

Design Development of Treatment Identity Card (KIB) at Budi Asih Hospital, Trenggalek Regency

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Abstract. The Treatment Identity Card (KIB) used at Budi Asih Hospital, Trenggalek Regency, faces several limitations, including easily damaged materials, an impractical card size, and the absence of integration with the hospital's digital system. These conditions contribute to inefficient administrative services, longer patient waiting times, and an increased workload for registration and medical record officers. This study aimed to develop a more practical, durable, and digitally integrated KIB design. A Research and Development method was applied using Thiagarajan's 4D model, consisting of Define, Design, Development, and Dissemination stages. Data were collected through observation, interviews, and questionnaires involving registration officers, medical record personnel, and patients. The development process replaced the previous card material with PVC and standardized the card dimensions to 86 mm × 54 mm with a thickness of 0.76 mm. A QR code connected to the hospital information system was also added to facilitate access to patient data. Validation results indicated that the revised KIB design was more efficient, user-friendly, practical, and durable. The registration process became faster because officers could retrieve patient information directly by scanning the QR code. Therefore, the developed KIB design can support more effective administrative services and improve patient registration efficiency at Budi Asih Hospital.

Keywords: Card Design; Hospital Services; Patient Registration; QR Code; Treatment Identity Card.

1. INTRODUCTION

This study was motivated by problems in the use of the Treatment Identity Card (KIB) at Budi Asih Hospital, Trenggalek Regency, such as easily damaged materials, impractical size, and not yet integrated with digital systems, which have an impact on low administrative efficiency, long patient waiting times, and increased officer workload. Based on literature review and previous research, it is known that although KIB has an important role, its use is still not optimal, mainly due to low patient compliance and the absence of electronic integration. This research presents an innovation by designing a KIB made of PVC in an ATM standard size, equipped with a QR Code connected to SIM-RS, and focused on the efficiency and ease of the registration process. The aim was to develop a more effective and efficient KIB design to speed up administration, improve data accuracy, facilitate patient identification, and support better quality of health services at Budi Asih Hospital.

2. THEORETICAL STUDY

Research on the design development of the Medical Identity Card (KIB) is based on theories of hospital administration, health information systems, and electronic medical record technology, which emphasize the importance of efficiency, accuracy, and data integration in health services. Based on Permenkes No. 24 Year 2022, electronic medical records support easy access and reporting of patient information, while SIM-RS enables integrated and secure

management of hospital data. Information system design theory also emphasizes the importance of ergonomic and efficient patient ID cards. Previous research corroborates that low patient compliance with carrying KIBs, as well as problems with damaged and lost cards, hamper administrative services. Although not explicitly formulated, the hypothesis in this study leads to the belief that the design of the KIB made from PVC, practical size, and equipped with a QR Code integrated with SIM-RS can improve service effectiveness and efficiency. Therefore, the theory and results of previous studies provide a strong foundation that the development of a modern and integrated KIB design is needed to support an optimal health care system in hospitals.

3. RESEARCH METHODS

The research uses the Research and Development research method which uses the Define Design & Development stage. At the define stage is a needs analysis activity and an initial study of the real conditions in the field to determine the focus of this development is the process of interviews, observation, documentation. At the design stage is the stage of product design or planning based on the results of the analysis at the Define stage, namely in the form of a Medical Identity Card (KIB) design. At the Development stage is a development and testing process that produces a final product that has gone through validation and revision, in the product validation process researchers validate the product to 3 respondents, namely Development Practitioners (IT), Officer Practitioners (Medical Records, Filling, Registration) and Design Practitioners (Public Relations).

4. RESULTS AND DISCUSSION

The research was conducted at Budi Asih Hospital, Trenggalek Regency, which is located at Jl. Mayjen Sungkono No. 80, Tamanan, Trenggalek District. The data collection process was carried out from March to April 2025. Data collection techniques include interviews, observations, questionnaires, and documentation of the old KIB and the design of the development results. Observations were made of the implementation of patient registration and the effectiveness of using the current KIB, while interviews and questionnaires were addressed to registration officers, medical records, IT, and the hospital's public relations team.

Research Results

Define

Needs Analysis Results, based on the results of analysis and observation, the Treatment Identity Card (KIB) at Budi Asih Hospital, Trenggalek Regency still uses the old format in the form of large blue cardboard paper (105 mm x 80 mm) with a thickness of 0.30 mm. Recording visits is done manually, and if the card sheet is full, it must be replaced with a new one. This condition causes high paper consumption, additional costs, and the risk of damage due to the patient's habit of folding the card for ease of storage. The lack of updates to the design and materials of the cards has also contributed to the low level of patient awareness in bringing KIB during treatment, thus increasing the workload of hospital administrators.

KARTU KUNJUNGAN

Nomor : Nama : Tgl. :
No. RM : Tgl. Lahir :
Nama : Tgl. Masuk :
Alamat :
*Harap dibawa bila berobat
Jangan Hilang !*

RUMAH SAKIT BUDI ASIH
Jl. Mayjend Sungkono No. 80 Telp. (0355) 794690 Fax. 794680
TRENGGALEK 66312

TANGGAL KUNJUNGAN

01	21	09	29

KETERANGAN

160

Figure 1. Treatment Identity Card.

Planning Stage Results, in the design planning stage of the Medical Identity Card (KIB) at Budi Asih Hospital, Trenggalek Regency, researchers determined several main aspects as the basis for development, namely material, shape, color, and size. The material chosen was standard plastic such as KTP or SIM to ensure flexibility, water resistance, and durability. The shape of the card is made landscape by emphasizing important information such as patient identity, date of birth, and medical record number to support registration efficiency and ease of identification. The dark blue background color was chosen as the visual identity of the hospital as well as to differentiate with other cards such as the Healthy Indonesia Card, while the white text was used to make the information easy to read. The size of the card follows the identity standard, which is 86 mm x 54 mm with a thickness of 0.76 mm, so that it is practically stored in a wallet and in accordance with the specifications of the card printing machine used.

Design Initial Produl Development Results, in the design planning stage of the Treatment Identity Card (KIB) at Budi Asih Hospital, Trenggalek Regency, researchers

designed the front and back of the card by paying attention to aspects of material, shape, color, and size. The front view includes the official hospital logo in the upper left corner as well as hospital identity information at the top of the card. Patient identities such as name, date of birth, and medical record number are printed in white on a dark blue background to improve readability. A faint image of the hospital is used as the background to beautify the display, while a white box containing the barcode and medical record number is added to speed up the registration process through integration with the hospital's information system. On the back, the hospital's vision is displayed as a form of service commitment, along with five important points of advice regarding the use of KIB printed in bold white letters for easy visibility. Hospital information is also included again as identification in case the card is lost or found by other parties.

Development Initial Field Trial, the results of the initial field trial of the design of the Medical Identity Card (KIB) validated by medical record practitioners at Budi Asih Hospital, Trenggalek Regency showed that the KIB design was declared “suitable for use without revision”. Validation of the design of the Kartu Identitas Berobat (KIB) was also carried out by the Budi Asih Hospital registration practitioner, the last education is senior high school, however, he has more than three years of experience in the patient registration process and a good understanding of the use of KIB in hospitals. Validation was carried out on April 30, 2025 the validator also stated that this instrument was suitable for use without revision, so it can be concluded that the KIB design has met the eligibility criteria to be implemented in the Budi Asih Hospital work environment. The design validation of the Kartu Identitas Berobat (KIB) was also conducted by a filing practitioner at Budi Asih Hospital, who has a high school educational background and more than two years of work experience in the filing department. The validator stated that the KIB design is feasible to use with minor revisions, indicating that the design is close to feasibility of implementation and only requires minor improvements to be more optimal.

Validation of the design of the Kartu Identitas Berobat (KIB), a development expert from the IT team of Budi Asih Hospital, Trenggalek Regency, who is a graduate of Information Technology at Politeknik Negeri Malang (Polinema). The validator stated that the KIB design was suitable for use with minor revisions, indicating that the design was in accordance with the needs of the hospital information system and only required minor technical adjustments for more optimal implementation in the IT environment. Validation of the design of the Treatment Identity Card (KIB) by design experts was carried out by Mr. Septian Ganza F., a member of the Public Relations / Promotion team of Budi Asih Hospital, Trenggalek Regency and a

graduate of S1 Computer Science, on April 30, 2025. The validator concluded that the KIB design is suitable for use with minor revisions, without the need for fundamental changes, and overall it meets the expected aesthetic and visual communication objectives. First Product Revision.



Figure 2. Treatment Identity Card Before Validation.



Figure 3. Treatment Identity Card After Validation.

Discussion

Define

The define stage in the design development of the Treatment Identity Card (KIB) at Budi Asih Hospital, Trenggalek Regency produces a new design concept that is more efficient, functional, and supports fast and accurate administrative services. Materials, the use of materials in making the Medical Identity Card (KIB) has a major influence on the durability of the card and the level of patient compliance in carrying it. KIBs previously made of paper are easily damaged and less attractive, making patients reluctant to use them. To overcome this, researchers designed KIB with a stronger and more durable plastic material such as KTP or SIM. Shape, the design of the Medical Identity Card (KIB) at Budi Asih Hospital in Trenggalek Regency is designed in landscape format because it matches the general shape of identity cards such as KTP and SIM. The use of plastic material commonly used in identity cards aims to reduce the risk of damage. The landscape format was chosen because it allows the placement of important information such as medical record numbers, patient identity, and date of birth more clearly and visually appealing, referring to the opinion of Mardiwati et al. (2021). Color, the color selection in the design of the Treatment Identity Card (KIB) in this study uses a combination of dark blue as the background and white for the text, because it is considered capable of creating an attractive visual impression, reflecting the identity of Budi Asih Hospital

Trenggalek Regency, and distinguishing KIB from other health service cards such as BPJS. The dark blue color was chosen because it matches the color of the hospital logo, while the white color is used to display important information such as the patient's name, medical record number, and date of birth so that it is clearly visible. Size, the size of the Treatment Identity Card (KIB) at Budi Asih Hospital in Trenggalek Regency is designed to resemble the size of standard identity cards such as KTP and SIM, with dimensions of 86 mm × 54 mm × 0.76 mm, so that it is easily stored in a wallet and practical to use. This size was chosen because it is commonly used as an identity card size or called a wallet size.

Design

The design of the Kartu Identitas Berobat (KIB) at Budi Asih Hospital in Trenggalek Regency is visually and functionally designed to support accurate and efficient patient identification. This KIB features important elements such as the hospital logo, patient identity information (name, medical record number, date of birth), as well as a barcode to speed up the registration process. The choice of dark blue color as the background with white text aims to improve readability and strengthen the hospital's visual identity. Important information and calls to action are displayed on the back side with an attractive layout and a pictorial background of the hospital to add aesthetic appeal.

Development

First Field Test, the design of the Treatment Identity Card (KIB) at Budi Asih Hospital, Trenggalek Regency has been designed in accordance with the standard size of identity cards in general (86mm x 54mm, thickness 0.76mm), so that it is practically stored in a wallet and has a dual function as a patient identification tool and hospital promotional media. The percentage of the development practitioner validation test results (IT Team) is 78.1%. This criterion according to Arikunto dika (2016) is good, in the assessment criteria, namely the position 81%-100% is very good, the position 61% - 80% is good, the position 41% - 60% is sufficient, the position 21% - 40% is bad, the position 1% - 20% is very bad. The design expert validator, the Public Relations/Promotion Team of Budi Asih Hospital, Trenggalek Regency, provided an assessment of the design of the Treatment Identity Card (KIB) that had been designed using plastic material because it was considered stronger, more flexible, and more durable. Design aspects such as logos, color schemes, layouts, and typography are thoroughly reviewed. The percentage of the design expert practitioner validation test results (Public Relations Team) was 93.7%. This criterion according to Arikunto dika (2016) is very good, in the assessment criteria, namely 81%-100% position is very good, 61% - 80% position is good, 41% - 60% position is sufficient, 21% - 40% position is bad, 1% - 20% position is very bad.

Practitioner validators, registration officers at Budi Asih Hospital, Trenggalek Regency, gave an assessment of the design of the Treatment Identity Card (KIB) based on eight functional aspects in the registration section. The percentage of the results of the Officer practitioner validation test (Registration, RM, Filling) is 79.5%. This criterion according to Arikunto dika (2016) is good, in the assessment criteria, namely the position 81%-100% is very good, the position 61% - 80% is good, the position 41% - 60% is sufficient, the position 21% - 40% is bad, the position 1% - 20% is very bad. Practitioner validators, Medical Records officers at Budi Asih Hospital, Trenggalek Regency, gave an assessment of the design The percentage of the results of the Officer practitioner validation test (Registration, RM, Filling) was 79.5%. These criteria according to Arikunto dika (2016) are good, in the assessment criteria, namely the position 81%-100% is very good, the position 61% - 80% is good, the position 41% - 60% is sufficient, the position 21% - 40% is bad, the position 1% - 20% is very bad. Practitioner validator, Mrs. Nindi Renikasari as a filling officer at Budi Asih Hospital, Trenggalek Regency. The percentage of the results of the Officer practitioner validation test (Registration, RM, Filling) is 79.5%. This criterion according to Arikunto dika (2016) is good, in the assessment criteria, namely the position 81%-100% is very good, the position 61% - 80% is good, the position 41% - 60% is sufficient, the position 21% - 40% is bad, the position 1% - 20% is very bad.

5. CONCLUSIONS

The development of the Medical Identity Card (KIB) design at Budi Asih Hospital in Trenggalek Regency has made a real contribution to improving the quality of patient service administration governance. The new design, which uses PVC material with a standard size identity card and is equipped with a QR Code, has proven to be more durable, practical, and facilitates access to medical record data. The integration of KIB with the hospital information system (SIM-RS) supports faster, organized, and accurate services, thereby strengthening the quality of health services. For a successful implementation of this design, it is recommended that registration and medical record officers attend training related to the use of QR codes and digital systems to improve efficiency and reduce errors. Hospitals also need to provide supporting infrastructure, conduct thorough training, and socialize to patients to prevent confusion. Periodic monitoring and evaluation are important to ensure effective implementation and continuous improvement. With optimal technical and managerial support, hospital services can become faster, more accurate, more modern, and improve satisfaction and institutional image.

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