Linguistic and Philosophical Investigations
ISSN: 1841-2394, e-ISSN: 2471-0881
Vol 23 (1), 2024
pp.2662-2687

# Design of a strategic model for mitigation of administrative and financial risks in health SMEs for Colombia

**Ivonne Caicedo González**

Profesora Facultad de Ciencias Económicas, Administrativas y Contables de la Universidad del Quindío

icaicedog@uniquindio.edu.co https://orcid.org/0000-0003-3672-8821

**Hernán Hoyo Walteros**

Profesor Facultad de Ciencias Económicas, Administrativas y Contables de la Universidad del Quindío

hernanhoyos@uniquindio.edu.co https://orcid.org/0000-0001-5380-2101

**Berly Roman Valencia**

Profesora Facultad de Ciencias Económicas, Administrativas y Contables de la Universidad del Quindío

bromanv@uniquindio.edu.co https://orcid.org/https://orcid.org/0000-0003-3672-88

## Abstract

From the perspective that small and medium-sized enterprises are a fundamental productive force for the economic development of a country, it is necessary to address the problems that affect its growth and sustainability over time, since a cessation of operations in this type of organization generates Effects that not only harm the nation's economy but also the quality of life of those who are part of it, benefit from its services or goods offered. This reality is clearly seen in health SMEs in Cali Colombia, where there is an inappropriate management of financial risks that increase uncertainty, decrease the value of these companies and condition the access of users to the provision of health services. In this sense, this article is the result of a research carried out in this area of knowledge and whose main objective was to propose the design of a strategic model that aims to mitigate administrative and financial risks that affect small and medium-sized companies. Health Provider Institutions (hereinafter IPS) of the municipality of Santiago de Cali, based on the results of the research carried out. In this sense, the survey and others were used as a research instrument with which it was possible to analyze various factors that increase the risk index and therefore, with the results obtained, they allowed to propose the type of strategic model that adjusts to the reality of the organizations In mention.

**Palabras Claves:** Key Word: SMEs, Strategic Direction, Risk, Model, Mitigate

## Introduction

The health service is an economic activity that presents a significant volume of risks that threaten the proper development of its activities and the good health of the patients who demand the services offered; For this reason, tools and instruments are required that allow intervention in order to reduce the impact that they may generate.

For this reason, this research article presents various aspects that show how through a scientific research process entitled: *Strategic model for mitigation of administrative and financial risks in health SMEs in Santiago de Cali.* Salamanca, J. Carvajal, N. & Caicedo, I. (2020) *Different* knowledge developed and internalized in the development of the academic career of Financial Administration at the University of Quindío was applied to propose a model that allows small and medium-sized health service providers to mitigate administrative and financial risks. To achieve this purpose, the work contemplates theories that propose conceptual bases for the structuring of the tool in question, the approach is made to 61 selected institutions with the purpose and objective at the same time of collecting the necessary information to identify the context of the various variables taken into account and the predominant risks. generate the required analysis and prioritization of them.

Finally, the model is proposed with the various data collected and with the determining factors for the organizations investigated, the structure is delimited, the stages that compose it are detailed and the tools and instruments for planning, measurement and monitoring of the strategies and activities generated in the analysis carried out are presented.

**Methodology**

For the application of the various postulates proposed for the fieldwork and its implementation, a type of *descriptive* research was carried out, in order to analyze the current administrative and financial situation of health SMEs in Santiago de Cali, the factors that generate risks, the effects produced and the alternative solutions to reduce the impact caused by them. The descriptive study is: "*that investigative procedure whose objective is to present the individual and particular characteristics of the proposed situation. It is limited to measuring these characteristics or distribution of a phenomenon in a given population and in a detailed period of time*" Veiga De Cabo, Fuente Diez and Zimmermann Verdejo, (2008).

In this sense, Cerda (1998) states that, "*one of the main functions of descriptive research is the ability to select the fundamental characteristics of the object of study and its detailed description of the parts, categories or classes of that object*". Cerda (1998). In accordance with the above, this type of study was used for the approach presented, because, through its development, it was possible to obtain information about the unique characteristics of health SMEs in Santiago de Cali, the way in which they address risks, the effects that occur due to the lack of monitoring and intervention of the same, and the proposal of the alternative solution.

Consistent with the above, it appealed to the collection techniques associated with this type of research (survey, observation and documentary review) in order to expand the knowledge of the study phenomenon. In addition, the process was supported by the use of

computer tools to compile the information obtained in books, scientific articles, statistical results of previous research and other reliable and verifiable sources. In this sense, this is a basic research methodology whose purpose is to collect and analyze qualitative and quantitative information in the same study, in order to answer questions related to the statement of the research problem. This approach is based on the triangulation of methods. "*Triangulation refers to the use of various methods, data sources, theories, researchers, or environments in the study of a phenomenon*." Okuda Benavidez and Gómez-Restrepo, (2005); This is how,

> Triangulation includes the use of several strategies when studying the same phenomenon, it is a procedure that reduces the possibility of doubts and errors, by producing redundant information during the collection of data that thus clarifies meanings and verifies the repetitiveness of an observation. It is also useful for identifying the various ways in which a phenomenon may be observed. In this way, triangulation is not only useful for validating information, but is used to broaden and deepen its understanding. Okuda Benavidez and Gómez-Restrepo, (2005, p. 119-120)

Through the *Mixed* research contained in the project and the scientific documents collected, the descriptive analysis of all the information collected (graphs, statistics, plans, reports) was carried out. The variables used were qualitative, among them the size of the company, enabled services, type of contracting, predominant risks, strengths and weaknesses of the organizations stand out.

In this sense, for the implementation of the inquiry, the *Deductive Method* was used, which consists of: "*capturing and analyzing general conclusions to obtain particular explanations. That is, it began with the study of postulates, theories, theorems, laws, principles of universal application and proven validity, to apply them to particular solutions or facts*" Bernal, (2006, p. 71). This method allowed the researchers to make use of general premises related to the effects that are generated in companies by the lack of strategic planning to reduce the number of risks and apply them in the particular context of the research carried out.

According to the type and method selected to carry out this research, the relevant information collection techniques were used for the capture of primary and secondary information required for the achievement of the proposed objectives.

- ✓ Survey: A format was designed to obtain the required and pertinent information for the research. The number of surveys was completed according to the selected sample, the information was consolidated and the results obtained from the exercise were analyzed.
- ✓ Observation: The importance of this technique lies in the collection of data that can be obtained and assimilated instantaneously at the time of the visit to the various Health Provider Institutions, hereinafter (IPS) selected to be a reference point in the study.
- ✓ Documentary review: It is a technique for collecting complementary information that seeks to investigate texts, articles, journals and other types of

documentary material, information that expands the development of research with results of previous studies.

To carry out the aforementioned research, the population was selected as the number of private companies that have their main domicile in the municipality of Santiago de Cali and that have an authorization code such as IPS. The number of IPS with these characteristics in the city of mention is 590 entities and the information regarding the selected population was taken from the database of health service providers of the Department issued by the Government of Valle del Cauca.

In relation to the sample, and taking into account the estimated population, the sample for this study was generated by means of the following calculation which is carried out by a virtual platform:

$$n = \frac{Z2 * N * p * q .}{e2 * (N-1) + (Z2 * p*q)}$$

Where, n= Sample size; Z = desired confidence level; p = Proportion of the population with the desired characteristic; q = Proportion of the population without the desired characteristic; e = level of error willing to be made and N = size of the population. With a population of 590 IPS, a margin of error of 10%, and a confidence level of 90%, the sample size that was used for the research is 61 IPS.

**Results**

To comply with one of the goals proposed at the beginning of the research work of: "*To carry out a detailed research that presents the characterization and current situation of SMEs in Santiago de Cali, the strengths and weaknesses of their main areas (human resources, operations, technology, commercial and finance)"* nominal variables were taken into account in the preparation of the survey that would make it possible to identify the IPS, their size, the type of contracting they carry out and the services provided by each of the institutions addressed. In this sense, and in accordance with the regulations in force in Colombia according to the "*Business Development Law*". Congress of the Republic, (2000), in the first instance, SMEs are classified according to the size of the company in relation to the number of employees and the value of the assets that constitute the organization. Thus, according to the results obtained, it is observed that the organizations surveyed are categorized as follows: 75.4% are small companies (11-50 workers) and 24.6% are medium-sized companies (51-200 workers). (Table 1)

Table 1. Size of the Companies Subject to the Study

| COMPANY CLASSIFICATION | NUMBER OF COMPANIES | % OF COMPANIES |
|---|---|---|
| SMALL BUSINESS | 46 | 75,4% |
| MEDIUM BUSINESS | 15 | 24,6% |

| | | |
|---|---|---|
| TOTAL | 61 | 100% |

Fountain. Authors' own elaboration

Secondly, in order to develop the characterization of the surveyed organizations, the processing of the information shows that the two types of contracting prevalent for both small and medium-sized enterprises are labor contracting (96.72%) and contracting for the provision of services (81.97%). On the other hand, to a lesser extent it is observed that this type of company contracts labor per work (6.6%). Labor contracts are executed through fixed-term and indefinite-term contracts and are used in the vast majority in the personnel of the administrative areas of the IPS and in a smaller proportion in personnel of the care area. However, the contracting for the provision of service is carried out with medical care personnel and specialists. On the other hand, the contracting for work work in some organizations is executed for projects that are generated in the IPS for limited times, for example: occupational medicine and occupational therapy programs.

Table 2. Characterization by Type of Contracting

| *Type of Company* | *Type of Contracting* | | | | | |
|---|---|---|---|---|---|---|
| | Labour | | Service Delivery | | Work Labor | |
| | Quantity | % | Quantity | % | Quantity | % |
| Small Business | 45 | 73,77% | 37 | 60,66% | 3 | 4,92% |
| Medium Business | 14 | 22,95% | 13 | 21,31% | 1 | 1,6% |
| Total | 59 | 96,72% | 50 | 81,97% | 4 | 6,6% |

Fountain. Authors' own elaboration

Taking into account the regulatory framework established for the authorization of health services, the services prevalent in the health provider institutions surveyed are listed in the table presented below:

Table 3. Characterization by Authorized Services

| **Enabled Service** | **Quantity** | **%** |
|---|---|---|
| General Medicine | 24 | 39,34% |
| Physiotherapy | 12 | 19,67% |
| General Dentistry | 11 | 18,03% |
| Nutrition and Dietetics | 10 | 16,39% |
| Occupational Medicine | 9 | 14,75% |
| Optometry | 6 | 9,84% |
| Orthopedics and Traumatology | 6 | 9,84% |
| Dermatology | 5 | 8,20% |
| Ophthalmology | 5 | 8,20% |
| Speech-Language Pathology | 5 | 8,20% |
| Cardiology | 4 | 6,56% |
| Gastroenterology | 4 | 6,56% |
| Internal Medicine | 4 | 6,56% |

| | | |
|---|---|---|
| Neurology | 3 | 4,92% |
| Pediatrics | 3 | 4,92% |
| Plastic surgery | 3 | 4,92% |
| Oral Surgery | 3 | 4,92% |
| Psychology | 3 | 4,92% |
| Family Medicine | 2 | 3,28% |
| Otorhinolaryngology | 2 | 3,28% |
| Infectious Diseases | 2 | 3,28% |
| Sports Medicine | 2 | 3,28% |
| Other Services | 9 | 14,76% |

Fountain. Authors' own elaboration

Thus, according to what has been observed, the services with the highest prevalence are General Medicine (39.34%), Physiotherapy (19.67%), General Dentistry (18.03%), Nutrition and Dietetics (16.39%), Occupational Medicine (14.75%), Optometry (9.84%), Orthopedics and Traumatology (9.84%), Dermatology (8.2%), Ophthalmology (8.2%) and Speech and Language Therapy (8.2%). This means that small health service providers tend to offer mostly low and medium complexity services and to a lesser extent high complexity. Likewise, in relation to the internal aspects of small health service providers – strengths and weaknesses and taking into account the approaches of Brito (2018), one of the key points to mitigate risks is:

> *Context setting, which involves identifying and analyzing the organization's internal and external environment. The internal sphere is associated with the strengths and weaknesses of each company and the external sphere with the political, social, economic, technological, ecological and legal aspects of the nation where the company is located. Brito (2018)*

Así mismo, considera Joint S. & Standards New Zealand Committee, (1999) Que:

> *Establishing context will allow you to capture the objectives of the organization, the environment in which they pursue the objectives, the stakeholders and the diversity of risk criteria. All these elements will contribute to the disclosure and assessment of the nature and complexity of risks*. Joint S. & Standards New Zealand Committee, (1999)

For this reason, the research was carried out to study the prevalent strengths and weaknesses of each of the surveyed IPS, contained in 6 fundamental processes – Human talent management, operations management, financial management, technology and information management, commercial management and administrative management – for the growth and sustainability of organizations.

Table 4. Strengths and Weaknesses in the Management of Human Talent of SMEs in Santiago de Cali

| Process | Fortress | Quantity | % | Weakness | Quantity | % |
|---|---|---|---|---|---|---|
| **Human Talent Management** | Qualified Human Resources | 57 | 93,44 % | Lack of Follow-up to Human Talent | 31 | 50,82 % |
| | Personnel Selection and Hiring Process | 51 | 83,61 % | Deficiency in the competencies of Human Talent | 14 | 22,95 % |
| | Performance Evaluations | 21 | 34,43 % | No performance evaluations are carried out | 1 | 1,64% |
| | Management and Compliance Indicators | 24 | 39,34 % | Shortcomings in the recruitment and selection of personnel | 3 | 4,92% |
| | Documented Function Manual | 46 | 75,41 % | There is no documented function manual | 7 | 11,48 % |
| | Training and Education Program | 29 | 47,54 % | No training program | 29 | 47,54 % |

Fountain. Authors' own elaboration

In this sense, it is observed that small and medium-sized health service providers have qualified personnel (93.44%) due to the fact that they have structured selection and hiring processes (83.61%) under the framework established by resolution 2003 of 2014 and resolution 3100 of 2019, which cite in the standard of qualification of human talent the necessary requirements for a health professional or technician to provide their services in a Institution.

> *Human talent in health and other professionals who are related to the health care or results of users have degrees, as applicable, of higher education or certificates of occupational aptitude, issued by the competent educational entity. Human talent in health has a copy of the resolution authorizing the exercise issued by the competent authority or registration in the National Single Registry of Human Talent in Health – ReTHUS".* Minsalud, (2019, p. 59)

On the other hand, it can be observed that 75.41% of the institutions investigated have a documentary tool that allows establishing the functions and labor competencies of the jobs that make up the staff; as well as the requirements related to knowledge, experience and other competencies required for the performance of the same. However, a different scenario is presented in relation to the follow-up and monitoring of the performance and management of human talent, since only 34.43% of the institutions surveyed carry out personnel evaluations and 39.34% have a system of management and compliance indicators. This indicates that most of the health SMEs investigated do not have instruments to verify the fulfillment of the functions of their employees (50.82%), which reduces the identification of insufficiencies and problems that may be generated by them and thus generate the improvement plans required to guarantee the optimal provision of the health service and meet the expectations and objectives of the organization.

Another important aspect required for effective human talent management is the training and continuous training of personnel. Chiavenato (2011) cites that training aims to support employees at all levels to achieve the organization's objectives, by providing the possibility of acquiring knowledge, pragmatism and the behavior required by the company. In relation to the above, it is observed that approximately half of the IPS (47.54%) have a training and education program for their employees based on international protocols, guides and instructional packages given by the national governing body, in this case the Ministry of Health, and constant socializations are carried out on the healthcare personnel which are subsequently evaluated to guarantee adherence. However, it is also observed that 29 IPS (47.54%) do not have a structured and consolidated training program, exposing them to deficiencies in the processes, decrease in the quality of services and non-compliance with institutional objectives and current regulations.

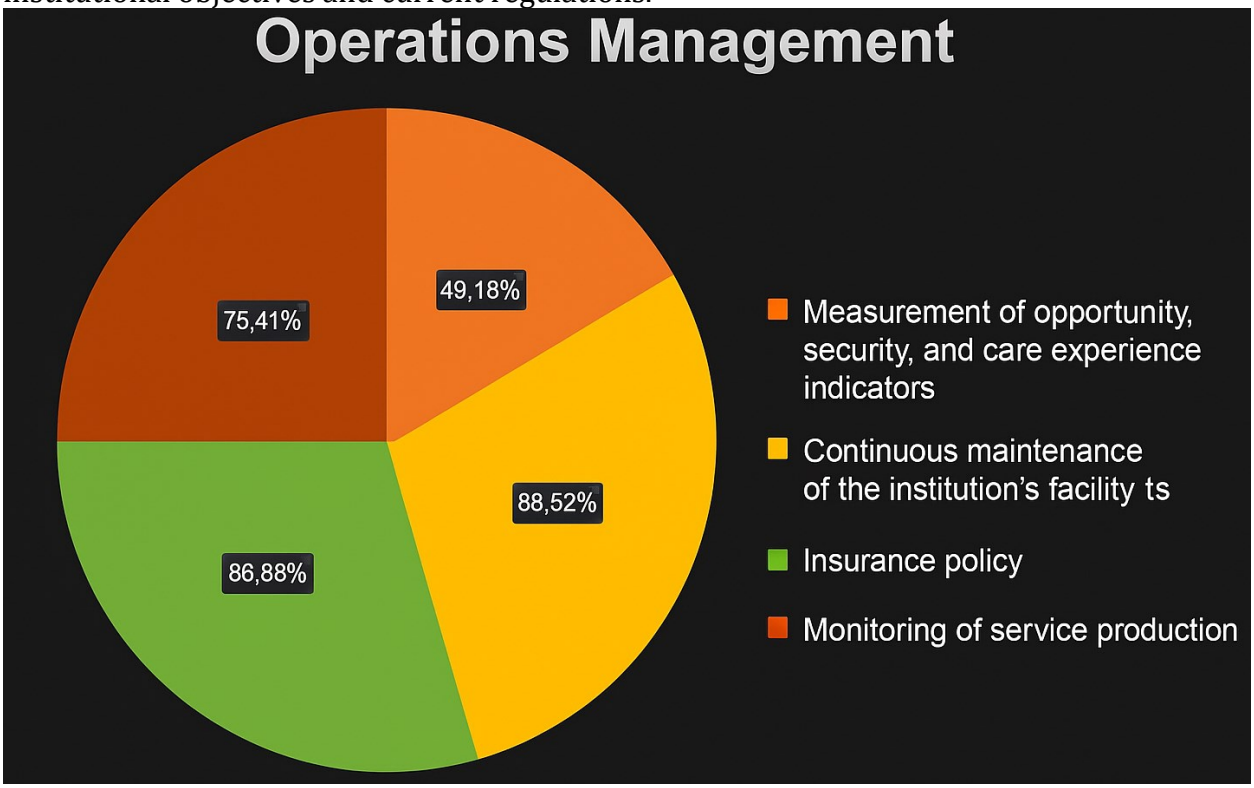

Figure 1. Operations Management – Strengths

Fountain. Authors' own elaboration

In relation to operations management, the surveyed IPS present strengths in monitoring the production of services (75.41%) represented in tools for controlling appointments and cancellation of appointments, user satisfaction surveys and timeliness in the resolution of PQRS. The consolidated results also show the acquisition of insurance policies (86.89%) in order to reduce the uncertainty generated by the development of the operation. The most prevalent policies acquired are those of professional civil liability whose purpose is to indemnify and provide coverage for damages caused by errors or omissions in the provision of the service.

Another aspect of operations management relevant in small and medium-sized institutions that provide health services is the constant maintenance of the institution's facilities and equipment (86.89%). The prevalence of this factor is due to the fact that the infrastructure and endowment standard of resolution 3100 of 2019 states that the health service provider must guarantee the adequate conditions of the infrastructure and the technical quality conditions of the biomedical and hospital equipment used to provide health services.

Finally, in relation to operations management, it is observed that in the measurement and monitoring of the indicators of opportunity, security and experience of care, 49.8% of the institutions present the information required by the territorial entities, although some state that sometimes it is rendered extemporaneously. On the other hand, the remaining 50.82% of institutions claim not to submit the information because the regulation does not oblige them to do so and in other cases due to ignorance.

Table 5. Strengths and Weaknesses in the Financial Management of SMEs in Santiago de Cali

| Process | Fortress | Quantity | % | Weakness | Quantity | % |
|---|---|---|---|---|---|---|
| Financial management | Proper collection of wallet | 22 | 36.07% | Insufficient collection of portfolio | 31 | 50.82% |
| | Proper management of glosses | 9 | 14.75% | High glosses due to lack of relevance and inadequate invoicing | 43 | 70.49% |
| | Structured and established document management | 32 | 52.46% | There is no document management system in place | 26 | 42.62% |
| | Continuous monitoring in | 35 | 57.38% | Failure to deliver | 16 | 26.23% |

| | | | | | | |
|---|---|---|---|---|---|---|
| | the delivery of financial statements | | | financial statements | | |
| | Financial Management Indicators | 17 | 27.87% | There is no system for measuring financial management | 34 | 55.74% |
| | Financial leverage | 1 | 1.64% | | | |

Fountain. Authors' own elaboration

Now, regarding financial management in organizations Rodríguez Salazar, (2016, p. 591) It states that it allows: *"to identify the economic and financial aspects of a company's operating conditions in terms of liquidity, solvency, indebtedness, efficiency, performance, profitability and value generation, facilitating economic and financial decision-making in business* activity". Rodríguez Salazar, (2016, p. 591). Regarding the above, conditions and behaviors are observed in the surveyed IPS that condition the optimal development of financial management, including the size of the company, the availability of the accounting professional within the institutions, the lack of financial knowledge and the lack of measurement and monitoring of business finances. The effect caused by these factors is reflected in the low number of SMEs that appropriately collect the portfolio (36.07%), properly manage the glosses (14.75%), have established financial indicators and inducers (27.87%) as measurement elements to guarantee the generation of profitability and value, have an institutional and financial document management program (52.46%) and have established monitoring for the delivery of financial statements (57.38%). It is important to note that what was found in the surveyed IPS reflects the financial outlook of health institutions at the national level. The firm Fitch-Ratings (2016) issued a report called "Health Provider Institutions, in Intensive Care" where it cites *"that health institutions in general have weak financial profiles limited to weak financial performance, high portfolio restricts liquidity, narrow operating results, adjusted cash flow generation, limited borrowing capacity and weak corporate governance".* Fitch -Ratings (2016)

Table 6. Strengths and Weaknesses in the Management of Technology and Information of SMEs in Santiago de Cali

| Process | Fortress | Quantity | % | Weakness | Quantity | % |
|---|---|---|---|---|---|---|
| Technology and Information Management | Institutional Information System | 52 | 85.25 % | No Institutional Software | 4 | 6.56% |
| | Information Security and Privacy Policy | 17 | 27.87 % | They do not have policies that guarantee | 32 | 52.46 % |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | information security | | |
| | Inventory of technological equipment | 53 | 86.89 % | Lack of technological equipment | 1 | 1.64% |
| | Schedule of preventive maintenance of computer and technological equipment | 36 | 59.02 % | There is no maintenance schedule for technological equipment | 19 | 31.15 % |

Fountain. Authors' own elaboration

Likewise, information technologies are a fundamental component for the development of the processes of any organization since they facilitate the registration, organization, consolidation and processing of data, transforming them into the information required for decision-making and analysis of the company's behavior. In the IPS surveyed, it is evident through the results obtained that 86.89% of the companies have a technological inventory that meets the requirements of the institution. In addition, 85.25% have an institutional information system adjusted to the requirements requested by current regulations in relation to the registration of medical history, the consolidation of information for mandatory reports, the monitoring and evolution of patients, the control of medications, among other required operations. However, it is observed that only 59.02% of the health providers investigated have a preventive maintenance schedule for computer equipment and 31.15% do not have this tool.

On the other hand, 27.87% of small and medium-sized health organizations claim to have documented and implemented the information security and privacy policy, unlike 52.46% of entities that responded that they do not have an instrument that guarantees the security and confidentiality of data, but assert that they carry out actions that guarantee the privacy and confidentiality of information.

*Table 7. Strengths and Weaknesses of the Commercial Management of SMEs in Santiago de Cali*

| Process | Fortress | Quantity | % | Weakness | Quantity | % |
|---|---|---|---|---|---|---|
| Commercial Management | Portfolio of institutional services | 59 | 96,72% | The company does not have a portfolio of institutional services | 0 | 0% |
| | Commercial and strategic alliances | 53 | 86,89% | No user service area available | 1 | 1,64% |
| | | | | Insufficient commercial partnerships – | 4 | 6,56% |

| | |
|---|---|
| | little participation in the municipal health network |

Fountain. Authors' own elaboration

In relation to commercial management, in the companies visited there is a high prevalence in the strategic development of the organizations, since it was observed in the development of the survey how the management distributes resources for the execution of advertising strategies and commercial dissemination of services such as the institutional portfolio in physical and digital format. websites and social networks (96.72%). On the other hand, it is observed that 86.89% have commercial and strategic alliances with IPS of less and greater complexity, thus achieving to be part of the municipal health service provider network and guarantee with this articulation effective access to health services, timely, continuous, comprehensive and decisive care and comply with the appropriate management to improve health results. Minsalud, (2018).

After analyzing the results of the visits to the selected small and medium-sized IPS, it is observed that the administrative management of the institutions has several structured and implemented elements, but there are still weaknesses in the adoption of fundamental factors for the development and optimal functioning of each of them. Among the elements that have been implemented, the elaboration and socialization of the organizational chart where the structure and positions that make up each of the institutions in question are delimited (86.89%).

Regarding the identification and analysis of the factors that generate risks in health SMEs in Santiago de Cali,a list of possible risks that may affect this type of organization was included in the survey carried out. In addition, a processing space was established so that each person evaluated could record in said space another type of risk that he or she considers detrimental to the operation of the Institution he or she represents. The results were semaphorized according to the frequency of response and the degree of relevance indicated by the respondents (Table No.8), this facilitated the interpretation and conclusion of what type of risks are the ones that have the highest degree of occurrence in this type of institutions and based on that the risk mitigation model will be designed and proposed.

Table 8. Risk Factors in Cali's Health SMEs

| Process | Fortress | Quantity | % |
|---|---|---|---|
| Human Talent Management | Inadequate staff selection and recruitment process | **5** | **8,20%** |
| | Delays in processes due to the hiring of staff without the skills required for the position | **8** | **13,11%** |

| | | | |
|---|---|---|---|
| | Failure to implement and monitor the occupational health and safety program | **17** | **27,87%** |
| Operations Management | Non-adherence to infrastructure maintenance schedule | **3** | **4,92%** |
| | Damage to third parties due to civil liability | **32** | **52,46%** |
| Financial management | Failure to identify factors contributing to increased operating expenses | **23** | **37,70%** |
| | Poor budget execution | **24** | **39,34%** |
| | Posting of accounting transactions without the corresponding supports | **27** | **44,26%** |
| | Results in production targets and financial targets that do not meet the schedule | **37** | **60,66%** |
| | High glosses due to lack of relevance in medical records and billing | **42** | **68,85%** |
| | Insufficient collection of programmed revenues | **44** | **72,13%** |
| Technology and Information Management | Omission of hardware maintenance and information backing | **34** | **55,74%** |
| | Manipulation and leakage of information | **34** | **55,74%** |
| | Damage to servers and failures in the information system | **36** | **59,02%** |
| Commercial Management | Inadequate response to PQRS from the affiliated population | **26** | **42,62%** |
| Administrative Management | Inadequate concurrent and medical account auditing | **1** | **1,64%** |
| | Inadequate follow-up to the comprehensive management of waste generated in health care | **7** | **11,48%** |
| | No documented processes and procedures | **24** | **39,34%** |
| | Incorrect parameterization of the rates of the services agreed between the parties | **28** | **45,90%** |
| | Non-compliance with the rules and surrenders established by the control entities | **33** | **54,10%** |
| | Not updating the documentation of the document management system | **33** | **54,10%** |
| | Inopportuneness in the presentation of reports and | **47** | **77,05%** |

| | | | |
|---|---|---|---|
| | declarations of mandatory compliance | | |
| | Non-compliance in the development and evaluation of the Audit Plan for the Improvement of the Quality of Health Care – PAMEC | **49** | **80,33%** |

Fountain. Authors' own elaboration

Considering the results observed, it is evident that for health SMEs in Santiago de Cali, the most prevalent risks are those that affect the financial, administrative, operational, and technological areas. Thus, when analyzing the risks in the financial area, the Health Service Provider Institutions in Colombia are facing financial instability because the number of services provided to the public in the last decade has increased significantly and is proportional to the inequitable distribution of demand since the population that requires health services is served by large institutions leaving a minority for small and medium-sized enterprises. Also, the tools and mechanisms for collection, billing and control have not grown equitably with the increase in production and for this reason the need to improve the flow of information between the different components of the country's health system is evident. A fundamental element that affects and increases the imbalance is the increase in the delinquent portfolio that these entities have.

Behavior that despite the many government regulations is maintained. One of the main causes is that the Health Promoting Entities massively reject the invoices and subject them to gloss, regulation and reconciliation processes that in most cases end up becoming a delinquent portfolio and losses for the IPS. Chavarría, (2018, p.133). The results show that both small and medium-sized health companies in the city of Cali face risks in the financial area that directly affect their growth and profitability. Among the risks that bring the most difficulty to the surveyed companies are non-compliance with production goals (60.66%), insufficient collection of the portfolio (72.13%), high glosses due to the lack of relevance in medical records and billing (68.85%) and the accounting of transactions without the required supports (44.26%). In this order of ideas, the information derived from the surveys denotes the financial fragility of small private IPS, which report positive income in their accounting despite not achieving the proposed institutional goals, but a large part of the current assets is condensed in accounts receivable, which implies a significant decrease in liquidity, preventing compliance in the operation and payments of short-term obligations. This contrasts with the reports issued by the Colombian Association of Hospitals and Clinics (2018) that summarize the reality of the health crisis in four statements:

- ✓ As current assets, it is observed that the debtors' account registers the highest proportion, being higher in private institutions that reach a maximum of 82%, while public institutions register between 63.1% and 70.4%. (p.4)
- ✓ In order to operate or comply with suppliers, health institutions must resort to external financing due to the insufficiency of the available asset, thus increasing financial costs, evidencing with this problem the instability in the flow of resources and the non-payment of their obligations by agents. (p.4)

- ✓ The days of portfolio recovery amount from 192 to 201 days for private institutions, being longer compared to those of public institutions that range between 136 and 165 days, which is a number higher than that established by law, which is 60 days. (p.4)
- ✓ Private IPS have higher debt ratios than public IPS; 51% for those who made a profit and between 58% and 73% for those who made a loss. (p.4)
- ✓ On the other hand, among the factors that concern the crisis is the increase in glosses due to errors caused in invoicing, which produces the return of the same, causing the portfolio to continue to rise.

Regarding the analysis with an administrative approach, it is feasible to indicate that each of the resulting variables that occur most frequently in organizations is treated; in order of incidence the variable with the greatest effect to be treated is: the Audit Plan for the Improvement of the Quality of Health Care (PAMEC) is the means through which health institutions implement the audit component to improve the quality of health care. the improvement of the quality of health care, which is defined as a component of continuous improvement, in the Mandatory Quality Assurance System, understood as "*the systematic and continuous mechanism for evaluating and improving the quality observed, with respect to the expected quality, of the health care received by users*". Ministry of Health and Social Protection, (2006, p.7), Thus, in order to comply with the regulatory framework established by the Ministry of Health and Social Protection (Resolution 2003 of 2014, Decree 780 of 2016, Circular 012 of 2016), the IPS are obliged to implement the PAMEC critical path composed of nine elements that allow in an orderly manner to advance towards higher quality standards; otherwise, the omission of this process causes the disabling of the services provided by the Institution. However, it is evident that non-compliance with the PAMEC is one of the risks that most harms health SMEs in Santiago de Cali, reaching a frequency percentage of 80.33%, indicating that most of the institutions evaluated do not have an established and evaluated audit plan, thus compromising the quality of the processes. the presentation of mandatory information, compliance with established standards, mitigation of healthcare and administrative risks, among others.

In accordance with the above, the results show that one of the causes of these risks is due to the fact that private institutions do not present the information required by the control entities in a timely manner, due to ignorance of the law that normalizes the surrenders and the uploading of data on institutional platforms, which produces sanctions for the non-provision of information. Law 1438 of 2011. Article 116. Penalties for failure to provide information. Those obliged to report who do not comply with the timely, reliable, sufficient report and with the minimum acceptable quality of the information necessary for the operation of the monitoring system, the information systems of the health sector or health benefits shall be reported to the competent authorities so that they may impose the appropriate sanctions. in the case of Health Promoting Entities and health service providers, it may lead to the suspension of remittances or the revocation of the authorization certification.

On the other hand, the analysis of risks in the area of technology and information is fundamental since technology is the great facilitator of processes and activities, but it also

presents generalized, potentially high risk. It has strategic, financial, operational, regulatory, and reputational implications. Information technology risks arise at any level within the organizational structure; arise from competing priorities between the goals of achieving business growth, reducing costs, supporting the customer service center, and the like. On the other hand, they can persist within or be amplified by an inadequate model of risk management operation, surveillance, policies, standards, tools, and technology. Deloitte, (2016, p.6)

In this sense, inappropriate data management in an organization can lead to events such as fraud, information presentation problems, and loss of organizational trust. On the other hand, it can be evidenced that insufficiency in this aspect is the cause of the manipulation and leakage of information in these institutions, observing that 55.74% present this type of risk caused by the omission or non-compliance with information security and privacy policies by employees and service providers. Regarding the operability of the technology, there are risks due to the omission in the maintenance of technological equipment (55.74%), causing an increase in damage to storage devices (59.02%) and the loss of information.

That said, it is necessary to propose the modAdministrative and financial risk mitigation for health SMEs in Santiago de Cali. Thus,To characterize and identify the factors that generate risks in the SMEs of Santiago de Cali, the importance of certain aspects regarding the mitigation of the risks that threaten the investigated organizations was verified. Therefore, questions were asked to the respondents whose purpose was to determine the degree of relevance that strategic direction, environment, organizational structure, environmental management, commercial management, quality management, knowledge management, human talent management, financial management, operational management, technology and information systems have for them in addressing the risks that arise in their organizations. To achieve this end, the measurement tool called the Likert Scale was used, which allows measuring attitudes and knowing the degree of conformity of the respondent with the statement proposed.

The administrative and financial risk mitigation model for health SMEs in Santiago de Cali is based on the NTC 5254 standard of 2014 and the system proposed by the Modernization Model of organizations presented by the EAN University, which establishes a path for improvement that allows for better planning and strategies so that SMEs can move forward in a sustainable way. managing to reduce the impact produced by institutional weaknesses and threats in the environment. It is composed of 5 stages that seek to identify the events and risks that generate uncertainty in the organization, followed by the programming of lines of action with their respective goals and strategies, the analysis of the results obtained, the feedback to the managers and the establishment of control points in order to follow up on the activities proposed and avoid the occurrence of errors. It also includes the implementation of twelve strategies, with which it is intended to establish the viability of the model in its execution and operation in the long term to have inputs that determine the efficiency and effectiveness of having implemented this new model of mitigation in risks of various kinds.

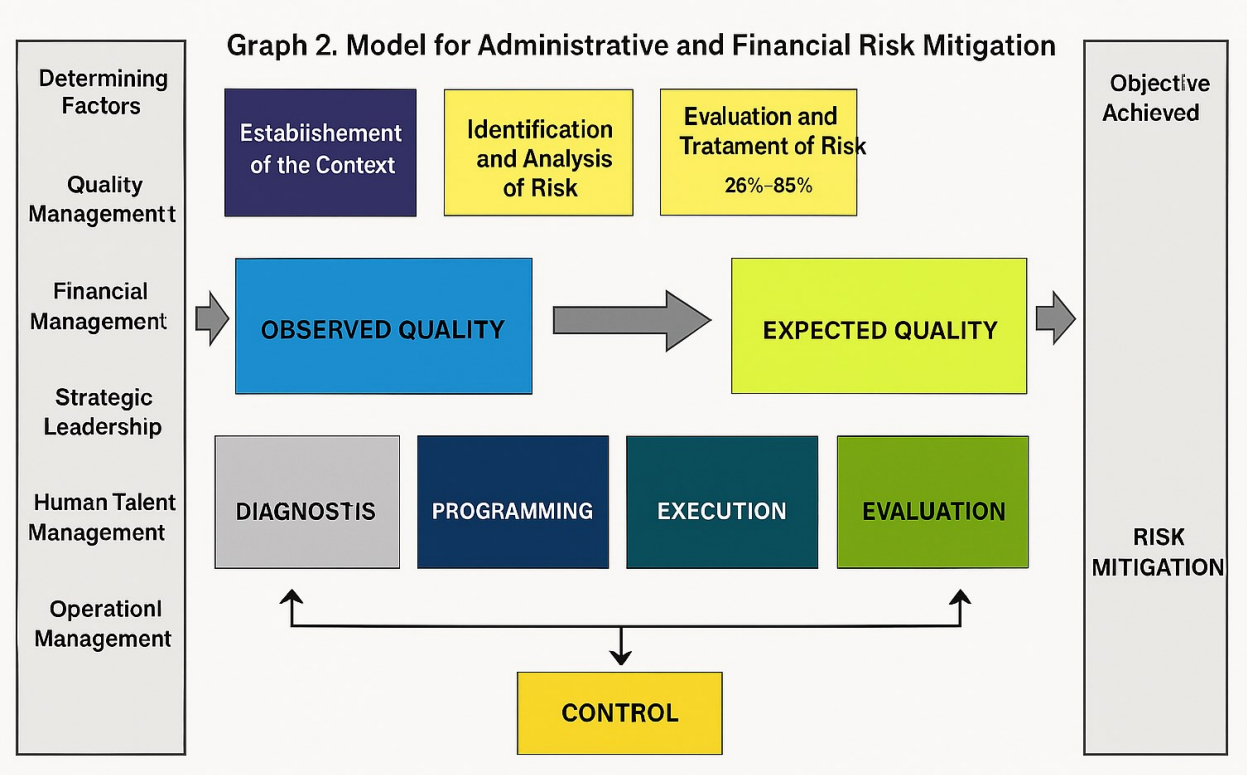


Figure 1. Administrative and Financial Risk Mitigation Model
Source: Organizational Modernization Model presented by EAN University

Consistent with the above, in relation to the context of this type of company, it can be seen that, for this stage, it was necessary to establish the diagnosis of the company through the study of the context of the organization, defining the basic parameters within which the risk will be managed; These parameters must be determined from three contexts: strategic, organizational, and risk management. The strategic context determines the organization-environment relationship, identifying strengths, weaknesses, opportunities, and threats, including financial, operational, competitive, political, social, and cultural aspects of the organization, among others. The organizational aspect involves understanding the organization and its capabilities, its goals, objectives, and strategies to achieve them. Finally, the risk management system must establish the objective and limits of the risk management process. Ochoa Torres, (2017, p. 5)

Likewise, to analyze the internal and external context, and build the organizational diagnosis, there are tools that are easy to structure and interpret that allow those who design them to obtain a situational picture or scenario of the current conditions of the company and the preparation of strategies. Among them are those mentioned below, such as the PESTEL analysis: A monitoring instrument whose purpose is to identify the forces of the environment at the macro level that influence an organization and can determine its evolution. The acronym PESTEL refers to the political, economic, socio-cultural, technological, ecological and legal aspects.

Similarly, the SFAS Matrix (EFAS – IFAS): The EFAS (External Factors of Strategic Analysis) and IFAS (Internal Factors of Strategic Analysis) tables plus the SFAS Matrix (Summary Matrix of the Analysis of Strategic Factors) were developed to address the criticisms of the SWOT analysis. When used together, they constitute a series of fundamental tools for strategic analysis. The SFAS Matrix summarizes the strategic factors of an organization by combining external factors (EFAS) with internal factors (IFAS). It includes only the most important factors condensed from the analysis of the environment and therefore provides essential information for the formulation of diagnosis and strategies. Wheelen and Hunger, (2013, p.191).
In this order of ideas, the SWOT Matrix: Instrument that allows the identification and situational analysis of the organization in terms of its structure and environment. It presents the distinctive competencies or skills, the specific capabilities and resources available to the company and how best to use them, as well as the opportunities that the company is not taking advantage of due to the lack of adequate resources and the threats that loom over them. It illustrates how the external opportunities and threats they face can be related to their strengths and weaknesses to give rise to four groups of possible strategic alternatives. Wheelen and Hunger, (2013, p.190-197). Thus, by applying the aforementioned tools, a significant database will be obtained that will allow contextualizing the reality of the company and in turn will be the raw material to advance to the second phase of the model, which consists of the identification and analysis of risks.

When the diagnosis of the company is carried out, the second phase is initiated, which consists of identifying and analyzing the risks in order to program and propose the actions that must be taken to mitigate them and reduce the impact that threatens the operation of the organization. In this step, the aim is to identify the risks to be managed, using a systematic structured process in order not to leave any risk unidentified, since it can be excluded in the subsequent analysis. The purpose is to generate a list of the sources of risks and events that may have a negative impact on the achievement of each of the objectives identified in the context. The tools used to identify risks include surveys, interviews, direct observation, checklists, judgments based on experience and records, flowcharts, *brainstorming* , systems analysis and scenario analysis. (Colombian Institute of Technical Standards and Certification – ICONTEC, (2014, p.4). This stage is an exchange with stakeholders and with the members of the company and is where all the risks to which the organization is exposed are defined. Here it is recommended to link the determination of risks to the organizational objectives, processes or areas of the organization. Brito, (2018, p. 275)

After identification, the risk analysis is carried out, which consists of developing an understanding of the risk. It provides input for decisions on whether to address risks and the most appropriate and cost-effective risk management strategies. The analysis involves consideration of the sources of risk, their positive and negative consequences, and the possibility that such occurrences may occur. (Colombian Institute of Technical Standards and Certification – ICONTEC, 2014, p.4). The objective of the analysis is to separate the minor acceptable risks from the major risks, and to provide the information necessary to initiate treatment and risk assessment. It involves considering the sources of risks, their effects, the likelihood that those consequences may occur, and excluding similar or low-impact risks from the study. The NTC 5254 (2014) Standard states that, to achieve this classification, it

can be done with varying degrees of detail depending on the risk, the purpose of the analysis and the information of available data and resources. The analysis can be qualitative, semi-quantitative, quantitative, or a combination of them. In practice, qualitative analysis is often used first to obtain a general indication of the level of risk and to reveal the main aspects of risk. Subsequently, it may be necessary to undertake a more specific or quantitative analysis of the main aspects of risk. (p. 5)

For the model presented, the analysis is carried out through the completion of the qualitative risk analysis matrix, where the probability of occurrence and the impact of the risk with its consequences are identified. This matrix must be prepared with the information captured in the diagnosis stage, which has been provided by the directors of each of the institutions or organizations under study. By classifying each of the risks, the action plan is built where the treatment of the prioritized risks is materialized, taking into account the organizational objectives and what has been observed in the diagnosis, identification and analysis of the risks and in which the presentation of strategies, lines of action, goals, etc. is observed. resources, managers, execution time, measurement of progress and monitoring of what was projected, and taking into account the aforementioned and the information obtained by the health SMEs investigated, financial, administrative, technological and operational risks were prioritized to initiate the process of implementing strategies and activities that allow their mitigation and occurrence.

Thus, the evaluation and treatment of the risk was carried out in the subject of execution and based on the results of the risk analysis, the purpose of the risk treatment is to address appropriate decision-making, determine the risks to be treated, formulate an action plan based on the prioritized risks and implement the actions required to reduce them. Risk assessment involves comparing the level of risk found during the analysis process with the risk criteria established when the context was considered. Brito, (2018, p. 276). Having clear the context of the investigated companies, the level of risks identified and the determining factors selected by the surveyed institutions, the action plan is built where the strategies and lines of action that contribute to the treatment of risks and meet the objective of this research are presented. This includes the following twelve (12) strategies:

Strategy No. 1. Establishment of the Internal Audit System. It is proposed to establish an internal audit system focused on the mitigation of various types of risks.

Strategy No. 2. Strengthening the commercial and billing process in the institution
One of the risks that threatens the institutions providing the health service is the non-compliance in the projected production, which implies a decrease in income that, together with the slow turnover of the portfolio, becomes a detrimental factor for the operation and fulfillment of obligations, because liquidity is proportional to income and collections and without it it is difficult for companies to sustain themselves in time. For this reason, it is proposed to the small and medium-sized IPS of Cali, to establish various strategies that contribute to the increase of income.

Strategy No. 3. Establishment of collection policies and negotiation and implementation of contracting models with the payers of the service. Mitigated Risk: Insufficient Portfolio

Collection Policies or portfolio policies are the guidelines established by the organization to evaluate, monitor, and control accounts receivable in order to ensure that payments are made in a timely and effective manner. This activity includes the registration and classification of accounts by age and categories such as current, overdue and difficult-to-collect accounts.

Strategy No. 4. Preparation, implementation and evaluation of adherence to the manual of accounting policies, procedures and functions Mitigated risk: Accounting of transactions without the required supports. The accounting policies and procedures manual consists of an instrument that allows the identification, classification, recording, measurement, disclosure and presentation of an organization's accounting and financial information. According to the International Accounting Standards IAS, accounting policies are the specific principles, bases, agreements, rules and procedures adopted by the entity in the preparation and presentation of its financial statements. One of the important processes that must be included in accounting policies and procedures is related to the generation and storage of information, since the financial and accounting data produced in the organization are the basis for accounting recognition of economic and financial facts. For this reason, it is necessary to take into account the importance of accounting supports in this process, because they serve to justify the commercial action between the parties that compose it, in addition to maintaining adequate control of the movements that are made.

Due to the importance of registering and storing accounting supports, the strategy of preparing or updating the manual of accounting policies, procedures and functions is proposed, in order to establish guidelines that allow all the officials of the IPS under investigation to justify the commercial operations of the organization with the proper documents that support such movement. In addition, the adherence evaluation is developed through checklists, thus guaranteeing that the personnel complies with the provisions of said procedure.

Strategy No. 5. Implementation and evaluation of the critical path of the Audit Plan for the Improvement of the Quality of Health Care - PAMEC
Mitigated Risk: Non-compliance in the development and evaluation of the Audit Plan for the Improvement of the Quality of Health Care – PAMEC. Despite the fact that it is instituted by the National Government that the PAMEC must be established in all health entities, it was observed in the development of the survey carried out that the Plan, despite the fact that it is documented in many IPS, is not properly implemented since the focus of many legal representatives is on the growth of their commercial area and the development of their installed capacity. However, the PAMEC is a tool that allows this type of institution to achieve accreditation and quality standards, thereby generating competitive advantages that benefit the institution in a forceful way, since accredited services generate security and confidence in the demanding population, which implies greater production and therefore greater income generation.

For the development of this strategy, the implementation of the 9 phases established for the improvement of the processes and quality management of health organizations is required. This process is called the critical path and is composed of the actions that must be

implemented to comply with the requirements of the legal regulations in terms of the audit plan for quality improvement.

Strategy No. 6. Design and implementation of the schedule of surrenders by validity.
Mitigated risk: Lack of timeliness in the presentation of reports and declarations of mandatory compliance. There are many regulations that establish the delivery of information in a timely manner by health service providers and among them is the provision of data to feed the Quality Information System (SIC). The SIC is a tool that contributes to the systematic collection of data on the quality of health care, its proper storage and processing to guide the decision-making of users when exercising the rights that the General Social Security System in Health contemplates for them.

Strategy No. 7. Compliance with current legal regulations
In terms of service authorization, the IPS investigated present deficiencies in terms of the implementation of processes, adaptation of infrastructure, management of medical records and records, which is why there is evidence of partial non-compliance with resolution 3100 of 2019 that records the procedures and conditions for the registration of health service providers and the authorization of health services. This type of finding can generate difficulties in the provision of health service, therefore, production will be reduced, harming the operation of the company. Taking into account the above, the application of the checklist where the conditions of authorization, the standards that must be met and the actions that must be carried out by the institution providing health services are proposed as a line of action. If, in a given case, the self-evaluation carried out does not obtain the necessary results for the services to be enabled, the improvement plan required to achieve compliance with the standards is carried out.

Strategy No. 8. Preparation and/or updating of the institutional document management system
Document management is defined as the set of actions, techniques and instruments whose purpose is to manage the flow of documentation that is generated in organizations. It consists of controlling in an efficient and systematic way the creation, reception, maintenance, use and final disposition of documents. International Organization for Standardization, (2001, p.5). In relation to the above and within the framework of the research carried out, it is proposed to establish document management as a mechanism to mitigate the risks related to the possession and administration of documents in health SMEs in Santiago de Cali. To achieve this, the 8 phases defined by ISO 15489-1 to implement document management are presented:

Strategy No. 9. Establishment of a maintenance plan for technological equipment and information systems. Technological risk refers to the probability of suffering economic, environmental and human damage or losses as a result of the malfunction or accident of a technology or information system applied to human activity. This risk can affect organizational goals and objectives and be the cause of another type of risk as it is intrinsic to the use of technology. Therefore, the damage, interruption, alteration or failure derived from the use of IT can imply significant losses in organizations, financial losses, fines or legal actions, affect the image of an organization and cause inconveniences at an operational and

strategic level. Ramírez Castro & Ortiz Bayona, (2011, p. 57). Because of this, for health SMEs in Santiago de Cali, it is essential to implement strategies that minimize technological risks or the effects caused by them, since the operation of these companies concentrates high volumes of information that, if not stored and safeguarded properly, could be lost, generating not only economic losses but also difficulties and delays in the processes. For this reason, the development of the respective procedure and the structuring and implementation of the hardware and software preventive maintenance plan is required as a response to this type of risk, anticipating any type of anomaly that may occur and that harms the normal development of the organization. Preventive actions must be appropriate to reduce the impact of potential problems; the control procedure and tool must be documented and contain the following requirements set out in NTC-ISO 27001.

Strategy No. 10: Design and establish the information security and privacy policy. The information security and privacy policy is the general statement that represents the position of the managers with respect to the protection of the information assets that support the processes of each organization and support the implementation of the information security management system, through the generation and publication of procedures and instructions. as well as the assignment of general and specific responsibilities for information security management. Ministry of Information and Communications Technologies, (2016, p. 11).

To ensure that risks such as information leakage, plagiarism, among others, are minimized, the information security and privacy policy must include various strategies in order to ensure that information security guidelines are defined for institutions and entities, as these will allow patterns and practices to be established that guarantee care, the conservation and processing of the information obtained in the operation. For this reason, in order to implement appropriate policies for this purpose, it is necessary to comply with a series of stages that systematically address the problems presented with respect to computer risks (leakage and manipulation of information).

Strategy No. 11. Ensure the Institution's healthcare processes. Article 2341 of the Colombian Civil Code states that anyone who has committed a crime or fault that has caused damage to another is obliged to pay compensation without prejudice to the main penalty imposed by law for the fault or crime committed, thus enshrining the principle of civil liability. Such rules are applicable to any activity, position or trade, by virtue of the principle of equality of persons before the law. Congress of the Republic of Colombia, (1973). In this sense, the doctor in the exercise of his profession is obliged, like other citizens, to comply with a series of rules and obligations, and his conduct can generate civil liability for the damages caused to patients in treatment, surgical procedures, among others. These procedural errors cause economic losses and dissatisfaction in users, which decreases the perception of the image that the community has of health institutions. Such damages caused by errors or omissions during the provision of professional health care services require insurance that guarantees the transfer of risk and thus covers the medical civil liability incurred. For this reason, the strategy presented to reduce the effects of this risk on health SMEs in Santiago de Cali consists of contracting a medical civil liability policy that covers the care processes of each of the institutions.

Strategy No. 12. Strengthening the patient safety program. According to the Ministry of Health and Social Protection, patient safety is defined as the set of structural elements, processes, instruments and methodologies based on scientifically proven evidence that tend to minimize the risk of suffering an adverse event in the health care process or to mitigate its consequences. In order to reduce medical civil liability, it is necessary for health service providers to guarantee the safety of patients in processes where some type of clinical intervention that violates their physical integrity is performed. For this reason, it is proposed for small and medium-sized IPS to implement safe institutional processes that guarantee medical practice.

## Discussion

In order to sustain their operation over time, health service institutions need to rethink their processes and activities in order to face the threats and risks they present on a daily basis. To achieve this, the following recommendations are proposed in order to be taken into account for future research and to be implemented as required. In the first instance, it is necessary for the effective mitigation of risks, to generate a culture of risk management in each of the members of the organization, (managers, supervisors, collaborators, among others) since the commitment of all the human talent of the company is required to develop schemes that allow the approach of the risks that materialize. Likewise, it is recommended that the institutions under investigation invest in the implementation of models that fit their needs and that allow the identification, analysis and treatment of the risks that harm them, since by carrying out this type of action they will contribute to minimizing the impact that may occur if they occur.

On the other hand, research should continue to expand and update knowledge related to this topic, because the internal conditions of organizations and the environment are variable and therefore adjustments and modifications are required in the tools and instruments used to mitigate risks.

## Conclusions

Health SMEs in Santiago de Cali are characterized by a moderate degree of heterogeneity in terms of size, coverage, supply of services provided, personnel hiring models, internal context (strengths or weaknesses) and risk generating factors, which implies difficulties when proposing models that specifically address the problems presented within each of them. For this reason, it is necessary to propose schemes based on current legal regulations, since, by doing so in this way, it will be possible to propose lines of action that are not limited to this scenario and allow access to any small and medium-sized IPS to alternatives to mitigate the risks that affect them.

On the other hand, it is evident through the analysis of the information collected that the areas with the highest prevalence of risk in the health SMEs investigated are administrative, financial, technological and operational. In detail, the risks that generate the greatest difficulty in the aforementioned entities and that were prioritized for subsequent treatment are non-compliance in the development and evaluation of the PAMEC, the inopportuneness

in the presentation of reports and declarations of mandatory compliance, the insufficiency in the collection of revenues, the glosses of relevance and high turnover, non-compliance with production objectives and financial goals, damage to hardware, information leakage, omission of security and privacy of information, non-compliance with the rules established by control entities and damage to third parties due to civil liability.

That said, the model based on the prioritization of risks, the relevant factors for the organizations investigated (Quality Management, Financial Management, Strategic Direction, Human Talent Management, Operational Management, Commercial Management, Technology and Information Systems and Knowledge Management and Innovation), the risk management process established in the NTC 5254 standard of 2014 and the modernization model of the Organizations. It consists of 5 stages (diagnosis, programming, execution, evaluation and control) where the activities required to establish the context of the organization, identification, analysis, treatment, monitoring and review of risk are carried out.

Finally, it is evident that health SMEs in Santiago de Cali require models or schemes that provide the necessary tools or instruments for risk mitigation since, as the difficulties presented in this document persist, many of the IPS investigated could be compromised in adverse events that would result in the loss of resources. a decrease in market share, sanctions and in the worst case the cessation of the operation.

## Recommendations

**Funding:** Authors must specify the sources of funding that gave rise to the research from which the submitted article is derived, for this they must provide: title of the project, entity or person funding, code or identifier of the project (optional).

**Declaration of conflict of interest**: Authors must specify that the submitted work does not represent any conflict of interest with them, the journal, the publishing entity and the funding entities.

## Thanks

The authors thank all the companies in the health area that participated in the study, the directors of the University of Quindío and all the civil and administrative authorities that allowed the development of this research work and academic production.

## Bibliographic references

Bernal, C.A. (2016). *Research Methodology*. Bogotá, Colombia: Pearson.

Brito Gómez, D. (2018). Business risk. *University and Society, 10(1), 269-277.* Retrieved from http://rus.ucf.edu.cu/index.php/rus

Cerda, H. (1998). *The elements of the investigation*. Bogotá: El Búho.

Chavarría Chavarría, T. (2018). Development and implementation of a tool for the validation of medical accounts and management of glosses in the health sector in Colombia. *Med. U.P.B. 37*(2). 131-141. DOI:10.18566/medupb.v37n2.a07

Chiavenato, I. (2011). Human resources management << the human capital of >> organizations. Mexico City, Mexico: Mc Graw Hill

Congress of the Republic of Colombia (1973). *Law 84 of 1873 by means of which the Colombian Civil Code is established*. Bogotá D.C.: Congress of the Republic of Colombia

Deloitte & Touche Ltda. (2016). *Information technology risks in financial services.* Retrieved from https://www2.deloitte.com/content/dam/Deloitte/co/Documents/audit/BibliotecaTecnica/RecursosAuditoria/InteligenciaFR/Riesgos%20TI%20%20Servicios%20Financieros%20(ok).pdf

Fitch Ratings. (2016). *Public Health Provider Institutions, in Intensive Care*. Retrieved from http://acesi.com.co/wp-content/uploads/2016/04/FITCH-RATINGS-abril2016-IPS-PUBLICAS-COLOMBIA.pdf

Colombian Institute of Technical Standards and Certification – ICONTEC. (2014). *Risk Management.* Bogotá D.C: Colombian Institute of Technical Standards and Certification.

International Organization for Standardization. (2001). *International Standard ISO 15498-1:2001. Information and documentation. Document management*. Retrieved from http://www.informacionpublicapgr.gob.sv/descargables/sia/normativa-internacional/GEStexto1(CS).pdf

Joint Standards Australia/Standards New Zealand Committee. (1999). Australian Standard of Risk Management. Sydney: AS/NZS.

Ministry of Health and Social Protection. (2006). *Technical Annex No. 2. Single Manual of Procedures for Enabling Resolution 1043 of 2006.* Retrieved from: http://www.saludcapital.gov.co/DDS/Documents/Anexo_tecnico_2_RES_1043_DE_3_ABRIL_DE_2006.pdf

Ministry of Health and Social Protection. (2018). *REPS Network Module for Departmental and District Health Entities*. Retrieved from: https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/PSA/Manual-usuario-verificacion-redes.pdf+&cd=6&hl=es&ct=clnk&gl=co

Ministry of Health and Social Protection (2019). *Resolution 3100 of November 2019, which defines the procedures and conditions for the registration of health service providers and the authorization of health services and adopts the Manual for the Registration of Providers and Authorization of Health Services.* Bogotá D.C.: Ministry of Health and Social Protection

Ministry of Information and Communications Technologies, (2016,) information security. Gazette. Bogotá, Colombia.

Ochoa Torres, L.E. (2017). *Design of a methodology for quality risk management, applied in the company YOD Buen Servicio* (Postgraduate thesis). Universidad Libre. Bogotá D.C

Okuda Benavidez, M., & Gómez-Restrepo, C. (2005). Methods in Qualitative Research: Triangulation. *Scielo, 34*(1), 119

Ramírez, A., Ortiz, Z. (2011). Technological risk management based on ISO 31000 and ISO 27005 and its contribution to business continuity. *In: Ingeniería, 16*, (2), 56-66.

Rodríguez Salazar, P.D. (2016). Financial Management in SMEs. *Publishing, 3*(8), pp. 588-596

Salamanca, J. Carvajal, N. & Caicedo, I. (2020) *Strategic model for mitigating administrative and financial risks in health SMEs in Santiago de Cali. Uniquindio. Armenia. Colombia*
Comprehensive social management system of Valle del Cauca. (2014). *Physical Description Cali.* Retrieved from http://sis.valledelcauca.gov.co/plan-desarrollo/cali
Veiga de Cabo, J., Fuente Díez, E., & Zimmermann Verdejo, M., (2008). Models of studies in applied research: concepts and criteria for design. *Scielo*, *54*(210), 81-88.
Wheleen, T., & Hunger, J.D (2013). *Strategic management and business policy*. Bogota, Colombia: Pearson