Evaluation Of Web-Based Community Health Center Management Information System (Simpus) At Siulak Gedang Community Health Center, Siulak District, Kerinci Regency

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ABSTRACT

The Siulak Gedang Community Health Center has implemented a web-based community health center management information system (SIMPUS), but in its implementation there are still obstacles. The aim of this research is to evaluate the Web-Based Community Health Center Management Information System (SIMPUS) at the Siulak Gedang Community Health Center, Siulak District, Kerinci Regency. The type of research is Qualitative Descriptive research. The population in this study was 10 health workers. The research informants were 6 informants and 2 informants as source triangulation. The data in this research is qualitative data in the form of descriptions regarding the evaluation of the implementation of Web-based SIMPUS. Research analysis with 3 stages, namely data reduction, data presentation and conclusion drawing. The research results show that the flow of patient data collection starts from registration, medical services, supporting examinations and pharmacies. Input data by logging in by entering your username and password. The problem is inputting drug data. The data processing is carried out using a computer. Reporting data contains LB1 reporting, infectious diseases, LPLPO, STP data, health insurance reporting.

***Keywords** : SIMPUS, collection flow, input, processing, reporting.*

INTRODUCTION

The Health Center Management Information System (SIMPUS) is a health center management application whose main function is to manage patient data starting from registration, registration, examination (diagnosis) and patient treatment (Thenu et al, 2016). The implementation of SIMPUS can be a source of data and information for the Health Office in Indonesia (Pusdatin, 2019).

The policy on the health center management information system (SIMPUS) has also been regulated in the Minister of Health Regulation No. 31 of 2019, which states that to improve the management of health center implementation, it is necessary to have the support of a health center information system that is able to guarantee the availability of data and information quickly, accurately, up-to-date, sustainably, and accountably (Permenkes, 2019).

Based on data from the Central Statistics Agency (2021), the number of Public Health Centers (PUSKESMAS) in Indonesia reached 10,260 units and each unit has been encouraged to implement an information system in the health center. (Mahdi, 2021). Based on data from the Jambi Provincial Health Office until 2020, there were 207 health centers in Jambi province and 149 of them were known to have implemented SIMPUS (Dinkes Jambi, 2020).

The implementation of Web-Based SIMPUS begins with data input carried out in the registration section, such as patient identity, type of service and examination. Then the data inputted in the registration section can be directly integrated in the general polyclinic, KIA/KB polyclinic, dental polyclinic and other services. The patient enters the polyclinic ordered by the officer and is then examined by a doctor/midwife, after the examination is complete, the officer enters the diagnosis, medication and referral if necessary. The obstacle that often occurs is that health workers only enter one type of drug into SIMPUS, which should include all types of drugs prescribed by the doctor/midwife. Therefore, the pharmacy staff must re-input the complete prescription of the patient's drug into SIMPUS. Patient data input must be completed at one time, but sometimes officers have not been able to implement it, causing delays in collecting and reporting data every month to the Health Office. Basically, Web-based SIMPUS can be used more flexibly and easily. This is intended to ease the burden on employees in managing administration, but in its management in the field it is often not optimal and the data output is inaccurate and even different from real conditions in the field. In the old SIMPUS implementation, reporting was done periodically, while with SIMPUS Web, reporting is done online, so reporting of patient data cannot be postponed until the next day like the old SIMPUS.

Examining the background above, the author is interested in conducting research with the title "Evaluation of the Web-Based Health Center Management Information System (SIMPUS) at the Siulak Gedang Health Center, Siulak District, Kerinci Regency".

LITERATURE REVIEW

Understanding SIMPUS

The Health Center Management Information System (SIMPUS) is a comprehensive Health Center activity starting with registration, medical/treatment actions, pharmacy/pharmacy, and management that are connected into a single unit with a real online system (Putri & Akbar, 2019).

The purpose of SIMPUS is to realize the implementation of an integrated Puskesmas information system, ensure the availability of quality, continuous, and easily accessible data and information, and improve the quality of health development in its working area by strengthening Puskesmas management. When implementing SIMPUS, Puskesmas must have an application, internet network and local area network (LAN) (Ministry of Health of the Republic of Indonesia, 2019b). The scope of SIMPUS according to (Barsasella, 2012) is:

a. System admin (user management)
b. Counter registration module
c. General polyclinic service module
d. Dental polyclinic service module
e. KIA poly service module
f. Inpatient service module
g. Eye polyclinic service module
h. Asset module
i. Personnel module
j. Administration module (printing of certificates/referrals & health center reports)
k. Outdoor activity modules / UKM (elderly health posts, children's health posts, immunization, environmental sanitation, nutritional services, and health promotion)

METHODS

This study is a qualitative descriptive study to determine the Evaluation of the Web-Based Health Center Management Information System (SIMPUS) at the Siulak Gedang Health Center, Siulak District, Kerinci Regency with the subjects in this study consisting of the Head of the Health Center, Registration Counter Officers, General Poly Officers, Pharmacy Officers and IT Officers. The sampling technique was purposive sampling. Data collection used in-depth interview guidelines. The study was conducted at the Siulak Gedang Health Center, Kerinci Regency in October 2023. Qualitative data analysis techniques were carried out by analyzing the context of statements of secondary data results and primary data from an informant.

RESULTS

HEALTH CENTER MANAGEMENT INFORMATION SYSTEM (SIMPUS)

SIMPUS Overview

SIMPUS is an application that manages patient data starting from registration, registration, examination and treatment of patients. The data that has been entered will be stored in a database and then later will be sorted according to the parameters of the report needs, such as daily visit reports, payment methods, types of diseases and other reports needed for Puskesmas management.

The advantages of SIMPUS are that it can simplify and speed up services, standardize procedures and service standards, and obtain accurate data and information. SIMPUS is an application program developed by the health center to manage activities within the health center itself in real time. Because the coverage Work health center Which wide, so SIMPUS developed in a way modular between each work program.

The advantage of using SIMPUS is that it displays graphical displays and is lightweight and easy to use. Efficient in storing information about patient history data and displaying summaries. which makes it easy to retrieve patient data if given the correct number. Quick report generation and easy, efficient and simple operation of patient and drug data.

SIMPUS was developed with the following considerations in mind: the condition that in a way commonly done and found in health centers. The purpose and objectives of why SIMPUS was created include:

a. Gather information from each Health center, namely data patient, type diseases, fertile couples, pregnant women, drug supplies, public health issues, health service promotion, immunization and so on.
b. Obtaining the latest information on health conditions in a health center such as the number of patients, health conditions, types of services and drug supplies so that it can be used as initial data in decision making.
c. Facilitate the administration and management processes in health centers in preparing reports on health conditions in each health center.
d. Make the work of existing officers easier health centers in making daily, monthly and annual reports.

Implementation

Results from study This implemented with use method data collection through interviews and observations of people - people who involved in implementation registration on SIMPUS that is officer registration Which at a time is officer record medical And Head Health Center as a policy maker.

Implementation System Information Management Health Center in Health Center The Great Dangling Frog

In the implementation of SIMPUS, there are two officers registration of female gender with an age range of 25 and 28 years old. Two registration officers with D3 educational background Medical records and Information Health.

Results of interviews conducted with officers Registration for the implementation of SIMPUS regarding special training implementation SIMPUS is as follows :

"Since SIMPUS was launched in 2019 until now, Not yet There is training in use SIMPUS. Service Health only conducts socialization that it will be launched The Health Center Management Information System is called SIST-BRO without existence training special. Furthermore Service Healthdo evaluation to implementation SIMPUS."

Interview with the Head of the Health Center as the stakeholder policy regarding training SIMPUS : "For training special That No There is yes, Which trained is only a coordinator, then socialized with meeting by inviting the BPJS. Because SIMPUS direct integrated with party BPJS." SOP or Standard Operating Procedure is an element Which important use give procedure written For reference regarding the services provided. Information regarding the SOPs that given by the informant as follows:

"SOUP registration patient Already clear, we Can understand and have followed the SOP. But for SOUP implementation SIMPUS No There is, So We only operate yeah the main thing is operate SIMPUS use support ease of service. From the Health Service nor from the Health Center itself there is no SOP for implementation SIMPUS software and hardware and when there is a problem." At the Siulak Gedang Health Center there is only SOP patient registration and online registration. SOP for arranging implementation SIMPUS there isn't any yet. Wrong One indicator important other in success implementation SIMPUS that is machine or availability means And infrastructure. Results interview Which has implemented with Head of Health Center about machine as follows : "Means Which provided Already sufficient, we already has a network center that is very close to counter registration. The goal so that registration No constrained by network Internet. For computer we also has two computers for two officers registration Which Enough For coordinate patient with an average of 70-80 people visiting per day workload Which The same flat."

Interview Also done with officer registration about the machine as follows : "Network Already adequate Because Already installed LAN special health center. Before before installed, we only use wifi provided by the Government Cities for example PeceLand. So sometimes the network is not stable, often happen constraint error Because network No support. On moment constrained network, look for identity patient long That No Want to appear, So yes bother service." Further results of the interview with the registration officer about machine or means and infrastructure mentions: "Computer used Also Already adequate. To support the smooth running of the computer, we always get used to For refresh before And after perform services. For the system itself there is no limitation Windows, Because right the system use web based system. So we rely on it network Internet." "For the system Alone Also No There is limitation Windows, because the system uses a system that based on web. So we depends on the network Internet." Basically, SIST-BRO is easy to learn, the problem is what exists can still be overcome, such as the interview results. done by officer registration : "As far as This constraint Which faced Still Can faced, patient registration was done manually first. The method if patient long, number Record Medical Which found in the KIS (Indonesian Healthy Card) recorded in the tracer to get the files. If the patient is new, the identity the patient noted Formerly on sheet Record Medical new. After That if Already stable new inputted into the SIMPUS. Furthermore on moment return identity patient, we provide an explanation and an apology to patients because of the long

service caused by the network error or unstable."

Identification of Constraints in the Implementation of Management Information Systems Health Center in Health Center The Great Dangling Frog

Based on results interview obtained results that since with the launch of SIST-BRO there has been no special training on use. Before launched by Service Health only done socialization by holding meeting.

SIMPUS at the Siulak Gedang Health Center is called SIST-BRO, namely System Information Health Integrated Based on On line. SIST BRO is a web-based management information system. Basically, SIST-BRO is easy to learn even though there are still obstacles. such that expressed by the informant:

"For example, the obstacles that usually occur are... Internet No stable so that SIMPUS Also error. Sometimes Also application For claim insurance Also error so that fail check insurance specifically BPJS on SIMPUS." Although on implementation SIMPUS Still found constraint, problem the Still Can overcome like Which expressed by officer registration as following: "So far the general problem that has occurred is the network. internet is unstable, patient registration is done manually manual first. The method if the patient is old, the Record number Medical Which there is in KIS (Card Indonesia Healthy) recorded on the tracer to retrieve the file. If the patient is new, The patient's identity is first recorded on the Medical Record sheet new. After That if Already stable new inputted into the SIMPUS. Furthermore on moment return identity patient, We give explanation And application Sorry to patient Because service longdue to network error or unstable." Interview Also done with head health centeras policy makers: "Actually For constraint implementation SIMPUS there are two, obstacles in the SIMPUS network itself and internet network constraints. But from the Department there is already a group separately for network monitoring. So that if something happens constraint Can direct coordinate with Service Health, the end answer means infrastructure And SIMPUS users. Evaluation in the implementation of SIMPUS Also Already implemented with range time 3 month very".

Results interview Which Already done, show that Still there is constraint on SIMPUS. However constraint This is still considered common, such as an internet network that is not stable. So that the service can be continued by doing registration in a way manual formerly although cause it's too late.

The results of the interviews conducted showed that machines or facilities and infrastructure needed to support The implementation of SIMPUS is quite adequate. However, there are obstacles like the system depends on the internet network. So if the network Unstable internet results in registration officers having problems in do registration patient activity service on patient.

DISCUSSION

Implementation of the Health Center Management Information System at the Siulak Gedang Health Center

Based on the results of interviews with registration officers, in implementing the Health Center Management Information System, which is named SIST-BRO, it is quite good. SIMPUS was launched in 2019. At the Siulak Gedang Health Center, SIMPUS has been implemented since 2019 and has been running until now. Human Resources (HR) may be one of the main considerations of an organization. Thus, HR must be supervised properly to build better service quality and administrative effectiveness. According to the Regulation of the Minister of Health of the Republic of Indonesia in 2019 concerning the Health Center Information System, no less than two employees consist of non-health workers who have

skills in the field of information technology and one more health specialist who has skills in the field of disease epidemiology and statistics. The progress of the health center in solving service constraints is determined by the quality of satisfactory health resources.

SIMPUS used at Siulak Gedang Health Center is a web-based system. Although there has been no special training in its implementation, SIST-BRO users can adapt to the implementation of SIMPUS. In SIMPUS with a web-based system, an internet network is very much needed. At this time, the internet network is quite good. The LAN network is installed close to the registration counter. So that data entry by registration officers is better and there is less chance of internet network problems. The registration counter also has two computers with two registration officers. Ideally in the implementation of SIMPUS, the addresses contained in SIMPUS must match. The Medical Record Number contained in the system must also be one.

Web-Based SIMPUS Data Collection Implementation Flow

The data collection flow starts from the registration section by registering patients who handle patient visit data, both general/dental/nutrition/KIA/KB/laboratory check-ups. Then the examination/provision of medical treatment, based on the type of examination, this sub-system is classified into general examination, dental examination, dental visit, immunization visit, KIA activities, KB activities. If supporting examinations are needed, they can be done in the laboratory examination section. After the examination is completed, the patient is asked to go to the cashier to pay the examination fee and pick up medicine at the pharmacy.

Web-based SIMPUS data input

In entering data starting from the registration section, first log in by entering a username and password. Then in the medical services section enter diagnostic data, drug prescriptions and referrals if necessary. In the laboratory section, data is received from registration or from medical services, in the medical section if further examination is needed from the laboratory to determine the type of disease so that patient handling is faster in administering drugs and actions. Before conducting an examination, the officer must log in first, by entering a username and password. When the medical service has been completed, the patient is asked to go directly to the cashier and drug section. Data from medical services and laboratories can be used as information for basic data in administering drugs and rates. The task of the cashier section is to receive the examination fees that have been carried out in the action room.

Web-Based SIMPUS Data Processing

Activities in data processing include processing patient data and patient visit registration data, there are several types of registration classifications, namely general examinations, dental examinations, nutrition visits, immunization visits, KIA activities, family planning activities, laboratory examinations, cashiers and drug prescriptions.

Web-Based SIMPUS Data Reporting

Web-based SIMPUS data reporting is a sub-system for creating recapitulation reports that display data according to the type of reporting, namely LB1 reporting, infectious diseases, LPLPO, STP, and health insurance reporting. Web-based SIMPUS data reporting is seen from the reporting period.

a. Daily data reporting period containing reports of patient visits per age group-gender, per age group-type of visit, per type of patient, per type of service.
b. The monthly data reporting period is LB 1 visits, Integrated Health Center Surveillance (New Cases)-STP, and coverage of the top 10 diseases/Health Center Diagnosis.
c. The annual reporting period includes total visits to health centers, total visits per

patient type, total visits per service unit, total visits per age group, and total visits per tribe.

The way to report the results of Web-based SIMPUS data processing to the Kerinci District Health Office is by using a flash disk that functions to create data from the health center (simpus) so that the data can be uploaded to the Health Office application system (SimKes) in a customized format.

Identification of Constraints in the Implementation of the Health Center Management Information System at the Siulak Gedang Health Center

1. MAN or HR

From the results of interviews conducted with registration officers and the Head of the Siulak Gedang Health Center, it was shown that the Human Resources at the Siulak Gedang Health Center were adequate. However, since SIMPUS was implemented in 2019, there has been no special training. Only socialization was carried out by holding a meeting attended by the Health Office and inviting BPJS. However, this did not become an obstacle in the implementation of SIMPUS because two registration officers had mastered the performance of SIMPUS.

Coaching on SIMPUS is especially important for users to be able to improve their competence and skills. Based on Feby Erawantini's research (2013) in order to improve the quality of health center services, it is necessary to place competent medical record staff in health center units. Therefore, training and coaching are needed so that employee performance and productivity can be better. Coaching can be done through training courses and technical guidance aimed at competency in SIMPUS operation.

2. Material

The next obstacle in the implementation of SIMPUS is the skill of operating the software. Software generally functions to control the use of hardware, assist calculations, connect with other software and the rest such as operating systems, programming languages and others (Rahman and Alfarizi, 2014). Based on the results of interviews conducted with registration officers, they said that although they had never received special training, they could adapt to operating the SIMPUS software. SIMPUS at the Siulak Gedang Health Center is a web-based information system. The SIMPUS display is also user friendly, namely a display that is easy to learn and use. However, even though it can adapt, operating the SIMPUS software is not free from obstacles. Common obstacles are internet network constraints.

Another obstacle is the obstacle in SIMPUS itself in the form of an address that is not listed. So the patient's identity is invalid. When it is changed, it cannot be done. Another obstacle is the duplicate Medical Record number in SIMPUS which cannot be deleted or combined. This disrupts the effectiveness of the service. Registration officers must re-identify the Medical Record number used for a return visit. So it is important to make improvements to improve SIMPUS performance and service quality.

Software is basically made based on user needs. So that repairs are needed if a system error occurs and integration is needed between units in the health center. In addition, data security and ease of process are also needed so that reporting is more accurate (Assyiddikya, 2021).

3. Method or SOP

SOP is a guide to implementation and work based on the description of tasks or work based on procedural characteristics and documents related to procedures carried out chronologically in completing a job in order to achieve effective work results (Darmawanti, 2019).

Based on the results of observations and interviews, officers have understood the existing SOP and have implemented it in accordance with the SOP. But for now the only SOP that

exists is the Patient Registration SOP, and for the SIMPUS Implementation SOP, software, hardware and possible obstacles that occur do not yet exist so that it is necessary to create an SOP regarding the implementation of SIMPUS software, hardware and possible obstacles that exist. There needs to be an SOP to maintain the accuracy of the system and produce timely and effective information.

4. Machine

Based on the results of interviews and observations on registration officers, the facilities and infrastructure to support the use of SIMPUS are quite adequate. At the registration counter there are two registration officers with two computers. So it is quite good for each registration officer to have their own computer.

Registration officers are also disciplined in maintaining the use of facilities and infrastructure, for example always refreshing the computer before and after use. The network at the Siulak Gedang Health Center is also adequate with the installation of a LAN near the service location. So that data entry carried out by registration officers is unlikely to experience network problems. Possible obstacles are when the electricity goes out.

Diagram Fishbone

Diagram fishbone or diagram because consequence contains description connection problem with factor reason problem the. Fishbone The diagram in this study is used to find the root cause of the problem. related number record medical double Which No can chosen Wrong One. Based on the research results using fishbone analysis, a root factor was found. the cause of the problem that causes duplicate medical record numbers on SIMPUS at the Siulak Gedang Health Center .The problem that occurred was caused by the method factor, namely not yet existence SOUP Which arrange about implementation SIMPUS, software, hardware, And if happen constraint. Need existence SOUP For guard the accuracy of the system and produce timely and accurate information. effective. Factor furthermore that is Machine that is constraint in network. Some time ago, the Siulak Gedang Health Center did not have a network stable internet because there is no special LAN installation for it service in Siulak Gedang Health Center instead use wifi District government in around the health center. On moment identify patient old or new, there are problems with the internet network so that it is hampered in SIMPUS, the patient data being searched for does not appear. This is considered as patient new, so that in SIMPUS become number record medical double. In this case, it requires evaluation and the creation of SOPs. regarding the implementation of SIMPUS, *software* and *hardware* in order to achieve quality and quality service Which better

Evaluation of Web-Based SIMPUS at Siulak Gedang Health Center

Web-Based Health Center Management Information System (SIMPUS) Data Flow

The data collection process at the Pajang Surakarta Health Center starts with the patient coming to the health center, then taking a queue number. The queue number taking at the Pajang Health Center is already digital, by pressing the queue button. After that, the patient will be called in order to be registered at the registration section. In this process, the patient's medical record number is recorded or a medical record number is created if the patient is visiting for the first time. The patient waits, while the officer will search for patient data in SIMPUS to be given to the service unit where the patient wants to seek treatment. The patient is called by a doctor or nurse and the patient is examined, the anamnesis, diagnosis, medical actions, and medication given are recorded. The patient is directed to the cashier, later they will be called to pay and then called again to receive the medicine.

Web-Based Data Input for Health Center Management Information System (SIMPUS)

In collecting patient data starting from the registration section, medical services, medical support and pharmacy. The method used to input data is by logging in first by entering a username and password, then from registration it will be integrated directly into the medical services section. In medical services, officers log in and enter patient data such as diagnosis, prescriptions and referrals if necessary. After that, if the patient requires a laboratory examination, they will be directed to the laboratory room, for laboratory officers only enter the results of the examination into the simpus. In the cashier only receives data from the service

section, while in the drug section it is the last stage in the service.

From the results of research conducted by the Siulak Gedang Health Center , the input of data in each section is different and has its own password. Inputting data in the registration section is done by entering the date of visit, officer, service location, and service unit. If the patient has been examined, the patient card is requested and the patient index/card is immediately entered. If the patient is new, the identity is requested to be entered into SIMPUS and the patient will receive an examination card.

Web-Based Health Center Management Information System (SIMPUS) Data Processing

In data processing includes processing patient data and patient visit registration data, there are several types of registration classifications, namely general examinations, dental examinations, nutrition visits, immunization visits, KIA activities, family planning activities, laboratory examinations, cashiers and drug prescriptions. In the examination there are activities in data processing such as patient condition data, anamnesis data, diagnosis data, therapy data, medical action examination data, lab use, drug data, and referral data. The data processed in the pharmacy section is the processing of master drug data, new drug stock data, drug inventory data, and drug prescription service data. In storing patient visit history information accurately, proper and correct index numbering will make it easier to search for specific patient data. The advantages of

web-based SIMPUS data processing are that it can display a recapitulation of patient and drug data, as well as create LB1 and LPLPO reports quickly. The data output period can be set according to needs, from daily data, daily, weekly, monthly or yearly periods. Can display data on the top 10/top 20 diseases quickly. Display output data in tables or graphs quickly, and can be used to filter visit data quickly and easily according to the desired criteria. The disadvantage in data processing is that officers cannot complete it at one time, so it affects the reporting process.

Web-Based Health Center Management Information System (SIMPUS) Data Reporting

Web-based SIMPUS data reporting is a sub-system for creating recapitulation reports that display LB1 reporting data, infectious diseases, LPLPO, STP data, health insurance reporting and reporting to flash disks. Reporting from LB1 contains monthly reports of morbidity data made by the Health Center with the ICD IX disease code format which is the international standard for disease classification that can be viewed by gender, age group, incidence/prevalence and the top 10 diseases per ICD10 code.

Recapitulation of LPLPO reporting data (Drug Usage Sheet and Drug Request Sheet) that must be made, namely initial stock, receipt, inventory, usage, final remainder, optimum stock and drug demand and sources. Integrated Disease Surveillance (STP) is a form of surveillance report for observing new cases of infectious diseases in monthly time units. Collecting morbidity data, laboratory data and disease outbreak data and poisoning at the Health Center. This is done automatically, according to its use. Timeliness in reporting to the Surakarta City Health Office is often delayed because the Health Center officers are also late

in reporting it

CONCLUSION

1. The data collection flow in the information system, especially the Web-based SIMPUS in the Siulak Gedang Health Center work area in the patient data collection flow section starts from registration, medical services, supporting examinations and pharmacies.
2. Input data into the Web-based SIMPUS by first logging in by entering a username and password, then from registration it will be directly integrated into other service sections, however, there are obstacles in inputting drug data because the polyclinic only enters one type of drug into SIMPUS.
3. Patient data processing starts from patient visit registration data, then in medical services processing data on patient conditions, anamnesis data, diagnosis data, therapy data, medical action examination data, lab use, drug data, and referral data. The data processed in the pharmacy section is the processing of drug master data, new drug stock data, drug inventory data, and drug prescription service data. The data processing is done using a computer.
4. Web-based SIMPUS data reporting contains reporting of LB1, infectious diseases, LPLPO, STP data, health insurance reporting and reporting to flash disk. The data is sent to the Kerinci District Health Office on a monthly and annual basis using a flash disk so that it can be uploaded to the SimKes application system with a customized format.

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It is expected to improve SIMPUS performance by conducting responsive monitoring and evaluation so that the existing system becomes better according to the needs of the health center, thus improving the quality of service to be better. It is expected that there will be SOP in the implementation of SIMPUS software and hardware and if there are obstacles for work guidelines in accordance with the job description.

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