



Original Research / Orijinal Araştırma

Determining Risk Management Priorities and Suggesting Strategies in the Management of Family Health Centres

Aile Sağlığı Merkezlerinin Yönetiminde Risk Yönetimi Önceliklerinin Belirlenmesi ve Strateji Önerileri

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Abstract

Aim: The purpose of this study is to identify the risks faced by decision-makers in the management of Family Health Center (FHC) and to propose strategies according to their relative importance.

Materials and Methods: Eight different risks were identified as a result of the literature review. In order to evaluate the identified risks, four different physicians with at least ten years of managerial experience in FHCs and two health managers with at least ten years of experience in their field were included in the study. SWARA (Stepwise Weight Assessment Ratio Analysis) method was used to evaluate and analyze the opinions. SWARA method is a weight calculation method based on expert opinions developed for the finalization of decision problems.

Results: According to the results of the analysis, experts ranked financial risks (%27), clinical and patient safety risks (%21), and operational risks (%15) as the most important risks, respectively. Hazard risks (%4) were assessed as the least risky in relative terms. For FHCs to carry out their activities effectively, financial risks should be minimized first.

Conclusions: Additional measures should be taken by the public for the use and rental of FHCs. Diversification of other sources of income can be ensured by expanding the health services provided beyond the resource transfer linked to the public budget. Regional investment and incentives can be developed by municipalities. Strengthening data protection policies to assess the compliance of medical practices with legal standards and to ensure the security of personal patient data can also reduce legal risks. In FHCs, general safety issues, especially patient safety, are also priority issues that should be investigated and legislation should be developed. In addition, management courses/training can be added to the family medicine specialty curriculum to improve the managerial skills of physicians.

Keywords: Primary health care, risk management, operations research

Özet

Amaç: Bu çalışmanın amacı, Aile Sağlığı Merkezi (ASM) yönetiminde karar vericilerin karşılaştığı riskleri tespit etmek ve göreceli önem derecelerine göre öncelikli strateji önerilerinde bulunmaktır.

Gereç ve Yöntem: Literatür taraması sonucu sekiz farklı risk belirlenmiştir. Belirlenen risklerinin değerlendirilmesi için ASM'lerde en az on yıl yönetici görevinde bulunan dört farklı hekim ve alanında en az on yıl tecrübesi olan iki sağlık yönetici çalışmaya dahil edilmiştir. Görüşlerin değerlendirilmesi ve analiz edilmesi için SWARA (Stepwise Weight Assessment Ratio Analysis) yöntemi kullanılmıştır. SWARA yöntemi karar problemlerinin sonuca ulaştırılması için geliştirilmiş uzman görüşlerine dayalı bir ağırlık hesaplama yöntemidir.

Bulgular: Analiz sonuçlarına göre uzmanlar en önemli risk olarak, sırasıyla, finansal riskler (%27), klinik ve hasta güvenliği riskleri (%21) ve operasyonel riskleri (%15) sıralamıştır. Göreceli olarak riski en az olan değerlendirme ise afet riskleri (%4) adına yapılmıştır.

Sonuç: Kamu tarafından ASM'lerin kullanımı ve kiralanması için ek tedbirler alınmalıdır. Kamu bütçesine bağlı kaynak transferinin ötesinde sunulan sağlık hizmetlerinin genişletilmesiyle birlikte diğer gelir kaynaklarının çeşitlendirilmesi sağlanabilir. Belediyeler tarafından bölgesel yatırım ve teşvikler geliştirilebilir. Tıbbi uygulamaların yasal standartlara uygunluğunu değerlendirmek ve kişisel hasta verilerinin güvenliğini sağlamak için veri koruma politikalarının güçlendirilmesi de yasal riskleri azaltabilir. ASM'lerde başta hasta güvenliği olmak üzere genel güvenlik konuları da araştırılması ve mevzuatının geliştirilmesi gereken öncelikli konulardır. Ayrıca hekimlerin yönetsel yeteneklerini geliştirmek için aile hekimliği uzmanlık müfredatına yönetim dersleri/egitimleri eklenebilir.

Anahtar Kelimeler: Birinci basamak sağlık hizmeti, risk yönetimi, yöneylem araştırması

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Introduction

Primary health care is defined as health promotion, preventive health care, diagnosis, treatment and rehabilitation, easy access, affordable, effective, and widely available health care. The Family Health Centre (FHC) represents a contemporary implementation of primary health care and stands as a cornerstone of the Health Transformation Programme initiated in Türkiye in 2003. FHCs can be set up by one or more family physicians who have been contracted based on population criteria. In addition to doctors, other health professionals are contracted separately to work in other FHCs. In order to provide basic services effectively, the doctors may individually or collectively employ or get additional health personnel such as midwives, nurses, health officers, medical secretaries, security, cleaning, heating, secretarial and similar services. For every three doctor units in FHCs, one additional health worker (such as a midwife, nurse, health officer, or medical secretary) may be assigned by the directorate. Where more than one physician provides services at FHCs, they plan a management organization and appoint a manager. Decisions made by the appointed manager are recorded in the minute book of FHCs. The manager is not only primarily responsible for the operation of the FHC but also for ensuring coordination with the Provincial Directorate of Health and the community health center. However, he/she does not have any administrative duties and responsibilities over other physicians and FHC staff.

The studies conducted for FHCs are generally in the form of effectiveness and evaluation of the system and service coverage, assessment of staff knowledge and satisfaction in specific areas, and assessment of their perceptions and attitudes on critical issues. In addition, some studies have been found to evaluate the health services provided by staff during the pandemic period, to determine the level of satisfaction, knowledge, and attitudes of individuals benefiting from FHCs, etc. Some of the studies conducted in the field have evaluated the effectiveness and inclusiveness of the family medicine system. Studies conducted in some regions of Türkiye have evaluated the efficiency and effectiveness of family health services in terms of general and some specific segments of society.^{1,2} In literature a study was conducted to identify the problems in the provinces where family medicine practice is carried out and to present solution suggestions.³ In another study authors conducted a qualitative study on physicians working as administrators in Health Centres and FHCs in a certain region and made a comparison on issues such as continuity of service, inclusiveness, the first place of application, accessibility, family-centred service, community participation, the versatility of service, priority service, etc.⁴ Some of the studies in the literature focus on burnout, depression, and anxiety, job satisfaction, workaholism, cultural sensitivity, and skills; some of them focused on the opinions of healthcare personnel about the family medicine model, reasons for choosing to work in family medicine, evaluation of the family medicine model and their satisfaction.⁵⁻¹²

Another part of the studies in the field focused on the satisfaction, attitudes, and opinions of patients and their relatives who receive services from family health centers, health literacy, and specific health indicators of patients.¹² Unlike these studies, other authors investigated the perspective of patients receiving family medicine services on violence against healthcare professionals.¹³

Risk in health care and risks identified within the scope of work

Risk management encompasses a corporate and systematic approach to evaluating and managing the impact of risks in an economical way while ensuring the involvement of individuals with the required skills to identify and assess the likelihood of risk occurrence. In the healthcare sector, risk management involves both clinical and administrative systems, processes, and reports utilized for the identification, monitoring, evaluation, mitigation, and prevention of risks. Through effective risk management, healthcare organizations proactively safeguard patient safety as well as the organization's assets, market share, accreditations, reimbursement levels, brand reputation, and societal standing. Within the context of the study, an evaluation was conducted focusing on the risks associated with FHCs. There exists no universally accepted methodology for identifying risks within healthcare facilities and the broader health industry. However, the American Society for Healthcare Risk Management (ASHRM) has formulated a guideline delineating a broad framework for risk management in health facilities, employing the principles of Enterprise Risk Management (ERM). ERM in healthcare introduces an inclusive framework for risk management decisions aimed at optimizing value protection and creation by addressing risk and uncertainty and their impact on overall value. In this framework, risks were analysed and categorized along with detailed explanations:¹⁶

1. **Operational Risks:** The objective of healthcare is to deliver care that is safe, prompt, efficient, effective, and focused on the patient, serves to a wide range of populations. Operational risks typically stem from insufficient or flawed internal processes, staff, or systems. Instances include management of adverse incidents, issues related to authorization and staffing, problems with documentation, challenges in the chain of command, and departures from standard practice.

2. **Clinical and Patient Safety Risks:** Failure to comply with evidence-based practice in the provision of services to employees, patients, and their relatives, medication errors, acclimatization, serious security incidents, etc.
3. **Strategic Risks:** The swift evolution of the external environment introduces a level of uncertainty, leading to strategic risks related to brand image, reputation, competitive dynamics, healthcare policy changes, alignment with legislative requirements, and responsiveness to patient needs. Relationships and partnerships within managed care, conflicts of interest, interactions with the media, mergers and acquisitions, sales, collaborations, affiliations, and other commercial agreements, as well as the management of contracts, are also widely acknowledged as areas susceptible to strategic risks.
4. **Financial Risks:** Decisions affecting the financial sustainability of the organization, access to capital, or the timing and accounting of income and expenses. These risks include misconduct, insurance-related costs, capital structure, credit and interest rate fluctuations, exchange rate fluctuations, capital structure, cash flow, invoicing, and collection. These risks include misconduct, insurance-related costs, capital structure, credit and interest rate fluctuations, exchange rate fluctuations, capital structure, cash flow, invoicing, and collection.
5. **Human Resources Risks:** Risks related to human resources include the recruitment, retention, and dismissal of medical and allied health personnel. These risks include staff selection, staff turnover, absenteeism, on-the-job work-related injuries (workers' compensation), work schedules, and risks associated with fatigue and compensation.
6. **Law and Regulatory Risks:** Risks in this area include failure to identify, manage, and monitor legal, regulatory, and statutory requirements at the local and central levels. These risks often include licensing, accreditation, management responsibility, as well as intellectual property issues.
7. **Technological Risks:** Healthcare has created an intense demand for the use of technology for clinical diagnosis and treatment, education and training, information storage, and utilization. This includes machinery, hardware, equipment, and devices, but also includes techniques, systems, and methods of organization.
8. **Hazard Risks:** The assets of the organization and their values are considered in this scope. Traditionally, it is associated with natural disasters and business interruption. In this scope: facility management, building age, parking (lighting, location, security), valuable assets, earthquakes, windstorms, tornadoes, floods, fires, etc. are assessed.

The purpose of this study is to identify the current problems (managerial, etc.) in FHCs and to develop strategies to solve these problems. A scientific study similar to the purpose of this study was conducted with the research on determining the current problems of family medicine practice.³ Contrary to the studies in the literature, mentioned research purpose for FHCs and suggesting strategies for the solution of these problems is evaluated with current data and findings, which proves the original value of the research.

Materials and Methods

In the study, two academicians with at least ten years of experience in health management and four different staff working as manager physicians in FHCs were contacted for their perspectives. These experts were asked to rank the risks (to adapt the method to the risks, they are referred to by the criterion name) according to their importance in the management of FHCs. SWARA method, which is one of the Multi-Criteria Decision-Making Techniques (MCDM), was used to make a consensus evaluation for the research. SWARA method was developed by Keršulienė, Zavadskas, and Turskis.¹⁷ The process of determining the relative weights of the criteria with the SWARA method can be illustrated precisely as follows:¹⁸

Step 1: The first step in SWARA is to identify the target and the criteria that have the potential to affect the target and to identify the group whose expert judgment will be sought.

Step 2: The second step is to determine the most important criterion by collecting expert opinions. Each member of the expert group is requested to rank the importance of the criteria. Expert judgments can be combined through weighted summation. For this, equation (1) is used.

$$\bar{t}_j = \sum_{k=1}^p t_{jk}/p \quad (1)$$

Step 3: Members are requested to determine the relative importance of other criteria according to the most important criterion (j). The relative importance level value of each criterion is denoted by s_j and expresses the comparative importance of the average value.

Step 4: In this step, calculations are made by taking the most important criterion into account. In this step, criterion coefficients (k_j) are calculated using equation (2) below.

$$k_j = \begin{cases} 1 & j = 1 \\ s_j + 1 & j > 1 \end{cases} \quad (2)$$

After determining the number of criteria, the weight vector is calculated. Equation (3) is used to perform this calculation.

$$q_j = \begin{cases} 1 & j = 1 \\ \frac{k_j - 1}{k_j} & j > 1 \end{cases} \quad (3)$$

Step 5: The weights of the criteria are calculated by normalizing the weight vector.

$$w_j = \frac{q_j}{\sum_{j=1}^n q_j} \quad (4)$$

Aspects of Research Ethics

Istanbul Medipol University Non-Interventional Ethics Committee decided that this study was ethically and scientifically appropriate (Date: 27/08/2022, Decision No: 817, Number: E-10840098-772.02-5756). The study was conducted in accordance with the principles of the Declaration of Helsinki. Informed consent was obtained from all participants.

Results

An expert panel comprising six individuals was assembled to assess the risks identified within the study's scope, which were designated as criteria. This group includes four different experts, FHC managers and doctors, and two experts in health management. These experts were asked to rank the risks according to their importance in the management of FHCs. Every expert orders the criteria from highest to lowest priority based on their implicit knowledge, information, and experience. In this approach, the criterion deemed most crucial is assigned the highest rank, while the one considered least significant is placed at the bottom. The collective ranking from the group of experts is established by calculating the average of these individual rankings.¹⁹

The criteria ranking obtained using equation (1) is shown in Table 1.

Table 1. Expert determined the level of significance of attributes

Expert $k = 1, 2, \dots, 6$	Rank values $t_{kj}; j=1, 2, 3, \dots, 8$							
	C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8
1	2	3	4	1	6	5	8	7
2	3	2	6	1	5	4	8	7
3	7	2	3	1	4	8	6	5
4	4	1	5	2	7	3	6	8
5	2	6	5	4	3	1	7	8
6	2	6	5	4	3	1	7	8
Mean	2.960	2.749	4.561	1.782	4.430	2.798	6.952	7.075
Rank	4	2	6	1	5	3	7	8
Weights	0.147	0.120	0.085	0.202	0.091	0.157	0.038	0.034
Ranks (acc. weights)	3	4	6	1	5	2	7	8

Determination of the overall importance of each variant based on a group approach. For a group containing different decision makers, the overall group importance of each variant s_j calculated using the geometric mean, and other calculations have been completed for final calculations.¹⁹ The results are demonstrated in Table 2.

Table 2. Final results of criteria weighted according to SWARA method

Criterion	Comparative importance of average value	Coefficient	Recalculated weight	Weight
	s_j^*	$k_j = s_j + 1$	$w_j = \frac{k_j - 1}{k_j}$	$q_j = \frac{w_j}{\sum_{j=1}^n w_j}$
C ₄		1	1	0,27
C ₆	0.258	1.258	0.795	0.21
C ₁	0.392	1.392	0.571	0.15
C ₂	0.125	1.125	0.508	0.13
C ₅	0.517	1.517	0.335	0.09
C ₃	0.317	1.317	0.254	0.07
C ₇	0.567	1.567	0.162	0.04
C ₈	0.167	1.167	0.139	0.04

* s_j is based on the average of expert's ideas. The information is gained privately from each expert and the scale is based on multiples of 5%. Based on the relative importance of the higher criterion, the importance of each criterion is calculated. So, 0.258 shows the relative difference between C₄ and C₆. 0.258 is calculated based on the experts' ideas and to illustrate s_j , all six experts' ideas are presented here.¹⁹

According to Table 2, the relatively most important risk factors for managing FHCs are C₄ (Financial Risks) with a weight of 27%, C₆ (Legal and Regulatory Risks) with a weight of 21%, and C₁ (Operational Risks) with a weight of 15%. The least important risk factor is C₈ (Hazard Risks) with a weight of 4%.

Discussion

The most prioritized and important risk factor in the management of FHCs was found to be "Financial Risks". By adopting a comprehensive budget planning and monitoring process in FHCs creating annual budgets, regularly monitoring expenditures, and continuously evaluating actual costs, it may be more possible to identify potential problems in advance and propose solutions. In this context, it is crucial to emphasize the significance of financial management training. In the literature, it is observed that family physicians who have knowledge and experience in the field of financial management manage cash flow at a higher rate, increase income opportunities, make useful analyses in terms of budget, savings, and costs for the future, and perform coding and billing procedures in a better way.²⁰ In a study aiming to determine the technical efficiency of FHCs, one of the primary healthcare institutions in Türkiye, at the provincial level, the importance of continuous monitoring of budget control in terms of ensuring the sustainability of the service by reducing financial risks was mentioned.²¹

"Legal and Regulatory Risks" have been identified as a secondary priority and important risk factor in the management of FHCs. It is important to raise awareness of health laws and regulations by providing regular training to healthcare staff and managers working in FHCs. Strengthening data protection policies to assess the compliance of medical practices with legal standards and to ensure the security of personal patient data can also reduce legal risks. As a matter of fact, in a study conducted to determine the legal, technical, and medical measures to be taken to prevent family health center employees from being harmed due to occupational hazards, the importance of training is emphasized.²² Protection against potential legal risks can also be provided by purchasing appropriate insurance policies, such as civil liability insurance for health professionals and compulsory malpractice insurance. Indeed, policymakers need to take new regulations and measures against risks that will affect the legal and legal liability of FHCs.

"Operational Risks" have been identified as a tertiary priority and important risk factor in the management of FHCs. Effectively reducing the operational risks of FHCs requires a comprehensive approach that includes balanced management and continuous improvement strategies. In this context, firstly, training, and continuous development of personnel should be ensured. Healthcare professionals and support staff should be subjected to regular training on current clinical practice standards, procedures, and ethical rules to prevent operational errors. In a study aiming to determine the frequency of patient safety errors among healthcare providers and the risk factors associated with errors, suggestions that operational risks can be reduced by regular in-service training were emphasized.²³ To enhance the managerial skills of physicians, it is proposed that management courses or training be integrated into the curriculum of family medicine specialization.

Gaining business management skills may minimize operational risks. Indeed, technological solutions such as digital health record systems, appointment scheduling software, and patient tracking systems can optimize business processes, reduce operational risks, and enable more coordinated delivery of healthcare services. In the literature, there are studies supporting the view that digital developments in health services ensure the sustainability of operational processes and minimize risks.^{24,25}

The limitations of this study are a limited group of physicians in specific locations included in the study. And, since a subjective evaluation-based method was used, different results may be obtained at different places and times, by different methods. In addition, the identified risks include structured risks. Detailed risk research may also be necessary for this purpose.

Conclusion

Disruptions in the supply chain or errors in stock management increase financial risks. It is therefore important to maintain optimal levels of critical supplies and medicines, build strong relationships with suppliers, and continuously assess cost-effectiveness. On the other hand, effective use of technology also contributes to reducing financial risks in the long term. One strategy for FHCs could be to diversify other sources of income beyond the transfer of resources linked to the public budget. Regional investment and incentives could be provided by municipalities and provinces. The variety of health services offered can be increased. Centralized bureaucratic decisions taken in unitary states may be at the request of those with high political power. Decisions taken centrally in an all-inclusive manner may not satisfy all regional service users to the same extent. In countries with a state system, there may be more room for flexibility. Different unique solutions can be derived for patient satisfaction in line with regional needs. FHCs can be managed more autonomously. Additionally, to address operational risks encountered during extraordinary circumstances, updating emergency plans can empower personnel to respond promptly and efficiently to such incidents. Moreover, measures can be implemented to mitigate operational risks by establishing an efficient patient feedback evaluation system.

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