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PERSPECTIVES

Integrating the Consolidated Framework for Implementation Research (CFIR) and Tensions into a Novel Conceptual Model for Telehealth Advancement in Healthcare Organizations

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Abstract: Telehealth services have potential to enhance access to quality healthcare, reduce costs, and increase satisfaction for both patients and providers. As a disruptive healthcare innovation, telehealth disorders old systems and creates a new hybrid model of care that delivers significant value to stakeholders. However, the failure rate of innovation implementation in healthcare ranges from 30% to 90%, depending on the complexity involved. While researchers have conducted extensive studies on the barriers and facilitators to widespread innovation implementation, the root causes of innovation implementation failure in health services (eg, telehealth implementation failure) are not fully understood. The Consolidated Framework for Implementation Research (CFIR) introduced in 2009 has become increasingly popular as a framework for informing successful innovation implementation in health services. The CFIR identifies barriers and facilitators to innovation implementation across five domains of implementation—the innovation, individual, inner, outer, and process domains. However, it lacks a mechanism to capture the complex social challenges (tensions) underlying the barriers and facilitators that affect implementation success or failure. The Tensions framework supplies a foundation beyond barriers and facilitators to provide a dynamic understanding of the role of social conflicts impacting the implementation process. This paper presents a novel conceptual model, *Tensions in Innovation Implementation Processes* (*TIIPs*), which integrates tensions and management strategies within the CFIR framework. A key contribution of TIIPS is its ability to visualize the social conflicts within and across implementation domains, offering a clearer understanding of the challenges and opportunities involved in innovation implementation. We apply TIIPs to telehealth implementation, drawing implications for practice, policy, and research to enable successful telehealth implementation in healthcare organizations. This approach advances existing frameworks, aligning with the systems thinking essential for today's healthcare leadership.

Keywords: telehealth implementation, innovation implementation, consolidated framework for implementation research, tensions in innovation processes, leadership strategies

Introduction

Telehealth is a telecommunications technology that delivers preventative, promotive, and curative healthcare delivered over a distance.[1,2] It is a complex technology because its inter-organizational complexion requires aligning organizational procedures and policies among a large group of adopters in a complex institutionalized environment of influential private, regulatory, and government entities.[3] Telehealth is considered a healthcare service innovation because of its complex approach to delivering health.[4] In achieving its service delivery, telehealth is a disruptive innovation, referring to innovations that deliver significant value to stakeholders while disordering old systems and creating new players and markets.[5]

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Telehealth services provide many benefits: increased satisfaction among professionals and patients, efficient access to quality healthcare and reduced costs for patients.[2,6,7] Despite these benefits, many well-cited barriers still hinder its widespread implementation.[2,6–8] Research has studied these barriers without reaching a definitive answer for addressing telehealth implementation failures. Consequently, the existing literature is limited in providing actionable strategies for successful telehealth implementation. The post-COVID era has raised new concerns about the long-term sustainability of telehealth. While research continues to be related to the factors that hinder or aid its widespread implementation, its use remains widely variable.[9] More attention on the complex process and social issues surrounding culture, attitudes and decision-making behavior is needed. There is a risk of producing the same recurring research and practice results, if further investigation does not address these complex and social issues surrounding innovations such as telehealth.[3,10,11] Therefore, we ask how can widespread telehealth implementation among healthcare systems and healthcare users be improved?

Healthcare innovation implementation is an arduous process. The failure rate of healthcare innovation implementation can range from 30% to 90%, depending on the scale of the change.[12] The literature describes this concern as innovation implementation failure.[13] Even with careful planning, evidence-based innovations often fail during implementation since they are tested in controlled environments where contextual factors can be easily overlooked.[14] The field of implementation science was created to address the challenge of innovation implementation failure.[15] Healthcare organizations must continuously implement complex innovations if they are to respond effectively in an environment of challenges that are increasingly focused on value-based care in alignment with the *Quintuple Aim* of healthcare delivery.[12,13,16]

In this paper, we synthesize two existing innovation implementation frameworks, the CFIR and Tensions, into a novel conceptual model to offer a fresh perspective for advancing telehealth implementation. We describe the main components of the CFIR as a framework for understanding barriers and facilitators to innovation implementation across multiple domains. We identify gaps in understanding the complex social challenges underlying barriers and facilitators. We then explain the concept of Tensions in going beyond barriers and facilitators to provide a dynamic understanding of the role of social conflicts impacting the implementation process. Finally, we present a novel conceptual model, *Tensions in Innovation Implementation Processes* (*TIIPs*), which integrates tensions (and management strategies for addressing tensions) within the CFIR framework. TIIPs helps to explore the concept of tensions across multiple implementation domains enabling insight into management strategies for successful innovation implementation processes.

Building Blocks of an Integrated (CFIR-Tensions) Conceptual Model for Telehealth Implementation Success

This section provides an overview of the literature informing our integrated conceptual model for telehealth implementation success, including the Consolidated Framework for Implementation Research (CFIR), the Tensions framework and management strategies identified for addressing tensions. It concludes with an articulation of a gap in existing frameworks for telehealth implementation and an integrated CFIR-Tensions conceptual model to address this gap and inform telehealth advancement in healthcare organizations.

A pilot study surveying senior executives, managers, and strategic stakeholders identified key barriers to telehealth, including service coverage, patient and provider acceptance and privacy, though there was optimism about the technology's future as advancements continue to address these issues.[17] However, a comprehensive review of telehealth literature from 2000–2015 suggests that these barriers have persisted over time, highlighting ongoing challenges in telehealth implementation.[3]

The most significant barriers to widespread telehealth implementation are state and federal policy, regulations, and payment systems.[2,3,6–8] Health insurance denies payment for some forms of telehealth. Therefore, public support is limited, and health professionals do not demand telehealth since they are not fully paid for its service.[18] This combined effect results in upfront costs as a remaining barrier to telehealth implementation for healthcare organizations.[19] While technology has represented the least significant barrier, its greatest obstacle has been the interoperability between systems and the resultant patient confusion.[3]

Knowledge sharing around telehealth is intricate. A standard framework or method for understanding the key *drivers* of innovation such as telehealth in a complex social industry like healthcare is critical but remains a challenging task.[20]

Standing et al have emphasized the need for a structure to support the sharing of *virtual expertise* knowledge for telehealth to reach its full potential.[3]

The COVID-19 pandemic served as a catalyst for telehealth, driving a significant surge in its use due to necessity and temporary regulatory changes that increased accessibility. These adjustments included expanded service coverage, more favorable reimbursement policies, waiving of certain privacy rules for online communications, and the relaxation of geographic restrictions and provider licensing requirements across states.[9,21] As a result, telehealth use increased substantially, with some specialties adapting quickly, while others faced challenges in integration. However, after the public health emergency period ended, many of these temporary measures were rolled back, leading to a slowdown in telemedicine growth. Wide variations in telehealth use across medical specialties have been attributed to a range of factors spanning macro (policy), meso (organizational), and micro (individual) levels. A notable emphasis was placed on organizational culture, revealing contradictions: at the organizational level, culture was seen as both a barrier, driven by reimbursement, and a facilitator, influenced by patient experience and pioneering providers. At the individual level, provider practices were similarly split, viewed as either provider-centered (barrier) or patient-centered (facilitator).[9]

More than simply removing policy-level barriers is needed to ensure telehealth will be sustained in a post-pandemic healthcare environment, leaving the future of telehealth unclear.[22] A holistic approach to telehealth is essential, encompassing technology, organizational structures, change management, economics, social impact, beliefs, usability, evaluation, legislation, policy, and governance.[1] The implementation climate is crucial, particularly the shared perception among users, as successful implementation of complex technological innovations requires coordinated behavior change.[23] Telehealth services operate in a complex environment involving multidisciplinary stakeholders, decision-making, problem-solving, and change management,[1] and their sustainability in a post-pandemic landscape remains uncertain.[9] Research of external and internal factors for implementation in the climate and context of the organization remains important to help shape telehealth's future.[23,24]

Consolidation Framework for Implementation Research (CFIR)

The CFIR has received substantial attention as a standard and pragmatic approach to implementing healthcare innovation.[9] The CFIR originally included five major areas: the intervention, outer setting, inner setting, individuals, and the implementation process.[25] The CFIR domains and their constructs have been recently updated through a systematic review and eliciting author feedback. The outer setting represents the economic, political, and societal context influencing implementation–much of the focus of telehealth literature to date. The inner setting represents the politics, structure, and culture of the organization. A key change in the updated CFIR included a revision of the intervention domain to the innovation domain, aligning with Rogers' definition of innovation. The innovation domain includes the idea, practice, or object being implemented and represents the innovation's systems, characteristics, and complex elements that must be adapted to external and internal climates.[14,26]

The CFIR also emphasizes the individuals involved in the implementation process. The individual domain includes the roles and characteristics of the people who have power and influence over the implementation's result.[14] Individuals can influence implementation through their culture, profession, norms, interests and decision-making. The CFIR focused research on understanding the *interactions* between individuals and the organization in the context of change.[25] Leadership engagement was found to act as a significant facilitator or barrier to successful telehealth implementation due to its influence on overcoming challenges with cross-functional support, communications and goals. Furthermore, the inner setting was the most significantly reported influence on successful telehealth implementation alongside the individual and process levels.[9]

The CFIR provides an excellent framework to collect and classify data across each domain. The CFIR considers the implementation process, represented as the function of an active process involving the activities and strategies used to implement innovation at multiple levels.[14,25] It collectively identifies barriers and facilitators to innovation implementation. Individuals from the inner and outer settings act as facilitators or obstacles in the implementation process. The widespread success of innovation implementation is represented by its alignment with the individual user's needs and the fit within the more extensive social system (ie, inner and outer settings).[26] Therefore, it is essential to understand individuals' perspectives and how they interact with the organization during implementation.

The CFIR also deeply examines various constructs within each domain. The constructs within each domain begin highlighting the connections between domains and constructs related to the implementation process. For example, *innovation adaptability* within the innovation domain assesses how well the innovation can be altered to fit the local context or need (eg, the inner setting). *External pressure* within the outer setting examines outside (push) forces driving innovation implementation. Then, *adapting* within the implementation process also assesses how the innovation and inner setting can be adapted for workflow integration.[14] While the CFIR categorizes data well, improvement lies in its ability to formally link and understand the complex social process *interactions* underlying the main domains and constructs of the CFIR.

The need for updated CFIR foundations to clarify links between constructs and implementation outcomes has been recognized,[14] highlighting a gap in research that considers policy, organizational, and individual factors, along with intangible barriers like attitudes and culture affecting telehealth use.[9] Without a deeper exploration of underlying contradictions and effective implementation strategies, telehealth research and practice risk yielding repetitive outcomes.[3,10,11]

Tensions Framework

Tensions are socially constructed opposites that conceal their interconnected nature.[27] In other words, tensions introduce a (pull) force between two seemingly separate yet competing elements in a social context. Tensions supply a foundation to explore the links between CFIR domains and constructs and the underlying reasons for the success or failure of telehealth implementation. Integrating the Tensions concept into the CFIR framework can help generate an enhanced cognitive understanding of the social challenges inherent in the innovation implementation process and the management strategies that may be most effective for addressing or ameliorating these challenges.

Four primary categories of tensions have been identified: belonging, learning, organizing, and performing. "Belonging" reflects the tension between individual and collective identities within a team or organization, while "learning" represents the challenge of innovating new processes while phasing out outdated ones. Organizing tensions occur when there are competing structures and processes that aim to achieve a desired output. Examples include flexibility versus control, change versus routine, competition versus collaboration and enabling versus directing. Finally, performing tensions arise when different stakeholders pursue conflicting tactics and goals. The categories of learning, belonging, organizing and performing are not only separate but also interrelated leading to six additional cross-categories.[11]

A systematic literature review explored tensions in healthcare innovation processes, identifying 42 distinct tensions across nine categories, classified using an established organizing framework.[28] These tensions, most frequently occurring during implementation, were particularly prominent in the "organizing" category. This study offers valuable insights into the evolving challenges of healthcare innovation, suggesting that incorporating a tensions framework within the CFIR can deepen our understanding of complex social dynamics in implementation. Mapping these tensions across CFIR domains, alongside strategies for managing them, could substantially enhance our grasp of social conflicts in implementation—yielding meaningful implications for research, policy, and leadership practices.

Management Strategies for Tensions

How leaders respond to tensions is critical. They decide what actions to take, how to take them, who will take them and within what time frame.[11] Tensions can either catalyze change or hinder it.[27] How leaders respond can result in negative or positive cycles. Negative (vicious) cycles are caused by defensive reactions from management clinging to past knowledge and consistency to avoid exposing weaknesses in individual character. This results in a cycle of inaction and negative outcomes that intensify tensions in the organizational climate. On the other hand, positive (virtuous) cycles embody the acceptance of tensions as an opportunity for creativity and change.[11] Management responses in positive cycles involve embracing and exploring tensions instead of repressing them to innovate and create possibilities that are more in line with the complex environment.[27]

Three management strategies are identified for addressing tensions in healthcare innovation: either/or, both/and, and more-than. The either/or approach separates opposing elements or prioritizes one over the other, often resulting in vicious cycles. The both/and approach seeks to balance opposing forces by acknowledging their interdependence, though it may

also lead to vicious cycles. The more-than approach, however, integrates and reimagines elements to foster alignment, blending tensions to unlock positive potential in complex environments.[28]

The Novel Conceptual Model: Tensions in Innovation Implementation Processes (TIIPs)

As the foundation for our conceptual model, we recognize Tensions as interacting within and between CFIR domains. Figure 1 visually conceptualizes how these tensions influence telehealth implementation outcomes by interacting across CFIR domains. The institutional environment, encompassing legal and regulatory policies, insurance coverage, provider licensing, and payment models, represents the outer setting. In contrast, the inner setting includes the political, structural, and cultural contexts of the organization, particularly the healthcare organization where the innovation is implemented. The outer and inner settings exert inward pressure on individuals and the innovation itself, shaping how it is used. Individuals—healthcare leaders, clinicians, patients, and support staff—represent the culture, profession, norms, interests, and decision-making processes. As individuals accept and utilize the innovation, they collectively exert outward pressure on the inner and outer settings to promote more widespread implementation.

The innermost circle represents the innovation domain of the CFIR, which encompasses the idea, practice, or technology being implemented and its characteristics. Using telehealth as an example, its features, such as remote monitoring, audio-visual capabilities, patient wearables, mobile technology, ease of use, and interoperability, must be adapted to the institutional environment, tailored to individual settings, and ingrained within organizational climates. Without considering the concept of tensions, the small blue circles within the CFIR domains represent the facilitators and barriers previously discussed in the literature. This earlier perspective views barriers and facilitators in isolation, without acknowledging their contradictions (tensions). For example, interoperability between telehealth-related systems might represent one small blue circle within the innovation domain. However, the lack of interoperability between systems resulting in confusion and frustration for both patient and provider, introduces a perceived lack of human connection (another small blue circle). This concept of human connection is situated within the individual domain (the concentric circle encompassing the innovation), representing the characteristics of individuals who influence implementation outcomes. Together, a tension forms between human connection and technological connection, reflecting the challenge of balancing the goal of fostering human connection in the patient-provider relationship with

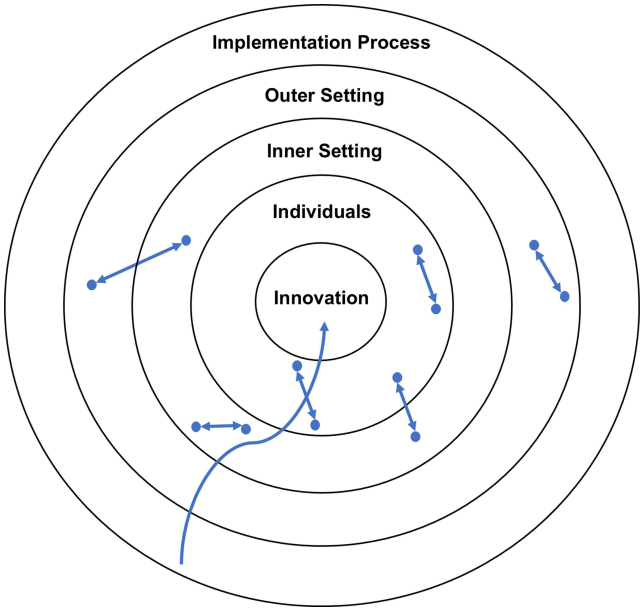

Figure 1 Tensions in Innovation Implementation Processes (TIIPS).
Note: If not managed properly, tensions pull the CFIR domains out of balance, hindering innovation implementation. Solid blue circle: Tension Elements. Two-sided blue arrow: Tension Force. Curved blue arrow: Management Strategies.

the integration and interoperability of telehealth technology for delivering medical care. This tension (pulling force) is visually represented by a blue double-arrowed line connecting two seemingly separate elements within a social context.

The next concentric circle, encompassing the inner setting, represents organizational characteristics. For example, healthcare organizations encounter barriers such as the upfront costs associated with telehealth implementation (a small blue circle within the inner setting domain). The payment system for telehealth introduces another small blue circle outside the inner setting domain, within the outer setting's concentric circle, illustrating a tension between payment systems and telehealth investment capabilities. Healthcare organizations struggle with the payment system for telehealth while needing to invest in telehealth technologies and capabilities to improve the delivery of medical services.

Tensions also exist within CFIR domains. The outer setting's concentric circle introduces the next layer of the social system, the economic, political, and societal context that encompasses the inner setting, individuals, and innovation. State and federal policies and regulations, previously identified as a barrier within the outer setting, were temporarily altered during the COVID-19 pandemic, then acting as a facilitator, improving telehealth service coverage and making it more accessible across state boundaries. Unfortunately, many of these temporary measures were reversed, leading to a decline in telehealth implementation to deliver efficient medical care and create access across a larger healthcare organization service area. Legal and regulatory constraints create a dynamic struggle to provide access to healthcare services across wider geographies (ie, across state boundaries), presenting tensions within the outer setting.

The implementation process, represented by the outermost concentric circle, encompasses all other CFIR domains. It involves the interrelated decisions, reactions, events, and consequences that must be carefully navigated with management strategies to ensure successful implementation. Healthcare leaders play a crucial role in implementing telehealth among individual users, navigating the outer, inner, and individual settings, and managing any tensions that arise during the process. The blue curved line represents management strategies used during the implementation process, which navigate around or through tensions. Tensions are a paradox; they are contradictions within innovation implementation that also influence key strategies and tactics for achieving success. Effective management strategies must be deployed to handle the tensions encountered along the way to improve healthcare innovation implementation.

Management Strategies to Address Tensions in Telehealth Implementation

Five articles discuss tensions and management strategies in technological innovation, telehealth implementation, and climate.[29–33] A *performing* tension was identified between patient and clinician design needs in implementing a smartphone app for rheumatoid arthritis, which had to be balanced for successful implementation.[29] In another case, *organizing* tensions arose between paramedics' need for standardization versus autonomy when adopting a clinical decision-support tool in emergency care.[30] A *learning/belonging* tension emerged in supporting rural hospitals as regional centers without displacing local specialists, while implementing telehealth in a rural setting.[31] Similarly, *confidence and trust* tensions between specialists and remote hospitals were noted in an acute stroke telemedicine program, balancing access to stroke specialists with local care provision.[32] Lastly, a *belonging/organizing* tension was identified between central coordination for knowledge-sharing and local collaboration for innovation.[33]

Table 1 illustrates the innovation, tensions, and management strategies related to telehealth articles. However, only two articles mentioned strategies to manage the tensions that arise during telehealth implementation. The need for safe spaces to foster experimentation and accept failure is emphasized as a *both/and* strategy to support innovation.[33] Similarly, balancing diverse user requirements through compromise is highlighted as another *both/and* approach.[29] However, the complexity of *more-than* strategies is notably absent in the literature, revealing a gap; further research should explore this approach to better manage tensions and establish virtuous cycles in healthcare innovation.[28]

Discussion

TIIPs for Practice

The TIIPs perspective offers healthcare organization leaders a holistic approach to developing strategic implementation plans for telehealth. This novel conceptual model serves as a valuable addition to a healthcare leader's toolbox, enabling more advanced analysis for innovation implementation from a holistic perspective. By employing the TIIPs model,

Table 1 Tensions and Management Strategies in Telehealth

Author	Innovation	Category of Tension	Tension	Management Strategy
Sharp et al[29]	Smart phone application for use by rheumatoid arthritis patients	Performing	Clinical practice vs User requirements	Both/and
Porter et al[30]	Computerized clinical decision support (CCDS) in emergency pre-hospital care	Organizing	Standardization vs Autonomy	–
Gagnon et al[31]	Telehealth in rural/remote regions	Learning/ belonging	Regional referral vs Direct care access	–
Bagot et al[32]	Acute stroke telemedicine program	Learning/ belonging	Lack of trust vs collaboration	–
Cresswell et al[33]	Technological innovation in healthcare	Belonging/organizing	Central coordination vs Local collaboration	Both/and

Note: Table 1 was adapted from published literature[28] to highlight gaps in management strategies.

healthcare organizations can foster a culture of innovation and adaptability through collaborative efforts, both internally with individual users and externally with partnerships and governing authorities.

Healthcare organizations can leverage the TIIPs model to illustrate how the tensions between the outer setting and inner setting impact telehealth implementation. For example, leaders can address the tension between the upfront costs of telehealth implementation (inner setting) and the payment system for telehealth (outer setting). This interaction can be used to advocate for necessary policy, regulatory, and payment model changes that address these internal and external challenges.[34,35] Highlighting these tensions, healthcare organizations can work with external stakeholders to ensure responsiveness to the evolving needs of the healthcare environment, as well as those of patients and providers.

Understanding these tensions and their corresponding management strategies is essential for achieving positive implementation outcomes across various organizational locations and departments. Leaders can formally identify tensions, such as the conflict between human connection and technological efficiency and navigate the complexities of telehealth implementation to align intervention initiatives with organizational goals. For instance, addressing the tension between the need for human connection and the efficiency of technological integration might involve implementing training programs that help clinicians enhance patient interaction skills with the use of telehealth tools.

Additionally, the TIIPs model can be used to educate healthcare managers, providing them with the knowledge and skills to manage telehealth implementation effectively within their respective organizations or departments. Managers can learn to proactively identify tensions, such as the conflict between interoperability and user frustration, and view them as opportunities for innovation in telehealth processes and integration. For example, they might develop communication and collaboration with users to develop internal solutions to improve telehealth integration while simultaneously addressing user concerns for improved telehealth service delivery.

Finally, integrating value-based care models is a critical consideration for healthcare organizations. Telehealth services that prioritize patient outcomes and cost-effectiveness (such as hospital-at-home programs) can be aligned with value-based care models, including alternative payment models with bundled payments focused on preventative care and the reduction of unnecessary acute care healthcare costs.[34,35] Within this framework, healthcare organizations can also explore additional technologies to enhance care coordination and population health management, addressing tensions related to the financial sustainability of telehealth initiatives.

TIIPs for Policy

The perspective presented in this paper helps to highlight the critical role of federal policy and regulations in shaping telehealth services within healthcare implementation settings. Tensions identified between the inner and outer settings can signal the need for proactive advocacy to policymakers to evaluate and revise existing policies and regulations to facilitate widespread telehealth adoption and use.[34] For example, professional organizations such as the American Medical Association can use the perspective in this paper to continue advocating for fair coverage and patient access to telehealth services.[36] Policymakers can create a promising healthcare organization environment for telehealth practices by addressing tensions within federal policy and regulations as they continue to interlink with telehealth delivery and the competitive healthcare environment.

More policy advocacy and implications are being aimed towards telehealth payment rates.[34,35] Healthcare organizations must also invest in telehealth infrastructure and services for interoperability to improve care coordination, continuity of care, care access, and patient experience for population health management. Therefore, policymakers should consider the reimbursement challenges and focus efforts to incentivize the adoption and implementation of value-based care in telehealth reimbursement and regulatory efforts. This can promote healthcare organizations' prioritization of telehealth services for value-based measures such as patient outcomes and reduced total cost of care.

This perspective can also highlight the need for professional organizations to help telehealth implementation in healthcare organizations by creating guidelines and training to provide clarity and direction to individual healthcare providers on the appropriate use cases and standards of care for telehealth within their specific specialties.[35] With established standards for telehealth use, professional organizations can help healthcare organizations implement telehealth services across diverse healthcare areas.

Overall, policymakers can collaborate with professional organizations and healthcare organizations to address the evolving telehealth landscape, including telehealth technological infrastructure. Policymakers must continue to consider vulnerable populations who may not have access to the technology. With a collaborative approach, policymakers can communicate with professional bodies and healthcare organization experts to further develop strategies to ease widespread telehealth practices for improved population accessibility and continuity of care. These types of strategic partnerships would benefit patients, providers, and healthcare organizations.

TIIPs and Future Research

Successful innovation involves a series of decisions, reactions, and events in various areas separated by time. To truly understand the factors influencing telehealth implementation failure, it is necessary to explore tensions within and between different professionals and cultures in healthcare organizations. Additionally, management strategies to reduce and support tensions should be included to ensure continued telehealth implementation success.[28] These results will provide a better understanding of successful telehealth implementation.

Examining the TIIPs perspective in telehealth implementation among healthcare leaders can offer a deeper insight into the difficulties in the implementation process and management strategies that facilitate healthcare innovations.[28] The concept of tension as a pulling force between competing elements in a social system compliments the identification and classification of CFIR domains and constructs. Tensions consider complex processes and directly address the connection of navigating around conflicts and challenges. Therefore, tensions provide an improved concept for understanding and exploring complex processes, social issues, and how healthcare innovation implementation can succeed.[11,28] Furthermore, a process-based view of the management strategies and operational responses around tensions, attitudes, and behaviors toward change is needed for successful telehealth implementation.[3,11,37] Such research can point to management strategies to overcome tensions and successfully implement telehealth services.

Telehealth implementation research has mainly focused on external barriers, while internal factors and complex social processes have received far less attention.[3] The tension and dynamic interactions between the organizational environment, organizational setting, and individuals have not been explicitly studied in telehealth research. This paper provides a better understanding of the context and relationship of tensions, including their management for telehealth implementation. The results of future research in this area could lead to an increase in the effectiveness of telehealth implementation.

Conclusion

Healthcare organizations can design effective telehealth service programs through a better understanding of tensions and their management.[22] This perspective and the conceptual model presented in this paper can contribute to an improved understanding of the challenges endured by organizations and represents another step towards expanding innovation implementation frameworks for effective outcomes. This paper provides a visual and contextual understanding of these tensions and the potential for developing and aligning management strategies required for successful telehealth implementation. Studying management strategies in conjunction with the exploration of tensions can help address opposition at different stages of the innovation process. Leaders can actively choose and implement constructive strategies to address tensions within the structure, culture, personnel, and processes they oversee. By doing so, they can create a more cohesive environment that accelerates innovation implementation, ultimately driving successful and impactful outcomes.

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