Article **Journal of Health Sciences**
June 2023, Vol.10 No.28 21-27

Productivity of medical services of a medical care program in the state of Tabasco

Productividad de los servicios médicos de un programa de atención medica en el estado de Tabasco

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DOI: 10.35429/JOHS.2023.18.10.21.27 Received January 25, 2023; Accepted June 30, 2023

Abstract

The productivity of the medical services of the Medical Care program in the state of Tabasco aims to optimize human, material, capital and financial resources in an effective and efficient way, as an integral process system in the state of Tabasco, requires proper and systematic management that improves the production process and offers advantages in its monitoring for its availability at the appropriate place and time. In the Methodology, the Structural Analysis was used, where the Brainstorming technique was considered, with the participation of 4 chief coordinators of the medical care program in Tabasco, who provided the information for the investigation. His contribution will be to support the health services manager to make decisions that allow optimizing productivity and the rational use of resources, contributing to improving access and quality of medical care.

Medical service, Productivity, Factors

Resumen

La productividad de los servicios médicos del programa de Atención Medica en el estado de Tabasco tiene como objetivo la optimización de los recursos humanos, materiales, de capital y financieros de una manera eficaz y eficiente, como sistema integral de proceso en el estado de Tabasco, requiere un manejo adecuado y sistemático que mejore el proceso productivo y que ofrezca ventajas en su monitoreo para su disponibilidad en lugar y momento apropiado. En la Metodología se utilizó el Análisis estructural, donde se consideró la técnica de lluvia de ideas (Brainstorming), con la participación de 5 jefes coordinadores del programa de atención médica en Tabasco, quienes proporcionaron la información para la investigación. Su contribución estará en apoyar al gerente de servicios de salud a tomar decisiones que permitan optimizar la productividad y el uso racional de los recursos, contribuyendo a mejorar el acceso y la calidad de la atención médica.

Servicio médico, Productividad, Factores

Citation: ARREDONDO-PÉREZ, Carlos Arturo, MOREJÓN-SÁNCHEZ, Juana María, ELISEO-DANTÉS, Hortensia and DE LEÓN-DE LOS SANTOS, Brissa Roxana. Productivity of medical services of a medical care program in the state of Tabasco. Journal of Health Sciences. 2023. 10-18:21-27.

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Introduction

In the research presented here, an analysis of the productivity of a medical care programme in the state of Tabasco is carried out, the medical care indicator, dental care and health promotion actions will be considered since it was concluded that these are the ones that need to be studied in order to obtain relevant results that help to propose an improvement proposal for this programme and in turn be reflected in the general population of the state of Tabasco.

As productivity generates wealth and improves the standard of living for the population of a country, it is a tool to produce more with the available resources and this better use of resources and/or the reduction of production costs makes companies and countries more competitive, which results in higher profits and is reflected in a better standard of living for the inhabitants.

Research background. The research that has been carried out on the subject of business productivity and logistics provides information on the strategies and indicators that maintain the positioning of the productive sector under an integral scheme, some important aspects that are pointed out are the following: in the article "Productivity and its factors: incidence in organisational improvement" by Fontalvo-Herrera, Tomás; De La Hoz-Granadillo, Efraín & Morelos-Gómez, José (2017); they point out that productivity is very important in the management of companies as this indicator can give us the knowledge of the resources that are being consumed to achieve business objectives in the same way tells us that this concept is closely linked to the concepts of efficiency and effectiveness; and with these indicators we can assess the ability of an organisation to meet its goals and optimise its resources. He also says that it is worth highlighting the contribution of technology to the increase in productivity of companies, as it speeds up processes and reduces activity times, making production faster. In the article "Key factors in the evaluation of productivity: a case study".

Franco-López, J. A., Uribe-Gómez, J. A., Agudelo-Vallejo, S. (2021), points out that productivity is the support for the growth of any organisation and to achieve this it is necessary to improve the perceptions and valuations given by employees and this will allow a greater aggregate offer to the market, as long as it is linked to the concept of sustainability, achieving productivity with sustainability must be the paradigm of all levels of society, from the economic policy of the State, the healthy habits in consumption and the contribution that productive organisations must make. It means thinking and acting for future generations.

Problem statement. The need for health care for people without social security, especially those who live in regions with high and very high marginalisation, in municipalities that present an index of very high marginalisation and that do not have the presence of fixed health services, in areas that do not have comprehensive health actions that help to have the approach of health services, according to the WHO (World Health Organisation), in low and middle income countries, the coverage of services is still much lower than that of the richest countries. This severe inadequacy of coverage in resource-poor settings means that overall access to essential health services remains far below the optimal level (World Health Statistics 2020.pdf). According to the information registered in the dynamic cubes platform of the General Directorate of Health Information (DGIS): The indicator of medical consultations, in 2020 and 2021 compared to the other indicators (dental consultation and promotion actions) are lower, this decrease is due to the fact that doctors were commissioned to COVID care areas and stopped going to their localities. Of the 17 municipalities in the state of Tabasco, the municipalities of Balancán and Tenosique are the most marginalised in terms of health.

Justification. The research will provide a good understanding of the current scenario of medical services, through a diagnosis. This will help to design strategies to improve the medical services of the health care programme.

Objectives: To make a diagnosis to obtain a real panorama of the productivity of the health services of the medical care programme in the state of Tabasco. To generate a comprehensive proposal for improvement.

ISSN- 2410-3551

Contextual framework

International Context

In the Spanish autonomous community of Euskadi, as in high-income countries, chronic diseases represent the dominant epidemiological pattern. It is estimated that they currently account for 80% of interactions with the Health System. In the Basque Country, they consume more than 77% of health spending. In addition, there is a lack of integration of the health system with the social resources associated with health, which, as we have seen, are of substantial importance for the chronically ill.

According to the Basque Government's Department of Health and Consumer Affairs in its strategy for tackling the challenge of chronicity in the Basque Country in July 2010, the Basque Government is looking for ways to make its health system more efficient and more productive for society. National Context: In the communiqué issued by the Mexican Social Security Institute on 26 February 2020, they comment that, through the training of its specialists and the expansion of the hospital network licensed for procurement, the IMSS increases its productivity. In Mexico, more than 23,000 patients are on the waiting list for transplants, of which 70 per cent - 16,000 - are Mexican Social Security Institute (IMSS) patients.

To increase productivity by up to 10 percent annually, various mechanisms have been implemented through training and expansion of the hospital network to perform these interventions. IMSS nationally, in the period from September 2021 to June 2022, reported an increase of 4,369 net employment positions, of which 135 are trust positions and 4,234 basic positions.

And through the Programme to Strengthen Medical Care in hard-to-reach communities, in the same period, 485 resident doctors were hired for itinerant community social work, 60 management staff and 1,429 operational workers. Local Context: It can be observed that over time, efforts have been made to improve health services in the state of Tabasco, with the strengthening of medical areas with recent technology equipment, timely supply of medicines and improvement of patient care, as in the case of the Dr. Gustavo A. Rovirosa Hospital. Gustavo A. Rovirosa this supported by the press release No. 134/2015, which comments on exceeding the productivity of 2014 with 3 thousand 058 surgical procedures, 1 thousand 446 births and 8 thousand 850 radiological studies are some of the productivity indicators achieved by the nosocomio in the first four months of 2015.

Theoretical framework

Productivity: Productivity is the ratio of outputs (goods and services) to one or more inputs (resources such as labour and capital)" (Render, Barry, 2014, p.13). Resources are managed by people, who put all their efforts to produce goods and services efficiently, improving this production more and more, so any intervention to improve productivity in the organisation has its genesis in people (Singh, 2008). From the managerial point of view, productivity is understood as the output/input ratio, so it is a results-oriented variable and is a function of the behaviour of workers and other aspects outside the work environment (Fernández Ríos & Sánchez, 1997). Importance of Productivity: Productivity is represented in our daily life, everything is based on it, from the basis of society which is the family to the large companies or governments in our country, if we are not productive as people, society, companies or government we have a direct impact on the global economy. The relevance of productivity is related to the growth of an organisation. By improving efficiency in production processes, companies have ample room to generate actions and strategies that allow them to obtain greater profitability, such as, for example, placing more attractive prices in the market, or having the capacity to satisfy large volumes of orders.

ISSN- 2410-3551

By understanding what productivity is and its importance, companies can achieve higher profits by attracting new customers, facilitating investment in innovation projects and improvement plans. (BBVA, 2023). Importance of medical services: Medical services are of great importance for all countries, as the impact they have on their economies can be observed through data, which is why it is considered of utmost importance to generate strategies that help to improve them. The International Labour Organisation stresses the importance of health services as one of the fundamental sectors of society and the economy. The ILO endorses the fundamental principles of the human right to health and social protection. Providing social protection for health and equal access to quality health care has considerable positive effects on individual and public health, as well as enhancing economic growth and development. The health sector is also an important employment sector, with great potential for employment generation.

Methodology

The research is considered descriptive because the study variables are not manipulated, but are observed as they occur naturally. They will be described, and to describe is to measure. It is considered documentary because it attempts to obtain, analyse, interpret and compare information about an object of study from a collection of documentary sources (audiovisual records, books or archival documents).

The orientation of this research is more descriptive-deductive in scope, since it seeks to specify important properties and characteristics of any phenomenon that is analysed, and which seeks to specify the properties, characteristics and profiles of people, groups, communities, processes or any other phenomenon that is subjected to analysis (productivity of the medical services of the Medical Care programme), in order to describe trends in a group or population. It is also considered correlational, because it will determine how each of the independent variables (economic, political, social, cultural, environmental and technological) influences the research variable (the productivity of medical services).

To gather the information, four rounds of talks were held beforehand with the five actors in the Medical Care programme, and three experts were identified who have extensive knowledge of the information on the programme's productivity, followed by a meeting in which the tool known as brainstorming was applied as part of the structural analysis to detect the fundamental factors associated with the research variables. It is a tool that allows us to obtain information directly from the programme strategists.

Through the brainstorming applied to the expert strategists of the Health Care programme, fourteen factors associated with the context variables (economic, technological, cultural, social, technological and environmental) that the experts consider to have an impact on the Health Care programme are obtained and listed, as shown in figure 1.

Factor	Description
F1	
F2	
F3	
F4	
F5	
F6	
F7	
F8	
F9	
F10	
F11	
F12	
F13	
F14	

Figure 1 Factors associated with the context variables
Source: Own elaboration 2023

Subsequently, the double-entry matrix is generated (figure 2), known as such because the factors are present vertically and horizontally with a direct influence between each of the factors, using the binary system (0 and 1), indicating with a number 1, when one of the factors influences another factor and with a 0, when it has no influence on the other factor. With a (-) when a factor cannot be related to the same factor in the other input.

The sum of the factors horizontally is called motoricity which is the degree of influence of the factor and the sum of the factors vertically is called factor dependence.

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Influence of/on		Direct influence														
Factor	Description	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9	F 10	F 11	F 12	F 13	F 14	Total mobility
F 1	Transfer of budgetary resources.															
F 2	Incomplete template.															
F 3																
F 4																
F 5																
F 6																
F 7																
F 8																
F 9																
F 10																
F 11																
F 12																
F 13																
F 14																
	Total dependency															

Figure 2 Double-entry matrix
Source: Own elaboration, 2023

The values of motoricity and dependence are obtained by dividing the value of each factor by the total sum of all the factors and then multiplying by 100, arriving at the percentage that each factor represents on the X and Y axes. Once the percentages have been identified, we proceed to list them in values of Dependence (X) and values of Motricity (Y), in order to subsequently position them in the corresponding quadrant. Then 4 quadrants are constructed (figure 3), in a Cartesian plane. In order to define the quadrants in which each of the factors belong, the total number of factors must be divided, which in this case are fourteen by one hundred, (100/14) = 7.14, and the initial quadrant (autonomous problem area) is placed. The quadrants are: Power Zone, Conflict Zone, Autonomous Problem Zone and Exit Zone,

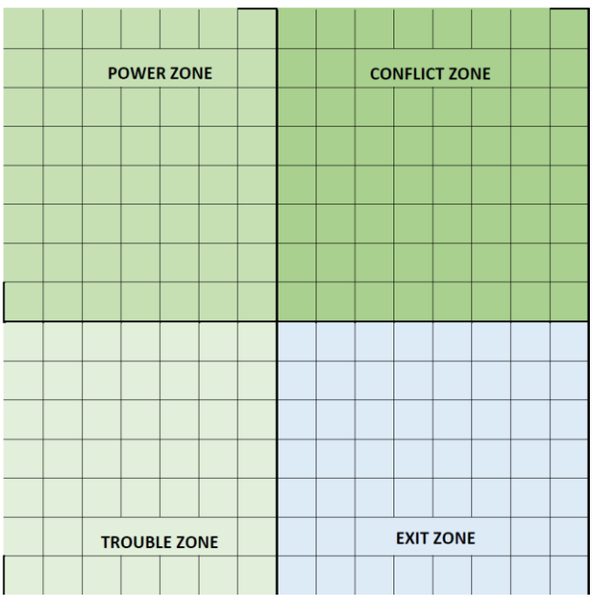

Figure 3 Quadrants
Source: Own elaboration, 2023

Results

Information on programme productivity, obtained from the meetings held with expert strategists of the Health Care programme, is presented in Figure 4 below. 14 factors associated with the context variables were identified.

Factor	Description
F 1	Transfer of budgetary resources.
F 2	Incomplete staffing.
F 3	Maintenance of mobile units.
F 4	Conclusion of agreements.
F 5	Collaboration of municipal authorities.
F 6	Existence of harmful fauna.
F 7	Flora that makes access to communities difficult.
F 8	Local customs.
F 9	Indigenous languages.
F 10	Virtual training.
F 11	Productivity platforms.
F 12	Insecurity.
F 13	Community participation.
F 14	Migration.

Figure 4 Factors associated with the context variables
Source: Own elaboration, 2023

The double-entry matrix is then generated (Figure 5), as explained in the previous Methodology section.

Influence of/on		Direct influence														
Factor	Description	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9	F 10	F 11	F 12	F 13	F 14	Total mobility
F 1	Transfer of budgetary resources.	-	1	1	1	0	0	0	0	0	1	0	0	0	0	4
F 2	Incomplete staff.	1	-	1	1	0	0	0	0	0	1	0	0	0	0	4
F 3	Maintenance of mobile units.	1	0	-	1	0	0	0	0	0	0	0	0	0	0	2
F 4	Conclusion of agreements.	1	1	1	-	0	0	0	0	0	0	0	0	0	0	3
F 5	Collaboration of municipal authorities.	0	0	0	0	-	1	1	0	0	0	0	1	1	0	4
F 6	Existence of harmful fauna.	0	1	0	0	1	-	0	1	0	0	0	0	1	0	4
F 7	Flora hindering access to communities.	0	1	1	0	1	1	-	1	0	0	0	0	0	0	5
F 8	Local customs.	0	0	0	0	0	0	0	-	1	1	1	0	1	0	4
F 9	Indigenous languages.	0	0	0	0	1	0	0	1	-	0	0	0	1	0	3
F 10	Virtual trainings.	0	1	0	0	0	0	0	0	0	-	1	0	1	0	3
F 11	Productivity platforms.	0	0	0	0	0	0	0	1	0	1	-	0	0	0	2
F 12	Insecurity.	0	1	0	0	0	0	0	1	0	0	1	-	1	1	5
F 13	Community participation.	1	0	0	0	1	0	0	0	0	0	1	0	-	0	3
F 14	Migration.	1	1	0	0	1	0	0	1	1	0	1	1	1	-	8
	Total Dependency	5	7	4	3	5	2	1	6	2	4	5	2	7	1	54

Figure 5 Double-entry matrix
Source: Own elaboration, 2023

Next, the values of Motricity and Dependence are obtained by dividing the value of each factor by the total sum of all the factors and then multiplying by 100, arriving at the percentage that each factor represents on the X and Y axes, Figure 6.

ISSN- 2410-3551

Factor	Description	Motor values	Percentage Y	Dependency values	Percentage X
F 1	Transfer of budgetary resources.	4	7.41%	5	9.26%
F 2	Incomplete staffing.	4	7.41%	7	12.96%
F 3	Maintenance of mobile units.	2	3.70%	4	7.41%
F 4	Conclusion of agreements.	3	5.56%	3	5.56%
F 5	Collaboration of municipal authorities.	4	7.41%	5	9.26%
F 6	Existence of harmful fauna.	4	7.41%	2	3.70%
F 7	Flora that hinders access to communities.	5	9.26%	1	1.85%
F 8	Local customs.	4	7.41%	6	11.11%
F 9	Indigenous languages.	3	5.56%	2	3.70%
F 10	Virtual training.	3	5.56%	4	7.41%
F 11	Productivity platforms.	2	3.70%	5	9.26%
F 12	Insecurity.	5	9.26%	2	3.70%
F 13	Community participation.	3	5.56%	7	12.96%
F 14	Migration.	8	14.81%	1	1.85%
	Total	54	100%	54	100%

Figure 6 Double-entry matrix, Percentage of factors
Source: Own elaboration, 2023

Once the percentages have been identified, they are listed and then positioned in the corresponding quadrant, figure 7.

Factor	Dependency values (X)	Motor values (Y)
F 1	9.26%	7.41%
F 2	12.96%	7.41%
F 3	7.41%	3.70%
F 4	5.56%	5.56%
F 5	9.26%	7.41%
F 6	3.70%	7.41%
F 7	1.85%	9.26%
F 8	11.11%	7.41%
F 9	3.70%	5.56%
F 10	7.41%	5.56%
F 11	9.26%	3.70%
F 12	3.70%	9.26%
F 13	12.96%	5.56%
F 14	1.85%	14.81%

Figure 7 Percentages of factors for dependency and Motor values
Source: Own elaboration, 2023

Then the 4 quadrants (figure 8) are constructed on a Cartesian plane - in order to define the quadrants in which each of the factors belong.

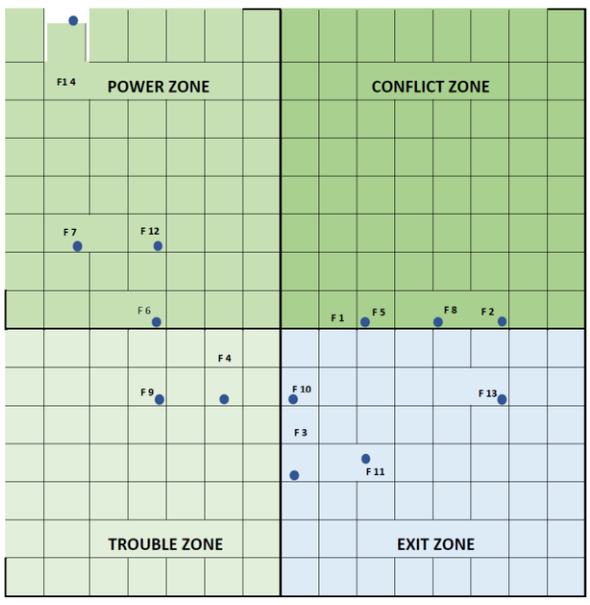

Figure 8 Quadrants with power zones
Source: Own elaboration, 2023

The result is that factors F1, F2, F5 and F8 are found in the conflict zone; therefore, it is recommended that alternatives for the organisation be sought for these factors so that they cease to influence and depend on each other.

F 1	Transfer of budgetary resources.
F 2	Incomplete staffing.
F 5	Collaboration of municipal authorities.
F 8	Local customs.

In the power zone we have four factors which are F6, F7, F12 and F14 which we have to take care of because they have a high mobility and influence the other factors.

F 6	Existence of harmful fauna.
F 7	Flora that makes access to communities difficult.
F 12	Insecurity.
F 14	Migration.

We have two factors in the autonomous problem zone quadrant, F4 and F9, which are less problematic as they have low motor skills and dependence.

F 4	Conclusion of agreements.
F 9	Indigenous languages.

In the exit zone we can observe four factors that represent less of a problem due to their low motoricity and low dependence, namely: F3, F10, F11 and F13.

F 3	Maintenance of mobile units.
F 10	Virtual training.
F 11	Productivity platforms.
F 13	Community participation.

It was possible to identify that the context variables that most affect the productivity of medical care are the social variable (incomplete staff), the cultural variable (local customs), the economic variable (transfer of budgetary resources) and the political variable (collaboration of municipal authorities).

Conclusions

The tools used in this research were key to the information of the same, since we had the opportunity to have the intervention of the medical area management personnel of the state of Tabasco. Therefore, the objective was achieved.

ISSN- 2410-3551

Attention will be paid to the factors identified that affect the productivity of medical care in the state, and also to all the factors identified in the research, but especially those in the conflict zone.

Recommendations

That health institutions in the state of Tabasco have greater communication with government authorities, so that they can achieve greater economic, social and cultural support for medical service programmes, and this will benefit the productivity of medical services.

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ISSN- 2410-3551