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New trends in management
New trends in education

Change management in healthcare – a scoping literature review

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Abstract

The healthcare sector is constantly changing due to many different factors, both external and internal, such as regulatory, organizational, technological, personnel, financial, and geopolitical change. Change management methods and tools are useful for effectively planning, implementing and monitoring change. The important issue is in which areas and to what extent change management is utilized in healthcare. The aim of this text is therefore to conduct a scoping literature review on change management in healthcare and to develop, based on the results of this research, a theoretical model of determinants and motives for implementing change management in healthcare. A scoping review of the literature was conducted to determine the extent to which change management is applied in healthcare organizations. Texts meeting the inclusion criteria were searched for in four databases: PubMed, Embase, Scopus, and EBSCO. The search was limited to texts published in English. Of the 247 publications screened, 73 met the inclusion criteria. Additionally, 1021 keywords were selected from the screened publications, of which 137 met the inclusion criteria and were approved for the keyword analysis. The keywords formed seven thematic clusters: human, change management, organization and management, leadership, healthcare delivery, hospital management, and productivity. There are a number of motives for using change management in healthcare, and all centre around a few determinants that can be divided into those directly related to the specifics of the healthcare sector and those directly related to management processes. These determinants and motives were included in the theoretical model.

Keywords: change management, healthcare, hospital, medicine, scoping review

Introduction

The healthcare sector is one of the most important sectors of the global economy, and indispensable for its stable functioning (Boyce & Brown, 2019). Today, its role is even more accentuated, particularly due to the past COVID-19 pandemic, which caused a number of diverse problems for entities in this sector (Jedynak & Bąk, 2021). For several decades, in times of systemic changes, crises, and reforms of the healthcare sector, changes have been introduced in various regions of the world to increase the quality of health services provided, improve access to them, introduce upgrades and innovations in line with technological advances, and improve the efficiency of the operational tasks carried out by healthcare organizations (Deloitte Global, 2022).

To make these changes more effective, advanced management methods and tools need to be implemented in the healthcare sector (Bąk, 2022). What attracts considerable attention due to its effectiveness in this as well as other sectors, is the methods and tools of change management, which enable professional management of planning, implementing, and monitoring operational, strategic, and systemic changes in healthcare organizations (Harrison et al., 2021).

The results of many scientific studies (e.g. Al-Abri, 2007; Igoe, 2021; Yousefi et al., 2022) indicate that change management is vital in the healthcare sector, particularly in times of turbulence and crisis. However, change management methodologies are not yet widely used in reforming the healthcare sector globally. In contrast, where professional change management in healthcare organizations is used, it has proven to be very effective and has been welcomed by healthcare managers and executives as well as employees and patients (Nilsen et al., 2020).

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In order for healthcare organizations to better understand and take advantage of change management methods and tools, identification and diagnostic studies in this area are needed. This scoping review aims primarily to identify areas of healthcare where changes, improvements, and enhancements are implemented using management methods based on change management.

Methods

The main aim of the research was to identify existing research evidence regarding change management in healthcare. With respect to the research area under consideration, an approach to the analysis of the literature in terms of its existing scope seems most reasonable. To achieve the main research aim, two specific aims were set:

- to conduct a scoping literature review on change management in healthcare,
- to develop a theoretical model of determinants and motives for implementing change management in healthcare.

The main method used in the research procedure was therefore a scoping review of the literature on the subject (Armstrong et al., 2011; Munn et al., 2018). Consequently, the authors followed the methodological rigour of this research method (Arksey & O'Malley, 2005; Levac et al., 2010; Peters et al., 2015). Furthermore, during the final analysis of the substantive content of the texts, the authors used the method of logical categorization, satisfying the criteria of exhaustiveness and separability required by the rigour of this method when creating categories (Bailey, 1994; Saran, 2014):

- exhaustiveness:
  - all keywords were included in a substantively adequate cluster (Table 1),
  - all texts were included in a substantively adequate category of scope (Table 3).
- separability:
  - each keyword is allocated to only one cluster (Table 1),
  - each text is allocated to only one category of scope (Table 3).

In order to develop a theoretical model of determinants and motives for implementing change management in healthcare, an exploratory approach to research was adopted (Saunders et al., 2009). Using this research approach, the determinants of change management in healthcare were defined based on clusters of keywords of the analysed texts identified in the research process. Moreover, based on the categories of scope of the analysed texts identified in the research process, the motives for implementing change management methods and tools in healthcare were defined. Then, the authors determined the relationships and activities connecting the defined determinants and motives, and thus an original theoretical model of change management in healthcare was created.

Search strategy

The authors searched for the literature on the subject in four databases: PubMed, Embase, Scopus, and EBSCO. The choice of databases was not random. In view of the fact that the research area under consideration is multidisciplinary and is a point of intersection between healthcare and management, the authors selected two medical databases and two multidisciplinary databases in order to increase the probability of finding most of the scientific texts on the topic of change management in healthcare published to date. The authors applied the following initial search criteria: 1) articles and peer-reviewed conference proceedings in English only, 2) the occurrence of established headwords at the level of text titles. The authors compiled a list of 36 headwords representing exhaustive possibilities for identifying the topics of articles the authors were interested in. On this basis, the authors established search queries tailored to the search systems in the respective databases. The overall strategy adopted for searching texts in the databases is shown in Figure 1.

Article selection

The final number of texts to be examined was selected in two steps (Step I and Step II).

Step I – in the first step, the texts retrieved from the databases, based on the strategy presented in Figure 1, were purged of duplicate items.

Step II – in the second step, from the list of publications created in Step I, the authors selected only those available in Open Access. Then, from the remaining texts available as the full text, the authors eliminated texts with specific subject matters not directly relevant to the research issue under consideration.

Data extraction and analysis

The authors continued the process of data extraction and analysis, using also a two-step scheme (Step I and Step II).

Step I – in the first step, the texts approved at the article selection stage underwent a quantitative and qualitative keyword analysis based on the VOSviewer software. The qualitative analysis concerned the substantive assessment and the meaning of keywords, while the quantitative analysis concerned the frequency and repetition of individual keywords and subtraction of those keywords that did not pass the substantive assessment: the set of the keywords gathered from all the texts was cleared of those that were not relevant to the research objectives. The remaining keywords were grouped into thematic clusters adequately reflecting the scope of the research topic under analysis. The authors presented these clusters according to frequency of occurrence in the texts and the network of relationships among the keywords, as well as in chronological order.

Step II – in the second step, the authors analysed the texts approved at the article selection stage in terms of their substantive content. For this purpose, the authors performed a logical categorization.

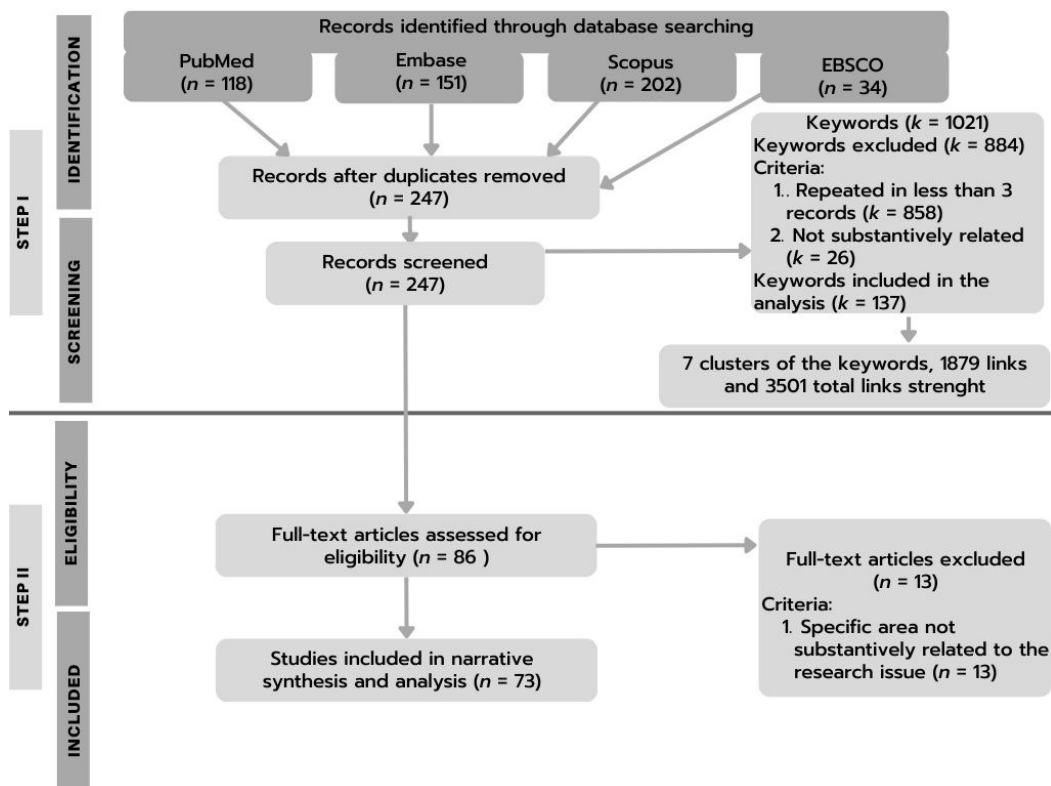The study selection process is presented in detail in Figure 2.

Figure 1
Search strategy
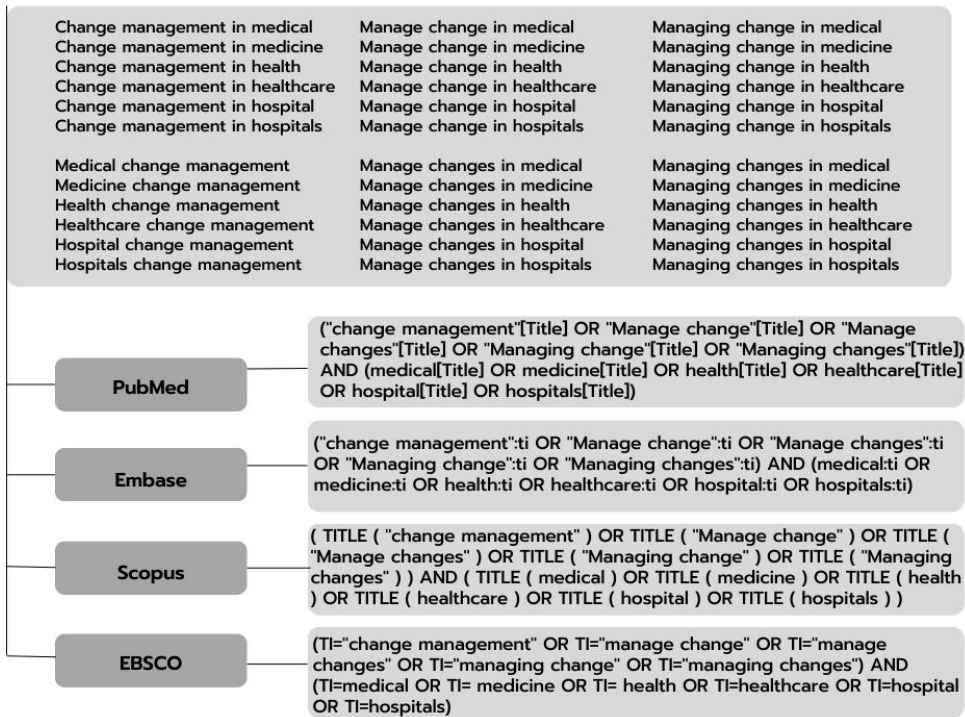
Source: authors' own work.

Figure 2
Flow chart showing the text selection process

Source: authors' own work.

Results

Search results

The results of the search and application of the defined inclusion and exclusion criteria of the retrieved texts were consistently divided into Step I and Step II, according to the established research procedure (Figure 2).

Step I – in the first step, using a keyword search strategy (Figure 1), the authors retrieved from the databases a total of 505 publications with at least a title, abstract, and keywords available. The number of the publications obtained from the respective databases was as follows: PubMed (118), Embase (151), Scopus (202), and EBSCO (34). The database search process was carried out in June 2023. After eliminating duplicate items (258), the authors were left with a publication list of 247 items meeting the inclusion criteria indicated above (Figure 2).

Step II – in the second step, from the list of the publications accepted in Step I, the authors deleted all texts that were not available as the full text (161). Thus, the authors identified 86 publications available in Open Access for further analysis. The authors then analysed the texts' titles and abstracts with regard to their substantive content and excluded those that were of a specific nature, not directly related to the issue of change management in healthcare. These were, for example, texts on veterinary medicine or bio-medical ontologies. On this basis, the authors eliminated thirteen texts from the list and, consequently, approved 73 texts for the final analyses.

Scope

The analysis of the scope of the collected publications was also performed in two steps (Step I and Step II). The scope was determined based on a quantitative-qualitative analysis.

Step I – the search for keywords in all 247 publications produced a total of 1021 items. The authors then filtered out the keywords that were repeated in three or more texts, considering their repetition as a criterion of representativeness. On this basis, the collected list of keywords was reduced to 163 items approved for further analyses. Following individual selection after excluding keywords with no substantive connection to the subject matter under examination, such as country names, article, review, etc. (26), the authors eventually included 137 keywords in the scope analysis. These were categorized in the VOSviewer software and divided into seven thematic clusters. Each cluster showed network links and relationships between the keywords contained within it. Altogether, the authors identified 1879 links and 3501 total link strength. At the centre of each cluster were the following keywords:

Cluster 1 – human (occurred in 103 texts),
Cluster 2 – change management (occurred in 91 texts),
Cluster 3 – organization and management (occurred in 61 texts),
Cluster 4 – leadership (occurred in 32 texts),
Cluster 5 – healthcare delivery (occurred in 21 texts),
Cluster 6 – hospital management (occurred in 14 texts),
Cluster 7 – productivity (occurred in four texts).

The keyword clusters are presented in Table 1.

Table 1
Keyword clusters

Total link strength	Occurrences	Keyword	Cluster	Keyword	Occurrences	Total link strength
48	5	Clinical practice	5	Community care	8	60
71	7	Consultation	5	Controlled study	5	43
32	4	Cooperation	5	Decision making	5	29
21	4	Economic aspect	5	Education program	4	28
57	5	Financial management	5	General practitioner	3	28
22	3	Government	5	Healthcare delivery	21	148
101	14	Healthcare management	5	Healthcare organization	14	98
106	13	Healthcare quality	5	Healthcare system	8	68
34	3	Health program	5	Health promotion	3	10
148	19	Health service	5	Health services research	6	55
34	3	Hospital care	5	Medical care	7	13
89	13	Medical education	5	Medical profession	4	41
33	4	Medical school	5	Medical staff	3	29
52	6	Medical student	5	Mental health	3	21
100	10	Patient care	5	Pharmacist	3	18
38	4	Physician attitude	5	Primary Healthcare	5	31
44	6	Public health	5	Public hospital	4	25
41	3	Society	5	Teaching	4	46

Table 1 – continue

Total link strength	Occurrences	Keyword	Cluster	Keyword	Occurrences	Total link strength
39	4	Work environment	5			
23	3	Adaptive behaviour	3	Administrative personnel	3	24
44	4	Behaviour	3	Evaluation study	4	40
		Healthcare facility	3	Healthcare planning	8	77
110	15	Healthcare policy	3	Hospital organization	10	74
17	4	Hospital subdivisions and components	3	Information system	3	15
77	8	Interpersonal communication	3	Medical informatics	7	36
35	4	National health service	3	Nurse administrator	4	43
439	55	Organization	3	Organization and management	61	495
36	5	Personnel management	3	Professional standard	4	40
46	5	Public relations	3	Social change	4	29
49	6	Standard	3	Workforce	5	51
48	3	Cost	6	Database	3	52
22	3	Delivery of Healthcare	6	Documentation	3	55
89	8	Economics	6	Health facilities	14	113
81	6	Health personnel attitude	6	Hospital cost	3	53
97	8	Hospital department	6	Hospital information system	4	64
123	14	Hospital management	6	Humans	7	66
59	5	Mass communication	6	Medical record	5	62
94	7	Nursing stuff	6	Operating room	5	42
57	4	Organizational innovation	6	Practice guideline	5	61
82	6	Psychological aspect	6	Software	5	42
120	11	University hospital	6			
27	3	Case report	1	Change	3	10
38	4	Coronavirus disease 2019	1	Emergency care	5	50
46	4	Follow up	1	General hospital	3	24
21	3	Healthcare cost	1	Human	103	795
44	7	Human experiment	1	Information processing	9	84
23	3	Organizational culture	1	Pandemic	5	38
46	6	Procedures	1	Program development	3	23
55	8	Qualitative research	1	Quality control	4	30
30	3	Retrospective study	1	Skill	4	37
13	3	Strategic planning	1	University	3	31
28	3	Vision	1			
28	3	Adoption	4	Check list	4	37
39	3	Clinical audit	4	College	3	32
110	11	Education	4	Electronic medical record	5	55
31	3	Funding	4	Healthcare personnel	8	54
143	16	Hospital	4	Hospital administrator	4	23
302	32	Leadership	4	Manager	7	75
92	8	Nurse	4	Physician	11	121
33	3	Planning	4	Risk	3	33
38	5	Teaching hospital	4	Telehealth	3	13

Table 1 – continue

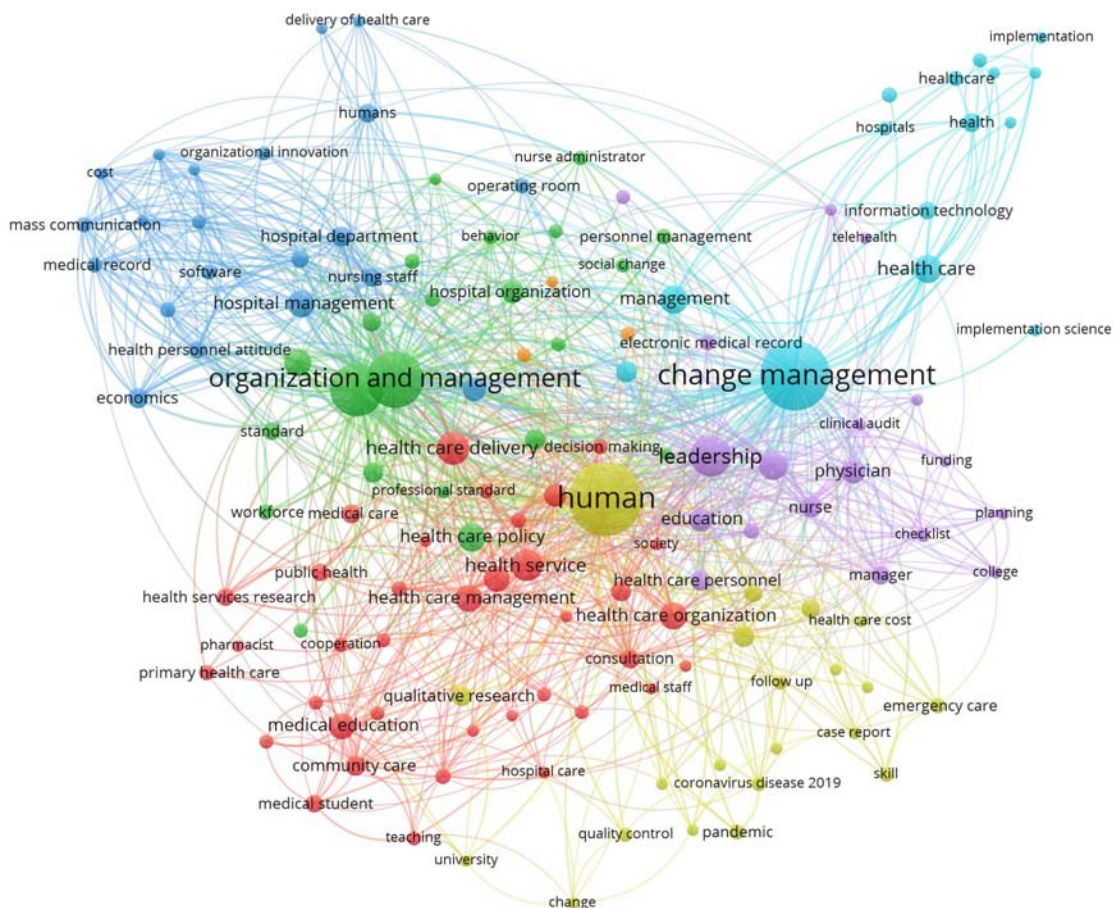| Total link strength	Occurrences	Keyword	Cluster	Keyword	Occurrences	Total link strength
472	91	Change management	2	Change management process	3	14
31	7	Health	2	Healthcare	16	93
9	3	Healthcare system	2	Healthcare	5	10
9	4	Hospitals	2	Implementation	3	9
9	3	Implementation science	2	Information systems	5	26
32	6	Information technology	2	Information use	4	19
91	15	Management	2	Organizational change	5	6
83	9	Total quality management	2			
31	4	Job satisfaction	7	Organizational structure	3	20
45	4	Productivity	7			

Source: authors' own work.

The network of links in the thematic clusters of the keywords is presented in Figure 3.

In determining the scope of the literature on the area under analysis, it is extremely important to ar-range the thematic content appearing in the selected texts chronologically. The 247 texts selected and included in the analyses in Step I had publication dates beginning in 1969 and ending in 2023, which

Figure 3
Network of links among the keywords

Source: authors' own work.

Figure 4
Chronological distribution of the keywords

Source: authors' own work.

confirmed the continuous development of the issues in scientific literature. The chronological changes in the emerging keywords are shown in Figure 4.

Table 2 shows the chronological distribution of the texts approved for the keyword analysis in Step I, divided into single-author and multi-author texts.
Step II – After obtaining the final number of texts approved for the final analyses (73), the authors categorized them by scope, creating factual categories of healthcare areas in which change management was evidently applied. This scope categorization is presented in Table 3.

The analyses determined that the substantive areas of the texts approved for the analyses formed coherent categories, adequately reflecting the areas of healthcare change management methods and tools were applied effectively. A majority of the analysed texts (23%) concerned change management in healthcare in the areas of digital transformation and implementation of innovations. The authors observed an intensification of this trend from 2020, i.e. the year of the COVID-19 pandemic, during which digitalization, innovation, and the development of telemedicine became some of the most important areas of change

Table 2
Chronological distribution of the selected texts

Time span	Number of publications	Single-author texts	Multi-author texts
1969–1979	7 (3%)	6 (86%)	1 (14%)
1980–1990	17 (7%)	13 (76%)	4 (24%)
1991–2001	31 (13%)	23 (74%)	8 (26%)
2002–2012	75 (30%)	31 (41%)	44 (59%)
2013–2023	117 (47%)	29 (25%)	88 (75%)

Source: authors' own work.

Table 3
Scope categorization

Category	Publications (in chronological order)		Number of publications	
			number	%
Digital transformation and innovations	Shaban-Nejad & Haarslev (2007); Hutchinson (2023); Shoolin (2010); Swecker et al. (2010); Kulhanek (2011); Takian (2012); Grandpierre et al. (2016); ChePa et al. (2017); ChePa et al. (2018); Ileri & Arik (2018); Ningtyas et al. (2020); Threatt et al. (2020); Hospodková et al. (2021); Razmak et al. (2021); Ferrara et al. (2022); Martens et al. (2022); Yusif et al. (2022)		17	23
Fundamental management processes and employees	Al-Abri (2007); Allen & Stevens (2007); Mazur et al. (2010); Lee et al. (2011); Macphee & Suryaprakash (2012); Shipton et al. (2014); Gibbons et al. (2021); Harrison et al. (2022); Turja (2022); Pachamanova et al. (2022); Yousefi et al. (2022); Harris (2023); Webster (2023)		13	18
Education	Godbolt et al. (1997); Thistlethwaite (2000); Agius et al. (2008); Chandran et al. (2013); En chescu & Trapiel (2014); Al-Moosa & Sharts-Hopko (2017); Barker et al. (2020); Ward et al. (2020); Vickers et al. (2021); Karimi et al. (2022); Li et al. (2022); Torkzadeh & Mohtaram (2022)		12	16
Medical specialization modules	Cardiology	Alsunbuli (2020)	11	15
	Pharmacology	Deavin et al. (2023)		
	Oncology	Divaris & Srigley (2012); Sale et al. (2019)		
	Surgery	Neuwirth et al. (2021); Farrelly (2022)		
	Neurology	Karlsson & Nordström (2022)		
	Psychiatry	Kingsley (1993); Ritson & Waterfield (2005)		
	Pediatrics	Law et al. (2011)		
	Gynecology	Sobkowski & Opala (2014)		
Implementation of professional management methods	Soft Systems Methodology	Augustsson et al. (2019a; 2019b)	5	7
	Lean Healthcare	Maravi-Cardenas et al. (2020); van Rossum et al. (2016)		
	Action research	Margulies (1977)		
Disparities in healthcare	Coombe (2008); Pratt et al. (2012); Odaga et al. (2016); Betancourt et al. (2017); Carman et al. (2019)		5	7
Reforming of healthcare	Casebeer et al. (2000); Villalbí & Farrés (2005); Kiernan & Tunney (2016); Javanparast et al. (2018)		4	6
Financing of healthcare	Carlson (2009); Ruhl & Klöss (2012); Walsh (2016)		3	4
Standardization	Appleby & Tempest (2006); Bourke et al. (2016); Harrison et al. (2021)		3	4

Source: authors' own work.

in healthcare. The second area in which change management was applied in the healthcare sector was fundamental management processes in the management of healthcare facilities, mainly related to changes in procedures concerning individual groups of employees. Medical education and medical specialization modules constitute two further healthcare areas undergoing intensive change implementation processes. The subsequent categories relate to the use of change management tools for: 1) implementing professional management methods (e.g. Lean Management or Action Research) in healthcare, 2) addressing disparities in healthcare, 3) reforming the healthcare system, 4) healthcare financing, and 5) standardizing procedures in healthcare.

Discussion

The most frequently adapted change management models in healthcare include Lewin's 3-Stage Model (Mind Tools, n.d.) and Kotter's 8-Step Model (Kotter, 1995). These models have an application and practical dimension, which means that in many cases they are used to implement change management tools in specific dimensions of the functioning of healthcare units, e.g. optimizing the work of doctors and nurses, improving the efficiency of operating theaters and hospital wards, improving the quality of patient care, etc. These models are currently successfully implemented in various projects to improve healthcare units (Harrison et al., 2021).

The model that includes the determinants and motives of change management in healthcare, which was developed by the authors of this text (Figure 5), differs from the practical models discussed above, because it has a theoretical dimension. It is the result of modelling the scope of use of change management tools in healthcare. It does not cover the analysed topic fragmentarily, but holistically, and indicates paths for the possible use of change management in the examined sector. It is therefore the basis for designing application solutions that can be implemented in healthcare units. Therefore, this model can be considered the first step in planning modern solutions that improve how the sector functions based on professional change management methods and tools.

Modelling the scope of change management in healthcare

The articles analysed in the review presented in this paper made it possible to determine clearly the scope of the texts in the thematic area of change management in healthcare. By categorizing their topics and analysing their keywords, it is possible to model not only the scope of the scientific literature on this topic, but also the main motives for using professional change management methods to improve and develop the healthcare sector. The authors therefore undertook to create a model reflecting the main determinants of and motives for change management in healthcare (Figure 5).

The main determinants of change management in healthcare can be divided into those directly related to the specifics of the sector and those directly related to management processes. Sector-specific determinants include patients, delivery of healthcare, and management of healthcare entities, while those directly related to management include organization of management processes, system productivity, and leadership.

The analysis identified the following the motives for implementing change management in healthcare:

- reforming the entire healthcare system in order to correct inadequacies in the delivery of healthcare services, as well as improving the management procedures in healthcare entities,
- implementing digital transformation and innovations across the healthcare sector with a view to extending the scope and improving the quality of healthcare services, and modernizing management methods and techniques,
- redressing inequalities in patients' access to health services and eliminating other disproportions in their delivery processes,
- ensuring an adequate range and level of education of medical personnel, which determines the continuity of healthcare delivery and quality improvement,

Figure 5
Determinants of and motives for change management in healthcare – a theoretical model
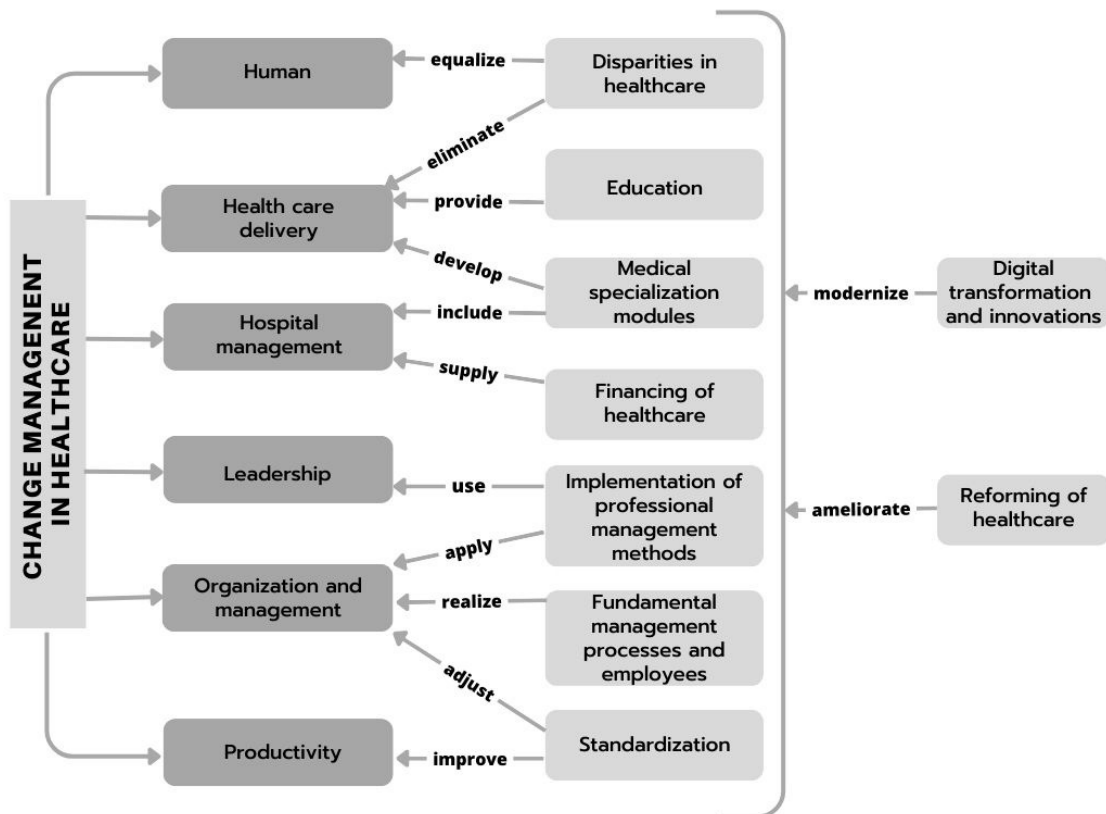
Source: authors' own work.

- developing medical specialization modules in the provision of increasingly sophisticated healthcare services,
- basing the management of healthcare entities on medical specialization modules, which should constitute the core of the functioning of the whole system,
- ensuring access to sources of funding allowing for the continuous development of healthcare entities,
- implementing professional management methods in organizational leadership development,
- applying professional management methods as a standard procedure in the organization and management of healthcare entities,
- performing all basic management processes in the management of healthcare entities with particular focus on the processual nature of the fulfilment of duties by individual groups of employees,
- applying proven standards for the development of management processes,
- utilizing the advantages of standardization in improving the operational and strategic efficiency of healthcare entities.

Limitations

This scoping review has several limitations. Firstly, it comprised searches for texts based on keywords appearing in their titles. Thus, despite a very deliberate strategy to search for texts in as many as four databases, there must have been other texts meeting the inclusion criteria that were not indexed in the selected databases and, consequently, were not included in the review. Another limitation of the conducted research may be the inclusion of only scientific texts published in English in the analyses.

The fact that not all texts were available on an open access basis can be considered a further limitation. The option of reading the full version of a given text in order to gain a precise understanding of its factual content was one of the inclusion criteria for approving selected papers for the final analyses. Thus, a number of texts were not included due to accessibility constraints, and their inclusion in the study could have broadened the scope of the final conclusions.

Conclusions

The conducted research achieved both the main research aim and two intended specific aims. This review succeeded in identifying the scope of the scientific literature on the topic area of change management in healthcare. Furthermore, through keyword analysis and the categorization of the keynotes of the texts included in the analyses, it was possible to create a model indicating the main determinants of and motives for using change management in correcting, developing, and improving the healthcare sector. Thanks to the conducted research, it was possible to fill the research gap regarding the deficit of scientific texts indicating the scope of literature on change management in healthcare and modelling the motives for implementing change management in this sector.

The theoretical framework resulting from the performed analyses can be used by healthcare managers and decision-makers in various practical applications as well as academics and researchers specializing in healthcare management. This is extremely relevant at the present time, when the healthcare sector worldwide is recovering from the pandemic crisis, while simultaneously facing the challenges of digitalization. In addition, problems with access, coverage, and quality of healthcare services in different regions of the world are still evident. Therefore, it is particularly important to develop new research threads regarding correcting and improving management in healthcare units. New methods of change management, risk management, and quality management implemented in healthcare should therefore constitute the directions of future scientific research.

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The full list of references is available in the online version of the journal.

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WE RECOMMEND

Trailblazing Across Europe: Influencers Illuminate EU Funded Projects in 10-Day Adventure

In a groundbreaking 10-day roadshow, 12 influencers from Bulgaria, Poland, The Netherlands, and Portugal are bringing to light the diverse range of EU Cohesion projects, a crucial initiative that represents a third of the EU's funding, amounting to 392 billion euros. Despite their significant impact, these projects have remained largely unknown among many EU citizens.

Spanning four countries and 16 cities, the influencers traversed 6279 kilometers to showcase 14 projects. With a combined following of 660,000 across platforms from Instagram to TikTok, they are uniquely positioned to engage an audience traditionally elusive to political and European content producers.

The Cohesion Tribe influencers from those EU member states have an audience that was, until now, hard to reach for political and European based content makers. On the scene, they made videos, stories and photos to share with all their followers. But for the continuation it is important to raise awareness especially for this new generation.

Read more at: **https://cohesionstory.prowly.com/308600-trailblazing-across-europe-influencers-illuminate-eu-funded-projects-in-10-day-adventure?preview=true**