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A qualitative study of the adoption of buprenorphine for opioid addiction treatment

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ABSTRACT

Qualified physicians may prescribe buprenorphine to treat opioid dependence, but medication use remains controversial. We examined adoption of buprenorphine in two not-for-profit integrated health plans, over time, completing 101 semi-structured interviews with clinicians and clinician–administrators from primary and specialty care. Transcripts were reviewed, coded, and analyzed. A strong leader championing the new treatment was critical for adoption in both health plans. Once clinicians began using buprenorphine, patients' and other clinicians' experiences affected decisions more than did the champion. With experience, protocols developed to manage unsuccessful patients and changed to support maintenance rather than detoxification. Diffusion outside addiction and mental health settings was nonexistent; primary care clinicians cited scope-of-practice issues and referred patients to specialty care. With greater diffusion came questions about long-term use and safety. Recognizing how implementation processes develop may suggest where, when, and how to best expend resources to increase adoption of such treatments.

1. Introduction

The Drug Addiction Treatment Act of 2000 (DATA 2000) authorized qualified physicians to request a waiver to use schedule III, IV or V medications (with Food and Drug Administration [FDA] approval) for the treatment of opioid dependence. In 2002, the FDA approved two formulations of buprenorphine hydrochloride (buprenorphine) as schedule 3 controlled medications: buprenorphine alone (Subutex) and buprenorphine plus naloxone (Suboxone). Both may be prescribed in office-based settings by physicians who complete 8 hours of training in treating opioid use disorders and register with the Center for Substance Abuse Treatment (Substance Abuse and Health Services Administration, 2012a). The enabling legislation initially capped the number of patients at 30 per physician group, significantly restricting use of buprenorphine in large health systems. Amendments raised the limit to 30 patients per physician and later to 100 patients per physician (after 1 year's experience and a request for permission). Physicians in a variety of office-based settings, including specialty addiction treatment and primary care settings, can now treat patients using agonist therapy.

1.1. Adoption of buprenorphine for treatment of opioid dependence

Use of buprenorphine to treat opioid dependence remains uncommon. About one in five (19.6%) of 13,720 specialty addiction treatment centers responding to the 2011 National Survey of Substance Abuse Treatment Services reported use of buprenorphine (Substance Abuse and Health Services Administration, 2012b). Similarly, less than 10% of psychiatrists who were not addiction specialists reported writing buprenorphine prescriptions (Thomas, Reif, et al., 2008). Limited implementation of buprenorphine suggests the importance of studying its adoption in real-world practice and health care settings.

Qualitative and survey studies have identified several factors that influence willingness to adopt buprenorphine. Treatment programs with more access to information, and clinicians who seek information about medication (i.e. members of provider associations, those who use the National Institute on Drug Abuse's website, or talk to resource linkages like pharmaceutical company detailing), are more likely to be

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early adopters (Savage, Abraham, Knudsen, Rothrauff, & Roman, 2012). In addition, clinician training enhances diffusion of new pharmacotherapies for addiction treatment (Abraham, Ducharme, & Roman, 2009; Thomas, Reif, et al., 2008), while perceived social norms have more influence on clinicians' intentions to recommend buprenorphine than their attitudes toward use of medications (Rieckmann, Daley, Fuller, Thomas, & McCarty, 2007). Physicians with fewer years treating addictions are more likely to prescribe buprenorphine for detoxification than maintenance, while those who prescribe buprenorphine for maintenance are less likely to prescribe it for detoxification (Reif, Thomas, & Wallack, 2007). Institutional support also promotes use of buprenorphine, while a lack of financing and limited practitioner knowledge about the medication inhibits prescriptions (Thomas, Reif, et al., 2008). Not surprisingly, lack of institutional support (e.g., office and nursing support) and pharmacy-related problems create barriers to adoption (Walley et al., 2008).

Positive attitudes toward medications for addiction treatment appear to be a necessary, although not sufficient, condition for adoption of buprenorphine (Wallack, Thomas, Martin, Chilingerian, & Reif, 2010). Professionalism in the workforce, hospital settings, and certified and licensed counselors increased adoption (Knudsen, Roman, Ducharme, & Johnson, 2005), while exclusions of coverage for addiction treatment medications and higher cost sharing of medications when they are covered, impede adoption (Horgan, Reif, Hodgkin, Garnick, & Merrick, 2007). In brief, existing research suggests that organizational, practitioner, financing, and characteristics of the medication appear to affect adoption and implementation of buprenorphine for treatment of opioid dependence.

1.2. Implementation research

The Consolidated Framework for Implementation Research (CFIR) is consistent with, and builds upon, Rogers' (2003) work on diffusion of innovation. It comprises factors Rogers identified as important to adoption, including the ways in which the characteristics of the innovation interact with those of its adopters and non-adopters, the environment in which adoption is taking place, and the roles played by social networks in the adoption and implementation process. The CFIR further elucidates the complexity of the implementation process within five domains: intervention characteristics, outer setting, inner setting, characteristics of individuals, and process (Damschroder & Hagedorn, 2011; Damschroder et al., 2009). Intervention characteristics expand Rogers' attributes of the innovation (relative advantage, adaptability, trialability, and complexity) to include the source of the intervention, strength of evidence, design quality, and cost. The outer setting considers patient needs, cosmopolitanism, peer pressure, and external policies and incentives. Five dimensions contribute to the inner setting: structure, networks and communication, culture, implementation climate (e.g., tension for change, compatibility, relative priority) and readiness for implementation (i.e., leadership engagement, resources, and access to knowledge). Individual characteristics address knowledge, self-efficacy, stage of change, and other personal attributes. Finally, the implementation process requires planning, engaging (i.e., opinion leaders, champions, external change agents), executing, reflection, and evaluation (Damschroder & Hagedorn, 2011; Damschroder et al., 2009).

The complexity of implementation sets the context for our work examining the process of adopting buprenorphine within two integrated health plans. Data from electronic health records documented that the health plans varied in the pace and scope of adoption (Lynch et al., 2013). The percentage of patients with opioid dependence that were prescribed buprenorphine increased from 7% in 2003 to 20% in 2005 to 35% in 2008 in one health system. In the second, implementation was slower to start, but the percentage of patients with buprenorphine prescriptions increased from 2% in 2003 to 3% in 2005 to 28% in 2008. Differences across these systems in (a) previous experience with agonist therapy (one had no prior experience and the other routinely covered methadone maintenance), and (b) size (one was substantially larger and more complex), make these systems useful environments in which to assess adoption of agonist medication within integrated care settings. Our goal is to inform policy and implementation strategies to support and promote greater utilization of new evidence-based addiction treatments. Interviews with clinicians and clinician–administrators during rollout of buprenorphine in the two health plans provide insights into differences in organizational supports, practitioner attitudes, and perceived costs and benefits of buprenorphine. Differences in the size and structure of the organizations, as well as the way care was delivered and organized, provided opportunities to identify common elements necessary for facilitating adoption.

2. Materials and methods

We conducted 101 semi-structured interviews with clinicians and clinician–administrators, recruited from a wide range of departments, in order to elucidate variations and commonalities in implementation across the two health plans.

2.1. Study settings

Two not-for-profit prepaid group-model integrated health plans provided the study setting: Kaiser Permanente Northwest (KPNW) and Kaiser Permanente Northern California (KPNC). KPNW serves about 500,000 members in Northwest Oregon and Southwest Washington State. KPNC serves about 3.2 million members in Northern California's San Francisco Bay and Central Valley Regions. The KPNW and KPNC Institutional Review Boards (IRBs) for the Protection of Human Subjects reviewed, approved and monitored the study. All interview participants agreed to have their interviews recorded, provided informed consent, and signed IRB-approved consent forms.

2.2. Specialty treatment for substance use disorders

Addiction Treatment, KPNW. Individuals who present with problems related to opioids undergo a medical assessment and history to assess appropriate level of care and develop a treatment plan. Agonist therapy may be provided based on the assessment and client preferences. All patients dependent on opioids are encouraged to attend psychosocial counseling sessions; those taking buprenorphine are typically required to attend such sessions during early phases of treatment or risk losing prescriptions. Buprenorphine treatment is available through the health plan's Addiction Medicine Department; methadone maintenance is available through contracts with licensed methadone programs. Patients receiving buprenorphine treatment are required to have case management and to sign a treatment agreement with expectations for patient adherence to the treatment plan, including frequent, random, urine drug screens. Each request for a medication refill generates a chart review to assess compliance with counseling treatment and prescriptions for contraindicated medications (e.g., other opioids or benzodiazepines). Case managers work with non-adherent patients to increase engagement and support efforts to improve adherence. If efforts fail, prescriptions are not refilled.

Addiction Treatment, KPNC. KPNC provides a variety of treatment programs for individuals with opioid and other chemical dependency problems. Treatment options include day hospital treatment, traditional outpatient treatment and, when appropriate, residential treatment (through contracted services). Rehabilitation treatment generally lasts 8 weeks, with 10 months of aftercare available. Group-based treatment includes supportive therapy, education, relapse prevention and family-oriented therapy. Individual counseling is