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DETERMINANTS AND ACHIEVEMENTS OF KNOWLEDGE TRANSFER AND KNOWLEDGE SHARING IN PUBLIC HEALTH INSTITUTIONS IN THE REPUBLIC OF CROATIA - EMPIRICAL ANALYSIS

Preliminary communication

UDK: 614.2+005.64]:005.94(497.5)

JEL classification: D01, D83, I12, I18

<https://doi.org/10.17818/DIEM/2026/1.8>

Paper received: December 26, 2025

Paper accepted: February 6, 2026

Abstract

In the post-Covid era, individual health and well-being have become key priorities. The theme of the 2025 HLPF Conference confirms this by prioritizing several UN SDG sustainable development goals, particularly Goal 3 – Ensuring healthy lives and promoting well-being for all at all ages. The Integrated Health Care (IHC) principle provides a forward-thinking, holistic approach that prioritizes the patient as the central point of the healthcare system, emphasizing recovery and overall well-being rather than solely medical treatment. This concept integrates various aspects of patient care, including social, technological, and other relevant health elements, creating a comprehensive framework for improving health outcomes. Implementing IHC principles requires strategic management of partnership networks involving medical institutions, universities, healthy food producers, medical technology developers, and other stakeholders. Knowledge management within these networks is a critical process that ensures instant information, e.g. knowledge transfer. Literature highlights the benefits of these networks, such as reliability, security, scalability, and cost savings. This study investigates the extent of knowledge sharing and knowledge transfer among healthcare professionals working in public health institutions in Croatia. The authors have been using a quantitative method with a smaller sample, surveying healthcare professionals based on Liebowitz's model (2018), which analyzes key institutional factors influencing knowledge transfer in healthcare institutions, such as organizational culture, processes, and management support. The findings identified key opportunities and barriers for improving knowledge transfer in healthcare institutions in Croatia. Based on these results, the authors will propose guidelines for optimizing knowledge transfer processes in healthcare institutions. This research will encourage



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further scientific discussions and analyses on the topic, initiating strategic guidelines, project initiatives, and best practices in this critical field - global health.

Keywords: *IHC - Integrated Health Care, Knowledge Management in Health, Network Management in Health*

1. INTRODUCTION

Public health has become a fundamental priority and one of the key strategic issues, particularly in the aftermath of the COVID-19 pandemic, which served as a major catalyst for profound societal change in the early 21st century. The increasing alienation of individuals, sedentary lifestyles, unhealthy behavioral patterns, and heightened concern for mental health have unfolded in parallel with the rapid advancement of digital technologies. This laid the foundation for a systemic transformation of healthcare system and the emergence of a new paradigm in health governance and service delivery.

Contemporary approaches are grounded in principles of quality, interconnectivity, and deep, transformative collaboration among key stakeholders, particularly those engaged in preventive care and healthcare institutions. Coupled with the accelerated development of artificial intelligence and its tools, whose potential in the health sector is substantial, it has become increasingly evident that the existing model of healthcare is outdated, insufficiently effective, and fails to meet the optimal capacity, resource frameworks, and evolving needs of both individuals and society at large.

In response to these challenges, the concept of Integrated Health Care (IHC) has emerged as an innovative and patient-centered model. Unlike traditional healthcare systems that prioritize service provision, IHC reposition the patient at the centre of the healthcare process. The system is thus restructured around the individual, emphasizing preventive care as a core focus. Even when treatment is required, the primary objective shifts from managing disease to achieving recovery and overall well-being. In this way, the emphasis transitions from illness to health.

However, enabling such a paradigmatic shift requires more than good intentions or recognition of vulnerabilities and systemic risks. Crucially, it necessitates the active engagement of key global and national institutions, many of which have already articulated their strategic commitment to health system reform within their official policy and planning documents.

The United Nations, through Sustainable Development Goal 3 titled "Good Health and Well-being," has defined strategic goals and sub-goals aimed at the overall improvement of healthcare worldwide. Similarly, the World Health Organization (WHO), the World Bank, and the OECD have directed their strategic efforts toward promoting a new approach and building a new, interconnected healthcare system focused on the patient. The European Union's strategy, as well as many national healthcare strategies, including Croatia's, highlight the quality and integration of healthcare system actors as important priorities. In doing so, they also support a structural shift in healthcare delivery. However, none of this would be possible without the parallel development of a new scientific approach dedicated to this field. Therefore, a brief overview of the development of the conceptual framework of this emerging interdisciplinary scientific area is presented, in which many topics remain insufficiently explored. Existing analyses point to the social relevance, timeliness, and scientific importance of the topic addressed in this paper, as well as to the need for increased attention at all levels, particularly within science and education, when it comes to the advancement and quality of the healthcare system. Accordingly, the authors unanimously advocate for the continuation and expansion of research in this field.

The international scientific community has not yet clearly and consistently defined the conceptual framework that addresses quality, integration, and lifelong learning in healthcare

system. Researchers in this area tend to examine topics in a fragmented manner and rarely connect existing analyses, which prevents the development of a coherent and unified conceptual structure.

Nevertheless, there is a noticeable and growing scientific interest in these interdisciplinary topics, which span a wide range of academic fields, including medicine, organizational sciences, management, information sciences, legal studies, ethics, and others. Furthermore, knowledge transfer (KT) in public health represents a complex process that includes the dissemination and application of research findings to inform policies and practice. Effective KT bridges the gap between scientific evidence and public health interventions and enables practitioners and policymakers to make decisions based on the most current and reliable research findings.

1.1. Strategic documents and guidelines

The European Observatory on Health Systems and Policies (further in text mentioned as: The European Observatory) is a partnership, hosted by WHO Regional Office for Europe, which includes other international organizations (the European Commission); national and regional governments (Austria, Belgium, Finland, Ireland, Netherlands, Norway, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the Veneto Region of Italy (with Agenas)); other health system organizations (the French National Union of Health Insurance Funds (UNCAM), the Health Foundation); and academia (the London School of Economics and Political Science (LSE) and the London School of Hygiene & Tropical Medicine (LSHTM)). The Observatory has a secretariat in Brussels and it has hubs in London (at LSE and LSHTM) and at the Berlin University of Technology (<https://eurohealthobservatory.who.int/>). European Observatory published the document „Everything you always wanted to know about European Union health policies but were afraid to ask, Fourth, revised edition“. The document point out the guidelines and actions connected to upgrade and further growth of healthcare system in EU countries, where as one of the main priorities its mentioned: Knowledge and best practice generation and sharing, as well as connected guidelines: Awareness raising and communication, health leadership, including globally, stakeholder participation, stimulating innovation and supporting implementation.

European Observatory analysed the position in Croatia, so the conclusion was: The National Development Strategy for 2020–2030 was adopted in February 2021 (Republic of Croatia, 2021). The main strategic goals related to health care are: 1) Improving the health of citizens throughout their life course; 2) Improving access and quality of health services and creating an efficient health system. In analytic study stage of healthcare system in Croatia, strategy of growth is define as: Strengthening the coordination and integration of long-term care activities within the health centre and with other stakeholders in health care, social care, as well as patients and their caregivers. Analytic document of European Observatory is criticizes action plan for growth of healthcare system in terms of not being detailed enough. They are giving an example: “Improving quality of care is an explicit policy aim, but a comprehensive quality improvement strategy with an action plan that defines priorities, performance indicators and responsibilities is currently missing.” There is no specific action plan for strategic growth of healthcare system, neither for strategy in transfer of knowledge between healthcare system and other institutions/stakeholders (<https://eurohealthobservatory.who.int/monitors/health-systems-monitor/countries-hspm/hspm/croatia-2022/assessment-of-the-health-system/health-care-quality/>).

2. KNOWLEDGE TRANSFER AND KNOWLEDGE SHARING IN PUBLIC HEALTH INSTITUTIONS

Knowledge transfer in public health involves the international dissemination of medical expertise, the strengthening of collaboration, and the application of innovative practices. Effective public strategies can facilitate this process by enhancing social support and fostering an environment

conductive to knowledge exchange, especially in transitional countries such as Croatia (Daraboš & Radin, 2020).

Earlier studies, such as Frenk et al. (1991), explain the concept of health transition. This work is frequently cited and is considered one of the foundational contributions that later influence the development of the integrated care and health quality framework. These concepts begin to evolve more substantially in the early 2000s, as previously noted. For example, Dobbins, DeCorby et al. (2004) highlight the importance of networking and the exchange of research-based knowledge in public health, as well as its integration into health policy, using Canada as a case study.

By the end of the first decade of the 2000s, researchers begin to explore new topics within this field. One of the most significant topics, and also one of the key research areas of this paper, is KT in healthcare. For example, Abidi (2007) presents a contextual framework for knowledge sharing in healthcare and proposes his model for further research and practical implementation. Similarly, Hew and Hara (2007) explore the idea of communities of practice in healthcare. They refer to Wenger (1998) as the originator of the concept, which supports the earlier claim that the new paradigm of healthcare, as well as KT in general, began to emerge at the end of the twentieth century. In a study focused on the exchange of best practices and performance experiences among nurses, the authors propose a model based on Wenger's six-factor knowledge-sharing framework, which may serve as a platform for further research. Willem and Buelens (2007) also examine knowledge-sharing models within public health institutions, supporting their theoretical discussion with empirical research.

Research has shown that although passive KT strategies, such as printed educational materials and conference presentations, have been proven ineffective, they continue to be the most commonly used approaches. Recently, however, there has been a growing trend toward the implementation of more active KT strategies that involve interaction between knowledge producers and users. Nevertheless, there is still limited empirical evidence evaluating the effectiveness of these interactive approaches (Dobbins, et al., 2004).

Dobbins et al. conduct a series of studies on KT in the Canadian public health sector (Ciliska et al., 1999; Dobbins et al., 2001a; Dobbins et al., 2001b; Dobbins, 2003). The findings indicate that Canadian public health decision-makers support the creation of a single, reliable, and easily accessible source of information containing systematic reviews on the effectiveness of public health interventions. Since 2001, Dobbins et al. have been working on developing such a registry, accompanied by a comprehensive KT strategy aimed at increasing awareness and use of the registry among decision-makers. This strategy was developed based on an extensive literature review and on the views expressed by public health decision-makers regarding their needs and preferences for receiving and using research evidence. Similar initiatives have been implemented worldwide. For example, the National Institute for Clinical Excellence, the National Electronic Library for Health, and the Centre for Reviews and Dissemination in the United Kingdom, as well as the Department of Veterans Affairs' QUERI Project and the National Center for the Dissemination of Disability Research in the United States, employ various KT strategies to facilitate the transfer of research evidence to policymakers, practitioners, and patients (Dobbins, 2004).

In public health institutions, KT and sharing face significant challenges, particularly the lack of time for decision-makers to find, evaluate, interpret, and apply research evidence in their daily work. Constant time pressures often limit the ability to use scientific information effectively in decision-making.

An effective KT strategy should therefore focus on ensuring that research evidence is credible, high-quality, timely, reliable, accessible, and tailored to the specific needs of decision-makers. Readily available and easy-to-use sources of information can significantly reduce the time needed to incorporate evidence into practice. It is also essential to continuously monitor environmental and contextual factors that influence the decision-making process. Evidence coming from trustworthy and credible sources is more likely to be accepted and integrated into

policy and practice. Finally, maintaining regular communication and collaboration with decision-makers is a key component of a sustainable KT strategy. Such interaction builds trust, encourages ongoing knowledge exchange, and enhances the implementation of research-based insights within public health systems (Dobbins,2004).

In their study, Landry, Amara, and Ouimet (2006) conceptualize KT as a process that involves a series of activities through which research findings are communicated and adapted for users outside the academic community. The authors emphasize that knowledge differs from technology because it often has a tacit dimension that cannot be fully codified or commercialized. Therefore, KT should not be viewed as a one-time transaction but rather as a continuous flow of information and interaction between researchers and knowledge users. KT encompasses seven key activities: transmitting research results to non-academic users, presenting findings, participating in working groups, providing consulting services, contributing to product or service development, engaging in business activities, and commercializing research outcomes. The study highlights that researchers are generally more involved in non-commercial forms of KT, which play an important role in shaping policies and decisions, than in formal commercialization activities. Several factors influence the extent of KT, which can be grouped into five categories: knowledge attributes, financial resources, organizational capacities, relational assets (networks and linkages with users), and personal assets of researchers, such as experience and seniority. Among these, two determinants stand out as the most significant, user-oriented research and active collaboration with knowledge users, both of which strongly enhance the level of KT. The study also finds a positive correlation between research publication output and KT, suggesting that engaging in transfer activities does not reduce scientific productivity but rather complements it. KT should be understood more broadly than mere commercialization and that effective strategies must account for varied forms of interaction adapted to the specific contexts and needs of knowledge users.

According to Willem and Buelens (2007), public sector organizations can be regarded as knowledge-intensive institutions, as their primary function is to develop, process, and disseminate knowledge to the public. Despite this, the concept of knowledge management has not been fully incorporated into public sector research, except in certain domains such as healthcare (Bate & Robert, 2002). Knowledge is widely recognized as one of the most valuable organizational assets that must be systematically managed (Argote, McEvily & Reagans, 2003; Teece, 1998).

Knowledge sharing in public organizations is defined as a process in which one unit is influenced and improved by the experience of another (Argote et al., 2000). This process goes beyond the simple transmission of information – it involves the exchange, integration, and practical application of knowledge in new contexts. Of particular importance is the transfer of experience-based, practical knowledge (know-how), which is often difficult to share due to its tacit and embedded nature in individuals and organizational routines (Sanchez & Heene, 1997; Szulanski, 2000). Structural barriers such as departmentalization frequently limit the ability of one department to benefit from the knowledge and experiences of another.

Willem and Buelens (2007) emphasize that effective knowledge sharing in the public sector depends on several organizational characteristics. The most effective structures are those that combine formal and lateral coordination, high levels of trust and social identification, clear incentives for collaboration, and the absence of power games. Trust emerged as a crucial factor, as it directly contributes to greater knowledge exchange and learning. Lateral coordination and informal communication were found to facilitate openness, collaboration, and the practical use of shared knowledge. Implementing knowledge management principles in public organizations therefore requires addressing structural and cultural barriers, fostering trust, and formally recognizing cooperative behavior. Ultimately, effective knowledge sharing and transfer can enhance organizational effectiveness, innovation, and evidence-based decision making across the public sector.

Head (2008) examines the evolution from traditional KT models toward more interactive forms of knowledge sharing, translation, and brokering within the public sector. The traditional approach, based on one-way dissemination from experts to practitioners, is no longer adequate in addressing the complexity and fragmentation of modern policy problems. Instead, effective knowledge use requires multi-directional collaboration among researchers, policymakers, practitioners, and citizens. He distinguishes several domains of knowledge – scientific-technical, practitioner, policy, and citizen knowledge – all of which must be integrated to improve evidence-informed decision-making. He emphasizes that collaborative networks and knowledge-brokering mechanisms are essential for bridging disciplinary and institutional divides, fostering dialogue, and building shared ownership of ideas. Rather than merely transmitting information, the focus should shift toward the co-production of knowledge, where different stakeholders jointly create and apply evidence. Although such collaboration entails higher coordination costs, it strengthens trust, learning, and strategic capacity across sectors. In a complex, networked environment, Head concludes that knowledge sharing and brokering are vital for tackling interconnected policy challenges and enhancing innovation in public governance.

Pentland et al. (2011) examines the key characteristics and effectiveness of KT and knowledge exchange (KE) initiatives within the healthcare sector, highlighting their crucial role in fostering evidence-based practice among health professionals. They identify three core elements for successful KT and KE: knowledge sharing, creation, and application, and note that, despite growing interest, robust empirical evidence remains limited. Most existing studies tend to focus on individual interventions rather than comprehensive frameworks grounded in theory. The authors in this article emphasize the importance of collaboration, institutional support, and funding in creating an environment that enables health professionals to effectively share, create, and apply knowledge.

According to Pentland et al. (2011) future research should focus on developing and evaluating practical strategies that bridge organizational and individual levels, promoting a culture of continuous learning and improvement. While a single, highly developed empirical foundation is still lacking, there is broad consensus in the literature regarding the main features of KT and KE: their effectiveness is greatest when researchers and practitioners actively collaborate, ensuring that knowledge is both relevant and applicable in real-world healthcare settings.

The study by Sheng et al. (2013) shows that Information and Communications Technology (ICT) competencies significantly enhance KT within hospitals. Although knowledge often exhibits stickiness and ambiguity, ICT competencies such as computer-assisted instruction, interactive videoconferencing, and hand-held technologies can mitigate these negative effects. Computer-assisted instruction has the strongest mitigating effect, interactive videoconferencing the weakest, and hand-held technologies show no significant impact. KT directly improves innovation and competitive advantage, serving as a link between knowledge barriers and innovation outcomes. In practice, healthcare organizations should understand their knowledge characteristics, develop ICT competencies, select appropriate technologies, train or hire personnel with necessary ICT skills, and gradually make ICT the main platform for knowledge management, thereby improving KT and strengthening the hospital's innovation potential.

The available literature indicates that KT and knowledge sharing are crucial for promoting evidence-based practice in public health institutions. Although various models and theoretical frameworks highlight the importance of context, collaboration, and the role of knowledge brokers¹, a strong empirical foundation that integrates all factors and practical strategies into a comprehensive system is still lacking. Successful implementation depends on a combination of organizational capacities, institutional support, funding, and adequate ICT competencies, which enable effective sharing, creation, and application of knowledge. Therefore, future research should focus on developing and evaluating strategies that connect individual and organizational levels,

¹ Intermediaries between knowledge producers (researchers) and knowledge users (policymakers, practitioners, businesses), bridging the gap to ensure evidence-informed decision-making (Bissinger, Nienaber & Trausch, 2025).

strengthen a culture of learning and continuous improvement, and ensure the relevance and applicability of knowledge in real-world public health contexts.

Pentland et al. (2011) demonstrate that the field of knowledge exchange in healthcare had reached the end of its initial phase by providing a comprehensive literature review covering the period from January 1990 to September 2009. This supports the earlier claim that the origins of relevant research date back to the 1990s. The authors identify a research gap and strongly advocate for further studies in this area.

The period beginning in 2020 marks a phase of more advanced, sophisticated, and extensive scientific research in this field. For example, Dixon (2021) presents a contextual framework for quality in healthcare and offers strategic guidelines for its implementation. Polónia and Gradim (2021) examine innovation processes and knowledge exchange within hospitals and the surrounding healthcare ecosystem.

El-Jardali et al. (2023) explore the role of knowledge management in healthcare and its tools as decision-making foundations in healthcare management, supporting their claims with empirical evidence. The year 2023 also represents a turning point in practice. That year, the World Health Organization published a commentary titled *Knowledge Management is Key to Public Health Planning, New Study Shows*, which reflects on earlier studies and confirms knowledge management as one of the central priorities of both global and national health systems. Scientific arguments from eminent global researchers, along with the strategic commitments of global and EU institutions and the objectives outlined in global, EU, and national strategies, highlight the necessity, significance, and strategic priority of conducting analyses and research in the areas of quality, integrated systems, lifelong professional learning, and KT in healthcare and health management. These efforts form a crucial part of the global endeavor toward sustainable development and the advancement of society.

3. METHODOLOGY

This study applies a qualitative research method, based on the KT model developed by Liebowitz (2018). The model served as the foundation for designing a survey aimed at healthcare professionals, focusing on institutional factors that influence KT, such as organizational culture, internal processes, and management support. The survey explored multiple dimensions, including the organization's capacity to support knowledge sharing, individual motivation, commonly used sources of professional information, and other relevant factors.

With the goal of developing effective knowledge management strategies in healthcare institutions, identifying existing challenges, and enhancing knowledge sharing practices, we conducted an anonymous online survey among employees of healthcare institutions across the Republic of Croatia. The research instrument included a combination of Likert scale questions and open ended questions to capture both measurable indicators and qualitative insights. This is an introductory preliminary research of the institutional scientific project *Quality in Health, Integrated Health Systems and Lifelong Learning as Determinants of PHM (Population Health Management) Systems*, which was registered at the University of Zadar in 2025.

The survey remained open for seven days in period between 3rd and 9th of February 2025, and included a total of 21 respondents. The questionnaire included 29 questions divided in to the 5 topics, which are personal, transfer knowledge, work motivation, knowledge usage and the outcomes of knowledge sharing. The target group consisted of medical doctors, nurses, technicians, and dentists working in public healthcare institutions in Croatia. The survey was shared in group and private chats on WhatsApp and Viber, and also via direct email, and we asked participants to share the questionnaire further. With that in mind, it was hard to determine the final number of recipients and the response rate. By adapting Liebowitz's model (Liebowitz et al., 2018) to the Croatian context, we identified key factors influencing KT and knowledge sharing behavior

in the healthcare sector. The research examines unexplored challenges in a limited environment and the preliminary sample should serve as a basis for future research.

4. RESEARCH RESULTS

The interpretation of KT sources indicate that healthcare professionals predominantly rely on their colleagues within the organization or institution (38.1%) and colleagues outside their institution (38.1%) as the primary sources of essential knowledge. This highlights the importance of interpersonal networks and professional collaboration in day-to-day knowledge acquisition. Supervisors and random website searches were selected far less frequently, 9-10% of respondents, suggesting that structured leadership guidance and informal digital resources play a marginal role in daily professional learning. The results related to primary sources of essential knowledge received at workplace are presented in the Figure 1.



Figure 1 Primary sources of essential knowledge

Source: authors' research

The results indicate that colleagues outside the organization (33%) serve as the most frequently chosen secondary source of knowledge, which emphasizes the importance of external professional networks. Specialized professional websites (24%) also play a key role, showing a growing preference for credible digital sources. Respondents selected colleagues within the organization (14%), supervisors, and professional congresses (each 9%) less often, which reflects limited reliance on internal or formal channels when searching for additional information. Fewer participants mentioned random web searches and internal databases, suggesting inconsistent use or limited access. These patterns show that healthcare professionals primarily seek support from external peers and expert digital platforms as secondary sources, while internal organizational resources receive less attention in this context. The Figure 2 presents the results related to secondary sources of essential knowledge received at workplace. The researchers wanted to determine where respondents search or whom they approach if the primary sources are not enough.

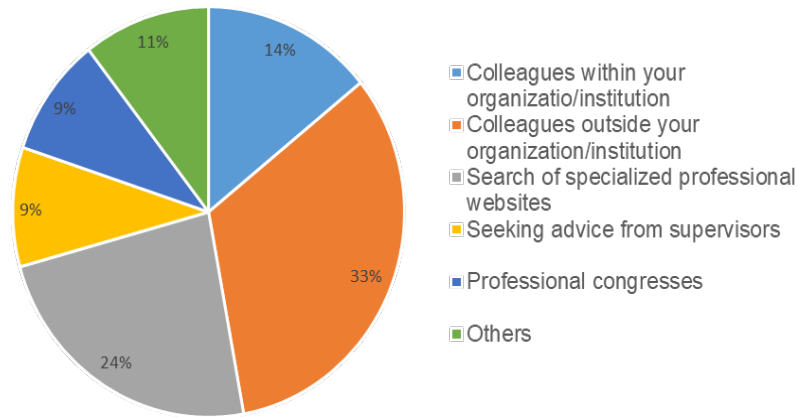


Figure 2 Secondary sources of essential knowledge

Source: authors' research

The data suggests that after collecting or creating new information or documents following the next steps, 43% of respondents prefer to share that knowledge privately, while 33% share publicly and 24% choose not to share at all. This highlights a partial openness in knowledge sharing, with a significant portion still opting for selective or restricted dissemination. The fact that nearly a quarter of respondents choose to withhold information reflects potential cultural or systemic barriers within institutions.

The results are presented in the Figure 3.

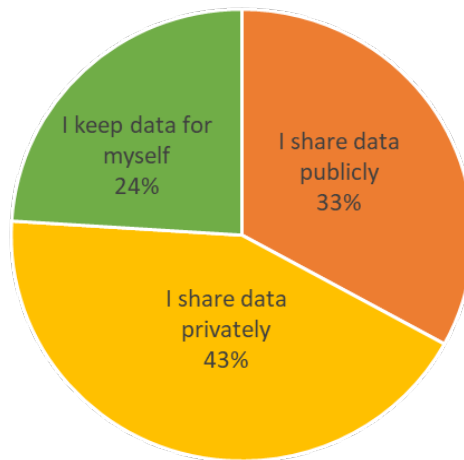


Figure 3 Sharing knowledge models

Source: authors' research

Regarding the types of activities used to share or acquire knowledge, the most common were scientific and professional conferences (52.4%), followed by internal education programs (28.6%) and personal initiatives (19%). These findings showed in the figure 4., confirm that formal events and structured learning settings play a significant role in institutional knowledge flow, while informal and individual approaches remain less emphasized.

The data implies that KT strategies should focus on fostering a culture of open knowledge sharing, ensuring broader participation in internal training programs, and encouraging more systematic use of external education opportunities.

The results are presented in the Figure 4.

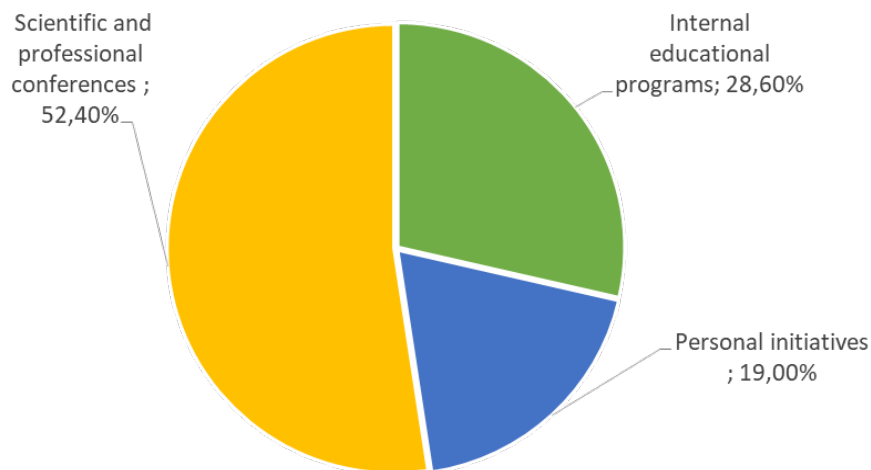


Figure 4 Activities used to share or acquire knowledge

Source: authors' research

On the open-ended question to identify several key barriers to effective knowledge transfer at work, respondents outlined further:

- Lack of time
- Lack of interest from colleagues
- Lack of motivation
- Lack of resources

These challenges highlight systemic issues within the work environment that hinder both the transfer and reception of knowledge. Time constraints and low motivation are particularly concerning, as they signal burnout risks and insufficient organizational support for a learning culture.

In terms of the impact of formal education, respondents believe it has a weaker influence on less educated individuals. At the same time, younger employees, especially those with access to international exchange programs, seem more responsive and adaptable to KT processes. This generational and educational gap suggests a need for customized training approaches that account for diverse professional backgrounds and learning preferences.

These findings imply that to foster an effective knowledge-sharing culture, institutions must not only improve infrastructure and provide resources but also address motivational and interpersonal barriers through leadership engagement, targeted training, and incentives for collaboration.

When asked how comfortable they feel participating in KT and sharing activities (figure 5.), most respondents expressed a strong sense of ease and confidence. Over half (57.1%) chose the highest score (5) on the Likert scale, showing they feel very comfortable engaging in these processes. An additional 28.6% selected 4, further confirming that the majority view knowledge-sharing as a natural part of their work. Only 14.3% chose 3, reflecting a neutral stance, while none expressed discomfort by selecting lower scores.

These insights paint a promising picture: healthcare professionals not only recognize the value of knowledge exchange but also feel ready and willing to take part in it. This level of comfort lays the groundwork for stronger collaboration, innovation, and a culture of continuous learning.

Figure 5 illustrates the results in more detail.

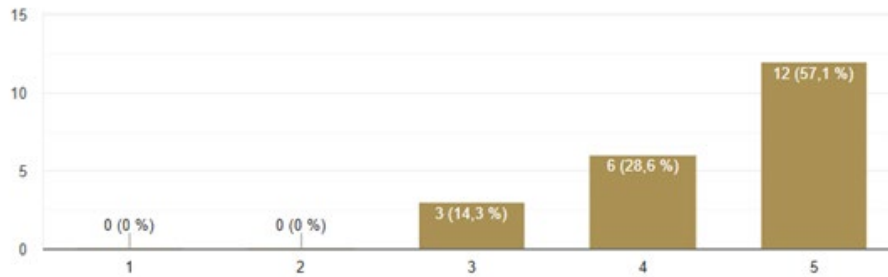


Figure 5 Level of Comfort in Participating in Knowledge Transfer and Sharing Activities

Source: authors' research

On the question, "How do you assess the impact of organizational culture on knowledge transfer and sharing?", respondents shared a range of perspectives presented in the figure 6.. Nearly half (47.6%) rated 3 on the Likert scale, showing a neutral or uncertain view about how much culture influences their knowledge-sharing practices. At the same time, 28.6% rated it 5, clearly recognizing a strong and positive impact, while 9.5% gave the lowest scores (1 or 2), suggesting that they see culture as a barrier rather than a support. Only 4.8% selected 4, placing themselves just above the neutral midpoint.

These results point to a divided experience. Some healthcare professionals work in environments that actively support knowledge exchange, while others seem unsure or feel held back by organizational norms. This variation underscores the importance of leadership in actively developing a culture that promotes openness, collaboration, and lifelong learning.

The Figure 6 below shows how respondents rated the impact of organizational culture.

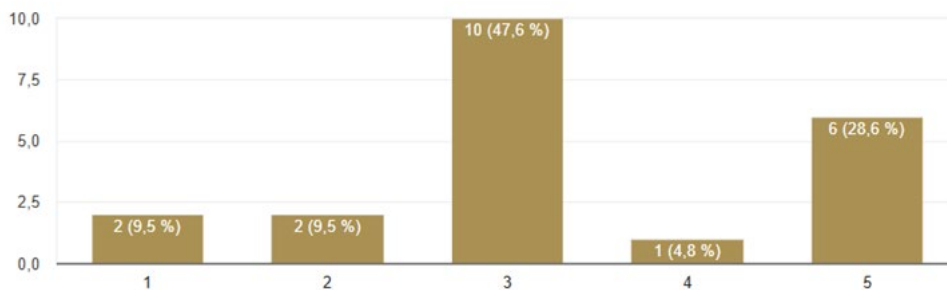


Figure 6 Impact of organizational culture

Source: authors' research

These insights reflect a culture that values collaboration, continuous learning, and legacy building within the healthcare system. Encouraging such intrinsic motivations may prove essential for the success of long-term knowledge management strategies.

Figure 7 shows the results of the three most common answers among responders. The left-out 7 answers are individual and particular:

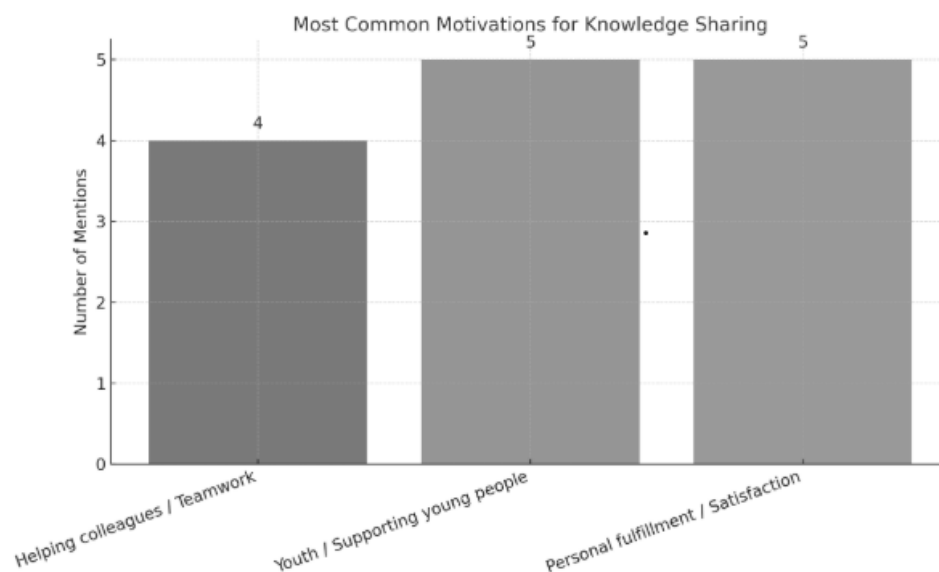


Figure 7 Most Common Motivations for Knowledge Sharing

Source: authors' research

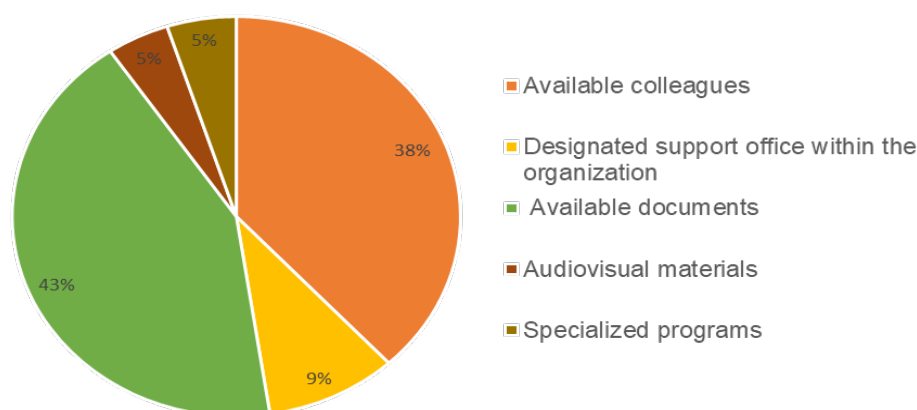


Figure 8 Tools and Resources Used to Support Daily Work

Source: authors' research

When asked “What tools or resources do you use to support your daily work?” (figure 8.), participants most frequently pointed to internal documents (43%) and colleagues (38%) as their go-to sources of help. Only a small portion (9%) turn to a designated support office within their organization, while a few rely on audiovisual materials or specialized digital tools.

These findings paint a clear picture: employees lean heavily on practical, easily accessible resources, especially peer support and internal guidelines. Formal support systems and digital platforms seem to play a much smaller role in everyday work routines. This gap opens up a valuable opportunity for public health institutions to strengthen formal support mechanisms, invest in digital knowledge-sharing tools, and build a more structured environment for continuous learning.

Based on the analysis of open-ended survey responses, three key categories of knowledge sharing factor emerged as being at the highest risk of permanent loss due to insufficient expert support:

1. Knowledge transferred exclusively through practice and mentorship

Several respondents emphasized that the most vulnerable knowledge consists of that which cannot be easily documented or transmitted through written manuals or standardized procedures. Expressions such as “everything difficult to transfer without mentoring and everyday practice” and “knowledge from practice” point to the importance of informal learning, experiential knowledge transfer, and the continuous presence of experienced staff within the system.

2. Communication skills and interpersonal relationships

Responses such as “communication,” “communication and sales techniques,” and “good communication within the organization and strong working relationships are key to improving performance and reducing knowledge loss” indicate that respondents view soft skills as a crucial yet often overlooked knowledge area. These skills are rarely formally structured or systematically transferred, making them especially vulnerable in the absence of strong leadership and mentorship.

3. Specialized professional knowledge in medical practice and management

Participants highlighted specific knowledge areas in medicine and dentistry, such as Invisalign, dental implant procedures, knowledge of individual products, proper patient record-keeping, and knowledge related to natural childbirth. In addition, they mentioned essential managerial competencies, including “the ability to manage without micromanaging” and “leadership”. These types of knowledge generally develop over years of experience and are at high risk of being lost without active institutional support and structured knowledge-sharing mechanisms.

5. DISCUSSION

Research indicates that there is significant room for improving knowledge transfer systems in healthcare, particularly within healthcare institutions and the exchange of knowledge among their staff.

A majority of participants stated that they prefer knowledge exchange with foreign institutions, explaining that such institutions are generally more advanced and more open to sharing knowledge. This preference reflects a perceived gap between domestic and international practices and points to the potential benefits of strengthening cross-border collaboration to improve knowledge flow within the public health sector.

Participants highlighted several powerful activities that boost knowledge transfer within their organizations, including meetings, brainstorming sessions, team-building events, and study programs. These methods spark collaboration and facilitate the free flow of ideas among employees. What stands out is that participants show strong enthusiasm to improve knowledge transfer, but do not stick to specific tools or technologies. They embrace an open and flexible mindset, ready to explore a wide range of approaches.

Based on these insights, organizations should prioritize regular meetings and brainstorming sessions to create vibrant spaces for idea exchange and collective learning. Investing in team-building initiatives strengthens interpersonal bonds and trust, which encourages informal knowledge sharing. Supporting study programs and continuous training nurtures ongoing professional growth and expands employees’ expertise. A flexible and adaptable approach to knowledge transfer tools and techniques empowers employees to engage with diverse resources without being limited to a single platform or method.

The findings suggest that three core motivations drive participation in knowledge-sharing programs among healthcare professionals. The first is the sense of satisfaction and fulfillment, indicating that individuals feel personally rewarded when sharing expertise with others. The second key motivator is the desire to improve teamwork, highlighting a recognition that collective learning strengthens team efficiency and communication. Finally, many participants emphasized the impact of knowledge sharing on younger generations, showing a strong intergenerational

awareness and a commitment to mentoring and professional development of future healthcare workers.

The empirical research shows that personal motivation drives employees' active involvement in knowledge transfer and sharing within public health institutions in the Republic of Croatia. Most respondents point to internal factors such as genuine interest in professional growth, eagerness to learn, and the desire to contribute to collective knowledge as key motivators that fuel their engagement in knowledge exchange.

Although respondents recognize institutional factors like the level and type of institution as influential, these factors affect employee motivation far less than personal motivation. These findings highlight the need to prioritize fostering and nurturing intrinsic motivational factors to improve knowledge transfer processes in the public healthcare sector.

Also, findings show that a substantial portion of knowledge cannot be adequately documented and often must be acquired through informal means - through examples and practice. This suggests that knowledge is personal, experiential, and frequently transferred more effectively through less formal, more interpersonal channels than through rigidly designed procedures and standardized formats. The "fluid" nature of knowledge, its unclear boundaries, and the lack of precise definitions regarding which knowledge is essential for the organisation (often referred to as "organic" knowledge) further amplify the importance of this issue, especially given the rapid pace of scientific advancement in medicine. This raises the question: What are the "knowledge islands" within an organisation (Liebowitz, 2018; 59), where are they located, and how can they be connected?

This question can be addressed through a multidisciplinary approach and the use of various tools and models for knowledge transfer. Newton reaches a similar conclusion in his research on the UK knowledge transfer system. He states: "In setting standards for education and training and in its advocacy and leadership roles ... [the system] emphasises the use of three types of knowledge- quantitative information from statistics and surveillance, research evidence, and evidence from experience. To equip the public health workforce of the future it is important to understand likely knowledge requirements across these areas." (Newton, 2020; 165).

In addition to formal work teams defined by the institution's organizational structure, it is essential to establish temporary and "spontaneous" ("natural") working groups, where strong leadership and a robust mentorship system play a crucial role. It is important to encourage collaboration both within and between different institutions, at the national and international levels, thereby forming structured networks firmly rooted in the community and its institutions, ultimately contributing to the development of an Integrated Knowledge Community (Figure 1).

6. CONCLUSION

This is an introductory preliminary research of the institutional scientific project Quality in Health, Integrated Health Systems and Lifelong Learning as Determinants of PHM (Population Health Management) Systems, which was registered at the University of Zadar in 2025. This pilot study shows that successful knowledge transfer depends on a balanced and active relationship between social and technological factors. By examining primary and secondary information sources, knowledge sharing practices, and key knowledge management activities in Croatian healthcare institutions, we identified several positive aspects, including strong internal professional networks and active participation in professional conferences. At the same time, we noticed several weaknesses, such as limited use of multimedia tools and a lack of clearly defined organizational support for knowledge sharing.

The main limitation of this study is the relatively small sample size; however, this was a pilot study designed to provide initial insights and test the research framework. Future research should

therefore include a larger and more diverse sample, as well as expand beyond Croatia to other countries in order to enable broader generalisation of findings. The target group in this study consisted of medical doctors, nurses, technicians, and dentists working in public healthcare institutions in Croatia, so future studies should also consider including additional stakeholders to obtain a more comprehensive perspective.

To improve knowledge transfer, healthcare institutions need to develop clear and consistent mechanisms that support communication, enhance internal training, and encourage a culture of open knowledge exchange. These improvements help professionals share expertise more effectively, promote innovation, and directly contribute to better patient care and higher institutional performance.

Future research could explore comparisons between the pilot study findings and the core principles defined by the American Productivity and Quality Center (APQC), especially in light of changing social contexts and the rapid development of technologies such as artificial intelligence. Researchers may also consider expanding on the 2008 key findings to reflect new organizational challenges and opportunities in knowledge management.

It can be argued that this research has confirmed that the paradigm of knowledge management and knowledge sharing in organizations in general, including those in the healthcare sector, is based on an open, less rigid, and less formalized system that departs from the classical understanding of structures, processes, and hierarchies characteristic of traditional managerial practices.

Smaller, often informal communities are becoming crucial for the development and sharing of knowledge, highlighting the importance of interaction among their members as well as the processes of knowledge acquisition and dissemination both within and beyond such communities, which frequently take the form of informal teams to a greater or lesser extent.

As emphasized by the renowned knowledge management theorist Etienne Wenger (2008), knowledge represents a social system, and employees associate knowledge and knowledge management with organizational identity, whereby the organization effectively becomes a “house of identity,” as described by the same author. Consequently, a sense of identity among organizational members is essential for organizational learning, and it is necessary to connect “islands of knowledge” within the organization through both formal and informal channels and processes. The further development of the learning organization therefore naturally follows this direction. As Wenger states:

“To develop the capacity to create and retain knowledge, organizations must understand the processes by which these learning communities evolve and interact. We need to build organizational and technological infrastructures that do not dismiss or impede these processes, but rather recognize, support, and leverage them.” (Wenger, 2008: 6)

In addition, future studies could position this type of research within the integrated knowledge management model proposed by Hajric (2023), which draws on the earlier work of Bukowitz and Williams (1999), Gamble and Blackwell (2001), Botha and colleagues (2008), and Nonaka and Takeuchi (1995). This model, which includes organizational memory as a key component, may provide a valuable foundation for further theoretical development and practical application in the healthcare sector.

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