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Analysis of Integrated Emergency Response System Activities and Implementation at the Regency/City Level in Pandan Regency in 2025

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ABSTRACT

Geographically, Indonesia is an archipelagic nation located at the confluence of four tectonic plates: the Asian Continental Plate, the Australian Continental Plate, the Indian Ocean Plate, and the Pacific Ocean Plate. In the southern and eastern parts of Indonesia, there is a volcanic arc stretching from Sumatra Island to Papua, flanked by ancient volcanic mountains and lowlands, some of which are dominated by swamps. In Indonesia, efforts to improve emergency services are realized through the implementation of the Integrated Emergency Management System (SPGDT). This system is a service mechanism that integrates emergency patient care from the pre-hospital phase to the post-hospital phase.-hospitals, hospital services, and referral systems between health facilities. The SPGDT emphasizes the importance of coordination between various parties, such as health workers, hospitals, the PSC 119 emergency service center, and other agencies such as the Regional Disaster Management Agency (BPBD), the police, and rescue agencies. The study showed that the implementation of the SPGDT in coastal areas has been ongoing but is not yet fully optimal. Limited transportation access can cause delays in the process of evacuating patients to referral hospitals. Therefore, special strategies are needed, such as the development of sea ambulances and improving emergency communication systems. Furthermore, increasing public awareness of the PSC 119 service is also a crucial factor in supporting the success of the SPGDT.

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1. Introduction

Geographically, Indonesia is an archipelagic country located at the meeting point of four tectonic plates, namely the Asian Continental Plate, the Australian Continental Plate, the Indian Ocean Plate and the Pacific Ocean Plate.(Herdiani & Mutiara, 2022),(Fitriyani, Saputri, & Putri, 2021)In the southern and eastern parts of Indonesia there is a volcanic belt (volcanic arc) that stretches from Sumatra Island to Papua, the sides of which are old volcanic mountains and lowlands, some of which are dominated by swamps.(Ratdomopurbo, Prabowo, & Sulistyowati, nd),(Rohiman, Prijanto, & Ratdomopurbo, 2018)Emergency services are a crucial component of the healthcare system because they are directly related to saving lives and preventing disability. Emergencies can occur at any time and in any place due

to acute illness, accidents, or natural disasters.(Prahmawati, Rahmawati, & Kholina, 2021),(Siswanto, 2025)Handling these conditions requires a fast, precise, and coordinated service system so that patients can receive medical assistance in the shortest possible time.(Susilo et al., 2025),(Pusponegoro & Sujudi, 2016).

In Indonesia, efforts to improve emergency services are realized through the implementation of the Integrated Emergency Response System (SPGDT).(Mochamad, Arso, & Setyaningsih, 2019),(Pratama & Manar, 2023)This system is a service mechanism that integrates emergency patient care from the pre-hospital phase to the emergency phase.-hospitals, hospital services, and referral systems between health facilities(Rahmat & Putri, nd),(Pujianto, Ose, Losong, & Lesmana, 2026). SPGDT emphasized the importance of coordination between various parties such as health workers, hospitals, the PSC 119 emergency service center, as well as other agencies such as the BPBD, the police, and rescue agencies.(Abdullah & Uluputty, 2024),(Pratama & Manar, 2023).

However, the implementation of SPGDT in various regions in Indonesia still faces various challenges such as limited human resources, infrastructure, communication systems.), as well as cross-sector coordination(Rudini, 2025),(Mochamad et al., 2019). In addition, the public's level of knowledge regarding emergency services such as PSC 119 is still relatively low, resulting in suboptimal utilization of emergency services. Overall, studies by experts such as Susilo, Rosady, Yudhanto, Trinugraha, Satispi, and Nur indicate that the success of SPGDT is greatly influenced by human resources, inter-agency coordination, technological infrastructure, and adaptation to local geographic conditions.(Taufiqurokhman, Murod, Satispi, & Andriansyah, 2021).

2. Methods

The type of research used is quantitative descriptive research with a cross-sectional approach. This study aims to determine the effectiveness of the implementation of the Integrated Emergency Management System (SPGDT) in improving emergency services at the coastal district/city level. Research Design: This study uses a descriptive evaluative design with an analytical observational approach. The study was conducted by assessing the implementation and effectiveness of SPGDT through the collection of primary and secondary data, such as coordination between agencies, emergency response time, availability of infrastructure, and involvement of coastal communities. The population in this study were all health workers, PSC 119 personnel, and coastal communities involved in the implementation of the Integrated Emergency Management System (SPGDT) in coastal districts/cities.

3. Results and Discussion

Respondent Characteristics Based on the results of the study of 40 respondents, the following characteristics were obtained: (a) Most of the respondents were health workers who worked in community health centers and hospitals. (b) Some of the other respondents were PSC 119 officers and coastal communities who had used emergency services. (c) The majority of respondents had more than 1 year of work experience in health services or emergency services. These characteristics indicate that respondents had direct or indirect involvement in the implementation of the Integrated Emergency Response System (SPGDT) in the research area. Implementation of the Integrated Emergency Response System (SPGDT) Research Results show that the implementation of SPGDT in coastal districts/cities has been carried out through several main components, namely: Pre-Hospital Services: Initial handling of emergency patients is carried out by the PSC 119 team and health workers at community health centers through a public reporting system. The team then takes initial action and evacuates patients to the nearest health facility. Hospital Services: Referral hospitals provide Emergency Rooms (IGD) that operate 24 hours. Patients referred from community health centers or PSC 119 will be handled according to the level of emergency through a triage system. Communication and Coordination System: The communication system is carried out through the PSC 119 service which functions as a center for receiving emergency incident reports and coordinating rescue teams. Although this system has been

running, several obstacles are still found such as limited transportation facilities and less than optimal response times in some areas. Supporting and Inhibiting Factors for the Implementation of SPGDT. Supporting Factors Several factors that support the successful implementation of SPGDT include: The existence of government policies regarding Emergency services. The presence of PSC 119 as an emergency service center. Support from healthcare workers competent in emergency management.

3.1 Inhibiting Factors

Some of the obstacles encountered in the implementation of SPGDT include: Limited emergency transportation facilities such as ambulances. Lack of health workers trained in emergencies. Low level of public knowledge regarding PSC 119 services. Geographical conditions of coastal areas make access to health facilities difficult.

3.2 DISCUSSION

The research results indicate that the implementation of SPGDT in coastal areas has been ongoing, but not yet fully optimized. This aligns with several previous studies that suggest that the success of an emergency service system is greatly influenced by the readiness of human resources, infrastructure, and cross-sector coordination.

In coastal areas, geography is a major challenge in implementing SPGDT. Limited transportation access can cause delays in evacuating patients to referral hospitals. Therefore, special strategies are needed, such as developing sea ambulances and improving emergency communication systems. Furthermore, increasing public awareness of PSC 119 services is also crucial for the success of SPGDT. Public participation in promptly reporting emergency incidents can expedite the medical team's response, thereby increasing the chances of patient safety.

4. Conclusions

The implementation of SPGDT in coastal areas has been carried out through a pre-hospital service system, hospital services, and coordination through PSC 119. The implementation of SPGDT has not been fully optimal due to several obstacles such as limited infrastructure, health workers, and emergency transportation systems. The geographical factor of coastal areas is a major challenge in handling emergency cases because it can affect service response time. The level of public knowledge regarding PSC 119 emergency services still needs to be improved so that the emergency system can be utilized optimally.

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