further complicate the challenges facing Indonesia's healthcare system.

Indonesia has expressed significant concerns regarding the attainment of SDGs four, five, and six, with particular emphasis on SDGs five and six. The country has fallen considerably short of its targets for reducing maternal mortality and controlling the spread of HIV/AIDS by reducing its incidence (Apriliyani & Wijaya, 2022). This is due to inadequate healthcare indicators, which are primarily attributed to shortages of healthcare workers and their incorrect distribution across the country. According to a recent study conducted by Anderson et al. (2014), there is considerable variation in maternal health outcomes,

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despite having a ratio of around 50 midwives per 100,000 individuals in similar populations. The findings of this study highlight the pressing need for further research to investigate healthcare referral systems, quality of care, and other external factors such as poverty and extreme geographical challenges that may contribute to the inadequate healthcare outcomes in Indonesia.

Public health status and healthcare coverage in remote border areas remain low. People in general do not have knowledge of healthy living behaviors, and environmental conditions are not good. The use of Puskesmas or Health Center in remote areas is influenced by several factors, including access to services. This access is not only affected by distance, but also by two other determinants: determinants of provision, which are related to the quality of service, and determinants of demand, which are related to user factors.

The factors influencing the provision of healthcare services include the organization and physical infrastructure of the service, the location of the service, the availability, utilization, and distribution of healthcare workers, the cost of the service, and the quality of the service. On the other hand, the factors affecting the demand for healthcare services are user-related factors such as low education levels, socio-cultural conditions of the community, and low or poor income levels of the community. To effectively access healthcare services, it is essential to have access to healthcare facilities and healthcare workers within a reasonable distance and at an affordable cost. The socio-cultural factors that influence healthcare utilization by the community also need to be taken into account. However, there are existing obstacles that hinder access to healthcare services, including the distance between the user's residence and the service location, inadequate equipment and supplies at the service location, insufficient funds for transportation costs, and a lack of financial resources to cover medical expenses. In addition to the factors of transportation facilities and infrastructure, there may be other factors related to the affordability of healthcare services that need to be addressed to solve this problem.

The pursuit of health equity for vulnerable and disadvantaged communities is a significant goal for governments and policymakers worldwide. The main challenge in achieving this goal is to ensure that individuals living in remote and disadvantaged areas have access to competent healthcare workers. Indonesia is one of the countries that the World Health Organization identified as experiencing a health worker crisis in 2006, highlighting the need for improvements in the quantity, quality, and type of healthcare workers in the country ((WHO), 2006). Additionally, the problem of maldistribution and geographical imbalance further exacerbates these challenges. To address this issue, it is essential to distribute and place healthcare workers in disadvantaged areas with adequate quality and quantity to improve the delivery of healthcare services. Based on Presidential Regulation Number 63 of 2020 concerning the Determination of Disadvantaged Areas for 2020-2024, the central government has identified underdeveloped areas as the main target for development. This was done as an effort to accelerate regional development. An area is designated as a Disadvantaged Area based on the following criteria: community economy; human resources; facilities and infrastructure; regional financial capabilities; accessibility; and regional characteristics. Disadvantaged areas include 62 districts/cities in eleven provinces. The fulfillment of human resources in Disadvantaged Areas not only requires the central government's role but also the role of the provincial health office and the district/city health office by analyzing the needs of their regions and submitting them to the central government. The highest distribution of health workers in disadvantaged areas is nursing staff at 42.2% and midwifery staff at 28.5%. While the lowest are clinical psychology personnel, biomedical engineering personnel, and physical therapy personnel. The following figure shows how the number of health workers in disadvantaged areas compares to the national number.

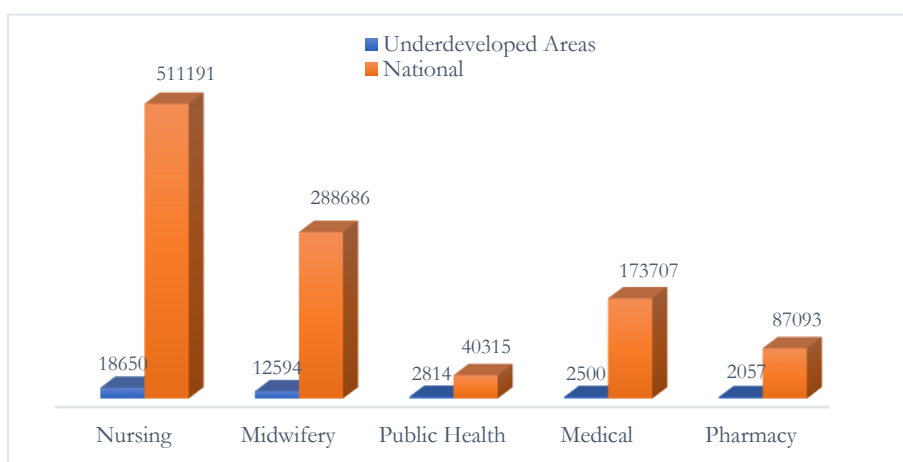


Figure 1. Comparison of the Number of Health Workers in Underdeveloped Areas to the National Number in 2021

Source: SISDMK processed by the Secretariat of the Directorate General of Health Workers, Ministry of Health of the Republic of Indonesia, 2022

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The comparison of the number of health workers in underdeveloped areas to the number of national health workers is quite far. Based on Figure 1, the number of nursing staff in disadvantaged regions is 18.650 or equivalent to 4% compared to the national number (511.191 nursing staff). The comparison between midwifery workers in disadvantaged regions and the national number is 2% (12.594): 98% (288.686), public health workers in underdeveloped regions are 2.814 people which is only 1% of the number of public health workers at the national level (40.315), for medical workers in underdeveloped regions there are only 2.500 medical workers or only 6% of the number of national medical workers (173.707), pharmacy workers in underdeveloped areas are 2.507 or 2% of the number of national pharmacy workers (87.093).

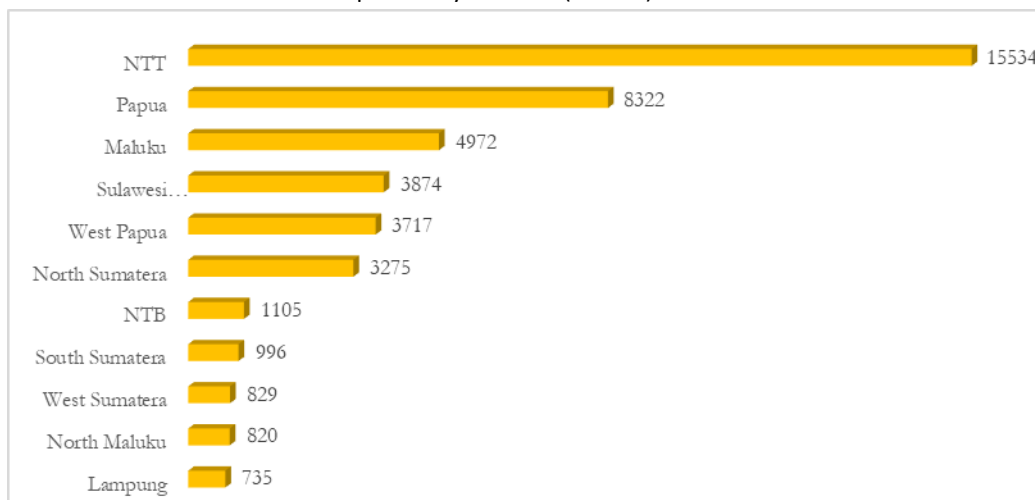


Figure 2. Distribution of the number of human resources in underdeveloped areas in Indonesia by 2021

Source: SISDMK processed by the Secretariat of the Directorate General of Health Workers, Ministry of Health, 2022

The proportion of districts with the Disadvantaged Areas category is 12,1% of the total districts/cities. The distribution of human resources in disadvantaged areas is 3.9% (44.179) of the total human resources nationally. This number increased compared to 2020, which was 31,374 people. The province with the highest number of human resources in Disadvantaged Areas is East Nusa Tenggara Province with 15.534 people spread across 13 districts in total.

Based on the Regulation of the Minister of Health Number 9 of 2013 concerning Special Assignment of Health Workers, Special Assignment is the special utilization of health workers within a certain period of time to improve access and quality of health services to health service facilities in Disadvantaged, Border, and Islands Areas (DTPK), Health Problem Areas (DBK), as well as class C hospitals and class D hospitals in districts that require specialist medical services. The type of health worker appointed in a special assignment is a resident.

The distribution of health workers, especially medical personnel, is still uneven in all provinces and islands in Indonesia. In addition, the number of doctors, dentists, specialists, and specialist dentists in Indonesia is only 243.169. Based on data from the Basic Health Research (Riskesmas 2018) of the Ministry of Health regarding the ease of access of rural communities to Puskesmas/Pustu/Pusling/Village Midwives, it was found that 31.0% found it easy to access, while 32,2% found it difficult and 36,8% found it very difficult to reach health services. This makes the use of telemedicine in Indonesia can help overcome the problem of people's difficulties in accessing health services.

The shortage of health workers will have an impact on the non-optimal implementation of health efforts (UKM) at Puskesmas. The results of the study showed that the health centers in the area of five essential SMEs as a whole (Werni et al., 2017). The implementation of essential SMEs is the main task of Puskesmas and is one of the assessments of Puskesmas performance. Puskesmas in organizing essential SMEs as a whole need to be supported by a sufficient number of human resources (HR). Therefore, equitable distribution of health human resources needs special attention from the government. This can be seen from various programs to fulfill health workers, especially in remote/very remote areas. The placement of doctors, dentists and midwives, as well as special assignments for other D3 graduate health workers has been carried out through the Non-Permanent Employee (PTT) program. Then, the government also created a health worker placement program through special team-based health worker assignments in accordance with the mandate of Article 23 of Law No. 36/2014 on Health Workers to support the Healthy Archipelago Program (NS). This program is expected to optimize health services at the basic service level, especially in remote / very remote areas.

The implementation of NS placement has been running from 2015 until now. Prior to the placement of NS personnel in remote/very remote areas, the government made efforts to screen or validate prospective locus of team placement. This is

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done in an effort to get a locus that matches the criteria set by the government. The criteria for the NS team placement locus is a development of Minister of Health Regulation No. 90/2015 on Health Service Delivery, Minister of Health Regulation No. 75/2014 on Community Health Centers, and Minister of Health Regulation No. 44/2016 on Puskesmas Management Guidelines. The criteria for locating the NS team include remoteness status, adequate number of health human resources, and support from the local government (pemda) and Puskesmas regarding the availability of housing and infrastructure (Suharmiati & Astuti, 2013). Remoteness and the number of health workers are important in determining which areas really need health workers. Previous research has shown that Puskesmas in remote areas are rarely attracted by health workers, leading to a lack of human resources and a lack of ability to perform health services.

Patient education has evolved significantly over time, transitioning from a model where healthcare professionals solely determined what patients needed to know, to a shared decision-making approach where both clinicians and patients are equally involved in the decision-making process. This evolution is evident in primary and secondary healthcare, and has been shaped by factors such as biomedical advancements, aging populations, and cultural diversity. Despite the progress made, challenges remain in implementing patient education in the future, including the need for healthcare professionals and patients to be trained in the process, the involvement of the patient's social environment, and the application of e-Health techniques for education. While patient education has undergone significant developmental changes, and has been incorporated into different healthcare settings, it is crucial to ensure that both patients and healthcare professionals are equipped with the necessary skills to optimize its effectiveness. Therefore, ongoing efforts are needed to improve patient education and ensure that it remains a valuable part of healthcare for patients (Hoving et al., 2010).

The role of health workers in this case is one of the factors that greatly influences changes in community behavior (Notoatmodjo, 2014). The role of health workers in health promotion is as advocates, educators, motivators and facilitators (Novita Nesi, 2011). Through health promotion there will be changes in the level of knowledge, attitudes, and behavior. With sufficient public knowledge about pentavalent immunization, there will be an awareness to immunize their children so that the incidence of pneumonia will decrease. Indeed, the success of the role of health workers is also influenced by several factors, namely: age, education, and experience as a health worker. Age indicates a person's biological and psychological maturity. With increasing age, a person's maturity will also increase, this maturity affects thinking patterns and emotions. In addition, the role is influenced by education, the higher a person's education, the higher the knowledge he has. Experience is also no less important in influencing a person's role. Experience is an event that a person has experienced in interacting with their environment (Notoatmodjo, 2014)(Novita Nesi, 2011).

II. METHOD

This research used descriptive research methods, specifically library research, to describe and interpret the phenomenon of leadership in the health service organizations in the context of the Industrial 4.0 era. The data used were secondary data taken from related theories, and the analysis was based on a thorough review and interpretation of the literature. The descriptive research method is suitable for this study as it aims to provide a detailed description and analysis of the topic under investigation. By using this method, the study was able to identify and describe the key factors that influence leadership in the health service organizations and provide recommendations for improving leadership practices in the context of the current digital age.

III. RESULTS AND DISCUSSION

In the global realm, health risks and diseases cross national borders, making them a matter of international/global responsibility. To ensure health security, the World Health Assembly (WHA), which is an organ under the WHO, adopted the International Health Regulations 2005 (hereafter IHR 2005 in this article) on May 23, 2005 (Plotkin, 2007). The IHR 2005 represented a critical step towards improving the protection of global public health security (M. G. Baker & Fidler, 2006). The 2005 IHRs were the culmination of a decade-long revision process and an important development for international law and global public health. The 2005 IHRs were enacted at a time when public health, security, and democracy had become intertwined and were international issues.(Plotkin, 2007)(M. G. Baker & Fidler, 2006)

Indonesia is facing a triple burden of various disease problems, including the existence of new emerging and re-emerging infectious diseases such as COVID-19, infectious diseases that have not been properly resolved, and non-communicable diseases (NCDs) that tend to increase every year. This can be seen from the portion of Indonesia's health expenditure that still focuses on curative efforts. One of the major health challenges in Indonesia is related to NCDs, which have been on the rise since 2010. Dietary habits, parenting, movement patterns, and eating patterns such as high calories, low fiber, high salt, high sugar, and high fat, followed by a sedentary lifestyle, choosing junk food/fast food, coupled with a lack of physical

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activity, stress, and lack of rest, trigger the onset of hypertension, diabetes, obesity, cancer, heart disease, and hypercholesterolemia among Indonesians. Our efforts must continue to reduce the incidence of NCDs to achieve low rates and encourage the achievement of health development targets, including the 2030 SDGs targets.

Accessing healthcare services involves not only proximity to the service but also other important factors, including supply determinants and demand determinants. Supply determinants pertain to various aspects related to the services themselves, including the organization and physical infrastructure of the service, its location, availability, utilization, distribution of personnel, service costs, and quality. Meanwhile, demand determinants or user factors refer to factors that influence the demand for healthcare services, such as the low educational attainment, socio-cultural conditions of the community, and low or poor income levels. For effective access to healthcare services, it is essential to have readily available facilities and personnel, affordable costs, reasonable distances, and socio-cultural considerations that are acceptable to users.

The primary health center, or Puskesmas, is facing a shortage of health workers, which is making it challenging to provide essential health services, particularly those that require outreach efforts. The primary reasons for this inadequacy are the vast size of the health area and the difficulty in reaching certain areas. Consequently, to compensate for the shortage of staff and limited resources, some health services have been reduced from monthly to once every three months, especially in remote and hard-to-reach villages. As a result of this constraint, the coverage of services outside the Puskesmas building is significantly lower compared to areas that are more accessible.

The Healthy Indonesia Card (KIS) program, which is part of the Nawa Cita priority agenda of the Working Cabinet of the President of the Republic of Indonesia, is the implementation of Article 28 paragraph 1 of the 1945 Constitution of the Republic of Indonesia, which guarantees every citizen's right to obtain health services in order to achieve equality and justice. The KIS program aims to provide health services to all citizens and is realized through the development of the National Health Insurance Program (JKN), which has been implemented from Remote Area Border Islands (DTPK) to urban areas. The JKN program is being implemented in stages according to the government's financial capacity. The participation policy is regulated in Presidential Regulation of the Republic of Indonesia (Perpres) Number 19 of 2016, which requires every citizen to become a participant, and guidelines for the implementation of the JKN program are provided in the Minister of Health Regulation Number 28 of 2014.

According to Reinke (1994), personnel deployment begins with a functional analysis that evaluates the local service needs. However, Budiarto et al. (2007) found that the appointment of Civil Servant Candidates (CPNS) in remote areas is not prioritized based on their research in remote areas of Sumenep and South Central Timor districts. The absence of incentives in the form of financial rewards for remote areas makes it difficult to recruit Civil Servants (PNS) to work in remote areas. Therefore, there is a need to focus on balancing the work period, workload, and rewards for civil servant health workers, particularly in health center resources, especially in remote border areas.

To ensure effective provision of healthcare services in remote border areas, transportation is a crucial determinant in addition to the availability of health center resources. Therefore, careful planning is necessary to meet the transportation needs of these areas. The estimation of transportation requirements depends on various factors such as the area's condition, the number and distribution of service targets, and the type of activities conducted in the area (T. D. Baker & Reinke, 1994). In this regard, the Ministry of Health must give particular attention to remote border areas and consider these factors when planning and providing transportation services to ensure that healthcare services are accessible and available to those in need.

Regarding the determinant of demand, which involves user factors, some challenges that exist include the distance between the user's place of residence and the health service facility, difficulties in accessing health services, as well as the lack of funds for transportation and medical expenses, which may be due to the economic situation of the community. Therefore, it is crucial for the Ministry of Health to work closely with local governments to address these issues effectively (Suharmiati & Astuti, 2013).

The Community Health Development Index (HDI) is a composite indicator that determines the ranking of districts/cities in terms of health development. It is formulated from community-based health data, including Basic Health Research (Riskesmas), National Socio-Economic Survey (Susenas), and Survey of Village Potential (Podes). The HDI is used to assess the progress of health development and to determine whether long and healthy life expectancy is being achieved. The indicators used in the development of IPKM, which is the Indonesian term for HDI, are chosen based on general principles such as simplicity, measurability, usefulness, reliability, and timeliness. These indicators are also indicative of the impact of the previous year's health development. IPKM serves as a reference for local governments to develop intervention programs and advocacy materials to improve their health rankings. It is also used to identify severe/special health problem areas (DBKBK), determine the allocation of health assistance funds from the center to the regions, and assist the Ministry of State Development of Disadvantaged Regions (KNPDT) in developing districts/cities (Ministry of Health, 2010). The provinces with the highest and lowest rankings for 2013 and 2018 have remained unchanged, with Bali Province ranked as the highest and Papua Province as

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the lowest. In 2018, the gap in rankings widened significantly in Papua Province, which is a cause for concern as there has been no improvement over the five-year period and the gap remains wide.

President Joko Widodo (Jokowi) has signed Presidential Regulation (Perpres) Number 63 of 2020 concerning the determination of underdeveloped regions for 2020-2024. There are 62 regions designated as underdeveloped, located in various provinces such as North Sumatra, Central Sulawesi, Maluku, Papua, and West Papua. The 2018 Community Health Development Index (IPKM) shows that two provinces in Papua have the lowest IPKM ranking among 34 provinces. Even during the period of 2013-2018, the Papua region did not show an increase in the IPKM ranking. The low IPKM in Papua is an early indication for the Indonesian government to monitor and improve health development in the region. One of the strategies undertaken by the government is to increase the population's access to health services, which can be realized through the national social health insurance system. Based on the 2018 IPKM, it can be seen that Papua has the lowest IPKM compared to other provinces in Indonesia, with a value of 0.4888, representing an increase of 11.42% compared to 2013 (0.4387).

There are several issues and challenges that exist in this remote area, which require urgent attention and action. These challenges are diverse in nature and scope, ranging from management-related issues, such as:

1. Management

One of the most fundamental issues in managing programs in remote Puskesmas areas is the lack of support for personnel, facilities, and equipment. The majority of health centers in these remote regions report a shortage of qualified staff, making it challenging to provide adequate care. Additionally, existing staff often have a limited workload that results in duplicated tasks, making it difficult to organize the division of labor both inside and outside the building.

In terms of equipment, there are also limitations, especially in means of communication and transportation. The Single Side Band (SSB) is the only communication tool for many health centers to communicate with other areas, but it is not owned by many centers, and even if it is, it is often damaged. This SSB is crucial for liaison with the Provincial Health Office or other agencies, especially for reporting outbreaks that require immediate handling. Similarly, many existing means of transportation such as motorized boats and motorcycles are also damaged.

Another critical support management element that is problematic in remote areas is the availability of medical equipment and medicines. Medical equipment is inadequate, and some Puskesmas do not even have the minimum required equipment. Referral actions that are difficult to implement require the Puskesmas to provide complete medical equipment. In terms of medicines, the system of rational use of drugs and drug warehousing in many health centers is also inadequate.

2. Disease disorders

In general, the types of illnesses experienced by residents in remote areas are similar to those in other areas, such as acute respiratory infections, pulmonary tuberculosis, and diarrhea. What distinguishes remote areas from non-remote areas is the high incidence of clinical malaria. Clinical malaria is among the top 10 diseases in some areas, including Central Sulawesi, Irian Jaya, and Southeast Sulawesi. This is due to the geographical situation of these areas, which are often located in coastal or mountainous regions.

3. People's Medical Habits

The treatment habits of people in remote areas still include the use of traditional medicine, including traditional healers. This indicates that there is still a strong tradition within these communities to practice medicine and believe in practices beyond the reach of modern health science. This situation poses a challenge for the health sector and Puskesmas in convincing and providing the best possible care for the community in remote areas.

4. Community Behavior and Beliefs

Almost all Puskesmas in 9 provinces have reported that there are still many people in remote communities within their working areas who hold beliefs or engage in behaviors that do not support health efforts. Seeking treatment from traditional healers is a common behavior found in almost every Puskesmas area. In fact, there are communities that prioritize seeking treatment from "opekong" (traditional healers in Riau Province) over Puskesmas. These traditional healers include those who use herbal concoctions, those who practice magic, those who use mantras, and traditional birth attendants. Public trust in these traditional healers, magic, and gods is relatively high. This situation poses a challenge for Puskesmas in convincing the community to seek proper medical treatment and promoting the best health practices.

Beliefs related to medicine in remote areas include bathing in the river to treat coughs, avoiding giving minuet to children with diarrhea, and considering children with seizures to be possessed by demons. Some communities also have taboos against injections or immunizations, taking newborns outside before 40 days, or attending Posyandu (integrated health post).

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Mothers may also remain seated for 40 days after giving birth, and newborns may be given bananas. Additionally, children with morbili may be kept in bed, and malaria spleen enlargement may be treated through sequencing.

These beliefs and behaviors that are not in accordance with health efforts are particularly common in very remote areas where access to healthcare services is limited. This presents a challenge for turning these negative beliefs and behaviors into something positive.

The geographical conditions of the Puskesmas areas in remote areas that were visited successfully vary, including tidal areas (Jambi), islands (Riau Islands, Sulawesi, and parts of West Sumatra), riverside or coastal areas (parts of West Kalimantan, parts of Central Kalimantan, parts of South Sulawesi, and parts of Riau), and mountainous areas (Aceh, Sulawesi, parts of Kalimantan). Depending on the regional conditions, each region has different environmental health conditions.

In tidal areas, clean water supply and sewage disposal remain problematic. To fulfill their daily water needs, people, especially in urban areas, buy water or collect rainwater through rainwater harvesting (PAH). In rural areas, people often rely on river water or existing groundwater sources, which at high tide usually become filtered. Similarly, many people do not have latrines, and even if they do, the conditions are inadequate, with only a small enclosure behind or beneath the house that is likely to be destroyed by water during high tide.

In islands, riverside, or mountainous areas, the provision of clean water is relatively "better" than in tidal areas. Although it is still difficult, there are "relatively many" sources of water such as rivers, dug wells, springs, etc. As for places to defecate, many people in these areas still do so in rivers, gardens, and so on.

These results are consistent with research findings by Laksono et al. (2023), which found that the average utilization of primary health services in Papua in 2018 was only 7,6%. Some districts in the central mountains have low primary healthcare utilization due to extreme geographical barriers. Based on insurance ownership status, the majority of Papuans living in rural areas are not covered by health insurance, either private insurance or government-run insurance (JKN). In contrast, those who are insured are middle- and higher-educated, employed, and have travel times to primary healthcare services of less than 10 minutes.

Laksono et al. (2023) discovered through their research that the utilization of primary healthcare services in the Papua region is impacted by several factors, including the need for healthcare services, the ability to access healthcare services, and the speed at which healthcare services can be accessed. The study also found that government-run insurance plays a crucial role in increasing the likelihood of primary healthcare utilization in the Papua region, and is more effective than other health insurance categories. However, to optimize the function of primary healthcare in remote areas of Indonesia, particularly in Papua, other strategies must also be implemented to reduce the barriers faced by communities and practitioners.

In order to meet the demand for better access to high-quality health services, particularly among individuals residing in remote and border/island regions, various stakeholders, including the Ministry of Health (MOH), BPJS (Social Security Agency for Health), and Bappenas (National Planning Agency), have developed and improved policies to support health services. The eastern part of the country is confronted with various obstacles such as geographic remoteness, a scarcity of human resources, and inadequate facilities. In response, policies have been put in place to entice medical personnel to work in remote areas by providing incentives. Despite these efforts, there are still challenges to overcome.

Indonesians have a long-standing tradition of utilizing traditional medicine practiced by traditional healers, alongside modern medicine used by health workers. Particularly, those living in rural and remote areas prefer traditional healers over health workers. Traditional birth attendants (TBAs) are a significant part of Indonesian culture and are believed to have the ability to cure various illnesses, including chronic diseases like cancer, heart disease, and kidney failure. Baby shamans are also quite popular in Indonesia. However, as TBAs do not possess medical expertise, the MOH has limited their role to supporting mothers during labor. Labor and delivery must be handled by trained medical personnel. To preserve the presence of TBAs, the MOH has created a partnership program between TBAs and midwives. Under the partnership, TBAs assist pregnant women, accompany laboring women to midwives, care for newborns, and provide massage therapy for both mothers and babies. However, due to factors such as limited access to midwives and health facilities in certain areas, as well as trust issues, many mothers still prefer to give birth at TBAs instead of midwives.

It can be observed that there is a noticeable discrepancy in the availability of health services in terms of the number of health facilities and medical professionals among provinces and districts/municipalities. It appears that the decentralization process has not led to an improvement in the fair distribution of health services and has even made the situation worse (Thabrany, 2006), thereby increasing the difficulty in accessing health services. Before decentralization, newly graduated medical professionals, dentists, pharmacists, and other health practitioners were required to serve in rural areas, which helped to address the disparity in health workers' distribution in poorer and more remote regions (Emmerson, 1999). However, under the current decentralization system, local governments have to compete with each other to hire health workers, and they often

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struggle to do so due to their inability to provide attractive incentives (Thabrany, 2006). The uneven distribution of health workers in Indonesia implies that there is a considerable gap between the demand and supply of healthcare providers in remote and underdeveloped regions. Health workers are typically hesitant to work or reside in these regions due to a lack of infrastructure, education opportunities, and transportation. It is generally assumed that most health workers prefer to work in Java and large cities rather than remain in their home or remote areas (Mahendradhata et al., 2017).

Apart from ensuring adequate health financing, local governments also have important responsibilities in implementing the various components of the National Health Insurance (JKN) system. This includes identifying available gatekeepers in both public and private sectors, such as Puskesmas, private clinics, and other primary care facilities, as well as mapping out the skill mix, equipment, and other resources available at different health facilities. They also need to designate key referral institutions and regionalize referral nodes in remote areas, among other tasks. Additionally, local governments should provide regulation, guidance, and oversight to ensure JKN implementation at the local level.

However, there are significant disparities in health workers, facilities, and equipment between different regions, which create supply-side constraints and pose challenges to achieving universal coverage. This problem is not limited to shortages in overall numbers but also affects rural and remote areas in particular. These areas not only have fewer health facilities and workers but also face difficulties in retaining doctors. As a result, equitable access to health services remains a challenge. The central government needs to invest more in health personnel, facilities, and equipment for disadvantaged areas to ensure equitable access to services. Unfortunately, the special funds available for these areas are often designated for activities rather than investment.

The rapid development of science and technology has made it easier for people to access various types of information through online media such as websites and social media. Information about health spreads very easily, with an unlimited reach in a very short time. However, the widespread information is not necessarily all correct information. The COVID-19 pandemic really gives us an idea of how the impact of the rapid spread of information regarding the health sector.

The current trend of spreading information through social media is very concerning. Despite the abundance of good information available, it often gets drowned out by false or misleading information that contradicts scientific theories or promotes harmful practices. This is particularly worrying given the rapid spread of such misinformation. Furthermore, much of the health news circulating on social media is written or published by individuals without any formal training in health or clinical science. As a result, there is a significant amount of distorted and misleading information being disseminated in the community. Health promotion efforts are linked to various determinants of health, including biological, physical, social, and environmental factors. The primary focus of health promotion is on behavior and its underlying factors, particularly the environmental factors that impact behavior. Therefore, health promotion aims to create conditions that facilitate healthy behavior and make it an easy choice. This can be achieved through a range of strategies, such as problem-specific interventions, prevention at different levels, basic health services, and health behavior activities. The key principles to consider include the knowledge domains that need to be mastered and the effective learning that occurs when nurses/health workers and clients collaborate.

The role and function of pharmaceutical personnel in health promotion have shifted from being drug-oriented to patient-oriented. According to the Regulation of the Minister of Health of the Republic of Indonesia Number 73 of 2016 concerning Pharmaceutical Service Standards in Pharmacies, pharmaceutical personnel are required to enhance their knowledge, skills, and behavior to engage in direct interactions with patients. Such interactions include providing drug information (PIO) and counseling to patients in need. The aim of Drug Information Services is for pharmaceutical personnel to offer information not only about drugs but also on various aspects of health.

Aside from providing PIO, counseling and home pharmacy care are also interactive processes between pharmaceutical workers and patients or families aimed at improving knowledge, understanding, awareness, and compliance, resulting in changes in patient behavior. In general, PIO and counseling activities in pharmacies and hospitals are almost identical. However, the distinction between health promotion in hospitals and pharmacies is that hospitals conduct visits. Visits are made to inpatients by pharmaceutical personnel independently or with a team of health workers. Additionally, visits can be arranged for patients who have been discharged from the hospital, either at the patient's request or as part of the hospital program, typically referred to as Home Pharmacy Care. Meanwhile, at pharmacies, Home Pharmacy Care is offered to patients with certain conditions, such as hypertension, diabetes, or tuberculosis, who require monitoring and follow-up to ensure they are complying with their treatment plan, and to provide motivation and guidance for a better quality of life.

Through PIO, counseling, and Home Pharmacy Care activities, pharmaceutical personnel can promote health and influence people's mindset regarding healthy living awareness. Pharmacies and hospitals are prime locations for health promotion activities due to the high number of visitors they receive daily, making it easy to conduct both direct (interpersonal interaction) and indirect (media) promotions.

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Health promotion methods can be divided into two main categories: Didactic (one-way) and Socratic (two-way) methods. Based on communication techniques, the methods can be further classified into direct and indirect counseling methods, depending on the targets achieved and the recipients' sensory perception of the target promotion. Additionally, the methods can be classified into Individual Education Methods (targeting individuals), Group Education Methods, and Mass Education Methods based on the number of targets.

Health promotion media can be categorized into several types, including print media (such as booklets, leaflets, and flyers), electronic media (television, radio, and video), billboard media, and entertainment media. Each of these media types can be used effectively to promote health, depending on the specific needs and characteristics of the target audience.



Figure 3. Documentations of health service activity

In the digital era, health facilities must adapt and transform to remain relevant. Health facility leaders must build agile organizations that can adapt to these change (Kumala, 2018). Firstly, health facility leaders need to acknowledge that the future has arrived and that the use of artificial intelligence is replacing the role of health facilities and doctors (Kumala, 2018). Secondly, health facility leaders need to foster an organizational culture that is open to change and supports continuous improvement with a digital mindset. This is crucial for the entire organization to not only survive but also thrive in this volatile era. Thirdly, healthcare leaders need to learn more about digital disruption in healthcare in the Industry 4.0 era and create a roadmap for their organization to face it. Fourthly, health facilities must reevaluate the relationship between health facilities at the referral level.

According to Candra (2018) in his article titled "Becoming a Leader in the Era of the Industrial Revolution 4.0," there are several key factors that leaders need to possess in this era. First, leaders need to be able to unite their team and provide a clear direction of purpose. Effective communication, creating a sense of safety, and fostering engagement are crucial in building a unified community. Second, leaders must have a blueprint that is understood, shared, and believed by all members of the organization. It's important to create trust within the team. Third, a strong leader must have a vision that goes beyond the company and has an impact on the team, the environment, and the world. Lastly, leaders need to be able to make quick decisions (Candra, 2018).

Leaders and organizations that do not quickly adapt from traditional thinking will become extinct. Mobile organizations that connect, collaborate, learn, are open to change, have passionate teams, and a forward-thinking spirit, and own and adapt to more advanced technologies or methods will become leaders in their industries. Leadership effectiveness depends on the compatibility of leader behavior with situational factors. Leader behavior is influenced by the leader's personal traits. As a leader, it is necessary to have good adaptation in every change that occurs in the Industry 4.0 era so that changes can be made in a positive way in the future. A leader of a health service organization, such as a health facility, is also expected to have the ability to know themselves and the organization they lead. Recognition of strengths, weaknesses, opportunities, and threats is a fundamental point in deciding where to take the organization they lead (Anggraini, 2022).

Research indicates that having an innovative leader and working in an innovative environment are positively correlated with the belief in using drone solutions in healthcare in the future. As individuals gain more experience, they also become more familiar with and able to learn about technology in general (Alba & Hutchinson, 1987). Moreover, early adopters or believers who

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possess knowledge and experience in new technologies can contribute positively to the further adoption of technology (Rosenbloom et al., 2016).

In a study conducted in Switzerland, Krey & Seiler (2019) found that attitudes towards technology adoption varied among employees and patients, as well as between healthcare-related personnel and other employee groups. Personal values and knowledge constructs can influence people's understanding of new technologies, leading to incomplete knowledge and skepticism towards them (Druckman & Bolsen, 2011). However, positive experiences with radical technological change can lead to a more accepting attitude towards change. To support healthcare implementation through the various phases of innovation, previous studies have emphasized the importance of having dedicated project management (Knoblauch et al., 2019; Mion, 2019). Innovative leadership and culture can strengthen the acceptance and implementation of transportation use in healthcare. Furthermore, it may help shape the organizational structure that is necessary to adapt to technological change. At the macro-level strategy, improving the planning, distribution, and empowerment of HRH can increase retention. This requires capacity at the national level, regulatory frameworks, and collaboration with donors. Advocacy needs to be done by the Ministry of Health that this is a shared problem, as any disruption at one level will have a negative impact on retention interest. Retention of health workers, especially in disadvantaged and remote areas, is very important (Santa, 2020). Good retention of health workers is vital in supporting the delivery of health services that will improve health outcomes (WHO, 2006). The WHO report (2006) states that the density of health workers is strongly related to the probability of survival, both for infants, children, and mothers. The lower the density of health workers, the lower the probability of survival. Good retention of health workers in an area is necessary to build trust between health workers and clients. Additionally, staff productivity will also increase so that health programs can run effectively and efficiently (Fang, 2001). When health workers leave an organization or region, there may be a shortage in the area, which will obviously affect the health services provided. Even if there are other suitable candidates to work in the area, recruitment and selection of new staff is often expensive and time-consuming (Humphreys et al., 2017).

The central government has implemented several strategies for health development efforts in various regions, including the procurement and placement of personnel in Puskesmas (community health centers) through the Healthy Archipelago Program, the placement of doctors and midwives, the construction of health facilities in border areas, the procurement of drugs and medical devices through e-catalog and Fornas, and the provision of operational costs for Puskesmas by channeling funds from the village fund model. However, these health development strategy programs are not equally accessible in all regions of Indonesia. Often, strategies in remote and hard-to-reach areas lag behind compared to other regions with easier transportation access.

The interdependence between the National Health System (SKN) and the Defense Health System (Siskeshan) creates a symbiotic relationship to strengthen the strategic importance of national healthcare. The National Health System is a comprehensive healthcare management system that involves all sectors of Indonesian society in a cohesive and mutually supportive manner, to ensure that the highest level of public health is achieved. This integrated healthcare management system encompasses health administration, health information, health resources, health initiatives, health financing, community participation and empowerment, science and technology in the healthcare sector, and legal arrangements related to health, all working together to optimize public health status. The SKN policy is grounded in reality, with the goal of promoting increased individual responsibility and community autonomy, enhancing the professionalism of healthcare personnel, and improving healthcare services in the areas of health promotion and prevention, as well as curative and rehabilitative efforts (Lardo, 2019). The possible development concept for the synergy of SKN and Siskeshan is to establish a strong network and Community Responsibility that is reinforced by a continuous medical intelligence process in several stages. The first stage involves supporting the SKN policy strategy by incorporating a defense health concept with a dimension to Global Health Risk Assessment, such as by implementing the concept of medical intelligence in SKN. The second stage involves empowering health facilities from primary to referral levels, not only in terms of service, but also in education and research, to serve as a measure of readiness and vigilance in the face of disasters and outbreaks. The third stage focuses on strengthening the participation of village health posts/Posyandu to enhance community participation, which serves as a social force for preventive and promotive programs. The empowerment of territorial noncommissioned officers in Posyandu is one of the ways to link grassroots-level community health empowerment that connects SKN and Siskeshan (Lardo, 2019).

A culture of defense health strategy that is based on two national resilience accesses can be a potential One Health strategy for strengthening national resilience. The first political access involves policies that focus on strengthening national territories as assets of national resilience, which includes regional epidemiology with geomedical mapping as a measuring tool for identifying disease threats and outbreaks as potential regional security threats. This is supported by problem-solving parameters based on regional independence. The second political access focuses on strengthening community participation, which is an important asset for implementing the national defense strategy and becoming part of the community culture. The

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concept of community participation empowerment is built to utilize all lines as grassroots potential and serves as the spearhead of the defense health strategy (Lardo, 2019).

To achieve healthy conditions, it is important to change unhealthy behaviors to healthy ones and create a healthy environment. One of the strategic places to prioritize health is in educational institutions, which are effective institutes for promoting health education. People can be taught about the consequences of living unhealthy lifestyles and the importance of adopting clean and healthy living behaviors.

Clean and healthy living behaviors (PHBS) reflect a family lifestyle that always pays attention to and maintains the health of all family members. There are steps in the form of education through the approach of community leaders or leaders, fostering an atmosphere of community empowerment, with the aim of recognizing and understanding the health problems that exist around us, especially at the household level. This is the starting point for improving patterns and lifestyles to be healthier. The main objective of the PHBS movement is to improve the quality of health through the process of awareness which is the beginning of the contribution of individuals in living a clean and healthy daily life behavior. The most important benefit of PHBS is the creation of a community that is health conscious and has the knowledge and awareness to live a life behavior that maintains cleanliness and meets health standards.

IV. CONCLUSIONS

From the above, it can be concluded that leadership in health service organizations is closely related to leaders who need to adapt to situational factors and conditions, while continuously honing and improving their personal qualities, in order to achieve organizational goals amidst the changes brought about by the industry 4.0 era. Leaders in the health sector need to transform organizational culture to be open to change and support continuous improvement with a digital mindset. Focusing on providing health services at the community level not only leads to more efficient and equitable use of health resources but is also a consistent component of a strong and effective health system.

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