

Design of Information System for Reporting Service Indicators at Imelda Hospital in 2023

¹Siddik Karo-Karo, ²Bitcar Praja Simamora
^{1,2} Universitas Imelda Medan

ARTICLE INFO

Keywords:
Information System
Indicator Reporting
Hospital

Email:
bitcarprajasimamora@gmail.com

ABSTRACT

The service indicator reporting information system at Imelda Hospital is designed for data processing and information presentation, especially about hospital service indicator reporting data that is easily accessible to officers anywhere and anytime, and can help the data processing process that will produce information so that the system work process can be well integrated and does not require a long time to search for data, data processing, and storing data. This study aims to design and create a Service Indicator Reporting Information System in hospitals and make it easier for officers to be faster and more precise in their services. This type of research uses a phenomenological approach method where researchers try to understand deeply the phenomenon under study. The results of this research show that the number of beds in the SIMRS application at IPI General Hospital. Where the number of beds in the SIMRS application is 322 beds while the actual number of beds or registered in the operational permit of IPI RSU is 276 beds. So that it greatly affects the report of hospital indicators at IPI General Hospital. Overall, the system that the author proposes has been proven to be more precise, fast and accurate than the results of reports from SIMRSU IPI and or from the results of manual calculations carried out by officers when reporting in the previous period. The hospital service indicator report produced by the system proposed by the author is better than the report produced by SIMRSU IPI. However, the overall report on hospital service indicators at IPI Hospital is still below the standards of the Ministry of Health.

Copyright © 2023 JU-KOMI. All rights reserved is Licensed under a [Creative Commons Attribution- NonCommercial 4.0 International License \(CC BY-NC 4.0\)](https://creativecommons.org/licenses/by-nc/4.0/)

INTRODUCTION

An electronic system is a series of electronic procedure devices whose functions are to prepare, collect, manage, analyze, store and display, announce, transmit, and/or disseminate electronic information. Electronic system operator is any person who is a state operator other than the ministry of health, business entities, and the community, who provides, manages, and or operates electronic systems independently or jointly to users of electronic systems for their own needs and / or the needs of other parties.

Barber Johnson chart is a graph, which can clearly analyze and at the same time present the efficiency of bed use both in terms of medical quality and economic. Hospital service indicators based on Barber Jhonson, consist of six parameters, namely BOR (Bed Occupancy), to determine the percentage of bed use. AVLOS (Average Length Of Stay) to find out the average length of stay of a patient. TOI (Turn Over Interval) to determine the frequency of bed use in one period. BTO (Bed Turn Over) frequency of bed use at one period. (Mardian, 2015). The increase and decrease in the value of BOR, AVLOS, TOI, and BTO can be known to perform calculations and comparisons. According to Hosizah, 2018. Service quality evaluation indicator, namely Gross Death Rate (GDR) This indicator describes the number of deaths that occur in hospitals in hospitalized patients. While Net Death Rate (NDR) This indicator is a picture of the number of deaths of patients after more than 24 hours of hospitalization.

Based on the phenomenological approach in the initial survey conducted by the researcher that there is a difference between the report sent to the Ministry of Health and the report produced by SIMRS RSUD IPI, especially in the reporting figures of hospital service indicators. Where the number of beds in the SIMRS application is 322 beds while the actual number of beds or registered in the operational permit of IPI RSUD is 276 beds. This is very influential on the report of hospital service indicators, especially at IPI General Hospital, especially in the BOR report, Avlos report, TOI report and BTO report. So the author suggests a solution by designing a service indicator reporting information system at IPI RSUD that supports the provision of information so that the system work process can be well integrated and does not require a long time to search for data, process data, and store data.

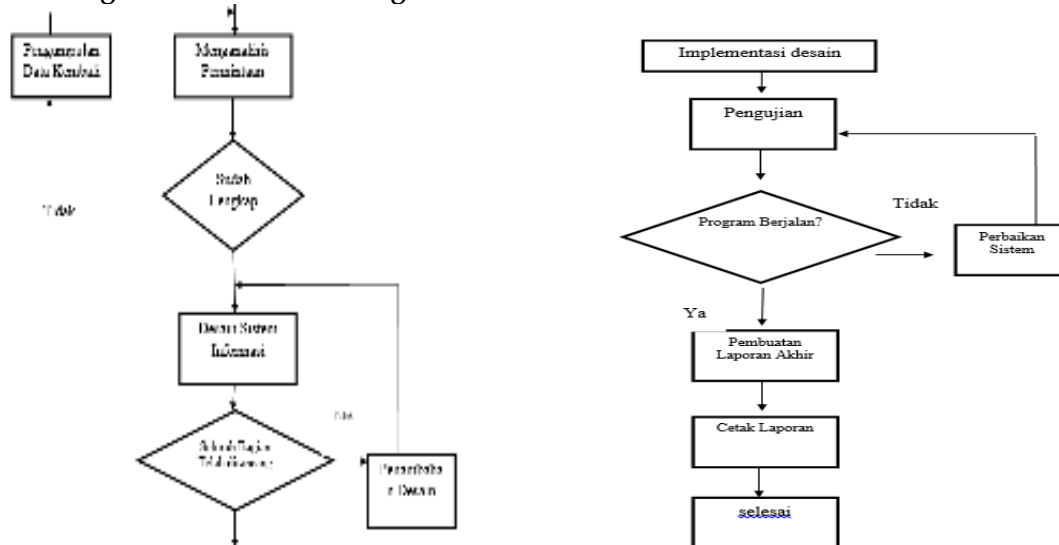
METHODS

The main premise of this study is a phenomenological approach where researchers try to understand deeply the phenomenon under study. The research approach used is phenomenology, event, or something to be researched. The tools and materials used in this study are:

1. A set of computers or laptops with specifications: Microsoft Windows 7 operating system, Intel Core i3 processor, 4 GB RAM, and 500 GB HDD.
2. Stationery (such as ballpoints, erasers), used to fill in complete research data such as observations, and interviews.
3. Using a smartphone to retrieve the results of research documentation.
4. Using a printer to print this scientific paper.

The sampling technique in this study is saturated sampling. Sample selection technique when all members of the population are sampled. The instrument used in this study is an observation guideline. The method of data collection is observation and interviews. This design uses descriptive design. The methods carried out in this study consist of literature study, observation, system development, system operations and data collection, data analysis, and report writing. Literature studies are conducted by collecting information from books, journal articles, and other scientific sources related to this research. Observation is carried out by observation on the existing system at the research location.

System Design Workflow Flow Diagram



RESULTS AND DISCUSSION

Proposed Information System Interface Design

In the design of the application submitted using the MySQL XAMPP database version 3.2.4 is used to store all data input. In the login form display is used to input the user name and password before the system user enters the system itself.

Figure 1. Form Login

The home page is the first display when the user has logged into the system. In this view there are several menus including the home menu, master data menu, indicator menu and report menu.

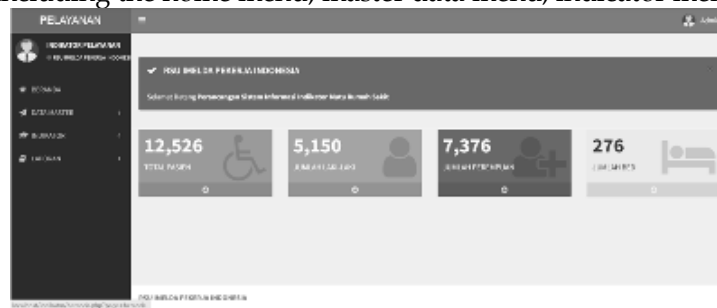


Figure 2. Home View

On the master data menu, there are two submenus, namely user data and bed data. User data serves to add, delete and update system user data. As for the data bed submenu, it functions to add, delete and update the bed data and adjust it to those in the hospital. On the indicator menu, there are two sub menus, namely the patient data sub menu and the service indicator data sub menu. The patient data submenu serves to fill in or import patient data in excell obtained from the SIMRS Imelda application. While the service indicator data sub-menu serves to display hospital service indicator reports per period.

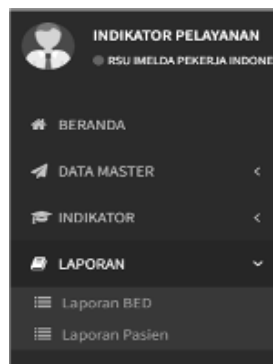


Figure 3. Report Sub Menu Display

On the report menu, there are two sub menus, namely the bed report sub-menu and the patient report sub-menu. The bed report sub-menu serves to display the number of active bed data. While the patient report sub-menu displays patient data that visited in a certain period.

Discussion

From the results of the research that the author conducted that the number of beds in the SIMRSU IPI application does not match the actual number of active beds in the field. Where the number of beds in the SIMRS application is 322 beds while the actual number of beds or registered in the operational permit of IPI RSU is 276 beds. This is due to the frequent renovation of rooms carried out at IPI General Hospital and also the availability of spare rooms when the core room is being renovated. In the SIMRSU system, IPI does not allow to delete bed names that have been used by patients because it will affect patient data at IPI Hospital itself. Therefore, it can be ascertained that the number of beds in SIMRSU IPI does not match the number of active beds at RSU IPI and the number of beds reported at the time of applying for an operational permit at RSU IPI. This is very influential on the report of hospital service indicators, especially at IPI General Hospital, especially in the BOR report, Avlos report, TOI report and BTO report.

Tabel 1. Comparison of SIM RSU IPI data and the proposed new System

NO	Periode	SIMRS Imelda				Sistem Baru				Standart Kemenkes			
		BOR	AVLOS	TOI	BTO	BOR	AVLOS	TOI	BTO	BOR	AVLOS	TOI	BTO
1	Januari 2023	38.16	4.92	2.4	7.98	44.52	4.92	2.8	6.13	60-85	6-9	3	40-50
2	Februari 2023	39.31	4.9	2.25	7.57	45.86	4.9	2.62	5.79	60-85	6-9	3	40-50
3	Maret 2023	31.82	4.29	2.3	9.2	37.12	4.29	2.68	7.27	60-85	6-9	3	40-50
	rata-rata	36.4	4.7	2.3	8.3	42.5	4.7	2.7	6.4	60-85	6-9	3	40-50

The TOI report and BTO report on the new system are better according to the report produced by Imelda's SIMRS. However, the overall report on hospital service indicators at IPI Hospital is still below the Ministry of Health's standards. Overall, the system that the author proposes has been proven to be more precise, fast and accurate than the results of reports from SIM RSU IPI and or from the results of manual calculations carried out by officers when reporting in the previous period.

CONCLUSION

Overall, the system that the author proposes has been proven to be more precise, fast and accurate than the results of reports from SIMRSU IPI and or from the results of manual calculations carried out by officers when reporting in the previous period. The number of beds in the SIMRSU IPI application with the actual number of active beds in the field. Where the number of beds in the SIMRS application is 322 beds, while the actual number of beds or registered in the operational permit of RSU IPI is 276 beds, thus greatly affecting the report of hospital indicators at RSU IPI because there is a difference between the report sent to the Ministry of Health and the report produced by SIMRS RSU IPI, especially in the reporting figures of hospital service indicators. The hospital service indicator report produced by the system proposed by the author is better than the report produced by SIMRS Imelda. Nevertheless, overall indicator report.

REFERENCE

Amput, F. (2019) 'Perancangan Sistem Informasi Reservasi Kamar Berbasis Web Pada Hotel Karmila Bandung', *Jurnal Sistem Informatika dan Informasi*, 1, pp. 1-476.

Design of Service Indicator Reporting Information System At Rumah Sakit Imelda 2023 Year Field. Siddik Karo-Karo, et.al

- Ansori (2015) 'Perancangan Sistem Informasi', Paper Knowledge . Toward a Media History of Documents, pp. 49–58.
- Ariana, R. (2016) 'Pencatatan dan Pelaporan Sistem Informasi Indikator Di Rumah Sakit', pp. 1–23.
- Aulya,F.(2021) 'Perancangan Sistem Informasi Indikator Rawat Inap Menggunakan Microsoft Visual Studio di RSIA Limijati', Jurnal Indonesia Sosial Teknologi, 2(09), pp. 1548–1563. doi: 10.36418/jist.v2i9.221.
- Erawantini, F. (2013) 'Pendahuluan Penggunaan rekam medis elektronik berpotensi memberikan manfaat besar bagi pelayanan kesehatan seperti fasilitas pelayanan dasar maupun rujukan (rumah sakit). Salah satu manfaat yang dirasakan setelah penggunaan rekam medis elektronik adalah', Fiki, 1(1), pp. 1–10.
- Giyana, F. (2018) 'Analisis sistem pengelolaan rekam medis rawat inap rumah sakit umum daerah Kota Semarang', Kesehatan masyarakat, 1, pp. 48–61.
- Mardian, A. (2015) 'Analisis Efisiensi Pelayanan Rawat Inap Rumah Sakit Daerah Balung Tahun 2015 melalui Pendekatan Barber-Johnson (Analysis of Efficiency of Balung Inpatient Hospital Service in 2015 by Barber- Johnson Approach)', Artikel Ilmiah Hasil Penelitian Mahasiswa.
- Novianto,E.(2021) 'RANCANG BANGUN SISTEM INFORMASI PENCATATAN BARANG MASUK DAN BARANG KELUAR KELUAR PADA PT. SAHABAT LANGIT INDONESIA', Indonesian Journal of Health Information Management. doi: 10.54877/ijhim.v1i2.9.
- Perdana,(2016) 'Rekam Medis Berbasis Website (Strudi Kasus : Rumah Sakit Umum Daerah Sultan Syarif Mohamad Aljadrie)', Jurnal Sistem dan Teknologi Informasi, 1(1).
- Priyadi, (2018) 'Perancangan Sistem Informasi Pelayanan Surat Menyurat Pada Kantor Desa Tanjungsari Kutowinangun Kebumen Berbasis Desktop', Jurnal Teknik Komputer, IV(2), pp. 84–91. doi: 10.31294/jtk.v4i2.3444.
- Ramadani, N. (2020) 'Sistem Informasi Indikator Pelayanan Rumah Sakit', Jurnal Edik Informatika, 7(1), pp. 9–18.
- Ridwan Pranata (2021) 'Pengembangan Dashboard Sistem Informasi', Universitas Islam Indonesia.
- Rosita, S. (2021) 'Faktor yang Berhubungan dengan Efektivitas Pelayanan Kesehatan pada Pasien di Ruang Rawat Inap Rumah Sakit TK II Iskandar Muda Banda Aceh', Serambi Saintia Jurnal Sains dan Aplikasi, IX(2), pp. 2337–9952.
- Simanjuntak, E (2019) 'Analisa Indikator Rawat Inap Periode Tahun 2017-2018 Di Rumah Sakit Sinar Husni Medan', Jurnal Ilmiah Perekam dan Informasi Kesehatan Imelda (JIPIKI), 4(2), pp. 614–619. doi: 10.52943/jipiki.v4i2.84.
- _____, (2019) 'Faktor-Faktor Penyebab Terjadinya Missfile Di Bagian Penyimpanan Berkas Rekam Medis Rumah Sakit Mitra Medika Medan Tahun 2017', Jurnal Ilmiah Perekam dan Informasi Kesehatan Imelda (JIPIKI), 3(1), pp. 370–379. doi: 10.52943/jipiki.v3i1.51.