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Revitalization of the INA-CBG'S Application Interface at Wava Husada Hospital

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ABSTRACT

The completeness of diagnosis is something that medical recorders must pay attention to. The completeness of diagnosis is very important in the fields of clinical data management, cost reimbursement, and health care and services. INA-CBG's (Indonesia Case Groups) is an application used by all hospitals, one of which is Wava Husada Kepanjen Hospital, in submitting claims using a package system based on the illness suffered. The method of implementing this activity involves explaining the necessary updates to the diagnosis coding system, which will be automatically bridged to the INA-CBGs application. The activity was conducted at Wava Husada Hospital, specifically in the CASE MIX unit. The method of implementing this activity was to explain the parts that needed to be updated or corrected, conduct hands-on practice with each user, and hold a question and answer session regarding obstacles in its use. The socialization activity proceeded smoothly, and staff members felt assisted by the changes made to the system, which had been adapted to user needs. However, during implementation, staff members still need to perform double checks to anticipate errors related to the assignment of diagnosis codes. This is because the system lacks prompts to remind staff members about the completeness or accuracy of diagnosis code entry, resulting in frequent errors made by CASE MIX staff members.

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INTRODUCTION

Hospitals are healthcare institutions that provide comprehensive healthcare services, including outpatient care, inpatient care, and emergency care. The role of hospitals has become increasingly important in the modern era as they are required to provide fast, accurate, and high-quality services in accordance with government-established standards. According to Ministry of Health Regulation No. 3 of 2020 on the classification and licensing of hospitals, a hospital is a healthcare institution that provides comprehensive individual healthcare services, including inpatient care, outpatient care,

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and emergency care. Information technology in the healthcare field plays a crucial role in improving service quality, one of its benefits being the provision of healthcare-related information services. The need for an integrated system in the current era of technological development has become a fundamental requirement in advancing healthcare technology. Effective hospital service processes are supported by the implementation of information technology in service management systems and patient data processing within the hospital. Hospitals have developed their information systems into web-based patient registration processes, particularly for inpatient registration, to facilitate staff in conducting registration procedures and inputting patient service actions for inpatient care.

In conducting the registration process and inputting actions, hospitals use the INA-CBG e-claim application, which is an application used in the health service claim process at advanced referral health facilities (FKRTL) for participants in the National Health Insurance (JKN) program (Nurul Fathah & Anggita Safitri, 2024). INA-CBG's (Indonesia Case Base Groups) is a system where the amount of claim payments by BPJS Health to advanced referral healthcare facilities is based on a coding system of final diagnoses and procedures or treatments that constitute the output of healthcare services, referencing the International Classification of Diseases Tenth Revision (ICD-10) and the International Classification of Diseases Ninth (ICD-9) Clinical Modification (CM) developed by the World Health Organization (WHO). The INA-CBG e-claim application supports the implementation of Minister of Health Regulation No. 52 of 2016 on Health Service Tariff Standards in JKN Services and Minister of Health Regulation No. 64 of 2016 on amendments to PMK 52 of 2016. Individual service data will be sent through the e-claim application to the Ministry of Health's data center, where it will be used for monitoring and evaluation processes and other purposes. Health Service Tariff Standards are based on PMK No. 69 of 2013 regarding payments to FKTP and FKTRL, and BPJS Kesehatan has made payments based on Indonesian Case Base Groups (INA-CBG's). The Indonesian Case Base Groups (INA-CBG's) payment system uses a claims system that will be reimbursed by the National Health Insurance Agency (BPJS) (Monica, 2020).

A bridging system is the use of a web service-based application that connects healthcare A bridging system is the use of a web service-based application that connects healthcare systems into one, in order to improve healthcare services in hospitals, community health centers, and other healthcare services that receive National Health Insurance (JKN) services. The bridging system is used for data transfer, simplifying data input and output processes that can perform two processes simultaneously without compromising data accuracy (Hamidah et al., 2024). The calculation of INA-CBG's tariffs is based on costing data obtained from selected hospitals or representatives of hospital classes, types, and ownership (private and government). The data obtained includes all costs incurred by hospitals, excluding medication costs funded by government programs provided to hospitals. Diagnostic coding or grouping data for patients is obtained from PPK Jamkesmas hospital data. For JKN tariff formulation, data costing from 137 public and private hospitals with 6 million coding cases (diagnosis cases) is used (Siswanto, 2020).

METHOD

The socialization activity was conducted at Wava Husada Hospital, in the CASE MIX unit area. Each staff member has their own access to the INA CBG's application and the MERSI application owned by Wava Husada Hospital, where the diagnosis codes in the MERSI application will automatically be bridged to the INA CBG's application. Service members conducted group outreach to CASE MIX officers by providing information directly on one of the officers' computers, then informing IT officers about the system that needed updating.

This activity was carried out by explaining the INA-CBG's system, conducting hands-on practice with one of the users, and asking questions about the obstacles in its use. The activity was carried out based on existing problems. It was displayed in the form of images in the system section that needed updating to facilitate socialization and understanding among users.

RESULTS AND DISCUSSION

The results of the discussion in this socialization process include corrections to the INA-CBG application interface for determining the diagnosis of inpatients and outpatients, where these interface changes will serve to address issues related to the completeness of the diagnosis determined in the Dagger (†) and Asterisk (*) sections, where these two symbols must not be separated. If only one of these two symbols is included, a notification will appear during the bridging process. If there is an error in the diagnosis input, such as the use of red color or the (*) symbol, this indicates that the diagnosis entered is incomplete, and therefore the diagnosis cannot be bridged to the MERSI system (information system). This poses the risk of claim errors, as invalid diagnoses may still enter the bridging process. With the interface adjustment, staff can more quickly identify errors, although manual verification by staff is still required.

The following is the flow of INA-CBG's usage at Wava Husada Kepanjen Malang Hospital in accordance with the Minister of Health Regulation and hospital flow

1. Inpatient and Outpatient Services
2. Preparation of supporting documents by administration
3. Disease & procedure coding by RM unit coders
4. Data entry by RM officers
5. INA-CBG's grouping by the RM staff
6. Claim documents and grouping results managed by the CASEMIX staff
7. Internal verification by the CASEMIX staff
8. Submission of BPJS claims.

The issues we encountered based on the implementation we conducted are listed in Figure 1

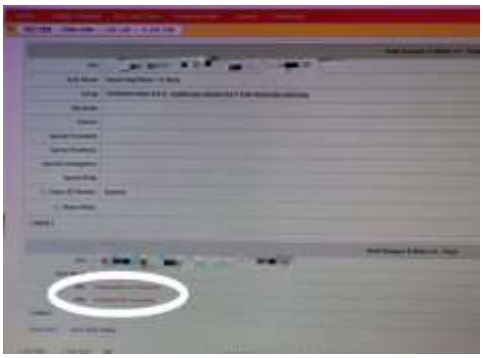

Figure 1. INA-CBG's Interface

In the image above, the red text is marked with a white circle. The white circle indicates that the diagnosis listed is not yet accurate or that there are still errors in entering the diagnosis in the INA-CBG's application. However, in the data, only the red indicator appears, indicating that the diagnosis is not yet fully accurate. Nevertheless, the data can still be bridged to the MERSI application, where there is no indicator in the MERSI application that the diagnosis is still incomplete. This could potentially lead to claim errors and hinder administrative processes. Through the socialization, staff felt assisted as they could more easily understand the warning indicators appearing in the system and make corrections more quickly.

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Figure 2. Discussion with IT staff

At this stage, humans become the implementers of this system. The implementation of activities also involves IT officers to discuss steps to improve the accuracy of diagnoses in the MERSI and INA-CBG hospital applications so that there is synchronization in entering patient diagnosis codes. This finding aligns with Siswanto's (2020) research, which emphasizes that inaccuracies in diagnosis codes and medical procedures generally occur due to insufficient system validation and weak control over the data input process. Therefore, the involvement of IT personnel is crucial for designing a system that is more adaptive to user needs and claim service standards.

The results of the socialization found that there were errors in entering diagnoses in the INA-CBG's application and that synchronization with the MERSI application was necessary. The coding process in the MERSI application will be automatically saved in the hospital's INA-CBG's application, which will then be used to claim costs from the BPJS website.

This outreach program successfully improved staff understanding of the importance of comprehensive diagnosis. However, staff must also be aware that the system still requires manual re-examination. Therefore, this outreach activity is not limited to system improvements, but also serves as a learning medium for staff in carefully managing claims. The interface updates implemented through this community service activity contribute to the quality of service and management efficiency at Wava Husada Hospital.

In addition to benefiting staff, this activity also has an impact on hospital management. With fewer input errors, the BPJS claim process can run faster and minimize the risk of claim rejection. However, this activity still has limitations. The existing system is not yet equipped with an automatic alert feature that can stop claims when the diagnosis code is incomplete. Therefore, staff still have to double-check to minimize errors.

CONCLUSION

The socialization activity for the revitalization of the INA-CBG application interface at Wava Husada Hospital went well and had a positive impact on CASE MIX officers. Changes to the system display with the addition of visual markers proved to help officers identify errors in diagnosis code input, particularly in cases involving the use of the dagger (†) and asterisk (*) symbols. However, the system still has limitations as it lacks an automatic alert feature, meaning staff must still perform a double-check before submitting claim data. This indicates that this community service activity successfully provided an initial solution to the existing issues, but further development is still needed to ensure the system can fully support the smooth processing of claims optimally. Additionally, this activity has enhanced staff knowledge and skills in using the health information system, thereby contributing to improved hospital service quality.

Based on the results of the activity, it is recommended that Wava Husada Hospital develop the system further by adding an automatic alert feature to detect incomplete diagnosis codes more accurately. With this feature, input errors can be minimized, and staff will not need to rely entirely on manual checks. Additionally, ongoing training should be provided for CASE MIX staff to further enhance their skills in using the application. Regular evaluation activities are also important to monitor the effectiveness of the system after updates are made, so that the long-term impact on the

smooth processing of BPJS claims can be assessed. From a management perspective, the hospital is also encouraged to continue fostering collaboration between CASE MIX staff, the medical records unit, and the IT team to address any technical issues promptly. This ensures the sustainability of healthcare information system improvements and optimizes service delivery to the community.

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