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CIPP MODEL APPROACH IN EVALUATING VACCINE MONITORING IMPLEMENTATION AT X PUBLIC HEALTH CENTER

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Abstract

This study aims to evaluate the implementation of the Electronic Logistics Immunization Monitoring System (SMILE) at the X Community Health Center using the Context, Input, Process, Product (CIPP) model. This research method is qualitative with a descriptive approach. There were 9 informants and data were obtained through in-depth interviews, observations, and document reviews, then analyzed using thematic analysis methods. Based on the results of the context aspect of the study, program needs have been adjusted to a region-based approach to facilitate monitoring of immunization targets, although there are still obstacles in certain target groups. Human resources and infrastructure input are available, but limitations in technical capabilities of officers, double workloads, and internet and electricity connections. The implementation process is in accordance with the SOP, but there are delays in data input due to double recording. The SMILE product has a positive impact on vaccine logistics management and facilitates monitoring of vaccine distribution. Thus, the implementation of the SMILE program at the X Community Health Center has been running quite well, but still requires improving the capabilities of officers, strengthening the network, and optimizing the reporting system to increase program effectiveness.

Keywords: Program Evaluation, SMILE, CIPP, Vaccine Logistics, Community Health Center

INTRODUCTION

Distribution monitoring is activities that involve supervision of the delivery process goods, start from reception, storage, up to delivery to consumer end, to ensure quantity, quality, time, and situation product according to the criteria that have been set determined (Komariah et al. 2022) . Distribution insufficient vaccines efficient Still become obstacle in implementation vaccination. Disadvantages supply and distribution vaccine become challenge large that slows down the vaccination process make difficulty in reach target as well as cause doubts in society caused by uncertainty in timetable (Effendi et al. 2022) . Supervision chain cold only depend on report from location so that its nature No directly, and only around 12 of the 34 provinces (as of October 2020) have facility adequate storage, while 10% of health centers No own system chain cold, showing that delivery Still done traditionally (World Bank 2023) . For overcome problem in this regard, the Ministry of Health of the Republic of Indonesia introduced SMILE (Electronic Immunization Monitoring and Logistics System).

Availability guaranteed vaccine is one of the factor main in the success of the immunization program. Not only amount vaccines that must be sufficient, but the distribution and monitoring process logistics must also be done in a way right for the vaccine can available at the time and location needed. The system distribution that is not well managed risky cause emptiness stock, delay service, up to decline coverage immunization. Therefore that, is necessary monitoring system that is capable of provide information in a way fast, accurate, and sustainable for support taking decision in management logistics vaccine.

UNDP (United Nations Development Programs) Indonesia develops an application that collaborates with the Ministry of Health of the Republic of Indonesia as digital system for take notes chain supply logistics vaccines, medicines, in general real time as solution (Rhomaningtias et al. 2025) . SMILE (Electronic Immunization Monitoring and Logistics System) is one of the... software accessed with the device Play Store and app store simplify the monitoring and evaluation process done digitally for support effectiveness, efficiency, and accuracy of immunization programs national. SMILE in 2021 was expanded its use in all level Regency and City as well Health Center and has implemented in approximately 10,000 to 12,000 locations service health as part from implementation

digital logistics and immunization programs (Ministry of Health of the Republic of Indonesia 2021) . The Role of Community Health Centers as spearhead of service health is very important in guard continuity chain supply vaccine For immunization in offers health programs, by providing maintenance to patients and perform education For public (Hariyoko et al. 2021) . Research This focus on monitoring distribution vaccine in distribution vaccine from stage reception until distribution, with an emphasis on accuracy time, compliance in reporting, recording, and data consistency within system. The SMILE Technical Guidelines explain that community health center considered No functioning If in seven day final No There is activity transaction or update information on the SMILE application . The more Lots reporting, then show how far is the health center play a role active in total days active for do recording and inputting data direct.

Digital transformation in field health become one of the strategies that continues developed for increase quality service health, including in immunization program management. Utilization system information based electronic enables the process of recording, reporting and monitoring logistics done in a way more effective compared to method conventional. With the existence of digital systems such as SMILE, data can be accessible in real time so that make it easier officer health in do supervision supply vaccine as well as reduce risk occurrence error recording and reporting.

Based on information data from the South Sumatra Provincial Health Service during the period January to August 2025, obtained results that Health Center X only recorded for 33 days total days active for reporting use application, while at the Community Health Center Sukaraja with the highest total number of active users a total of 75 days use application. In addition usage and demand vaccines in January–August 2025 at Health Center X in several type vaccines (BCG, IPV, and MR). There is mismatch between data on the sheet usage and SBBK (Proof of Goods Out), for example January recorded usage of 700 doses, whereas in the SBBK (Exit Goods Proof Letter) only 620 doses, so that show existence gap reporting between use vaccines and evidence goods out. Total frequency is the total of all report monitoring use vaccination carried out by Health Center X in a month.

A number of studies previously show that implementation system information logistics for vaccine can repair data accuracy, improve accuracy reports, as well as make it easier monitoring supply vaccine. In line with research conducted by Andani (2020) , that determining immunization targets starting with counting population baby in the work area through recording carried out by cadres at the integrated health post, then the data summarized by the health center as base in set target coverage immunization. Deficiency amount power Work result in officer must handle a number of role at once, so that make officer face challenge in operate task , because must share responsibly another answer (Rosidah, Suryadi, and Azmia 2025) .

Variables used namely the CIPP model was selected Because every its components explain clear problem in SMILE implementation. In the aspect context, Still there is need strengthening vaccine monitoring system for distribution more accurate. Input problem appears in understanding the power that perceives difficulty use application as well as means network that sometimes No stable . Process, Still happen delay recording digital manual dual, as well as constraint technical application. On the product by looking at accuracy service timetable immunization. The CIPP model becomes solution Because give outlook comprehensive, supporting the decision-making process decisions, and contribute repair quality management logistics vaccine through SMILE (Electronic Immunization and Logistics Monitoring System) at Health Center X.

The purpose of study This is For evaluate implementation of the SMILE Program at Community Health Center X using the Context, Input, Process, Product (CIPP) model. Based on study previously, research This emphasize use SMILE app for recording and reporting immunization. Meanwhile, in the research this with evaluation implementation of the SMILE program in monitor distribution supply vaccines with the CIPP model approach (context, input, process, product) in a way comprehensive research This No only evaluate results from program, but also examine compatibility needs, availability source power, as well as implementation the process as base program improvements.

METHOD

Methods applied in study This that is descriptive approach qualitative . The method techniques used For collect data in study This use interview in-depth, observation , and review documents with the purpose obtain comprehensive data as well as support the triangulation process sources, methods, and data. Analysis information done by the method

analysis thematic for recognize, group, and understand emerging themes from the data in regular according to focus and objectives study. Approach This chosen for get deep understanding about the phenomenon being studied through various data sources. Thus, the results study expected capable give comprehensive overview as well as produce findings that are in line with the focus and objectives study.

RESEARCH RESULTS AND DISCUSSION

The program evaluation method is very important so that the assessment carried out own runway systematic and applicable theory accountable answer how much successful and what just lack from a program, and to repair. Stufflebeam elaborates that this model centered on four component main, namely context, input, process, and product. This model focuses on the improvement process and is designed For implemented moment planning and implementation, as well as used For evaluate costs and benefits to evaluate program effectiveness (Faizin and Kusumaningrum 2023) .

In study This time, the CIPP evaluation model was chosen Because capable give comprehensive overview about program implementation, starting from identification the needs and conditions that underlie the program results obtained after the program is run. Through approach this, researcher can analyze various aspects that influence success of the program in general systematic, so that findings produced No only describe program achievements, but also factors supporters, obstacles, and opportunity improvements that can be made done for increase effectiveness implementation of the program in the future.

Context

Evaluation The context aspect in the CIPP model aims For know the extent to which the program is implemented has according to needs , problems and characteristics environment the location of the program applied . In the aspect this, evaluation done by identifying need targets, conditions of the work area, and the desired program objectives achieved. Conformity between need field and program objectives become factor important in determine success implementation a health program , including in implementation SMILE application as system recording and reporting immunization.

Evaluation context main focus on recognizing potential and limitations something organization as well as give recommendation For increase performance organization (Mardiah et al . 2023) . SMILE application as development from manual recording is used For recording and reporting immunization so that the data is more accurate and appropriate need field. Determination target done through data collection direct as base planning and monitoring achievements immunization . Implementation context is the most important part in reach Implementation of the SMILE program includes an identification process needs and adjustments objective.

> " Formulation according to the purpose Because now by address (interview informant IK1, 2025)".
>
> "… health center Applying SMILE must be with the target in X and according to the target of target . From that target seen the amount to be filled with clear data , but most frequent obstacles found on target at the cottage Islamic boarding school from power we who lack access there Keep going yes difficult there For accept vaccine (interview informant IK1, 2025)".

Health Center X during implementation based on needs and objectives that refer to the system by address. Application SMILE app works for monitor the immunization targets in work area X and adjust them to the established goals determined. With this target, the number of necessary targets achieved can identified according to the results transparent data collection. However, in in practice Still There is a number of challenges, especially for targets in the pondok Islamic boarding schools. Challenges the covering lack of power medical, access going to sufficient location challenging, and still there is rejection from some people against vaccination.

The results show that implementation by address approach through SMILE application has help community health center in do mapping target immunization in a way more specific and measurable . System This allows officer for know location, quantity targets, and development achievements immunization in a way more accurate so that the planning and decision-making process decision can done with more effective. Clarity of target data also supports program monitoring and evaluation efforts sustainable.

Although Thus, various obstacles encountered show that the success of the program is not only determined by availability system information, but also influenced by factors source Power human, condition geographic, and acceptance public to immunization. Therefore Therefore, more strategy is needed adaptive like improvement education to community, strengthening coordination with management cottage Islamic boarding schools, as well as

addition support power health so that the objectives of the immunization program are achieved can achieved optimally throughout group target.

Input

Input evaluation in the CIPP model focuses on judgment source available power for support program implementation. Components This covers availability source Power human resources, facilities and infrastructure, support technology, as well as readiness organization in carry out the program in accordance with the stated objectives determined. Input evaluation becomes important Because success a program does not only determined by good planning, but also by readiness various source supporting power its implementation in the field.

Evaluation the most important input aim For help in determine the necessary programs do necessary changes (Maurianus et al. 2025) . In SMILE context by using CIPP input theory focuses on the availability of human resources, facilities infrastructure support and readiness SMILE implementation. In this aspect component input covers availability source Power human resources (HR), facilities and infrastructure supporters as well as readiness SMILE implementation .

> "… The number of SMILE HR is there one person continues education final pharmacist he is in charge answer from come vaccine That from service until come back Again reporting to the Health Service (interview) informant IK1, 2025)".
>
> "… Village midwife in support online it sometimes No they sigh Because demands from midwife very many villages (interviews) IP5 informant , 2025)".
>
> "… Infrastructure No There is obstacles , but constraint often from PLN electricity which is not normal, continues dead lamp (interview informant IK1, 2025)".
>
> "… Power failure No Can open Wi-Fi applications are also constrained and the signal lost , maintenance. Problem application stocktaking time until Now Still become constraints , whereas public Still many refused vaccines , and midwives village which is also old (interview informant IK2, 2025)".

Input is element second in the evaluating CIPP model to what extent a program is ready by checking availability power work , facilities , and readiness in operate system . In implementation SMILE application at Health Center X, still there is a number of problem like lack of amount power health, burden hard work for officer, record keeping manually before enter data into in system, as well as obstacle technical issues caused by an unstable internet connection stable, disturbance electricity, and stock taking which takes time time long. Situation This can cause delay in reporting and data inaccuracy. Problems faced This Not yet fully comply Regulation of the Minister of Health Number 33 of 2015 which regulates guidelines compilation need power health based on analysis burden work , Regulation of the Minister of Health Number 43 of 2019 concerning The health center that regulates provision facilities and systems information health, as well as the Decree of the Minister of Health Number HK.01.07/MENKES/1559/2022 concerning implementation System Government Electronic Based (SPBE) which emphasizes importance availability as well as sustainability infrastructure digital system. Thus, strengthening Input readiness is very important for implementation SMILE application can walk with more effective and in accordance with existing regulations.

Research result show that availability source Power be one of factors that greatly influence smoothness implementation SMILE app. Although system has available and used in activity recording as well as reporting immunization, limitations amount officer in charge answer to management logistics vaccine cause burden Work become more high. Condition the the more aggravated by the presence of task additional must carried out by midwives village, so that potential influence accuracy time reporting and quality of input data to in system.

Apart from the aspect source Power human , readiness infrastructure also has role important in support success digitalization service health . Disorders electricity, internet network that is not stable, and constraint technical aspects of the stocktaking process show that implementation system information health Still need support more optimal means. Therefore that, is necessary effort strengthening capacity source Power human, addition power in accordance need burden work, and improvement quality infrastructure technology information so that the SMILE application can utilized in a way maximum in support management logistics vaccines and services immunization at Health Center X.

Process

process component in the CIPP model focuses on evaluation. program implementation for ensure that activities that have been planned can walk in accordance with the objectives set. Evaluation This covers monitoring to implementation procedures, compliance program implementers, mechanisms reporting, as well as identification various obstacles that arise during implementation. Through process evaluation, organization can know to what extent the program has implemented in a way effective and do repair if found potential obstacles hinder achievement program objectives.

Evaluation process aim for find or predict possible obstacles appear in implementation activity or program implementation. Through evaluation process, assess results plan implementation and evaluation aspects important things that need to be done monitored and repaired (Antariksa, Fattah, and Utami 2022) . Process in CIPP in SMILE discussion that discusses evaluation suitability implementation recording reporting, compliance officers and obstacles.

" Community Health Center reporting every month through mini workshops monthly , constrained it is within the scope of the cottage Islamic boarding school … (interview) informant IK1, 2025)".

"… Sometimes I also have a hard time understand reporting there are levels complicated and moderate like that (interview) IP6 informant , 2025)".

" Compliance SMILE officers according to I Already obedient according to SOP …(interview IP4 informant , 2025)".

"… Busy time For asking is also a hassle yet if child cry
(interview IP9 informant , 2025)".

process components in the CIPP model evaluate suitability program implementation, which includes recording , reporting, compliance officers, as well as challenges that arise during implementation. At Health Center X, when implementation SMILE app, still there is problem recording double, namely recording manually then entered return to in system, as well as delay in report from midwife villages that influence accuracy data input time. Reporting for immunization programs generally done every month in mini workshop activities monthly, but in implementation Still faced obstacles in some area service like cottage Islamic boarding schools. In addition, a number of officer disclose that the reporting process in application sometimes difficult understood Because existence level complexity certain and conditions busy service also contributes as obstacle in optimal recording. Although thus, the officer state that implementation SMILE application is basically has follow standard operational applicable procedures). Circumstances This indicates that the reporting process Not yet fully efficient so that Can risky result in data mismatch . This is Not yet fully in line with the law Number 17 of 2023 concerning Health which emphasizes that system information health must create precise and accurate data, as well as Regulation of the Minister of Health Number 31 of 2019 which regulates that service data collection and reporting health must done in a way complete, precise, and accurate in System Information Community Health Center.

In addition, obstacles were found during implementation of the program shows that factor technical and operational Still become challenge in SMILE implementation. Complexity reporting, limitations time officer moment give services, as well as constraint reporting from a certain area like cottage Islamic boarding school can influence quality and accuracy the time the data is generated. Therefore that, is necessary effort simplification of reporting processes, improvement mentoring for officers, as well as strengthening coordination with all service areas so that the recording and reporting process immunization can ongoing more effective, efficient, and produces accurate data For support taking program decisions.

Product

Product evaluation is stages important in the assessment- focused CIPP model results the end , benefits , and impacts generated by a program . At this stage this , the evaluator can see the extent to which the program objectives have been achieved achieved as well as evaluate benefits felt by program recipients . Evaluation this also becomes base in taking decision related program sustainability, both For maintained, improved, modified, or stopped according to the needs and results obtained.

Evaluation product , an evaluator has chance For determine or provide advice regarding is the program should continued, improved or changed , or even stopped (Muhlisin et al. 2025) . Product used as indicator For evaluate the impact felt by the community as evaluation program results . Implementation of SMILE as recording and reporting distribution vaccine using the model For see and know the program provide benefits for public as recipient vaccine For immunization.

" Even though we don't use the program , if timetable immunization and

stock vaccine There is I feel safe (interview) IP9 informant , 2025)".

"If according to I yes SMILE makes it easier access immunization and impact from that's it public become know more about immunization important done , because yes stock become monitored by the Community Health Center (interview) informant IP4,2025)".

Following is more version concise and to the point maintain regulation :

Aspect product in the CIPP model evaluates results or the impact felt by the community related to the program. In implementation SMILE application at Community Health Center X, community accept benefit profit like convenience access vaccine, accuracy time in giving immunization, as well as availability history immunization that can accessible through system If book immunization lost. This is reflected from success coverage immunization reached 100 % with a target of 628 babies and 584 toddlers, showing that availability vaccines and services immunization goes well. Use SMILE app also supports recording and reporting logistics vaccines with more efficient and deep time real. Situation This in line with the Regulations President Number 18 of 2020 concerning the 2020–2024 RPJMN which highlights improvement access and quality in service health basic, including immunization. However, there are a number of challenge like factor access and presence individuals who become target immunization, but matter This No in a way significant hinder success of the program in general overall.

CONCLUSION

Based on results evaluation on the SMILE program (Electronic Immunization Monitoring and Logistics System) at Health Center X which uses approach Context, Input, Process, Product (CIPP), can concluded that in a way Overall, this program has well implemented, although Still There is a number of necessary aspects repaired.

Context, the implementation of SMILE has tailored to needs area local through approach by address, which aims to for make things easier monitoring towards the immunization target, although Still There is challenges in some group targets, for example in the cottage area Islamic boarding school.

Input though source Power human and facilities Already available , still there is lack power work , load Work double for officers , as well as problem technical like disruption to the internet network , supply electricity , and the stocktaking process which takes time time long enough .

The program implementation process has been follow procedure standard operations , but Still There is problem like recording that is done in a way double between manual and digital systems , as well delay in reporting from midwife villages that impact accuracy time in data input .

Product SMILE implementation shows impact positive in management logistics vaccines , making it easier supervision distribution vaccines , as well as support achievement coverage optimal immunization at Health Center X.

Therefore that, it is necessary existence development capacity for officers, improvement infrastructure for network and electricity, as well as optimization use digital system so that the SMILE program can be implemented going on with more effective, efficient and sustainable.

Findings study This show that program evaluation periodically required For ensure sustainability and improvement quality implementation of SMILE. With the existence of improvements in aspects source power, infrastructure, and systems reporting, this program potential give more optimal benefits in support management logistics vaccine as well as achievement of immunization targets at the level community health center.

REFERENCES

Antariksa, Walid Fajar, Abdul Fattah, and Mutiara Arlisyah Putri Utami. 2022. "Evaluation of the CIPP Model Student Islamic Boarding School Education Program (Context, Input, Process, Product)." Evaluation: Journal of Islamic Education Management 6(1):75–86. doi:10.32478/evaluasi.v6i1.848.

Banks, World. 2023. "Public Disclosure Authorized ASEAN Regional Vaccine Manufacturing and Development."

Effendi, Diyan E., Indah Pawitaningtyas, Agung D. Laksono, Setia Pranata, and West Java. 2022. "Exploring Factors Contributing to the Slow Covid-19 Vaccine Rollout in Pandeglang District, Indonesia: A Qualitative Study." 53(Supplement 2):577–94.

Faizin, Afif, and Hesti Kusumaningrum. 2023. "Review of Program Evaluation Models for Online Education and Training." EduManajerial 1(1):42–54. doi:10.15408/em.v1i1.32245.

Hariyoko, Yusuf, Jehaut, Yanuarius, Dolfianto, and Adi Susiantoro. 2021. "Effectiveness of Public Health Services by Community Health Centers in Manggarai Regency." Journal of Good Governance 17(2):169–78. doi:10.32834/gg.v17i2.346.

Ministry of Health of the Republic of Indonesia. 2021. "Technical Instructions for the Electronic Immunization and

Logistics Monitoring System (SMILE).” 978–79.
Komariah, Siti, Indah Laily Hilmi, Devi Ratnasari, and Ellin Rachmawati. 2022. “Evaluation of Cold Chain Product Distribution at Public Health Centers in Karawang Regency.” 6(2):254–61.
Mardiah, Andri Syahputra, Riska Suci Febriani, and Mudasir Vebri Pradinata Putra. 2023. “Evaluation of the Islamic Education Curriculum.” 2:1–15.
Maurianus, Ans, Lede, Agapitus, H. Kaluge, Simon, Sia, Niha, Damianus, and Talok. 2025. “Educational Program Evaluation Management Using the Context, Input, Process, and Product (CIPP) Model Approach.” 9:67–78.
Muhlisin, Aditya Purbayanti, Ari Yulianto, Meri Rosita, Arpa Pauziah. 2025. “Design of Electronic Medical Record System (RME) for Newborn Vaccine Immunization Reporting Using V-Model Method.” 10.
Rhomaningtias, Lina, Adenda Khairunisa, Shindi Shella May Wara, and Kartika Maulida Hindrayani. 2025. “Sentiment Analysis of Smile Indonesia Application Reviews Using Naive Bayes Method and Support Vector Machine (SVM).” HOAQ (High Education of Organization Archive Quality) : Journal of Information Technology 16(1):79–91. doi:10.52972/hoaq.vol16no1.p79-91.
Rosidah, Ros, Yadi Suryadi, and Seila Azmia. 2025. “Effectiveness of Health Workload According to Medical Records Health Personnel Needs Planning at Manggari Community Health Center in 2025.” 5:3844–59.