DISCUSSION PAPER

Integrating Telehealth and Traditional Care in Chronic Pain Management and Substance Use Disorder Treatment

An Action Agenda for Building the Future State of Hybrid Care

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ABSTRACT | *As the United States grapples with the persistent challenges of chronic pain and substance use disorder (SUD), the rise in telehealth has opened new horizons for health care delivery. This paper delineates a comprehensive action agenda for the development of hybrid care models, combining the strengths of telehealth and traditional in-person care to address the individual and intersecting needs of chronic pain and SUD management. At the core of this agenda are four cross-cutting areas of opportunity:*

1. ***Centering the Lived Experiences of Patients and Caregivers** to enrich care design and execution*
2. ***Enhancing Workforce Support and Infrastructure Capacity** to support the implementation of hybrid care models*
3. ***Focusing on Safety and Quality of Care** to maintain high standards in telehealth and in-person services*
4. ***Aligning Regulations and Payment Policies with Evidence-Based Care** to foster a more supportive and less burdensome regulatory environment*

By seizing these opportunities to catalyze health systems transformation, stakeholders across the health care ecosystem can create a more accessible, efficient, and equitable system of care, especially urgent in light of the ongoing opioid crisis and overdose epidemic. This agenda advocates for an integrated and proactive approach, encouraging multilevel action—from policy makers, clinicians, researchers, individuals with lived experience, and others—to drive toward a future of health care delivery that is person-centered, innovative, and responsive to the evolving needs of society.

Introduction

The United States' health care system is undergoing a pivotal transformation due to the rapid expansion of telehealth, providing a unique opportunity to address complex chronic conditions such as chronic pain and substance use disorders (SUD). The COVID-19 pandemic has underscored the importance of telehealth as a vital lifeline for patients, highlighting its potential to enhance access to care, reduce disparities in health outcomes, and promote health care equity. However, this rapid expansion has also revealed numerous challenges related to policy, regulation, payment, clinical practice, training, technology, research, and inequities that require urgent attention and comprehensive strategies to address them.

In light of this transformation and the pressing need for person-centered, innovative solutions to the ongoing opioid crisis and overdose epidemic, this paper proposes adopting new models of hybrid care for chronic pain management and SUD care that combine the strengths of telehealth with in-person care. This paper aims to provide stakeholders across the health care ecosystem with a comprehensive action agenda for optimizing telehealth-enabled hybrid care models for individuals living with chronic pain and/or SUD.

This action agenda addresses opportunities in policy and regulation, payment, training, technology, practice, and research while focusing on improving health equity. The agenda adopts a wide lens, recognizing that to truly advance telehealth and hybrid care models in the realms of chronic pain management and SUD care, it is imperative to address broader systemic challenges while also homing in on the specific and unique obstacles inherent to these domains where possible.

This paper emphasizes the use of the term "telehealth" over other descriptors to refer to remote health care, as it encompasses a wide range of services, such as e-consultations, audio-visual and audio-only phone visits, asynchronous communication, remote monitoring, and telemedicine. The authors intend to underscore the significance of a comprehensive and inclusive approach to health care delivery, wherein patients can access all needed services irrespective of their location or circumstances.

Additionally, it is important to note that although the paper frequently discusses chronic pain and SUD together, the authors explicitly acknowledge that these are distinct and separate conditions. Nevertheless, the authors also recognize the significant commonalities and potential intersections that exist between the two conditions. Individuals affected by chronic pain, SUD, or a combination of both often face many of the same barriers when accessing care. Therefore, this paper aims to help stakeholders across the health care ecosystem understand the interrelation and aspects of both conditions, both independently and in conjunction with each other. Specific considerations for each condition are incorporated where relevant throughout the text.

Key Terms and Concepts	
Chronic Pain	Persistent and enduring pain that lasts beyond the usual recovery period, typically extending for more than three months. This type of pain is often complex and multifaceted, encompassing not only physical discomfort but also significantly impacting an individual's functional, psychological, and emotional well-being (ASA, n.d.).
Digital Divide	The gap in the availability, accessibility, and use of digital technologies, such as broadband internet, computers, internet-enabled devices, and digital literacy skills, among various demographic groups and geographic regions. This disparity has profound consequences in areas such as education, employment, health care, and social inclusion (California Health Care Foundation, 2022).
Hybrid Care	An approach to health care delivery that combines the best aspects of telehealth and in-person care to ensure optimal care and improved outcomes (California Telehealth Resource Center, 2021).
Medications for Opioid Use Disorder (MOUD)	An evidence-based treatment approach for individuals with opioid use disorder (OUD) that involves the maintenance use of FDA-approved medications such as buprenorphine, methadone, and naltrexone (SAMHSA, 2021).
Opioid Use Disorder (OUD)	A substance use disorder (SUD) characterized by a persistent and problematic pattern of opioid use that causes significant impairment or distress. It is recognized as a relapsing-remitting chronic brain disorder often resulting in physical, psychological, social, and functional consequences (NASEM, 2019).
Pain Management	An evidence-based and multidisciplinary approach aimed at alleviating discomfort and enhancing the quality of life for individuals experiencing pain. It involves a comprehensive range of strategies encompassing both pharmacological and non-pharmacological interventions (HHS, 2019).
Person-Centered Care	Integrated health care services delivered in a setting and manner that is responsive to the individual and their goals, values, and preferences, in a system that empowers patients, caregivers, and clinicians to make effective care plans together (CMS, n.d.)
Substance Use Disorder (SUD)	A complex, chronic condition characterized by a problematic pattern in substance use (e.g., alcohol, stimulant, opioid) that leads to substantial impairment in various areas of an individual's life, including physical health, mental well-being, relationships, employment, and overall quality of life (SAMHSA, 2023a).
Telehealth	The use of electronic information and telecommunication technologies, including video conferencing, audio-only visits, remote patient monitoring, store-and-forward, mobile applications, and various online platforms, to deliver an array of health care services remotely. These services include remote diagnosis, treatment, consultations, patient monitoring, information sharing, and care coordination, facilitating improved access and efficiency in medical care (CMS, 2023a).

In the subsequent sections, this paper outlines an action agenda to guide and support the development of hybrid care models that effectively cater to individuals living with chronic pain and/or SUD while leveraging the health workforce across the continuum of care. The action agenda is informed by the challenges and opportunities associated with the rapid expansion of telehealth during the COVID-19 pandemic. By leveraging these insights, stakeholders across the health care ecosystem can collectively work to address the needs of people living with complex chronic conditions while promoting equity and improving health outcomes. This action agenda for building new hybrid models for chronic pain management and SUD care may also serve as a foundation for future research, policy, and practice changes, thereby contributing to the ongoing advancement toward realizing the future state of care for other chronic, complex conditions.

Background

In 2018, the National Academy of Medicine launched the Action Collaborative on Countering the U.S. Opioid Epidemic (Action Collaborative), a public-private partnership involving more than 70 organizations (NAM, 2019). The Action Collaborative aims to foster a collaborative environment for stakeholders from various sectors, including health care, government, academia, and industry, to share knowledge, align efforts, and develop solutions to counter the opioid crisis.

In response to the rapid adoption of telehealth during the COVID-19 public health emergency (PHE), the Action Collaborative organized a series of stakeholder meetings, titled *Improving Telehealth and Virtual Care for Pain Management and Substance Use Disorders* (NAM, n.d.a). The series provided a platform for engaging a diverse range of stakeholders, including academia, public health professionals, representatives from both tax-paying and non-tax-paying sectors, small businesses, large corporations, and organizations at local, state, and federal levels. By fostering an inclusive environment, this forum enabled health care delivery professionals, policy makers, payers, health systems professionals, researchers, industry leaders, and patients and caregivers to engage in meaningful discussions that explored the impact of telehealth on chronic pain management and SUD care, as well as the challenges and opportunities presented by its rapid expansion.

The telehealth meeting series delved into key themes such as the current state of chronic pain management and SUD care, barriers to accessing care, regulatory and policy challenges, payment and reimbursement issues, workforce training, technological advancements, quality of care and safety concerns, and the need to address inequities (Duff et al., 2023a; Duff et al., 2023b; Duff et al., 2022). Participants in the series shared their experiences, insights, and best practices, highlighting both the potential benefits and the drawbacks of telehealth in addressing the opioid crisis and improving health outcomes. Each stakeholder agreed that patient preferences need to inform the method of care delivery.

Building on the key themes, opportunities, and challenges that emerged from the telehealth meeting series, this action agenda outlines key considerations for developing and deploying hybrid care models for chronic pain management and SUD treatment. By synthesizing the knowledge gained from the meeting series and integrating learnings from the Action Collaborative's cumulative efforts and foundational resources—notably the Guide for Future Directions for the Addiction and OUD Treatment Ecosystem and the Person-Centered Chronic Pain Journey Map (NAM, n.d.b.; Waller et al., 2021)—the action agenda offers practical steps for stakeholders to optimize hybrid care. The agenda's focus on policy and regulation, payment, training, technology, research, and equity ensures a holistic approach to addressing the complex challenges associated with telehealth-enabled care. While the action agenda draws on the specific context of chronic pain management and SUD care, its insights and recommendations are likely applicable to other complex chronic conditions as well.

About the Action Agenda Proposed in This Paper

Purpose

The action agenda proposed in this paper is intended to serve as a comprehensive guide to assist stakeholders in developing hybrid models of care that effectively address both chronic pain and SUD at individual and population levels. It aims to promote cost-effective, high-quality, and sustainable approaches, with an emphasis on promoting equity and reducing disparities in health outcomes. The agenda offers specific actions that can be implemented to enhance the accessibility, delivery, efficiency, effectiveness, and overall value of services related to chronic pain management and SUD care. Moreover, it offers valuable insights for shaping policies, improving practices, and facilitating systems transformations to achieve an optimal future state of hybrid care. By providing a clear direction for future research, practice, and policy, the agenda contributes to the ongoing efforts of the Action Collaborative and its partners in countering the ever-evolving opioid crisis and overdose epidemic and shaping the future of health care delivery in the United States.

Objectives

This action agenda has three core objectives:

1. To identify critical challenges with the current state of care that hinder its efficient accessibility, delivery, and efficacy;
2. To outline specific opportunities, approaches, and strategies that can address these challenges and support or enable the development and advancement of hybrid care models; and
3. To call upon stakeholders across the health care landscape to develop new optimized hybrid care models for

chronic pain management and SUD treatment by promoting policy changes, evolving practices, transforming systems, and encouraging further research.

Action Agenda Structure

The action agenda is structured to facilitate action-oriented steps toward developing and optimizing an effective future state of hybrid care for both chronic pain management and SUD treatment. The following subsections outline the key elements of the agenda, including areas of opportunity, challenges and priorities for action, and stakeholder groups.

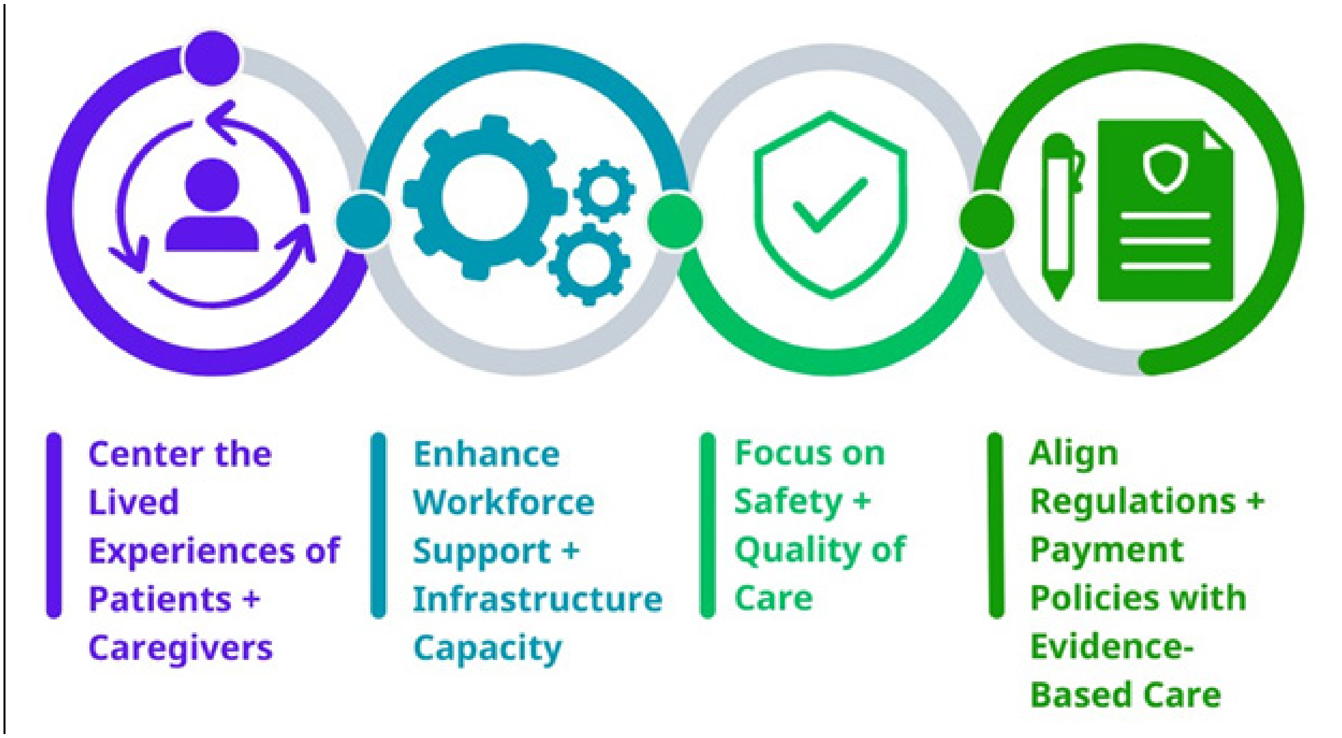
Areas of Opportunity

The action agenda highlights four crosscutting and interconnected areas of opportunity (see *Figure 1*) that emerged from the Action Collaborative's telehealth meeting series. These areas of opportunity build upon eight key themes identified during the final wrap-up meeting in June 2022, which include the need to establish standardized terminology and definitions, the vital role of partnering with patients and caregivers with lived experience, the recognition of hybrid integrated models as the future of care delivery, the challenges posed by clinical and regulatory aspects of telehealth-enabled care, the impact of the digital divide, the need for further data and research, and the importance of joint accountability across the health care system (NAM, 2022).

To provide a comprehensive approach toward optimizing the development and implementation of hybrid care models, this paper synthesizes and organizes the aforementioned themes into four crosscutting areas of opportunity. These areas offer a broader and more holistic perspective of the challenges faced in a hybrid care environment and present an accessible framework for effectively addressing them:

A. *Center the Lived Experience of Patients and Caregivers:* This opportunity underscores the significance of integrating patients' and caregivers' perspectives into the design and delivery of chronic pain management and SUD care. By centering the lived experiences of these individuals, health care professionals, health system leaders, policy makers, and other relevant stakeholders can gain a deeper understanding of their unique needs and create more effective care models for both chronic pain management and SUD care.
B. *Enhance Workforce Support and Infrastructure Capacity:* This opportunity recognizes the crucial need to improve workforce support and build the necessary infrastructure to effectively implement hybrid care models for chronic pain management and SUD treatment. This involves creating new roles and responsibilities for existing health care professionals, investing in essential technology and infrastructure and, importantly, leveraging clinicians' direct

FIGURE 1 | Areas of Opportunity to Build the Future State of Hybrid Care for Chronic Pain Management and Substance Use Disorders



SOURCE: Developed by authors.

care experience in the design and implementation of these models. Additionally, a key emphasis must be placed on the training and substantial expansion of the SUD clinical workforce to meet the increasing demand for evidence-based care.

C. *Focus on Safety and Quality of Care:* This opportunity stresses the importance of maintaining safety and high-quality standards in all aspects of chronic pain management and SUD care, including telehealth. This involves addressing concerns such as medication safety, adverse event reporting, and quality monitoring.
D. *Align Regulations and Payment Policies with Evidence-Based Care:* This opportunity advocates for the alignment of regulations and payment policies with the most current evidence-based practices in chronic pain management and SUD care. This encompasses addressing issues such as restrictive practice parameters, reimbursement policies, and telehealth service coverage to foster a more supportive and less burdensome regulatory environment.

Challenges and Priorities for Action

Across each of the four areas of opportunity, the action agenda identifies specific challenges that must be addressed to advance hybrid models of care for both chronic pain management and SUD treatment. Successfully addressing these challenges will require a collaborative effort among stakeholders across the health care sector. To this end, the action agenda suggests priorities for action across stakeholders to mitigate these challenges and advance the development and implementation of hybrid care models.

It is important to note that the challenges and priorities for action identified in each of the four areas of opportunity are interconnected and overlapping. Addressing a challenge in one area may be required for progress in overcoming others, underscoring the need for a coordinated effort across the health care sector. Through collaborative efforts, significant advancements can be achieved in improving the quality of care and health outcomes for individuals living with chronic pain and/or SUD.

Stakeholder Groups

For the priorities for action, the action agenda identifies eight primary stakeholder groups (see *Figure 2*) that possess the authority to influence key levers for health system change and transformation:

1. *People with Lived Experience (LE):* This group represents individuals living with chronic pain and/or SUD, as well as their families, caretakers, and representative patient advocacy groups. Their active involvement and engagement are crucial in developing and advancing hybrid models of care that effectively address their unique needs, priorities, and experiences. By actively participating in the decision-making process, they contribute valuable insights and perspectives that shape the development and implementation of person-centered care.
2. *Clinical Care Professionals (CC):* This stakeholder group comprises the diverse range of health care professionals directly involved in delivering clinical care and support to individuals with chronic pain and/or SUD. It includes primary care doctors, pain management specialists, psychiatrists, addiction medicine specialists, registered nurses, nurse practitioners, psychiatric nurses, physical therapists, occupational therapists, psychotherapists, substance use counselors, mental health counselors, pharmacists, and social workers. Leveraging their clinical experience and interdisciplinary expertise, these professionals play a pivotal role in implementing new care models, improving outcomes, and ensuring the provision of high-quality patient care.
3. *Health Professional Societies and Education and Training Institutions (ED):* This stakeholder group includes professional societies and organizations such as the American Medical Association, the American Society of Addiction Medicine, and the American Academy of Pain Medicine, as well as educational institutions, including undergraduate and postgraduate medical programs, vocational training schools, and continuing education providers. These entities work collectively to foster, support, and advocate for health care professionals across the various specialties and disciplines involved in chronic pain management and SUD treatment. These groups represent a diverse range of clinical care professionals, such as addiction medicine specialists, general physicians, advanced practice clinicians, pharmacists, psychologists, masters-level psychotherapists (including those specializing in social work and psychology), physical therapists, and registered and licensed practical nurses. These entities play an instrumental role in continuous improvement in health care delivery by fostering the development of a competent health workforce capable of promoting evidence-based practices that lead to improved patient outcomes.
4. *Treatment Programs and Health Systems (HS):* This stakeholder group encompasses diverse health care settings, including hospitals, clinics, rehabilitation centers, and community health centers. These systems often employ non-licensed health care professionals providing services such as non-psychotherapeutic counseling, care coordination, case management, and auxiliary health services in addition to clinical care professionals. The responsibility of these programs and systems extends to implementing and adapting evidence-based practices, integrating new technologies and approaches, fostering collaboration among entities, and ensuring the delivery of high-quality person-centered care.

5. *Policy Makers and Regulators (PM):* This stakeholder group includes governmental bodies, standard-setting organizations, and officials responsible for creating, implementing, and enforcing laws, regulations, and guidelines pertaining to health care and its payment. Key entities within this group include the U.S. Department of Health and Human Services (HHS) and its operating divisions, such as the Centers for Medicare & Medicaid Services (CMS), Food and Drug Administration (FDA), Health Resources and Services Administration (HRSA), Substance Abuse and Mental Health Services Administration (SAMHSA), and Office of the National Coordinator for Health Information Technology (ONC); the U.S. Department of Justice including the Drug Enforcement Agency (DEA), Consumer Protection Agency (CPA), and Fraud Section (FRD); and state and federal legislators; as well as accrediting organizations, state health departments, state insurance boards, state professional boards, and local public health agencies. These organizations serve several important functions that impact care for patients with SUD and chronic pain. Their responsibilities encompass setting reimbursement policies and legal requirements, overseeing medication regulations, issuing grants, and establishing standards for licensed clinicians, treatment programs, health care systems, and health plans. Furthermore, they oversee providers of these services to ensure adherence to safety standards, protect patients' rights, and facilitate streamlined access to care. They play an instrumental role in shaping policies and regulations that promote the improved delivery of chronic pain management and SUD care, including the integration of telehealth and in-person care models.
6. *Payers and Purchasers (PP):* This stakeholder groups consists of entities responsible for financing or managing health care service payments. Payers include both tax-paying and non-tax-paying organizations, such as UnitedHealth Group, Aetna, Evernorth, CDPHP, and Geisinger Health Plan. Purchasers encompass individuals, employers, and government agencies that purchase the health care services managed by payers. In some cases, governmental organizations may act as both purchaser and payer (e.g., Medicare Fee-For-Service, Veteran's Administration). While payers and purchasers have similar but distinct roles, they are both crucial in determining coverage, reimbursement policies, and financial incentives for health care services. Their support and alignment with evidence-based practices are integral for the widespread improvement of health care access, delivery, and efficacy, particularly for chronic pain management and SUD care, including the implementation of hybrid care models.
7. *Health Care Researchers (R):* This stakeholder group includes individuals and organizations conducting studies and generating evidence in the health care field. Tradi-

FIGURE 2 | Stakeholder Groups Identified Across Priorities for Action

SOURCE: Developed by authors.

tionally, this group has consisted of universities, research institutions, clinical researchers, and standard-setting organizations, such as ONC. However, various tax-paying and non-tax-paying organizations also collect and analyze data, including payers, provider groups, health systems, and other innovative organizations. Their work contributes to the development of new treatments, best practices, and innovative care models, such as hybrid care for chronic pain and SUD. This group plays a pivotal role in generating knowledge, evaluating the effectiveness of interventions, informing evidence-based policies and practices, and creating new technologies that expand access to care and improve patient outcomes.

8. *Technology Development Companies (TD):* This stakeholder group comprises companies and organizations focused on the research, development, and innovation of technological and technologically enhanced solutions for health care. These companies specialize in creating software applications, digital platforms, medical devices, and other technological advancements designed to improve the delivery of care, enhance patient outcomes, and facilitate effective management of chronic pain and SUD.

In addition to the primary stakeholder groups mentioned above, it is important to recognize the potential contributions of other entities, such as community and social service organizations, in advancing the priorities outlined in this action agenda. Engagement with these groups should be pursued as appropriate.

Action Agenda

Center the Lived Experiences of Patients and Caregivers

The COVID-19 pandemic exacerbated pre-existing health inequities and systemic barriers, particularly among those living with chronic pain and/or SUD (Chacon et al., 2021; Mun et al., 2021). In addition to these challenges, the stigma surrounding chronic pain and SUD further compounds the difficulties those seeking and receiving care face. As the country emerges from the pandemic and faces a worsening overdose epidemic, it is essential to use this opportunity to intentionally build new policies and practices that destigmatize and prioritize the well-being of individuals living with chronic pain and/or SUD.

Hybrid care can play a vital role in more effectively meeting the needs of those affected by chronic pain and/or SUD. By combining evidence-based practices with flexible and personalized care options that can be tailored to individual needs, preferences, and circumstances, this approach can improve access to care, reduce barriers to treatment, and promote continuity of care—factors that are critical in successfully managing chronic conditions like chronic pain and SUD.

To ensure that hybrid models of care are effective, equitable, and stigma-informed, stakeholder groups must consider the unique experiences of individuals living with chronic pain and/or SUD and involve them in the design and implementation of these models. This includes addressing issues related to digital equity and literacy, language and accessibility barriers, and cultural competence to ensure that all patients have access to high-quality care, free from judgment and discrimination. Taking these steps can improve health outcomes, reduce disparities, and promote the well-being of individuals and communities.

Challenge #A1: Lack of Person-Centered Systems of Care

Chronic pain management and SUD treatment systems often fail to offer truly person-centered care, with limited pain management options, insufficient behavioral health integration, inadequate personalized treatment and transitional care services, and traditional hours or settings of operations, which can pose significant access barriers for patients who are employed (IOM, 2001). These limitations are magnified by the pervasive stigma experienced by people living with chronic pain and/or SUD, a shortage of specialty care clinicians, and logistical barriers such as extended wait times, transportation difficulties, financial constraints, insurance coverage limitations, and challenges coordinating care across multiple health care professionals (AMA Pain Care Task Force, 2020; ASPE/DALTCP, 2019). Hybrid care models that combine in-person care with telehealth present an opportunity to overcome many of these challenges by improving access to care and empowering individuals with these conditions to exercise greater control over their treatment process.

Telehealth offers numerous advantages that not only enhance convenience but also address many of the specific challenges faced by individuals living with chronic pain and/or SUD. By leveraging telehealth, individuals and their care teams can alleviate transportation difficulties, reduce financial burdens, and improve scheduling flexibility. For example, one California-based study that examined the use of telehealth for pain management revealed that telehealth saved patients a median total of $52 per appointment based on estimated hourly earnings and travel time (Jalilian et al., 2022). Telehealth visits also offer individuals with chronic pain the opportunity to avoid settings that may trigger or exacerbate their symptoms, such as enduring long car rides, exposure to bright lights, and noisy waiting rooms. For individuals with SUD, telehealth can offer more privacy and convenience, allowing them to access care from the comfort of their own homes, place of work, or other location of their choosing, and reducing potential stigma and anxiety associated with in-person visits (Duff et al., 2022). Further, telehealth can facilitate more flexible and personalized interactions between patients and their care team. Through telehealth platforms, patients can engage in regular virtual consultations, potentially fostering a stronger rapport with their care team and actively participating in the management of their conditions. This open line of communication creates an environment where patients feel empowered to share their experiences, concerns, and treatment preferences.

While telehealth undoubtedly creates opportunities for more person-centered care, achieving true person-centeredness will require engaging patients, caregivers, and clinicians as critical partners in the design process of hybrid care models. Co-designing models with those who have lived experience fosters a collaborative environment and ensures the delivery of culturally competent and responsive care (Gallegos-Rejas et al., 2023). Research on co-design, co-production, and co-creation highlights several advantages, such as fostering trust, developing care models that better address the needs of all stakeholders, promoting a shared understanding of problems and potential solutions, creating collective ownership, and producing more accessible and relevant outcomes (Grindell et al., 2022). Co-designing hybrid care models should emphasize developing patient- and clinician-informed workflows and policies concerning technology deployment and integration. The right technological approach can enhance access to care, increase patient engagement, and improve communication between clinicians and patients. In this respect, technology must be deployed safely and effectively, considering the specific needs and preferences of those living with chronic pain and/or SUD alongside clinical judgment and decision making.

Challenge #A2: The Digital Divide, Including Limited Digital Literacy, Navigating Different Digital Systems Across Providers, and Inequitable Access to Broadband and Internet-Enabled Devices, also Limits Access to Telehealth-Enabled Chronic Pain Management and SUD Care

The digital divide, characterized by the unequal distribution of and access to telecommunications technologies, represents a substantial barrier to the successful implementation of hybrid care models, with implications for managing chronic pain and/or SUD. Nearly 25% of American adults, particularly rural residents, racial minorities, and individuals with lower incomes and/or levels of education, lack sufficient broadband access (Pew, 2021). Additionally, digital literacy is another challenge, with patients encountering difficulties accessing health information, scheduling appointments, communicating with their care team, and navigating portals across numerous telehealth platforms and electronic health record (EHR) systems used by providers (Tieu et al., 2017). This complexity further hinders patients' access to and management of their health information, an important consideration for individuals with chronic pain and/or SUD, as they often must consult multiple health care professionals across different provider systems.

Implementing effective hybrid care models will require adequate broadband access, sufficient internet-enabled devices, private spaces for clinical discussions, and health and digital literacy (Anaya et al., 2022). For example, a 2020 national survey of clinicians treating opioid use disorder (OUD) identified the digital divide as the primary barrier to implementing video visits for their patients, citing aspects such as patients' readiness (e.g., lack of devices, digital literacy, and broadband), technology issues at the clinic or clinician level (e.g., hardware, software, and/or broadband issues), and infrastructure deficits (e.g., lack of HIPAA-compliant technology, equipment) (Riedel et al., 2022). These factors contribute to the lower utilization rates of video visits compared to audio-only visits. Despite the increasing prevalence of smartphones and improved internet connectivity over the last decade, many patients, particularly older adults, Black Americans, individuals requiring interpreters, Medicaid recipients, and those living in areas with limited broadband access, continue to rely on audio-only visits for their health care needs (Chen et al., 2022).

Targeted solutions are essential to address these disparities and facilitate greater access to telehealth-enabled chronic pain

Priorities for Action for Challenge #A1: Lack of Person-Centered Systems of Care

Key

● People with Lived Experience (LE)
● Health Professional Societies & E+T Institutions (ED)
● Payers & Purchasers (PP)
● Clinical Care Professionals (CC)
● Treatment Programs & Health Systems (HS)
● Health Care Researchers (R)
● Policy Makers & Regulators (PM)
● Technology Development Companies (TD)

LE CC ED HS PM PP R TD	Collaborate with patients, caregivers, and clinicians to co-create innovative hybrid care models, ensuring that their valuable input is integrated into the development of person-centered workflows and policies pertaining to care delivery, as well as the implementation and integration of technology.

management and SUD care. These strategies include providing patients with necessary technology through waivers, subsidies, or vouchers (Lau and Knudsen, 2022); leveraging local, state, and federal policies to incentivize broadband infrastructure development (FCC, 2020; Bauerly et al., 2019); and collaborating with community organizations and libraries to offer digital literacy training and support. Local governments and health systems may also consider deploying telehealth navigators who can offer personalized guidance to help patients navigate telehealth platforms and manage their health information (Uscher-Pines et al., 2020). Importantly, maintaining and broadening supportive coverage and reimbursement policies for audio-only telehealth will be crucial to ensuring that patients with limited technology access continue to receive the care they need (Hirsch et al., 2021). With concerted efforts to bridge the digital divide, stakeholders can improve access to telehealth, reduce disparities in access to chronic pain management and SUD care, empower patients, and enhance overall public health outcomes.

Challenge #A3: Regulatory and Administrative Burdens on Patients and Caregivers

Regulatory and administrative burdens can significantly hinder patients' and caregivers' access to telehealth-enabled chronic pain management and SUD treatment. These challenges manifest in various ways and greatly impact patients' access to care.

One significant challenge is the variability in coverage and affordability of telehealth. Patients and caregivers may lack familiarity with different insurance providers' reimbursement policies, leading to unexpected costs and hesitancy in seeking telehealth-enabled care. This issue is intensified for uninsured individuals who must navigate this landscape without the safety net of insurance, often facing prohibitive costs and complex administrative processes. Coverage for telehealth can vary widely, with some health plans placing strict limitations on when and what types of services are covered, while others may not provide any coverage at all (Crockett et al., 2020; Adams et al., 2018).

Licensure restrictions further limit patients' access to care, especially in specialty areas like pain management and addiction treatment where there is already a pressing issue of workforce shortages, as detailed in Opportunity Area B. Requirements that clinicians must be licensed in the patient's location prevent patients from accessing their preferred or necessary specialists. If a patient's preferred specialist is not licensed in their state, they may be unable to access their services or need to travel across state lines for a telehealth appointment (Duff et al., 2022), as described in Opportunity Area D.

Inconsistent practice guidelines and regulations across states add further complexity to accessing care, whether in-person or via telehealth (Gajarawala and Pelkowski, 2021). For example, if a patient seeks care from a clinician in a different state with

<u>Priorities for Action for Challenge #A2: The Digital Divide</u>

Key

● People with Lived Experience (LE)
● Clinical Care Professionals (CC)
● Policy Makers & Regulators (PM)
● Health Professional Societies & E+T Institutions (ED)
● Treatment Programs & Health Systems (HS)
● Technology Development Companies (TD)
● Payers & Purchasers (PP)
● Health Care Researchers (R)

PM R	Identify disparities in access to telehealth-delivered chronic pain management and SUD care to develop targeted solutions for under-resourced populations.
LE CC R TD	Develop telehealth platforms to be more intuitive and user-friendly, incorporating inputs and perspectives of both patients and clinicians.
HS	Collaborate with community organizations and libraries to provide accessible digital literacy training and support in local communities.
HS PM	Provide assistive services to individuals in fostering digital literacy, accessing health information, and navigating telehealth platforms and portals.
PM PP	Retain and/or expand supportive coverage and reimbursement of audio-only telehealth services to increase accessibility for those with limited broadband access.
PM	Develop and promote public-private partnerships to facilitate investment in broadband infrastructure and technology access, particularly in under-resourced areas.

more stringent regulations governing SUD treatment, this can create obstacles to receiving medically appropriate and evidence-based care, such as medications for OUD (MOUD), and contribute to regional health disparities.

To address these challenges, policy makers, regulators, and payers must work toward harmonization and alignment of regulatory and payment policies with evidence-based practices. Initiatives such as interstate licensure compacts can help to increase the reach of specialty care clinicians, as described in Opportunity Area D. Further, aligning reimbursement rates with clinicians' training, experience, and time can also further incentivize clinicians to offer telehealth, improving access to care (Kim et al., 2020; Lee at al., 2020).

Moreover, maintaining or expanding regulatory flexibilities implemented during the COVID-19 pandemic can play a crucial role in improving access to care for patients with chronic pain and/or SUD. For example, measures enabling take-home doses of methadone, virtual counseling, and reduced drug testing requirements can decrease the number of in-person appointments patients need to attend, saving patients both time and money while increasing access to care (Hoffman et al., 2022; Hughto et al., 2021; Pytell and Rastegar, 2021). Lastly, the drive for regulatory harmonization should include creating clear and uniform telehealth practice guidelines as developed with clinical care professionals and their medical societies. Standardizing and widely disseminating these guidelines can alleviate confusion among patients and caregivers, enabling informed decisions about using telehealth services.

Addressing regulatory and administrative burdens on patients and caregivers is crucial for realizing the full potential of telehealth in chronic pain management and SUD treatment and ensuring that the issues of traditional care models are not replicated in the future hybrid care environment (Duff et al., 2023b). By removing these barriers and ensuring clear guidelines, adequate coverage, and expanded availability of clinicians, patients and caregivers can more easily access the care they need.

Section Summary

The challenges faced by individuals with chronic pain and/or SUD highlight the need for person-centered, accessible, and equitable hybrid care models. Addressing issues such as the digital divide, regulatory and administrative burdens, and the lack of person-centered systems is essential for ensuring that these populations receive the care they need. By involving patients and caregivers in the design and implementation of hybrid care models, leveraging technology effectively, and implementing targeted policies and initiatives, stakeholders across the health care ecosystem can enhance access to care, reduce disparities, and ultimately improve health outcomes for those affected by chronic pain and/or SUD.

Please refer to *Appendix Table 1* for a summary of the priorities for action identified in this section.

Priorities for Action for Challenge #A3: Regulatory and Administrative Burdens on Patients and Caregivers

Key

● People with Lived Experience (LE)	● Health Professional Societies & E+T Institutions (ED)	● Payers & Purchasers (PP)
● Clinical Care Professionals (CC)	● Treatment Programs & Health Systems (HS)	● Health Care Researchers (R)
● Policy Makers & Regulators (PM)	● Technology Development Companies (TD)	

CC ED PM PP	Align state regulatory and payer policies with evidence-based care, removing unnecessary restrictions on telehealth-enabled chronic pain management and SUD treatment.
PM	Expand and/or maintain regulatory flexibilities that increase access to care for patients with chronic pain and/or SUD, such as telehealth-based opioid treatment (TBOT), loosened restrictions on methadone treatment, and reduced drug testing requirements.
PM	Promote streamlined cross-state licensure, such as through interstate compacts and licensure reciprocity agreements, to expand reach of existing specialty care clinicians.
CC PM PP	Address the variability in coverage and affordability of telehealth services by ensuring health plans cover telehealth services and place fewer limitations on when and what types of services are covered and at what rates.

Enhance Workforce Support and Infrastructure Capacity

To effectively address the complex challenges faced by individuals living with chronic pain and/or SUD, health care delivery systems must embrace innovative hybrid models of care that combine the best aspects of both telehealth and in-person care. The successful transition to these models hinges on strengthening workforce competency with support and enhancing infrastructure capacity.

Clinicians, informed by their direct care experiences, are central to this transition. Their insight into patient needs and care delivery realities should help shape these models. Their expertise must guide the identification of best practices, establishment of evidence-based protocols, and optimization of workflows in hybrid chronic pain management and SUD treatment.

Enhancing workforce competency involves investing in continual education and support, upskilling health care professionals in technology use, and providing specialized training to ensure they are equipped to meet the unique needs of patients with chronic pain and/or SUD with changing standards of evidence-based care. The traditional SUD workforce and treatment system remain underdeveloped, with most treatment programs not providing baseline quality care, such as the use of MOUD. Development of the competency of the current workforce is crucial given the increasing demand for chronic pain and SUD care, requiring expansion of the workforce via recruitment and incentives for health care professionals to specialize in these fields.

Because the current clinical workforce cannot meet the needs for chronic pain management and SUD treatment, large-scale new capacity building is required. Without developing a new training program infrastructure to substantially increase the numbers of clinicians and support personnel of all types providing pain management and SUD care, it is not possible to adequately ensure access to quality treatment (Waller et al., 2021).

Further, health systems and treatment programs must build integrated infrastructures that connect patients to a range of health care professionals, including primary care, mental health, addiction and pain management physician specialists, advanced practice clinicians, pharmacists, nurses, and social workers. This requires the development of robust, interoperable care coordination systems, EHR systems that allow for seamless communication between clinicians and across health systems, and the creation of multidisciplinary care teams that can work together to address patients' complex needs. Health systems must also invest in infrastructure and technology supporting secure, high-quality telehealth services, including broadband connectivity, telehealth platforms and equipment upgrades, and resources for real-time monitoring and support during telehealth visits.

Challenge #B1: Shortage of Health Care Professionals in the Fields of Chronic Pain Management and SUD Treatment

The United States is confronting a growing crisis due to chronic shortages of health care professionals, particularly those specializing in pain management and SUD treatment. Rural regions are bearing the brunt of this shortfall, with an estimated 80% of rural communities classified as medically underserved (SAMHSA, 2021). This deficit leads to significant health disparities among rural populations, who tend to be older, economically disadvantaged, heavily reliant on public insurance, and more susceptible to adverse health outcomes. Further, the overall lack of a behavioral health workforce has triggered projections indicating that, by 2025, there will be a shortage of over 250,000 mental health professionals, including psychiatrists, mental health and substance abuse social workers, clinical and school psychologists, and school counselors (HRSA/NCHWA, 2015). However, this projection, focusing primarily on the general behavioral health clinician shortage, likely underestimates the extent of the shortage within the SUD treatment workforce.

Though "behavioral health care" is a term often used to collectively describe the treatment of both mental health conditions and SUD, in reality, these two treatment systems exist in parallel, yet separate, silos. The SUD treatment system developed independently from mainstream medical and mental health systems, resulting in a distinct network of clinicians and treatment programs specifically for individuals with SUD. These professionals often differ from those trained, certified, and licensed to provide mental health care (SAMHSA and OSG, 2016). Such disparities can be attributed to state-level differences in licensing and/or funding systems or even to inadequate training of mental health professionals in addiction treatment (DFS/NYS, n.d.). For example, psychiatrists are only mandated to undergo a single month of addiction training during their four-year specialty residency programs, further highlighting the divide in expertise within the broader behavioral health care workforce.

Even though more than 20% of individuals with mental health conditions have a co-occurring SUD, approximately 80% solely receive mental health treatment without any corresponding SUD care. This glaring treatment gap highlights the failure of the mental health treatment system to adequately address the needs of individuals with SUD. As the number of overdoses continues to rise, there is an immediate need to bolster the addiction treatment and ancillary support staff workforce, independent of the requirement for additional mental health clinicians, and to develop training for a larger workforce and evidence-based delivery systems.

A multi-pronged strategy is required to tackle these issues. Hybrid care models leveraging telehealth capabilities offer an avenue to mitigate some of the impacts of workforce shortages. By extending the reach of health care professionals, telehealth can facilitate remote consultations, monitoring, and support, particularly in underserved areas where local specialists are scarce. Additionally, telehealth offers enhanced flexibility to clinicians, enabling them to provide care beyond traditional working hours, reduce their commuting time, and explore the opportunity for multiple part-time work arrangements. This increased access to care is particularly vital for patients with chronic pain and/or SUD, who often require regular consultations and follow-ups. However, successful telehealth implementation requires robust infrastructure, adequate reimbursement levels, and comprehensive regulatory frameworks described in Opportunity Area D.

Additional measures include increasing funding for training programs in pain management, addiction medicine, and addiction psychiatry, and expanding the pool of specialized fellowships and residency slots. Initiatives to combat stigma and accountability for mental health providers to also provide addiction treatment may be considered. Further, financial incentives like loan forgiveness programs and improved reimbursement rates can lure and retain professionals in high-demand areas.

Several measures to address these challenges have been introduced at both federal and state levels. For example, the Consolidated Appropriations Act of 2023 introduced measures to combat workforce shortages, including simplified processes for prescribing buprenorphine for MOUD. Notably, the removal of the X-waiver, effective as of December 2022, now allows any clinician with a current DEA registration that includes Schedule III authority to prescribe buprenorphine for OUD (SAMHSA, 2023b). However, whether this change will significantly increase clinicians prescribing MOUD remains to be seen. Other measures include improvements to Medicaid provider directories and additional funds for peer support provider workforce initiatives. Additionally, HRSA's Substance Use Disorder Treatment and Recovery (STAR) Loan Repayment Program offers up to $250,000 in loan repayment for SUD professionals serving high-need communities or federally designated mental health professional shortage areas (HPSAs) (HRSA, n.d.).

Ultimately, addressing the growing shortage of health care professionals trained in chronic pain and SUD management ne-

Priorities for Action for Challenge #B1: Shortage of Health Care Professionals in the Fields of Chronic Pain Management and SUD Treatment

Key

● People with Lived Experience (LE)
● Health Professional Societies & E+T Institutions (ED)
● Payers & Purchasers (PP)
● Clinical Care Professionals (CC)
● Treatment Programs & Health Systems (HS)
● Health Care Researchers (R)
● Policy Makers & Regulators (PM)
● Technology Development Companies (TD)

HS PM	Invest in and expand the use of telehealth and hybrid models of care to extend the reach of the existing health workforce to underserved areas.
CC ED HS PM	Increase funding and support for specialty training programs in pain management and addiction medicine, including integrating these areas more thoroughly into existing curricula, and expanding residency and fellowship slots in these areas.
CC ED HS PM	Increase funding and support for comprehensive training in pain management and addiction medicine for clinicians, including nurses, psychologists, social workers, pharmacists, and advanced practice clinicians, and emphasize integrating these areas more thoroughly into existing curricula.
PM PP	Increase financial incentives to attract and retain health care professionals in chronic pain management and SUD treatment, including improved reimbursement rates for services, loan forgiveness programs for professionals working in underserved areas, and subsidies for education in these specializations.
CC HS PM	Implement models integrating primary care and SUD treatment, such as the Collaborative Care Model, to help expand the existing workforce and enhance patient access.
CC ED HS PM	Implement initiatives to combat the stigma associated with SUD and chronic pain. This could involve educational campaigns aimed at the public, as well as targeted interventions for health care professionals to reduce bias and improve understanding of these specialties.

cessitates a broad spectrum of strategies and the re-allocation of resources. Through these strategies, the United States can work toward building a more resilient, inclusive, and effective health care workforce.

Challenge #B2: Inadequate Digital Education and Training to Prepare Health Care Professionals for the Hybrid Environment

While telehealth technologies have the potential to improve access, quality, and efficiency of care, without adequate digital education and training, clinicians and allied health care professionals may struggle to effectively leverage these tools, especially when managing complex conditions like chronic pain and SUD, which require multidisciplinary, ongoing, and supportive care.

Beyond learning how to use and troubleshoot new technologies, clinicians must cultivate new communication strategies suitable for the virtual environment, which involves conveying empathy, interpreting nonverbal cues, and establishing a strong therapeutic relationship remotely. Moreover, navigating complex telehealth reimbursement policies and privacy regulations, ensuring patient confidentially, and adhering to new safety protocols and recordkeeping requirements are critical skills. This becomes especially important when engaging with individuals with SUD, who often disclose sensitive information related to their substance use (SAMHSA, 2021).

Telehealth-enabled care also necessitates clinicians to master virtual assessments integral to chronic pain management and SUD care. They need training to recognize signs of substance use, withdrawal, and pain signals remotely, leveraging the supplementary insights afforded by visual access to the patient's home environment. Further, understanding remote monitoring tools can significantly improve personalized treatment plans and enable clinicians to more quickly determine that there may be clinical concerns. Clinicians who may not have had much exposure to evaluating and using telehealth and other digital tools during their training may struggle to evaluate and use these modalities in their practice, potentially either limiting access to care for patients who would otherwise benefit from these technologies or using tools that may not improve efficiency and outcomes.

The rapid adoption of telehealth due to the pandemic has prompted many academic medical centers to integrate telehealth into clinical care and medical education. As of 2021, 90% of U.S. medical schools now offer telehealth education—a dramatic increase from 58% in 2018 (AAMC, n.d.). The Association of American Medical Colleges (AAMC) also published a 2021 report outlining telehealth competencies, reflecting its growing importance in health care delivery (AAMC, 2021). However, despite this progress, substantial gaps in telehealth training persist. Surveys from 2020 and 2021 suggest that most medical residents receive inadequate telehealth training, and a significant percentage feel ill-prepared to conduct telehealth visits (Wong et al., 2022; Sakumoto et al., 2021).

Addressing these challenges requires a concerted effort by health care organizations and education programs to integrate digital education and training opportunities across the continuum of health professional education. These trainings should encompass best practices for telehealth visits, technology troubleshooting, terminology and definitions, virtual communication

<u>Priorities for Action for Challenge #B2: Inadequate Digital Education and Training to Prepare Health Care Professionals for the Hybrid Environment</u>

Key

● People with Lived Experience (LE)
● Clinical Care Professionals (CC)
● Policy Makers & Regulators (PM)
● Health Professional Societies & E+T Institutions (ED)
● Treatment Programs & Health Systems (HS)
● Technology Development Companies (TD)
● Payers & Purchasers (PP)
● Health Care Researchers (R)

ED	Develop and implement telehealth-specific training programs and curricula for clinicians and allied health care professionals focused on digital literacy and telehealth skills.
ED	Create targeted training programs that focus on updating skills for the unique challenges of managing complex conditions like chronic pain and SUD via telehealth, providing in-depth education on remote assessment techniques, recognizing signs of substance use and withdrawal, interpreting pain signals remotely, and using remote monitoring tools effectively.
ED HS	Develop continuing education programs specially tailored to address gaps in digital education and training for long-serving clinicians.
ED PM	Invest in providing ongoing support and resources for the health professional workforce, including telehealth help desks and technology support teams, to ensure both health care professionals and their patients have access to the support they need to effectively use telehealth technologies.

strategies, health informatics integration, and understanding telehealth-related policies and regulations related to professional scope of practice. Special focus should be given to the unique requirements of managing chronic pain and SUD virtually, such as building rapport, conveying empathy, ensuring patient confidentiality, using remote patient monitoring tools, and providing clear instructions remotely (SAMHSA, 2021).

Additionally, health systems and treatment centers should invest in ongoing resources and support, such as telehealth help desks and technology support teams, to assist their workforce in navigating the demands of technology use, including hybrid care. With proper training and support, health care professionals will be better equipped to effectively employ telehealth technologies, ensuring optimal care for all patients, including those with chronic pain and/or SUD.

Challenge #B3: Increasingly Complex and Fragmented Systems of Care

The health care system in the United States is complex and fragmented, especially when addressing chronic pain, SUD, and its intersections (Doty al., 2019). Patients with these conditions require the expertise of diverse, multidisciplinary health care professionals from various health care systems, leading to significant gaps in care, poor outcomes, and increased costs. A major issue is the distinct separation between SUD treatment and routine mental health care, as described under Challenge #B1, and the separation of behavioral health care from physical health care

Priorities for Action for Challenge #B3: Increasingly Complex and Fragmented Systems of Care

Key

- ● People with Lived Experience (LE)
- ● Clinical Care Professionals (CC)
- ● Policy Makers & Regulators (PM)
- ● Health Professional Societies & E+T Institutions (ED)
- ● Treatment Programs & Health Systems (HS)
- ● Technology Development Companies (TD)
- ● Payers & Purchasers (PP)
- ● Health Care Researchers (R)

CC HS PM TD	Develop comprehensive, integrated workflows that allow for seamless coordination across different clinicians, patients, care settings, and technologies, with the goal of creating cohesive systems of care.
CC HS PM TD	Ensure EHR interoperability across systems and platforms to improve information flow, create efficient systems of care, and ensure coordinated care for patients, particularly those with chronic pain and/or SUD who receive care from multiple health care professionals across different care settings.
CC PM TD	Establish clear data standards and protocols for interoperability to maintain consistent data exchange across different EHR systems.
CC HS PM TD	Develop and implement interoperable EHR systems that can seamlessly share patient information across different health care professionals and settings to promote coordinated care and minimize duplicative or unnecessary procedures.
LE CC R	Study and implement innovative, person-centered hybrid care models that minimize fragmentation and encourage coordinated care to optimize patient outcomes.
LE CC TD	Develop user-friendly interfaces that integrate data across virtual and in-person care provision, promote collaboration, and break down silos between health care systems.
PM PP	Develop reimbursement policies that provide an appropriate amount and type of billing codes for coordinated care by reimbursing clinicians for activities such as care coordination meetings, virtual rounds, and the use of interoperable EHR systems.

(SAMHSA and OSG, 2016). Similarly, patients with chronic pain often receive care from numerous clinicians across various settings, which can result in duplicative or unnecessary procedures that represent wasteful spending and negatively affect patient outcomes and quality of life (DeBar et al., 2018).

Integrating technology into existing health care systems is crucial for improving patient outcomes and creating cohesive hybrid models of care, but the fragmentation and siloing of these care systems pose significant challenges. The use of distinct locations, technologies, and data systems by various health systems, treatment programs, clinical departments, and clinicians results in disjointed and inefficient care, which can ultimately lead to patient harm (Annaswamy et al., 2020). This fragmentation creates a significant hurdle to the development of integrated workflows that facilitate coordinated care across a diverse range of clinicians, patients, care settings, and technological tools.

To achieve seamless coordination across clinicians, patients, settings, and technologies, health care systems must establish cohesive care pathways that integrate various health care professionals and settings. These pathways must be designed with comprehensive, integrated workflows that facilitate efficient and coordinated care. The Veterans Health Administration's Clinical Resource Hub TelePain program is a notable example of a telehealth-enabled care pathway that effectively addresses these challenges. The program supports interdisciplinary pain management teams composed of clinicians from different fields, delivering both in-person and telehealth services. TelePain uses a coordinated administrative system, built-in consult menus, and streamlined telehealth documentation to ensure effective coordination across clinicians and sites (Glynn et al., 2021). Enabled by the Department of Veterans Affairs' (VA) distinctive payer/provider system, this program effectively integrates technology into existing care pathways, resulting in more efficient and coordinated care for patients with chronic pain.

Similarly, the interoperability of EHRs and the increasing ability to electronically exchange health information can be particularly important for coordinating care for patients with chronic pain and/or SUD who receive care from multiple health care professionals across different health care settings (Zhang and Saltman, 2022). Although sharing data for sensitive conditions such as SUD can be challenging due to special regulations (IOM, 2006), achieving interoperability is necessary for improving information exchange, streamlining systems of care, and ensuring coordinated care (Turbow et al., 2021). Interoperability can enhance data exchange between clinicians and health systems and facilitate the use of health information technology to improve patient care, ultimately leading to better outcomes for patients with complex care needs. Further, virtual rounds, using video technology to allow a patient's care team to communicate remotely, offer a promising solution to more coordinated care. This strategy allows multiple specialists to provide care simultaneously while also extending participation to pharmacists, care coordinators, students, and other staff members who can assist with documentation (HRSA, 2021). Payment and reimbursement policies must be aligned accordingly to incentivize the use of these coordinated care approaches, as described in the subsequent challenge area.

To address the increasing complexity and fragmentation of the health care delivery system, it is essential to advance solutions that improve the quality of care for patients with chronic pain and/or SUD. Establishing person-centered, clinician-informed, cohesive care pathways that enable seamless coordination, integrating technology into existing care pathways, and achieving EHR interoperability are critical steps in developing and deploying hybrid care models for these patients. These efforts can help improve patient outcomes, reduce costs, and ensure that patients receive the care they need across diverse health care professionals, settings, and technological tools. Ultimately, by advancing these solutions, we can pave the way for the development and deployment of innovative hybrid care models that better meet the complex needs of patients with chronic pain and/or SUD.

Challenge #B4: Barriers to Coordinated Care Across Modalities, Including Reimbursement and Adoption of Interoperable EHRs

Coordinated care is widely recognized as a critical aspect of both chronic pain management and SUD care, which can increase patient engagement, lead to better clinical outcomes, and promote retention in treatment (Pew, 2020; HHS, 2019). Innovation in telehealth-enabled, coordinated care solutions, such as e-consultations and comprehensive medication management, provides additional opportunities for improvement. These solutions, designed to integrate into the clinical workflow, can enhance care coordination, management, and referral capabilities (Duff et al., 2023b). However, successful implementation is hindered by significant barriers, including misaligned reimbursement and health information sharing challenges. Addressing these barriers is crucial to advancing quality care and improving outcomes.

One primary barrier to coordinated care is the limited use of interoperable EHRs by behavioral health providers; for example, only 6% of behavioral health facilities and 29% of SUD treatment centers use EHRs (MACPAC, 2022). This hinders efficient data exchange and exacerbates communication gaps among clinicians, resulting in disjointed care delivery. To overcome this, widespread adoption of standardized EHR systems by behavioral health providers is needed. Policy makers have begun to take important steps in this direction, such as the proposed Behavioral Health Information Technologies (BHIT) Now Act, which would appropriate funding for CMS's Center for Medicare and Medicaid Innovation (CMMI) to help finance behavioral health EHR implementation (Larson, 2022).

Moreover, regulations on sharing patient information and data at both the federal and state levels may present challenges to optimizing coordinated care. Regulatory reforms need to strike a delicate balance between safeguarding patient privacy and promoting efficient data sharing, as described within Opportunity Area C. Recent proposals by HHS and SAMHSA regarding changes to 42 CFR Part 2 demonstrate efforts toward achieving this balance (SAMHSA, 2022).

Another significant challenge is the misalignment of reimbursement structures, which is crucial for incentivizing care coordination. Traditional fee-for-service (FFS) payment models often fail to adequately compensate clinicians for their time and resources invested in coordinating care, including case conferencing and use of non-professional team members such as care navigators, resulting in suboptimal care quality. Adoption of innovative alternative payment models, such as value-based contracts and pay-for-performance arrangements, can serve as incentives for high-quality, coordinated care, particularly for individuals with complex needs like chronic pain and SUD (Duff et al., 2023b; Greene et al., 2021).

For example, patients with SUD often require a range of services, including different levels of care, maintenance medications, psychotherapy, counseling, and care coordination. Comprehensive care delivery models that integrate these services can enhance evidence-based practices and support patients throughout their recovery journey. Innovative payment models, such as the Bundled Payment for Office-Based OUD treatment (HCPCS codes G2086-G2088) (CMS, 2023b), the Addiction Recovery Medical Home APH (Alliance for Addiction Payment Reform, n.d.), and the CMMI Value in Opioid Use Disorder Treatment Demonstration Program (CMS, 2022), are examples of such efforts that may foster coordinated addiction treatment and recovery services.

Policy makers at both the federal and state level, along with public and private payers, who are interested in promoting these innovations, should strive to enhance payments for evidence-based treatment, including integration models and collaborative care codes. Additionally, all stakeholders must prioritize the allocation of resources, training, and technical assistance for the implementation of evidence-based care models. By proactively addressing these barriers, stakeholders across the care delivery system can streamline the patient journey across all points of care, resulting in improved efficiency, efficacy, and quality health care experiences.

Challenge #B5: Limitations of Telehealth and Technology in Chronic Pain Management and SUD Treatment

While telehealth holds significant potential for the delivery of chronic pain management and SUD treatment, it is important to acknowledge its limitations and associated risks. In many cases, current protocols and guidelines for chronic pain management and SUD treatment rely heavily on face-to-face interaction, assessment, and testing that may not directly translate well to virtual care settings. For example, one significant shortcoming of telehealth-enabled chronic pain management is the inability to administer physical examinations and evidence-based non-pharmacologic treatment interventions, such as chiropractic manipulation, massage, and acupuncture (Vorenkamp et al., 2022).

Priorities for Action for Challenge #B4: Barriers to Coordinated Care Across Modalities

Key

● People with Lived Experience (LE)
● Clinical Care Professionals (CC)
● Policy Makers & Regulators (PM)
● Health Professional Societies & E+T Institutions (ED)
● Treatment Programs & Health Systems (HS)
● Technology Development Companies (TD)
● Payers & Purchasers (PP)
● Health Care Researchers (R)

HS PM PP TD	Encourage the development and widespread adoption of interoperable EHRs by creating incentives and providing funding for health systems and treatment providers to transition to these systems.
PM TD	Address electronic barriers to observing patient consent protocols in information sharing across different types of treatment services, enabling better care coordination.
PM PP	Develop and support innovative alternative payment models that incentivize coordinated care, such as value-based contracts or pay-for-performance arrangements. These models should reward clinicians for the quality of care they provide, not just the volume of services delivered.
HS PM PP	Allocate funding and resources to promote and implement integrated and coordinated care models that bring together multidisciplinary care teams across physical health, SUD treatment, mental health, and social service providers.

Moreover, the execution of essential tasks like substance misuse screening, urine toxicology analysis, and identification of physical complications can pose challenges for telehealth-enabled SUD treatment (Lin et al., 2020).

The risk of missing key information could significantly impact patient care, and the lack of standardization and variations in telehealth policy at the state level and by payer make it difficult to compare the effectiveness of different telehealth interventions and identify best practices for delivering care remotely (Pessar et al., 2021). Concerns surrounding privacy and data security also risk eroding patient trust, which is crucial for successful telehealth implementation, as described in Opportunity Area C.

In the context of SUD treatment, regulatory requirements for in-person examinations and urine toxicology screenings for MOUD add another layer of complexity to telehealth-enabled care. Telehealth may also impede the development of personal connections, which play a vital role in SUD treatment and recovery. Moreover, clinicians might find it difficult to discern subtle, nonverbal cues indicating patient distress and ensuring patient safety through telehealth, posing potential risks to patient safety and open communication (SAMHSA, 2021).

Despite these challenges, numerous opportunities exist to develop new technologies that can support clinical evaluation and advance evidence-based telehealth while addressing the shortcomings outlined above. This includes incorporating capabilities for the secure remote submission of baseline pain measure sets and pain location body maps to compensate for the absence of in-person physical examinations, as well as establishing safety protocols to address urgent needs, such as suicide risk, to ensure immediate intervention and prevent potential harm. Further, new technologies should support data collection and analysis, enabling researchers to study health outcomes and make informed decisions on evidence-based best practices for telehealth-enabled care.

Additionally, hybrid care models that combine the convenience of telehealth with the personal connection, safety, and hands-on aspects of in-person visits can optimize care for patients with chronic pain and/or SUD. Interactive apps, remote patient monitoring devices, virtual reality, and gaming technologies can increase patient engagement, motivation, and satisfaction with telehealth-enabled care (Blok et al., 2019). Medication management tools, user-friendly communication portals, and facilitating joint visits with multiple clinicians can improve care coordination, patient satisfaction, treatment adherence, and access to care. Additionally, building therapeutic relationships via telehealth, though challenging, is feasible with comprehensive planning, focused training, and targeted strategies to foster therapeutic alliances (SAMHSA, 2021).

However, the success of these measures and new technologies hinges on addressing accessibility barriers. Technological limitations, such as inadequate equipment, poor connectivity, and a lack of digital literacy, can be significant barriers to telehealth for both patients and clinicians, as previously described. Improvements in broadband internet quality and connectivity can rectify these issues and ensure a smoother telehealth experience.

Section Summary

To successfully implement hybrid care models for patients with chronic pain and/or SUD, stakeholders must collectively work to address challenges such as fragmented systems of care, inadequate digital education, shortages in the SUD workforce, insufficient workforce capacity, limited funding for care coordination, and technological limitations. Investing in workforce development initiatives, providing comprehensive digital education and training, creating cohesive care pathways, advancing access and use of interoperable EHRs, implementing policy changes, and developing new technologies that support clinical evaluation, patient engagement, and data analysis can help create

Priorities for Action for Challenge #B5: Limitations of Telehealth and Technology in Chronic Pain Management and SUD Treatment

Key

● People with Lived Experience (LE)
● Clinical Care Professionals (CC)
● Policy Makers & Regulators (PM)
● Health Professional Societies & E+T Institutions (ED)
● Treatment Programs & Health Systems (HS)
● Technology Development Companies (TD)
● Payers & Purchasers (PP)
● Health Care Researchers (R)

CC PM R TD	Invest in the development of new technologies that prioritize the specific needs of clinical end-users, including effective clinical evaluation, personalized treatment planning, and care coordination, while ensuring the security and privacy of patient information.
CC ED PM	Establish and implement standardized protocols and guidelines for telehealth interventions in the treatment of SUD and chronic pain, considering the limitations of virtual care settings and ensuring privacy, safety, and quality of care.

more efficient, coordinated, and person-centered care. This will pave the way for innovative hybrid care models that are tailored to meet the complex needs of individuals with chronic pain and/or SUD while ensuring improved outcomes and enhanced access to care.

Please refer to *Appendix Table 2* for a summary of the priorities for action identified in this section.

Focus on Safety and Quality of Care

While telehealth has undoubtedly introduced numerous advantages, there remains a persistent concern among both clinicians and patients regarding the ability of telehealth-based care to match the quality of in-person care. Key concerns include the absence of physical examinations, which may result in misdiagnoses or delayed diagnoses, and difficulties establishing personal connections, potentially undermining the formation of strong therapeutic alliances. To alleviate these concerns, health care professionals and organizations must ensure that telehealth services not only maintain safety and efficacy, but also adhere to the same rigorous standards as in-person services. As the health care industry progresses toward embracing hybrid models of care delivery, an intensified and heightened focus on quality of care must take center stage.

A fundamental aspect of guaranteeing the quality of telehealth-based care involves the formulation of well-defined guidelines and standards for both telehealth services and hybrid care models. This entails the establishment of comprehensive protocols encompassing screening, clinical assessment, referral, and treatment across various modalities. These protocols should be backed by robust evidence that verifies their effectiveness and safety.

Crucially, the drive for quality in telehealth services calls for consensus quality metrics, particularly in SUD treatment. This shared understanding among health care professionals will ensure that assessments of quality are consistent and meaningful across the board, enabling valid comparisons and effective benchmarking between telehealth and traditional, in-person care. Moreover, given the growing emphasis on person-centered care, the incorporation of patient-reported outcome measures (PROMs) is becoming increasingly important in assessing quality of care. These measures, which often focus on aspects of care delivery such as communication, function, and quality of life, can capture whether services provided improve patients' own sense of health and well-being. This can be particularly helpful as clinicians seek to determine the comparative effectiveness of different telehealth modalities.

By prioritizing quality of care; implementing well-designed guidelines, standards, and protocols; and establishing consensus on quality metrics, health care professionals and organizations can ensure that telehealth-based care is on par with traditional in-person care.

Challenge #C1: Lack of Consensus Quality Measures for Chronic Pain Treatment and SUD Treatment (both for In-Person and Telehealth)

Quality measures play a pivotal role in health care, providing key insights into the impact of policy and service delivery initiatives on care quality and guiding stakeholders in their decision making. Effective quality measures can foster joint accountability through transparency (i.e., public reporting) and can be incorporated into payment programs to drive quality improvement. Although many quality measures exist for assessing chronic pain management and SUD care, such as "Annual Monitoring for Persons on Long-Term Opioid Therapy" and "Initiation and Engagement of SUD Treatment," there is a lack of standardized, consensus measures—an issue that persists across both in-person and telehealth care (PQA, 2023; NCQA, 2021).

For example, in a study by the National Committee for Quality Assurance (NCQA), it was found that of 1,410 measures and metrics employed across 39 Federal Reporting Programs, 48% were standardized quality measures, 13% were non-standardized, and 39% were metrics (NCQA, 2021). Notably, the study showed that behavioral health and behavioral health integration programs, encompassing SUD treatment and important aspects of chronic pain management, had a higher proportion of metrics (85% and 57%, respectively) than general medical programs (19%). However, these programs had a lower proportion of standardized quality measures (10% and 39%, respectively) than general medical programs (62%). This lack of uniformity complicates efforts to improve and standardize care quality and hampers the effective evaluation of health care performance and quality improvement initiatives.

Compounding these challenges, systemic barriers such as inadequate adoption of EHRs hinder the collection of precise and comprehensive data, vital for effective quality measurement (Luther et al., 2022). Given the escalating SUD and overdose crisis in the United States, there is an urgent need to improve SUD treatment quality and standardize the measures used for this purpose. Moreover, as the national health care landscape shifts toward a value-based approach, consensus quality measures are needed to guide value-based payment models (Greene et al., 2021). Such models can support equitable, coordinated care for underserved populations.

A collaborative approach involving clinicians, policy makers, researchers, payers, and people with lived experience is essential to develop and implement standardized measures for a more accurate, comprehensive assessment of care quality across care modalities. Several initiatives, including the National Quality Forum's Opioids and Opioid Use Disorder: Quality Measurement Priorities (NQF, 2020), NCQA's Behavioral Health Quality Framework: A Roadmap for Using Measurement to Promote Joint Accountability and Whole-Person Care (NCQA, 2021), and Shatterproof's ATLAS™ quality measurement system (Shatterproof, 2019), are important steps toward establishing such common measures.

To achieve consensus-based quality measurement, stakeholders at all levels of the care delivery system play a critical role, from identifying the most effective quality measures and implementing these measures, to data collection and reporting. Further, quality improvement in the hybrid care environment should begin with a data-driven approach to developing baseline process measures, which can later expand to include outcome measures once core treatment quality processes are ensured (Waller et al., 2021). These measures should consider PROMs (e.g., reduced pain, enhanced function, and effective management of coexisting mental health conditions), which can help to provide a holistic understanding of patients' needs and experiences with treatment, which can ultimately improve treatment strategies.

Federal and state policy makers can catalyze these efforts through regulations and financial support. However, it is important to note that poorly designed quality measurement requirements can lead to additional clinician burden (Greene et al., 2021). As such, carefully designed and coordinated quality measurement activities that consider each entity's sphere of influence while maintaining sight of shared goals can foster accountability and drive improvements in the quality and outcomes of chronic pain management and SUD care.

Challenge #C2: Lack of Guidelines and Best Practices for Determining which Aspects of Care are Most Appropriate for Telehealth versus In-Person Care

The challenge of determining the most appropriate aspects of care for telehealth versus in-person care is crucial for the future of hybrid care models, especially for highly individualized conditions such as chronic pain and SUD. Although telehealth has been increasingly used during the COVID-19 pandemic, evidence supporting the best approaches and modalities for specific patients and circumstances is currently limited, making it challenging for health care professionals to determine the most effective modality for their patients (Duff et al., 2023b).

To address this issue, health professionals must establish guidelines and best practices for determining which aspects of care are most appropriate for telehealth versus in-person care. The

Priorities for Action for Challenge #C1: Lack of Consensus Quality Measures for Chronic Pain Treatment and SUD Treatment

Key

- ● People with Lived Experience (LE)
- ● Clinical Care Professionals (CC)
- ● Policy Makers & Regulators (PM)
- ● Health Professional Societies & E+T Institutions (ED)
- ● Treatment Programs & Health Systems (HS)
- ● Technology Development Companies (TD)
- ● Payers & Purchasers (PP)
- ● Health Care Researchers (R)

CC ED HS PM PP R	Collaborate to develop and implement standardized, consensus-based quality measures for both chronic pain management and SUD care across care modalities and treatment settings, considering input from all stakeholders, including individuals with lived experience.
CC HS PM	Develop baseline process measures and gradually expand to include outcomes measures as core treatment quality processes are strengthened.
HS PM	Prioritize the adoption and effective use of EHRs to ensure precise and comprehensive data collection for quality measurement.
PM PP	Support the development and implementation of standardized quality measures through regulations and financial incentives while considering the potential burden on clinicians and ensuring alignment with shared goals of improving the quality and outcomes of chronic pain management and SUD care.
PM PP	Incorporate standardized quality measures into value-based payment models to drive quality improvement efforts, ensure coordinated care, and address health disparities in underserved populations.
R	Prioritize research on the development and evaluation of quality measures, as well as the effectiveness of telehealth-enabled interventions and hybrid models aimed at improving chronic pain management and SUD care.

multidisciplinary team approach that leverages telehealth can be highly effective in facilitating person-centered treatment for patients with chronic pain and/or SUD (Schneider et al., 2023; Firemark et al., 2021). However, health professionals must recognize that telehealth may not be suitable for all patients, particularly those with more severe or complex needs. In some cases, hybrid or in-person approaches may be necessary for individuals who require more comprehensive and personalized treatment (Lin et al., 2020; Oesterle, 2020).

Despite some studies yielding promising results in terms of the effectiveness of telehealth in chronic pain management and SUD treatment, further studies are needed to confirm the short- and long-term clinical outcomes of telehealth in these domains (Blanco et al., 2020; Tauben et al., 2020). Proactive steps have been taken to address the lack of guidelines and best practices for using telehealth in chronic pain management and SUD care, such as the telehealth tip sheets published by SAMHSA and the recognition of the potential benefits of telehealth for pain management by the American Academy of Pain Medicine (SAMHSA, 2021; Cohen et al., 2020). However, continued research and ongoing evaluation of telehealth's efficacy, safety, and patient outcomes are crucial for ensuring that patients receive the best possible care, whether in-person or via telehealth. It is also important to note that the absence of evidence for telehealth is not the same as evidence of absence, and clinicians should be open to using telehealth in appropriate cases (Cohen et al., 2020).

By developing strategies for integrating telehealth and in-person care effectively and addressing any potential challenges, clinicians can provide patients with the most effective, person-centered treatment possible. Therefore, prioritizing research efforts, promoting the development of guidelines, and facilitating multidisciplinary collaborations are crucial to ensure that patients with highly individualized conditions receive the best possible care regardless of the mode of care delivery. With continued efforts, health care professionals can optimize the use of both telehealth and in-person care to achieve the best outcomes for patients.

Challenge #C3: Need for Comprehensive Evidence to Determine the Effectiveness of Telehealth and Hybrid Models of Care for Chronic Pain Management and SUD Treatment

Despite the growing body of research suggesting the great potential of telehealth in chronic pain management and SUD treatment, there remains a pressing need for more robust and comprehensive research. The range and depth of existing studies are limited, thus restricting comprehensive comparisons. To effectively guide policy, regulatory, payment, and practice decisions, a comprehensive understanding of telehealth's effectiveness for chronic pain management and SUD treatment is needed, particularly given the breadth of products and services encompassed within the term "telehealth."

With this in mind, evaluating telehealth for chronic pain management and SUD care, inherently complex conditions, requires standardized outcome measures to facilitate consistent, cross-study analyses to assess the effectiveness of any intervention, including telehealth interventions (Oesterle et al., 2020). Robust research designs are necessary to validate existing evidence

Priorities for Action for Challenge #C2: Lack of Guidelines and Best Practices for Determining Which Aspects of Care are Most Appropriate for Telehealth versus In-Person Care

Key

● People with Lived Experience (LE)
● Clinical Care Professionals (CC)
● Policy Makers & Regulators (PM)
● Health Professional Societies & E+T Institutions (ED)
● Treatment Programs & Health Systems (HS)
● Technology Development Companies (TD)
● Payers & Purchasers (PP)
● Health Care Researchers (R)

LE CC ED PM	Develop evidence-based guidelines and best practices for discerning the appropriateness of telehealth versus in-person care, considering factors such as patient needs, treatment goals, the complexity of the patient's condition, and their comfort with technology.
CC HS	Develop defined clinical pathways for hybrid care delivery, including decision trees that guide clinicians on when to integrate telehealth modalities and when to prioritize in-person care, based on objective patient assessment and individual circumstances.
PM R	Invest in further research on the effectiveness of telehealth and hybrid models of care for managing chronic pain and SUD, including comparative studies against in-person care to validate these models' efficacy and inform evidence-based guidelines.
R	Conduct ongoing evaluation of telehealth's efficacy, safety, and patient outcomes to ensure that patients receive the best possible care, whether in-person or via telehealth.

demonstrating the effectiveness of telehealth, particularly in terms of the studies' applicability across diverse patient populations and geographic regions. Rigorous examination is also required to address potential bias in studies relying on self-reported outcomes, as patients may be more inclined to report positive results when participating in novel, convenient telehealth interventions, as was seen during the COVID-19 pandemic (AHRQ, 2012). Implementing strategies such as the Marlowe-Crowne Social Desirability Scale during the design phase of studies can mitigate such bias (Rosenman et al., 2014).

To establish a robust body of empirical evidence, researchers must conduct large-scale, well-designed studies complemented by advanced data modeling to assess the cost-effectiveness and quality of telehealth-enabled and hybrid care models for chronic pain management and SUD treatment. Comparing these models with conventional in-person care requires real-world data, an area where the rapid adoption of telehealth during the pandemic has outpaced systematic data collection strategies. For instance, the widespread use of audio-only telehealth calls for innovative data collection approaches, such as examining new audio-only billing codes, to gather essential data for evidence-based policy decisions (Duff et al., 2023a). Collecting data from diverse sources, including, but not limited to, payers, clinicians and provider groups, telecommunications and software companies, EHR vendors, medical device manufacturers, community-based organizations, and patient-reported outcomes, can provide valuable insights into the real-world effectiveness and implementation challenges of telehealth interventions, thereby helping to identify areas for improvement and innovation (Duff et al., 2023a; Abernethy et al., 2022).

Lastly, it is essential to broaden research horizons beyond efficacy alone, focusing on implementation and evaluation considerations as well (Chou et al., 2021). These considerations may include clinician/patient buy-in, necessary technological infrastructure, and methods of quality improvement (SAMHSA, 2021). By addressing these challenges and integrating data

Priorities for Action for Challenge #C3: Need for Comprehensive Evidence to Determine the Effectiveness of Telehealth and Hybrid Models of Care

Key

● People with Lived Experience (LE)
● Clinical Care Professionals (CC)
● Policy Makers & Regulators (PM)
● Health Professional Societies & E+T Institutions (ED)
● Treatment Programs & Health Systems (HS)
● Technology Development Companies (TD)
● Payers & Purchasers (PP)
● Health Care Researchers (R)

PM R	Expand the number of studies, using a range of study designs and methodologies, to evaluate the value and effectiveness of telehealth interventions, such as remote patient monitoring and digital therapeutics, for chronic pain management and SUD care.
PM	Allocate funding and resources toward research efforts aimed at evaluating the efficiency and effectiveness of telehealth and hybrid models of care for chronic pain management and SUD treatment.
CC ED PM R	Develop, adopt, and use standardized, validated, and reliable outcome measures across studies to facilitate the comparison of results and enable a better understanding of the effectiveness of telehealth interventions.
CC PM R	Conduct long-term follow-up assessments to evaluate the sustainability and lasting effects of hybrid care models on chronic pain management and SUD care. Evaluate both patient outcomes and system-wide impacts.
R	Ensure that research includes diverse patient populations to enhance the generalizability of findings and address potential disparities in access to and effectiveness of telehealth and hybrid care models.
LE CC HS PP R TD	Collect, analyze, and integrate data from traditional and non-traditional sources, including payers, clinicians and provider groups, telecommunications and software companies, EHR vendors, community-based organizations, and patient-reported outcomes, to gain insights into real-world implementation and effectiveness.

from diverse sources, research and emerging technologies like artificial intelligence can work toward building a stronger evidence base for telehealth in chronic pain and SUD care—promoting evidence-based decision making, improved implementation of telehealth and hybrid care models, and enhanced patient outcomes—and greater efficiency across the health care system.

Challenge #C4: Protecting Patients' Privacy and Health Information Across Systems and Platforms

The digital health transformation has expedited the critical need to safeguard patient privacy and data security across numerous systems and platforms. The surge in telehealth during the COVID-19 pandemic has created a multitude of platforms for patient care delivery. These platforms encompass a wide array of systems, devices, and software programs, generating significant security challenges and increased vulnerabilities (SecurityScorecard and DarkOwl, 2020).

These vulnerabilities are particularly consequential for patients with sensitive health conditions, such as chronic pain and SUD. For example, confidentiality is essential for individuals undergoing addiction treatment due to the persistent stigma and potential repercussions associated with drug use disclosure, including criminal prosecution, deportation, loss of child custody, or discrimination. Moreover, an American Medical Association (AMA) study revealed that over 92% of patients perceive privacy as a right and are strongly against their health data being commercialized (AMA, 2022). Most patients expressed unease at the prospect of "big tech" or social media companies accessing their health data.

Consequently, clinicians and treatment providers must ensure that appropriate stakeholders have access to patient health information through secure and easy-to-use portals and platforms that safeguard health information and confidentiality, thereby encouraging individuals to seek treatment (Abernethy et al., 2022). Privacy and security regulations must also evolve in pace with digital health innovation (HSCC, 2021). As the federal government and states modernize policies for telehealth, they must

Priorities for Action for Challenge #C4: Protecting Patients' Privacy and Health Information

Key

● People with Lived Experience (LE)
● Health Professional Societies & E+T Institutions (ED)
● Payers & Purchasers (PP)
● Clinical Care Professionals (CC)
● Treatment Programs & Health Systems (HS)
● Health Care Researchers (R)
● Policy Makers & Regulators (PM)
● Technology Development Companies (TD)

HS PM TD	Establish and implement robust security standards and processes across all telehealth platforms and health systems, ensuring that patient data is protected from unauthorized access or breaches.
HS PM	Develop and implement standards for interoperability and secure data transmission between various systems, devices, and software programs used in telehealth services.
PM	Continuously review and update privacy regulations to address the evolving landscape of telehealth and patient data security. This includes considering the specific needs and vulnerabilities of patients with sensitive health conditions, such as chronic pain and SUD.
HS PM PP TD	Invest in the development of telehealth technologies, platforms, and software programs that prioritize privacy and confidentiality, implementing secure and user-friendly portals.
CC ED	Educate and train health care professionals on privacy regulations, data security best practices, and the importance of patient confidentiality, ensuring that they understand and follow the necessary protocols when handling sensitive health information.
HS PP	Establish thorough vetting and auditing processes to assess the practices of third-party vendors and contractors to ensure compliance with security measures and processes.
LE CC HS TD	Involve patients in decisions regarding the use and sharing of their health data, considering their preferences and concerns to build trust and ensure that privacy is respected.

consider additional factors depending on the patient's physical location and data related to behavioral health, including opioid overdose (HHS/OCR, 2022). It is important to note the crucial role of federal and state health privacy laws, like HIPAA and 42 CFR Part 2 ("Part 2"), which safeguard patient confidentiality and protect patients from the misuse of their SUD data. In November 2022, the HHS Office for Civil Rights and SAMHSA invited public comments on potential changes to the "Confidentiality of Substance Use Disorder (SUD) Patient Records" under Part 2 (SAMHSA, 2022). The proposed changes aim to bolster care coordination for patients in treatment while enhancing fundamental privacy protections, thereby mitigating fears of record disclosure that may discourage individuals from seeking lifesaving care.

To earn and maintain patients' trust, health systems, clinicians, payers, and other relevant stakeholders must take steps to ensure the secure transmission of patient data across systems and devices. This requires implementation and compliance with robust security measures and processes, such as encryption, two-factor authentication, and access controls to prevent unauthorized access to patient data, as well as vetting third-party vendors and contractors to ensure their compliance with rigorous security standards.

Challenge #C5: Detecting and Preventing Fraud, Waste, and Abuse in Chronic Pain Management and SUD Treatment

The rapid expansion of telehealth during the COVID-19 PHE was unfortunately accompanied by a corresponding surge in fraud, waste, and abuse (FWA). Some of these schemes involve illicit activities, including the creation of fake clinics and prescriptions. These activities pose serious concerns for the health care industry, including increased health care costs, wasted resources, compromised private health information, and a direct threat to individual and population health outcomes. For example, in September 2020, the Department of Justice brought charges against 86 defendants across 19 judicial districts with $4.5 billion in fraud loss related to alleged kickback schemes involving telehealth (DOJ, 2020).

Priorities for Action for Challenge #C5: Detecting and Preventing Fraud, Waste, and Abuse in Chronic Pain Management and SUD Treatment

Key

- ● People with Lived Experience (LE)
- ● Clinical Care Professionals (CC)
- ● Policy Makers & Regulators (PM)
- ● Health Professional Societies & E+T Institutions (ED)
- ● Treatment Programs & Health Systems (HS)
- ● Technology Development Companies (TD)
- ● Payers & Purchasers (PP)
- ● Health Care Researchers (R)

CC ED HS PM PP R	Collaborate and establish partnerships to facilitate information sharing, identify emerging fraud schemes, develop effective strategies, and adapt policies and tools to counter FWA.
HS PM PP	Continuously review and adapt policies and regulations to address emerging fraud schemes, and strengthen enforcement and oversight of existing regulations and laws, particularly in the areas of chronic pain management and SUD treatment.
HS PM PP	Leverage data analytics and monitoring tools, including PDMPs and EHRs, to identify unusual prescribing patterns, clinician outliers, and potential cases of inappropriate treatment, prompting further investigation and intervention.
CC ED	Educate and train clinicians and health care professionals on appropriate claims submission, billing practices, and fraud schemes to ensure compliance with regulations and reduce the risk of fraudulent activities.
LE CC HS	Implement patient education programs to raise awareness of potential fraud schemes, including suspicious clinics or requests for personal information.

The issue of FWA in telehealth is amplified in the context of chronic pain management and SUD treatment. These areas have historically been more vulnerable to fraudulent schemes, often attributed to poor oversight, lax enforcement of regulations, and variations in clinical quality standards (Rao-Patel, 2018; Clark, 2017). Additionally, the nature of treatments in these domains, especially those involving controlled substances, presents potential avenues for drug diversion, thereby increasing their susceptibility. Such fraudulent activities may result not only in financial harm to patients but also serious physical harm due to inadequate or no treatment. Moreover, they burden public and private payers, leading to increased premiums and out-of-pocket expenses while simultaneously jeopardizing the fiscal sustainability of federal health programs like Medicare (OIG, 2022).

Given these far-reaching implications, it is pivotal to detect and thwart potential vulnerabilities and prevent these schemes from emerging. Efforts to mitigate FWA in the hybrid care environment should involve collaboration among federal and state law enforcement, state health professional licensing boards, payers, clinicians and provider organizations and their professional societies industry partners, and anti-fraud associations such as Healthcare Fraud Prevention Partnership (HFPP) and the National Association of Drug Diversion Investigators, and leverage strong data analytics and monitoring for proactive detection of emerging FWA schemes (HFPP, 2023). Sharing information about emerging trends in telehealth FWA can help inform and adapt policies and tools for new telehealth schemes. Tools such as prescription drug monitoring programs (PDMPs) and EHRs can assist health care oversight authorities understand clinicians' behavior, identify outliers, and flag potential cases for further investigation. Education of health care professionals on appropriate claims submission and billing practices, and patient education programs about telehealth fraud schemes, are also essential. Through these efforts, stakeholders can work to ensure that new technologies and policies that have the potential to expand access, improve care, and reduce costs are not corrupted by FWA.

Challenge #C6: Competing Focus on Diversion of Controlled Substances versus Access to Treatment

The diversion of controlled substances, or the illegal distribution or abuse of prescription drugs or their use for purposes not intended by the prescriber (CMS, 2016), presents a significant barrier to safe and effective treatment. Finding an equilibrium between curtailing the diversion of these substances and delivering effective treatment for individuals with chronic pain and/or SUD necessitates person-centered, innovative approaches.

Research suggests that diversion primarily stems from inadequate access to legitimate addiction treatment (Lofwall and Walsh, 2014). For example, diversion of buprenorphine for OUD is more often associated with efforts to manage opioid withdrawal symptoms or to achieve or maintain abstinence from other opioids in lieu of a formal buprenorphine prescription (Chilcoat, 2019). However, clinicians, under pressure to avoid attention from DEA and other law enforcement authorities, can sometimes foster misconceptions, inaccurately inferring that most patients divert MOUD primarily for abusive reasons. This misinterpretation may result in restrictive measures like frequent urine drug analyses, strict patient treatment criteria, and ineffective, low-dose prescriptions.

Priorities for Action for Challenge #C6: Competing Focus on Diversion of Controlled Substances versus Access to Treatment

Key

- ● People with Lived Experience (LE)
- ● Clinical Care Professionals (CC)
- ● Policy Makers & Regulators (PM)
- ● Health Professional Societies & E+T Institutions (ED)
- ● Treatment Programs & Health Systems (HS)
- ● Technology Development Companies (TD)
- ● Payers & Purchasers (PP)
- ● Health Care Researchers (R)

LE CC ED PM	Develop and update clinical practice guidelines, with input from clinicians and people with lived experience, to prioritize the management of misuse and diversion therapeutically rather than enforcing "zero-tolerance" measures that may impede access to treatment.
PM R	Monitor and evaluate the impact of expanded treatment access, including remote prescribing of MOUD and take-home doses of methadone, on substance diversion and misuse. Similarly, monitor the impact of diversion measures on treatment access.
CC ED HS PM	Adapt diversion control strategies for the virtual environment, including use of PDMPs, photo identification verification, drug screening with validity testing, pill counts, and monitored self-dosing, leveraging telehealth technologies such as remote patient monitoring and live video.

While telehealth, including for the remote prescribing of controlled substances like MOUD, has emerged as a viable solution to expand treatment access, there are concerns that increased availability of controlled substances without sufficient supervision could increase substance diversion. Despite this potential risk, evidence gathered during the pandemic does not substantiate significant concerns of medication diversion or misuse associated with telehealth prescriptions of buprenorphine (Huskamp et al., 2023).

However, the lapsing of pandemic-era flexibilities and the advent of new regulations limiting remote prescribing for MOUD, such as the DEA's March 2023 proposed rule (DEA, 2023a), has raised concerns about impeding access to MOUD for countless patients and diminishing the number of patients initiating MOUD (ATA, 2023). These anxieties were echoed in over 38,000 public comments received by DEA and SAMHSA, prompting the agencies to extend the flexibilities for remote prescribing to November 2023 as they work on revising the rule to ensure access while implementing appropriate safeguards (DEA, 2023b).

Nonetheless, these regulations and potential liabilities for diversion, including the risk of DEA license revocation, can prompt clinicians, health systems, treatment programs, and suppliers to limit offering evidence-based medication maintenance therapy. For example, pharmacists, conscious of their duty to prevent controlled substance diversion, may refuse to fill buprenorphine prescriptions even when the drug is available (Qato et al., 2022). Absent specific guidelines for MOUD, pharmacists often rely on generic opioid analgesic "red flag" protocols, potentially misidentifying a prescription as suspicious. Further, clinical practice guidelines should be updated to emphasize therapeutic management of misuse and diversion, rather than defaulting to counterproductive, "zero-tolerance" measures, such as ceasing MOUD treatment (Lofwall and Walsh, 2014).

Diversion control strategies may also be effectively translated into the virtual environment, including the use of PDMPs, photo identification verification, urine or saliva drug screening with validity testing, pill counts, and monitored self-dosing. These strategies can be augmented by telehealth technologies such as remote patient monitoring and live video to improve medication adherence and monitor for signs of substance diversion or misuse (Duff et al., 2023a). These strategies, if widely adopted, could offer the same assurance regarding diversion control as in-person care delivery.

Policy makers, health systems, and clinicians must ensure that measures taken to minimize controlled substance diversion and misuse are evaluated in terms of impact on patients and the potential public health benefits of expanding treatment access. It is essential to guarantee that these measures do not inadvertently impede access to crucial treatment for patients living with chronic pain and/or SUD.

Section Summary

Ensuring the safety and quality of telehealth-based care is paramount for patients with chronic pain and/or SUD. By developing well-defined guidelines, prioritizing research efforts, protecting patient privacy, and addressing challenges related to controlled substance diversion, FWA, and access to treatment, health care professionals can confidently offer telehealth-enabled hybrid care on par with, if not superior to, traditional in-person care. As telehealth continues to evolve, a person-centered approach that emphasizes collaboration among policy makers, clinicians, and patients is crucial to optimizing hybrid models of care to achieve the best outcomes for patients while mitigating potential risks.

Please refer to *Appendix Table 3* for a summary of the priorities for action identified in this section.

Align Regulations and Payment Policies with Evidence-Based Care

In response to the pandemic, policy makers, regulators, and payers took several overlapping actions to promote telehealth as an alternative method for effectively delivering care, including passing laws, updating regulations, issuing waivers and executive/agency orders, releasing sub-regulatory guidance, and launching new telehealth platforms and processes (HHS, n.d.; Volk et al., 2021). These actions were critical in ensuring patients could receive necessary care during a time when in-person visits posed significant risks to both patients and clinicians.

As the health care system transitions from the PHE to a more enduring hybrid care environment, it is essential to continue to align regulatory and payment policies with evidence-based chronic pain management and SUD care. This is especially pertinent to chronic pain management and SUD treatment, which have long struggled with obtaining adequate reimbursement and coverage of evidence-based treatments, such as non-pharmacologic pain management therapies.

Policy makers and payers should work to ensure that telehealth services are integrated into broader care delivery systems, including ensuring that patients have access to necessary medications (e.g., MOUD), treatments, interventions, and support services. Further, they should ensure that payment structures support the effective use of telehealth and support the delivery of and access to evidence-based care. This may include continuing to waive cost-sharing requirements for telehealth services and providing reimbursement that is comparable to in-person care and that both levels of reimbursement are consistent with similarly educated and trained health care professionals. This will be particularly important in ensuring an available workforce and patients' access to care.

Challenge #D1: Variation and Discrepancies in Telehealth Definitions and Terminology Among Legislators, Regulators, Federal Agencies, and Payers

Telehealth, which broadly refers to the use of digital and communication technologies to deliver health-related services remotely, is riddled with inconsistency in definition and understanding. For example, HRSA defines telehealth as "the use of electronic information and telecommunication technologies to support long-distance clinical healthcare, patient and professional health-related education, public health, and health administration" (HRSA, 2022). In contrast, Medicare limits the definition to "routine office visits provided via video (requires synchronous, real-time audio and/or video communication) with new or established patients" (CMS, 2023c). This inconsistency also applies to related terms like telemedicine, teleconsultation, digital health, mHealth, live videoconferencing, remote patient monitoring, and store-and-forward, types of modalities that are often used interchangeably with telehealth, thus creating ambiguity that can lead to confusion and miscommunication among patients, clinicians, policy makers, and other stakeholders (RETC, 2022).

This issue is further complicated because telehealth-related definitions and regulations are primarily governed by states. No two states share identical definitions or regulations, leading to discrepancies in legal requirements and reimbursement policies (CCHP, 2023). Further, payers may have varying definitions and requirements for the types of technologies used to deliver telehealth services, resulting in misunderstandings about covered services and reimbursement procedures for both clinicians and patients.

To address these challenges, clear and standardized definitions of telehealth and related terminology need to be established. These definitions should ideally be developed through consensus among various organizations, including federal agencies such as ONC, professional societies like AMA, and public and private payers. Achieving agreement on a universal definition of telehealth and related terminology can help to streamline regulatory frameworks, legislation, and reimbursement policies. These reimbursement policies should clarify what types of services and technologies are covered under definitions of telehealth. This standardization would help to support better implementation and evaluation of telehealth services and facilitate more precise communication across the health care sector.

Challenge #D2: Uncertainty About Continuation of Pandemic-Era Regulatory Flexibilities

As the expiration date of the COVID-19 PHE approached in May 2023, policy makers and regulatory bodies made efforts to ensure the continuity of telehealth-enabled care, which had become crucial for many Americans. However, the temporary extension of several pandemic-related regulatory flexibilities that enabled the growth of telehealth-enabled chronic pain management and SUD treatment has led to ongoing debates and deliberations.

The uncertain status of these regulatory flexibilities poses challenges for health systems and treatment programs, payers, service vendors, clinicians, and patients, as well as the future of hybrid care models for chronic pain management and SUD care. One critical area of concern is the waiver of the in-person examination requirement for prescribing controlled substances via telehealth under the Ryan Haight Act of 2008. Although the DEA, in coordination with SAMHSA, has issued a temporary extension to allow remote prescribing of clinically appropriate controlled substances, including MOUD (DEA, 2023b), there is a need to permanently address unnecessarily restrictive barriers to equitable and appropriate clinical care. An example of such a barrier is the mandate for in-person visits, which should be reconsidered and revised for greater flexibility and clinical discretion. While the temporary extensions provide some relief, patients, clinicians, and other service providers require long-term solutions to ensure continuity of care and equitable access.

Priorities for Action for Challenge #D1: Variation and Discrepancies in Telehealth Definitions and Terminology

Key

- ● People with Lived Experience (LE)
- ● Clinical Care Professionals (CC)
- ● Policy Makers & Regulators (PM)
- ● Health Professional Societies & E+T Institutions (ED)
- ● Treatment Programs & Health Systems (HS)
- ● Technology Development Companies (TD)
- ● Payers & Purchasers (PP)
- ● Health Care Researchers (R)

ED HS PM PP	Establish standard, consensus-based definitions and terms for telehealth, and implement their usage across federal agencies, states, payers, and health care organizations to promote clarity and consistency.
PM	Identify types of services and technologies covered under "telehealth" within legal requirements and reimbursement policies.

Payment and reimbursement policies are another crucial aspect for future hybrid care in chronic pain management and SUD treatment. While the Consolidated Appropriations Act of 2023 extended Medicare telehealth flexibilities, including coverage of audio-only telehealth, through December 2024, there is a concern that reimbursement rates for telehealth may revert to lower pre-pandemic levels without further rulemaking (CMS, 2023a). This would greatly impact the availability of telehealth-enabled chronic pain management and SUD care, especially for under-resourced communities that heavily rely on these services for care.

To address these challenges, policy makers must recognize the vital importance of telehealth in providing equitable access to care. Permanent waivers of in-person examination requirements, reimbursement parity between telehealth and in-person care, and the shift toward non-encounter-based reimbursement models can help sustain telehealth-enabled chronic pain management and SUD care and advance hybrid care models (Morenz and Liao, 2021). Leveraging advancements made in telehealth during the pandemic will be crucial for expanding the reach of the health care system and ensuring that patients receive necessary care regardless of their location or other access barriers.

Challenge #D3: Large and Complex Regulatory Differences in State Rules and Regulations

The regulation of chronic pain management and SUD treatment is a complex issue that varies significantly across states. Divergent beliefs among health care professionals, policy makers, and regulators on the optimal approach to managing these conditions have yielded a wide array of policies and guidelines at both the state and federal levels (Pew, 2022). This lack of uniformity in regulation creates confusion, increases potential for liability, and poses legal challenges. Therefore, understanding and complying with the myriad regulations becomes a taxing process that consumes valuable time, making it increasingly arduous for clinicians.

One example of this inconsistency is seen in states' continuing medical education (CME) requirements for prescribing controlled substances for chronic pain management. For instance, Colorado mandates that prescribing clinicians complete at least two hours of CME per licensing cycle related to best practices for opioid prescribing, recognition of SUD, patient referral for SUD treatment, and use of the PDMPs. In contrast, Oklahoma requires DEA-registered clinicians to complete a single hour of CME in pain management or opioid use or addiction annually. In other states, such as Arkansas, there are no explicit requirements for CME in controlled substance prescribing (ACEP, 2021).

Further, these disparate regulations may not always align with evidence-based practice. For instance, despite evidence showing that long-term methadone maintenance treatment can significantly reduce overdose risk and improve employment, health, and criminal-legal involvement for patients with SUD, eight states maintain rules that focus on discontinuation as the goal of treatment (Pew, 2022). Such divergence from evidence-based practices can lead to sub-optimal patient outcomes.

This challenge is particularly pronounced in telehealth, where state restrictions on prescribing controlled substances, especially for MOUD, may present barriers to the use of these technologies. For example, in Kentucky, certain clinics providing office-based opioid treatment (OBOT) services must have a specified medical director who is "physically present at the facility at least 25% of the time it is open to the public" (Licensure of Nonhospital-Based

Priorities for Action for Challenge #D2: Uncertainty about Continuation of Pandemic-Era Regulatory Flexibilities

Key

● People with Lived Experience (LE)	● Health Professional Societies & E+T Institutions (ED)	● Payers & Purchasers (PP)
● Clinical Care Professionals (CC)	● Treatment Programs & Health Systems (HS)	● Health Care Researchers (R)
● Policy Makers & Regulators (PM)	● Technology Development Companies (TD)	

PM	Implement permanent regulatory changes to remove medically unnecessary restrictions, including the in-person examination requirement for the remote prescribing of MOUD, instead deferring to clinical judgment and individual patient needs as the basis for determining the appropriateness of remote prescribing.
PM PP	Sustain pandemic-era regulatory changes governing payment parity and adequate reimbursement.
CC PM PP	Implement innovative reimbursement models that incentivize and reimburse clinicians based on the quality and outcomes of care delivered via telehealth, rather than the quantity of services provided.

Outpatient Alcohol and Other Drug Treatment Entities, 2023). Similarly, in Tennessee, guidelines state patients in early treatment should be subject to weekly observed drug screens (TDMHSAS and TDH, 2021).

Beyond individualized practice issues, inconsistent regulations across states also impact the licensing of SUD levels of care. For example, New York State licenses partial hospitalization programs for mental health but not addiction treatment, illustrating how state-level licensing inconsistencies affect the standard of care. Further, the disparate requirements for care between states impede data gathering on SUD treatment outcomes (Waller et al., 2021). This lack of standardization obstructs the comparative analysis of outcomes for patients treated across different programs or levels of care, rendering comparisons akin to contrasting "apples to anchovies."

Telehealth's cross-border nature adds another layer of complexity to these challenges, particularly for clinicians practicing in multiple states, as no two states have identical definitions or regulations pertaining to telehealth. For example, only 36 states and the District of Columbia's Medicaid programs reimburse for audio-only telehealth, albeit with varying limitations (CCHP, 2023). Such regulatory discrepancies have the potential to adversely impact patients by delaying access to treatment, as patients may struggle to find clinicians licensed in their states.

Addressing these challenges will require a coordinated and collaborative approach at both federal and state levels. Regulatory bodies must work to create consistent and uniform regulations and guidelines that prioritize high-quality chronic pain management and SUD care while protecting clinicians from liability and legal issues. Examples of such efforts include the Opioid Regulatory Collaborative, which formed in 2021 to seek better alignment of opioid-related guidance and policies across regulatory boards for medicine, dentistry, pharmacy, and nursing (FSMB, 2021). Building on this approach, states should convene professional boards, regulators, and relevant health professional societies to develop clearer guidelines and establish standards for telehealth-enabled interstate practice to ensure that patients have access to the care they need, regardless of where they reside.

Challenge #D4: Variation in Credentialing and Interstate Licensing Requirements

The licensure and credentialing process for health care professionals, designed to protect the public and ensure patient safety, has inadvertently created significant barriers to the delivery of care, especially for patients with chronic pain and/or SUD, as well as those residing in rural or underserved areas who struggle to access specialty care clinicians. State-specific credentialing and licensing requirements can create unnecessary duplication and increased costs for clinicians seeking to practice across multiple states (Timmons and Norris, 2022). This, in turn, can contribute to a shortage of health care professionals in certain areas, including in rural and underserved communities. For example, variation in licensing laws has been linked to a decrease in the supply of health care workers by 11.4% to 27%, as individuals are deterred from entering or remaining in the field due to the associated time and financial burdens (Blair and Chung, 2019; Kleiner and Soltas, 2019).

However, the rise of telehealth and the push for increased health care accessibility have prompted states to reassess their licensure processes. This was amplified during the COVID-19 pandemic when almost all states and the federal government implemented temporary flexibilities in licensing rules to allow greater interstate practice for health care professionals. These changes facilitated the expansion of telehealth services, improved care in underserved areas, and increased access to behavioral health

Priorities for Action for Challenge #D3: Large and Complex Regulatory Differences in State Rules and Regulations

Key

- ● People with Lived Experience (LE)
- ● Clinical Care Professionals (CC)
- ● Policy Makers & Regulators (PM)
- ● Health Professional Societies & E+T Institutions (ED)
- ● Treatment Programs & Health Systems (HS)
- ● Technology Development Companies (TD)
- ● Payers & Purchasers (PP)
- ● Health Care Researchers (R)

CC ED PM	Collaborate to harmonize state laws and regulations that govern the treatment of SUD and chronic pain, with a focus on aligning regulations with evidence-based practice.
CC ED PM	Collaborate to develop consistent regulations and guidelines for interstate telehealth practice, including clarifying licensure requirements for telehealth practitioners and determining which state laws apply during cross-border telehealth encounters.

services, providing much-needed relief for overburdened health systems (Mehrotra et al., 2022).

Several states, including Arizona, West Virginia, and Florida, have taken steps beyond temporary measures by enacting permanent legislation that allows out-of-state physicians to register and provide telehealth-based care (Mehrotra et al., 2022). To support this trend and preserve crucial patient-clinician relationships, states should consider permitting out-of-state clinicians to deliver telehealth-based care with these mechanisms.

To further improve the process of interstate professional practice, an increasing number of states are joining multi-state licensure compacts like the Nurse Licensure Compact (NLC) and the Physical Therapy Compact (PT Compact), with compacts for physician assistants and social workers in development. In addition, the Interstate Medical Licensure Compact (IMLC) offers an expedited licensure pathway for physicians wishing to deliver care in additional states, significantly reducing the time to licensure. For example, the average wait time for a license for physicians in the IMLC is 19 days, compared to an estimated 60 days for individual state licenses (AMA, 2023). However, there are fees for clinicians participating in these compacts, as well as for registration/licensure in additional states.

At the federal level, certain exemptions exist for interstate practice under specific laws for particular patient groups. For example, health care professionals licensed in any state and employed by entities like the VA and Indian Health Service are exempt from state licensing requirements when providing health services (HHS, 2023).

To encourage more health professionals to participate in interstate compacts, policy makers should consider reducing application and state licensure fees associated with these agreements. Further harmonization of medical license requirements by the Federation of State Medical Boards and state medical boards can streamline the process (ORC, n.d.), along with tools like the Uniform Application for Licensure, a web-based application that simplifies license applications in different states (FSMB, n.d.).

While significant progress has been made in simplifying the licensure process, continued collaboration between state and federal policy makers is crucial to further alleviate the burden of licensing and credentialing, expand access to care, ensure patient safety, and advance hybrid care models. By creating more pathways for out-of-state clinicians to practice both in-person and via telehealth, states can enhance access to care and ensure that patients receive necessary services regardless of their location.

Challenge #D5: Inconsistent Billing, Coverage, and Reimbursement Policies Across States and Payers

Addressing the complexities and challenges associated with inconsistent billing, coverage, and reimbursement policies across states and payers is crucial for effective chronic pain management and SUD treatment, whether delivered in person or via telehealth. The vast differences in these policies make it difficult for clinicians to understand which services they can bill for and how much they can expect to be reimbursed.

For example, non-psychiatric physicians who bill to provide treatment for a patient diagnosed with SUD may not be paid for their work because that diagnosis is not covered under the medical health plan. However, that physician may also not be paid under the behavioral health plan because non-psychiatric physi-

Priorities for Action for Challenge #D4: Variation in Credentialing and Interstate Licensing Requirements

Key

● People with Lived Experience (LE)
● Health Professional Societies & E+T Institutions (ED)
● Payers & Purchasers (PP)
● Clinical Care Professionals (CC)
● Treatment Programs & Health Systems (HS)
● Health Care Researchers (R)
● Policy Makers & Regulators (PM)
● Technology Development Companies (TD)

PM	Promote and incentivize states to participate in interstate compacts and/or licensure reciprocity agreements.
PM	Reduce application and licensure fees associated with interstate compacts to incentivize more professionals to treat patients in multiple states.
PM	Develop additional interstate compacts for professions beyond medicine, nursing, and physical therapy.
PM	Establish more standardized credentialing and licensing requirements across states to streamline processes and reduce duplication of effort and costs for clinicians seeking to practice in multiple states.
PM	Establish state telehealth registrations for physicians to practice telehealth in additional states.

cians are expected to bill under the medical health plan. Yet, advanced practice clinicians may bill under both systems, despite not having the level of training and certification of physician specialists. This scenario persists despite mental health parity laws, which aim to ensure equal coverage for behavioral health and general medical health services. However, defining equivalent coverage is fraught with challenges, as many behavioral health services and providers lack a direct equivalent in general medical service (Dickson-Gomez et al., 2022).

This lack of clarity and consistency may deter clinicians and health systems from providing chronic pain management and/or SUD treatment, as well as adopting telehealth as a significant component of their care delivery, due to frequent claim denials, complex administrative procedures, and low reimbursement rates (Dickson-Gomez et al., 2022). It may also discourage practitioners from offering telehealth services to certain patient populations, such as those covered by Medicare, Medicaid, or other public insurance programs.

States have considerable discretion over their Medicaid policies, resulting in substantial variations in coverage policies. These variations range from stipulating which medical practitioners can receive reimbursement for particular services to determining the types of treatment modalities that are covered. For example, as of June 2023, all states and the District of Columbia reimburse synchronous video visits under Medicaid FFS. Additionally, 25 states reimburse asynchronous telehealth, and 34 states reimburse both remote patient monitoring and audio-only telehealth. However, only 17 states reimburse all three telehealth modalities (video, audio, and asynchronous), each with specific limitations. Although 43 states and the District of Columbia have set up private payer telehealth reimbursement policies, only 24 states have enacted private payer parity laws (i.e., equivalent payment for telehealth and in-person services) (FSMB, 2023).

This patchwork of policies results in access issues, primarily the use of audio-only telehealth in rural and tribal areas with limited broadband access (Duff et al., 2023a). A study of telehealth availability during the COVID-19 pandemic found a 73% higher likelihood of telehealth availability associated with Medicaid reimbursements for audio-only telehealth services (McBain et al., 2023). This finding holds notable significance given that Medicaid, alongside Medicare, stands as the largest insurer in the United States and the single largest payer for behavioral health services.

However, insufficient reimbursement remains a common barrier to telehealth expansion. Without guarantees of adequate reimbursement rates, clinicians might hesitate to invest in telehealth infrastructure or broaden the use of telehealth for chronic pain management and SUD treatment. Though some payers express concerns that payment parity for telehealth services could incentivize lower-quality care and lead to overutilization, current

Priorities for Action for Challenge #D5: Inconsistent Billing, Coverage, and Reimbursement Policies Across States and Payers

Key

- ● People with Lived Experience (LE)
- ● Clinical Care Professionals (CC)
- ● Policy Makers & Regulators (PM)
- ● Health Professional Societies & E+T Institutions (ED)
- ● Treatment Programs & Health Systems (HS)
- ● Technology Development Companies (TD)
- ● Payers & Purchasers (PP)
- ● Health Care Researchers (R)

PM PP	Develop and implement clear and consistent reimbursement policies to ensure clinicians receive adequate reimbursement for services and patients have equal and equitable access to care, regardless of insurance status, state of residence, or modality of care.
CC ED PM PP	Deploy "Any Willing Provider" laws, in which all licensed clinicians providing evidence-based care would be eligible for reimbursement, regardless of their medical specialty.
PM PP	Expand coverage for audio-only visits and provide adequate reimbursement rates to ensure clinicians are available for those who lack access to sufficient broadband or live video technology.
ED PM PP	Provide comprehensive education, training, and resources for health care professionals to help them navigate the complex telehealth billing landscape, understand evolving telehealth regulations, and make informed decisions about offering telehealth services.
PM PP	Provide financial support to SUD and pain management clinicians for telehealth services, including technology, training, and education, to help them recoup the costs associated with offering essential telehealth services.

evidence suggests that these outcomes have not materialized (Ellimoottil, 2021).

Addressing these challenges requires payment policy reforms that ease administrative burdens, improve reimbursement rates, and standardize and simplify reimbursement policies across states. An excellent example of such an approach is Minnesota Medicaid, which allows a wide array of clinicians—including physicians, nurse practitioners, physician assistants, and mental health professionals—to deliver the same services via telehealth that they are authorized to provide in person (Pew, 2021). Moreover, the implementation of "Any Willing Provider" laws, which require health plans to accept any qualified health care professional willing to abide by the plan's terms and conditions into their network, can further simplify administrative procedures, broaden clinician networks, and enhance patient access to care.

Widespread adoption of such policies would ensure equal access to evidence-based chronic pain management and SUD treatment for all patients, irrespective of their insurance status, location, or mode of care delivery. Additionally, such payment reform efforts could promote a shift toward value-based payment models, incentivizing clinicians and health systems to adopt evidence-based practices and advance implementation of hybrid models of care.

Policy makers should also focus on expanding access to appropriate audio-only visits, which are essential for expanding access to care for patients who may not have access to stable broadband connectivity or video-enabled devices, such as smartphones or computers, as described within Opportunity Area A. These steps will go a long way toward ensuring that telehealth services are more accessible and affordable for all patients, particularly those living in underserved communities.

Challenge #D6: Balancing Quality and Cost Concerns

While the integration of telehealth has the potential to decrease certain health care costs, such as those related to travel, it is important to acknowledge the valid concern that unrestricted access to telehealth without proper oversight may inadvertently escalate the total cost of care (Snoswell et al., 2020). Although essential, the health care system's goal should not solely be about reducing costs or leaning toward dispensing exorbitantly priced care. Instead, the emphasis must be on achieving "value," which entails the measured improvement in health outcomes relative to the cost of such advancement. Some may conflate value-based health care with cost reduction, quality improvement, or patient satisfaction, but "value" primarily focuses on enhancing patient health outcomes (Teisberg et al., 2020).

A primary obstacle to achieving this value lies in the unclear effectiveness and cost-effectiveness of specific services for conditions like chronic pain and SUD. This uncertainty complicates evaluating telehealth services, as described in Opportunity

Priorities for Action for Challenge #D6: Balancing Quality and Cost Concerns

Key

● People with Lived Experience (LE)
● Clinical Care Professionals (CC)
● Policy Makers & Regulators (PM)
● Health Professional Societies & E+T Institutions (ED)
● Treatment Programs & Health Systems (HS)
● Technology Development Companies (TD)
● Payers & Purchasers (PP)
● Health Care Researchers (R)

CC PM PP	Develop targeted reimbursement policies that incentivize clinicians to use evidence-based telehealth modalities and ensure that telehealth services are reimbursed at adequate rates.
PP	Establish reimbursement models that optimally integrate coverage, care, and the use of measurement-based approaches and digital capabilities to support the implementation and sustainability of hybrid care for patients with chronic pain and/or SUD.
R	Encourage research into the use of remote monitoring and medication management tools to improve patient outcomes and decrease costs by reducing the need for more expensive and resource-intensive care.
R	Conduct more robust research to establish the effectiveness and cost-effectiveness of telehealth for chronic pain and/or SUD, including cost savings associated with telehealth and the effectiveness of different modalities.
R	Examine the potential impact of payment incentives, such as value-based and bundled payments, on promoting the appropriate use of hybrid care for patients with chronic pain and/or SUD.
R	Compare overall costs, public health imperative to treat at-risk individuals, and financial sustainability of telehealth and hybrid care with in-person care.

Area C. While some evidence supports telehealth's application for these conditions, reservations persist among payers, policy makers, and regulators concerning its quality and cost, potentially impeding the evolution of hybrid care models (Duff et al., 2023a).

Payment parity presents another significant challenge. Clinicians might receive lower reimbursement rates for telehealth services than in-person visits, creating a disincentive for offering telehealth services, especially if the associated costs surpass the reimbursement rates (Ellimoottil, 2021).

Overcoming these challenges necessitates a comprehensive approach, including extensive research, transparent process metrics, oversight, updated reimbursement policies, and efforts to address regulatory hurdles. A broad-based strategy for monitoring and evaluating telehealth's impact is crucial for thoroughly addressing the cost, quality, and equity issues of chronic pain management and SUD care. Key considerations should encompass patient experience, access to care, equity, quality, cost, and program integrity, including safeguards against FWA and controlled substances diversion (Duff et al., 2023a). Research should prioritize identifying the most effective telehealth strategies for these conditions, their specific impacts on patient outcomes, clinician and patient satisfaction, and costs.

Payers can also facilitate the use of high-quality telehealth services for chronic pain management and SUD treatment through targeted reimbursement policies. These policies would incentivize clinicians to employ evidence-based telehealth modalities and ensure fair reimbursement rates (VanderWerf et al., 2022). Payment parity is fundamental for making telehealth accessible to all patients, regardless of their geographical location or travel ability (Shachar et al., 2020; Weigel et al., 2020). This enforcement is especially vital for patients with chronic pain and/or SUDs requiring consistent, long-term care.

While managing chronic pain management and SUD treatment might necessitate extra resources, thereby increasing the cost of telehealth services, telehealth could potentially reduce costs by decreasing the necessity for more resource-intensive, expensive in-person visits like urgent and emergency care (Snoswell et al., 2020). However, the sole focus should not be cost reduction in payment determinations, especially for life-threatening conditions. The opioid crisis, which has been declared a public health emergency, warrants special attention (CDC/NCHS, 2022). While clinicians might find offering flexible, convenient care options beneficial, the cost of additional resources can neutralize these savings, complicating telehealth service offerings. Hence, balancing potential cost savings, increased spending concerns, and payment parity is vital for advancing hybrid care models.

Challenge #D7: Navigating the Complex Interplay Between Innovation and Pragmatism in the Telehealth Industry

As the telehealth industry rapidly expands and transitions toward hybrid models of care, striking a balance between innovative growth and responsible development becomes increasingly important (Landi, 2021). Achieving this equilibrium demands addressing key factors such as regulatory compliance, patient privacy, the silos in the health care financing system, and security concerns, all while ensuring enhanced patient outcomes.

Achieving a balanced approach in the telehealth industry requires fostering responsible innovation through active collaboration among key stakeholders such as regulatory bodies, standard-setting organizations, technology development companies, clinicians and health systems, payers and purchasers, and people with lived experience. Using collaborative structures, such as the Global Digital Health Partnership, enables the exchange of ideas and best practices (ONC, n.d.). However, payers face multiple challenges in selecting suitable partners for telehealth initiatives who can offer a broad range of services, particularly in areas like chronic pain management and SUD treatment (Duff et al., 2023b). Establishing value-driven telehealth partnerships involves overcoming hurdles such as regulatory compliance, adherence to laws and reimbursement requirements, and effective collaboration with clinicians and providers to integrate systems and devices within the broader health care ecosystem. Additionally, clinicians, health systems, and payers must adopt secure, efficient data exchange practices to safeguard patient privacy and enhance interoperability while assessing telehealth devices' clinical effectiveness and impact on patient outcomes to determine return on investment.

Overcoming these challenges necessitates the establishment of a dynamic regulatory framework, which is critical for fostering innovation while maintaining safety, efficacy, and patient trust (Turner Lee et al., 2020). Regulatory authorities, such as the FDA, enforce strict testing and safety standards on telehealth devices, which can be costly and time-consuming, potentially hindering innovation. Moreover, regulatory frameworks may struggle to adapt quickly to rapidly evolving technologies, which could result in approval delays and stifle innovation.

Balancing innovation and pragmatism in telehealth-enabled care involves prioritizing patient privacy and security, maintaining transparency in regulatory compliance, understanding actual clinical workflow and requirements, identifying the correct customers and the value propositions for the purchase and use of these innovations, and acknowledging technical limitations. This approach allows the telehealth industry to comply with regulations while persistently innovating and delivering safe, effective solutions. Incorporating standardized data formats and protocols as part of this approach significantly enhances interoperability among telehealth devices, EHR systems, and other health care platforms, ultimately improving care quality and efficiency.

Further, investing in research and development of cutting-edge telehealth technologies, especially in areas like chronic pain management and SUD treatment, can drive ongoing improvement. Initiatives such as pilot programs, incentives for innovation, and evidence-based practices can inform future development and implementation of these technologies. By collaboratively maintaining a balance between innovation and practical considerations, the telehealth industry stands to experience significant growth and progress, ultimately resulting in better patient outcomes, expanded access to care, and a more streamlined health care system.

Section Summary

Telehealth has the potential to revolutionize SUD and chronic pain management, offering increased access to care and fostering the development of hybrid care models. However, varied and non-evidence-based practice regulations and inconsistent billing, coverage, and reimbursement policies create confusion and financial disincentives for health care professionals and health system leaders. Addressing these issues requires standardizing and streamlining policies and regulations, ensuring access to care irrespective of insurance status or location. Further, the telehealth industry must balance innovation with pragmatism, addressing regulatory compliance, patient privacy, and security concerns while improving patient outcomes. Achieving this balance involves fostering responsible innovation, maintaining transparency, investing in research and development, and prioritizing patient privacy and security.

Please refer to *Appendix Table 4* for a summary of the priorities for action identified in this section.

Conclusion

The growing need for accessible, effective, cost-effective, and equitable care for patients with chronic pain and/or SUD is undeniable, especially as the opioid crisis and overdose epidemic continue to escalate (NIDA, 2023). This paper has presented a comprehensive overview of considerations for building the future state of care by advancing hybrid chronic pain management and SUD care models that combine the best of telehealth with in-person care. These hybrid models have the potential to address many of the challenges associated with traditional care delivery methods and improve health outcomes for patients while also promoting health equity.

The urgency of this transformation cannot be overstated. As the COVID-19 pandemic has demonstrated, telehealth can be a powerful tool for delivering health care services, even during

<u>Priorities for Action for Challenge #D7: Navigating the Complex Interplay Between Innovation and Pragmatism in the Telehealth Industry</u>

Key

● People with Lived Experience (LE)	● Health Professional Societies & E+T Institutions (ED)	● Payers & Purchasers (PP)
● Clinical Care Professionals (CC)	● Treatment Programs & Health Systems (HS)	● Health Care Researchers (R)
● Policy Makers & Regulators (PM)	● Technology Development Companies (TD)	

CC PM R TD	Support research and development of innovative telehealth technologies and interventions, particularly for chronic pain management and SUD treatment, by allocating resources for pilot programs, offering incentives for innovation, and promoting evidence-based practices to ensure clinical effectiveness and improved patient outcomes.
PM	Foster collaboration and partnerships among regulatory bodies, technology development companies, health systems and treatment programs, payers, clinicians, and patients to facilitate information exchange, share best practices, and develop coordinated strategies to address challenges in the telehealth sector.
PM	Create flexible yet robust regulatory frameworks that can keep pace with rapidly evolving telehealth technologies, ensuring safety and efficacy while minimizing approval delays.
PM	Encourage the adoption of standardized data formats and protocols to improve interoperability among telehealth devices, EHR systems, and other health care platforms.
HS PM	Prioritize the development and use of secure data exchange protocols to protect patient privacy and promote seamless communication among clinicians and telehealth systems.
PM	Establish and disseminate robust cybersecurity guidelines and best practices for technology development companies, health systems, and payers, safeguarding patient data and ensuring secure communication channels.
PM	Establish programs, grants, or financial incentives to encourage the development of innovative telehealth technologies, particularly in areas such as chronic pain management and SUD treatment.

times of crisis. However, to fully realize the potential of telehealth and hybrid care models, it is essential to tackle the challenges related to policy and regulation, payment and cost, building a treatment workforce, technology, quality and health outcomes, and equity. The action agenda presented in this paper provides a clear direction for addressing these challenges, drawing on insights and best practices gleaned from the National Academy of Medicine's Action Collaborative on Countering the U.S. Opioid Epidemic *Improving Telehealth and Virtual Care for Pain Management and Substance Use Disorder* meeting series.

To make a lasting impact on the opioid and emerging polysubstance use crisis and to improve the lives of people affected by chronic pain and/or SUD, stakeholders from all sectors—including clinical care professionals, health professional societies, education and training institutions, treatment programs and health systems, policy makers and regulators, payers and purchasers, health care researchers, technology development companies, and people with lived experience—must collaborate to take collective action. By embracing the priorities for action identified in this action agenda, these stakeholders can collectively drive the development, implementation, and optimization of hybrid care models, thereby revolutionizing chronic pain management and SUD care.

The authors acknowledge that achieving many of the outlined priorities for action necessitates substantial resource allocation, both financial and otherwise. However, without such strategic and considerable investment, making substantial progress in addressing the national opioid crisis will remain a distant goal. Consequently, all stakeholders must be held accountable for their actions. Each group must assume responsibility for its actions, whether that means enforcing mandatory information disclosure on grant-funded treatment programs (GAO, 2020), maintaining rigorous oversight of provider billings (Rao-Patel, 2018), ensuring adequate care rates to enable a sufficient network of providers (Waller et al., 2021), or funding the establishment of training programs to build a robust workforce and treatment system (Chappell et al., 2021). Above all, it is critical that policy makers, at both state and federal levels, channel resources toward resolving the key issues highlighted herein.

The time for action is now. The future state of care depends on the collective commitment to advancing hybrid chronic pain management and SUD care models that prioritize access, outcomes, and equity. Let this action agenda serve as a catalyst for change and a call to action for all stakeholders to work together in building a more rational, value-based, and equitable health care system for those individuals living with chronic pain and/or SUD.

Appendix

Appendix Table 1 | Summary of Priorities for Action to Center the Lived Experiences of Patients and Caregivers

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #A1: Lack of person-centered systems of care								
●	●	●	●	●	●	●	●	Collaborate with patients, caregivers, and clinicians to co-create innovative hybrid care models, ensuring that their valuable input is integrated into the development of person-centered workflows and policies pertaining to care delivery, as well as the implementation and integration of technology.
Challenge #A2: The digital divide, including limited digital literacy, navigating different digital systems across providers, and inequitable access to broadband and internet-enabled devices, also limits access to telehealth-enabled chronic pain management and SUD care								
				●		●		Identify disparities in access to telehealth-delivered chronic pain management and SUD care to develop targeted solutions for under-resourced populations.
●	●					●	●	Develop telehealth platforms to be more intuitive and user-friendly, incorporating inputs and perspectives of both patients and clinicians.
			●					Collaborate with community organizations and libraries to provide accessible digital literacy training and support in local communities.
			●	●				Provide assistive services to individuals in fostering digital literacy, accessing health information, and navigating telehealth platforms and portals.
				●	●			Retain and/or expand supportive coverage and reimbursement of audio-only telehealth services to increase accessibility for those with limited broadband access.
				●				Develop and promote public-private partnerships to facilitate investment in broadband infrastructure and technology access, particularly in under-resourced areas.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #A3: Regulatory and administrative burdens on patients and caregivers								
	🟢	🟣		🔴	🟡			Align state regulatory and payer policies with evidence-based care, removing unnecessary restrictions on telehealth-enabled chronic pain management and SUD treatment.
				🔴				Expand and/or maintain regulatory flexibilities that increase access to care for patients with chronic pain and/or SUD, such as telehealth-based opioid treatment (TBOT), loosened restrictions on methadone treatment, and reduced drug testing requirements.
				🔴				Promote streamlined cross-state licensure, such as through interstate compacts and licensure reciprocity agreements, to expand reach of existing specialty care clinicians.
		🟣		🔴	🟡			Address the variability in coverage and affordability of telehealth services by ensuring health plans cover telehealth services and place fewer limitations on when and what types of services are covered and at what rates.

Appendix Table 2 | Summary of Priorities for Action to Enhance Workforce Support and Infrastructure Capacity

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #B1: Shortage of health care professionals in the fields of chronic pain management and SUD treatment								
			●	●				Invest in and expand the use of telehealth and hybrid models of care to extend the reach of the existing health workforce to underserved areas.
	●	●	●	●				Increase funding and support for specialty training programs in pain management and addiction medicine, including integrating these areas more thoroughly into existing curricula, and expanding residency and fellowship slots in these areas.
	●	●	●	●				Increase funding and support for comprehensive training in pain management and addiction medicine for clinicians, including nurses, psychologists, social workers, pharmacists, and advanced practice clinicians, and emphasize integrating these areas more thoroughly into existing curricula.
				●	●			Increase financial incentives to attract and retain health care professionals in chronic pain management and SUD treatment, including improved reimbursement rates for services, loan forgiveness programs for professionals working in underserved areas, and subsidies for education in these specializations.
	●		●	●				Implement models integrating primary care and SUD treatment, such as the Collaborative Care Model, to help expand the existing workforce and enhance patient access.
	●	●	●	●				Implement initiatives to combat the stigma associated with SUD and chronic pain. This could involve educational campaigns aimed at the public, as well as targeted interventions for health care professionals to reduce bias and improve understanding of these specialties.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #B2: Inadequate digital education and training to prepare health care professionals for the hybrid environment								
		●						Develop and implement telehealth-specific training programs and curricula for clinicians and allied health care professionals focused on digital literacy and telehealth skills.
		●						Create targeted training programs that focus on updating skills for the unique challenges of managing complex conditions like chronic pain and SUD via telehealth, providing in-depth education on remote assessment techniques, recognizing signs of substance use and withdrawal, interpreting pain signals remotely, and using remote monitoring tools effectively.
			●					Collaborate with community organizations and libraries to provide accessible digital literacy training and support in local communities.
		●	●					Develop continuing education programs specially tailored to address gaps in digital education and training for long-serving clinicians.
		●		●				Invest in providing ongoing support and resources for the health professional workforce, including telehealth help desks and technology support teams, to ensure both health care professionals and their patients have access to the support they need to effectively use telehealth technologies.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #B3: **Increasingly complex and fragmented systems of care**								
	●		●	●			●	Develop comprehensive, integrated workflows that allow for seamless coordination across different clinicians, patients, care settings, and technologies, with the goal of creating cohesive systems of care.
	●		●	●			●	Ensure EHR interoperability across systems and platforms to improve information flow, create efficient systems of care, and ensure coordinated care for patients, particularly those with chronic pain and/or SUD who receive care from multiple health care professionals across different care settings.
	●			●			●	Establish clear data standards and protocols for interoperability to maintain consistent data exchange across different EHR systems.
	●		●	●			●	Develop and implement interoperable EHR systems that can seamlessly share patient information across different health care professionals and settings to promote coordinated care and minimize duplicative or unnecessary procedures.
●	●					●		Study and implement innovative, person-centered hybrid care models that minimize fragmentation and encourage coordinated care to optimize patient outcome.
●	●						●	Develop user-friendly interfaces that integrate data across virtual and in-person care provision, promote collaboration, and break down silos between health care systems.
				●	●			Develop reimbursement policies that provide an appropriate amount and type of billing codes for coordinated care by reimbursing clinicians for activities such as care coordination meetings, virtual rounds, and the use of interoperable EHR systems.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #B4: **Barriers to coordinated care across modalities, including reimbursement and adoption of interoperable EHRs**								
			●	●	●		●	Encourage the development and widespread adoption of interoperable EHRs by creating incentives and providing funding for health systems and treatment providers to transition to these systems.
				●			●	Address electronic barriers to observing patient consent protocols in information sharing across different types of treatment services, enabling better care coordination.
				●	●			Develop and support innovative alternative payment models that incentivize coordinated care, such as value-based contracts or pay-for-performance arrangements. These models should reward clinicians for the quality of care they provide, not just the volume of services delivered.
			●	●	●			Allocate funding and resources to promote and implement integrated and coordinated care models that bring together multidisciplinary care teams across physical health, SUD treatment, mental health, and social service providers.
Challenge #B5: **Limitations of telehealth and technology in chronic pain management and SUD treatment**								
	●			●		●	●	Invest in the development of new technologies that prioritize the specific needs of clinical end-users, including effective clinical evaluation, personalized treatment planning, and care coordination, while ensuring the security and privacy of patient information.
	●	●		●				Establish and implement standardized protocols and guidelines for telehealth interventions in the treatment of SUD and chronic pain, considering the limitations of virtual care settings and ensuring privacy, safety, and quality of care.

Appendix Table 3 | Summary of Priorities for Action to Focus on Safety and Quality of Care

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #C1: Lack of consensus quality measures for chronic pain treatment and SUD treatment (both for in-person and telehealth)								
	●	●	●	●	●	●		Collaborate to develop and implement standardized, consensus-based quality measures for both chronic pain management and SUD care across care modalities and treatment settings, considering input from all stakeholders, including individuals with lived experience.
	●		●	●				Develop baseline process measures and gradually expand to include outcomes measures as core treatment quality processes are strengthened.
			●	●				Prioritize the adoption and effective use of EHRs to ensure precise and comprehensive data collection for quality measurement.
				●	●			Support the development and implementation of standardized quality measures through regulations and financial incentives while considering the potential burden on clinicians and ensuring alignment with shared goals of improving the quality and outcomes of chronic pain management and SUD care.
				●	●			Incorporate standardized quality measures into value-based payment models to drive quality improvement efforts, ensure coordinated care, and address health disparities in underserved populations.
						●		Prioritize research on the development and evaluation of quality measures, as well as the effectiveness of telehealth-enabled interventions and hybrid models aimed at improving chronic pain management and SUD care.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #C2: Lack of guidelines and best practices for determining which aspects of care are most appropriate for telehealth versus in-person care								
●	●	●		●				Develop evidence-based guidelines and best practices for discerning the appropriateness of telehealth versus in-person care, considering factors such as patient needs, treatment goals, the complexity of the patient's condition, and their comfort with technology.
	●		●					Develop defined clinical pathways for hybrid care delivery, including decision trees that guide clinicians on when to integrate telehealth modalities and when to prioritize in-person care, based on objective patient assessment and individual circumstances.
				●		●		Invest in further research on the effectiveness of telehealth and hybrid models of care for managing chronic pain and SUD, including comparative studies against in-person care to validate these models' efficacy and inform evidence-based guidelines.
						●		Conduct ongoing evaluation of telehealth's efficacy, safety, and patient outcomes to ensure that patients receive the best possible care, whether in-person or via telehealth.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #C3: **Need for comprehensive evidence to determine the effectiveness of telehealth and hybrid models of care for chronic pain management and SUD treatment**								
				●		●		Expand the number of studies, using a range of study designs and methodologies, to evaluate the value and effectiveness of telehealth interventions, such as remote patient monitoring and digital therapeutics, for chronic pain management and SUD care.
				●				Allocate funding and resources toward research efforts aimed at evaluating the efficiency and effectiveness of telehealth and hybrid models of care for chronic pain management and SUD treatment.
	●	●		●		●		Develop, adopt, and use standardized, validated, and reliable outcome measures across studies to facilitate the comparison of results and enable a better understanding of the effectiveness of telehealth interventions.
	●			●		●		Conduct long-term follow-up assessments to evaluate the sustainability and lasting effects of hybrid care models on chronic pain management and SUD care. Evaluate both patient outcomes and system-wide impacts.
						●		Ensure that research includes diverse patient populations to enhance the generalizability of findings and address potential disparities in access to and effectiveness of telehealth and hybrid care models.
●	●		●		●	●	●	Collect, analyze, and integrate data from traditional and non-traditional sources, including payers, clinicians and provider groups, telecommunications and software companies, EHR vendors, community-based organizations, and patient-reported outcomes, to gain insights into real-world implementation and effectiveness.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #C4: **Protecting patients' privacy and health information across systems and platforms**								
			●	●			●	Establish and implement robust security standards and processes across all telehealth platforms and health systems, ensuring that patient data is protected from unauthorized access or breaches.
			●	●				Develop and implement standards for interoperability and secure data transmission between various systems, devices, and software programs used in telehealth services.
				●				Continuously review and update privacy regulations to address the evolving landscape of telehealth and patient data security. This includes considering the specific needs and vulnerabilities of patients with sensitive health conditions, such as chronic pain and SUD.
			●	●	●		●	Invest in the development of telehealth technologies, platforms, and software programs that prioritize privacy and confidentiality, implementing secure and user-friendly portals.
	●	●						Educate and train health care professionals on privacy regulations, data security best practices, and the importance of patient confidentiality, ensuring that they understand and follow the necessary protocols when handling sensitive health information.
			●		●			Establish thorough vetting and auditing processes to assess the practices of third-party vendors and contractors to ensure compliance with security measures and processes.
●	●		●				●	Involve patients in decisions regarding the use and sharing of their health data, considering their preferences and concerns to build trust and ensure that privacy is respected.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #C5: Detecting and preventing fraud, waste, and abuse in chronic pain management and SUD treatment								
	●	●	●	●	●	●		Collaborate and establish partnerships to facilitate information sharing, identify emerging fraud schemes, develop effective strategies, and adapt policies and tools to counter FWA.
			●	●	●			Continuously review and adapt policies and regulations to address emerging fraud schemes, and strengthen enforcement and oversight of existing regulations and laws, particularly in the areas of chronic pain management and SUD treatment.
			●	●	●			Leverage data analytics and monitoring tools, including PDMPs and EHRs, to identify unusual prescribing patterns, clinician outliers, and potential cases of inappropriate treatment, prompting further investigation and intervention.
	●	●						Educate and train clinicians and health care professionals on appropriate claims submission, billing practices, and fraud schemes to ensure compliance with regulations and reduce the risk of fraudulent activities.
●	●		●					Implement patient education programs to raise awareness of potential fraud schemes, including suspicious clinics or requests for personal information.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #C6: Competing focus on diversion of controlled substances versus access to treatment								
●	●	●		●				Develop and update clinical practice guidelines, with input from clinicians and people with lived experience, to prioritize the management of misuse and d.iversion therapeutically rather than enforcing “zero-tolerance” measures that may impede access to treatment.
				●		●		Monitor and evaluate the impact of expanded treatment access, including remote prescribing of MOUD and take-home doses of methadone, on substance diversion and misuse. Similarly, monitor the impact of diversion measures on treatment access.
	●	●	●	●				Adapt diversion control strategies for the virtual environment, including use of PDMPs, photo identification verification, drug screening with validity testing, pill counts, and monitored self-dosing, leveraging telehealth technologies such as remote patient monitoring and live video.

Appendix Table 4 | Summary of Priorities for Action to Align Regulations and Payment Policies with Evidence-Based Care

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #D1: Variation and discrepancies in telehealth definitions and terminology among legislators, regulators, federal agencies, and payers								
		●	●	●	●			Establish standard, consensus-based definitions and terms for telehealth, and implement their usage across federal agencies, states, payers, and health care organizations to promote clarity and consistency.
				●				Identify types of services and technologies covered under "telehealth" within legal requirements and reimbursement policies.
Challenge #D2: Uncertainty about continuation of pandemic-era regulatory flexibilities								
				●				Implement permanent regulatory changes to remove medically unnecessary restrictions, including the in-person examination requirement for the remote prescribing of MOUD, instead deferring to clinical judgment and individual patient needs as the basis for determining the appropriateness of remote prescribing.
				●	●			Sustain pandemic-era regulatory changes governing payment parity and adequate reimbursement.
	●			●	●			Implement innovative reimbursement models that incentivize and reimburse clinicians based on the quality and outcomes of care delivered via telehealth, rather than the quantity of services provided.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #D3: **Large and complex regulatory differences in state rules and regulations**								
	●	●		●				Collaborate to harmonize state laws and regulations that govern the treatment of SUD and chronic pain, with a focus on aligning regulations with evidence-based practice.
	●	●		●				Collaborate to develop consistent regulations and guidelines for interstate telehealth practice, including clarifying licensure requirements for telehealth practitioners and determining which state laws apply during cross-border telehealth encounters.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #D4: Variation in credentialing and interstate licensing requirements								
				●				Promote and incentivize states to participate in interstate compacts and/or licensure reciprocity agreements.
				●				Reduce application and licensure fees associated with interstate compacts to incentivize more professionals to treat patients in multiple states.
				●				Develop additional interstate compacts for professions beyond medicine, nursing, and physical therapy.
				●				Establish more standardized credentialing and licensing requirements across states to streamline processes and reduce duplication of effort and costs for clinicians seeking to practice in multiple states.
				●				Establish state telehealth registrations for physicians to practice telehealth in additional states.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #D5: Inconsistent billing, coverage, and reimbursement policies across states and payers								
				●	●			Develop and implement clear and consistent reimbursement policies to ensure clinicians receive adequate reimbursement for services and patients have equal and equitable access to care, regardless of insurance status, state of residence, or modality of care.
	●	●		●	●			Deploy “Any Willing Provider” laws, in which all licensed clinicians providing evidence-based care would be eligible for reimbursement, regardless of their medical specialty.
				●	●			Expand coverage for audio-only visits and provide adequate reimbursement rates to ensure clinicians are available for those who lack access to sufficient broadband or live video technology.
	●			●		●		Conduct long-term follow-up assessments to evaluate the sustainability and lasting effects of hybrid care models on chronic pain management and SUD care. Evaluate both patient outcomes and system-wide impacts.
		●		●	●			Provide comprehensive education, training, and resources for health care professionals to help them navigate the complex telehealth billing landscape, understand evolving telehealth regulations, and make informed decisions about offering telehealth services.
				●	●			Provide financial support to SUD and pain management clinicians for telehealth services, including technology, training, and education, to help them recoup the costs associated with offering essential telehealth services.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #D6: **Balancing quality and cost concerns**								
	●			●	●			Develop targeted reimbursement policies that incentivize clinicians to use evidence-based telehealth modalities and ensure that telehealth services are reimbursed at adequate rates.
					●			Establish reimbursement models that optimally integrate coverage, care, and the use of measurement-based approaches and digital capabilities to support the implementation and sustainability of hybrid care for patients with chronic pain and/or SUD.
						●		Encourage research into the use of remote monitoring and medication management tools to improve patient outcomes and decrease costs by reducing the need for more expensive and resource-intensive care.
						●		Conduct more robust research to establish the effectiveness and cost-effectiveness of telehealth for chronic pain and/or SUD, including cost savings associated with telehealth and the effectiveness of different modalities.
						●		Examine the potential impact of payment incentives, such as value-based and bundled payments, on promoting the appropriate use of hybrid care for patients with chronic pain and/or SUD.
						●		Compare overall costs, public health imperative to treat at-risk individuals, and financial sustainability of telehealth and hybrid care with in-person care.

People with Lived Experience	Clinical Care Professionals	Health Professional Societies and Education & Training Institutions	Treatment Programs and Health Systems	Policy Makers and Regulators	Payers and Purchasers	Health Care Researchers	Technology Development Companies	Action
Challenge #D7: Navigating the complex interplay between innovation and pragmatism in the telehealth industry								
	●			●		●	●	Support research and development of innovative telehealth technologies and interventions, particularly for chronic pain management and SUD treatment, by allocating resources for pilot programs, offering incentives for innovation, and promoting evidence-based practices to ensure clinical effectiveness and improved patient outcomes.
				●				Foster collaboration and partnerships among regulatory bodies, technology development companies, health systems and treatment programs, payers, clinicians, and patients to facilitate information exchange, share best practices, and develop coordinated strategies to address challenges in the telehealth sector.
				●				Create flexible yet robust regulatory frameworks that can keep pace with rapidly evolving telehealth technologies, ensuring safety and efficacy while minimizing approval delays.
				●				Encourage the adoption of standardized data formats and protocols to improve interoperability among telehealth devices, EHR systems, and other health care platforms.
			●	●				Prioritize the development and use of secure data exchange protocols to protect patient privacy and promote seamless communication among clinicians and telehealth systems.
				●				Establish and disseminate robust cybersecurity guidelines and best practices for technology development companies, health systems, and payers, safeguarding patient data and ensuring secure communication channels.
				●				Establish programs, grants, or financial incentives to encourage the development of innovative telehealth technologies, particularly in areas such as chronic pain management and SUD treatment.

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Helen Burstin and **Kelly J. Clark** led the conceptualization of the meeting series that served as the foundation for this action agenda and were actively involved in reviewing and editing the manuscript. **Noah Duff** led the design of the action agenda, prepared the initial draft, oversaw the review and editing process, and coordinated all activities related to the meeting series and manuscript development. **Anna Legreid Dopp** and **Elizabeth Bentley** contributed to the conceptualization of the meeting series, provided writing support for the original draft, and were involved in reviewing and editing the manuscript. **Sarah Wattenberg, Friedhelm Sandbrink, Rhonda Robinson Beale,** and **Shari M. Ling** contributed to the conceptualization of the meeting series and actively participated in reviewing and editing the manuscript. **Ellen Eaton** provided writing support for the original draft and contributed to reviewing and editing the manuscript. **Emma Freiling** provided writing support for the original draft. **Aisha Salman** supervised the project and contributed to reviewing and editing the manuscript.

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