



Determination of Policies for Covid-19 PPE Using for URM Hospital Employees During The Pandemic

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Article Info

Article History:
Submitted 18 April 2021
Accepted 01 April 2022
Published 30 April 2022

Keywords:
Policies; Personal Protective
Equipment (PPE); URM;
Covid-19 pandemic era

DOI
<https://doi.org/10.15294/jhe.v7i1.56223>

Abstract

Background: Policies regarding procedures for using Personal Protective Equipment (PPE) for medical record officers were needed during the Covid-19 pandemic. This study aims to analyze the quality assurance of services in the medical record unit RSUP Dr. Kariadi Semarang in the era of the Covid-19 pandemic. Type of mixed methods research.

Methods: Type of mixed methods research. This research was conducted from July 1 to August 15, 2020. The data were obtained through in-depth interviews, and the processing and analysis of research data were carried out using content analysis and quantitative methods.

Results: RSUP Dr. Kariadi Semarang already have an SOP for the procedure for using Personal Protective Equipment (PPE) for medical record officers during the Covid-19 pandemic. Officers comply with the SOP for using Personal Protective Equipment (PPE) during the pandemic.

Conclusions: There has been an evaluation of hospital policy monitoring the use of PPE for medical record officers in the Covid-19 pandemic era.

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INTRODUCTION

The hospital must have a medical record unit to manage patient medical record documents (Masana, 2019). The sub-unit of hospital medical records was a filing with an archiving function, including managing medical record documents. The paper base medical record documents were still required because there was a need for approval or manual signature of medical personnel/patients required by patients for referral letters, inpatient approval letters, general approval, approval and operation reports (for surgical cases), birth identification reports, preoperative assessment, death report, discharge summary, death certificate, give the birth report, external referral, and supporting examination results (Retno et al., 2020). Inherent to the operational management of a pandemic in the era of modern medicine was leveraging the capabilities of the electronic health record (EHR), which can be useful for developing tools to support the standard management of patients. Technology-based tools can effectively support institutions during a pandemic by facilitating the immediate widespread distribution of information, tracking transmission in real-time, creating virtual venues for meetings and day-to-day operations, and, perhaps most importantly, offering telemedicine visits for patients (Dong et al., 2020; Reeves et al., 2020; Yeh & Yeh, 2020). The EHR was a useful tool for the rapid deployment of standardized processes (Adalja et al., 2020).

Additionally, indispensable during the pandemic, the personal protective equipment (PPE) used by hospital workers composed of face masks, gloves, clothing, aprons, caps, covers, and glasses/goggles, the vast majority of which were made of plastic. Exhausted air has to be filtered through high-efficiency particulate air (HEPA), and medical personnel entering the room should wear PPE such as gloves, gowns, disposable N95, and eye protection. Once the cases were recovered and discharged, the room should be decontaminated or disinfected, and personnel entering the room need to wear PPE, particularly facemask, gown, and eye protection (Harapan et al., 2020). Surgical gloves were made of natural rubber, also a type of polymer. The literature highlights the importance of

using these PPEs (De Sousa, 2020; Makki et al., 2020). The role of PPE in avoiding SARS-CoV-2 transmission was also suggested by another nosocomial study carried out in Hong Kong (Carducci et al., 2020). COVID-19 was a fast-expanding pandemic, which caught many countries off-guard. In many countries, infection control was hindered by inadequate emergency settings, suboptimal logistics, and scarcity of personal PPE (Rahman et al., 2020). Healthcare workers as part of the healthcare system that handles COVID-19 were prone to experiencing anxiety. Many factors can be a source of anxiety for them, including limited PPE, fear of being a carrier for the people close to them, fear of contracting COVID-19, limitations of rapid and swab examination facilities, limited healthcare facilities in handling the number of existing cases, high morbidity which was accompanied by a rapid increase in the number of cases (Setiawati et al., 2021). There were gaps in knowledge on the mode, source, and mechanism of transmission of COVID-19 and the rate of mutation of the virus in the community. This information must be acquired to ensure containment of the pandemic through the use of PPE quality assurance or institutions of new normal physical and psychological behaviors, which with luck, will eradicate the virus from the community.

Based on a preliminary study in May 2020 by the person in charge of medical records (PJRM), the Emergency Department (UGD) Dr. Kariadi Semarang City that the use of PPE on medical personnel was an obligation to wear PPE. The rules for PPE use were contained in the Republic of Indonesia's Minister of Health. They were passed down to the rules of the President Director (Dirut) Kariadi Hospital. For the use of PPE, it was adjusted to field conditions. The gown was still rarely used and was only dried in the sun after use. Masks were used by medical personnel only one mask a day, while gloves were required to be used once. Of the 10 medical personnel, all of them use PPE during the procedure; two of them use a handsocon when they were the operator of the procedure and use a gown or protective gown. PPE was provided by the hospital to medical record officers to be used continuously during the Covid-19 pandemic. So far, there has been

monitoring and evaluation of medical record officers' compliance with PPE use.

Thus, researchers will examine quality assurance (quality assurance) Medical Record Service Unit Dr. Kariadi Semarang in the Covid-19 pandemic era, with the research title "Determination of Policies for Covid-19 PPE Using for URM Hospital Employees During The Pandemic". This research aimed to analyze the determination of policies for covid-19 PPE used for URM Hospital employees during the pandemic. This was the most important part and becomes a project to be researched, and researchers will develop RSUD Type C or B, which were still the main problem due to high numbers of transmission in the Medical Records Unit.

METHODS

Research design

This study used a convergent parallel mixed methods evaluation. In this study design, quantitative and qualitative methods have similar relevance, the data were collected in the same phase of the research project, the analysis of the data was independent, and the findings were combined and interpreted together (Garcia-Huidobro et al., 2020). Nurses and medical records workers were recruited from COVID-19-designated hospitals in RSUP Dr. Kariadi Semarang Regent using purposive and snowball sampling.

Time and place of research

Time from July 1 to August 15, 2020 and place in RSUP Dr. Kariadi Semarang.

Population and research sample

Observation respondents were 58 respondents with the subject of observation of Medical Record Employees emergency patient registration (TPPGD) and inpatient registration places (TPPRI) were 13 respondents, medical record employees outpatient registration (TPPRJ Merpati Installation) were 15 respondents, medical record employees in charge (PJRM) medical records inpatient rooms were 15 respondents, and Medical Records Room Medical Record Staff in the Filling, Assembling, Coding, Indexing, Casemix, A/R, Managerial Medical Records section were 15 respondents. Observation sheet in the form of

Disciplinary Observation Sheet for Application of Hospital Occupational Health and Safety Protocol for Medical Record Employees (PPE using and Personal Hygiene) with the potential for direct contact and droplet transmission.

Informants

The research subjects were the main informants (MI) and the triangulation informants (TI):

MI 1 = Medical Records Officer (Outpatient Registration)

MI 2 = Medical Records Officer (Emergency Room Registration)

MI 3 = Medical Records Officer (Person in Charge of Medical Records-PJRM Isolation Room)

TI 1 = Head of Medical Records Unit RSUP Dr. Kariadi

TI 2 = PPI Officer

The object of the study was the flow of medical records for both outpatient/inpatient/emergency room patients, storage, and treatment of medical records in both patients with confirmed COVID-19 and not.

Data collections

This study used source triangulation in testing the validity of the data to obtain more accurate and credible findings and interpretation of data by using sources other than the main data. Data collection techniques used were through in-depth interviews (depth interviews). The sources of data in this study were primary data sources. The primary data source was in the form of interviews—the method of collecting data through in-depth interviews with snowball techniques. The research instrument used a list of interviews to explore information related to research objectives.

Data processing and analysis

Following the selected mixed methods design procedures, each type of data was analyzed independently. Observations data results were summarized using descriptive quantitative statistics (univariate analysis). Responses to open-ended questions were coded by independent researchers following the data processing and procedures of content analysis, namely: 1) data collection, using in-depth interview techniques that were recorded and recorded using a camera and recorder, then the

results will be recapitulated in the transcript of the interview results for each informant, 2) data reduction, carried out by identifying the part found in data that has meaning when it was associated with the focus of research problems followed by coding each data so that it can be traced where the data was sourced (coding) and grouped into sections that have similarities and look for a link between one category and another (categorization), 3) data verification and presentation of analysis, carried out by reviewing the data obtained against the theory and results of previous research, which will then be presented in a narrative in accordance with the phenomenon under study, 4) drawing conclusions in descriptive form, by comparing the research question with the results of the research. Research results, research objectives and theoretical concepts to conclude from the research results.

Using a combination of inductive and deductive approaches, participant's perceptions were grouped into emerging categories organized according to the domains of the guiding questions. Responses in each category were counted and grouped by domain. Quotes

were selected to represent the participant's opinions, and these were translated into English. Mixed methods integration was conducted at the finding interpretation and reporting phases. To interpret both data sources jointly, researchers gathered to discuss quantitative and qualitative results together. Integration at the reporting level occurred through a continuous narrative approach, in which the mixed data were presented in a single report but in different sections.

RESULTS AND DISCUSSIONS

Based on the observations and interviews conducted at Dr. Kariadi Semarang City with the Head of Medical Records and PPI (Main Informant), Registration officers outpatient, inpatient (isolation room and ICU), and emergency department. The research subjects were the Head of Medical Records and PPI (Main Informant); Registration officers outpatient, inpatient (isolation room and ICU), and emergency department obtained the following results (information from IU was the main informant and IT was the triangulation informant):

Table 1. Result of Observation Sheet Discipline for the Application of Hospital Occupational Health and Safety Protocols to Medical Record Employees (Use of PPE and Personal Hygiene) for Emergency and Inpatients Registration Rooms, Inpatients Registration Rooms, and Person in charge of the inpatient room

Control Activities	Observation Result					
	Emergency and Inpatients Registration Rooms		Inpatients Registration Rooms		Person in charge of the inpatient room	
	Done	Not Done	Done	Not Done	Done	Not Done
The counters were designed with a divider in front and on the side	13	0	15	0	0	15
There was a sign of the distance between the registrant / patient and the counter officer (distance of ± 1 meter)	13	0	15	0	15	0
Officers wear surgical masks or N95 masks	13	0	15	0	15	0
Officer wearing a faceshield (face shield)	0	13	0	15	0	15
Officers wear operating room scrubs	0	13	0	15	0	15
Officers wear latex gloves	0	13	0	15	0	15
The officer places the handrub on his desk for use by officers and registrars	13	0	15	0	15	0
Officers ask patients and registrants to fill out a COVID-19 screening checklist (especially for outpatient and emergency departments)	13	0	15	0	15	0
Applying the working principle of washing hands before and after	13	0	13	0	13	0

According to table 1, the control activities were done by Emergency and Inpatients Registration Rooms, Inpatients Registration Rooms, and the Person in charge of the inpatient room were numbers 1, 2, 3, 7, 8, and 9, except number 1 was not carried out by the Person in charge of the inpatient room. Control activities that were not done were numbers 4, 5, and 6.

Table 2. PPE Using for Medical Record Employees

Informan's Code	Interview's Results
MI1	Mandatory cleaning himself with his own tools.
MI2	All employees wear surgical masks from N95 Hospital including surgical patients.
MI3	There were differences in the results of medical/surgical masks and face shields. Registration without handscoon.
TI1	The filing clerk wears a surgical mask. Faceshield in the filing and coding room, while assembling was only a suggestion. Hazmat suit for contactless.

Mandatory self-cleaning with own tools. All employees wear surgical masks from N95 Hospital, including surgical patients. The filing clerk wears a surgical mask. Faceshield in the filing and coding room, while assembling was only a suggestion. Hazmat suit for contactless. TPPGD flow 1) All enter the screening team. 2) The results of the interview, if the fever was carried out by a rapid test and medical history, it was recommended to wear hazmat clothes.

Standard operating procedure (SOP) was written work steps that focus on implementing work to reduce the risk of loss and maintain reliability. In SOP, there were usually restrictions on equipment operation and safety, and procedures for starting, operating and turning off equipment. Eligibility of the SOP for inpatient registration was the criteria for determining the SOP for inpatient registration was feasible to run or needed revision (addition or reduction of standards). However, control of COVID-19 transmission in the community may not be as straightforward because this depends on strict societal compliance to the standard operating procedure for control of the COVID-19 pandemic, which includes social distancing, wearing masks, personal hygiene, and avoiding crowds (Rahman et al., 2020). The use of telehealth improves the provision of health services. Therefore, telehealth should be an important tool in caring for services while keeping patients and health providers safe during the COVID-19 outbreak (Monaghesh & Hajizadeh, 2020). Health protocol flow has already been implemented using recommended standards (Asriati & Hakam, 2020).

Compliance (compliance) was the level

of a person carrying out a way or behavior of someone with what was suggested or imposed on him. Nurse compliance was the nurse's behavior as a professional towards recommendations, procedures, or regulations that must be carried out or obeyed. From the interview results, the officers have done their duties according to the SOP. SOP compliance and policies in the form of isolation of patients at RSUP Dr. Kariadi Semarang. 2nd revised SOP for handling cases of Kejadian Luar Biasa (KLB). Thus the officers were obedient in implementing the Flow of Medical Record Service Procedures.

Electronic health record tools for managing a pandemic screening include reports regarding prior persons under investigation (PUI), existing and pending tests, training completion, and screening/documentation compliance (Reeves et al., 2020). The current pandemic has caused digitization to flourish in the health care sector. E-Health, the combined use of electronic information and communication technology in the health sector, has a high potential for optimizations and savings in most health care systems worldwide. E-Health solutions can support care and treatment by exchanging treatment-relevant data among health care providers or between patients and health care providers in compliance with data protection regulations and by providing documents tailored to the tele-intensive care COVID-19 patients (Tebeje & Klein, 2020). However, control of COVID-19 transmission in the community may not be as straightforward because this depends on strict societal compliance to the standard operating

procedure for control of the COVID-19 pandemic, which includes social distancing, wearing masks, personal hygiene, and avoiding crowds (Rahman et al., 2020).

The purpose of an electronic health information system (EHIS) was to support health care workers in providing health care services to an individual client and to enable data exchange among service providers. The demand to explore the use of EHIS for the diagnosis and management of communicable and non-communicable diseases has increased dramatically due to the volume of patient data and the need to retain patients in care. In addition, the advent of the Coronavirus disease 2019 (COVID-19) pandemic in high disease burdened low and middle-income countries (LMICs) has increased the need for robust EHIS to enable efficient surveillance of the pandemic. EHIS has the potential to enable efficient delivery of disease diagnostics services at point-of-care (POC) and reduce medical errors (Khubone et al., 2020). Although the size, type, and culture of the healthcare setting impacted the organizational factors, each was deemed important for EHR success; Governance, leadership and culture, End-user involvement, Training, Support, Resourcing, and Workflow. As well to organizational differences, individual end-users have varying Skills and characteristics, Perceived benefits and incentives, and Perceived changes to the health ecosystem, which were also critical to success (Fennelly et al., 2020).

The workflow was essential to identify it quickly, isolate it to help contain the disease and prevent community spread (Anaikatti et al., 2021). The flowchart design of the initial assessment electronic form system. during a pandemic, it was necessary to develop electronic services to eliminate the spread of the virus with paper-based services. One of the efforts to achieve this was by using the electronic recording of the initial patient assessment. This electronic form consists of 4 stages based on the waterfall method. The

first stage was problem identification, which needs analysis for form design, electronic form design, implementation, and testing: patient data input, officer data input, assessment transaction data input, and assessment reports. The test results show that this assessment form can accommodate validly be used as an alternative screening service during the Covid-19 pandemic (Widyaningrum et al., 2020). Coordination of virtual, harmonized “clearinghouses” for digital public health at the local, regional, state, federal, and global levels, wherein data flow, integration, and analytics can serve local needs and be communicated (Madhavan et al., 2020).

Breaking the chain of Covid-19 infection for medical record officers, the most important thing is the use of PPE in the form of surgical masks and hand hygiene. The discipline of officers in the use of surgical masks can prevent cross-contamination. Always perform hand hygiene after touching a patient's medical record. Rational and consistent use of PPE and hand hygiene will help reduce the spread of infection. Therefore do not rely on it as the main strategy of prevention. In the absence of effective technical engineering and administrative control measures, PPE has only limited benefits. The PPE used refers to the Technical Guidelines for Infection Control following contact, droplet, and airborne precautions.

The team handling the corona outbreak at the hospital relies heavily on PPE to protect against potential infection with the coronavirus. The repeated use of PPE is carried out due to the limited supply chain of new PPE, so washing with chlorine is very common to kill the presence of the coronavirus that may stick to the surface or enter the pores of the PPE. Certain types of PPE are very at risk of being damaged by repeated washing treatments so PPE disinfection efforts can be carried out by other methods (Huang et al., 2020; Morfi, 2020; Muvianto, Cahyo Mustiko Okta Yuniarto, 2020).

Table 3. Result of Observation Sheet Discipline for the Application of Hospital Occupational Health and Safety Protocols to Medical Record Employees (Use of PPE and Personal Hygiene) for Medical Records Room Medical Record Staff in the Filling, Assembling, Coding, Indexing, Casemix, A/R, Managerial Medical Records section

Control Activities	Done	Not Done
Shift work arrangements so as not to accumulate in one time (1)	15	0
Place the handrub on the desk for the officer (2)	15	0
Apply the before and after work principle of washing hands (3)	15	0
Staff wearing surgical masks (4)	15	0
Officer wears latex gloves (5)	0	15
Placing special employees for RM documents that were included in the COVID-19 case (6)	15	0
Specialized employees were conditioned to wear complete PPE to work coding and indexing COVID-19 cases (7)	0	15
Grouping the Covid-19 case RM files with special labels and special plastics (8)	15	0

According to table 2, the control activities were be done by Medical Records Room Medical Record Staff in the Filling, Assembling, Coding, Indexing, Casemix, A/R, Managerial Medical Records section were numbers 1, 2, 3, 4, 5, 6, and 8.

Table 4. PPE Using for Medical Record Employees

Informan's Code	Interview's Results
MI1	Complaints from employees for running out of PPE.
MI2	To overcome the shortage of PPE for medical record employees, the PJRM was withdrawn for further handling.
MI3	The guard shift arrangement from the Presidential Instruction becomes an SOP scheme of 2-4 days starting and 2-3 days of work or holidays.
TI1	In the room: 1. Admin room under the Head of the Room (Karu). 2. PJRM under RMIK was not only at the nurse station but also follows the RM flow starting January 2-3, 2020, including in the assembly environment.
TI2	Arrangements for patient visits were stopped and the medical record file was stamped by the medical service (Yanmed).

Employees report that they run out of PPE. To overcome the shortage of PPE for medical record employees, the PJRM was withdrawn for further handling. Admin of medical records under the Head of the Room (Karu). PJRM under RMIK was not only at the nurse station but also follows the RM flow starting from January 2-3 2020, including in the assembly environment. Arrangements for patient visits were stopped and the medical record file was stamped by the medical service (Yanmed).

Constraints were factors or circumstances that limit, hinder or prevent achieving goals. Constraints also mean the force that forces the cancellation of implementation. From the results of observations and interviews, there were no obstacles to implementing this policy. So far, there have been no significant problems. Now, there was indeed a massive transformation

towards the digitalization of DRM. Although now, 100% were outpatient and inpatient care and the IGD was currently running for the transfer. Still, some things cannot be digitized because regulations from the Ministry of Communication and Information Technology and a legal standpoint cannot make vital data that cannot be used digitally. So some documents were still manual. For obstacles in the field, there was no flow problem at all. Currently, it was heading towards digitizing DRM in the emergency department. A generally applicable policy solution that officers were comfortable with all policies. Our policy has been good so far, and there were no cases of Covid-19 in the medical records department. The problem was contracting from outside the hospital. PPE policy has been formulated to be universal, so it's not just the case of COVID-19.

On the other hand, EHRs can provide

an important resource to describe outcomes or interventions in real life since strict eligibility criteria and design constraints do not always allow extrapolation of clinical trial findings to the population (Madhavan et al., 2020). The usual EHR enhancement project includes a thorough clinical and technical scoping process, a budgeting and planning stage, project management oversight, careful design with testing in multiple electronic environments, great communication to end-users before go-live, and implementation with field support in active clinical settings. Due to obvious time constraints were unable to follow this standard workflow (Reeves et al., 2020). Furthermore, financial constraints limit an organization's ability to successfully attain the necessary resources to implement an innovation (Masana, 2019). Some practices even miss their multidisciplinary colleagues or team members because of emerging financial constraints. This reduced the capacity of primary care practices to offer resilient chronic care and shed light on the low priority given to self-management support, e.g., by paramedics (Danhioux et al., 2020).

Control activities that were not done were numbers 5 and 7. Monitoring was carried out on time because data availability was required for data management/users to resolve problems on time. In addition, the timeliness of monitoring was also important to obtain accurate data in monitoring certain objects at the right time. Based on the interview results, there has been monitoring and evaluation of the hospital policy of using PPE for medical support employees, especially medical record employees in the COVID-19 pandemic. The head of the hospital carries out monitoring at any time. Documenting everything related to health services must be recorded quickly, accurately, completely, and accountably.

All three categories of studies reviewed in this paper suggest the airborne transmission of SARS-CoV-2, but none has yet reached complete evidence. The sampling and detection methods and protocols have not been evaluated and validated; therefore, monitoring results have been affected by a possible underestimation (Carducci et al., 2020). This was accomplished through home monitoring,

virtual health assessments, medication review, education and support for patients and families, and coordination between family doctors, specialist doctors, and other health team members. It can shorten hospital stays or avoid them together, which reduces the risk of SARS-CoV-2 transmission for these often-frail patients and their providers (Baumgart, 2020). Emergency response involves assessing local capacity, prioritizing interventions, establishing strategy, identifying resources, collecting and tracking data, and regular monitoring (Das et al., 2020).

Management of such patients should focus on preventing transmission to others and monitoring for clinical status with prompt hospitalization if needed (Gennaro et al., 2020). If large-scale community transmission occurs, mitigating social gatherings, temporary school closure, home isolation, close monitoring of symptomatic individual, provision of life supports (e.g., oxygen supply, mechanical ventilator), personal hand hygiene, and wearing personal protective equipment such as facemask should also be enforced (Harapan et al., 2020). This was shown to be an effective approach for strengthening monitoring and evaluation capacity and ensuring data quality within a national health system. It was demonstrated that on-the-job training can also improve performance through timely and increased reporting of key health indicators (Khubone et al., 2020).

The team handling the corona outbreak at the hospital relies heavily on PPE to protect against potential infection with the coronavirus. The repeated use of PPE was carried out due to the limited supply chain of new PPE, so washing with chlorine is very common to kill the presence of the coronavirus that may stick to the surface or enter the pores of the PPE. Certain types of PPE were very at risk of being damaged by repeated washing treatments, so other methods could do efforts to disinfect PPE (Huang et al., 2020; Morfi, 2020; Muvianto, Cahyo Mustiko Okta Yuniarto, 2020).

To deal with the spread of COVID-19 in Indonesia, it is very important and urgent to formulate regulations related to the prevention of COVID-19 in Indonesia in Government Regulations and Minister

of Health Regulations (Muvianto, Cahyo Mustiko Okta Yuniarto, 2020). Due to the urgent situation, the Indonesian government has issued several laws and regulations. Invitations include Government Regulation instead of Law Number 1 of 2020 concerning State Financial Policy and Financial System Stability for Handling the 2019 Corona Virus Disease (Covid-19) Pandemic and/or In Facing Threats That Endanger the National Economy and/or System Stability Finance. Government Regulation Number 21 of 2020 concerning Large-Scale Social Restrictions in the Context of Accelerating Handling of Corona Virus Disease 2019 (Covid-19). Presidential Decree No. 11 of 2020 concerning the Determination of the Corona Virus Disease 2019 (Covid-19) Public Health Emergency. Also, Law Number 6 Year 20 8 concerning Health Quarantine (Telaumbanua, 2020a, 2020b).

Person in Charge of Medical Records (PJRM) Emergency Unit (ER) RSUP Dr. Kariadi Semarang City that PPE for medical personnel has become an obligation to wear PPE. The rules for PPE use are contained in the Minister of Health Regulation of the Republic of Indonesia and handed down to the rules of the President Director (Director) of RSUP Kariyadi. The use of PPE was adjusted to field conditions. For the use of gowns are still rarely used and only dried after use. Masks are used by medical personnel only one mask per day, while gloves are required to be used once. Of the 10 medical personnel, all of them use PPE during the procedure; two of them use a handsoon when they are the operator of the procedure and use a gown or protective clothing. PPE was provided by the hospital to medical record officers to be used continuously during the COVID-19 pandemic. So far, there has been monitoring and evaluation of compliance by medical record officers on using PPE.

CONCLUSION

Based on the results and discussion regarding Determination of Policies for Covid-19 PPE Using for URM Hospital Employees During The Pandemic, it was concluded that Dr. Kariadi Semarang already has an SOP for the flow of medical record service procedures during the COVID-19

pandemic for new or old patients who were not confirmed by the 2019-nCoV. Officers were obedient to the implementation of the medical record service procedure flow. There were no obstacles in carrying out services according to the flow of procedures. There has been a monitoring evaluation of the hospital policy of using PPE for medical record employees in the COVID-19 pandemic era.

The limitation of this study was that in-depth interviews were limited to only the results of information from discussion participants. In contrast, further information was not collected outside the discussion interview informants. The number of informants was limited to 3. The main informant (IU) was 3 people, and the triangulation informant (IT) was 2 people, so the results of different information were viewed from different informants. The data collection method used a list of interviews to have different information from other research informants so that it could not be generalized. Suggestions for further research it was necessary to develop a decision-making system for DRM type based on the initial assessment results.

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