

TYPOLGY AND ETHOLOGY OF PUBLIC HEALTH CRISES

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Abstract: Public healthcare crises are extremely critical to any health care system in the world, to the well-being of society and the nations of individual countries, to the economic performance and national security of each state on the world map. The unprecedented global health emergency, which began in 2019 and completely subjugated all economic and political processes in 2020, proved that public authorities around the world are reorienting their priorities due to a pandemic that has led to an unprecedented crisis in public healthcare. That is why last two years, the main research efforts of the scientific community in the field of crisis knowledge and management has been focused on the unprecedented global public health crisis caused by the SARS-Cov-19. The scientific resources on the subject are numerous and open, but at the moment they are still focused on searching the medical solution to the disease and the non-medical interventions to overcome the pandemic. Predominant emphasis of the COVID-19 epidemic is that it is a unique experience in highlighting the role of knowledge and research in addressing global public health crises and that it is an opportunity for research systems to improve and uphold the importance of their existence, being adequately responsible for overcoming the crisis. And it is the lesson of the COVID-19 pandemic that provide a broad basis for discussing and seeking the most appropriate approaches to show, through research and studies, how regulation, policy and joint efforts can support the timely establishment and preparedness for adequate crisis response in public healthcare and how to mitigate and cope with them. A comprehensive study of public health crises definitions, reasons and types requires an understanding of how different crises affect different dimensions of an organization or system at different stages of their development. The unusual and complex nature of crises makes them difficult to systematical study. Because of these challenges, there is limited empirical research on the nature of crises and how an organization, especially in public healthcare, can prepare for and deal with them effectively. The article provides an overview of the existing literature on the organizational crisis and the limitations of this literature. 47 references has been reviewed to provide a theoretical basis for the study of crises in public administration and public healthcare, focusing mainly on the definitions, typology and reasons for their occurrence, described in the scientific literature.

Keywords: crisis, urgency, emergency, public healthcare, crisis management

1. INTRODUCTION

In the last two years, the main research of the scientific community in the field of crisis knowledge and management has been focused on the unprecedented global public health crisis caused by the SARS-Cov-19 virus. The scientific resources on the subject are numerous and open, but at the moment they are still focused on the search for a medical solution to the problem and non-medical interventions to overcome the pandemic. The main conclusion in the focus of the COVID-19 pandemic is that it is a unique experience in highlighting the role of knowledge and research in addressing global public health crises and that it is an opportunity for research systems to improve and uphold the importance of their existence, being adequately responsible for overcoming this crisis (1). The lessons of the COVID-19 pandemic that provide a broad basis for discussing and seeking the most appropriate approaches to show, through research and studies, how regulation, policy (2) and joint efforts can support the timely establishment and readiness to respond adequately. in public health crises and how to deal with them.

This article provides an overview of the existing literature on the organizational crisis. This literature has been reviewed to provide a theoretical basis for the study of crises in public administration and public health, focusing mainly on the definitions and typology of crises in the scientific literature.

2. MATERIALS AND METHODS

The literature review includes publications that describe the definitions, types and causes of public health crises at the international, regional and national levels. The selection of publications is based on their titles and the presence of specific keywords in them and the relevant abstracts. The data were collected from the following databases: MEDLINE, Embase, Web of Science and Google Scholar. In addition to the publications in the cited databases, the relevant official EU documents and statements has been reviewed.

3. RESULTS

The article aims to study and review in detail the literature on public health crises, as they can be more thoroughly studied and more skillfully managed in the name of public interest and well-being of citizens with a more detailed

knowledge of their manifestations, research of the reasons for their emergence and study of the different classifications according to the nature of the crisis to build a sustainable typology. The last three aspects can be of high scientific and practical value in the development of strategies for the timely identification and effective management of crises in public health.

Definition of crisis

The word "crisis" comes from the Greek word *krisis*, which means "solution". In early Greek texts, the term was used to describe a political conflict or to explain the process of disease development. For several centuries, the relatively forgotten term "crisis" has become increasingly used in various fields such as economics, political science, philosophy, psychology, history and public health. (Pauchant & Douville, 1993; Pearson & Clair, 1998; Boin, 2004) (3).

The first study of crises from a managerial perspective began with a publication in Herman (1963) (4), which identified the effects of crises on the viability of organizations. In the late 80's the literature on this topic began to develop after the emergence of crises affecting large organizations and structures of public health.

Aided by analysis of the literature at the moment and the conditionality of the definitions adopted here, we will try to derive the most consensual among them. Crisis is described as a disorder that physically affects systems as a whole and threatens basic perceptions of it, its subjective and existential nature (Pauchant & Mitroff, 1992) (5). According to the definition of Robert et al. (2002) - the crisis is a rare and unique event. The crisis is assessed as an abnormal situation that puts organizations at serious risk and can cause rapid changes in public policies, as it attracts public and media attention and can lead to a decline in public confidence (Sawalha et al., 2013; Shaluf et al., 2013) (6, 7). In his work, Booth (1993) (8) points out that "a crisis is a situation that the individual, group or organization faces and cannot cope with the usual routine procedures". Further in its development, Shaluf et al. (2013) examines the phenomenon that "every crisis is unique in nature and managers must adapt and meet it differently in each situation." According to the Lighthouse Readiness Group (2015) (9), a crisis is "a time of intense difficulties, anxieties or dangers, which may be personal or affect small populations such as the family or organizations to deal with this serious problem".

As mentioned above, the definitions are both near and far both in recent years and half a century ago, so we will note that according to Eastham (1970) "crisis is one of the prevailing known and at the same time difficult concepts that abound in the social sciences" (10). The author further states that "due to its widespread use, the term lacks accuracy and specificity; so that even those working in the field of crisis intervention and research are reluctant to commit to one definition" (10). But as Farazmand (2001) says in his publication "crises have their origins in the past and diagnosing their source and cause can help to understand and manage a specific crisis to an alternative state or situation" (11). This article reviews the existing literature on crises, and in particular public health crises and their definition, etiology and typology, in an attempt to clarify the term, explore its heuristic value and discuss methods for crisis prevention and resolution. Although the next discussion will be largely theoretical and methodological, we hope that it will also be useful for public health professionals involved in crisis intervention in the evaluation and planning of their professional activities.

Definition of public health crises

To establish a definition of the public health crisis, a review of the literature was conducted, which more often examines health crises and public health crises. A public health crisis has been described by several authors as a difficult or complex situation for the health system or systems of health (12), which affects people in one or more geographical areas and can range from a specific locality to a global crisis.

In public health, the term 'crisis' has been used for decades to describe when unwanted health conditions became widespread, such as the Covid 19 pandemic, HIV / AIDS in the 1980s, the dramatic rise in smoking among young people and children, or the rate of obesity at an early age. There is much debate about distinguishing crises from ordinary organizational challenges, writes Donna Rinkin (2007) (13). Barton (1993) distinguishes the problems of business organizations from organizational crises, including institutional ones, suggesting that "business problems" require a shorter period to solve, do not cause much public attention and need limited human resources. coping (14). Crises, on the other hand, take considerable time and resources to deal with and often provoke regulatory and public attention.

Crises in public health have a significant impact on the health of the population, mortality and the vitality of the economy. They can be the result of disease, industrial processes or bad policies (15). Gravitz (2011) argues that the severity of the public health crisis can be quantified by the number of people affected by its geographical scope, morbidity or mortality caused by the pathogenic or non-pathogenic process from which it originates (16).

Due to the number of health crises that have occurred in the world, more attention is paid to "public healthcare emergencies", which includes the current pandemic caused by the global spread of coronavirus. Christopher Nelson et al. (2007) writes that "public health emergencies are determined both by their health consequences and by their

causes and provoking events. Thus the definition he proposes focuses on situations which scale, timing or unpredictability threaten to put an end to its routine activities and capabilities (17).

In this article, the terms “public health crisis” and “public healthcare emergency” are used interchangeably, as Alex John London (2016) has established. He refers to both concepts as “a condition in which the health of a significant part of the community is either compromised or in imminent danger due to the inability of existing public health protection mechanisms to deal with an emerging threat to public health”. He topologized that “in public healthcare crises, the immediate threat to people can be facilitated by the fact that the community's healthcare infrastructure is imperfect or compromised. The literature highlights the need not only for crisis understanding but also for crisis management mechanisms to address not only organizational but also national (18) and global (19) public healthcare challenges.

In other cases, such threats may overcome existing public healthcare mechanisms due to their new nature, the size, speed or extent of their impact on health (20).

Public healthcare crises typology

A comprehensive study of public healthcare crises requires an understanding of how different types of crises affect different dimensions of an organization or system at different stages of their development. The unusual and complex nature of crises makes them difficult to be studied systematically. Because of these challenges, there is limited empirical research on the nature of crises and how an organization can prepare for them.

One of the most famous crisis models is Herman's (1963), cited above. He suggests that there is a crisis only when there are three mandatory variables - a threat to basic values, a short decision time and a surprise. This model is discussed in detail by Donna Dinkin (2007), and her interpretation of the three variables is as follows: the threat is a potential obstacle to some condition or goal desired by the unit, and arises only if decision makers recognize it and believe it will hinder achievement of the goals. The time to make a decision is short, when the situation will change in the near future, after which no decision can be made or the decision can be made only in less favorable circumstances. The surprise relates to the lack of awareness among decision-makers that a crisis situation is likely to occur, but does not equate to a lack of a planned response to the situation. However, Dinkin (2007) emphasizes that Herman's model is not widely supported and does not have supporters.

A review of the crisis management literature reveals a wide range of approaches for categorizing potential crisis situations. Booth (1993) assumes that there are three common types of crises: creeping crisis, recurrent threat, and sudden threat. The creeping crisis is defined by the author as a gradually growing threat to the organization (21). A creeping crisis for public healthcare organizations could be a change in the healthcare environment, such as the reform of health care in Bulgaria in the late 90s and the first years of the new millennium. The second type of crisis, the recurring threat, is seen as a regularly occurring, routine or expected situation. Examples such as the annual discussion of the budget of the Bulgarian National Health Insurance Fund or the regular changes in the composition of the political cabinet of the Bulgarian Ministry of Health will be included here. The third type of crisis described by Booth (1993) is what most organizational crisis researchers consider a “real crisis.” This is a sudden threat that puts the entire public healthcare system in immediate danger.

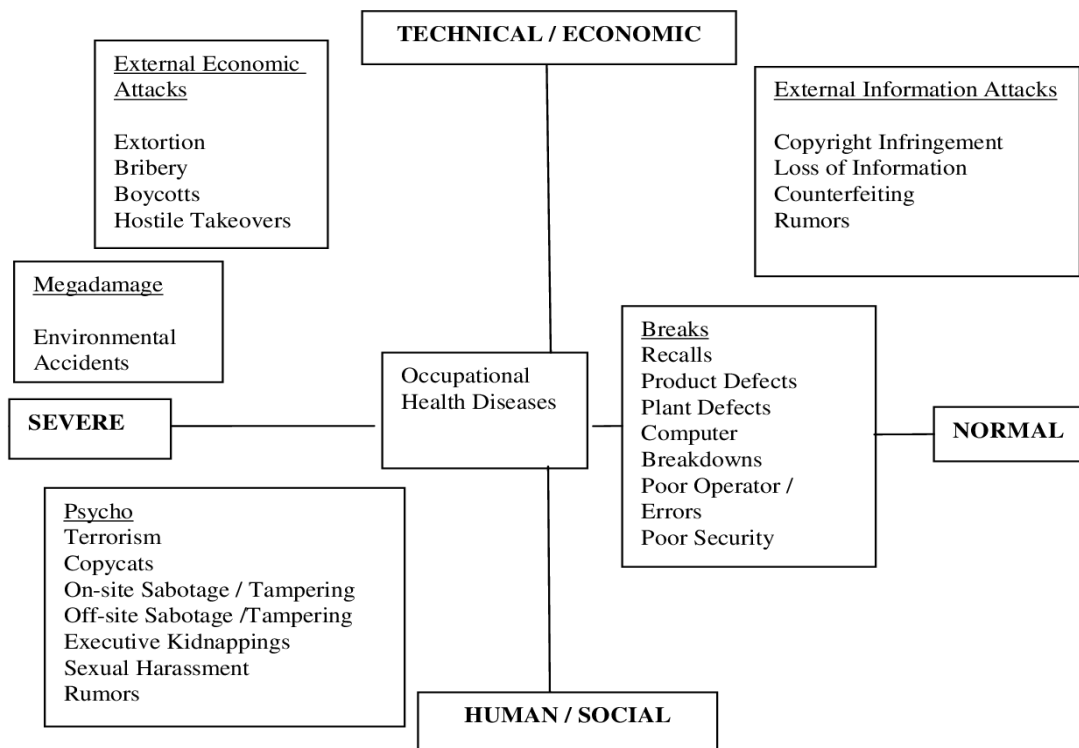
Coombs (1994) has chosen two dimensions to characterize crises: internal-external and intentional-unintentional (22). The internal-external dimension shows whether the crisis is provoked by something the organization has done (internally) or by actions by some group outside the organization (external). The intentionally-unintentional dimension indicates whether or not the crisis event was caused by a pre-planned and targeted action of any of the participants in the system or outside it.

In their book *Transforming the Crisis-Prone Organization*, Pauchant and Mitroff (1992) propose a categorization system developed by grouping crises that often occur at the same time in what they call the “family of crisis”, presented in Figure 1 emphasizes this model (23). The family of the crisis is presented as external information attacks, external economic attacks, mega damage, interruptions, psychological and occupational diseases. They are differentiated on the basis of two dimensions: severity (horizontal) and cause (vertical). The crises on the left fall outside the scope of normal and rational human behavior. The crises on the right are easier to understand and manage by institutions. The vertical typology distinguishes crises that are caused or influenced by economic or technical factors from crises caused by human factors - failure or improper communication, sabotage, etc.

The types of crises should be divided into mutually exclusive categories, states Stephen Gundel (2005) (24). According to him, this is a prerequisite for the typology to be useful. Although there are similar characteristics as well as distinctive features in each crisis, thanks to which they can be grouped as close or different types of events into categories, in practice crisis situations can never be completely unified. Crises can occur in any dimension of a public or private organization and can affect all aspects of it. Each crisis situation usually requires many actions and reactions - regulatory and legal, public relations, etc. The crisis caused by the covid pandemic, and especially its onset in the first quarter of 2020, is an eloquent example of the reality of public healthcare crises around the world.

The lack of a therapeutic protocol, preventive measures, protective clothing, the shortage of medicines created various worst-case scenarios for the Bulgarian healthcare and the public institutions. This affected the physical and mental health of the medical teams and the patients, reduced to a minimum the elective activity by which the medical facilities gain income and put the organization of healthcare in the conditions of a number of deficits. Despite the diversity of crises, categorizing them by identifying their similarities and differences can help public healthcare organizations and institutions to objectively assess the variety of situations their organizations may face and can help to plan prevention more effectively and responding to these multidimensional situations. Being part of the organization's behavior in crisis to activate its public relations, and they are respectively part of the management and marketing strategic activities of each organization, the typology of crises would help the more successful application of effective methods in their management and prevention.

Fig 1: Public healthcare crises typology



Pauchant, T. & Mitroff I. (1992). Transforming the Crisis-Prone Organization. San Francisco, CA: Jossey-Bass, Inc. Reprinted with permission from John Wiley and Sons, Inc.

Etiology of public healthcare crises

Crisis researchers and crisis management professionals, mainly analyzing the private sector, are on the opinion that today's world is increasingly prone to crises (Richardson, 1994; Mitroff & Alpaslan, 2003; Robert et al., 2002) (25, 26, 27). They record a significant increase in serious crises suffered by large US corporations in a wide range of specifics and nature of crisis events - environmental disasters, terrorist acts, sabotage by employees, regional and global health crises (ICM Report, 2020) (28) . The COVID-19 pandemic is a discrepancy in the annual review of the ICM Crisis Management Institute, which has been examining crises since 1990. The sheer volume of news they cover in their latest report based on the 2020 review is staggering: 1,709,419 crisis news, nearly a million more than in 2019. They attribute the shocking growth to two factors - the pandemic and the increase in coverage of search or the growing number of news sources due to advances in technology and easier tracking of web-based news in blogs and social media applications.

According to the crisis researchers cited above, the perception of the cause of an incident often affects the amount of support an organization receives from its stakeholders when the event itself occurs. Crises that are thought to have occurred within the organization usually receive less support than events that are thought to be caused by forces outside the control of the organization or institution. The public responds more favorably to crises caused by a

natural disaster such as a pandemic, earthquake, hurricane, etc., than to crises caused by human intervention or inaction, says Dinkin (2007).

Many authors have studied the etiology of crises. A review of the literature reveals that most researchers believe that organizational and institutional crises, including public healthcare crises, arise from the simultaneous destruction of an organization's technical, organizational, and human systems (Kovoor, 1991; Mitroff & Pearson, 1993; Boin, 2004) (29, 30, 31). Pearson and Clair (1998) (32) assume that socio-political factors seriously contribute to the emergence of crises, and 15 years earlier Milburn et al. (1983) (33) argue that crises arise due to a mismatch between organization and environment, namely that the organization is unable to meet the requirements of the environment, or the environment does not respond to the goals of the organization. This upsets the balance, and an unstable situation can cause a crisis. In the literature, we find it clear that crises are not isolated phenomena (Pearson et al., 1993) (34). As a result of complex systemic relationships between many different variables, one crisis can give rise to several other crises (Pauchant, et al., 1993) (35). Triggering multiple crises is more likely to occur if one crisis is inadequately managed or if the system affected by a crisis is highly dependent on it, state Pearson et al. (1993). Highly interconnected and interdependent systems are those systems in which a change in one variable causes change in another (Perrow, 1984). The speed of this interactive cascade is determined by the degree of connectivity and dependence in the system. Similar are the crises that arise due to technical malfunctions, such as the blocked trocar during laparoscopic surgery at Emergency Univesity Hospital "Pirogov", which caused the death of a 32-year-old patient during a routine surgery. The case was followed by a lawsuit filed by relatives against the attending physician and questioned the entire field of laparoscopic surgery. The latter is undoubtedly one of the achievements of modern medicine, which reduces surgical trauma and shortens the recovery period for patients (36).

4. DISCUSSION

Identifying and defining the causes and type of crisis could improve the strategic approach to them and plan possible modern tools for more effective management by analyzing, planning, implementing and improving administrative activities in case of potential or emerging public healthcare crisis and opportunities for sustainable overcoming of the factors causing them. The application of the arsenal of marketing and crisis management methods in the timely identification of early predictors of crises, the analysis of the causes and the specific marketing perspective to each of them and the marketing approach tailored to consumers and stakeholders for sustainable overcoming of the author will be debatable and the subject of future research of the author.

The way in which the crisis, especially in public healthcare, is perceived by stakeholders, including the society, and which should be addressed with the tools of the marketing communication mix, must be an important factor in the organization's response, according to Coombs (1994)(37). He suggests that in situations when organization is held responsible for the crisis, the response strategy should include communication and a public apology. When the organization is not responsible for the crisis, he proposes a "strategy for differentiation and remote monitoring" as more appropriate. This communication strategy involves the effective registration and recognition of the crisis, trying to weaken the link between the organization and the crisis and thus differentiate the organization from it and the consequences it leads to (Coombs, 1994) (37). Such strategies are widely applied in public healthcare in Bulgaria, and the behavior with recognition of a role in causing the crisis and asking the public for an apology is almost unthinkable in our country.

In addition, public healthcare institutions outside communication to the public should address healthcare providers and all employees in the sector. Because the emotional consequences of the crisis, especially in the field of public health, are related to one of the recently sensational phenomena among the medical community, namely the cremation syndrome or the so-called burnout syndrome (38). Therefore, the discussion, as recommended by the European institutions, should focus on the prevention of public healthcare crises and their devastating effects on all stakeholders as well as the general public (39).

5. CONCLUSIONS

In its entirety, from the 39 examined sources, the existing literature has an uneven scope. The disadvantages arise from the lack of clear constructions and theory-based models. Despite these limitations, the available sources provide a useful perspective in determining the design and perspective of scientific research in crisis management. As a huge threat to well-being and the economy, in addition to the health of individuals and communities, public healthcare crises must continue to be constantly explored due to their inhomogeneity and uniqueness. Following the definitions, typology and etiology of public healthcare crises, the study of their stages or phases and their consequences should will be continued and the most appropriate, timely and sustainable methods for their management should be sought, including the tools of marketing and crisis management as science and practice.

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