



## Quality Service of The Online Integrated Referral Information System in The Emergency Department of RSUD Bahteramas Southeast Sulawesi Province

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**ABSTRACT:** The Integrated Referral System (Sisrute) is important in the referral system for patients who need emergency services. This study aims to determine the quality of the Sisrute IGD service at Bahteramas Hospital through qualitative research with a phenomenological approach. The primary informants were 12, and the supporting informants were 6—determination of informants using non-probability and purposive sampling techniques. The results showed that the effectiveness of the Sisrute program has not been maximized because there are obstacles such as internet network problems, slow referral response time, and a lack of resources to manage the program. The security aspect of the Sisrute application is considered quite good because it is supervised by the State Cyber Agency (BSSN), which uses one password for one user. For Sisrute's user admin personnel, there may still be insecurity flaws, such as accounts needing to be signed out after use or users giving their access accounts to other unauthorized parties. Regarding focusing on patients, Sisrute services are considered to have been implemented based on the conditions and needs of patients. The timeliness of Sisrute services is considered a waste of time when answering Sisrute.

**KEYWORDS:** Emergency Room at Bahteramas Hospital, Service quality, Sisrute.

### INTRODUCTION

As healthcare institutions, hospitals are essential in providing comprehensive individual health services. Health services provided can be in the form of inpatient, outpatient, and emergency services.(1) In addition, the types of hospital services consist of medical services, rehabilitation services, prevention/prevention, health improvement, and a place of education. They can be a forum for research and development of science and technology in the field of health (Ministry of Health of the Republic of Indonesia, 2014).(2) Hospitals have an obligation in terms of recording and reporting on the activities of organizing the hospital. The recording and reporting are presented as a hospital management information system known as SIMRS.(3) The hospital information system is an arrangement related to data collection, data management or analysis, presentation of information, reporting analysis, and drawing information into conclusions that are comprehensively needed for hospital activities.(3) An integrated information system in service is essential in patient care, including hospital referral patients.(4)

The health service referral system is an organization of health services that regulates the delegation of tasks and responsibilities for health services reciprocally, both vertically and horizontally. Health referral services are carried out based on the competence of health facilities, starting from first-level health facility services to advanced referral health facilities. Some problems arise in this implementation, namely the current referral system; there is a buildup of patients in certain healthcare facilities, so services become less optimal, and patient safety needs to be considered. A good referral system will provide access to quality service and equitable distribution of health services.(5)

Referral patient services must be carried out in a planned, integrated, fast, and sustainable manner because they are related to the initial handling of patients quickly, precisely, and accurately. This must be done to avoid harming patients through delays in providing health care assistance. In addition, the emergence of various public complaints regarding the long queues of outpatients in hospitals and the difficulty of obtaining medical emergency services has become the spotlight of various parties. For this reason, through the Directorate General of Health Services, the Ministry of Health tried several breakthroughs to solve these problems by creating a digital referral system called the Integrated Referral Information System (Sisrute). The digital referral system is an



internet-based information technology that can connect patient data from lower service levels to higher or equal service levels (horizontally or vertically) to simplify and accelerate patient referral. Sisrute, which Dr Wahidin Sudirohusodo Hospital initially developed, has now been taken over by the Director General of Health Services to be developed and implemented nationally.

In the future, Sisrute will also be integrated with the Global Open Source Hospital Information and Management System (SIMRS GOS) so that all Health Service Facility Management Systems will be integrated into a system that can be connected. The Ministry of Health, through the Directorate General of Health Services, reported that 132 hospitals across 34 provinces in Indonesia have implemented Sisrute in the service process.(6) 17 (12.87%) national referral hospitals and 43 (32.57%) regional referral hospitals have used Sisrute. This means that (45.44%) of national and regional referral hospitals have used Sisrute in carrying out the referral system. These hospitals include Dr. Wahidin Sudirohusodo Hospital Makassar, Cipto Mangunkusumo Hospital Jakarta, Hasan Sadikin Hospital Bandung and 14 other national referral hospitals. Meanwhile, regional referral hospitals include Sawerigading Hospital Palopo City, Tenriawaru Hospital Bone Regency, Andi Makassar Hospital Parepare City, and 40 other regional referral hospitals.(5)

Some national and regional non-referral hospitals using Sisrute in the patient referral service system include Ungaran Regional Hospital, Yogyakarta Special Region Hospital, Dr. RM Djoelham Binjai Hospital, and several other government and private hospitals. So, originally via telephone, patient referral services have now switched through Sisrute online media.(7)

The advantages of the Sisrute application to support health referral services include

1. Patient medical information can be known quickly and entirely before the patient arrives;
2. Referrers can find out the destination of the hospital according to the patient's needs;
3. Referrers can be sure of the patient to be referred;
4. Planning of medical equipment and Human Resources (HR) in helping patient handling becomes more directed;
5. Patient safety can be further improved.

It is hoped that people who want to get treatment at the hospital can be served by hospitals ready before or before the patient arrives at the referral hospital because it has been arranged through SISRUTE.(8)

The Sisrute integrated referral system is crucial in the patient referral system, especially for patients with conditions that require emergency services. RSUD Bahteramas of Southeast Sulawesi Province is the only hospital with a referral centre for First Level Health Facilities (FKTP) and hospitals in Southeast Sulawesi. On the other hand, Southeast Sulawesi Province is one of the island-based regions, so the conventional referral system or patients directly referred to the RSUD becomes less optimal if they are not registered in the system or online first. This happens because sometimes the hospital that is the destination at that time is not ready in terms of facilities and infrastructure as well as the human resources needed for the type of disease or diagnosis of the disease being referred at that time. The conventional referral system is no longer used, and technical guidelines for using an integrated referral system have been enacted.(9)

Integrated referral system Sisrute is crucial and essential. As a referral centre hospital in Southeast Sulawesi Province and has the status of a hospital with full accreditation (five stars) by the Damar Husada Plenary Hospital Accreditation Institute (LARS DHP) in 2023, Bahteramas Hospital serves the people of Southeast Sulawesi, especially those who need health services, both outpatient, inpatient, and emergency. Bahteramas Hospital has an emergency room, which since 2012 has changed its status from an emergency unit to an emergency installation. Patient access to the emergency room varies; patients can visit the emergency room directly or by referral from the Network Hospital, FKTP/clinic, or family doctor. In the last three years, the number of patient visits to the emergency room has increased. In 2021, there were 8,231 patients; in 2022, there were 14,321 patients; and in 2023, there were 16,814 patients. From the total data of patient visits in 2023, patients who entered with referrals amounted to 1,549 patients spread from all hospitals and FKTP/clinics in Southeast Sulawesi.(10)

Based on the results of preliminary studies with emergency room officers and the person in charge of Sisrute at Bahteramas Hospital, it shows that so far, many FKTP and hospitals in Southeast Sulawesi have made referrals to Bahteramas Hospital through SISRUTE. All FKTPs and hospitals in the city districts in Southeast Sulawesi Province have made patient referrals at Bahteramas Regional Hospital. With the existence of Sisrute in advance, it is beneficial for referral recipient hospitals to prepare the services needed by patients who will be referred, starting from facilities and infrastructure to human resources (specialist/subspecialist doctors).

The Sisrute service stages in the emergency room at Bahteramas Hospital start with receiving online patient data from the referring hospital, marked by a notification on the referral computerization system in the emergency room. Then, the officer (admin) will



reply to the notification with an accepted or not accepted answer after analyzing the needs of the patient referred to the Bahteramas Hospital.

Referral service response time is a somewhat important issue in the referral system. Response time is the beginning of the incoming referral process, calculated by starting from the notification of incoming referral requests through the Sisrute application. The entry response time category is divided into 3 (three) parts, namely: initial response < 5 minutes, response to answer the referral 5 minutes–45 minutes (accepted or not), and response to receiving a very slow referral > 45 minutes.(9)

Many patients want to be referred to the referral centre hospital, but it cannot go well because the response from the destination hospital is not fast. Research shows several factors related to the quality of the online referral system (Sisrute), such as perceptions of ease of use and interest in using Sisrute.(11) The problem of response time in the patient referral system through Sisrute has become a complaint for the hospital and FKTP parties who make referrals. This also happened to patients referred to the Bahteramas Hospital, Southeast Sulawesi Province. Situations in the online referral system sometimes slow the delivery of a response from the intended hospital (RSUD Bahteramas). This condition can cause delays in the patient referral process, and, in some cases, patients sometimes need to arrive on time to get the expected services. In other cases, patients sometimes die on the way to Bahteramas Hospital as a referral site. In 2023, there were 4 cases of referral patients at the emergency room of Bahteramas Hospital, Southeast Sulawesi Province, who died on the way. Meanwhile, 34 other cases were late in getting treatment due to the late referral process.(10) Based on the above phenomena, this study aims to analyze the quality of service of the Online Integrated Referral Information System (Sisrute) at the Emergency Room of the Bahteramas Hospital, Southeast Sulawesi Province.

## RESEARCH METHODS

This type of qualitative research uses a phenomenological approach, a method that aims to understand the phenomenon or reality that occurs in service quality. The significance of this research lies in its focus on the emergency room of Bahteramas Hospital, Southeast Sulawesi Province, a crucial area of healthcare service delivery. The findings of this study will provide valuable insights into the emergency room service quality, benefiting healthcare professionals, researchers, and policymakers.

The main instrument of this study was the researcher himself, with the invaluable assistance of a research assistant. The research assistant played a crucial role in documenting the research process, conducting in-depth interviews, and facilitating focus group discussions. Their contribution was instrumental in the comprehensive data collection process.

The data collection method used to obtain data/information in this research was meticulous and thorough. It involved in-depth interviews and observation with research informants. The determination of informants in this study was done using a non-probability sampling technique, namely the purposive sampling technique, which is a sampling technique (informants) based on a criterion determined by the researcher. The main informants of the study were 12 people consisting of 2 officers each from the administration section of the referral service system at Bahteramas Hospital, Southeast Sulawesi Province and 1 head of the Emergency Room Installation. There were 3 nurses on duty at the Bahteramas Emergency Room and health workers (nurses or other health workers) who escorted / accompanied referral patients from the hospital as many as 3 people and from the puskesmas as many as 3 people. Supporting informants from this study were 6 people consisting of 3 families of patients referred from the hospital and 3 people from families referred from the puskesmas.

*Qualitative data analysis* is an effort made by working with data, organizing data, sorting data into manageable units, synthesizing, looking for and determining patterns, finding essential things that can be learned and deciding what to tell others. The data obtained from the interviews were carried out manually by the qualitative data management guidelines, where the data contained an analysis of the quality/quality of the emergency room service Sisrute at Bahteramas Hospital, Southeast Sulawesi Province, which was the subject of the research.

## RESULTS AND DISCUSSION

In 2018, WHO introduced the Framework on Integrated People-Centered Health, a manifestation of high-quality services seen from 7 dimensions of health service quality: adequate, person-centred service delivery, safe, timely, efficient, integrated and fair. From this framework, the Indonesian Government, through the Ministry of Health, adopted the Framework on Integrated People-Centered Health by incorporating the seven dimensions of health service quality into health policy, namely the Regulation of the Minister of Health of the Republic of Indonesia Number 30 of 2022 concerning National Indicators of Quality of Health Services for



Independent Practitioners, Doctors and Dentists, Clinics, Community Health Centers, Hospitals, Health Laboratories and Blood Transfusion Units. The researcher uses this framework to assess and evaluate health services through Sisrute at Bahteramas Hospital as a national indicator of the quality of health services in Indonesia. However, of the seven dimensions, this paper only focuses on Effectiveness, Safety, Patient focus and timeliness. Based on the study's results, these four dimensions influence the quality of Sisrute services in the emergency room at Bahteramas Hospital.

## A. Effectiveness of Sisrute Services

The definition of practical in the context of health services, especially related to Sisrute services, is in providing evidence-based health services to those who need them. In this case, it will be seen whether or not health care is to the population's health needs (community) and whether it is consistent with scientific knowledge and evidence to achieve the best possible health outcomes. In short, it can be said that this practical dimension shows that health services, including Sisrute services, must provide evidence-based health services to the community.(12)

The results showed that informants knew and understood Sisrute, especially internal health workers, First Level Health Facilities (FKTP) and advanced Referral Health Facilities. The Sisrute program at Bahteramas Hospital, Southeast Sulawesi Province, is already running, specifically for patients referred to the emergency department of Bahteramas Hospital; the referrals patients receive are certainly referrals through Sisrute. However, the effectiveness of Sisrute implementation in this health service unit is considered not optimal. This occurs because there are still several obstacles in the Sisrute service process, both from the Sisrute side at the referring hospital and from the side of the hospital receiving the referral. Some of the main obstacles are still found, such as:

1. Network constraints in the process of receiving referrals through Sisrute
2. Response time to reply
3. The absence of a particular admin who manages Sisrute at the Emergency Room of Bahteramas Hospital, Southeast Sulawesi Province

According to several key informants, this network constraint occurs because Sisrute at Bahteramas Hospital is still working with specific providers, and there are constraints on old computer equipment that needs to be upgraded with better specifications. Network constraints that are often problematic are also felt by First Level Health Facilities (FKTP) and Advanced Referral Health Facilities (FKRTL), which make referrals through Sisrute to RSUD Bahteramas late.

Meanwhile, with limited time, the problem of response time or time to answer/respond to Sisrute is also still prominent. This condition occurs when the patients in the emergency room are complete, so the admin is late in answering the incoming Sisrute. In this condition, the referring hospital usually calls the emergency room of Bahteramas Hospital to confirm that Sisrute submissions from FKTP / Network Hospital are followed up. This response time constraint is also caused by the referring health facility not completing the referral document or the data sent being inappropriate.

In addition to the obstacles that come from the Sisrute factor itself, there is also a contribution from the availability of health facilities at RSUD Bahteramas. One is critical rooms such as ICU / ICCU / PICU / NICU, which are complete. This can affect the quality of Sisrute services. The emergency room staff will not accept patients referred through Sisrute if the ICU room is full. Patients who come directly to the emergency room at Bahteramas Hospital sometimes experience service delays if the room conditions are full, especially the critical room (ICU). Referral patients who enter the emergency room often need intensive treatment, which must be done in the ICU.

The results of interviews with supporting informants (patient families) show that most of them do not know and do not understand about Sisrute. Their ignorance about Sisrute is also accompanied by their ignorance about the obstacles that occur or are faced in the Sisrute service system. According to the results of the informant interviews, they stated that in the referral process (Sisrute), they only follow the directions of health workers where they get referrals, for example, at FKTP or hospitals.

Based on the results of interviews from all patient families who became informants in this study, it shows that there has been no experience when their families were referred through Sisrute; they do not know or understand what Sisrute is and how the referral mechanism or process through Sisrute works. Generally, the patient's family fully entrusts the referral process to health workers. This shows that Sisrute services still need to be socialized to the community, especially to families of patients seeking treatment. They carry out or follow the referral process but do not understand at all what Sisrute is and how the service process works.



Patient families also needed to clearly understand the Sisrute service procedures, including the ideal response time, the requirements needed in the referral process, and information on the stages of patient referral. Related to this, most patient families said several obstacles they encountered in the online referral system, such as long waiting times, slow responses, and no clarity on when it was confident that the patient and his family would be referred. In addition, there is a lack of space, such as the ICU/ICCU room being full.

Patient families often complain about the slow referral process, such as patients who have to wait up to 24 hours (1 day) or even more. Some patients were dropped off by their families at the FKTP at 19.00 WITA and were only successfully referred at 23.00 WITA. Some patients have to wait for a reply from Bahteramas Hospital since 9 am, and only in the afternoon can the patient be transported to Bahteramas Hospital using the local hospital ambulance. Another condition is that patients who enter the Puskesmas at dawn get information to be referred at 13.00 WITA because the Puskesmas officer gets information that the ICCU of the intended hospital is full.

This common condition occurs as long as Sisrute is used in the referral process. Patients and their families often do not get clear information from the referring health facility about the procedures or stages of the online referral process that they should know. Patients are generally only asked to wait until the FKRTL responds to the referral process. Some patients only tried to understand or assumed that online referrals were made after the patient's family was informed they would be referred. The officer went to the computer room, which means that the information received by patients about online referrals still needs to be improved.

The obstacles obtained regarding the ineffectiveness of this Sisrute service are in line with the article (12), which states that the use of Sisrute in referring COVID-19 cases at Semen Padang Hospital has not been effective in realizing service goals and achievements due to the minimal number of patients received through Sisrute compared to patients who come to the ER themselves.

From the studies conducted and the studies found by previous researchers, there are similarities in the perspective of the effectiveness of Sisrute services, where the results of interviews with informants state that Sisrute services have not been effective in their implementation due to technical constraints from several services, ranging from slow response time in answering Sisrute, the absence of specialized officers to the availability of less infrastructure that is needed by the community so that the obstacles are closely related to the Sisrute service process. What is different from previous researchers is that previous researchers conducted their research during the COVID-19 pandemic, so the measure of service ineffectiveness is still related to the situation and conditions at that time. For example, restrictions on large-scale activities, service limitations/refusal to refer patients with non-covid cases, and required antigen and swab examinations before the referral process. However, for now, service effectiveness is no longer related to these conditions because it is currently in normal conditions, so the ineffectiveness of services is directly caused by technical constraints in the service process, as described in the previous discussion.

## B. Safe Dimensions of Sisrute Services

In the Indonesian dictionary, "safe" means free from all threats, disturbances, and dangers and protected from feelings of fear. Meanwhile, Marina (2021) states that the need for security is the need to protect oneself from various threatening dangers. The need for security includes order, law, tranquillity, protection, physical safety, and freedom from threatening forces such as war, riots, and danger.(13)

The safety referred to about the security and confidentiality of patient data conveyed through the Sisrute (Integrated et al.) service in this study ensures that all patient data transmitted through the Sisrute service is guaranteed to be confidential and is used solely for medical services or treatment, without posing any danger or risk to the patients. Security focuses on protecting patients' data, which can only be accessed and used for legitimate medical purposes without any misuse or potential harm to the patients. This definition aligns with users' need for security when using software applications, especially those that handle sensitive patient health information.(13)

Based on the results of observations and interviews, the Sisrute emergency service at Bahteramas Regional General Hospital has provided a pretty good level of security for the data stored in the Sisrute data centre at the Ministry of Health, the security of patient data, as well as the security of the utilization of facilities and infrastructure in the emergency department of Bahteramas Regional General Hospital. Some informants stated that the Sisrute system uses authentication with a single account and password for each authorized user, ensuring unauthorized individuals cannot access patient data at Bahteramas Regional Hospital as a referral hospital but also at the Primary Health Care Facilities (FKTP). In addition, the Sisrute application has been tested by the relevant team, and so far, no data leaks have been found. Patient data is also securely stored on the Ministry of Health's server. Nevertheless, some



informants stated that online data security cannot be guaranteed because hacker attacks are still possible. However, overall, the emergency service at Bahteramas Regional Hospital strives to provide adequate security for patient data and information.

This is not only from the perspective of data security in Sisrute but also from the perspective of the safety of patients undergoing treatment in the emergency room of Bahteramas Regional Hospital, which is also being prioritized as much as possible. Some informants state that patient safety during treatment in the Emergency Room of the Regional Public Hospital is adequately assured. Several indicators mentioned include that a doctor or nurse always accompanies patients, the referral process is carried out safely, the use of facilities by authorized personnel, patient safety depends on the awareness of the accompanying patient, and patient safety during referral is also guaranteed when accompanied by a nurse. Patient safety is also believed to be assured in the patient referral service process, from transportation to admission at the destination hospital. However, opinions also state that safety is not fully guaranteed, especially if the patient is accompanied by someone who does not know the patient's condition well, as well as ongoing issues related to communication and coordination among healthcare personnel.

Meanwhile, it is optimal from the security aspect of utilizing facilities and infrastructure in the care services used in the Emergency Room of Bahteramas Regional Hospital. The informant mentioned that Bahteramas Regional Hospital strives to improve its services and facilities because it serves as a referral hospital, ensuring the safety of these facilities, such as equipment that is always calibrated and tested for functionality. The provided facilities, including ambulances, adequately ensure the safety of both referred and admitted patients. Technology such as firewalls to guarantee data security, routine maintenance and care of facilities, and complete and adequate infrastructure enables the hospital to provide better services than community health centres or other health facilities.

Regarding referral security in line with the study conducted by Ahkam, Muhlis, & Samsu Alam, 2021, which found that the implementation of an integrated referral system (Sisrute) at the Labuang Baji Regional Hospital in Makassar City is perceived positively by informants in terms of hardware, software, and the expertise of information technology (IT) personnel. It was found that in terms of system definition, expertise, human resources, system appearance, features and functions, informant security, and access rights, only hospital access rights are used, not individual ones. (14)

In the study conducted and the discussion of previous research results, there is consistency in the security level for this digital-based referral system application, where the referral process is supervised by the National Cyber and Crypto Agency (BSSN) and can only be carried out by authorized personnel or those granted access rights to open the application in serving Sisrute. However, this research found a security gap in using the Sisrute application from the user's side, such as hacker attacks, users not signing out of the application after use, and users intentionally granting access rights to unauthorized individuals.

### C. Patient-Centered Dimensions

The focus on patients within the context of the Sisrute services in the Emergency Department of Bahteramas Regional Hospital refers to several aspects, namely

1. being patient-oriented according to individual preferences, needs, and values;
2. efforts to fulfil the desires of patients and their families;
3. instilling trust in patients and their families, and
4. services tailored to the conditions and needs of patients.

In the first aspect, the results of this study indicate that, in general, the Sisrute service process in the emergency department of Bahteramas Regional Hospital is sufficiently focused on patient conditions and well-coordinated, particularly in the administrative dimension of the Sisrute service. This is reflected in several reasons put forward by informants, particularly from the internal side of FKTRL, who view that the purpose of Sisrute is to enable the community to access better facilities, thereby focusing on patients. In the Sisrute application, some items include patient data, such as personal information, supporting examinations, and the patient's condition. The healthcare workers responding to Sisrute in the emergency department of Bahteramas Regional Hospital have good technical experience. However, at the Bahteramas Regional Hospital's emergency room, no dedicated admin is assigned to respond to Sisrute. The response to Sisrute is still carried out by healthcare workers (doctors and nurses) on duty (shifts) between their primary jobs as doctors or nurses. There is a high likelihood of an overlap in duties and authority. The implication is that Sisrute's response time will become longer.

In addition to those obstacles, there still needs to be better communication among the staff at FKRTL. Some of them, like nurses who receive referred patients, do not know the referral status in Sisrute. Such conditions are generally caused by the reference data



needing to be printed or the handover process between staff needing to be more accurate. As a result, if there is a shift change, the following shift staff need to receive explicit information regarding the arrival of patients.

Another condition that indicates the Sisrute service is not patient-focused occurs at FKTP or referring healthcare facilities. In this aspect, referral healthcare facilities still frequently encounter recurring obstacles. One is the completeness of the data sent to the referral health facilities. The referring officer has not focused on providing supporting data for the patient. This situation necessitates further follow-up from the referring healthcare facility and vice versa. This results in an increased waiting time for the handling of referred patients. Patients can be referred to healthcare facilities once all documents/requirements have been fulfilled. The Bahamas Emergency Department contacts the referring healthcare facility to complete the necessary examination data.

In the second aspect, the service process of the Emergency Department at Bahteramas Regional Hospital has generally made efforts to fulfil the desires of patients and their families. As a referral hospital, the Emergency Department at Bahteramas Regional Hospital strives to meet the needs of patients that previous healthcare services cannot address. Nevertheless, there are several obstacles, such as coordination, which sometimes needs more focus on the needs of the patients, as well as the impatience of the patients' families who want immediate referrals. Overall, Bahteramas Regional Public Hospital strives to fulfil patients' desires according to their needs as long as the data received from Sisrute is accurate.

Meanwhile, in the third aspect, the Sisrute emergency services at Bahteramas Regional Hospital also strive to instil trust in patients and their families. Patients and their families are confident that Bahteramas Regional Public Hospital, as an emergency referral centre, will be able to meet their needs, which previous healthcare services could not fulfil. This trust arises because Bahteramas Regional General Hospital strives to improve its facilities, services, and infrastructure to become a hospital that the community can rely on. Good communication between the hospital and patients/families is also believed to enhance trust further.

The fourth aspect of the patient orientation dimension relates to the efforts of Bahteramas Regional General Hospital in providing Sisrute services according to the conditions and needs of the patients. Bahteramas Regional General Hospital is assessed to have carefully evaluated the needs of patients referred through Sisrute, such as the availability of intensive care unit (ICU) facilities or other necessary services. The staff at Bahteramas Regional Public Hospital are also seen as confirming and adjusting the hospital's capabilities to meet patient needs, ensuring that patients will be admitted if they can be appropriately handled. This demonstrates the sensitivity of Bahteramas Regional General Hospital in providing Sisrute services that align with the conditions and needs of referred patients.

The same condition was found at Dr RM Djoelham Regional Hospital in Binjai. Bancin et al. (2020) found that the Sisrute application significantly aids in accelerating services, facilitating referral information regarding the clarity of patients accepted by the referred hospital, making consultations in patient management more directed, and minimizing patient rejections through coordination and communication between Dr. RM Djoelham Binjai Regional Hospital and the hospitals to which patients are referred/receiving hospitals. There are challenges in using this application; some hospitals still need to send complete patient data that matches the forms in the system, making it difficult for the receiving hospitals to respond to Sisrute. However, the advantages of using the Sisrute application at RSUD Dr RM Djoelham Binjai include that the referrer can know the destination hospital according to the patient's needs, ensure that the patient has received treatment from the referred hospital, and provide certainty regarding the patient who will be referred.(7)

From the studies conducted and the discussion of previous research results, there is consistency regarding the application of Sisrute, as seen from its features that focus on patients, including identity, general condition, supporting data, therapy, and the needs desired by patients that require referral. Another similarity found is the commonality in the technical implementation process of data delivery. Bancin et al. (2020) revealed that hospitals still send incomplete patient data according to the forms available in the system, making it difficult for receiving hospitals to respond to Sisrute. This condition aligns with what is happening in the emergency department of Bahteramas Regional Hospital, where data from informants indicate that there are still obstacles in implementing Sisrute, leading to a lack of focus on patients. Issues such as ineffective communication among staff during shift changes, incomplete referral data, and the need for dedicated personnel to specifically handle Sisrute for optimal performance have been highlighted.(7)

#### **D. Timeliness Dimension of Sisrute Services**

Timeliness in Sisrute services refers to the initial response to incoming referral processes, calculated from the notification of the referral request through the Sisrute application until a response is received or not within  $\leq 5$  minutes. This dimension involves several aspects, namely



1. healthcare workers' perceptions regarding the necessity of timely Sisrute services,
2. an overview of the timeliness of Sisrute services in the Bahteramas Emergency Department,
3. the impact of delayed Sisrute responses on patient management.

Regarding the necessity of timely Sisrute services, most healthcare workers whose roles directly intersect with Sisrute services agree that Sisrute services must be quick and timely, as they are related to patient management and safety. Nevertheless, some informants also acknowledged the ongoing challenges and delays in responding to referral requests through the Sisrute system in the emergency department of Bahteramas Regional Hospital. This shows that although ideally, the Sisrute service should be timely, the emergency department of Bahteramas Regional Hospital still often responds late to Sisrute from referral health facilities in Southeast Sulawesi. The description of the Sisrute service process in the emergency department of Bahteramas Regional Hospital has yet to be implemented promptly. Several informants reported that the response to referral requests through Sisrute is often delayed, and sometimes there is no response. Due to the absence of dedicated staff or an admin specifically handling Sisrute, this responsibility is still placed on the emergency room nurses, who also have the duty of caring for patients who come in directly. As a result, referral requests through Sisrute often need a prompt response using the applicable standard operating procedures (SOP). Therefore, the Bahteramas Regional General Hospital must assign specific staff or administrators who can focus on handling the Sisrute services so that the referral process can be carried out more promptly.

Ideally, the response time for the Sisrute service is  $\leq 5$  minutes. The standard operating procedure established by the Bahteramas Regional General Hospital sets the response time for Sisrute answers to be less than 30 minutes. Several informants stated that the response to referral notifications through Sisrute should be provided in less than 5 minutes. However, the reality is that the response time for Sisrute in the Bahteramas emergency department sometimes exceeds 1 hour, and even confirmation via phone to ensure a response often goes unanswered. The informant revealed that several factors caused the delay in response:

- a. There is currently no dedicated staff or admin assigned to handle Sisrute, so this workload is still being managed by the emergency room nurses, who also have to attend to patients who come in directly. Therefore, there is a need to assign dedicated staff or admin who can focus on handling Sisrute so that responses to referral requests can be provided in an ideal timeframe, less than 30 minutes;
- b. The submission of incomplete Sisrute data from referring health facilities, including patient assessment/supporting data and information on the needs of the referred patient. As a result, Bahteramas Regional Hospital cannot directly accept referrals. The officer responding to Sisrute needs to reconfirm, and the confirmation replies from the referring healthcare facilities are sometimes not timely (slow);
- c. Delays can also occur due to inconsistencies in responding to incoming Sisrute, including cases where patient information needs to be confirmed with the DPJP (responsible doctor), and the confirmation responses from the DPJP can sometimes be slow.

The lack of punctuality in the Sisrute service significantly affects subsequent patient services. Many informants stated that delays in responding to Sisrute notifications could impact the quality of service and patient safety, especially for patients in emergency or critical conditions who require prompt attention. Some informants mentioned that if Sisrute is not responded to immediately, it could delay providing the necessary medical actions for patients. Therefore, timeliness in the Sisrute service is critical to ensure the quality and continuity of patient care.

The above condition is similar to the studies conducted by Irianto et al. (2021), Bancin et al. (2020), Pratiwi et al. (2023), Ahkam et al. (2021), which explain that the implementation of Sisrute from the aspect of human resources (HR) still faces many obstacles, including slow response times from the referred hospitals ( $\geq 2$  hours) and incomplete referral data, making it difficult for the destination hospitals to respond effectively. Some hospital operators are not even familiar with using the Sisrute application.(7,12,14,15)

From the study conducted on the timeliness dimension of Sisrute service, the researchers found the same condition as in previous studies, which stated that there are still delays in responding to referral requests through Sisrute. This situation does not align with the technical guidelines for using the Sisrute application issued by the Director General of Health Services in 2023, and this condition significantly affects the quality of service and patient safety.





## CONCLUSION

1. The effectiveness of the Sisrute program in providing evidence-based health services for those in need has not been optimal due to several obstacles, such as internet connectivity issues, slow referral response times, and a lack of resources to manage the program. The internet connectivity issues are caused by this facility being used simultaneously with all Bahteramas Regional General Hospital services. The hospital does not provide a dedicated internet network for the Sisrute Service as the Ministry of Health recommended. In addition, the computer equipment used for the Sisrute Service is outdated. (spesifikasi tidak memadai). Accessibility challenges are also experienced by First-Level Health Facilities (FKTP), especially in island areas that have not yet been reached by internet infrastructure. This has caused delays in patient referrals from the Primary Health Care Facility to Bahteramas Regional Hospital. Meanwhile, the constraint of slow response time in answering SISRUTE is caused by the dynamic situation and conditions in the emergency department, such as the large number of patients requiring immediate services in the emergency department. Meanwhile, the resource constraint concerns the need for more dedicated managers/staff to handle SISRUTE. It is still being carried out by nursing staff in between their other duties and responsibilities, focusing on something other than the Sisrute service. In addition to those three factors, another obstacle affecting the quality of Sisrute services is related to the availability of treatment space, particularly ICU and ICCU rooms, which are often full and unable to accommodate patients referred through Sisrute. Most patients and their families are unaware of or do not understand Sisrute, and information related to the program has not been adequately communicated to them.
2. The security guarantee of the Sisrute service in the emergency room of Bahteramas Regional Hospital is considered quite good from the application side because it is regulated by the Ministry of Health and monitored by the National Cyber and Crypto Agency (BSSN), which can only be accessed by authorized personnel. However, there are still potential security risks that cannot be avoided entirely, such as the possibility of hacker attacks, users not signing out of the application after use, and users intentionally granting access rights.
3. The Sisrute service in the emergency room of Bahteramas Regional Hospital is assessed to have been implemented by the conditions and focused on the needs of patients. The Bahteramas Regional Public Hospital is considered to have carefully evaluated the needs of patients referred through SISRUTE, such as the availability of intensive care unit (ICU) facilities or other necessary services. The staff at Bahteramas Regional Public Hospital is also seen as confirming and adjusting the hospital's capabilities to meet patient needs, ensuring that patients will be accepted if they can be appropriately handled.
4. The SISRUTE services in the emergency department of Bahteramas Regional Public Hospital have yet to be entirely timely due to limited resources and processes that still need to be completed on time due to delays in response and feedback on referral requests.

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