

## *Jenis-Jenis Insiden Keselamatan Pasien di Pusat Kesehatan Masyarakat*

### Types of Patient Safety Incidents in Public Health Centers

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#### ABSTRAK

**Latar Belakang:** Perkembangan budaya keselamatan pasien di Pusat Kesehatan Masyarakat (puskesmas) cenderung kurang signifikan apabila dibandingkan dengan rumah sakit. Menurut WHO, fasilitas pelayanan kesehatan primer dapat mencegah hingga 80% cedera, dimana angka tersebut merupakan setengah dari kasus cedera pada pasien secara global.

**Tujuan:** Penelitian ini bertujuan untuk mengetahui jenis insiden keselamatan pasien di puskesmas Kota Surabaya.

**Metode:** Penelitian ini tergolong penelitian deskriptif-analitik dengan desain penelitian cross-sectional. Penelitian ini menggunakan data sekunder yang dikumpulkan dari laporan bulanan "Puskesmas X" yang berlokasi di Surabaya pada periode Januari sampai Juli 2022.

**Hasil:** Insiden keselamatan pasien yang terjadi sebanyak 65 kasus yang terdiri dari kesalahan pendaftaran (10,76%), kesalahan administrasi (24,61%), kesalahan tenaga kesehatan (10,76%), kesalahan medis (3,07%), infeksi pada pelayanan kesehatan (6,15%), pasien jatuh (18,46%), kesalahan pengobatan (13,84%) dan kesalahan teknis (12,3%). Kesalahan keselamatan pasien yang terjadi sebagian besar dapat dicegah, dan 29% kesalahan dapat berpotensi menyebabkan cedera serius bagi pasien.

**Kesimpulan:** Jenis kesalahan keselamatan pasien yang paling banyak adalah kesalahan administrasi yang terjadi pada pengelolaan dokumen rekam medis.

**Kata kunci:** Insiden, Keselamatan Pasien, Puskesmas

#### ABSTRACT

**Background:** Developing a patient safety culture in the public health center is less significant than in hospitals. According to WHO, primary care services can prevent up to 80% of injuries, which accounts for half the global burden of patient injury.

**Objectives:** This study aims to determine the type of patient safety incidents in public health centers in Surabaya.

**Methods:** This research is classified as descriptive-analytic research with a cross-sectional research design, used secondary data collected through the monthly reports of "Public Health Center X" located in Surabaya in the period from January to July 2022.

**Results:** The frequency of patient safety incidents was 65 cases consisting of order entry error (10.76%), administration error (24.61%), human error (10.76%), medical error (3.07%), healthcare-acquired infection (6.15%), patient falls (18.46%), medication error (13.84%) and technical error (12.3%). Most patient safety errors were considered preventable, and 29% of the errors from human error and patient falls were viewed as having the potential to cause serious harm to the patients.

**Conclusions:** The types of patient safety errors are mostly administration errors, that occur in the management of medical record documents.

**Keywords:** Incident, Patient Safety, Public Health Center

## INTRODUCTION

Nowadays, patient safety has become one of the critical issues in health services, along with the many incidents that occur when patients receive health services. Patient safety is defined as reducing the risk of preventable, harmless, and unneeded injury to the minimal tolerable level in providing health care (Song, 2022). Patient safety is a system in which health facilities make patient care safer and prevent injuries caused by mistakes due to acting or not taking action that should take (Sriningsih, 2020). Regarding patient safety, the priority has usually been preventing patients from having undesirable outcomes after receiving medical treatment.

In Regulation of the Minister of Health Number 11 of 2017, there are seven patient safety standards including: 1) patients and their families have the right to obtain information regarding action plans, service results, and the possibility of incidents, 2) health facilities are tasked with educating patients and their families about patient obligations and responsibilities in the process of patient care, 3) health facilities ensure patient safety by optimizing coordination between health workers and between units in the context of continuity of service, 4) use of performance improvement methods to conduct evaluations and programs to improve patient safety, so that health facilities are expected to be able to design new processes or improve processes existing measures in order to improve performance and patient safety, 5) leadership roles include encouraging the implementation of patient safety, allocating resources and reviewing program effectiveness, 6) educating staff about patient safety by implementing provide education and training for each position on an ongoing basis, 7) implementing effective communication by designing accurate and timely information management.

Health facilities are places to provide promotive, preventive, curative, and rehabilitative health services. The community has the right to obtain safe, high-quality health services (Brigitta, 2020). The public health center is a health service facility that carries out the community and first-level individual health efforts by prioritizing promotive and preventive efforts to achieve health at its highest level (Nasution, 2021). The implementation of patient safety in public health centers is also influenced by the characteristics of public health centers, including: 1) the facilities or infrastructure in primary health care are very diverse and tend to be minimal, 2) the composition of health workers varies significantly in terms of quantity and competence, 3) the behavior of doctors in practice is working alone, curative oriented, relying on drugs, and 4) professional/academic activities such as case discussions, case reviews in journals or research are absent, and there is no medical committee (Heryana, 2018).

Developing a patient safety culture in the public health center is less significant than in hospitals. The implementation of patient safety measures in public health centers is more challenging due to limited resources for patient safety management. Efforts to enhance patient safety in community health centers are carried out by a quality improvement team, which currently lacks clear roles and functions and often overlaps with other responsibilities. Furthermore, public health centers do not have a specific budget for improving patient safety, resulting in inadequate facilities and infrastructure. Additionally, there is a lack of policies and operational procedures related to patient safety in community health centers. Monitoring and evaluation to the implementation of patient safety in the public health center will be included in the accreditation assessment (Islami, 2018). To improve the quality of patient health and safety services under established standards, the public health center forms a quality management team responsible for assisting the head of the public health center in improving patient quality and safety.

Healthcare delivery systems are complex by design and prone to errors. The burden of unsafe care worldwide is increasing in primary care services (WHO, 2018). According to WHO, primary care services can prevent up to 80% of injuries. An estimated 1 in 4 patients experience safety failures in primary and ambulatory care, which accounts for half the global burden of patient injury. Some of patient safety incidents are preventable, which means there is a multitude of examples of incidents in healthcare that, when properly evaluated, can ultimately contribute to better quality care and help reduce harm (Flott, 2019). The public health center is the first interaction between health facilities and the community, and overall public trust in health care systems is formed and sustained. Low quality and unsafe service are the critical issues that cause people to get secondary-level health services and bypass primary health services directly. Implementing a patient safety culture in public health centers is very important to increase public trust and the quality of health services (Kuriakose, 2020).

Medical practices and risks associated with healthcare are challenges in implementing patient safety and can potentially be a burden of harm due to unsafe care. Types of patient safety errors causing the most concern include medication errors, healthcare-associated infections, unsafe surgical care procedures, unsafe injection practices, diagnostic errors, unsafe transfusion practices, radiation errors, sepsis, and venous thromboembolism (Debaga, 2019). This study analyzes the type of patient safety errors in the public health center in Surabaya.

Most studies about the type of patient safety error are conducted in hospitals, such as the study by

Wianti (2021) and Adriansyah (2021). Study about patient safety errors conducted in primary healthcare mostly discusses patient safety culture and service quality, such as research by Astriyani (2021) and Ulumiyah (2018). This study aims to determine the type of patient safety incidents in public health centers in Surabaya.

## METHOD

This research is classified as descriptive-analytic research with a cross-sectional research design. A cross-sectional study is a type of observational study where the researcher measures the outcome and the exposure at the same time. This study used secondary data collected through the monthly reports of "Public Health Center X" located in Surabaya in the period from January to July 2022. Public Health Center X has a quality management team formed to assist heads of public health centers to ensure the quality of health services and patient safety. The quality management team audits every safety risk that exists in each work area and the polyclinics then report each of these risks in the monthly report of the health center.

Patient safety incidents are all conditions, whether intentional or unintentional, that have the potential to cause harm to patients, such as injury, disability, even death, or other losses. Risks that are included in a patient safety incident must meet the inclusion criteria, namely the conditions or procedures carried out are not in accordance with standard operating procedures so that they can endanger the patient. The study was conducted to identify the types of patient safety incidents that

occurred in the public health center. The inclusion criteria for this study were patient safety incidents identified by the quality management team and recorded in the public health center's monthly reports. The exclusion criteria were incidents where the information records were incomplete. The data will be processed according to the frequency of incidents and the percentage based on the type of patient safety incident, including order entry error, administration error, human error, medical error, healthcare-acquired infection, falling risk, medication error, and technical error.

## RESULT AND DISCUSSION

Public Health Center X monthly reports show several types of patient safety errors in public health centers. Table 1 summarizes the type and frequency of patient safety errors.

The frequency of patient safety incidents found at "Public Health Center X", one of the public health centers in Surabaya in the period from January to July 2022 was 65 cases consisting of order entry error in 7 cases (10.76%), administration error in 16 cases (24.61%), human error in 7 cases (10.76%), medical error in 2 cases (3.07%), healthcare-acquired infection in 4 cases (6.15%), slippery risk and patient falls in 12 cases (18.46%), medication error in 9 cases (13.84%) and technical error in 8 cases (12.3%). Most patient safety errors were considered preventable, and 29% of the errors from human error and patient falls were viewed as having the potential to cause serious harm to the patients.

**Table 1.** Incidents Detected in the Monthly Reports

No	Error	n	%
<b>Order Entry Error</b>			
1.	Patients register for the wrong services	2	3.07%
2.	The patient's identity is not filled completely	5	7.69%
Total		7	10.76%
<b>Administration error</b>			
3.	Error in medical record retrieval	5	7.69%
4.	Medical records of other patients mixed into one medical record	2	3.07%
5.	Stacked medical records	4	6.15%
6.	Medical records lost	5	7.69%
Total		16	24.61%
<b>Human Error</b>			
7.	Patient identification error	3	4.61%
8.	Medical waste disposal error	2	3.07%
9.	Health workers make mistakes when making referrals to hospitals or polyclinics	2	3.07%
Total		7	10.76%
<b>Medical Error</b>			
10.	Occurrence of anaphylactic shock	2	3.07%
Total		2	3.07%
<b>Healthcare Acquired Infection</b>			
11.	Transmission of disease by droplet	3	4.61%

No	Error	n	%
12.	Nosocomial infection	1	1.53%
Total		4	6.15%
<b>Patient Falls</b>			
13.	The patient who fell from the dental chair	2	3.07%
14.	Patient who fell while walking	2	3.07%
15.	Broken tile floor	2	3.07%
16.	Slippery floor	3	4.61%
17.	Leaky roof	2	3.07%
18.	Leaking water tank	1	1.53%
Total		12	18.46%
<b>Medication Error</b>			
19.	Laboratory results are difficult to read	3	4.61%
20.	The limited supply of drugs	4	6.15%
21.	Drugs are nearing expiry date	2	3.07%
Total		9	13.84%
<b>Technical Error</b>			
22.	SIMPUS application crashed	4	6.15%
23.	Fogging smoke poisoning	1	1.53%
24.	Exposed to toxic materials when mixing spray drugs	1	1.53%
25.	Damaged medical and non-medical equipment	2	3.07%
Total		8	12.3%
<b>Total</b>		<b>65</b>	<b>100%</b>

Source: Public Health Center X Monthly Reports

We found that the order entry error was caused by the patient registering for the wrong services (3.07%) and the patient's identity was not filled completely (7.69%). This incident was caused by the patient registration system at the public health center in Surabaya using the application “*e-health*” which was filled out independently by the patient. *E-health* is an online registration application that can be accessed through public service kiosks located in all sub-districts, sub-district offices, public health centers and regional general hospitals (*Rumah Sakit Umum Daerah / RSUD*) (Prabowo, 2020). Individual acceptance of the application is also influenced by knowledge of technology and information received (A. Ghafar, 2018). A lack of patient knowledge about *e-health* applications can increase errors in the registration process. Order entry errors in health services can cause patients to receive the wrong clinical services or patients to be given the wrong medicines (Elshayib, 2020).

Administration error is the highest type of patient safety error in public health centers. Most administration errors in the public health center are caused by a lack of control in managing medical records. The problems found included errors in medical record retrieval (7.69%), medical records of other patients mixed in one medical record (3.07%), stacked medical records (6.15%) and lost medical records (7.69%). The high of problems in managing medical records is due to the use of paper-based medical records. Problems in the medical record can lead to errors in patient care because the medical record contains all of the patient's medical information, including clinical history, medications

and allergies (Firdaus, 2019). Using electronic-based medical records (EMR) can reduce the risk of errors in managing medical records because EMR integrates into the database and uses resources more efficiently (Uslu, 2021).

Types of human errors found in public health centers include patient identification errors (4.61%), medical waste disposal errors (3.07%), and health workers making mistakes when making referrals to hospitals or polyclinics (3.07%). Patient identification errors can lead to patient treatment errors. Medical waste that is not managed according to procedures can also be a source of disease transmission for people in the public health center. Health workers must receive comprehensive training to improve their skills in providing health services according to standard operating procedures, communicating with patients and patient safety culture (Sameera, 2021).

Medical error is an error that occurs during health services (Domer, 2021). The medical error found in public health centers was an occurrence of anaphylactic shock (3.07%). Anaphylactic shock is a severe form of systemic hypersensitivity reaction and usually develops quickly and can be fatal. Around 20–30 deaths are reported each year in the U.K. due to anaphylaxis. The common causes of anaphylactic shock are food, drugs, and venom. Drug-induced anaphylactic shock cases increase in the elderly due to comorbid factors such as coronary heart disease (Whyte, 2022). Anaphylactic shock that found in the public health center X due to an allergic reaction to the medication given to the patient, the patient experienced shortness of breath.

Healthcare-Associated Infections (HAIs) are infections that occur when patients receive health services in health facilities such as hospitals, public health centers or clinics (Mitra, 2021). HAIs appear 48 hours after admission up to 30 days after visiting a health facility (Haque, 2018). HAIs can occur through transmission from patient to staff, from patient to patient, from patient to visitor or family and from staff to patient (Iswati, 2015). The types of HAIs found in public health centers were the transmission of disease by droplet (4.61%) and nosocomial infection (1.53%). Data about HAIs outside the hospital needs to be improved because infection management, such as prevention, treatment, and surveillance are inexistent or poorly developed in primary health care. Once the patient returns to the community, it is nearly impossible to detect the occurrence of an infection gained while visiting a primary care institution (WHO, 2011).

Patient falls and the risk of their causes is the second most common patient safety error in the public health center. Cases of patient falls include a patient who fell from the dental chair (3.07%) and a patient who fell while walking (3.07%). The risks that can make the patient slip include broken tile floors (3.07%), slippery floors (4.61%), leaking roofs (3.07%), and leaking water tanks (1.53%). According to research conducted by Lelaurin in 2020, falling patients are classified as adverse events that can cause death. Every year, around 700,000 to 1 million patient falls resulting in around 250,000 injuries and causing around 11,000 deaths in U.S. hospital. Patient falls can be prevented by minimizing risks that can cause patients to fall, such as slippery floors and inadequate facilities. Providing education to patients is also necessary so that patients can identify risks and avoid them (Heng, 2020).

Unintentional errors in medicine, whether by commission or omission, are referred to as medication errors (Mohaini, 2021). A medication error is a situation that can affect people and is related to the prescription and usage of medications. Clinical and procedural difficulties may be involved, although using the wrong medications is often caused in most cases (Lopez, 2021). Medication errors in primary health care services, including laboratory results are difficult to read (4.61%), limited supply of drugs (6.15%), and drugs nearing expiry date (3.07%). The incidence of medication errors is around 8-10%. In the U.S., medication errors injure an estimated 1.5 million people annually and cost 3.5 billion dollars (Arundina, 2020). Laboratory results that are difficult to read can lead to the misdiagnosis of patients. Drug stocks that are not available and drugs that are almost expired also cause a decrease in the quality of health services.

According to research conducted by Gavinov in 2022, public health center management

information system (*Sistem Informasi Manajemen Puskesmas / SIMPUS*) is an application program designed to help health workers record patient data, processing, and presenting data into information precisely in a short time. Technical errors in public health centers included SIMPUS application crashes (6.15%), fogging smoke poisoning (1.53%), exposure to toxic materials when mixing spray drugs (1.53%), and damaged medical and non-medical equipment (3.07%). Activities in public health centers must be carried out according to procedures because activities that do not comply with procedures can cause unexpected events such as smoke poisoning or spraying drugs. Application crashes can cause service delays that increase waiting time or errors in data entry. Using damaged equipment in health facilities also increases the risk of patient falls. Health workers also need to consider efforts to ensure medical waste is disposed of in a standardized landfill and not in an open, unsupervised area (Gobai, 2021).

The advantage of this study is that it can identify types of patient safety incidents in public health centers, where the similar studies have not been carried out yet due to limited information in public health centers. The disadvantage of this study is that the researchers did not collect data directly but used secondary data from the public health center's monthly reports, so that the accuracy of the data depended on the accuracy of the quality management team in identifying incidents and reporting them.

## CONCLUSION

Patient safety is a system in which health facilities make patient care safer and prevent injuries caused by mistakes due to acting or not taking action that should be taken, the priority has usually been preventing patients from having undesirable outcomes after receiving medical treatment. Developing a patient safety culture in the public health center is less significant than in hospitals. The types of patient safety errors in the public health center are mostly administration errors. Errors often occur in the management of medical record documents, and comprehensive document management efforts can prevent patient safety errors. The risk of falling patients can also be prevented by modifying the environment, such as using adequate equipment and controlling water sources from the floor. Implementing a patient safety culture requires commitment from health workers, policies, providing education, and the courage to report patient safety errors.

Public health centers should pay attention to patient safety and implement a patient safety culture more optimally. For further research, it can analyze the efforts made by the public health center in identifying patient safety incidents and efforts to overcome them. As well as how the public health

center identifies the risks that can lead to patient safety incidents, measures the severity of the risks, and attempts to improve them.

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