

Medical waste management in Jember Regency Hospital

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Abstract

Purpose: This research aims to analyze medical waste management practices and factors influencing medical waste management in Jember Regency hospitals. **Methods:** This study employed a qualitative research design with a case study approach. Research data was obtained from the results of in-depth interviews and observations. The determination of research informants was conducted using purposive sampling, involving 16 informants. Data analysis used causal loop diagram (CLD) analysis and the importance-performance analysis (IPA) method. **Results:** Medical waste management activities in Jember Lung Hospital and Jember Klinik Hospital were generally good. However, some activities could have been more suitable, including sorting, storage, in-situ transportation, and temporary storage. The two hospitals already had incinerators, but the incinerators were damaged due to a lack of maintenance. Therefore, the final medical waste management activities of the two hospitals were carried out with a licensed third party, PT. Sagraha, PT. Wastec International and PT. Universal Eco Pacific. The causal loop diagram (CLD) analysis reveals that the budget availability factor plays a crucial role in supporting effective medical waste management activities, particularly in terms of facility and infrastructure availability, human resource availability, and SOP implementation. Additionally, the quality of human resources and hospital accreditation has a positive influence on suitable medical waste management activities. The importance-performance analysis (IPA) method identified the main priority scale that requires improvement, specifically the hospital staff's discipline. **Conclusion:** Medical waste management activities in the Jember Lung Hospital and Jember Klinik Hospital, in general, have followed the RI Minister of Health Decree Number 1204/Menkes/SK/X/2004 and PerMenLHK No. 56 of 2015. However, segregation activities were still not optimal, and medical waste containers were not equipped with an infectious symbol. Therefore, efforts to increase periodic monitoring and evaluation of officer performance can improve officer discipline through SOP.

Keywords: hospital medical waste; medical waste management

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INTRODUCTION

Of the total amount of waste generated from the activity, 15% of the health services' material waste is hazardous. The average developing country produces 0.2 kg/bed/day [1]. Indonesia's medical supplies waste can exceed 242 tons/day from 2,813 hospitals, with an average medical waste generation of 87 kg/day/hospital. This shows that medical waste management in Indonesia could have been more optimal [2]. Improperly managed medical waste can pollute the environment, including water, soil, and air [3]. Additionally, it has a significant impact on human health. It can be a chain of disease transmission, such as typhoid, cholera, hepatitis, or HIV, which are transmitted through a wound caused by a sharp object contaminated with blood [4]. Due to the characteristics of medical waste, waste handling must be carried out correctly and adequately, using the applicable Standard Operating Procedure (SOP) [5].

However, the management of known medical waste at Roemani Hospital, Semarang, is still not carried out in accordance with existing requirements [6]. Moreover, medical waste management still needs to implement SOPs [7]. This will be a risk to officers who directly manage medical waste, such as janitors [8].

According to data from the District Environmental Office in Jember in 2021, the total amount of medical waste recorded from health facilities in Jember Regency is 3.72834 tons/day. Jember Clinic Hospital and Lung Hospital a private and provincial government hospital located in the city center of Jember. Based on preliminary studies conducted in May 2022, it became apparent that issues with medical waste management persist due to incinerator damage, necessitating the use of a third-party solution.

According to the 2015 Regulation of the Minister of Environment and Forestry, medical waste may be stored for up to 2 days at temperatures above 0°C, provided a licensed third party manages it using existing facilities and infrastructure. A causal loop diagram illustrates the cause-and-effect relationships among key variables in decision-making [9]. Importance-performance analysis (IPA) is also used to determine the factors that can be scaled to prioritize those that require repair or maintenance [10]. Therefore, despite existing research, there is a lack of studies on planning, evaluation, and factors influencing medical waste management practices, which utilize data analysis, causal loop diagrams (CLDs), and the IPA method. Therefore, this study examines the practices and factors that influence the management of medical waste.

METHODS

This type of research employs qualitative methods, utilizing the case study approach. Data were obtained from in-depth interviews with informants, literature review, and observations using the Jember Lung and Jember Clinic Hospital checklist form. The method used for selecting research subjects was purposive sampling with 16 informants.

The research was conducted at Jember Lung Hospital and Jember Hospital Clinic from August to October 2022, utilizing in-depth interviews and observational methods. The informants were management officers, medical waste managers, nurses, and the heads of sanitation installation, health services, and environmental services. They were willing to be interviewed, serve as informants in the research, and participate in the service. Interviewed informants were coded I1 to I16. "I" is the informant, and 1-16 is the code indicating the number of informants who will be interviewed (Table 1). Here are some informants, along with the code given as follows:

Table 1. Informer codes

Location	Informant Position	Code
Jember Lung Hospital	Nurse	I ₁
	Nurse	I ₂
	Medical waste management officer	I ₃
	IPSRS Coordinator	I ₄
	Medical waste management	I ₅
	Medical waste management	I ₆
	Medical waste management	I ₇
	Medical waste management	I ₈
Jember Clinic Hospital	IPSRS Coordinator	I ₉
	Medical waste management	I ₁₀
	Nurse	I ₁₁
	Nurse	I ₁₂
	Nurse	I ₁₃
	Nurse	I ₁₄
DLH	Head of B3 Waste Section	I ₁₅
Health Office	Sub. OHS Coordinator	I ₁₆
OHS (Occupational Health and Safety); DLH (Service Office of Environment)		

RESULTS

Waste management activities at Jember Lung Hospital and Jember Clinic Hospital

Sorting

The results of interviews with informants related to the segregation of medical waste in both hospitals are as follows:

"...before they take any action, they have sorted the trash according to the place trash..." (I₂)

"Stay here, right? As nurses, we are directly in contact with patients, so we differentiate items such as syringes, ampules, and vials that frequently run out. There is garbage here, both dry and medical, including non-medical items. Based on there is that, there is a box itself like that" (I₁₂)

Based on the research results, it is known that nurses are responsible for segregating medical waste into infectious medical waste and non-medical waste in the service room. This is by the Decree of the Minister of Health of the Republic of Indonesia No. 1204/Menkes/SK/X/2004 and Minister of Environment and Forestry Regulation No. 56 of 2015. However, at the Jember Pulmonary Hospital, researchers still need to determine whether a mix of medical and non-medical waste should be placed in the same container, as per the SOP.

Container

The results of interviews with informants related to medical waste containers in both hospitals are as follows:

".. Incidentally, we use crackles that are yellow thick material, and a safety box exists. Usually, there is, that is, usually, we throw the needle into the safety box, and then for the spuitya we throw it in the syringe garbage." (I₁)

"... The infectious thing is that the sharp object enters the safety box, even then it is yellow and must also be identified... Finally, jerry cans are used, where important problems are identified, tight, impenetrable" (I₄)

".. available safety box packaging must not be late must always be there, then yellow plastic wrap plastic bag with hazard label" (I₉)

"...Sometimes if, for example, the condition is full, we make it from cardboard, but it still has to be tight, it can't be and the cardboard must be a table, not ordinary cardboard" (I₁₂)

Medical waste storage uses plastic medical waste containers, yellow plastic bags, and safety boxes. This is in accordance with the RI Minister of Health Decree No. 1204/Menkes/SK/X/2004 and the Minister of Environment and Forestry Regulation No. 56 of 2015. Retention in both hospitals is achieved by utilizing unused goods, such as jerry cans and used medicine boxes, which are neatly organized and closed. This is done to minimize medical waste management [7].

However, at the Lung Hospital, researchers are still finding medical waste containers lacking a medical waste symbol indicating an infectious category.

In situ transport

The results of interviews with informants related to the in situ transport of medical waste in both hospitals are as follows:

"Now the disposal process itself is through the channel specifically, which path it does not intersect with patient food and so on... after that use special trolley is the medical waste bin trolley goes to TPS" (I₄)

"...use full PPE...then use what is the name wheel ben closed tub or container closed for waste collection, there is a special lane retrieval should not be through the path passed by the patient or leave the patient ... It starts at 6 o'clock in the morning. 6 o'clock start already" (I₉)

Transportation of medical waste in both hospitals was carried out using special trolleys and lanes. By the RI Minister of Health requirements No. 1204/Menkes/SK/X/2004. However, in both hospitals, researchers are still finding that the size of the trolley used differs from the volume of waste transported, which causes the trolley not to close completely. This differs from PerMenKes No. 7 of 2019, which states that the trolley must be completely closed. Meanwhile, at the Jember Lung Hospital, trolleys are still not used for infectious patients, and the PPE that officers still use is insufficient.

Temporary storage

The results of interviews with informants related to the temporary storage of medical waste in both hospitals are as follows:

"...from the polling station and after that the first weighing was carried out that week 3 times Ma'am. Monday, Wednesday, and Sunday Weighing Friday. The balance is based on how many kilos of medical waste will be, it will be recorded on a sheet manifest for reporting..." (I₆)

"The waste capacity is a bit, yes, that was 2 times 24 hours...after that, it was transported to TPS B3, weighed at there... our TPS B3 has had a permit validity period of 5 years starting from 2018 and ending in 2023...waste B3 recycle, must be chopped to get out of the house hospital ...managed by a third party to be destroyed" (I₉)

"I'm just picking and sorting the balance. There is data on the manifest from means..." (I₁₀)

Medical waste storage in both hospitals is carried out at medical waste TPS, which already has permit coordinate points and is stored for 2x24 hours. This is in accordance with KepMenkes RI No. 1204 / Menkes / SK / X / 2004 and Permen LHK No. 56 of 2015. At Jember Hospital, the clinic is carried out in the TPS of a permanent building. At the same time, the Jember Lung Hospital continues to use the TPS of non-permanent buildings and has yet to be equipped with the B3 symbol/logo. However, a fixed building TPS has been constructed and is currently not operational. Recycling activities at TPS B3 RS Jember Clinic have been carried out, including the process of emptying, cleaning, disinfection, and destruction or enumeration in accordance with Permen LHK No. 56 of 2015.

Ex-situ transport

The results of interviews with informants related to ex-situ transport of medical waste in both hospitals are as follows:

"From the TPS and after that a weighing was carried out that week 3 times Ma'am. Monday, Wednesday, and Sunday-Friday weighing of transport from PT Sagraha Banyuwangi...what iron is steel or iron, yes, it's iron but It's closed, Ma'am. it's really closed even though from Banyuwangi it was packed really closed safe, the officers also use PPE Miss" (I₆)

"For medical waste itself, we cooperate with 3rd parties, starting from transportation to waste management with PT Universal Eco Pacific MoU taking B3 from TPS B3 no more than 2 times 24 hours, the officers too already wearing PPE...So first transfer from here from Jember first, then to Gresik, use a closed pick-up truck" (I₉)

Ex-situ transportation is carried out using a third-party service with a permit, which is submitted for a duration of at most 48 hours, and a closed pickup truck. This is in accordance with KepMenKes RI No. 1204/Menkes/SK/X/2004 and Minister of Environment and Forestry Regulation No. 56 of 2015. Jember Lung Hospital and Jember Clinic Hospital already have an incinerator, but due to constraints, the lack of maintenance damages the incinerators, preventing them from being used. Therefore, incinerators that do not effectively impact health and environmental pollution are used [11].

Final processing

The results of interviews with informants related to the final processing of medical waste in both hospitals are as follows:

"...according to my knowledge, I have participated in disposal, it is later sent back to incineration Cilegon from PT Sagraha will be transported again to Cilegon...in Cilegon there are big places and tools burning. Yes, it is specifically for medical waste, that is even from everywhere wes" (I₆)

"... especially now that it's taken twice a day Ma'am from a third party. From PT UEP, Universal Eco Pacific. Yes, so for the combustion process or not Burn it yourself back, become a third-party transporter" (I₁₀)

According to Ministerial Regulation LHK No. 56 2015, a licensed third party handles both hospitals' final medical waste processing. However, Jember Klinik Hospital still needs to survey third parties directly. At the same time, Paru Jember also stated that they had conducted a direct survey as evidence that medical waste management corresponds to the combustion process using incinerators.

Supporting factors and inhibiting factors in medical waste management

Internal supporting factors

Hospital control

The existence of SOPs related to the management activities of medical waste.

"...according to the Regulation of the Minister of Health, the old one was 1204 the year 2004, yes and the latest is number 7 of the year Minister of Health 2019..." (I₄)

The existence of competent human resources.

"I am here as the sanitation installation coordinator of hospital environmental health, last education I am a science graduate and I am also assisted by Mrs. Yoshi as a sanitarian" (I₄)

There is training related to waste management and medical care.

"The training is a matter of waste. It is like explaining... yes, also going around too..." (I₆)

There is socialization related to the activities of medical waste management.

"...yes, that's from us and PPI. It's been a while, right? Has been socialized regarding this

infectious waste bin. Like this, the sharps trash bin has been socialized first" (I₁)

Hospital control contributes to strengthening medical waste management practices, including the SOP, availability of human resources, training activities, and outreach. Hospital Lung and Jember Klinik Hospital have SOPs and have carried out appropriate training activities, as per KepMenKes RI No 1204/Menkes/SK/X/2004 and Permen LHK No. 56 of 2015.

Facilities and infrastructure

The presence of PPE officers

"...My problem is safety, Ma'am. Sarong double hands, usually double gloves. Sarong long and short hands, yes wear a mask, keep wearing it head cover, put on boots, then wear the last one aprons" (I₁₀)

Availability of medical waste containers, yellow bags, and safety boxes.

"...The trash can is a trash can that has been identified according to the infectious waste bin yes, there is a label right there...the nature of the sharp object is an infectious safety box, even if that is also yellow and also a must-be-identified" (I₄)

There are trolleys, special lanes, and TPS for the disposal of medical waste.

"...then use what's called a wheel bin the closed tub or closed container for collection B3 waste... There is a special lane. Pickup line no may go through the path that the patient passed...Then we save it in TPS B3, TPS B3 we have permission from the period validity of 5 years starting from 2018 and ending in the year 2023..." (I₉)

Using jerry cans and cardboard as containers for a sharp object.

"...Finally use jerry cans, no problem the important thing is identified, tight, not translucent" (I₄)

"...for example, when it's full, we make it out of cardboard but it still has to be tight and can't and the cardboard must be thick" (I₁₂)

Facilities and infrastructure are supporting factors in implementing medical waste management in hospitals. They include the availability of medical waste containers, yellow plastic bags, safety boxes,

trolleys, special lanes, and PPE—the facilities and infrastructure at Jember Lung Hospital and Jember Hospital. The clinic adheres to the Minister of Health Decree (KepMenKes) RI No. 1204/Menkes/SK/X/2004 and the Minister of Environment and Forestry Regulation No. 56 of 2015.

Medical waste management officer

There is a good understanding of medical waste management.

"Yes, it's important Miss, PPE is also for protecting yourself from the bacteria in the trash itself" (I₃)

Officers have related work experience in medical waste management.

"In terms of waste management between 3 years. Originally, I was in the CS section. continue if part the waste enters the PS section, facilities" (I₁₀)

Staff status.

"... So, I'm CS but I was assigned from PT Duta Clean it is here in the medical waste management" (I₁₀)

A medical waste management officer is an individual or group that directly influences factors of medical waste management practices, such as knowledge, work experience, and labor health status. The knowledge and understanding of officers managing medical waste at Jember Lung Hospital and Jember Klinik are already considered good, based on informant responses and observations. Knowledge of good officers influences the practice of medical waste management [12]. The officer at Jember Klinik Hospital is outsourced; meanwhile, Jember Lung Hospital has an in-house staff.

External supporting factors

External supporting factors include collaboration with third parties and hospital accreditation. At Jember Lung Hospital, medical waste is managed by PT Sagrada and PT Wastec International, while Jember Hospital's clinic partners with PT Universal Eco Pacific, which holds permits in accordance with KepMenKes RI No. 1204/Menkes/SK/X/2004 and Minister of Environment and Forestry Regulation No. 56/2015. Based on field findings, procurement of safety boxes is carried out during accreditation activities. This is because accreditation involves monitoring performance indicators in government hospitals, with the aim of improving the quality of home services [12].

Internal inhibiting factors

Hospital control

The size of the medical waste management budget.

"Because the costs are minimal... So, the management costs of medical waste are big, different from general waste. Can up to that billion in 1 year" (I₄)

Lack of human resources to manage waste.

"So that's what's really lacking, only 18 people carried out 2 shifts with an area of 12,574 hospitals m²" (I₄)

"No ma'am. If there learn from seniors to juniors" (I₈)

Allocation of employees' salaries/wages is limited.

"O performance, the salary is too little here. So no dare to sue friends here, but yes still the demands remain high. That's all, from that point of view income and so on... Now they buy it automatically themselves, the money itself is a bit of a pity" (I₄)

Lack of maintenance and repair of facilities and infrastructure.

"...the repair was less damaged from the hospital itself..." (I₈)

Hospital control can be a limiting factor in medical waste management, including the magnitude of medical waste management costs, a lack of human resources, the allocation of limited staff salaries, and inadequate maintenance and repair. Good budget planning is designed to determine the regulatory burden, including the requirement fee, equipment outlay costs, finance costs, and other direct and indirect costs (such as licensing). The lack of HR led to a lack of comprehensive medical treatment training in waste management at the two hospitals, which is still being carried out, albeit informally, as an initiative between senior and junior staff.

Facilities and infrastructure

Lack of availability of PPE

"...Like, for example, you only get one work suit, but they need more. Well automatically will they buy it themselves, the money itself is a little salary really sorry" (I₄)

There is still a lack of facilities and infrastructure related to medical waste management.

"... in my opinion, it's still lacking Miss, but isn't it good, I'm afraid? But if I Personally inadequate, but I'm afraid right like this" (I₅)

Absence and/or damage to the incinerator

"The hospital used to have an incinerator but it's broken Ma'am, it's a fire. The chimney was broken from yes, the age factor maybe" (I₁₀)

Inhibiting factors related to the means and infrastructure include a lack of PPE, inadequate infrastructure, damaged or non-existent incinerators, delays in consumables, and plastic bag leaks. At the Jember Lung Hospital, PPE is used, but officers still need to improve their use of it. Specifically, they require additional equipment, including an apron, long-sleeved shirt, special gloves, and boots. Additionally, the handling of infectious medical waste must be labeled appropriately. Stocking up on plastic bags will also impact management activities and medical waste, potentially leading to the accumulation of medical waste and leakage of plastic bags. Simulation of medical waste and plastic bag leakage.

Medical waste management officer

Lack of employee discipline related to the waste of medical.

"... friends who are not disciplined in throwing trash in its place..." (I₉)

Increased responsibility of officers.

"...one room, 1 person. Usually, it works with garbage collection, mopping, and cleaning the bathroom. Yes, all together" (I₈)

There is a risk to the health of officers.

"... officers must also use complete PPE let's don't get sick. If the officer falls down, it's not automatic to hurry up..." (I₄)

Inhibiting factors from officers' medical waste management include a lack of discipline, increased responsibility, and employee health risks. This is caused by increased employee responsibility.

External inhibiting factors

An external inhibiting factor is the scheduling of medical waste collection by third parties. Medical waste collection is scheduled in both hospitals three times a week, although the collection times are erratic. This is due to the risk of transporting medical waste, which depends on road conditions [13].

DISCUSSION

Causal loop diagram (CLD) analysis related to medical waste management

Sub-model B1 (availability of HR who are less) and B2 (limited salary allocation)

Implementing effective management activities for sound medical waste can help reduce hospitals' medical waste management budgets (Figure 1). Budget funds must be planned for use. This matters because the prepared will be used. Reducing budget availability for managing medical waste will increase the responsibility of hospital staff for waste management [14].

Loop B2 indicates that reducing budget availability for waste management medical staff will decrease the salary allocation for limited officers with limited resources. Therefore, sub-models B1 and B2 suggest a potential health risk, as officers may compromise the performance of medical waste management activities, leading to suboptimal outcomes (Figure 1).

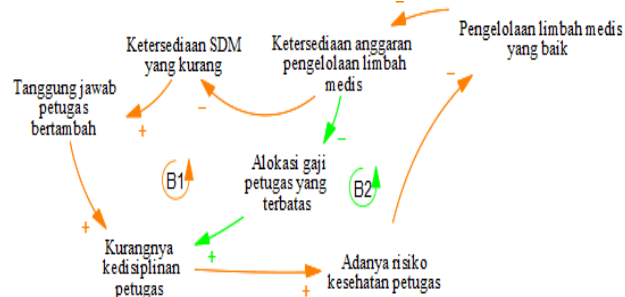


Figure 1. Sub-model B1 and sub-model management

Sub-model B3 (budget availability and availability of infrastructure)

Sub-model B3 shows the relationship between medical waste management activities, budget availability, and infrastructure availability. Every year, the budget preparation for RKAP in one of the hospitals allocates funds for the provision of facilities and infrastructure, thereby increasing the availability of medical waste management facilities and infrastructure. On the other hand, the need for infrastructure facilities still exists, which reduces the availability of PPE (Figure 2).

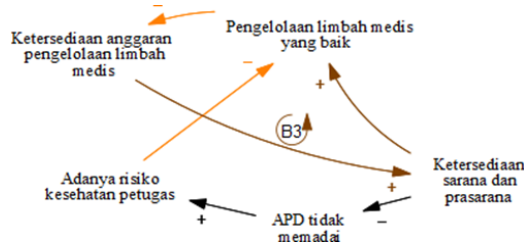


Figure 2. Sub-model B3

Sub-model R1 (maintenance budget availability and repair)

Sub-model R1 is regarding budget availability, maintenance, repair, and malfunctions in the incinerator (Figure 3). Allocation of related budget distribution with the most medical waste management used for MoU operational funds or management agreements with third parties. This matter will indirectly reduce the availability of maintenance and related repair budgets for medical waste management, potentially leading to increased damage to the incineration functionality [11].

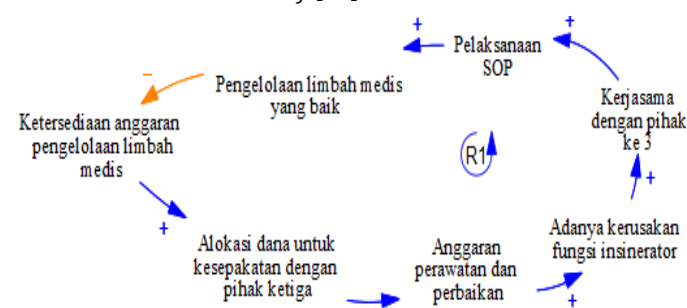


Figure 3. Sub-model R1

R2 sub-model (RS accreditation and availability infrastructure)

The R2 sub-model shows the relationship between good medical waste management, hospital accreditation, and infrastructure availability. Based on field findings, hospital accreditation activities affect the availability of safety boxes as sharps containers for infectious medical waste. Therefore, it has a positive impact on management activities and effective medical waste management (Figure 4).

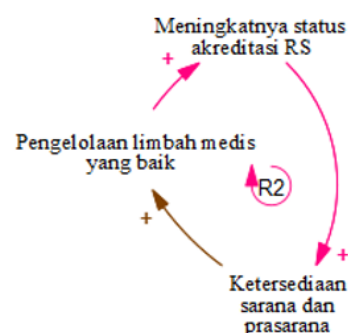


Figure 4. Sub-model R2

R3 sub-model (RS and implementation of SOPs)

The R3 sub-model comprises waste management, good medical treatment, hospital accreditation, and SOP implementation. Overall, the implementation of the SOP has been carried out well. However, the field still found that SOPs must be appropriate, such as sorting medical waste, outside the scope of the SOP. However, implementing SOPs in the hospital can improve waste management activities (Figure 5).

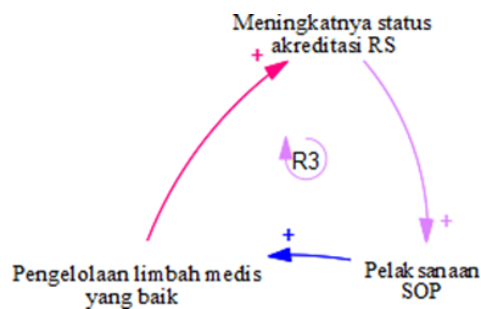


Figure 5. Sub-model R3

Sub-model B4 (officer education level)

The B4 sub-model consists of the availability factor budget, training and outreach, level of knowledge, and quality of human resources. Allocation of available funding for medical waste management will enhance related training and outreach activities for medical waste to officers. On the other hand, a high level of officer education will positively improve the level of knowledge among officers. That matter significantly affects the quality improvement of Human resources available at the hospital (Figure 6).

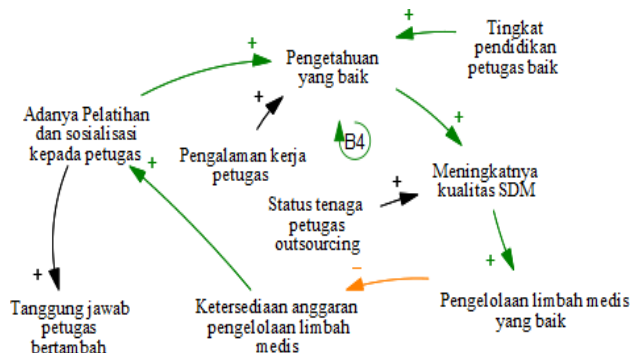


Figure 6. Sub-model B4

Methods of importance-performance analysis (IPA)

Based on Table 2, all factors have scores indicating their importance and implementation, which were determined by considering the results of interviews with informants who frequently mentioned these factors, as well as field observations. Then, the score is interpreted into a range of values that include 0.00–0.199, that is, the relationship level is very low, 0.20–0.399, is a low level of association, 0.40–0.599, is moderate relationship level, 0.60–0.799, that is a level strong relationship, and 0.80–1.000, which is the level of relationship very strong [15]. The data is further analyzed to determine the scale of priority improvements with the importance-performance analysis (IPA) method [12].

Table 2. Importance-performance analysis scores

Variables	Implementation	Importance
Availability of the budget	0.40	0.85
Insufficient availability of human resources	0.39	0.73
Lack of staff discipline	0.18	0.90
Availability of facilities and infrastructure	0.80	0.80
Inadequate personal protective equipment (PPE)	0.30	0.85
Staff labor sources	0.79	0.25
Cooperation with third parties	0.95	0.87
Work experience	0.30	0.30
Functionality of the incinerator	0.70	0.27
Training and socialization activities	0.35	0.35
Limited allocation of staff salaries	0.27	0.60
Hospital accreditation	0.85	0.70
Good education level	0.79	0.60
Absence of the B3 logo	0.25	0.65
Number of trolleys	0.45	0.55

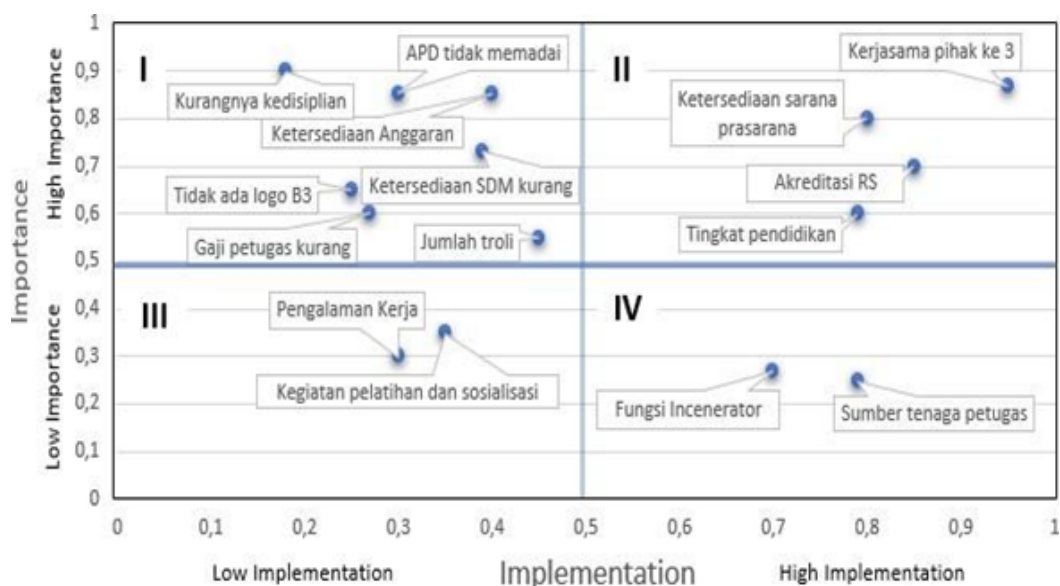


Figure 7. Importance-performance analysis (IPA)

Based on Figure 7, it is known that importance-performance analysis (IPA) consists of 4 quadrants as follows:

Quadrant 1

In quadrant 1, some factors that consumers consider essential and require are not being implemented properly, so it is necessary to concentrate on improving them [12]. Quadrant 1 consists of officer discipline, inadequate PPE, a lack of budget and human resources, no B3 logo, limited employee salaries, and fewer trolleys. Therefore, these factors are a top priority scale in the hospital.

Quadrant 2

In quadrant two, some factors considered meaningful and satisfying are appropriately and well-executed, resulting in high satisfaction because they contribute to superior service for the company [13]. These factors include cooperation with third parties, infrastructure availability, hospital accreditation, and the level of education, as regulated by the Minister of Health Decree (KepMenKes) RI Number 1204/Menkes/SK/X/2004 and the Minister of Environment and Forestry Regulation No. 56 of 2015.

Quadrant 3

Quadrant 3 contains factors perceived as low-performing and irrelevant, so they should be given more attention [12]. These factors include aspects of work experiences, such as outreach. However, periodic training and socialization can improve medical waste management practices. Therefore, these factors need to be ignored or prioritized for improvement in the hospital.

Quadrant 4

Quadrant 4 indicates that the factors are considered not very important and not desirable; therefore, it is better to allocate these resources to factors with high priority [12]. Quadrant 4 consists of the incinerator function and the quality of human resources. In both hospitals, the elimination of incinerator function has been achieved by replacing them with a licensed third-party service. The officer in question is outsourced for waste management services, which will require an additional budget.

CONCLUSION

Medical waste management activities at the Lung Hospital Jember and the Jember Clinic Hospital generally adhere to the following regulations: Minister of Health Decree (KepMenKes) Republic of Indonesia

Number 1204/Ministry of Health/SK/X/2004, and Minister of Environment and Forestry Regulation Number 56 of 2015. However, we still found sorting activities that have yet to be fully utilized and medical waste containers that require the addition of infectious waste symbols. Therefore, efforts to increase activity and regular monitoring of officer performance improve the discipline of officers in accordance with SOP.

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