

# Information System of Clinical Authority Medical Staff: Patient Safety Referral Services

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**Abstract.** The transfer of information between health professionals through safe referral services in hospitals is an important requirement for hospital accreditation. The Clinical Authority Information System is an information system used in RS X to provide safe referral services for patients. This study aims to determine the benefits of using that system in providing patient referral services by taking a quantitative approach with a cross sectional design. Data were collected in March 2017. The sample was assembled and comprised a total of 22 doctors and nurses who worked in the nursing ward. Primary data were collected using a questionnaire survey and processed by univariate analysis. The results showed that a majority of respondents found the system to be convenient for patient transfer with no obstacles in coordinating the patient transfer process. Information on doctors' clinical authority was also easy to obtain. The existence of the system helped facilitate and guarantee the safe transfer of patients. The referral system is very useful in terms of patient safety.

**Keywords:** *information systems, clinical authority, patient safety, referral services*

## 1 Introduction

The government of the Republic of Indonesia requires that hospitals provide services that focus on patient safety. Patient safety is a system whereby hospitals safely perform patient care. Patient safety has seven standards and the third standard is the implementation of patient safety in the continuity of the service. This standard means that hospitals should ensure the safety of their patients in the continuity of services, including coordination between personnel and service units. One way to assess the sustainability of service and guarantee coordination between personnel and service units is to tailor the services as per the needs of patients and the feasibility of resources on an ongoing basis. Therefore, all stages of service reconciliation between service units should have smooth communication and information transfer between health care providers to ensure that the coordination process remains unobstructed, safe, and effective (Kementerian Kesehatan Republik Indonesia, 2011). The importance of information transfer among health professionals in realizing safe referral services in hospitals is reinforced by an assessment component of the KARS Hospital Accreditation (Accreditation Commission Hospital). A score of 10 means there is a procedure based on evidence to empower all members of the medical staff to receive patients and provide other clinical services based on qualifications. The establishment of clinical competence and the authority and decision making regarding the licensing of several medical personnel provides a clinical service called "privilege." The role of privilege in hospitals is the maintenance of patient safety and the quality of the clinical services offered. Providing information privilege acts as a legal basis to ensure that the medical staff's practice is given to them within the limits of their authority (Komisi Akreditasi Rumah Sakit Republik Indonesia, 2012).

In this era of technological advancement, integrated information systems play a key role in supporting hospital affairs. The use of information technology in the health system should be helpful to ensure patient safety. The first hospital information system (HIS) was used in 1960 for financial services for hospitals (Kimiyafer, Moradi, Sadooghi, & Sarbaz, 2008). The existence of the HIS helps simplify the flow of information and improves the accessibility of patients in order to support high-quality patient care (Ahmadi, Rad, Nazari, Nilashi, & Ibrahim, 2014; Ahmadi, Nilashi, & Ibrahim, 2015; Bashiri & Ghazisaeedi, 2017). Information technology is currently in place to alleviate medical errors, improve the clinical system of hospitalization, and to implement HIS in hospitals (Chau & Tam, 2000; Bashiri, Ghazisaeedi, Safdari, Shahmoradi, & Ehtesham, 2017; Ahani, Nilashi, & Ahmadi, 2016).

One of the missions of Hospital X is to make continuous efforts to improve the quality of patient care and safety. The mechanism for such efforts is information technology that provides clinical information for medical personnel known as the Clinical Authority Information System. This system was developed by hospital staff with

the aim of improving the quality of health care services and ensuring the delivery of patient safety services. This system is expected to avoid inaccuracies when referring patients for advanced medical treatment. A pilot study was conducted in March 2017 by short interviews with three doctors who served in the operating room and general care room. The participants expressed their difficulties in transferring patients prior to the information system because they were referring patients to white should see paper with clinical government records for each doctor, sometimes if they do not see the white paper they are transferring to see the related habit of referral cases. Therefore, further research is needed to study the benefits of using the medical personnel clinical information system in supporting patient referral services.

## 2. Method

This study used a quantitative approach with a cross sectional study design. Primary data were collected in March 2017 in a one-shot survey. The study sample comprised doctors and nurses working in a nursing unit of 22 staff members. The sample was taken by purposive sampling technique such that the selected sample contained current users of the Clinical Authority Information System. The data were processed using univariate analysis.

## 3. Results and Discussion

The average age of respondents was 33.14 years (median: 32 years) with a standard deviation of 5.38. The age range of participants was 26–47 years. Of all the respondents, 59.1% were doctors and 63.6% were female. Summary statistics are reported in Tables 1 and 2.

**Table 1. Age Distribution of Respondents**

Mean	Median	SD	Min	Max
33.14	32	5.38	26	47

**Table 2. Distribution of Respondents by Profession**

Profession	Frequency	Percentage
Doctor	13	59.1
Nurse	9	40.9
Total	22	100.0

**Table 3. Distribution of Respondents by Gender**

Gender	Frequency	Percentage
Female	14	63.6
Male	8	36.4
Total	22	100.0

Prior to the implementation of the Clinical Authority Information System, most respondents experienced difficulty in obtaining information for patient transfers (19 persons), constraints in coordination with respect to patient transfer process (19 persons), difficulty in obtaining information regarding doctors' clinical authority (15 persons), and the uncertainty of guaranteeing the safe transfer of patients to doctors with clear clinical authority (9 persons).

Following implementation of the system, respondents experienced the ease in obtaining information for patient transfers (21 persons), no constraints in coordination with respect to the patient transfer process (18 persons), ease in obtaining information regarding doctors' clinical authority (21 persons), and the certainty of guaranteeing the safe transfer of patients to doctors with clear clinical authority (22 persons).

These data are graphed in Figures 1–4.

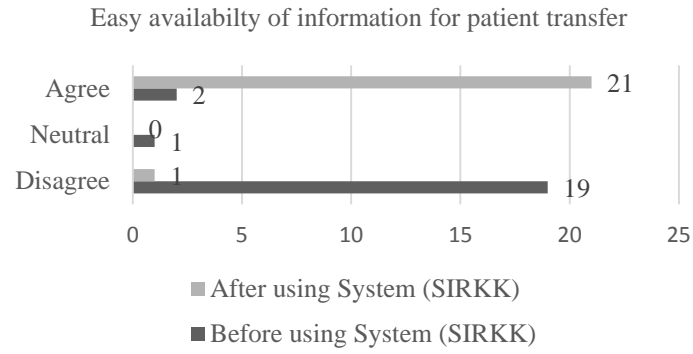


Fig. 1. Distribution of responses regarding receiving information for patient transfer

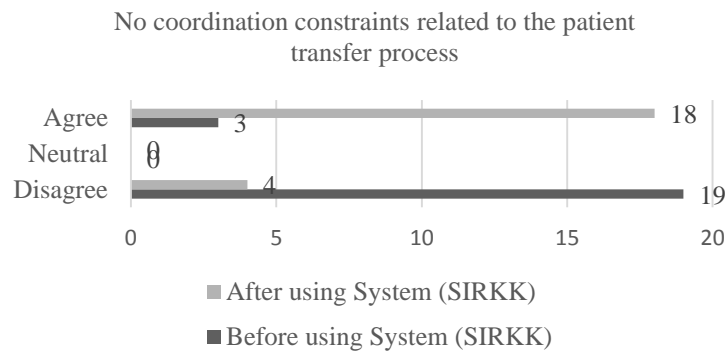


Fig. 2. Distribution of responses regarding coordination constraints related to the patient transfer process

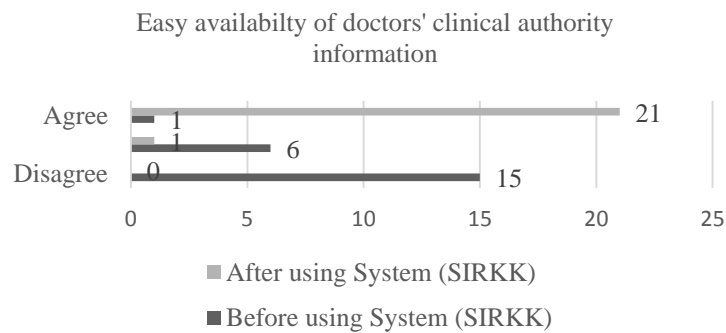


Fig. 3. Distribution of responses regarding availability of doctors' clinical authority information

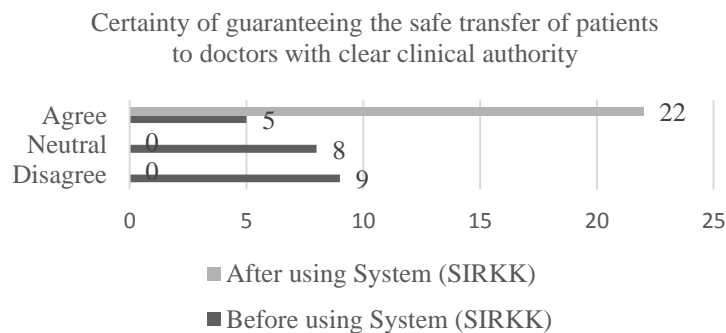


Fig. 4. Distribution of responses regarding confidence in transferring patients

One of the hospital's primary responsibilities is to maintain patient safety, professional standards, and competence among physicians performing medical procedures on patients. Arrangements are made for every

medical action to be performed on patients only by competent medical staff. This requirement comprises two components: competency (in professional knowledge, skill and behavior) and health (both physical and mental). After a physician has been declared competent through a credible process, the hospital authorizes a permit for the physician to perform specific medical processes at the hospital, i.e., details of the clinical privilege. The extent of the clinical authority of a specialist may differ from that of his colleagues in the same specialty depending on the provision of the medical committee based on the credential procedure. If a doctor's medical actions endanger a patient, his clinical authority may be withdrawn, thus barring him from performing certain medical actions in the hospital setting. The revocation of clinical authority is carried out through certain procedures involving the medical committee. The obligation of the hospital is to establish a clinical authority that is explicitly regulated by the law which stipulates that every hospital is obliged to perform good independent administration. This should be followed by every hospital in the regulation of its medical staff (Perhimpunan Rumah Sakit Seluruh Indonesia, 2009).

#### 4. Conclusions

The Clinical Authority Information System in Hospital X helps facilitate the transfer of patients both in the ease of obtaining information and in coordination, and guarantees that the transfer process will ensure patient safety.

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