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Understanding State-Level Variations in Implementing Academic Detailing for Prescribing Opioids: Findings from 11 States Within the United States

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Abstract

Objective.—Academic detailing is a clinical education technique characterized by targeted, one-on-one, interactive conversations between trained staff and the clinician. This study describes variations in implementing academic detailing among jurisdictions receiving funding from the U.S. Centers for Disease Control and Prevention (CDC) to prevent prescription drug overdoses.

Design.—In 2015, CDC started the Prescription Drug Overdose Prevention for States (PfS) program.

Subjects.—This study focuses on 11 of the 29 funded jurisdictions that implemented academic detailing as part of their PfS efforts.

Methods.—Jurisdictions provided annual progress reports from 2016 to 2019. We conducted semistructured interviews in 2017 and 2018 with all funded jurisdictions and conducted follow-up interviews with three jurisdictions in 2020 to obtain additional context. We used an analytic matrix display to identify themes from annual progress report data, the coding report from the 2017/2018 interviews, and the three follow-up interviews from 2020.

Results.—Two academic detailing models emerged: 1) one-on-one detailing, where centrally trained staff conducted all visits, and 2) a train-the-trainer model. Jurisdictions also described a hybrid model, which they referred to as academic detailing despite not meeting the definition of academic detailing. We identified variations in delivery strategies, staffing, and curriculum development within and between models. Despite these differences, common themes included the need to use data to focus academic detailing and the importance of partnerships.

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Supplementary Data

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Conclusions.—Adoption of academic detailing as a strategy for improving opioid prescribing behaviors has increased. However, there is limited guidance and standardization to guide and evaluate implementation and outcomes.

Keywords

Opioids; Academic Detailing; Opioid Prescribing; Prescriber Education

Introduction

Prescription opioid misuse and overdose remain significant public health challenges. In the early 2000s, opioid overdoses started to dramatically increase, a trend parallel to the rapid rise in opioid prescribing [1]. In 2019, more than 70,000 drug overdoses occurred in the United States, representing a 4% increase from 2018 [2]. Opioids continue to be the main driver of drug overdose deaths, with 70% of all overdose deaths involving an opioid [2]. The majority of the opioid-related overdose deaths involved synthetic opioids, and though the overall rate of prescription opioid-involved deaths has decreased, there has been an increase in recent years in the rate of prescription opioid–involved overdoses that also included synthetic opioids [2].

Several organizations recognized the risks associated with long-term opioid therapy, including opioid use disorder and overdose, and published guidelines to assist providers and improve the safety and effectiveness of pain treatment [3, 4]. Notably, in 2016, the U.S. Centers for Disease Control and Prevention (CDC) released the *CDC Guideline for Prescribing Opioids for Chronic Pain* [3], which provided evidence-based recommendations for practitioners prescribing opioids to adults with chronic pain outside of cancer treatment and end-of-life care.

In addition to publishing guidelines for safer opioid prescribing, focus has increased on clinical education to address prescription opioid misuse among patients. For example, there is a need to strengthen and provide more training in addiction science and pain management in medical schools and medical residencies [5, 6]. In addition, educational training activities, such as webinars and presentations, have improved prescriber knowledge and chronic pain management or opioid prescribing behaviors [7–11]. However, these trainings can vary in content and quality and might not address individual prescriber needs. For example, a qualitative analysis of providers who were trained on the Food and Drug Administration’s Blueprint for Prescriber Education showed that they still had questions after completion about safe alternatives to opioids, government regulations, provider–patient communications, and the role of marijuana in opioid prescribing [12].

An alternative form of clinical education widely used to improve opioid prescribing behaviors is academic detailing, a technique applying behavior change theories that is characterized by one-on-one interactive conversations between a trained academic detailer and the clinician [13, 14]. Unlike other clinical education methods, such as standardized webinars or courses taught to a large audience, these individual sessions allow for tailoring education and resources to best meet the clinician’s needs. Trotter Davis et al. [14] describe key components of academic detailing as a process beginning with a systematic review

and synthesis of the current peer-reviewed literature, followed by an interactive discussion of the concepts and recommendations with clinicians in their offices using key messages [14, 15]. Trained academic detailers typically have a clinical background (e.g., physician, pharmacist, or nurse) but also included public health practitioners and individuals with unspecified backgrounds [14, 15]. One challenge with evaluating academic detailing is that it can be implemented in numerous ways, as evidenced by a systematic review published in 2015 of more than 100 studies [16]. The review demonstrated variability in how clinicians were selected for academic detailing (most often by geographic area and clinical specialty), frequency (typically more than one) and duration of visits, and type of contact (most often inperson but also included mail and phone outreach). Despite this variability, systematic reviews suggest positive clinical outcomes, including a reduction in potentially problematic prescribing [17, 18].

A growing body of literature shows the effectiveness of academic detailing to mitigate prescription opioid misuse [19]. For example, providers who applied the technique were more likely to check their state's Prescription Drug Monitoring Program (PDMP) before prescribing an opioid [20, 21]. Additionally, academic detailing has resulted in reduced variability in opioid prescribing and more judicious opioid prescribing in various settings, including emergency departments [22, 23] and primary care [24, 25], and in specific populations, such as postpartum women [26]. Academic detailing has also been effective at improving clinician knowledge of naloxone administration and at increasing the likelihood of its prescribing to patients using opioids [27–31].

Although academic detailing is documented as effective, there are challenges in translating this type of intervention from controlled research settings to scaling it up for dissemination in practice by state and local health departments and health care systems [32]. Limited guidance on how to prepare programs for broad dissemination in practice settings can lead to numerous adaptations of evidence-based interventions, and too many adaptations within a single intervention implementation could potentially undermine fidelity. Freire et al. [32] described the Three Cs of Translation, which are important considerations for moving research-based interventions into public health practice. The Three Cs of Translation are 1) communicate the underlying theory of programs, 2) clarify fidelity and flexibility, and 3) codify implementation lessons and examples [32]. Additional description and documentation of the Three Cs pertaining to academic detailing are needed in the literature to better evaluate the impact of academic detailing and monitoring of adaptations in various settings. Thus, the purpose of this article is to describe and document implementation of academic detailing by public health practitioners in the field.

Methods

CDC funded the Prevention for States (PfS) program to support jurisdictions in advancing interventions for preventing prescription drug overdoses. PfS was a cooperative agreement funding 16 jurisdictions in 2015 and 13 jurisdictions in 2016 for a total of 29; details of the program are presented elsewhere [33, 34]. The program funded jurisdictions on the basis of the burden of prescription opioid overdose morbidity and mortality through a competitive application process. It provided funds directly to state health departments or a bona fide

agent that could then contract funds to other state governmental agencies, such as those responsible for the oversight of both the state's PDMP (e.g., state board of pharmacy) and licensing agencies. Funded jurisdictions implemented activities addressing the opioid crisis, such as enhancing and maximizing the use of their PDMP and increasing the uptake of evidence-based opioid prescribing guidelines [35]. A strength of the program was that jurisdictions could select and adapt activities that best fit the needs in their state, including academic detailing in high-risk communities.

The RTI International Institutional Review Board determined that this project supports program evaluation and was designated as research that has not been conducted with human subjects. The project received OMB approval for the first set of key informant interviews (OMB Number 0920–0879).

Data Sources

This study used three data sources (Table 1): 1) PfS jurisdictions' annual progress reports (APRs), 2) key informant implementation interviews with program staff, and 3) follow-up key informant interviews with program staff who implemented academic detailing as part of their PfS activities.

Annual Progress Reports

CDC required PfS jurisdictions to complete an APR that documented their progress implementing program activities, successes and challenges, and an annual work plan.

Key Informant Interviews

From December 2017 to February 2018, the study team conducted semistructured in-depth interviews with all 29 PfS program jurisdictions to learn about implementation and contextual factors affecting it.

Participants were recruited via email. Because of Office of Management and Budget (OMB) requirements, each jurisdiction could have up to three persons engaged in the interview; participants included the jurisdiction leadership, program staff, evaluators, and consultants. The interviews were conducted by telephone, audio-recorded (with consent), and transcribed verbatim. Most interviews lasted about 90 minutes.

In July 2020, we contacted nine of the 29 jurisdictions for follow-up interviews on health system interventions, six of whom indicated implementing academic detailing in their APR. Given that there were fewer than nine participants, it was determined that OMB review did not apply. The current PfS jurisdiction leadership (project director, principal investigator, or project manager) received an email invitation from the evaluation team. Three jurisdictions participated in the follow-up interviews. Among nonparticipants, two did not respond to multiple recruitment requests, and one experienced staff turnover and no longer had any employees on the PfS project. We conducted these semistructured, in-depth interviews by video conference. Each interview lasted 60 minutes and was transcribed.

Analysis

We determined which PfS jurisdictions implemented academic detailing and their implementation progress by conducting a text search for “academic” and “detail” in the APRs from 2016 to 2019. Jurisdictions were considered to have engaged in academic detailing if they trained personnel to deliver tailored, in-person training or technical assistance to health care providers on best practices. We excluded jurisdictions that disseminated prescribing guidelines or broad training, such as webinars or media campaigns.

Because the 29 implementation interviews were coded in NVivo 11.0 (QSR International 2022), we used NVivo to conduct a text query to obtain all discussions of academic detailing in those interview data and generated a summary report of all interview text that referenced it.

A member of the evaluation team coded the APR text search, the summary report from the 29 interviews, and the follow-up academic detailing interview transcripts; a senior member of the evaluation team reviewed the matrix to ensure data were appropriately coded with a focus on approaches to academic detailing, resources needed, and partners involved. To support thematic content analysis, we used an analytic matrix display [36] to deductively code the APR data and interview data. The analytic matrix display summarized abstracted information from each data source by deductive code and facilitated cross–data source inductive analysis. We then used inductive coding to detect subthemes with regard to core implementation components guided by the three Cs: 1) communicate the underlying theory (delivery format, content, implementers involved), 2) clarify implementation fidelity and flexibility, and 3) codify implementation strengths, challenges, and lessons learned from jurisdictions.

Results

The initial text search of APR records showed that 14 of the 29 PfS jurisdictions reported academic detailing as part of their PfS activities. Detailed review of the APR descriptions excluded three jurisdictions: one because they did not describe the activity in further detail, and two because they had not moved past the planning stages by the end of 2019 (the due date of the final APR). The following results are based on the 11 PfS jurisdictions who moved past the planning stages of academic detailing (Table 2).

Jurisdictions were categorized with one of three models of academic detailing based on the thematic analysis of the APR and interview data: 1) 1:1 detailing, where centrally trained coordinator(s) conducted all visits; 2) train-the-trainer; and 3) a hybrid model, where jurisdictions reported using academic detailing but the activities did not fit the definition of academic detailing. One coder with experience in academic detailing classified jurisdictions into the three models; this categorization was then independently confirmed by an additional team member. Jurisdictions used various approaches to implementing the different models of academic detailing. After in-depth review of the interview and APR data, several considerations emerged, such as staffing, curriculum development, how to best use data, and how to engage partners within each of these models. This section presents these considerations, and we highlight strengths, challenges, and lessons learned.

Implementing the One-on-One Model

Communicate the Underlying Theory of Program—Nearly all of the 11 PfS jurisdictions that implemented academic detailing used it in the as-designed one-on-one model (n = 9). In this model, a trained coordinator / academic detailer visits health care practices for individual, tailored meetings with providers about how to integrate best practices into their clinical workflow [13]. Staff member(s) designated as academic detailing coordinator(s) described receiving training from the National Resource Center for Academic Detailing (NaRCAD; www.narcad.org), clinicians, and online sources. They conducted academic detailing visits in targeted areas of the state after having been trained.

Although a few jurisdictions had existing staff expand their current role to include academic detailing visits, most hired dedicated academic detailers or an academic detailing coordinator. Among jurisdictions that hired academic detailers or a coordinator, the experience of those staff was an important consideration. Some hired staff with a clinical background, while a few hired staff who were knowledgeable about prescription opioid misuse prevention but did not have clinical training. A few jurisdictions noted that some staffing decisions were due to financial constraints:

> "All three of them are at a master's-level personnel. They all … are very well-qualified. They are non-physicians and they're non-pharmacists, but they're the best we can do in our system." (PfS jurisdiction program staff #8)

Having academic detailers with a clinical background helped in developing curricula and in improving the connection between the coordinator and providers during academic detailing visits. Although nonclinical staff were more affordable, jurisdictions using this staffing method experienced challenges, particularly when it came to physician engagement and rapport. According to one jurisdiction,

> "Even from the beginning [having a nonclinical person provide education] didn't sit well with people. She couldn't answer all of the questions … It was just she didn't have the skill set, and it wasn't working out, and we were getting criticism from physicians … then they would talk to other physicians at the Department of Health … So, we ended up hiring a pharmacist who started doing academic detailing." (PfS jurisdiction program staff #26)

Jurisdictions often contracted with outside partners to implement academic detailing, from curriculum development to hiring academic detailing staff. Contracting with universities offered additional resources and access to clinical expertise:

> "We worked with [university] to actually establish a CME, so when she's [the academic detailer's] doing the outreach, she can say, you know if you fill out this pre survey and post survey, and spend like [some time] with me, you're going to get an hour of CME credit, and I think in [STATE], they have to get at least three [CME hours related to substance use disorders or addiction] every year to keep their license going. So, that's been awesome." (PfS jurisdiction program staff #26)

Overwhelmingly, jurisdictions that implemented the one-on-one model of academic detailing discussed the importance of using data to focus their efforts. They most often

reported using data from the PDMP, but they also used both mortality and Emergency Medical Services (EMS) data to identify high-risk or high-burden communities within their state. PfS jurisdictions then targeted providers in these high-risk communities, using data as context for key messages. For example, two jurisdictions explained:

> "We worked on developing academic detailing to work on those prescribers in high risk, high burden areas to try to provide one-on-one educational training from other professionals that might provide information on safe prescribing practices like tapering down from high doses and not starting unnecessarily onto high dosages or using coprescribing of benzo [diazepine] and so on." (PfS jurisdiction program staff #23)

> "*We decided we would run the five [opioid prescribing] indicators and start from there and say, 'Hey, in this county that we picked out these physicians had higher-than-normal patients hitting these thresholds.*'" (PfS jurisdiction program staff #21)

Clarify Fidelity and Flexibility—All jurisdictions using this one-on-one model either tailored or developed their own curricula for academic detailing. Jurisdictions generally drew on existing resources from NaRCAD (including implementation guides, support webinars, policy papers, and other online resources) [37], peer-reviewed or gray literature, peer-to-peer learning, or CDC's technical assistance and Community of Practice for academic detailing in the PfS program. Using existing resources to tailor their curricula afforded them the flexibility to target the behaviors and outcomes they perceived to be most relevant to address opioid overdose in their communities while maintaining fidelity to the principles of academic detailing. Tailoring curricula occurred in partnership with local coalitions and subject matter experts, and through the use of data:

> "So, we did top opioid prescribers first, and then we decided to shift to focus on a benzo[diazepine] message to hit all of the top opioid prescribers, and that was, we saw very clearly in our data. It was one third of overdose deaths involved a benzo[diazepine]." (PfS jurisdiction program staff #26)

One jurisdiction tailored their curriculum by collaborating with the local university to expand their staff to have trained detailers accompanied by those with personal experience with opioid prescribing. This approach allowed providers to understand the potential negative impact of high-dose prescribing on their patients' and their patients' families' lives (e.g., the impact of opioid use disorder, overdose).

On the basis of the data, this jurisdiction tailored their academic detailing curriculum to focus on risks associated with co-prescribing benzodiazepines and opioids. Others tailored their curriculum content to train prescribers on how to use the PDMP and on safer opioid prescribing practices, in addition to other topics relevant to overdose prevention. For example, one jurisdiction described the importance of addressing stigma:

> "With regard to the broader stigmas, we have a couple of approaches to that. There's sort of the internal health care system itself that physicians don't feel comfortable dealing with substance use … They themselves bring some of this stigma about this, [thinking that addiction] is just an issue of motivation and

> strength of character. So, that's where our academic detailing piece tries to address the notion of drug addiction as being a biochemical component to the cognitive aspects of it as well, and to provide some ability for physicians to better understand addiction." (PfS jurisdiction program staff #23)

Jurisdictions also tailored their curricula to focus on reducing stigma for pregnant women with opioid use disorder, screening for substance use disorders, and improving provider knowledge to increase prescribing of buprenorphine to treat opioid use disorder.

Codify Implementation Lessons Learned—Jurisdictions also highlighted the importance of partnerships to increase provider engagement. As one jurisdiction stated, "*I think it would be important to make sure that you have the key partners on board to help provide some support.*"(PfS jurisdiction program staff #13)

Two jurisdictions specifically partnered with professional associations to minimize the likelihood of "cold calls" to providers. Jurisdictions mentioned licensing boards as one partnership that functioned in contradictory ways. Two jurisdictions described the benefit of having licensing boards as partners, but as one explained,

> "We don't want to use that partnership to be threatening."(PfS jurisdiction program staff #13)

Involving licensing boards bolstered provider engagement because it demonstrated the importance of following prescribing guidelines, or it could create anxiety, as some providers perceived the academic detailer as a regulatory agent, even if that was not the case. For example, one jurisdiction noted that some providers had the misperception of the academic detailer as a regulator because of their health department badge and partnership with the licensing board; in these circumstances, providers perceived that the licensing board was sending auditors to correct prescribing behavior:

> "People see the [Department of Health] badge, I think they're just like, 'Okay. You're from licensing. I'm going to be punished somehow.'" (PfS jurisdiction staff #26)

This perception generated concern among providers that their license was in jeopardy.

Implementing the Train-the-Trainer Model

Communicate the Underlying Theory—The train-the-trainer academic detailing model involves having a centrally trained expert educate clinical (or non-clinical) staff individually or in small groups on how to implement academic detailing. These trained staff are then assigned to local areas or organizations to implement academic detailing sessions with clinicians. The centrally trained expert is responsible for compiling the resources necessary for competence in academic detailing, such as those resources noted previously (i.e., webinars, policy papers, and other online resources), and sharing those resources with the local staff. The trainer could be located in a number of places, such as within a large health care system or within the health department. The primary benefit of the train-the-trainer model was that it increased the reach of the intervention by expanding the number of personnel available to conduct academic detailing visits. One jurisdiction implemented both

the 1:1 model and the train-the-trainer academic detailing model and described the benefits of the two. In rural areas of the state, they used the 1:1 model, in part because the rural providers were dispersed and the academic detailers had existing relationships in the area. The jurisdiction hired a clinically trained program coordinator who then trained two local clinical staff to conduct academic detailing sessions in high-risk rural counties of the state. The jurisdiction reinforced the need for clinically trained staff:

> "So we hired our own in-house pharmacist. She took over that project. She knew clinically what to look for. She worked with the two pharmacist educators, gave them tool kits … all the CDC prescribing guideline literature that CDC had put out at the time. And one of the pharmacists that worked [in local region] had been retired and he really liked it, and he went out and he loved talking to people. And so that's how that whole project came about was we said the pharmacists weren't trained for academic detailing, so we said why don't we get an informal-type training and so we actually had pretty good responses from some of the providers. I think they felt more comfortable that pharmacists were going out and talking to them rather than some other lay person." (PfS jurisdiction program staff #21)

Then, the jurisdiction contracted with a university partner in a major metropolitan area of the state to implement a train-the-trainer model that increased the reach of academic detailing. The university hired a pharmacist, who received formal training in academic detailing and then trained others in a large health care system, who in turn conducted clinical education and academic detailing sessions. They commented,

> "So if I did it all over again, I would hire a university to do the formal academic training because they did quite a few. I think they did close to 300 different face-to-face meetings … So that's what I would do differently. I would make sure that the … academic detailers were trained formally." (PfS jurisdiction program staff #21)

Clarify Fidelity and Flexibility—The train-the-trainer model could help agencies achieve the reach necessary for state-level implementation of academic detailing; however, as one jurisdiction noted, scaling up through this model can mean the loss of fidelity of how academic detailing was designed, including 1:1 sessions with an interactive discussion with tailored educational materials and messaging for the provider:

> "The problem has been how to bring it to scale … We're working now with several health plans who want to incorporate academic detailing within their own organization. So, the question is, do we train their academic detailers, or do we train someone that then goes and trains theirs. We're very concerned that when you do that, bring it to scale, that we don't lose the focus on the full range of [program developed by partner organization], which includes really the treatment side of things and the de-stigmatizing side of things that doesn't punitively impact the clients." (PfS jurisdiction program staff #23)

This challenge of balancing reach and fidelity is an important consideration for widespread implementation of academic detailing through a train-the-trainer model.

Implementing the Hybrid Model—Two jurisdictions used a model of clinical training not typically considered academic detailing, but they referred to their efforts as academic detailing in their APRs and interviews. We classified this as a hybrid model because activities encompassed elements of academic detailing and traditional clinical training. The two jurisdictions implemented large group presentations, virtual trainings, or webinars with clinicians on prescribing guidelines. However, in contrast to traditional clinical training with a broad audience consisting of providers across a range of backgrounds and needs, the two jurisdictions targeted specific providers on the basis of existing data within the state. For example, one jurisdiction explained:

> "[We] worked with [agency responsible for PDMP] to look at the specialties that had the highest opioid prescription rates … one was just general practitioners, but we've done so much [one-on-one academic detailing] … that they were really saturated because there's a lot of efforts that target them. So we wanted to see what other specialties or providers we needed to work with, and one of the specialties that really came up were dentists. And so, we focused our academic detailing efforts along our main area of the state on dental providers." (PfS jurisdiction program staff #13)

One of the jurisdictions followed up the broader trainings with individualized sessions if requested by the provider. Through this model, the jurisdiction intended to parallel the success of Project ECHO [38], where providers receive personalized feedback and mentoring related to a specific clinical outcome, such as prescribing medications for opioid use disorder.

Discussion

Academic detailing is an effective strategy for improving opioid prescribing behaviors [22–26]. However, with a few noted exceptions—such as those championed by the U.S. Department of Veterans Affairs [31]—most programs are locally implemented (e.g., in one hospital system). Standardized models of academic detailing for states seeking to develop widespread programs are not readily available. The present study is the first to look at the implementation of academic detailing by states funded by the CDC to address prescription opioid overdose from a public health perspective. Of note, one model (train-the-trainer) included adaptations to the implementation of the standard academic detailing model. A third approach to clinical education (hybrid model) used targeted education but deviated from the definition of academic detailing. The present study is one of the first studies to describe these adaptations used by health departments. There are important lessons learned from implementation, which are discussed below.

First, partnering with universities and other organizations with staffing capacity was a critical component of jurisdiction success. Jurisdictions who partnered with universities had fewer challenges with staffing, as the universities typically handled the burden of hiring someone with a clinical background. Universities also helped jurisdictions tailor curricula and, in some cases, helped with evaluation efforts. Partnerships with provider associations and licensing boards facilitated provider engagement and building rapport.

Second, time and funding limitations resulted in jurisdictions adapting evidence-based practices, such as those published by NaRCAD [37]. Although these adaptations improved the likelihood of program delivery, their impact on program effectiveness is unknown because most jurisdictions did not include a mechanism for evaluating their academic detailing programs. More research is needed to evaluate the effectiveness of these adaptations on outcomes and develop more robust implementation details and guidance, especially for the train-the-trainer and hybrid group models.

Third, although funding constraints influenced the staffing models for some jurisdictions, having an academic detailing team with a clinical background enhanced provider engagement. In practice, jurisdictions found that having an academic detailer with a clinical background could answer more complex medical questions and had more legitimacy among prescriber audiences. For example, in one case, clinical questions arose where the academic detailer was meant only to describe the state's PDMP and explain how to use it. The academic detailer did not have the training or expertise to answer such questions, which created dissatisfaction among the prescribers receiving the education. As a result, this jurisdiction shifted staffing to a clinically trained academic detailer.

Limitations

This study is based on PfS jurisdiction self-reports of academic detailing efforts. PfS funding did not require academic detailing, so jurisdictions could have engaged in it or similar efforts without referring to it in their APRs. Similarly, although the follow-up interviews in 2020 were structured to elicit information about academic detailing, the 2017/2018 interviews did not specifically include questions about it or clinical education. Consequently, this study might have inadvertently excluded some jurisdictions.

Additionally, most jurisdictions did not evaluate their academic detailing efforts. Therefore, commenting on the differential impact of their strategies is not possible. This is not unique to state-level organizations, as prior reviews of academic detailing have highlighted the lack of evaluation of implementation success or impact on opioid prescribing behaviors [5]. However, given that jurisdictions intentionally deviated from standard academic detailing with the train-the-trainer and hybrid group models, this limitation is particularly relevant for future implementation. The train-the-trainer model increases reach, which is critical for broad implementation, but it is unknown whether effectiveness of academic detailing is diminished with the adaptations. In addition, two jurisdictions were classified in this study as using a hybrid model in which they combined principles of academic detailing within broader clinical training. Given the limitations on 1:1 clinical education imposed by the pandemic, it is possible that jurisdictions could further adapt this model to better reflect academic detailing. It is also possible that these two jurisdictions did not fully understand the principles of academic detailing when completing their APR or participating in the interviews. To help fill this gap in evidence, the CDC developed and disseminated the *Overdose Prevention Evaluation Profile for Academic Detailing*, which provides evaluation guidance and includes measures of implementation success and suggestions for how to use existing data to evaluate the effectiveness of academic detailing activities [39].

Conclusions

Jurisdictions implemented distinct models of academic detailing and had variability in implementation within these models based on their local needs. One of its hallmarks is the flexibility to tailor implementation to meet the needs of providers, but the lack of standardization can make it difficult to design and administer programs across jurisdictions. More resources are needed to identify how health departments and communities can scale up implementation of academic detailing while maintaining fidelity to the core components as it was designed. More research is also needed to determine specifics on other core components of academic detailing, such as the length of sessions, frequency of implementation, and effectiveness of key messages [13]. Additionally, better documentation and evaluation of adaptations that do not include core components are needed to determine their impact on behaviors such as prescription opioid prescribing.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1.

Data sources, description, and timing

Data Source	Description	Timing
Annual Progress Reports (APR)	Program documentation that CDC required all PfS jurisdictions to submit yearly to document activities completed, in progress, and planned for the following year, as well as program successes and challenges	2016–2019 *
Key informant implementation interviews with program staff from all PfS-funded jurisdictions (n=29 interviews)	Semistructured in-depth interviews with the 29 PfS program jurisdictions to learn about implementation and contextual factors affecting it. Topics included barriers, facilitators, or lessons learned and contextual factors driving prescription drug overdose trends; gaps in addressing prescription opioid misuse in the jurisdiction's state before PfS; jurisdiction's organizational capacity and its leadership's support for implementing PfS; and existing or new partnerships to support PfS implementation. Phone interviews lasted 90minutes and were audio-recorded and transcribed.	December 2017–February 2018
Follow-up key informant interviews with program staff who implemented academic detailing (n = 3)	Semistructured in-depth interviews with PfS program staff who reported implementing academic detailing as part of their PfS efforts. The interviews centered on how the staff planned, implemented, and sustained their academic detailing efforts, as well as barriers, facilitators, partners, and resources needed at each implementation stage. (Interview questions appear in an online supplementary appendix, Supplementary Data Appendix 1.) Six of the 11 jurisdictions that indicated using academic detailing were invited to participate. Some had experienced staff turnover and did not have staff who could provide insights on the PfS program (which had ended by the time of the interview). Video conference interviews lasted 60minutes and were audio-recorded and transcribed.	July 2020

* In 2016, only the jurisdictions that received funding in 2015 submitted an APR.

Table 2.

Overview of implementation considerations for Prevention for States Jurisdictions across academic detailing models (n = 9)

Academic Detailing Model	Description	Background/ Training of Academic Detailing Staff	Content	Strengths for State-Level Implementation	Challenges for State-Level Implementation
One-on-One (n = 9)	• Centrally trained staff conducted individual, tailored	• Nonclinical • Clinical	• High-dose opioid prescribing • Co-prescribing opioids and benzodiazepines • PDMP use • Buprenorphine for opioid use disorder • Addiction science and stigma • Screening for sub-stance use disorders	• Tailored to the needs of practice • Provides opportunity to engage in conversation • Use of CME credits enhance provider engagement	• Many health departments cannot afford to hire clinical staff at 0.5 FTE or greater required for academic detailing • Reach limited by available funding
Train-the-trainer (n = 1)	• Centrally trained expert conducted trainings for local clinical staff on how to implement academic detailing	• Clinical	• High-dose opioid prescribing • Addiction science • Stigma	• Enhances reach • Maximizes funding resources	• More difficult to ensure fidelity to standard models of academic detailing

CME= continuing medical education; FTE= full-time employee.

Note: One jurisdiction implemented both the 1:1 and train-the-trainer models.