



Issue Brief

Implementation Research to Understand Effective Approaches to Opioid Management in Health Systems

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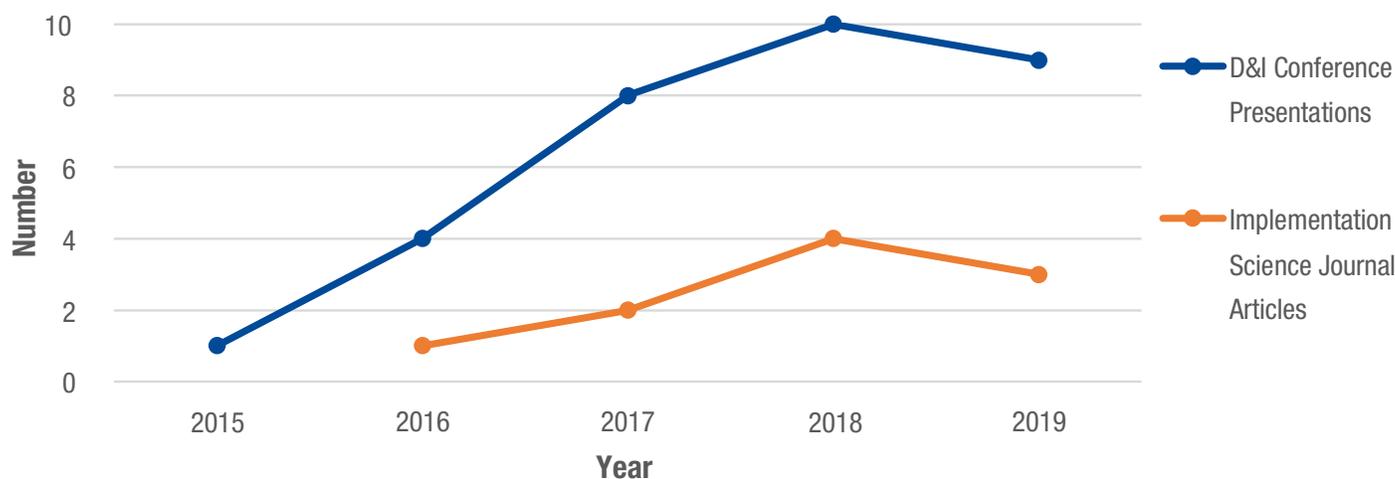
KEY POINTS

- Improving the safety of opioids requires more than just an expansion of the clinical evidence.
- We must understand effective strategies for implementing improvement efforts in practice.
- There has been a growing body of research on interventions, with aims ranging from improving prescribing and guideline-concordant care to reducing the risk of opioids, misuse, abuse and overdose.
- Despite this growing evidence, the field needs to expand the evidence base by better describing the strategies used and how to tailor them, as well as by leveraging mixed-methods and implementation science.

In 2017, the Department of Health and Human Services (HHS) declared the opioid epidemic a public health emergency. Every day 46 people die from overdoses involving prescription opioids (Scholl et al., 2018). In 2017, the National Survey on Drug Use and Health reported 2.1 million individuals had an opioid use disorder (OUD) and 9.9 million individuals reported misusing prescription opioids (SAMHSA, 2019). While opioid prescribing rates peaked around 2012 and have since fallen to the lowest rates in a decade, the morphine milligram equivalents (MMEs) of opioids prescribed per person is around three times higher than it was in 1999 (CDC, 2017) and the average number of days per prescription continues to increase to an average of 18 days (CDC, 2018). Health systems have a key role to play in providing care to patients with chronic pain by improving opioid prescribing and reducing opioid misuse, abuse and overdose as well as preventing adverse events. While the nature of the opioid epidemic is evolving, it is unrelenting in terms of the harm to individuals and the need for health care systems to respond. As such, many health care systems and individual practices are pursuing improvements in opioid prescribing

and pain management by adhering to state regulations, implementing national guidelines (Dowell et al, 2016), and pursuing emerging evidence-based interventions and guidance (Dowell et al., 2019).

Improving the safety of opioid prescribing requires more than just evidence for clinical recommendations – it requires understanding how to implement those recommendations effectively and sustainably. This is where implementation research comes in. As with most evidence, it can take nearly two decades to fully change practice. While it appears the *CDC Guideline for Prescribing Opioids for Chronic Pain* may have hastened the decline in opioid prescribing since its release (Bohnert et al, 2018), the gravity of the opioid epidemic requires an accelerated response in health systems and practices, as well as at all levels (Haegerich et al, 2019). At the same time, the emphasis on the opioid crisis may be contributing to unintended consequences due to a range of potential factors, for example: misapplication of guidelines (Dowell, 2019), aggressive opioid tapers or opioid tapers resulting in terminating care (Perez et al, 2019), patient abandonment, and challenges with implementing guidelines (Kroenke et al, 2019).

Graph 1. Growth of Opioid-Related Implementation Research the Past 5 Years

Increase In Implementation Research On Opioid-Related Interventions

There has been increasing attention on the opioid epidemic and an examination of various sectors' responses, including that of health systems and providers. Correspondingly, there has been a growing body of research on interventions to improve opioid management in health care, with aims ranging from improving prescribing and guideline-concordant care to reducing the risk of opioid misuse, abuse and overdose. For example, as shown in **Graph 1**, there has been a steady increase since 2014 in the number of opioid-related implementation research publications in the journal *Implementation Science* and oral presentations at the *Conference on the Science of Dissemination and Implementation (D&I)*. Additionally, there were 26 posters presented at the 2019 D&I conference.

Implementation research offers practical insights for opioid management in specific health care settings. A preliminary review focused on primary care settings (Shoemaker, 2018) revealed several relevant domains and constructs from the *Consolidated Framework for Implementation Research* (Damschroder et al, 2009) that could be tailored to opioid management in health care. The studies also identified barriers and facilitators to implementation of opioid

prescribing guideline recommendations and supportive strategies to improve opioid prescribing (Shoemaker, 2018). Most studies of opioid management efforts provided limited descriptions of their multi-component interventions and uncommonly systematically assessed implementation or utilized implementation science principles.

Implementation Strategies Used In Opioid-Related Interventions

Implementation strategies are “methods or techniques used to enhance the adoption, implementation and sustainability of a clinical program or practice” (Proctor 2013). Health systems have used a range of strategies to actually implement opioid prescribing and management approaches. Table 1 provides an overview of the range of discrete implementation strategies (Perry et al., 2019; Powell et al., 2015) reported in health systems' efforts and evaluations of such interventions. These are described as discrete implementation strategies, although the vast majority of health systems and quality improvement efforts involve multi-component strategies.

Table 1. Sample of Implementation Strategies Used in Opioid Interventions

Implementation Strategies	Examples
Academic detailing	<ul style="list-style-type: none"> Academic detailing has been used in some interventions in health systems (Liebschutz et al, 2017) or as a model for spreading guidance to practices (Fischer et al, 2018)
Assess and redesign workflow	<ul style="list-style-type: none"> Several health system and practice improvement efforts involved redesigning workflows (Parchman et al, 2016; Parchman et al, 2018; Weiner et al, 2019)
Audit and provide feedback; dashboards	<ul style="list-style-type: none"> Many health systems' interventions have used audit and feedback of data to providers and care teams, often utilizing dashboards (Anderson et al, 2015; Lobsy et al., 2017; von Korff et al, 2016; von Korff et al, 2019; Weiner et al, 2019)
Create an improvement team	<ul style="list-style-type: none"> In keeping with established quality improvement approaches, most systems created a team to lead the interventions (Losby et al, 2017)
Establish a registry	<ul style="list-style-type: none"> Registries have been identified as a strategy in population health, similar for opioid management (Parchman et al, 2017)
Establish or revise opioid policy or guideline	<ul style="list-style-type: none"> Many systems' approach to improving opioid prescribing and management began with establishing or revising a policy (Anderson et al, 2016; Weimer et al, 2016)
Use implementation facilitation or support	<ul style="list-style-type: none"> Parchman et al. (2019) describe the effect of the Six Building Blocks – a program of six key elements of opioid medication management redesign in primary care
Leverage electronic health record (e.g., clinical decision support tools, alerts, notes templates, order sets)	<ul style="list-style-type: none"> Several systems have utilized EHR and/or CDS tools as effective strategies to change practice at the point of care (Anderson et al., 2015; Dorflinger et al, 2014; Liebschutz et al, 2017; Mathias et al, 2019) Publically-available CDS artifacts are available for systems (see: AHRQ CDS Connect)
Measurement and monitoring	<ul style="list-style-type: none"> Most studies examined key outcomes like opioid prescribing rate, number of patients on long-term opioid therapy, proportion of patients on high dosage opioids, etc. and used those to monitor a systems' improvements over time (Anderson, 2016; Mikosz et al, 2018; von Korff, 2016; Shoemaker-Hunt, 2019; Weiner 2019) CDC developed QI measures aligned to the recommendations in the <i>CDC Guideline for Prescribing Opioids for Chronic Pain</i>
Quality improvement approach or program	<ul style="list-style-type: none"> Many systems' reported interventions utilizing a QI approach or program (Anderson et al, 2012; Parchman et al, 2017; Parchman et al, 2019; Shoemaker et al, 2018)
Training or education	<ul style="list-style-type: none"> Often as a strategy in multi-component interventions, systems have provided training or education to providers and care teams on new policies, EHR tools, QI goals and monitoring (Anderson et al, 2012; Trescott et al, 2011; Westanmo et al, 2015)
Use standardized forms	<ul style="list-style-type: none"> Some systems established standardized forms (e.g., treatment agreement or pain contract) as part of their QI efforts

Given the often complex nature of interventions to improve opioid safety in health systems – the field needs to better describe the interventions and strategies used, tailor implementation strategies to opioid safety, and leverage mixed-methods and implementation science to rigorously capture insights. As implementation research on opioid-related interventions continues to grow, the field should be able to advance the evidence base of strategies that are more effective and in which context, as well as understand determinants of success and systematic barriers to implementation in health care systems, and other sectors to ultimately advance the fight against the opioid epidemic while supporting the care of patients with chronic pain.

Contact

Sarah J. Shoemaker-Hunt, PhD, PharmD, Principal Associate
Abt Associates Inc. 10 Fawcett St, Cambridge, MA 02138
Email: Sarah_Shoemaker-Hunt@abtassoc.com; Phone: (617) 349-2472

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