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DIGITALIZATION TRAINING CHRONIC DISEASE PATIENT MEDICAL RECORD DOCUMENTS FOR HEALTH CENTERS

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Abstract. Digitization of medical record documents of patients with Diabetes Mellitus (DM) is switching media from manual (paper) to electronic using *a scanner*. When the implementation of electronic medical records is already running, the patient's previous medical records are not eliminated or forgotten because the content is important, including the patient's medical history. To support the control of DM disease, this patient's medical history may be needed again at any time to see the patient's previous health records that may be continuous. While the last patient's medical records were manually using paper, they are no longer by current technological developments. Digitization of medical record documents is a solution related to this. The digitization of medical record documents at the Puskesmas has not yet been implemented because there is no system associated with the digitization of medical record documents. From this explanation, the devotees are interested in participating in DM control by providing DRM digitization training for DM patients at the Health Center.

Keywords: Diabetes, digitalization, health center

INTRODUCTION

Along with technological advances, medical record recording and accounting activities (Permenkes No. 24 of 2022) have shifted to electronic, giving rise to a new digital health information management paradigm. Health service facilities cannot be separated from the impact of technological and information advances. The role of technology and information in

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the health sector can produce valid, complete, and fast information because of the ease and speed of input, process, and output.

Many benefits of electronic medical records can be felt directly, including saving storage space, because there is no longer a need for a special room to store medical record archives. As well as the physical security of documents from all disturbances such as damage due to human error, natural disaster factors, pests, and other factors (Jinan & Permatasari, 2019). Another benefit of using electronic medical records is that they can save time, cost, and productivity. Obtaining electronic medical record documents becomes faster and facilitates the patient service process. In addition, it minimizes the possibility of writing errors due to the difficulty of reading handwriting. With electronic medical records, doctors and other officers also can access patient information to make clinical decisions.

When the application of electronic medical records is running in a healthcare facility, it is impossible to forget or simply eliminate the patient's previous medical records. At any time, the doctor may need the patient's previous medical history as a basis for instructions to find out all the patient's health history, starting from the history of the disease suffered, treatment history, treatment history, and history of what the patient has obtained medical actions. To support the implementation of electronic medical records, switching data from paper medical records to electronic medical records is necessary. Digitalization is the solution to overcome this.

Digitization is a process of switching media from manual (paper) to electronic using a scanner. It is carried out to ensure the continuity of the patient's health care history by displaying the patient's health information completely and accurately. Digitization can also make it easier for doctors or other authorized health workers to review a patient's health history without the need to reopen the medical record document because it has been transferred to the media.

In line with research conducted by Nachrul Jihan and Vita Permatasari (2019), who designed and made a web-based medical record document media transfer application at Dr. R. Soedarsono Pasuruan Hospital by using the waterfall framework design method, CodeIgniter, bootstrap, and scanner.js as a file scanner javascript directly in the browser without a built-in scanner application. His research was motivated by the full storage shelves in the hospital, so there was a pile of documents. This accumulation of medical record documents can cause damage to medical records. Damage to medical record documents can have an impact on the loss of information in medical records, so doctors cannot see the patient's previous medical

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history. Then the difficulty experienced is that taking medical record documents on a full shelf takes longer because you have to be careful and careful in taking them.

The Inner Health Center as one of the health service institutions in controlling Diabetes Mellitus, needs support from good medical record recording. The implementation of the transfer of medical record documents (DRM) at health centers that do not have SIMPUS has not been implemented because there is no supporting application for DRM digitization. The issuance of a new regulation by the Ministry of Health that requires the implementation of electronic medical records in every health care facility in Indonesia requires that DRM in health centers be digitized immediately. In addition, patient visits are increasing every day, resulting in full storage shelves. Full storage shelves result in a slow and challenging search and storage process.

Therefore, it is necessary to switch data from paper to electronic to support the implementation of electronic medical records. Digitalization can be the right alternative as support for the Diabetes Mellitus control program. Based on the background of the problem, the volunteers are interested in carrying out PkM activities with the title "Training on digitizing medical record documents of chronic disease patients for health centers." The objectives of this community service are as follows: 1. Improve the competence of PMIK towards the digitization of medical record documents of chronic disease patients for health centers, especially the knowledge of retention of medical record documents at the Kesunean Health Center of Cirebon City. 2. Socializing the implementation of the SIPAS (Patient Administration Documentation Information System) application. 3. Conduct a trial on the SIPAS (Patient Administration Documentation Information System) application.

IMPLEMENTATION METHOD

Partner Priority Issues

Digitization is switching media from manual (paper) to electronic using a scanner. It is carried out to ensure the continuity of the patient's health care history by displaying the patient's health information completely and accurately. Digitization can also make it easier for doctors or other authorized health workers to review a patient's health history without the need to reopen the medical record document because it has been transferred to the media.

The issuance of a new regulation issued by the Regulation of the Minister of Health (Permenkes No. 24 of 2022), which requires the implementation of electronic medical records in every health service facility in Indonesia, requires that DRM in health centers must be

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digitized immediately. In addition, patient visits are increasing every day, resulting in full storage shelves. Full storage shelves result in a slow and difficult search and storage process.

Therefore, to support the implementation of electronic medical records, data must be switched from paper to electronic. Digitalization can be the right alternative for supporting the diabetes mellitus control program. Based on the background of the problem, the volunteers are interested in carrying out PkM activities with the title "Training on digitizing medical record documents of chronic disease patients for health centers."

PROBLEM SOLUTIONS

The Inner Health Center as one of the health service institutions in controlling Diabetes Mellitus, needs support from good medical record recording. The implementation of the transfer of medical record documents (DRM) at health centers that do not have SIMPUS has not been implemented because there is no supporting application for DRM digitization. The issuance of a new regulation by the Ministry of Health that requires the implementation of electronic medical records in every health care facility in Indonesia requires that DRM in health centers be digitized immediately. In addition, patient visits are increasing every day, resulting in full storage shelves. Full storage shelves result in a slow and difficult search and storage process.

The DIII Medical Records and Health Information Study Program of the Cirebon Polytechnic of the Ministry of Health of Tasikmalaya has a DRM Digitization application that can be accessed online at http://103.184.53.115:8023/sipas/. The application can function in general to digitize medical record documents accompanied by photos and metadata from the DRM. The solution we offer is to use the application specifically to help digitize the DRM of chronic disease patients, especially Diabetes Mellitus, in the context of controlling the disease. The advantage of the health center is better DRM recording, per the Minister of Health's Regulation on DRM and a simpler and faster search process.

Program Implementation

1. Preparation Stage
   a. In this stage, proposals will be prepared, proposals will be presented and community service proposals will be revised/improved.
   b. Preparing the Application to the Tasikmalaya Ministry of Health Polytechnic Server so that it can be accessed online .
2. The Implementation Stage includes:

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a. Advocacy for community service places

Advocacy was carried out by all members of the service team to the Health Office. The target in this activity is Doctors / Nurses / Nutrition officers and/or officers in charge of controlling DM disease. This activity aims to convey the purpose and objectives of the community service activities carried out.

b. Application Training for RM Officers and/or Reporting Officers in Cirebon City

3. Evaluation Stage

The evaluation of training learning outcomes is carried out based on the *Kirkpatrick Training Evaluation Model* (Smidt, 2009), where the variables to be seen are the learning outcome variables, for other variables and the impact is not measured. The way to measure learning outcomes is to use *Pre-Test* and *Post-Test* to measure the increase in knowledge after training.

Evaluation for the implementation of post-training will be carried out to the health center that has been trained. The evaluation carried out includes problems faced after training, input for application development.

4. Preparation of Activity Reports

At this stage, a report is prepared on the implementation of community service that has been carried out.

Form Partner Participants

The implementation of socialization of the spas application regarding the competency of medical record clinic instructors in retaining medical record documents and health information in the implementation of student clinical practice learning.

1. *Pre-Test*
2. Materials on Retention of Medical Record Documents
3. Materials on Medical Record Document Retention Methods
4. *Post-Test*

Team Expertise and Tasks

In carrying out this community service, the DIII Medical Records and Health Information Study Program in Cirebon has formed a team consisting of educators education staff, and students with the expertise of each member, namely public health and medical records needed to solve problems about the digitization of medical record documents for

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chronic disease patients for health centers with Retention of Medical Record Documentation. The description of the expertise and duties of each member in this activity includes:

Table 1. Expertise and team duties

It	Name of the Proposing Team	Expertise	Assignment
1.	Maula Ismail Mohammad, ST, M.KM	Public Health	o Drafting a Proposal o Identify the material needs needed for the implementation of the training assisted by education staff and students o Make a draft of the points for the implementation of the Training o Carrying out training assisted by students o Prepare activity reports
2.	Yanto Haryanto, S.Pd, S.Kp, M.Kes	Public Health	o Advocating for the Cirebon City Health Center and Health Office o Identify the material needs needed for the implementation of the Training and students o Prepare activity reports o Analyzing obstacles and evaluating the implementation of training
3.	Firwan Jamil	Student	o Making Participant Absences o Creating a Transport Receipt o Preparation of activity implementation files o Certificate Creation o Preparation of Pre Test and Post test questions o Community service implementation facilitator o Documentation sessions

Location and Time

Day/ Date: Wednesday, August 14, 2024

Venue: Kesunean Health Center of Cirebon City

RESULTS AND DISCUSSION

This community service is carried out as a form of concern and one of the forms of the tri dharma activities of higher education in applying research results or new theoretical findings to the community, especially in this activity is socialized at the Cirebon City Kesunean Health Center. This socialization activity was carried out through 2 stages of activities, namely

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socialization about the Digitization of Medical Record Documents for Chronic Disease Patients for Puskesmas, especially the retention of medical record documents, and then socialization of the use of the SIPAS application (Patient Administration Documentation Information System) which has been made from on-campus research and at the end of conducting application trials by health center officers. The following are the details of the stages of community service (PkM):

Socialization about Retention of medical record documents

The socialization was delivered with material that had been prepared by the team, including the definition, purpose and use, use value, and steps to provide understanding/recall knowledge related to Diabetes mellitus. This is in line with (Septianto et al., 2020) that the implementation of socialization can increase public understanding. Socialization media in the form of presenting material through *PowerPoint. The tools used are laptops, projectors, and* terminal plugs.

Socialization of the implementation of the SIPAS (Patient Administration Documentation Information System) application

This socialization describes a website-based application for retaining medical record documents. The application is used to digitize medical record documents accompanied by photos and metadata from the DRM. This socialization helps educate officers about retaining medical record documents.

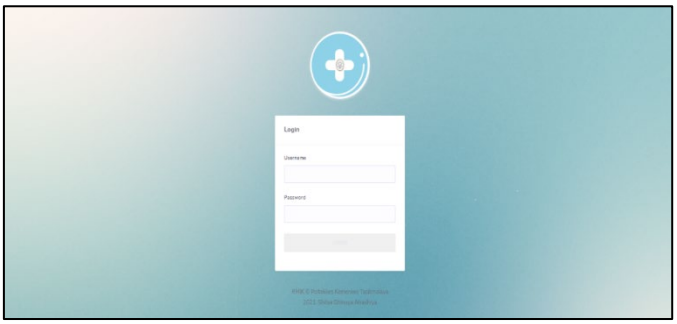

Figure 1. SIPAS Log-in Display

The application starts from the main page and login menu, with the Health Center Officer entering the username and password as the initial step.

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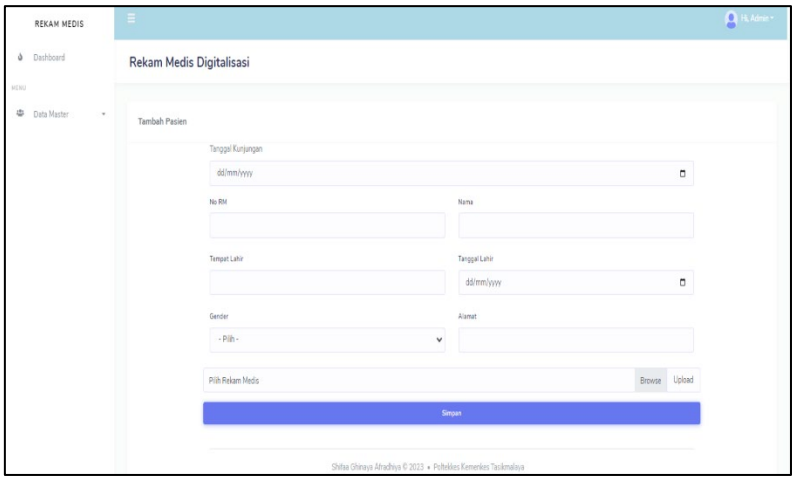

Figure 2. Patient Data Display

Next, select the menu and click the add patient icon by entering the date of the last visit, rm number, patient data, and uploading the scanned medical record document, then click save. Socialization of the implementation of the SIPAS (Patient Administration Documentation Information System) application is an important step in ensuring that all parties understand the functions, benefits, and ways to use this application. SIPAS is designed to manage and document patient medical record documents electronically, thereby improving operational efficiency, reducing manual errors, and ensuring that patient data is safer and more accessible.

Measuring training results through *Pre-test -Post-test*

The results of the training through pre-test and post-test carried out are:

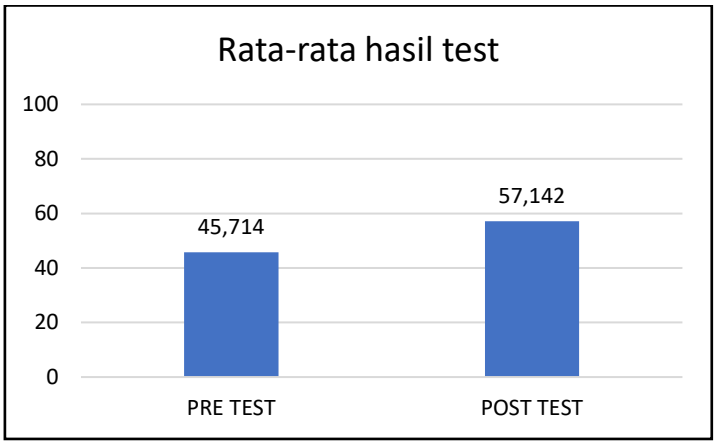

Figure 2. Knowledge of health center staff about Medical Record Retention at the Kesunean Health Center in Cirebon City

The results of the pre-test and post-test showed that there was an increase in the knowledge of Puskesmas Officers about Digitizing Medical Record Documents for Chronic

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Disease Patients for Puskesmas. This is shown by the average post-test result of 57% greater than the pre-test result of 45% in the good category. This counseling can increase the knowledge of Puskesmas Officers because it is a series of activities designed to increase knowledge on the Digitization of Medical Record Documents of Chronic Disease Patients for Puskesmas.

Output and Achievement

Based on the problems or problems faced by the Health Center in the Cirebon City area after a survey by the community service team, the solution that can be offered in community service activities carried out by the DIII Medical Records and Health Information (RMIK) Cirebon Polytechnic of the Ministry of Health Tasikmalaya in solving the problem is to provide education to RM officers and/or reporting officers to be able to get to know and using the Chronic Disease Patient Medical Record Document Digitization Application, namely SIPAS (Patient Administration Documentation Information System). The results of this training are apart from Application Training, namely the issuance of SOPs on Digitization of DRM for chronic disease patients. Puskesmas officers can independently use the application.

Table 2. Targets and Realization of Output Achievements

No.	External Type	Achievement Indicators
Mandatory Outputs		
1.	Officers are able to use the Cirebon City Regional Health Center Medical Record Document Digitization Application	1. Officers can enter data into the Application 2. Availability of SOP for DRM Digitalization for chronic disease patients 3. The availability of draft manuscripts resulting from community service.

CONCLUSIONS AND SUGGESTIONS

Conclusion

The implementation of the training can increase the knowledge of Kesunean Health Center officers regarding the Digitization of Medical Design Documents for chronic disease patients, as evidenced by the results of the Pre-test and Post-test have increased from the

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average score at the time of the pre-test which is 45% and the average at the time of the post-test is 57%. This shows an increase in the level of knowledge about the digitizationof medical record documents of chronic disease patients for the Kesunean Health Center of Cirebon City.

Suggestion

It is recommended that periodic evaluations be carried out on knowledge related to the digitization of medical design documents for chronic disease patients at the health center after training. This evaluation is important to measure the long-term impact of the training program and ensures that the improvements that occur during the training are not only temporary but actually implemented in the day-to-day work.

BIBLIOGRAPHY

Andri Kristanto. 2008. *Design of Information Systems and Applications*. Yogyakarta: Gava Media.

Antika, I. K. M., Sawitri, A. A. S., & Ani, L. S. (2021). *An overview of the level of knowledge of health workers towards the implementation of family folder-based medical records at the West Denpasar I Health Center and West Denpasar II Health Center for the 2020 period*. Digest of Medical Sciences, 12(1), 256-261.

Ar, C. R. (2018). *Filing of Personnel Archives Based on the Human Resources Sim Application at the Representative Office of the National Population and Family Planning Agency (BKKBN) Special Region of Yogyakarta* (Doctoral Dissertation, Gadjah Mada University).

Coronel, C., & Morris, S. (2015). *Database Systems: Design, Implementation, & Management* (Vol. 11th). Cengage Learning.

Darianti, D., Dewi, V. E. D., & Herfiyanti, L. (2021). Implementation of Medical *Record Digitization in Supporting the Implementation of Electronic Medical Records at Cicendo Hospital.* Human and Health Scientific Journal, 4(3), 403-411.

Handiwidjojo, W. (2015). *Electronic medical records*. Journal of Exploration of Information Systems and Science Works, Vol 2 (No 1).

Haris, M. S. (2019). *Design and Creation of Medical Record File Retention Application at Balung Jember Hospital*. Proceedings of RMIK Jember State Polytechnic, 1(1).

Jinan, N. (2019). *Design and Creation of a Web-Based Medical Record Document Media Transfer Application at dr. R. Soedarsono Pasuruan Hospital.* Journal of Health, 7(1), 10-19.

Jogiyanto, H.M., (2014*). Design Analysis and Information Systems Design*. Jakarta: Elex Media Komputerindo.

Ministry of Health, (2004). Law Number 29 of 2004 concerning *Medical Practice.*

Kuswara, H., & Kusmana, D., (2017). *Web-Based Student Attendance Information System with SMS Gateway at Al – Munir Vocational High School Bekasi*. Indonesian Journal on Networking and Security, 6(2), 17–22.

Litlia. (2016) on the Definition of XAMPP.

Nurcahyati, S., Herawati, T., & Setiatin, S. (2021). The *effectiveness of media transfer of inactive medical record files at Pertamina Cirebon Hospital.* Wiyata Journal: Science and Health Research, 8(2), 180-187.

Ningsih, K. P., Purwanti, E., Markus, S. N., Santoso, S., Husin, H., & Zaini, M. (2022). *Efforts to support the successful implementation of electronic medical records through the digitization of medical records*. Journal of Community Service Empathy, 61-70.

DOI: https://doi.org/10.62885/abdisci.v1i12.481

O'Brien & Marakas. (2009). *Management Information Systems*. Ninth Edition. New York: McGraw-Hill/Irwin.

Permenkes, 2022. Regulation of the Minister of Health Number 24 of 2022 concerning *Medical Records*.

Rohman, H. (2019). Integrated Medical Record File Retention System: *Designing a Web-Based Information System in Pratama Clinic*. Journal of Information Management and Health Administration, Vol 2 (Page 2).

Samaji, good pandhu. (2020). *The Difference Between Digitization of Medical Records and Electronic Medical Records.* DPC PORMIKI Tegal .

Setiawan, W. (2017). *The Digital Age and its Challenges*. National Seminar on Education 2017.

Supono, Virdiandry P. (2018). *Web Programming Using PHP and Codeigniter Framework*. CV. Budi Utama Yogyakarta.

Sukmana, E. (2005). *Digitization of Libraries*. Paper at the Seminar "The Role of Librarians in the Digital Era" (Vol. 16).

Tiorentap, D. R. A. (2020). *Evaluation of the Benefits of the Implementation of Electronic Medical Records in Developing Countries: A Systematic Literature Review*. Indonesian of Health Information Management Journal (INOHIM), 8(2), 69-79.

Wandira, D. D., Nurbayani, R., & Abdussalaam, F. (2021). *Designing an Outpatient Medical Record Information System Using Microsoft Visual Studio 2010 at the Bona Clinic Mitra Keluarga Bojongsoang.* Explore: Journal of Information Systems and Telematics (Telecommunications, Multimedia and Informatics), 12(2), 224-231.

DOI: https://doi.org/10.62885/abdisci.v1i12.481