
ANALYSIS THE IMPACT OF DIGITAL CAMPAIGN ON HEALTHCARE PROVIDER-WASTE MANAGEMENT PROVIDER

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ABSTRACT

Keywords:

digital campaign,
healthcare provider,
waste management
provider

This research aims to analyze the impact of digital campaigns on the relationship between health service providers and waste management service providers using qualitative methods. This research utilizes literature studies related to the research topic. This qualitative data will be analyzed using an inductive approach to identify patterns, thematic findings, and dynamics that emerge in the relationship between health service providers and waste management service providers after the implementation of the digital campaign. The results of this study are expected to provide in-depth insights into the role of digital campaigns in shaping and improving relationships between the healthcare and waste management sectors and the implications for sustainable waste management practices.

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INTRODUCTION

Hospitals are a means of health efforts in organizing health service activities and are complex service provider institutions that need to be managed professionally for their human resources, hospitals are also centers where public health services, education and medical research are organized (Dekrita, 2021).

Medical waste is various types of waste produced by hospitals and health service units which can endanger and cause health problems for visitors, the community, especially the officers who handle them (Ramon et al., 2020). Hospitals are large producers of waste every day and are often toxic, especially solid waste, both medical and non-medical waste (Heriwati et al., 2023).

Medical waste disposal is part of hospital environmental health activities that aim to protect the population from the dangers of environmental pollution caused by hospital waste and prevent the spread of disease. Each hospital has its own way of handling medical waste. If this is not done through proper procedures, the consequences are more serious.

Environmental issues are currently a public concern because in addition to impacting the environment, it can also affect human health and other living things. Healthcare providers such as hospitals, health centers, clinics, clinical laboratories, medical/dental clinics and so on generate waste in their operations that have different characteristics and can be hazardous if not handled properly. This can interfere not only with comfort and aesthetics, but also the possibility of nosocomial infections and other health problems for the staff themselves, the people around them, namely patients and visitors, as well as the surrounding community.

Hospital waste management, especially medical waste management, must be well planned. Good management requires expensive investment and high operational costs, but if not managed properly, it threatens legal sanctions and hefty fines in addition to health and environmental impacts (Yoga, 2023). It is governed by laws and regulations that address the obligations of owners and/or operators of healthcare facilities when disposing of generated waste, including penalties for violating waste management procedures.

Hospital waste is usually different from commercial waste or domestic waste especially in terms of its characteristics, hence the need for more appropriate handling. However, current waste generation indicates poor utilization of hospital waste processed for final storage.

Waste management issues, especially medical waste, are a problem and challenge for every hospital. The reason is that medical waste management requires a lot of money and regulations that must be followed by waste generators as a prerequisite for existing waste management. Currently, it is often seen that medical

waste management in hospitals still follows the prevailing laws and regulations. Improper segregation increases the amount of medical waste, because when non-medical waste mixes with medical waste or comes into contact with medical waste, it is also classified as medical waste. This leads to the fact that increasing the amount of medical waste is ineffective.

Digital campaigns refer to a series of marketing or information efforts conducted through digital platforms such as social media, websites, and other digital channels (Yansahrta, 2023). Digital campaigns here include the dissemination of information, messages, or promotions related to health services and waste management.

With the development of current technology, digital campaigns can be one of the solutions in solving problems regarding medical waste management so that there is effective collaboration between health service providers and waste management providers. Based on this description, the researcher is interested in conducting a study with the title "Analysis of the Impact of Digital Campaigns on Healthcare Providers-Waste Management Provider."

METHOD

The method used in this research is descriptive qualitative method, which is an approach to investigate the state or condition of a group of people, objects, a series of conditions, ideas, or types of events at an ongoing time (Sari et al., 2022). The data collection process was carried out by reviewing existing literature on Google Scholar. After the data was collected, the analysis was conducted in three stages: data reduction, data presentation, and conclusion drawing.

RESULTS AND DISCUSSION

Waste management in hospitals is essential to maintain a clean, safe and healthy environment and prevent the spread of infection. The waste management process in hospitals (Blambangan, 2013) usually involves the following steps:

- 1) Waste Segregation: Hospitals generally have an organized waste sorting system. Waste is divided into several categories, such as medical waste, hazardous waste, and non-medical waste. Waste segregation is important because each type of waste requires different handling and disposal.
 - a) Medical Waste, involves materials that potentially contain pathogenic or hazardous substances. Examples of medical waste include syringes, used bandages, and infectious materials. Medical waste often has to be destroyed or specially processed so as not to pose a risk to the environment and society.
 - b) Hazardous Waste, includes hazardous chemicals, expired medicines, and other toxic wastes. Hazardous waste management usually involves storage, handling, and disposal in accordance with applicable regulations.
 - c) Non-Medical Waste, involves ordinary waste such as paper, plastic, and food. Although it is not hazardous waste, it should still be managed regularly to keep the environment clean.
- 2) Collection and Storage: After sorting, waste is collected and temporarily stored in a suitable storage area. Storage containers are usually designed to prevent cross-contamination and facilitate further processing.
- 3) Transportation: The collected waste is then transported to the final processing or disposal site. Transportation of medical and hazardous waste must be done carefully to avoid spillage or leakage.
- 4) Processing and Disposal: Medical and hazardous waste is then processed or disposed of in accordance with applicable regulations. This could involve sterilization, incineration, or other special treatment methods to eliminate public health risks.
- 5) Monitoring and Reporting: A monitoring system should be implemented to ensure that the waste management process in the hospital complies with safety and health standards. Reporting is also required to maintain transparency and accountability in waste management.

Management of medical waste in various regions is not fully in accordance with standard procedures, as indicated by the results of research conducted by (Sari, 2016). The study reveals that the solid medical waste management process in health centers, which should ideally involve the use of an incinerator, is not universally implemented. Health Center A employs an incinerator for the final disposal of solid medical waste, Health Center B uses regular burning, while Health Center C engages in burning inside a 40 cm diameter drum without utilizing an incinerator.

Furthermore, there is research indicating the relationship between the characteristics (age, length of service, knowledge, and attitude) of sanitation workers and waste management in the Banjarbaru City Health Center. It can be concluded that the correlation between proper waste management practices and these characteristics is 53.3% (Agustina et al., 2017).

The research findings from Hospital X in Cilegon indicate that the generated medical waste amounts to 106.79 kg/day. Based on the assessment results of waste management aspects, a significant portion still lacks

compliance as the process stages conducted do not fully adhere to the established standards. According to the Minister of Health Regulation No. 7 of 2019 on Hospital Environmental Health, the results of medical waste management meet the criteria, reaching 80% of the total score of 100%. However, issues persist, such as unmanaged waste on a daily basis and incomplete use of personal protective equipment by medical waste personnel (Pyopyash, 2019).

The study conducted by Asrun (2020) emphasizes the importance of separating medical and non-medical waste at its source in waste management. This should be followed by appropriate storage and transportation procedures. To dispose of medical waste, controlled-air multichamber incinerators are recommended. The two-step combustion process in these incinerators ensures complete burning. Experiments with a medical waste incinerator with a capacity of approximately 5 m³ showed a batch incineration system at temperatures ranging from 800 to 1600 °C. Utilizing this incinerator, the volume of solid medical waste can be reduced by approximately 67%, and there is a reduction in mass by 70-80%.

Based on several cases that have occurred in healthcare providers, the management of medical waste is still not being carried out effectively. This is feared to cause problems in the future. To address this, several methods can be employed by utilizing digital campaigns as preventive and corrective efforts. Some of these include:

- 1) **Webinars:** The organization of webinars and web seminars on the management of medical waste, attended by healthcare providers and waste management professionals. These sessions discuss current issues, regulations, the latest technologies, and best practices in medical waste management. As discussed by (Kusumaningtiar et al., 2021), they raise awareness regarding the handling of medical waste and related regulations among healthcare professionals and the general public. The implementation methods involve lectures (socialization), question-and-answer sessions, as well as monitoring and evaluation of participants. The results of these webinars illustrate the need for continuous socialization activities to convey relevant regulations and understanding to the public regarding the handling of waste, especially waste contaminated with COVID-19. Through these webinar activities, it is expected to provide insights and solutions in the management of medical waste, ensuring the safety of both the public and sanitation workers involved in waste management.
- 2) **Online Collaboration Platform:** Use online collaboration platforms such as Zoom or Microsoft Teams to hold virtual meetings and Q&A sessions with relevant parties in the medical waste management industry. Collaboration with industry associations and related organizations to garner support. The efforts made (Irfandi et al., 2020) are expected to increase public understanding of waste management and manage waste properly. This method of activity was carried out online using the Zoom Meeting application and YouTube which was held on July 3, 2020 for one day. Based on the average correct answers of respondents after completing the webinar, 80.47% results were obtained so that it can be concluded that public knowledge related to waste management in the New Normal Era is good.
- 3) **Custom Social Media Campaigns:** Conduct special campaigns on social media aimed at health care providers and waste management providers. Use special hashtags and invite them to share their best practices or positive experiences in medical waste management. This was done in a study (Khotimah & Mustika, 2021), namely the use of several hashtags as a form of education began to appear through social media, such as #potongtalielastismasker and the like. Environmental education can be started in the teaching and learning process at the school level. The education was carried out by counseling and training to create content for the Instagram accounts of SMAN 28 Jakarta students. The content contains education about environmental issues. This activity also functions as an application of environmental communication aimed at advocating for the environment. As a result, these students understand more about environmental issues and are able to create content containing campaigns about the environment.
- 4) **Online Training:** There is online training for health care providers and waste management providers on safe and efficient medical waste management protocols. This was done in a research (Kurniawaty, 2022), the implementation team discussed with partners in August 2021. Followed by carrying out health education activities on January 14, 2021 online using a video call with the whatsapp application with a number of 7 partner members. The results of partner knowledge with partner knowledge level before health education were given 71% good and 29% sufficient after health education the partner knowledge level was 100% good knowledge about the use of PPE and simple management of household medical waste in Fatmaboga UKM.
- 5) **Regulatory Awareness Campaign:** Focus the campaign on understanding and compliance with applicable medical waste management regulations. Socialize changes in regulations or new guidelines that may affect waste management practices. This is done in Bima City, NTB which was initiated by (Zulharman et al., 2023) through counseling and education by conducting educational

campaigns in schools, communities, and through mass media to increase public awareness about the importance of good waste management. As well as in terms of regulations and law enforcement by tightening regulations related to waste management and supervising law enforcement so that residents and companies comply with these regulations.

CONCLUSION

This research concluded that the digital campaign had a positive impact on the relationship between healthcare providers and waste management service providers. Utilizing qualitative methods, this study revealed that the digital campaign was effective in improving communication, collaboration and understanding between the two sectors. Digital campaigns not only increase public awareness of health and environmental issues, but also strengthen cooperation between health and waste management service providers. Respondents emphasized the importance of digital campaigns as a tool to build shared understanding, promote safe waste management practices, and stimulate community participation in sustainable efforts. These results underscore the potential of digital campaigns as a strategic tool to create synergistic relationships between healthcare providers and waste management service providers, and to strengthen shared responsibility for health and environmental issues. The implications of this study can help policy makers and practitioners to design more effective digital campaigns that have a positive impact on waste management practices and overall public health.

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