

## An Evaluation of Factors Related to the Implementation Code Blue System in the Inpatient Room of Hospital Medical Partner Bandar Klippa

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### Abstract

*Implementation of the Code Blue System in the Hospital Inpatient Room. Mitra Medika Bandar Klippa is still being found. Constraints that occur are related to human resources (HR), facilities, response time, and Standard Operating Procedures (SPO). This study aims to determine the factors related to the implementation of the Code Blue System in the Hospital Inpatient Room. Mitra Medika Bandar Klippa. The type of research used is descriptive qualitative research with a phenomenological approach. The population in this study was the entire Code Blue team in the Hospital Inpatient Room. Mitra Medika Bandar Klippa and a sample of 9 people. Collecting data with primary and secondary data and analyzed by three interrelated sub-processes, namely data reduction, data display, and conclusion drawing/verification. The results showed that Human Resources (HR), facilities, response time, and Standard Operating Procedures (SPO) were related to the implementation of the Code Blue System at Mitra Medika Hospital Bandar Klippa. The response time factor that is not always on time is due to the distance of the room being too far and the busyness in the ER/ICU at the same time as the code blue activation incident.*

### Keywords

code blue; resuscitation; inpatient



## I. Introduction

Code Blue is one of the emergency procedure codes that must be activated immediately if someone is found in a condition of cardiac respiratory arrest in the hospital area. Code Blue response team or Code blue team is a team formed by the hospital in charge of responding to Code Blue conditions within the hospital area. This team consists of trained doctors and nurses. Cardiac arrest is one of the causes of Code Blue calls to hospitals. Cardiac arrest in the hospital is usually preceded by observable signs, which often appear 6 to 8 hours before the cardiac arrest occurs. (Metcalf, 2015).

Code Blue is an emergency management system established to handle cases that require emergency medical intervention (Sahin et al., 2016). Activation of this code is carried out by professional health personnel and responded to directly by personnel who have been appointed to intervene in emergency cases that occur, the use of the code is intended to convey important information quickly by minimizing misunderstandings that occur among hospital staff. (Aziz, 2018).

Code Blue system aims to reduce mortality and increase the rate of return of spontaneous circulation. Delayed management of cardiac arrest is associated with a reduced

life expectancy of cardiac arrest patients. To achieve the goal of implementing the Code Blue system, an early introduction to cardiac arrest cases is required, in this case, knowledge of the Code Blue system and Basic Life Support (BHD). Based on this, the ideal Code Blue system activation should be able to facilitate resuscitation in patients with medical emergencies and cardiac arrest conditions with an adequate response. (Kilgannon 2017).

IncidentCode Bluett is closely associated with cardiac arrest or respiratory arrest because it is closely related to a person's survival. Failure to act in an emergency in cardiac arrest and acute respiratory failure can lead to death. Data from the American Health Association (AHA) in 2012 shows that every year as many as 295,000 cases of heart attacks are treated both in hospitals and outside the hospital. Based on the results of research by the American Heart Association in June 2015 data obtained a mortality rate of 31.3% in the United States due to cardiovascular disorders(WHAT? 2015).

The implementation of Code Blue Indonesia has been regulated in the Decree of the Minister of Health of the Republic of Indonesia No.129/MENKES/SK/II/2008 concerning Minimum Service Standards for Hospitals which states that in emergency services the hospital must provide a BLS/PPGD certified emergency service provider team. /GELS/ALS with an emergency response time of 5 minutes after the patient arrives(Ministry of Health, 2009).

Several large hospitals in Indonesia have implemented an activation system code Blue by using a telephone network to a certain number agreed upon by each hospital. When a patient is found experiencing respiratory arrest and cardiac arrest, the health worker who finds the patient will activate the Code Blue sign. The central operator will disseminate information to the code blue team in the form of the location of the incident. After the code blue team received the notification, the code blue team immediately went to the scene of the incident with the duration of time needed between receiving the "Code Blue " message (Code Blue activation) and the arrival of the code blue team at the scene of 5 to 10 minutes(Monangi et al., 2018).

According to(Lisnawati, 2019)that Code Blue is one of the emergency procedure codes that must be activated immediately if a person is found in cardiac respiratory arrest in the hospital area. Quick treatment can be realized if there are personnel who can carry out the chain of survival when cardiac arrest occurs. The existence of this workforce has been a big problem/question, even in hospitals there are many medical and paramedical personnel. Medical staff and paramedics in hospitals already have basic skills in life-saving, but not all of them can apply them optimally, and often there is no good organization in its implementation. (Burn, 2018).

Implementation code Blueinvolving trained human resources, equipment, and medicines complete with standard operating procedures called the Code Blue system. Activation of the ideal Code Blue system must be able to facilitate resuscitation in patients with medical emergencies and cardiac arrest conditions with an adequate response including response time, resuscitation team standards, equipment standards, and post-resuscitation care standards. (Lisnawati, 2019).

According to (Burn, 2018)that the decline in the patient's condition in the hospital requires a system or strategy so that resuscitation is optimal and ensures that basic and advanced life support measures are carried out effectively for patients with medical emergencies including cardiac arrest. This system involves trained human resources (HR), equipment, and medicines complete with standard operating procedures called the Code Blue system. Activation of the ideal Code Blue system must be able to facilitate resuscitation in patients with medical emergencies and cardiac arrest conditions with an

adequate response including response time, standard resuscitation team, standard equipment, and standard post-resuscitation care.

According to (Lisnawati, 2019) that response time is correlated with the Code Blue treatment. Response time in the less timely category occurs because of the lack of human resources and also the distance of the secondary code blue team to the patient's place of cardiac arrest is quite far. The Standard Operating Procedures (SPO) are correlated in Code Blue management, there is a significant influence between Standard Operating Procedures (SPO) on Code Blue management. Other factors that affect the implementation of Code Blue are the lack of experienced human resources (HR) in the management of resuscitation, the inadequacy of the collaboration process in team dynamics, and the limited facilities and infrastructure in the hospital are obstacles that nurses find when providing relief efforts.

Research conducted (Sahin et al., 2016) about Code Blue evaluation at Dr. Hospital. Behcet Uz Children, Turkey to analyze the use of Code Blue alarms in children's hospitals, it was found that the team's arrival time for the Code Blue case ranged from 1 to 5 minutes and the average duration was 73.2 seconds. Arrival time for 1 minute is 82.4%, 2 minutes is 13.7%, and 3 minutes is 3.9%. In the evaluation of a total of 139 Code Blue activations that occurred between January 2014 to January 2015, it was found that one (0.7%) of code blue calls was for cardiac arrest cases, 2 (1.4%) of Code Blue activations were for cases of respiratory arrest.

A study (Mulya & Fahrizal, 2019) shows that the implementation of code blue (medical emergency response) is influenced by the blue code emergency response system, facilities and infrastructure supporting emergency response, knowledge of workers, and organizational systems and system procedures (standard operating procedures).

A study (Lisnawati, 2019) shows that there is a significant influence between the factors of human resources (HR), facilities, response time, and standard operating procedures (SPO) with Code Blue management at Banjarmasin Hospital. The strength of the factors in the management of Code Blue at the Banjarmasin Hospital sequentially is the facility then followed by the influence of Human Resources (HR) followed by the influence of Standard Operating Procedures (SPO) and finally the response time to the management of the team in emergency patients.

Based on the initial survey conducted by researchers at the hospital. Mitra Medika Bandar Klippa obtained that RS. Mitra Medika Bandar Klippa is one of the class C private hospitals in the Deli Serdang district which was established in 2017. Currently RS. Mitra Medika Bandar Klippa has a bed capacity of 155 and has passed accreditation by KARS with Plenary status in 2019. Mitra Medika Bandar Klippa Hospital has been using the Code Blue system since August 2017 by having standard operating procedures for the implementation of Code Blue. But the phenomenon that occurs is the implementation of the Code Blue system as a whole has not been consistently carried out. Where from the data of inpatients at the Mitra Medika Bandar Klippa Hospital below, it explains that in 2017-May 2022, out of 144 inpatients who experienced cardiac arrest with Code Blue activation, only 11 experienced successful resuscitation or ROSC (Return of Spontaneous Circulation). and received post-ROSC treatment in the ICU. This is because the implementation of the Code Blue system has not been maximized in patients with cardiac arrest in the inpatient ward, and the understanding of guidelines and SOPs is not carried out properly.

Based on initial interviews with 3 people in the code blue team, it was found that 2 people had experience in activating the Code Blue system and understanding the Code Blue system, but in its implementation, many obstacles were found such as the knowledge of officers who did not understand, inadequate facilities, and slow response times so that the expected output of the Code Blue system was not achieved..

## 2.1 Code Blue Concept

*Code Blue* is a system activation code for emergency conditions that occur in a hospital or a health institution where there are patients who experience cardiopulmonary arrest and need treatment as soon as possible.(Monangi et al., 2018). Code Blue is a dialing code that indicates a patient's emergency condition (breathing and cardiac arrest)(Sitorus, 2016).

*Code Blue* used for cardiac arrest or other acute medical emergencies (such as respiratory arrest) that require an immediate and coordinated response from staff to save lives. Code blue team is a medical team that is ready to be called at any time to manage patients who experience acute critical conditions in the hospital(Sitorus, 2016). Code blue team is a team consisting of doctors and paramedics who are appointed as a "code-team", which quickly goes to patients to carry out rescue actions. The team uses emergency trolleys/crash carts, wheelchairs/stretchers, essential equipment such as defibrillators, intubation equipment, suction, oxygen, ambubags, resuscitation drugs (adrenaline, atropine, lignocaine) and IV sets to stabilize patients on Life Support. Base(Vindigni et al., 2017).

## 2.2 Purpose of Code Blue

The goals of Code Blue are:

1. To provide treatment for resuscitation and stabilization of emergency victims who experience cardio-respiratory problems and other emergency events within the hospital environment.
2. To form a trained team that can be used for rapid treatment from the hospital.
3. To start training in Basic Life Support (BLS) skills and use of an external Automated defibrillator (AED) for all hospital staff on a clinical or non-clinical basis.
4. To initiate the deployment of Basic Life Support (BLS) equipment at various strategic locations within the hospital environment to facilitate rapid response to emergencies.
5. To make hospitals safe and ready to respond to emergencies(Anjorin, 2020).

*Code blue team* (CBT) is a team consisting of doctors and paramedics who are appointed as "Code-teams", which quickly go to patients to carry out rescue actions. The team uses crash-carts, wheelchairs/stretchers, essential equipment such as defibrillators, intubation equipment, suction, oxygen, ambubags, resuscitation drugs (adrenaline, atropine, lignocaine) and IV sets to stabilize the patient.(Anjorin, 2020).

The Code Blue Team is a team that is always available around the clock and is quick to respond to emergency situations. Where the code blue primary team is a team consisting of team members who have mastered Basic Life Support (BLS) training. Code blue team consists of 3 to 4 members, among others(Anjorin, 2020):

1. The team coordinator is held by an ICU/NICU doctor who is in charge of coordinating all team members with the following qualifications:
  - a. Have a valid SIP
  - b. Have ATLS or ACLS certificate
  - c. Has clinical authority in the case of medical emergencies.
2. The Medical Officer who is occupied by the on-call doctor/ room doctor whose job is to identify the initial/triage of the patient, lead the handling of the patient when an emergency occurs, lead the team during the implementation of cardiopulmonary resuscitation (CPR) and determine the next attitude.
3. Implementing nurse whose duties include, among others, with the medical doctor in charge of triage on patients and assisting the medical doctor in charge of handling emergency patients.
4. The resuscitation team includes trained nurses and ward doctors/doctors whose duties are to provide basic life support to emergency patients, perform cardiopulmonary resuscitation to emergency patients. Each member of the code blue team will have designated

responsibilities such as team leader, airway manager, chest compressions, IV line, medication preparation and defibrillation.

### 2.3 Code Blue Team

Some of the commitments of the code blue team members according to (Elyas, 2016) namely the priority to handle emergency conditions, be responsible with their respective duties and roles and not delegate tasks to others with bad reasons.

*Code blue team* requires basic needs that must be possessed by members of the code blue team, namely sufficient knowledge and skills, because the health system in the code blue team requires special resuscitators. Effective training in aspiring resuscitators will ensure quality cardiopulmonary resuscitation (CPR) provided to patients. The training that must be possessed by the code blue team includes:(Saed, 2016) :

1. *Basic Life Support*(BLS)

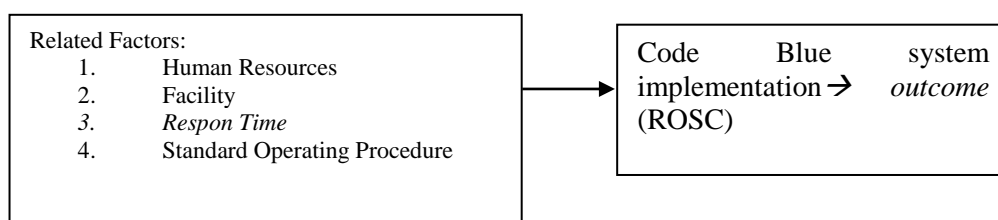
BLS referral to health care providers professional care provided to patients who have a heart attack or airway obstruction. BLS includes psychomotor skills to perform quality cardiopulmonary resuscitation (CPR), use an external Automated defibrillator (AED) and remove airway obstruction for patients of all ages. BLS also focuses on integrating key skills to help rescue teams achieve optimal patient outcomes.

2. *Advanced Cardiac Life Support* (ACLS)

ACLS It is an advanced life support in cases of cardiac arrest. With the management of the use of defibrillators and drugs. As well as skills training in station and megacode skills using simulators.

There are 3 Code Blue criteria, namely airway, breathing and circulation. It is said to be airway if there is an airway obstruction, said to be breathing if the breath is stopped or short of breath (eg: abnormal breathing) and circulation if no pulse is felt within 10 seconds. Code Blue is not activated under certain conditions, namely in Do Not Resuscitation (DNR) patients, terminal disease phases, and palliative care. While the types of rooms that are not activated by Code Blue are in the operating room, ICU, IGD and cardiac catheterization(Sitorus, 2016).

### 2.4. Conceptual Framework



**Figure 1.** Conceptual framework

1. Are Human Resources related to the implementation of the Code Blue system in the hospital inpatient room. Mitra Medika Bandar Klippa?
2. Is the facility related to the implementation of the Code Blue system in the hospital inpatient room. Mitra Medika Bandar Klippa?
3. Is the response time related to the implementation of the Code Blue system in the hospital inpatient room. Mitra Medika Bandar Klippa?
4. Is the Standard Operating Procedure (SPO) related to the implementation of the Code Blue system in the hospital inpatient room. Mitra Medika Bandar Klippa?

## II. Research Methods

This research is a qualitative research. The research used is descriptive qualitative research. Descriptive qualitative research is a research with a phenomenological approach. Research conducted to obtain answers or in-depth information about a person's opinions and feelings that allows to get the things that are implied about the attitudes, beliefs, motivations, and behavior of individuals (Siswanto, 2013). According to Azwar in Siregar (2020), descriptive research analyzes only at the level of description, namely analyzing and presenting facts systematically so that they are easier to understand and conclude. Based on the explanation Moleong in Amrizal (2018) qualitative research is research that intends to understand the phenomenon of what is experienced by the subject of research such as behavior, perception, motivation, action, etc., holistically, and by way of description in the form of words and language, in a special context that is natural and by utilizing various natural methods.

Qualitative research emphasizes the researcher as a research tool using analysis with an inductive approach. The process and meaning are highlighted, the theoretical basis is useful in providing an overview of the background and as a material for discussion of research results. This research is naturalistic based on field data, carried out in natural conditions and the field data is used as material in the process of formulating the theory of research results, seeing a natural phenomenon not human/researcher manipulation. Descriptive research approach focuses on finding facts about factors related to the implementation of the Code Blue system in the hospital inpatient room. Mitra Medika Bandar Klippa.

The population is a certain group of individuals or components that are the focus of research. The target population is the entire set of individuals or elements that meet the sampling criteria. The population in this study is the entire Code Blue team in the hospital inpatient room. Mitra Medika Bandar Klippa.

Sample selection is done by purposive sampling by using homogeneous sampling method. Intake of research informants is based on the idea that in qualitative research requires a depth of extracting information related to the object or research problem, therefore it is not directed at the number but based on the principle of suitability and adequacy until it reaches data saturation, as found by Creswell Version (Sugiyono, 2018) which recommends a relatively small number of informants for phenomenological studies by considering the ability of researchers to delve deeply into individual experiences. Informants are subjects who understand the object of research as actors and people who understand research.

Samples (informants) were taken based on the assessment (judgment) of researchers regarding informants who meet the requirements to become informants. Therefore, in order not to be very subjective as a researcher, researchers understand the characteristics and characteristics of objects or informants that are in accordance with the requirements and objectives of the study so as to obtain accurate data. Informant research uses a method by determining the criteria for informants who can provide information.

Inclusion criteria:

- 1) Status as a medical worker
- 2) Code Blue Team Member
- 3) Willing to be interviewed

Exclusion criteria:

- 1) His condition cannot be interviewed
- 2) Not willing to be interviewed

Informants in research are people or actors who really know and master the problem, and are directly involved with the research problem, namely people who know and are involved in administering health care licenses consisting of nurses and doctors. a doctor who

is expected to be able to provide information about the situation and conditions in obtaining a permit. By using qualitative research methods, researchers are closely related to contextual factors, so in this case as much information as possible is extracted from sources. The second purpose of the informants is to collect the information that forms the basis and design of the theory that is built.

The selection of informants as data sources in this study is based on the principle of subjects who master the problem, have data, and are willing to provide complete and accurate information. Informants who act as sources of data and information must meet the requirements. The key informants in this study were 3 doctors and the main informants were 6 nurses. There are 3 additional informants, namely 1 hospital leader, 1 head of care and 1 head of medical services. This means that the research sample in this study was 12 people.

1. Human Resources (HR) is the condition or condition of the Code blue team in implementing the Code Blue system.
3. Facilities are the availability of facilities and infrastructure needed by the Code blue team in implementing the Code Blue system
4. Team response is the time from responding to the Code Blue incident starting from the sounding of the Code Blue alarm until the Code Blue team comes to the Code Blue incident and takes care of the emergency, which is < 10 minutes.
5. Standard Operating Procedures (SOPs) are policies and procedures that are carried out by the team in carrying out actions so that errors do not occur in the implementation of actions.

The data analysis used in this research is descriptive qualitative which aims to see the factors related to the implementation of the Code Blue Hospital. Mitra Medika Bandar Klippa. Qualitative data analysis is an effort made by working with data, breaking it down into manageable units, synthesizing it, finding and determining patterns, discovering what is important and what is learned, and deciding what to tell others. In this study, the data obtained in the field were analyzed using the Miles and Huberman model. This data analysis model includes data processing with the stages of data reduction, data display, and conclusion or verification.

The data processing technique is carried out by means of research data that has been collected through direct observation, in-depth interviews, supporting documents, then processed according to the problems raised, in several stages as follows:

#### 1) Organizing Data

Data collected from the subject through the results of in-depth interviews (depth interviewer) in the field, an interview transcript was made by changing the interview results from recorded form into written form verbatim, for further analysis.

#### 2) Data Classification and Categories

The transcripts of interview data were coded, grouped based on theme categories and answer patterns and then arranged in an analytical framework that was made or prepared.

#### 3) Testing Assumptions

After the categories of data patterns are clearly defined, the researcher tests the data against the assumptions developed in this study, so that it can be matched whether there are similarities between the theoretical basis and the results achieved. Although this research does not have a specific hypothesis, from the theoretical basis assumptions can be made regarding the relationship between the existing concepts.

Data analysis techniques, according to the characteristics of qualitative research in the form of case studies, data analysis is carried out throughout the research process. The data that has been collected is classified and then moves towards the formation of conclusions. The data analysis process is based on simplification and interpretation of the data carried out before, during and after the data collection process. This process consists of three interrelated

sub-processes, namely data reduction, data display, and conclusion drawing/verification.

Based on the opinion above, the interview transcripts and the results of the observations that have been collected are carried out in the following stages of analysis:

1) Data reduction/data reduction

Data reduction is the process of selecting, clarifying, abstracting or transparent data obtained in the field either through observation or interviews with key informants and key informants. Data reduction is a form of analysis to sharpen, classify, direct, discard unnecessary, and organize data so that conclusions can be drawn and verified.

2) Presentation of data/ data display

Presentation of data is a collection of information and data that gives the possibility of drawing conclusions and taking action. The presentation can be in the form of descriptions/narratives, graphs, and charts.

3) Conclusion

Drawing conclusions, namely the final analysis obtained based on the results of data reduction and data presentation.

## IV. Discussion

### 4.1 Code Blue System

Hospital. Mitra Medika Bandar Klippa has used the Code Blue system since 2017 by having an SPO for the implementation of Code Blue published on August 26, 2017 and having a Basic Life Support (BHD) and Code Blue training work program in accordance with hospital accreditation regulations which are scheduled to be carried out once every year carried out by the Ministry of Education and Training (Diklat). Secondary data that the researcher got from the Education and Training department of Mitra Medika Hospital Bandar Klippa, BHD training is conducted once a year but Code blue special training is only carried out for 2 years once a year.

The SOP code blue consists of policies regarding the preparation and personnel of the code blue team, procedures for implementing code blue as well as the BLS and ACLS algorithms, as well as documentation of the implementation of code blue with a code blue form.

*Code blue team* on duty on every service schedule 8 hours per day every day, which consists of the doctor on duty, the ICU team and the emergency room team that have been determined according to the official schedule.

Code Blue facilities, both in the form of equipment and emergency drugs that are ready to use and arranged according to the data on mortality, are provided in the ICU room to be carried by the code blue team if there is an activation of code blue, as well as in each room an emergency trolley is provided with ready tools and emergency drugs use. Evaluation and monitoring of the completeness of the equipment and emergency drugs are also carried out by the pharmacy department with a schedule every week or after use if there is an activation of code blue and documenting the results of monitoring and evaluation of emergency equipment and drugs.

From the study, secondary data was obtained, namely code blue activation data during 2018 - May 2022 as many as 144 patients with ROSC numbers as many as 11 patients, of which there were 6 patients with DNR. In 2017 there was no code blue patient data. (source: RS. Mitra Medika Bandar Klippa profile).

Characteristics of informants consisting of age, position and tenure can be seen in Table 1.



**Table 1.** Distribution of Informants Based on Characteristics

Informant	Age (Years)	Position	Department Time
1	31	Doctor Watch	5 years
2	30	Doctor Watch	3 years
3	27	Doctor Watch	2 years
4	41	ICU Nurse	4 years
5	28	ICU Nurse	3 years
6	26	ICU Nurse	2 years
7	31	Emergency	4 years
8	28	Room Nurse	4 years
9	30	Emergency	1 year
10	47	Room Nurse	5Tahun
11	39	Emergency	3 year
12	37	Room Nurse	4 years
		Hospital Leader	
		Head of	
		YanMed	
		Head of nursing	

#### 4.2 Factors Related to the Implementation of the Code Blue System

The results showed that from 9 informants interviewed, 7 informants stated that it was sufficient and 2 informants stated that it was not sufficient.

**Table 2.** Matrix of the Number of Teams in the Implementation of Code Blue is Fulfilled/Sufficient for the Implementation of the Code Blue system

Informant	Statement
1	It's enough, because according to the existing service schedule, so every room has a peripheral Code blue team and a central Code blue team
2	It's enough. There are 3 people in the Code blue team, 1 person from the ICU, 1 person from the ER and 1 doctor on duty and we already understand their duties
3	So far, there are 4 people, namely 1 doctor on duty, 1 from the room, 1 from the ER or 1 from the ICU. Usually coordinate, which one can be faster to the room and the team also understands their respective duties, for example 1 person in the airway, 1 person CPR, 1 person giving medicine
4	Enough. In 1 team there are 3 people, emergency room nurses, ICU nurses, doctors on duty, room nurses who find critical patients.
5	Actually not enough. there are 3 people, less effective in the field

<b>Informant</b>	<b>Statement</b>
6	That's enough... Usually there are 4 people, 1 from the ICU team, 1 from the emergency room team, 1 doctor on duty, and the nurse in the room where the emergency patient is also helping.
7	Unfulfilled.... Because if we read according to the SPO Code blue team, there should be a laboratory team, a pharmacy team must also exist, but our team is only an emergency room team,
8	ICU and room doctor.
9	Enough... the team has 4 people, namely delegates from the ER, ICU, doctor on duty and room nurse, and each of them already knows their job.
	Enough... there are 3 people. 1 person from the ER, the doctor on duty, and 1 person from the ICU.

The results showed that from 9 informants were interviewed, 9 informants stated that team members had received BHD and Code Blue training and 2 informants had never attended training.

**Table 3.** Matrix on Whether Team Members Get Special Training about Code Blue Implementation from RS

<b>Informant</b>	<b>Statement</b>
1	There is a BHD training, it is routinely carried out once a year, but recently there is no training, maybe because of the covid pandemic
2	There is a BHD training conducted every year. There is also a discussion about code blue
3	There is training but not routine.
4	There is Code Blue training but mostly about BHD
5	There is BLS and code blue training
6	There is training. I've never been
7	There is training from hospital training. Usually carried out by a specialist or general practitioner
8	There is training, about once a year. Refresh about BHD.
9	Don't know. I've never been to training.

### 4.3 Source Triangulation

Source triangulation is a step to re-check the data obtained from informants by asking the truth of the data or information from one informant to another. The researcher used several additional informants besides the main informant to check the truth of the main informant.

In this study the main informants are the code blue team consists of 9 (nine) people, and additional informants are 3 (three) people.

## V. Conclusion

1. Human Resources related to the implementation of the Code Blue system in the hospital. Mitra Medika Bandar Klippa. Where is the number of HR Code blue team in the hospital. Mitra Medika Bandar Klippa is still lacking and ineffective in carrying out their duties and roles in cardiopulmonary resuscitation. Human resource development is

not carried out routinely so that there are still obstacles in implementing the Code Blue system due to the lack of understanding and ability of the peripheral and central code blue team officers, especially new nurses in the room.

6. Facilities related to the implementation of the Code Blue system in the hospital. Mitra Medika Bandar Klippa. Where the availability of complete and good facilities is very supportive in the implementation of Code Blue.
7. Respon timerelated to the implementation of the Code Blue system in the hospital. Mitra Medika Bandar Klippa. Response time starts from the sounding of the Code Blue alarm until the Code Blue team comes to the Code Blue scene and handles the emergency. Fast and precise response time affects the patient safety outcomes.
8. Standard Operating Procedures (SOPs) relate to the implementation of the Code Blue system at Mitra Medika Hospital Bandar Klippa. Compliance with Standard Operating Procedures (SOP) is an important component in patient safety management.
9. The Code Blue implementation process includes the formation of a professional team on standby, activation technology systems, initial preparation and preventive measures until the team reaches the patient, access to ready-to-use equipment facilitation, information management and effective intervention and documentation.

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