

Organizational Capacity: Navigating Complexity in Integrated Primary Healthcare in Rural Indonesia

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This study explores the organizational capacity of the Jeneponto District Government in implementing the Integrated Local Health System (ILP), focusing on infrastructure, technology, and financial resources. Using a qualitative case study approach, data were gathered through interviews, observations, and document analysis involving key stakeholders such as government officials, health workers, and community members. The findings highlight several challenges, including inadequate health infrastructure, limited availability of medicines, and a shortage of health workers in remote areas. The use of digital systems for monitoring remains suboptimal due to technical limitations and lack of ICT support. Financially, support for Posyandu operations and incentives for cadres are uneven, with budget commitments from local governments needing improvement. The study emphasizes the need for stronger organizational capacity through better infrastructure, improved digital health systems, and sufficient financing. Collaboration across sectors and firm political commitment are essential to ensuring the success of ILP and advancing primary health care services.

Keywords: Health Financing; Health Infrastructure; Health Information Systems; Organizational Capacity; Public Services

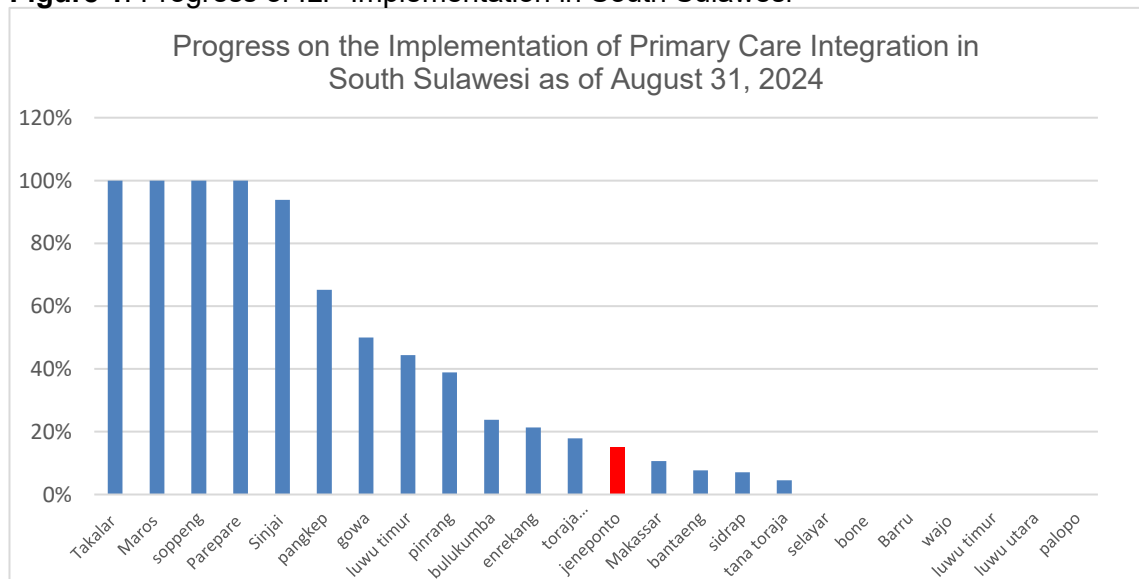
INTRODUCTION

Primary health care plays an important role in a country's health system. A resilient primary healthcare system enables a rapid response to pandemics and disasters (Indonesian Ministry of Health, 2022). In the Indonesian context, Puskesmas is a first-level health facility that organizes public health efforts and individual health efforts by prioritizing promotive and preventive efforts (Permenkes No. 43 of 2019). However, the quality of primary health care in Indonesia still needs to be improved. The national achievement of Minimum Service Standards (MSS) by 2023 is still low, not reaching the 100% target (Joint Secretariat for MSS, DG Bangda, Ministry of Home Affairs, 2024).

To improve the quality of primary health care, the Indonesian government launched the transformation of primary health care through an integrated primary care approach (ILP). ILP aims to realize more comprehensive, responsive, and affordable health services with a life cycle approach (Indonesian Ministry of Health, 2022c). The implementation of ILP requires the support of technological infrastructure, human resource development, inter-agency coordination, and the implementation of national standards (Tesema et al 2021; Sabo et al., 2021). However, the implementation of ILP in various regions, including Jeneponto District, is still not optimal.

Jeneponto District is one of the regions in South Sulawesi Province with a population of 418,969 people (BPS, 2024). The complexity of health problems in Jeneponto District requires strengthening primary health care through the implementation of ILP. In 2024, the Jeneponto District Health Office has issued a decree on the implementation of ILP in health centers and established an ILP Work Team. However, the achievement of ILP implementation in Jeneponto District has only reached 15%, which is lower than the achievement of South Sulawesi Province of 29.3% (Directorate of Public Health Governance, Ministry of Health, 2024).

Figure 1. Progress of ILP Implementation in South Sulawesi



Source: Directorate of Public Health Governance MOH, 2024

The low achievement of ILP implementation in Jeneponto Regency is caused by various factors, one of which is the limited organizational capacity of local governments. Organizational capacity includes aspects such as organizational structure, human resources, infrastructure, technology and finance that enable an organization to perform

its functions effectively (Abualoush et al 2018; Agarwal & Sambamurthy 2020). Deficiencies in these aspects can hinder the implementation of policies and programs (Ravichandran, 2018; AlNuaimi et al., 2022).

In terms of infrastructure, only 4 out of 20 health centers in Jeneponto District are able to implement ILP. The availability of physical infrastructure such as service rooms and medical equipment is essential to support quality primary health care (Sriram, 2018; Kapologwe et al, 2020). Limited infrastructure can limit the reach and quality of services provided by health centers (Baker & Tremolet, 2000; Ydyrys et al., 2023; Al-Worafi, 2023; Tariverdi et al., 2023).

From the technological aspect, applications and unstable internet networks are obstacles in the implementation of ILP in Jeneponto District. The utilization of information and communication technology (ICT) plays an important role in improving the efficiency, effectiveness and quality of health services (Ud Din et al., 2017; Majeed & Khan, 2019; Colnar et al, 2022). Good quality ICT infrastructure and internet networks are needed to support electronic patient data management as well as communication and coordination between facilities and health workers (Lucas, 2008; Al-Shorbaji & Al-Shorbaji, 2021).

In addition, limited financial resources are also a challenge in the implementation of ILP in Jeneponto District. ILP implementation requires adequate budget support for infrastructure procurement, technology development, human resource capacity building, and service operations (Çakır et al., 2022). Health budgets that are still dependent on the central government may limit local flexibility in allocating funds as needed (Cashin et al, 2017). The sustainability of ILP implementation requires a long-term financing commitment from the local government (Adhikari et al, 2022).

Therefore, this study aims to examine in depth the capacity of infrastructure, technology, and financial resources of the Jeneponto District Government in the implementation of Primary Health Care Integration. The results of the study are expected to provide policy recommendations for improving the organizational capacity of local governments in supporting effective and sustainable ILP implementation.

LITERATURE REVIEW

Adequate organizational capacity is essential for the successful implementation of integrated primary healthcare programs. Previous research has highlighted the importance of key elements such as infrastructure, technology, and financial resources in enabling effective delivery of primary care services. Abiuro and De Allegri (2015) emphasized that poor health infrastructure can be a major barrier to achieving universal access to care. Similarly, Bigdeli et al. (2013) noted that the availability of essential medicines and supplies plays a critical role in strengthening health systems and improving primary care quality. Studies have also underscored disparities in health workforce distribution, with remote and rural areas often facing challenges in attracting and retaining qualified providers (Strasser et al., 2016).

The utilization of information and communication technologies (ICT) has been identified as an important factor in supporting integrated primary care. However, research reveals several common obstacles, including limitations in technological infrastructure, system integration issues, and the need for health worker capacity building. Tamfon et al. (2020) highlighted how inadequate ICT infrastructure can hinder the effective collection and use of health data for decision-making. The challenges of integrating multiple health information systems and reducing duplication of data entry have also been noted in

developing country contexts (Nguyen et al., 2023). To address these barriers, investments in ICT infrastructure, system streamlining, and health worker training have been recommended (Adedeji et al., 2016).

Financial resource constraints pose another significant challenge for the implementation of integrated primary care, particularly in low-resource settings. Studies have emphasized the importance of adequate incentives for community health workers to motivate and retain these vital cadres (Kok et al., 2015). Sustainable financing mechanisms and the integration of community-based health activities into the broader health system have also been identified as key priorities (Pallas et al., 2013). Additionally, research has highlighted the need for strong political commitment and financial support from governments to enable the success and sustainability of primary care initiatives (Sacks et al., 2017). These findings underscore the importance of comprehensive efforts to strengthen health financing, including through adequate budget allocations, effective resource mobilization, and policies that prioritize primary healthcare.

RESEARCH METHOD

This research used a qualitative approach with a case study method. The qualitative approach was chosen to gain an in-depth understanding of the capacity of local government organizations in the implementation of primary health care integration in Jeneponto District. The case study method allows researchers to comprehensively explore phenomena in real-life contexts (Yin, 2018). The research was conducted in Jeneponto District, South Sulawesi, Indonesia, with a focus on the Health Office, DPRD, Puskesmas, and other relevant stakeholders.

The population in this study included all parties involved in the implementation of primary health care integration in Jeneponto District. The purposive sampling technique was used to select informants who were considered to have relevant knowledge and experience related to the research topic. Informants in this study consisted of the Regent of Jeneponto, members of the DPRD, Head of the Health Office, Head of Puskesmas, doctors, health workers, posyandu cadres, partners/NGOs in the health sector, and patients/communities. Data were collected through semi-structured in-depth interviews, participatory observation, and document review. Interviews were conducted with key informants using a flexible interview guide to extract in-depth information. Participatory observation was conducted by directly observing activities and interactions related to the implementation of primary health care integration. Document review included policy analysis, reports and other relevant documents.

Researchers used interview guides, field notes, and recording devices as tools in data collection. The interview guide was prepared based on the research focus and adapted to the characteristics of the informants. Data analysis was conducted using the Goodhue & Thompson (1995) interactive model consisting of data reduction, data presentation, and conclusion drawing. Data reduction involves selecting, simplifying and transforming raw data obtained from field notes. Data presentation was done in the form of narrative text, matrices, and charts to organize information systematically. Conclusions were drawn iteratively by verifying findings based on valid and consistent evidence. To ensure data validity, researchers used triangulation, member checking, and reflexivity techniques. Triangulation was done by using various data sources, data collection methods, and theoretical perspectives. Member checking involves checking the researcher's interpretation with informants to ensure accuracy. Reflexivity requires the

researcher to be aware of personal biases and consider their influence on the research process.

RESULTS

Infrastructure Capacity

The study found that several Puskesmas Pembantu (Pustu) and Village Health Posts (Poskesdes) in Jeneponto District were in poor physical condition. This situation hinders the delivery of quality and accessible health services. Additionally, the availability of essential drugs and health supplies was not yet adequate in several primary care facilities. The challenge was more significant in remote and very remote health centers where access to antenatal care (ANC), medications, and health personnel such as midwives and doctors was limited.

Technology Capacity

The study revealed that the technological infrastructure for supporting the ILP program was inadequate. Server capacity did not meet the needs of Local Area Monitoring (PWS), preventing full operationalization of monitoring dashboards. Health workers were burdened with multiple data entry tasks across various information systems. Additionally, many Puskesmas lacked computers, devices, and reliable internet connections, limiting the effective use of health information systems.

Limited Financial Resources

Financial constraints were identified as a major barrier to ILP implementation. Some areas had not provided sufficient incentives for Posyandu cadres, and village-level financing for Posyandu operations was not optimized due to limited budgets and lack of regulatory guidance. Moreover, while cross-sector advocacy efforts were made, the overall government budget allocation and policy commitment towards ILP remained inadequate.

DISCUSSION

Infrastructure Capacity

The findings reflect that inadequate infrastructure significantly impairs the implementation of ILP. This aligns with [Abiuro and De Allegri \(2015\)](#), who argue that insufficient health infrastructure disrupts the provision of universal health services. Similarly, [Bigdeli et al. \(2013\)](#) emphasize the importance of drug availability to strengthen primary care delivery. In remote areas of Jeneponto, the absence of essential personnel and infrastructure hampers access and service quality, echoing [Strasser et al. \(2016\)](#) who advocate rural-based strategies—such as incentives and training—to retain health workers in underserved areas. According to [WHO \(2007\)](#), infrastructure is a vital health system building block; thus, the Jeneponto government must commit to sustained investment in infrastructure, especially in remote regions, to achieve equitable access.

Technology Capacity

The study's findings are consistent with [Tamfon et al. \(2020\)](#), who highlight that limited ICT infrastructure can constrain health monitoring and data use. The burden of multiple data entries reduces the efficiency of digital systems, a challenge also noted by [Nguyen et al. \(2023\)](#), who advocate for system integration to improve health data management. Moreover, the lack of internet connectivity and devices confirms [Adedeji et al. \(2018\)](#)'s point that technological investments are critical for health systems in low- and middle-income settings. [Goodhue and Thompson's \(1995\)](#) Task-Technology Fit theory further supports that inadequate technology negatively affects performance when it doesn't align

with task demands. Strengthening ICT infrastructure and digital competencies in health workers is thus essential for optimizing ILP implementation.

Limited Financial Resources

Limited financial support hampers motivation and continuity of community-based programs, as also noted by [Kok et al. \(2015\)](#), who stress that incentives are crucial for cadre retention and performance. The underutilization of village budgets and lack of specific policies to support Posyandu reflect systemic gaps in community health financing. [Pallas et al. \(2013\)](#) underline the necessity of integrating community health financing into broader health systems to ensure sustainability. Additionally, [Sacks et al. \(2019\)](#) emphasize that political will and financial backing are essential for successful primary care implementation. According to [WHO \(2010\)](#), effective financial mobilization and resource allocation are fundamental to achieving health goals. Therefore, Jeneponto's local government must improve financial planning, policy alignment, and advocacy efforts to ensure sustainable and equitable implementation of ILP.

CONCLUSION

The results show that there are several challenges and limitations in these three aspects that can hinder the optimal implementation of ILP. In terms of infrastructure capacity, it was found that the fulfillment of Puskesmas infrastructure standards, the availability of medicines and health products, and the provision of adequate health workers in remote and very remote areas are still a challenge. This condition can have an impact on the quality and accessibility of health services for the community. In terms of technological capacity, the utilization of information systems and digital technology to support Local Area Monitoring (PWS) is not optimal due to limited server capacity, multiple data entry workloads, and lack of information and communication technology (ICT) infrastructure in some Puskesmas locations. This may hamper the effectiveness of health data monitoring and management in supporting ILP implementation. In terms of limited financial resources, not all areas have allocated adequate incentives for Posyandu cadres, Posyandu operational financing through the Village Government has not been optimized, and the commitment of the Local Government in supporting ILP through adequate policies and budget allocations still needs to be improved. These limitations may hinder the mobilization and allocation of resources needed to optimally support ILP implementation.

Based on these findings, comprehensive and synergistic efforts are needed from the Jeneponto District Government to strengthen organizational capacity in the implementation of ILP. This includes improving health infrastructure capacity, strengthening technology-based health information systems, and strengthening health financing through adequate budget allocations and supportive policies. Effective advocacy and cross-sector collaboration are also needed to realize political commitment and optimal support for ILP implementation. The results of this study provide input for the Jeneponto District Government and relevant stakeholders to prioritize strengthening organizational capacity as a foundation in realizing quality, comprehensive and equitable primary health services through the ILP approach. With strong organizational capacity, Jeneponto District is expected to achieve health development goals and improve public health status optimally.

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DECLARATION OF CONFLICTING INTERESTS

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. The authors affirm that the research was conducted independently and impartially, without any undue influence from funding agencies, political entities, or other external parties that could have affected the objectivity and integrity of the study.

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