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Analysis of BPJS Patient Registration in the Emergency Room Using the FRISTA Application at Hospital X Bandung City

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Abstract: This study aims to evaluate the effectiveness of the use of the FRISTA (Face Recognition Intergrated System Hospital) application in the registration process of BPJS patients at the Emergency Department (IGD) of Bandung City Hospital. This study uses a qualitative descriptive method using data collection techniques through observation, interviews, and documentation involving registration officers and medical record officers in the emergency room. The results obtained show that the application of FRISTA can speed up the patient registration process and prevent misuse of participant data. However, there are still some technical obstacles in the field, such as biometric verification failures using face ID caused by inadequate lighting, the use of masks, and frequent internet network disruptions. Therefore, hospitals are advised to carry out regular system maintenance, improve network quality, improve security systems, and ensure hardware and software readiness to ensure system reliability in all related units.

Keywords: FRISTA, IGD, BPJS, Hospital, Patient Registration Service.

INTRODUCTION

Based on Law Number 17 of 2023 and Law Number 47 of 2021, hospitals in Indonesia function as Health Service Institutions that provide inpatient, outpatient, and Emergency Installation services, based on human values, ethics, professionalism and the principles of justice, equality, and patient safety. The main function of the hospital itself is to include Promotive, Preventive, Curative, and Rehabilitative services according to qualified human resources, including Medical Recorders and Health Information Personnel (PMIK). Digital transformation in hospital administration services is one of the main focuses in improving the quality of health services in this modern era. Especially for BPJS Kesehatan participants. It has made significant progress in line with the growing need for data efficiency and accuracy in emergency installations. According to PERMENKES number 24 of 2022, Medical Records are documents that contain patient identity data, examination results, treatment, actions and various other services provided to patients. Meanwhile, RME is a medical record made using an electronic system intended for medical record organizers. (Minister of Health

of the Republic of Indonesia, 2022; Government, 2023; President of the Republic of Indonesia et al., 2021).

The Emergency Installation is an important part of the hospital service that must provide a quick response to patients arriving in an emergency. In these conditions, the patient registration procedure is a very crucial element because it has a direct impact on the speed of service and administrative accuracy, especially for patients who benefit from national health insurance such as BPJS. One of the crucial elements to support the smooth registration process is the medical record unit, which functions to validate BPJS membership quickly and accurately (BPJS & Indonesia, 2021; Ministry of Health of the Republic of Indonesia, 2018) accuracy in this process greatly affects the effectiveness and handling of patients as well as the sustainability of hospital administration.

BPJS was formed based on law number 40 of 2004 concerning the National Social Security system and Law number 24 of 2011 concerning the Social Security administration agency which is a special institution tasked with organizing social security programs in the form of health and employment for all Indonesian people. (Central Government, 2011; Central Government & Indonesia, 2004)

Facial recognition technology such as FRISTA (Face Recognition Integrated System Hospital) has begun to be implemented as a creative solution to speed up the process of verifying participant data. This technology is used to quickly and accurately match the identities of JKN participants based on facial images (Homepage et al., 2025). However, the implementation of FRISTA still experiences various technical obstacles such as dependence on the internet network and limitations in system integration at the operational level, as revealed by field research data at Hospital X Bandung City.

Several previous studies have shown that the merger of the registration system with the BPJS Kesehatan database through digital technology can speed up the process of checking patient identity data and issuing Participant Eligibility Letters (SEP). research conducted by Wati. L, et al. (2022) research on the implementation of Lean Hospital at Bayu Asih Hospital shows an increase in efficiency in administration. This is achieved through the implementation of an integrated registration information system, which supports the validation process in real-time (Wati & Nu, 2022).

Although FRISTA has been implemented throughout the country, there is still very little scientific research that assesses how effective its use is in the emergency room registration process, especially from the perspective of the performance of medical record units. This creates a knowledge gap that needs to be filled with information, given that medical records have an important role to support the appropriate and rapid taking of clinical decisions in emergency situations.

This study emerged as a new contribution to enriching understanding of the merging of information technology with medical record services in emergency rooms. The availability of medical devices in the emergency room is highly dependent on the speed and accuracy of their distribution. If the medical record file does not arrive on time, this can cause the patient's waiting time to be longer, which will ultimately affect the patient's impression of the quality of hospital services.

Behind this process, the role of medical record officers is very important, PMIK is responsible for taking, providing, recording, borrowing, and sending medical record files to service units, including emergency rooms, because the speed and speed of the files reaching the emergency room also determines the satisfaction of patients and other medical personnel who need these files (Murniati & Ramadhanty, 2020)

The main objective is to assess how effective the use of the FRISTA application is in the BPJS patient registration process in the emergency room, as well as to evaluate the contribution of the medical record unit in supporting the information system functionally.

METHOD

This study applies a qualitative method with a descriptive approach. The purpose of this approach is to gain an in-depth understanding of how to register BPJS patients using the FRISTA application in the emergency room of Hospital X. According to Sugiyono (2014), qualitative research methods are used to analyze objects in natural conditions with researchers as the main tool.

This research was carried out in the emergency room of Hospital X, with the main focus on registration officers and medical record officers who are directly involved in the use of the FRISTA application. The purpose of this study is to assess how effective the application is and how the role of medical records in helping the administration of BPJS patients.

Descriptive qualitative research consists of several important stages, namely:

a. Problem Identification
   The main problem that will be analyzed by the researcher is to assess how much the role of the FRISTA application is in helping the BPJS patient registration process at the Emergency Installation of Hospital X.
b. Determining the Location and Source of Research Information
   The location chosen for the study was Hospital X's Emergency Installation.
c. Data Collection Methods
   Data were collected through in-depth interviews, direct observation at the research site, and analysis of relevant documents. This research focuses on understanding the work process and the use of technology in the administration of BPJS patient services.
d. Information Filtering
   The information obtained from the field survey will be filtered and grouped to make analysis easier. The goal is to eliminate information that is not related to the focus of the research.
e. Information Presentation
   The results that have been processed will be compiled in the form of a structured descriptive narrative, providing an overview of the implementation of BPJS patient registration and the real use of the FRISTA application.
f. Conclusion
   The researcher concluded based on the patterns or trends seen in the data. To ensure accuracy, triangulation is carried out by utilizing various sources of information and confirmation from the main source. The researcher selects appropriate methods such as observation, interviews, and documentation studies. Direct involvement in the field is often a crucial element in this step.

This study applied the purposive sampling method, where the informants were deliberately selected based on their direct involvement in the patient registration process at the emergency installation of Hospital X Bandung City. The informants of the main patient consist of medical record officers who have experience and play an active role in the use of the FRISTA application. Data were collected through direct observation and in-depth interviews, so that researchers gained a better understanding of the situation from the officers' point of view. The interview was conducted on June 18, 2025 at Hospital X with a total of 3 medical record officers.

Data analysis as described according to Sugiyono (2018) in (Selfiei Maulina Sari, 2024) includes several stages, namely:

a. Interview
   To collect data in qualitative research, it can be used with several techniques, including interviews. An interview is a conversation with a shared intention represented by 2 parties, namely the interviewer who asks the question and the interviewee (the

interviewer) to provide answers to the questions given. In this interview technique, the instrument used as data collection is in the form of interview guidelines, namely systematic and directed questions. This method was used in a research to find direct facts regarding the registration of BPJS patients in the Emergency Installation using the FRISTA application at the Emergency Installation at Hospital X Bandung City

b. Documentation

Documentation is a form of recording events that occur, which can be in the form of pictures, photographs, sketches, and the like. Documentation serves as complementary data that supports observation and interview methods in a study. Documentation is a technique or method of data collection by taking data from an existing document in the form of notes, transcripts, books, scientific journals, and others.

c. Literature Study

Literature study is the first step in collecting by studying and analyzing various written materials related to the research topic. In this study, a literature study was used to understand how BPJS patient registration takes place, the use of biometric technology in health services, and the application of FRISTA application in the hospital environment. The sources used include textbooks, scientific journals, previous research results, and policies related to health information systems.

The purpose of this stage is to build a strong theoretical framework and conceptual basis, as well as to identify shortcomings or gaps in research that will later be addressed through field research (Dwi Cahyono, 2020).

d. Observation

Observation is a data collection method that has distinctive characteristics compared to other techniques. That is done by the researcher directly observing the situation or activities at the research location. In this study, the researcher made observations about the analysis of BPJS patient registration in the emergency room using the FRISTA Application whose location is at Hospital X Bandung City.

RESULT AND DISCUSSION

Based on the results of interviews with PMIK at the emergency room registration section at Hospital X Bandung City, some patients who use BPJS are not verified through FRISTA at Hospital X Bandung City. To collect data in this study, I used observation, interview and documentation methods. It is hoped that the results will help medical record officers in the registration section and can improve the efficiency of providing emergency installation patient registration services.

Table 1. Number of Emergency Room Patient Registrations at Hospital X Bandung City in the quarter from January to March 2025

Moon	Number of emergency room patients	Number of Patients Who Can't Be FRISTA
January	597	11
February	516	10
March	493	10
Total	1.606	31

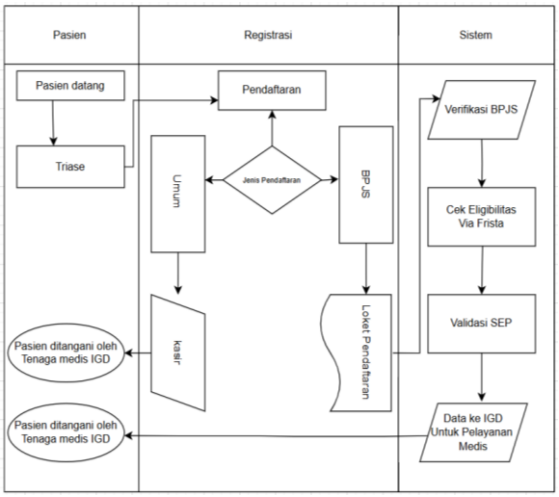

Figure 1. Flowchart Flow for Emergency Installation Registration at Hospital X Bandung

Implementation of Emergency Installation Patient Registration at Hospital X Bandung City

At Hospital X Bandung City, the patient registration system is divided into seven service counters. Counters 1 and 2 serve the registration of new and old official outpatients, counters 3 and 4 are used for the registration of BPJS outpatients both new and old, counter 5 is for general patients, counter 6 is devoted to the registration of Emergency Installation (IGD) patients, and counter 7 is used for the activation of advanced control letters.

When patients come to the emergency room, they will be directed to the emergency room service, while the patient's family members will register at counter 6. In this process, the patient's identity is required to carry out verification. For new patients, the patient's family will be asked to submit their ID card and BPJS card. As for old patients, they will be asked to provide a BPJS card. Meanwhile, for patients who are members of the TNI or TNI families, additional documents in the form of a Member Identity Card (KTA) will be required.

If the patient needs treatment at the hospital, the patient's family will bring a Hospitalization Order from the doctor to counter 6. While waiting for the administrative process, the patient's family will be asked to fill out a general consent form. The registration officer will prepare medical record documents for the stay, including the Patient Wristband and print the Participant Eligibility Letter (SEP) for outpatient and inpatient treatment.

However, inpatient SEP printing often encounters problems if the patient has not done biometric recording in the FRISTA (Fingerprint or Face ID) application. This causes the system to be unable to print inpatient SEPs. Especially if the patient's biometric data is illegible. This problem usually arises due to changes in the shape of the face, obstructing objects, and a lack of lighting that is difficult for the system to recognize, especially in patients who are in an emergency or the elderly.

Effectiveness of the Use of the FRISTA Application for Registration of BPJS Emergency Room Patients at Hospital X Bandung City

Currently, the outpatient registration process at RS X Bandung City is faster both online and on-site thanks to the use of electronic medical records (RME). When the patient comes to the emergency room, the patient's family will register when it has been registered, then the patient will immediately get a complete medical examination. If the patient is hospitalized, the patient must register and have been recorded in FRISTA to get services at the hospital. BPJS Kesehatan patients can now use their BPJS/NIK number verified with FRISTA to register at the hospital. This discovery was created so that BPJS owned by the general public is not used by other parties in registering and obtaining health services at

health facilities. Service Certainty For FRISTA patients, the implementation of face ID records brings many benefits, both for patients, hospitals and BPJS Kesehatan. FRISTA provides patients with more assurance that their right to health care will be met. FRISTA also prevents the possibility of falsification of participant data. Internal and external auditors found that patients who did not meet the criteria or were not eligible for benefits used health care. In addition, patients find it easier to get services when their FRISTA is used. This is in accordance with the goal of making it easier for patients to receive treatment even when they do not have a BPJS card in the future. Patients do not need to worry if they lose their BPJS card or forget to bring it, they can still get services just by coming to the hospital, registering using the FRISTA machine located at the registration desk, and then leaving the hospital. The use of FRISTA ensures that hospital service quality claim data is sent to BPJS Kesehatan FRISTA can prevent people from potentially receiving health care that they cannot obtain and prevent people from using hospital services that are not in accordance with the benefits guaranteed by the BPJS program. The use of FRISTA, according to BPJS Kesehatan, prohibits participants who are not eligible to receive health services. This is one of the efforts of the BPJS audit program to stop certain behaviors, circumstances, and follow-ups. When patients come for treatment, they will record biometric information or registration procedures.

However, in reality, when in the field, there are still obstacles experienced by some patients in the application of face ID on the FRISTA Application, as happened at Hospital X Bandung City. From January to March, there are still failures in the use of the FRISTA application which can hinder emergency room services. If there is a technical problem with FRISTA, the suggestion is to use finished fingerprint biometrics. If the two cannot be done, then the submission to bpjs is made through the approval of the head of the room If approved, then immediately the submission process to bpjs, the submission process is limited to a month can only be as much as 2% within 1 month if more than this number will affect the hospital's assessment.

The FRISTA application is integrated with the electronic medical record system, especially in making SEP which is the basis for submitting BPJS claims. This integration ensures that patient data is synchronized in real-time, thus speeding up the process of healthcare administration and assurance.

The main obstacle that often arises is the failure of face ID biometric verification, usually due to suboptimal lighting or the presence of obstacles such as masks and glasses. This can slow down the registration process and affect service efficiency. System failures often occur due to a lack of coordination between emergency room officers and registration officers, as well as technical factors such as network or device interference.

Medical records officers and emergency rooms expressed dissatisfaction because dependence on FRISTA could hinder services if patients were not yet registered. In addition, the limitation on filing complaints to BPJS poses operational obstacles, especially for patients who experience difficulties in biometric verification.

Overall, this policy received a positive response from officers and patients because it was able to speed up the flow of patient registration while minimizing the potential for duplicate data or identity misuse. The officers said that this system significantly speeds up the queue process, especially for patients who are used to using the procedure (Homepage et al., 2025).

Research conducted by Sari and wahab (2024) also supports this finding showing that the use of technology such as fingerprinting significantly speeds up the verification process and improves service efficiency for BPJS participants (Sari et al., n.d.)

Although some patients experience problems when doing FRISTA, it is usually due to suboptimal lighting or obstructions such as masks and glasses. This can slow down the

registration process and affect service efficiency. To support this effectiveness for patients who cannot verify FRISTA, approval from the head of the room is required to apply for an exemption to BPJS. However, this submission is limited to a maximum of 2% of the total patients in one month. Exceeding this limit can have an impact on the assessment of hospital performance by BPJS.

CONCLUSION

Based on the results of the above research, it can be concluded that the application of the FRISTA Application in the registration of BPJS patients in the Emergency Installation at Hospital X Bandung City shows an increase in the efficiency of administrative services. This application allows verification of patient identity by using biometrics through face id and fingerprint, thereby speeding up the registration process, reducing queues, and avoiding identity abuse. The integration of FRISTA with the RKE system and SEP printing also simplifies the service and claim submission process to BPJS Kesehatan.

Although it provides many benefits, the application of FRISTA in the field faces various technical obstacles, especially when it comes to biometric verification. Such as inadequate lighting, the use of facial attributes such as glasses and masks, as well as the patient's facial condition in an emergency, are the main causes of verification failure. In the first quarter of 2025, it showed that as many as 31 out of 1,606 patients were not successfully verified through FRISTA verification, which led to delays in the printing of SEPs for inpatient services.

On the other hand, the limitation from BPJS only allows the submission of a 2% manual verification exemption every month is a challenge for registration officers in hospitals. However, the FRISTA application still received positive responses for officers and patients because it was considered effective in speeding up services and increasing the speed and security of administrative data

The suggestion for this study regarding the improvement of system constraints is that it is recommended to carry out routine maintenance on the software that should be carried out outside of operating hours (such as at midnight) so as not to disrupt services, as well as increased cooperation between officers, as well as hardware and network repairs to support the biometric verification process.

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