

Program Evaluation of the Monthly Health Review Program: A Strategy to Protect High-Risk Field Workers in the Manufacturing Industry from COVID-19

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Abstract

Background: The Indonesian government has issued guidelines for companies during the COVID-19 pandemic to monitor high-risk employees due to the severe complications associated with COVID-19. The study aims to identify the cause of program issues and determine potential improvements to achieve the program's target of a monthly health review, protecting high-risk field workers in the manufacturing industry from COVID-19.

Methods: A mixed-methods approach combining quantitative and qualitative data was employed, utilizing the Problem-Solving Cycle. Quantitative data were obtained from document reviews, which revealed the characteristics of the Implementers (n=5) and program participants (n=58). Qualitative data are collected through in-depth interviews with policy stakeholders, program implementers, and program participants to identify the causes of program problems. These problems are then prioritized as main issues using the USG method, and alternative solutions are discussed. The selected solutions are evaluated based on their effectiveness and efficiency using the Reinke method.

Results: On average, 89.58% of participants attended the program throughout the past two years, and only 59.98% of individuals had a health condition under control. The interviews revealed that the absence of a Standard Operating Procedure (SOP) was the primary cause of the failure to achieve the attendance and under control health condition targets, which were also impacted by a lack of coordination. Non-adherence to medication contributes to discordant comorbidities.

Conclusion: Creating an SOP with a relevant target program is the primary solution, and internal meetings to create a monthly schedule. Additionally, the company doctor and program implementers regularly educate program participants to raise awareness of the benefits of taking the medication regularly.

Keywords: COVID-19, monthly health review, problem-solving cycle, program evaluation, workers manufacturing

Abstrak

Latar Belakang: Pemerintah Indonesia telah mengeluarkan pedoman bagi perusahaan selama pandemi COVID-19 untuk memantau karyawan berisiko tinggi karena komplikasi serius yang terkait dengan COVID-19. Studi ini bertujuan untuk mengidentifikasi penyebab masalah program dan menentukan potensi perbaikan untuk mencapai target program berupa tinjauan kesehatan bulanan, melindungi pekerja lapangan berisiko tinggi di industri manufaktur dari COVID-19.

Metode: Pendekatan metode campuran yang menggabungkan data kuantitatif dan kualitatif digunakan, dengan menggunakan Siklus Pemecahan Masalah. Data kuantitatif diperoleh dari tinjauan dokumen yang mengungkapkan karakteristik pelaksana (n=5) dan peserta program (n=58). Data kualitatif dikumpulkan melalui wawancara mendalam dengan pemangku kepentingan kebijakan, pelaksana program, dan peserta program untuk mengidentifikasi penyebab masalah program, yang kemudian diprioritaskan sebagai masalah utama menggunakan metode USG, dan membahas solusi alternatif, yang kemudian dipilih berdasarkan efektivitas dan efisiensi menggunakan metode Reinke.

Hasil: Rata-rata, 89,58% peserta mengikuti program selama dua tahun terakhir dan hanya 59,98% individu yang memiliki kondisi kesehatan terkontrol. Wawancara mengungkapkan bahwa tidak adanya Prosedur Operasi Standar (SOP) merupakan penyebab utama kegagalan mencapai target kehadiran dan kondisi kesehatan yang terkendali, serta dipengaruhi oleh kurangnya koordinasi. Ketidapatuhan terhadap pengobatan berkontribusi pada komorbiditas yang tidak sesuai.

Kesimpulan: Membuat SOP dengan program target yang relevan adalah solusi utama dan pertemuan internal untuk membuat jadwal bulanan. Selain itu, dokter perusahaan dan pelaksana program secara teratur mengedukasi peserta program untuk meningkatkan kesadaran tentang manfaat minum obat secara teratur.

Kata kunci: COVID-19, tinjauan kesehatan bulanan, siklus pemecahan masalah, evaluasi program, pekerja manufaktur

Background

Diseases like diabetes and hypertension cause a global public health issue. Data from Indonesia's Sample Registration System (SRS) in 2014 showed that complications from hypertension were the fifth-leading cause of death across all age categories (5.3%). According to the 2018 Basic Health Research (Riskesdas), 34.1% of people over the age of 18 had hypertension, with South Kalimantan having the greatest prevalence (44.1%) and Papua having the lowest (22.2%). The age groups of 31–44 years old (31.6%), 45–54 years old (45.3%), and 55–64 years old (55.2%) all had hypertension. The prevalence of diabetes mellitus (DM) among people under the age of 15 increased to 8.5% from 6.9% in 2013. Diabetes is more common in those between the ages of 56 and 73 (57.5%), and it is more common in rural areas, lower socioeconomic categories, and agricultural laborers.¹ Diabetes was one of the top ten causes of mortality globally between 2020 and 2022, with over 1.6 million direct deaths and 6.7 million complication-related deaths predicted in 2021. Due to urbanization and lifestyle choices, the number continues to rise.^{2,3} Since the COVID-19 pandemic, the Indonesian government has issued regulations stating that companies may operate on the condition that they must monitor high-risk groups, especially those with comorbidities, diabetes, hypertension, and obesity, due to the impact of severe complications if infected with COVID-19.^{4–6}

Data indicate that the occurrence of COVID-19 clusters in the workplace has a significant impact on both workers and the industry. This occurs due to the high risk of COVID-19 transmission in the workplace. Research in Canada from January to June 2020, involving 1,245 cases of COVID-19 reported in the workplace, found that the majority came from the Manufacturing Industry (45%).⁷ Another study conducted in Rhode Island between March 2020 and May 2021, of 14,580 cases associated with 2,784 clusters, found that the largest number of workplace clusters occurred in the Manufacturing, Food Service, and Retail sectors.⁸ In September 2020, East Java contributed 31 clusters with 1,082 workplace cases,⁹ while in West Java, there were around 500 active cases originating from Industrial Clusters.¹⁰

PT. X is a manufacturing company with 627 employees, 58 of whom are identified as high-risk individuals when exposed to COVID-19. There were 29

persons with hypertension, 6 with diabetes mellitus, 2 with both hypertension and diabetes, 3 with heart disease, 2 with pulmonary diseases, 1 including both pulmonary disorders and hypertension, and 11 with pregnancy. To maintain the sustainability of manufacturing operations, the Indonesian government has developed guidelines for businesses that are allowed to continue during the COVID-19 pandemic. Companies are mandated by law to monitor high-risk employees because of the serious COVID-19 complications. Therefore, PT. X created the Monthly Health Review program to monitor the health of employees with comorbidities and those who are pregnant. Two program goals, 100% staff attendance each month and 100% control of health conditions each month, were not achieved during the June 2020–June 2022 program period. For this reason, a program evaluation is necessary to identify the causes of program problems and to determine what improvements can be made to achieve the program's goals.

Methods

Study design and tools

This research approach employs a mixed-methods design with a concurrent embedded strategy, where two methods of gathering quantitative and qualitative data are carried out simultaneously at one stage/phase of the research^{11,12}, with a problem-solving cycle approach as a practical study design. The steps of the problem-solving cycle are: situation analysis, problem identification and prioritization, root cause identification and prioritization, alternative solution identification and prioritization, and solution implementation, monitoring, and evaluation.^{13–15}

Situation analysis, data collection, and problem identification by assessing gaps between targets and actual outcomes. Following the identification of the program problem causes using a fishbone framework, and then prioritized using an urgency, severity, and growth (USG) matrix. The USG matrix uses a 1–5 scoring scale for each component, which is then summed. The minimum total score is 3, and the maximum score is 15. Higher USG levels correlate with higher scores on each element. 'Urgency' refers to the time required to resolve the problem, 'seriousness' relates to the impact on productivity, safety, and resources, while 'growth' indicates the progress of the problem.^{15–17}

When the main problems are identified, alternative solutions can be created through a focus group discussion. Alternative solutions are formulated after the primary causes of the problem have been identified. The Reineke technique is used to prioritize alternative solutions using the formula $P = M \times I \times V / C$. On a scale of 1 to 5, the four components receive scores. Components M, I, and V receive high scores if their power to influence is great, whereas component C receives a high score along with rising costs. Then, P is determined by multiplying M, I, and V, which are components of Effectiveness, and dividing by C, which is a component of Efficiency, considering which one is considered the most effective and efficient for solving the problem.^{13,14,18}

The cycle consists of putting the answer into practice, monitoring it, and evaluating it before returning to the first phase for further research. This study does not address implementation specifics. However, in this study, we focus solely on program evaluation and propose various solutions to address the issue (up to the fourth crucial stage); we don't discuss how these ideas would be implemented in practice.

Data resources

Purposive sampling was employed to collect quantitative data, enabling the analysis of the characteristics of implementers (n = 5) and program participants (n = 58), as well as information on recording input and processing activities, average attendance rates, and controlled health conditions, which served as program output data. In-depth interviews with policy stakeholders gathered primary data (PS; n=1), program implementers (PI; n=4), and program participants (PP; n=14), which were conducted to collect qualitative data. Informants will also be questioned about how well the program participants' behavior was perceived. The Monthly Health Review program's annual report for the period from June 2020 to June 2022 is the source of secondary data. Data analysis began in December 2022.

Ethical considerations

The Health Research Ethics Committee of the Faculty of Medicine at the Universitas Indonesia - RSUPN Dr. Cipto Mangunkusumo has also given its approval to this study under the number KET-1366/UN2.F/ETIK/PPM 00.02/2022.

Results

We offer a case study of a manufacturing-related clinic. Within the framework of COVID-19 prevention, this case study examines the challenges in evaluating the Monthly Health Review Program, which falls short of its objectives, particularly in failing to track the health of pregnant workers and employees with comorbidities. The authors emphasize the importance of achieving optimal coverage when implementing future programs.

Situation analysis

This study focuses on the health and working circumstances of manufacturing workers as well as their involvement in current COVID-19 pandemic response initiatives. Information on participants and program implementers is presented in Table 1. The table shows that 77.6% of participants were men, and 55.2% were over the age of 40. With a total of 43 employees (74.1%), senior high school is the most common educational level among program participants. The majority of the five implementers were male (60%), under 40 (60%), and had a senior high school education (40%). Also, Table 1. Shows that the majority of participants in the program have worked for more than five years (96.6%) and have positions as operators (72.4%), with an 86.2% shift work schedule. Most of them (34.5%) are from the finishing department. However, as many as 41.4% of participants smoked, and 48.3% had high blood pressure. While most program implementers have worked for more than five years (80%), occupy staff positions (80%), are employed by the human resources department (80%), do not smoke (60%), and have a non-shift work schedule (100%).

Identification of problems in the Monthly Health Review Program

According to the program's three primary components, the primary issue is the program's inconsistent execution and results. Even though attendance initially reached 100%, there was a notable drop in attendance on several occasions (down to 74.4%), which suggests low retention and continued participation. Although there was a growing trend in medication adherence, it was still erratic and unstable, suggesting that patient behavioral improvements had not yet been solidified. In the meantime, program outcomes were not ideal since, despite an increase to around 70% under control at the

Table 1. Descriptive statistics of program participants and program implementers

Variable	Program participants			Program implementers		
	n	%	Median (min-maks)	n	%	Median (min-maks)
Age			40 (22 – 55)			38 (35 – 50)
<40 years	26	44,8		3	60	
≥40 years	32	55,2		2	40	
Total	58	100		5	100	
Gender						
Male	45	77,6		3	60	
Female	13	22,4		2	40	
Total	58	100		5	100	
Education level						
Junior high school	5	8,6		0	0	
Senior high school	43	74,1		2	40	
Associate degree	3	5,2		1	20	
Bachelor	7	12,1		1	20	
Master	0	0		1	20	
Total	58	100		5	100	
Work Experience			18,5 (3 – 32)			
<5 years	2	3,4		1	20	10 (4 – 31)
≥5 years	56	96,6		4	80	
Total	58	100		5	100	
Job position						
Director	1	1,7		0	0	
Manager	2	3,4		1	20	
Staff	13	22,4		4	80	
Operator	42	72,4		0	0	
Total	58	100		5	100	
Departemen						
Finishing	20	34,5		0	0	
Dyehouse	11	19,0		1	20	
SDD	9	15,5		0	0	
Warehouse	11	19,0		0	0	
Engineering	4	6,9		0	0	
Human Resources	2	3,4		0	0	
Health & Safety	1	1,7		4	80	
Total	58	100		0	0	
				5	100	
Work shift						
Shift work	50	86,2		0	0	
Non shift	8	13,8		5	100	
Total	58	100		5	100	
Smoking						
Yes	24	41,4		2	40	
No	34	58,6		3	60	
Total	58	100		5	100	

Table 1. Descriptive statistics of program participants and program implementers

Variable	Program participants		Program implementers		
	n	%	Median (min-maks)	n	%
High risk category				-	-
Hipertension	28	48,3			
Diabetes	10	17,2			
Heart disease	3	5,2			
Lung disease	1	1,7			
Pregnant	11	19,0			
Asthma	2	3,4			
Asthma & Hipertension	1	1,7			
Hipertension & Diabetes	2	3,4			
Total	58	100			

end of the period, about 30% of individuals still had uncontrolled symptoms.

All things considered, these three elements are interconnected; low attendance and inconsistent adherence directly contribute to the less-than-ideal achievement of participant health conditions, making them a significant issue that this program must address, as seen in the Figure. 1. Therefore, it can be concluded from the data that the priority problems are absence, not being 100%, and less than optimal health conditions.

Framework and root cause analysis

The next stage is to conduct a fishbone analysis after identifying the problems that contributed to the Monthly Health Review program's failure to meet its goals. One visual aid for determining possible reasons why program implementation fails is a fishbone diagram. The fishbone analysis of our case study

demonstrates all of this and highlights the difficulties that healthcare facilities faced during the COVID-19 pandemic, as shown in Figure 2. Based on the findings from the document review, the following is a detailed explanation of the fishbone diagram, which is the result of in-depth interviews about the causes of the problem, and is summarized in Table 2 for further analysis.

It was discovered that the input elements consisted of only two medical teams, one representative from the HR department, and one from the DH Department, among the program implementers, and that there were no document records connected to the program's standard operating procedure (SOP). Since there was no separate budget for the program, all of its requirements were merged into the PT Medical Budget. X, which is allocated at 2% of the overall HR Budget. The availability of equipment and infrastructure includes one stethoscope, one sphygmomanometer, one simple blood test device for determining blood sugar, cholesterol, and

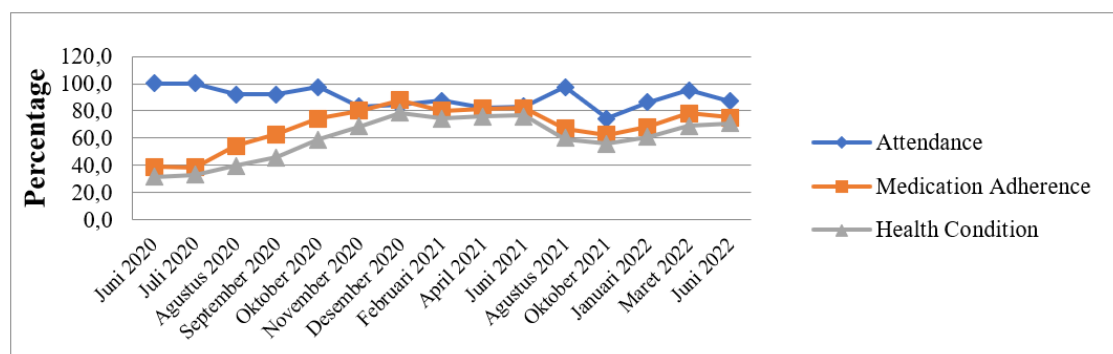


Figure 1. Percentage of attendance, medication adherence, and health condition of program participants

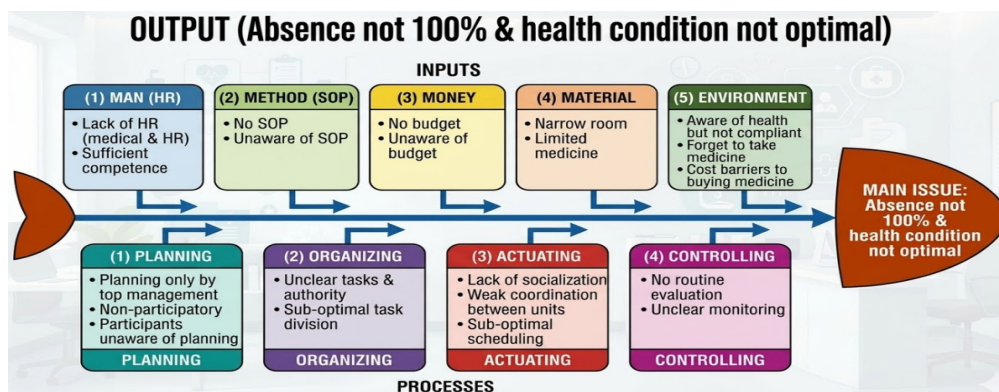


Figure 2. A fishbone framework that describes the various root causes in the Monthly Health Review program from the results of in-depth interviews

Table 2. Priority causes of problems based on attendance targets

No	Causes of the Problem	U	S	G	Total
1	No SOP for this program (Method)	5	5	5	15
2	The number of medical and HR teams is considered insufficient (Man)	4	4	3	11
3	Program participants line up because the Health Center room is too small (Material).	3	2	2	7
4	Proposal Program implementers are not involved in the planning of programs (Planning)	4	4	4	12
5	Unclear explanation of program implementers' primary responsibilities and level of authority (Organizing)	4	4	3	11
6	Program socialization to employees is infrequently conducted properly (Actuating)	3	3	3	9
7	When creating schedules, interdepartmental coordination is deemed insufficient (Actuating)	5	5	5	15
8	There are no regular program evaluation meetings (Controlling)	5	5	3	13
9	There are no prescription drugs available in healthcare (Material)	3	3	2	8
10	Healthy living is challenging for workers (Lifestyle)	4	4	3	11
11	Workers often forget to take their comorbid medications (Medication Nonadherence)	5	5	5	15
12	Because there is no money to buy medications, employees don't take them (Lifestyle)	4	4	3	11

uric acid, one oximeter, one thermometer, one box of N95 masks, one bottle of 70% alcohol, and one bottle of Hand Sanitizer.

There are six types of green emblem drugs and twenty under the blue emblem available in the Health Center, which are *non-prescription medications*. There

are no prescription medications available. In the process elements, when policymakers and department heads first established the program, the planning proposal meeting was convened only once. There is only one organizational structure (one policy stakeholder, two medical teams, and two implementers from

HR and the Dyehouse Department). There was no record of meetings across departments to coordinate activities, particularly in creating schedules for program participants. Additionally, program socialization was conducted only once with participants, at the program's launch. The monthly evaluation meetings, which were held to assess the program's effectiveness, are not documented or recorded.

Prioritisation of the root cause of the prioritised problem

After determining the problem's causes, it is necessary to prioritize them to determine which reasons should be addressed first. The USG matrix can be used to identify the priority causes of problems.

Table 3. Priority alternative solutions in the absence of SOP for the Monthly Health Review program

No	Alternative Solutions	Effectivity			Efficiency	M x I x V C	Priority
		M	I	V	C		
1	Organize collaborative meetings to create program SOPs that are in line with company requirements and to establish relevant program targets.	5	5	5	2	62,5	I
2	Conduct training and socialization initiatives in response to the newly created SOP	4	3	4	2	24	II

Table 4. Priority for alternative solutions due to a lack of coordination between departments when creating schedules (Actuating)

No	Alternative Solutions	Effectivity			Efficiency	M x I x V C	Priority
		M	I	V	C		
1	Meetings between departments and program implementers are held to create a schedule for calling program participants based on their work shifts.	5	5	5	2	62,5	I
2	Reach out to program participants to inform them of the schedule and the importance of attending the Monthly Health Review health check-up.	3	3	3	2	13,5	II

Table 5. Priority of alternative solutions for medication nonadherence by program participants

No	Alternative Solutions	Effectivity			Efficiency	M x I x V C	Priority
		M	I	V	C		
1	Company doctors and program implementers provide regular education to program participants regarding the importance of regular medication adherence and the impact if health conditions are not under control.	4	4	3	2	24	I
2	Putting up leaflets on the company's Wall Magazine and educational videos on TV screens, Department of the importance of taking adherence medication and its impact if health conditions are not controlled	3	3	3	4	6,75	II

Solution alternatives of the prioritised problem

Simultaneous solutions to restore operational excellence were put out as part of the problem-solving cycle. We created different solutions for each of the problem's three primary sources. Tables 3, 4, and 5 provide other remedies for the lack of SOPs, departmental coordination issues, and program participant medication nonadherence, respectively.

Based on a thorough priority analysis, an integrated, three-step strategic plan solution has been established to address the crucial problem of non-optimal health review outputs and non-adherence. It begins with a fundamental structure and progresses to operational coordination and participant involvement. To create official SOPs and set pertinent, quantifiable program targets, the plan first establishes a strong methodological foundation through (Step 1: Planning) by holding cooperative meetings among key stakeholders, particularly medical experts and Human Resources Development. This creates a necessary, structured framework where one previously did not exist. The solution then moves on to (Step 2: Actuating & Organizing), which focuses on coordinating the workflow by setting up frequent meetings between departments and program implementers. This enables the development of a clear participant calling schedule that is optimized according to work shifts, thereby minimizing disruptions and maximizing attendance. The plan culminates in (Step 3: Environment & Controlling), which focuses on participant engagement

through consistent, direct education provided by company doctors regarding the critical importance of regular medication adherence and the serious long-term impact of uncontrolled health conditions.

This approach directly targets the behavioral roots of non-adherence to achieve a controlling effect, resulting in an optimal $M \times I \times V$ outcome while maintaining an optimized cost structure, as shown in Figure 3.

Discussion

The importance of program evaluation for the success of the Monthly Health Review program in primary health care prevention

The COVID-19 pandemic has consistently demonstrated that the presence of comorbidities such as hypertension and diabetes mellitus significantly increases the risk of severity, the need for intensive care, and mortality for infected individuals.^{19–22} Faced with this threat, primary prevention strategies at the primary healthcare level, such as company clinics, are crucial for protecting high-risk workers through proactive and ongoing health monitoring.²³ The Monthly Health Review program has emerged as a vital intervention designed to optimize the health status of workers with comorbidities and maintain control, thereby minimizing the risk of serious complications if exposed to the virus.^{24,25} However, the literature strongly emphasizes that the success and effectiveness of such monitoring programs depend heavily on the implementation of a rigorous and systematic

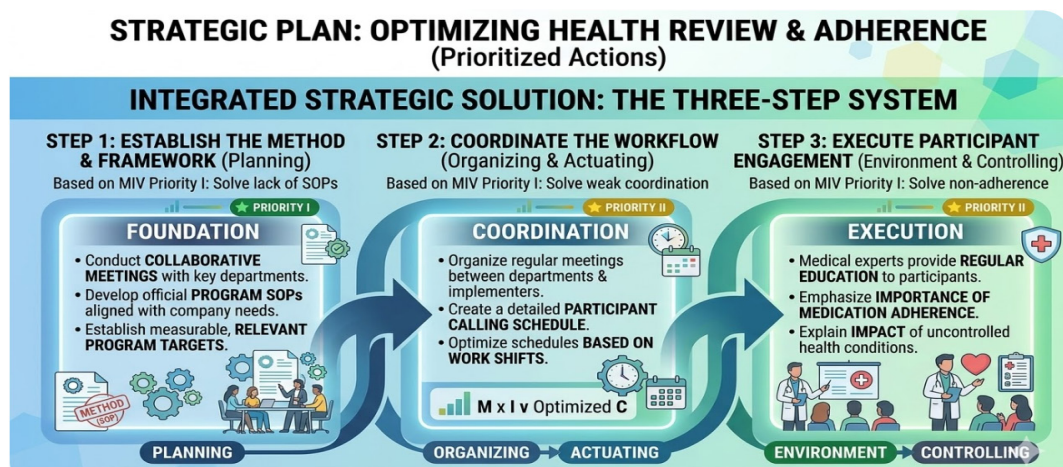


Figure 3. Recommended strategic plan to be implemented

program evaluation system.²⁶ The implementation of a strict and systematic program evaluation system can use the steps of the problem-solving cycle approach.¹⁵ Process evaluation plays a crucial role in identifying gaps between planning and implementation, uncovering the root causes of operational problems, such as the absence of Standard Operating Procedures (SOPs), inadequate coordination between departments in scheduling, and low levels of participant adherence to treatment due to various behavioral or environmental constraints.²⁷⁻²⁹ Without disciplined evaluation as a management tool, primary health programs risk failing to achieve worker protection targets, failing to be accountable for desired health outcomes, and wasting valuable resources.³⁰

The importance of systematic evaluation, emphasized in the literature, finds strong empirical justification in the operational analysis of the current Monthly Health Review program, where identified key problems included not achieving optimal participant health and a sub-100% absenteeism rate. Field findings indicate that control failures, particularly the lack of routine evaluation and unclear monitoring, are at the root of crucial operational problems. Consistent with warnings in the literature, this lack of disciplined control leads to underlying problems at the Input level going undetected, such as the lack of clear SOPs in the Method dimension and low participant adherence to treatment in the Environment dimension. Furthermore, the literature highlights that without robust evaluation, gaps in the implementation Process will persist.^{24,29} Which in this case manifested as weak inter-unit coordination and suboptimal participant call scheduling. Therefore, based on the principles of quality management, strengthening the evaluation and control functions is a crucial step in improving the entire program flow to achieve the desired output effectively and efficiently.³⁰

The absence of an SOP for the Monthly Health Review program

According to the findings of the data analysis, the main reason the Monthly Health Review Program's two targets weren't achieved was the absence of an SOP. According to the literature, it is crucial to create specific SOPs when creating a program because SOPs provide the framework for every implementer's actions, ensuring that policies are implemented in a way that is consistent with the program's original goal and target.^{31,32}

Program targets are ineffective in the absence of

SOPs, as there are no resources to support them and assist in achieving these goals. Policymakers explained that the reason for the absence of an SOP for this program was that the program was formed only because there were regulations from the government to monitor high-risk employees.

"We don't have the SOP itself because both the government and the guidance group only give instructions to do a health review based on the doctor's recommendation." (P.S)

A lack of coordination between departments when creating schedules

The target of 100% attendance of program participants every month was also not achieved due to lack communication and coordination between program implementers and each Department, so when they making created the schedules they did not adjust to the work shifts of program participants, as a result if the calling schedule coincided with the night shift or when day off the program participants are reluctant and to come extra to the factory during the day for health checks.

The aspect of coordination in running a program is crucial because it drives the program. Additionally, the actuating function also fosters a conducive and effective working climate among the human resources implementing the program, enabling the achievement of program objectives.^{33,34}

"When the summons schedule for health review was announced, it was often when I worked the night shift or Day off, my house was far away if I had to come extra to the factory just for a health check." (PP.2) The same thing was also expressed by the program implementers *"Yes, if I ask an employee who doesn't come on schedule for a health review to the Department, he will say those employee has night shift or he is day off."* (PI.2)

The medication nonadherence by program participants

The target of 100% health conditions under control every month is also difficult to achieve, due to the behavior of program participants who do not consistently take medicines for the comorbid diseases they suffer. The reason often given is forgetting to bring medicine to work or forgetting to buy more when the stock runs out. Several studies have shown that the

causes of medication nonadherence may be related to the patient, the treatment, and/or the healthcare provider. For example, patients may not believe that treatment is necessary or that it is deemed too complicated, which increases the risk of non-adherence to medication. Additionally, communication breakdowns between patients and healthcare providers can also be a contributing factor.^{35,36}

“Ouch, I often forget to take medicine. Sometimes, when I’m at the factory, when I’m scheduled to take medicine, I forget to bring it. Sometimes, the drug stocks haven’t been bought yet.” (PP.7)

Strengths and limitations of the study

This case study evaluates the efficacy of a program in an urban primary care setting—specifically, a business clinic in Indonesia, an area with limited published data. To help doctors, quality controllers, evaluators, and public health practitioners create effective solutions, it provides comprehensive information. To assess the effectiveness of the Mountly Health Review program in reducing the severity of COVID-19 in workers with comorbidities, our study is the first to employ the PSC technique. This is woefully insufficient, and a major contributing factor to the prevalent COVID-19 issues in developing nations, such as Indonesia, is the program implementation at the primary care level. This study effectively identified underlying issues and suggested tactical solutions to address current problems.

Although this study is a valuable resource for evaluating COVID-19-related health initiatives, its reliance on secondary data has certain limitations. The primary purpose of secondary data was to identify gaps in target attainment and assess the success of our center’s yearly programs and services. It should be noted that this information is derived from our clinic’s annual report and is carefully maintained and updated in our database by medical personnel to ensure accurate representation of program information.

Next, using primary data collection techniques, including stakeholder focus groups, interviews, and observation, we identified problems, analyzed their core causes, and explored potential solutions. This study’s lack of discussion regarding the application and oversight of suggested remedies is another drawback. Rather, this study focused on root cause analysis and program evaluation. These are possible inquiries for

further research. In addition, we acknowledge that our study is based on data from a single facility, which was motivated by our original objective of addressing issues with our institution’s health program. To expand the study’s breadth and provide a more comprehensive view of PSC in a global context, multicenter research is therefore required.

Conclusions

Evaluating a program is essential and should be done regularly in an organization to assess its performance, ensuring it is running according to the goals and program targets set at the beginning. To ensure that aspects deemed inappropriate can be addressed more quickly, repairs and anticipation can be made more efficiently. Evaluations carried out using the established Evaluation model will make it easier for both policymakers and program implementers to identify the causes of problems in a directed and measurable manner, thereby helping to establish better problem solutions.

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Conflict of Interest

All authors declared no conflict of interest in the study

AI Usage Declaration

During the preparation of this article, the author used Gemini AI to generate the images/visualizations in Figures 2 and 3. After the results were generated, the author critically reviewed and edited them to ensure the accuracy of the content. The author is solely responsible

for the content of the visualizations

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