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RESEARCH

# Evaluation of naloxone furnishing community pharmacies in San Francisco

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ABSTRACT

*Objectives:* In 2017, the Centers for Disease Control and Prevention reported more than 47,600 deaths as a result of opioid overdose in the United States. In an effort to reduce these deaths, California passed legislation providing pharmacists with the ability to furnish naloxone without a prescription. Our study examined pharmacies in San Francisco that furnished naloxone and provided guidance for pharmacies seeking to develop similar programs. The study aims were to (1) identify the legal, structural, social-environmental, and financial components of a pharmacy model that allows for successful naloxone distribution, (2) evaluate the attitudes and beliefs of pharmacy staff members toward patients receiving or requesting naloxone, and (3) assess relationships between these attitudes and beliefs and naloxone furnishing at the pharmacy.

*Design and setting:* This cross-sectional study used a series of semistructured interviews of pharmacy staff in San Francisco conducted April-October 2019. Through a thematic, inductive analysis of collected data, emerging themes were mapped to the primary study aims.

*Participants, outcomes, and results:* We interviewed 14 pharmacists and pharmacy technicians at 4 community pharmacies. We identified 4 factors for success in implementing a naloxone furnishing protocol: administrative-led efforts, pharmacist-led efforts, increasing pharmacist engagement, and increasing patient engagement. The respondents also discussed the approaches they used to overcome previously identified barriers: cost, time, expectations of unwanted clientele, and patients' feelings of stigma.

*Conclusion:* Pharmacists' approaches to implementing naloxone furnishing had common features across locations, suggesting many of these strategies could be replicated in other community pharmacies.



In 2018, the Centers for Disease Control and Prevention (CDC) reported more than 46,802 deaths resulting from opioid overdoses in the United States.[1] Over the previous 18 years, CDC reported that deaths from opioid overdose, particularly synthetic opioids, had been trending upward.[1] In California, nearly 2200 opioid overdose deaths were reported in 2017, an increase of more than 8% compared with the previous reported year.[2]

Opioids bind to the μ-opioid receptor affecting the central nervous system. Excess opioids in an overdose event cause respiratory depression, leading to cardiac arrest from hypoxia.[3] The current therapy to address opioid overdose is the administration of naloxone, an opioid receptor antagonist medication that reverses opioid-induced respiratory depression with minimal adverse effects.[4] Naloxone has

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**Key Points**

**Background:**

- Naloxone can reverse the effects of opioid overdoses, which have risen sharply in the United States.
- Multiple states have expanded the role of pharmacists by allowing them to furnish naloxone to the public.
- Participation and implementation of naloxone furnishing practices in community pharmacies have been limited, and research reports multiple barriers.

**Findings:**

- This study examined successful naloxone furnishing practices of 4 community pharmacies, rather than barriers to furnishing.
- We examined both major chain community pharmacies and a community public health pharmacy to identified key factors contributing to successful implementation of naloxone furnishing.
- We identified common factors for success in both implementation and overcoming known barriers, many of which could be used to design and implement naloxone furnishing programs in other community pharmacies.

served as a pivotal agent in combating opioid overdose deaths and can be supplied by inhalation or injection.[4,5] Public health efforts introduced by community organizations and through state legislation have increased public access and engagement with naloxone, resulting in decreased mortality.[6,7] However, the continuing, unacceptably high level of overdoses suggests that greater efforts are needed to reduce these deaths.

The accessibility of community pharmacies and the role of pharmacists as trusted health professionals place them in an ideal position to take on harm reduction efforts and increased responsibilities for opioid overdose. Since the 1990s, pharmacies have provided sterile syringes to reduce blood-borne diseases, such as hepatitis C and human immunodeficiency virus.[8] Legislators across multiple states have recognized the significant role and potential of pharmacists in increasing public access to take-home naloxone.[6] In 2014, California passed Assembly Bill (A.B.) 1535 providing pharmacists with the legal authority to screen, furnish, and provide opioid overdose education without a need for a prescription from a physician, using a statewide naloxone standing order; this process is referred to as furnishing.[9] Shortly thereafter, the California Board of Pharmacy adopted protocols for pharmacists to furnish naloxone. Public health departments and pharmacies, such as San Francisco's Community Behavioral Health Service (CBHS) pharmacy, were in a prime position to implement naloxone furnishing because they operate as safety net programs and focus on care for high-risk individuals, many of whom have been diagnosed with opioid use disorders.

Despite the passage of A.B. 1535, many California pharmacists and pharmacies have yet to implement a naloxone furnishing program to provide take-home naloxone prescriptions.[10] Pharmacists and pharmacies that have established a naloxone furnishing protocol have encountered barriers in the implementation of such protocols. Previous studies have identified barriers ranging from the stigma perceived by patients to concerns expressed by pharmacists about "undesirable patients" to high out-of-pocket costs for naloxone.[11-17] Nonetheless, several pharmacies and pharmacists have reported that the implementation of naloxone furnishing is feasible and effective in a community pharmacy setting.[18]

Whereas multiple studies have identified barriers to implementing naloxone furnishing programs, there is limited information on factors that lead to successful implementation. This gap in understanding hinders pharmacists' ability to replicate and improve on existing naloxone furnishing programs. The National Institute on Drug Abuse described this situation on its website, "A great tragedy of the opioid crisis is that so many effective tools already exist but are not being deployed effectively in communities that need them."[19]

This study examined 4 California community pharmacies in San Francisco that had created a naloxone furnishing program to gain insight and understanding into ways community pharmacists can successfully develop their own naloxone furnishing programs. This study aims were to (1) identify the legal, structural, social-environmental, and financial components of a pharmacy model that allow for successful implementation of a naloxone distribution program; (2) evaluate the attitude and beliefs of pharmacy staff toward patients receiving or requesting naloxone; and (3) determine whether those attitudes and beliefs influence naloxone furnishing at the pharmacy. We anticipated that successful naloxone furnishing was multifactorial, based on an effective pharmacy model and an empathetic attitude of staff toward their patient population, and that these factors could be identified for replication in other community pharmacies. These findings could improve public health outcomes by reducing mortality rates caused by opioid use.

## Methods

### *Design*

This cross-sectional study relied on a qualitative approach, comprising on-site observations combined with a series of semistructured interviews of community pharmacy staff working in San Francisco, CA.[20,21] The study was deemed exempt by the University of California San Francisco Institutional Review Board on January 21, 2019 (#18-26309).

### *Setting*

We selected community pharmacies in San Francisco for this study owing to the increase in opioid overdose events in San Francisco and active involvement by the San Francisco Department of Public Health (SFDPH) in seeking to reduce them.[22] We used the CBHS pharmacy operated by SFDPH to represent a "best practices" site. Three local community pharmacies were used as comparison cases, reflecting that

most of the general population primarily visits chain pharmacies.

*Sample*

We sampled respondents from 4 pharmacies in San Francisco that had established and implemented naloxone furnishing programs. Successful implementation was defined by having furnished an average of at least 1 naloxone unit per month. Key informants, including pharmacists, pharmacy technicians, and pharmacy managers or directors, were interviewed at participating sites.

*Participant recruitment*

After the identification of the 4 pharmacies, pharmacy managers or directors of CBHS pharmacy and chain pharmacies were initially approached by telephone or in person by an investigator and informed of the study's objectives. If the respondents expressed interest, we provided study information, including the methodology, interview topics, expectations of participants, risk and benefits, and a consent form. For those who consented to participate, we sought approval from the pharmacy's administration to interview them and to identify other potential participants using snowball sampling at the same site. The recruitment and interview period began in April 2019 and concluded in October 2019.

*Data collection*

A semistructured interview guide comprising 23 open-ended questions with potential follow-up questions and prompts for elaboration was used for pharmacy staff interviews (Appendix 1). Each interview was conducted on-site and ranged from 15 to 60 minutes. Exploratory points of discussion were developed with reference to existing research on naloxone distribution and included the following:

(1) legal, structural, social-environmental, and financial components regarding the development and implementation of the naloxone furnishing program;
(2) description of naloxone furnishing process;
(3) pharmacy staff perception of the naloxone furnishing program's effectiveness, advantages, disadvantages, and barriers;
(4) pharmacy staff attitude toward clientele requesting take-home naloxone; and
(5) pharmacy staff recommendations for replication or improvement of the naloxone furnishing model.

An observational session was conducted at CBHS pharmacy by 1 author (A.M.N.), which focused on the naloxone furnishing process, interaction between pharmacy staff and clientele, and pharmacy staff collaboration. Observational data collection ceased once at least 1 naloxone furnishing was observed. Observational sessions were also attempted at the comparison chain pharmacies; however, owing to low frequency and predictability of naloxone furnishing events, no observational data were collected at these locations.

*Data management, measures, and analysis*

Interviews with pharmacy staff were audio-recorded, transcribed, and deidentified by assigning each participant a number. The observational data were summarized after each session. As credibility checks, we used triangulation (interviews combined with observational data), prolonged contact, and sought saturation in responses.[23,24] All data Q12 collected were stored on a Health Insurance Portability and Accountability Act–protected server and analyzed using Atlas.ti 8. We coded the transcripts inductively using thematic analysis. The collected data were first coded through a structural (or utilitarian) coding method, and any emerging themes were noted.[25] The themes were then organized with respective supporting quotations or observational report under 1 of the 3 study aims (logistical organization, perception and attitudes, and workflow). Interviewed participants were deidentified, and separate subgroup analyses were conducted on pharmacy staff to assess demographics, level of education, and occupational environment. We used observational findings from CBHS to complement interview reports where relevant.

The initial coding and analysis was completed by 1 investigator (A.M.N.) and to assess validity, was then reviewed by the other authors (D.E.A., T.E.K.).[23,24] Disagreements were resolved by consensus.

## Results

A total of 14 interviews were conducted between April and October 2019 incorporating pharmacists and pharmacy technicians from CBHS pharmacy and 3 comparator pharmacies representing CBHS, Safeway, and Walgreens pharmacies. Ten respondents were from CBHS pharmacy (8 pharmacists and 2 technicians), and 4 were from chain pharmacies (all pharmacists). The CBHS pharmacists had been in practice for an average of 16 years, the chain pharmacists for 5 years. Compared with chain pharmacies, CBHS had fewer staff members and filled fewer prescriptions (100 per day vs. 250-600 per day); however, a much higher share of prescriptions were for naloxone (89 per month vs. 1-15 per month). Of the pharmacists interviewed at CBHS pharmacy, 3 had completed psychiatric residencies or fellowships in behavioral health. None of the pharmacists interviewed at a chain pharmacy had completed additional postdoctoral training (Table 1).

*Development and implementation of naloxone furnishing program*

Through a structured thematic coding approach, 4 key areas for successful implementation of naloxone furnishing were identified. These were (1) corporate or administrative support, (2) pharmacist-led initiatives, (3) efforts to increase pharmacists' furnishing of naloxone, and (4) efforts to increase patient engagement with naloxone furnishing. Each of the factors within these 4 key areas were inductively coded; examples drawn from participant interviews are provided in Table 2.

The CBHS pharmacy has strong administrative support that reflects efforts by the city and county of San Francisco to

**Table 1**
Study characteristics of pharmacists and pharmacies

| Interviewed participants | | |
|---|---|---|
| | CBHS pharmacy | Chain pharmacies |
| Pharmacists (%) | 8 (80) | 4 (100) |
| Pharmacy technicians (%) | 2 (20) | 0 (0) |
| Female (%) | 9 (90) | 0 (0) |
| Pharmacist's years of experience | 1–39 (mean: 16) | 3–8 (mean: 5) |
| Residency completed (%) | 3 (37.5) | 0 (0) |
| Pharmacy characteristics | | |
| Naloxone furnishing protocol | Yes | Yes |
| Government-operated? | Yes | No |
| No. pharmacists | 2 | 1–4 |
| No. pharmacy technicians | 3 | 1–15 |
| No. naloxone units furnished per month | 89 | 1–15 |
| Prescription volume per day | 100 | 250–600 |
| No. patients with OUD diagnosis served | 99%[a] | Unknown |

Abbreviations used: CBHS, Community Behavioral Health Service; OUD, opioid use disorder.
[a] Percentage only includes walk-in clients to the pharmacy and does not account for clients at affiliated clinics.

reduce opioid overdoses. This includes setting naloxone furnishing as a pharmacy goal and performance metric and allocating funding for uninsured patients. In the words of 1 respondent, "We've always thought that naloxone is very important. We've always put priority on that." Corporate efforts by chain pharmacies have focused on improved automation, determining high-risk patients on the basis of the strength of an existing opioid prescription and applying available discounts using computerized patient records. As 1 respondent explained, "…the company pushed a protocol to have it for all patients flagged between the 50 and 90 or even more morphine equivalents."

Whereas there were substantial differences in specific approaches, both CBHS pharmacy and the 3 chain pharmacies identified that pharmacists taking initiative was critical, as well preparing necessary documentation and resources. A CBHS pharmacist explained, "I think having like a champion, somebody that was willing to pilot it and write everything up and then spend time with staff to make sure they were comfortable doing it was helpful for us." A chain pharmacist reported, "It's kind of on the store to reach out, get those resources, and establish it." In addition, both relied on free continuing pharmacy education resources to train pharmacists in furnishing, and both had established organizational strategies such as creating naloxone binders and prefilled forms (Figure 1). Both also indicated that it was necessary to create more awareness of pharmacists' expanded role in providing care as a means of increasing community and health care engagement with naloxone furnishing. One chain pharmacist explained, …sometimes if we're on the phone with the prescriber [to] clarify something about an opioid… we'll just say, "Hey, we noticed this patient's not on naloxone. Can we just prescribe it in your behalf?" A lot of times [they're] like, "Oh yeah, that's a great idea."

This engagement included reaching out to patients and providers. Whereas CBHS approached this more aggressively (the CBHS pharmacy director estimated that "99% of the people that walk into our building" have opioid use disorders), chain pharmacies also sought to encourage patients who use opioids to accept naloxone. In the words of a CBHS pharmacist, "We recommend naloxone to just about everybody. So we have signs in the waiting room [and] if you get any drugs, medications that are not from a pharmacy that are illicit, we recommend you have naloxone." The chain pharmacies used an opt-out strategy: "When [the naloxone is] already all finished and done and it's right in front of them and you're counseling them, it's better than trying to get their consent and then putting it in the works and having them come back later."

### *Approaches toward addressing barriers identified in past research*

Previous studies have identified barriers that impede implementation of naloxone furnishing programs. These included a lack of time to furnish naloxone, out-of-pocket cost to patients for obtaining naloxone, the perception that it would attract "unwanted clientele" who will increase theft or cause damage to the pharmacy or harm its staff, and stigma felt by patients who might seek to obtain naloxone (Table 3).[11-17]

Both CBHS pharmacy and chain community pharmacies took similar approaches to the first 2 barriers. The time required to furnish was addressed by generating prefilled naloxone prescriptions and having shorthand transcribing approaches, which reduced processing time. A chain pharmacist explained "…we preprint our naloxone prescriptions, so it's super easy, write the patient's name and then your name and Narcan." In addition, both types of pharmacies reported that Medi-Cal (California's Medicaid program) provided full coverage of naloxone, reducing out-of-pocket costs for lower income patients. However, the CBHS pharmacy was also able to focus on lower cost injectable medication given that "[our] population already knows how to use a needle." Chain pharmacies, which serve patients who are covered under multiple forms of insurance, had a more complicated process. "I'm catching the patients that it will be free for, so all our Medi-Cal and fee-for-service or all our Medicare patients that have reached the deductible."

Differences between CBHS and chain pharmacies arose in response to addressing perceptions of unwanted clientele and stigma felt by patients. Whereas all study participants at

**Table 2**
Implementation strategy

| Corporate/Administrative support | |
|---|---|
| CBHS pharmacy | Chain pharmacy |
| - Setting naloxone as a pharmacy goal and performance metric | - Computer system provides morphine milliequivalent calculator and flags patients for naloxone recommendation. |
| - Allocating funding for uninsured patients | - Automatically applies manufacturers coupon for out-of-pocket cost |
| "We've always thought that naloxone is very important. We've always put priority on that. We do think that there's a lot of substantial evidence base for it. And so, it's always been a priority for us in terms of reducing harms for the people that we see here, so that was also a component as well." | "But I would say recently the company pushed a protocol to have it for all patients flagged between the 50 and 90 or even more morphine equivalents. So we kind of had a huge burst of prescribing it, but it's kind of died down for now as we've already had most of our patients, yeah, on it." |
| Pharmacist-led efforts | |
| - Having a champion to spearhead implementation | - Pharmacists being proactive in identifying and recommending naloxone |
| - Creating prefill screening and prescription forms | - Organize paperwork to streamline furnishing and documentation |
| - Consolidating naloxone resources and documents in an organized binder | - Using CDC application to calculate MME |
| "I think having like a champion, somebody that was willing to pilot it and write everything up and then spend time with staff to make sure they were comfortable doing it was helpful for us. I kind of think having a point person, if you're just starting something, is helpful." | "It's kind of on the store to reach out, get those resources and establish it and find a time put it in the workflow."<br>"We organize all the paperwork. So you're just picking one paper from each required component and then we batch it into their bag." |
| Increasing pharmacist engagement | |
| - Directing pharmacists toward free naloxone training | - Corporate providing free naloxone CPE training |
| - Team effort for pharmacy staff in training each other and furnishing naloxone | - Informing providers and hospitals of pharmacist's ability to furnish naloxone |
| "…discussing it with your team too. It's nice for us, we made it a team approach, the technicians, everybody, we got them involved. Like, you guys should have this, we're going to have this, we're going to practice furnishing on each other, and then we're all going to practice furnishing or recommending it to our clients." | "…so sometimes if we're on the phone with the prescriber [to] clarify something about an opioid. While we're on the phone, we'll just say, 'Hey, we noticed this patient's not on naloxone. Can we just prescribe it in your behalf?' A lot of times [they're] like, 'Oh yeah, that's a great idea.' So sometimes that makes things even easier and faster, [having] a conversation about that." |
| Increasing patient engagement | |
| - Advertise through radio, poster in waiting room, community outreach events, and city's resource listing | - Prepare naloxone and have it ready before recommending naloxone to patient |
| - Recommend naloxone to all patients | - Ensure patients understand the importance and benefits of naloxone |
| - Offer different formulations of naloxone and chosen on the basis of patient preference | "When [the naloxone is] already all finished and done and it's right in front of them and you're counseling them, it's better than trying to get their consent and then putting it in the works and having them come back later. Maybe even forgetting about it. So yeah, just fast, people just want to get in and out quick, quick service." |
| - Provide a safe and respectful environment for patients | "I like to use the seatbelt and fire extinguisher analogy. So for example, it's like having a seatbelt, you never expect to get in a crash, but it can save your life when it's there and there can be others circumstances not under your control." |
| "We recommend naloxone to just about everybody. So we have signs in the waiting room that are related to if you use any... If you get any drugs, medications that are not from a pharmacy that are illicit, we recommend you have naloxone. We have had overdoses in the city from all sorts of things contaminated with fentanyl or opiates." | |

Abbreviations used: CBHS, Community Behavioral Health Service; CDC, Centers for Disease Control and Prevention; CPE, Continuing Pharmacy Education; MME, morphine milligram equivalent.

CBHS pharmacy provided responses to address the question of unwanted clientele, only 2 of the 3 community pharmacies were willing to provide a response. The responses about "unwanted clientele" reflected different perceptions: CBHS employees indicated that they did not view any patient as unwanted. "I try to think of opioids as risky drugs, not the people that we're giving them to as risky people." In contrast, a chain pharmacist highlighted furnishing naloxone as a means to discourage unwanted clientele because it slowed down prescription processing time: "…when you are slowing down the process in any way, those people normally don't want to come back, because they want it quick. They want to basically bamboozle you into just dispensing their medication quickly." Their approaches to reducing patient perceptions of stigma reflected this difference in perception about whether patients could be "unwanted." The CBHS staff emphasized their focus on being nonjudgmental: "We want to be respectful, and also honor our clients, and we want to also see that they're safe." In contrast, chain pharmacists counseled in ways that attempted to convince patients that they were distinct from stigmatized patients: "…ultimately the best education and counseling points is not to use the word 'overdose.'"

## Discussion

There is little existing evidence evaluating strategies to implement pharmacy-based naloxone furnishing programs. As

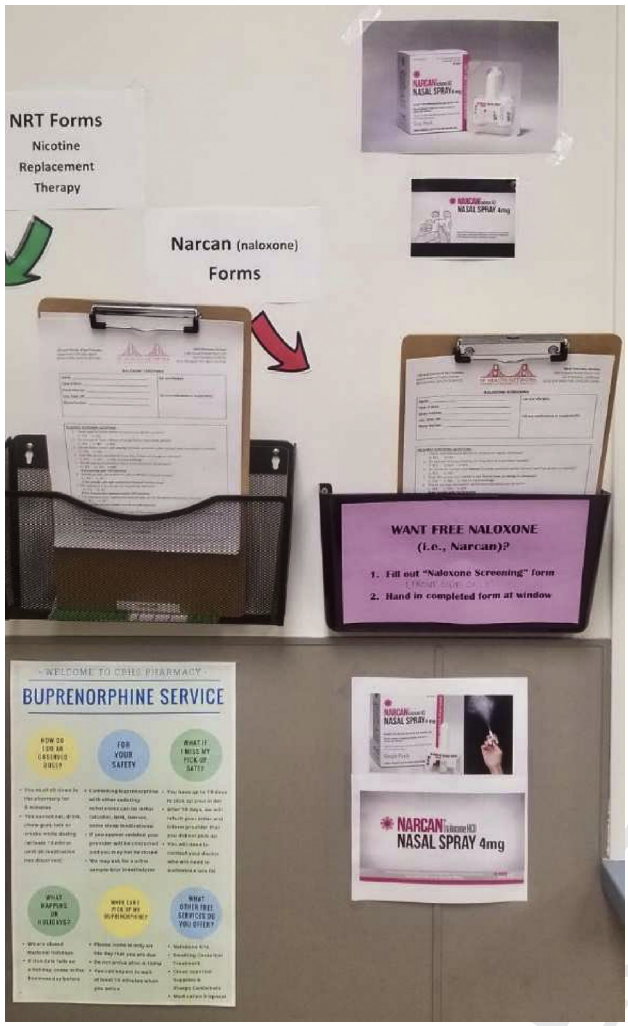


**Figure 1.** Layout of the Community Behavioral Health Service pharmacy's front waiting area illustrating naloxone furnishing information and screening form available to clients.

a result, our findings were exploratory. Through an inductive thematic approach, we identified implementation approaches and ways to circumvent preidentified barriers to furnishing naloxone in community pharmacies. We found that although both the government-operated and chain community pharmacies identified similar ways to implement their programs, they took distinct approaches to addressing barriers, particularly with respect to the question of unwanted clientele. Whereas previous studies on pharmacist-led naloxone furnishing have found low-engagement and a range of barriers to naloxone furnishing, this study examined how to overcome and address these barriers.[11-17] We found that the local government-operated and chain pharmacies used similar strategies, particularly in addressing furnishing time and cost to patients and identified new approaches such as providing educational materials while patients were waiting to reduce naloxone consultation time.

When comparing the 2 types of pharmacies, we found that the success of CBHS pharmacy in implementing its program was multifactorial, combining administrative priority and support, having a pharmacist champion spearheading implantation, advertising efforts, having prepared documentation, and the staff's sense of pride in treating the target population and perceptions that these services were critical and necessary. Replicating their comparatively high level of naloxone furnishing in other pharmacies would likely entail finding ways to change perceptions, specifically the belief in "risky drugs" rather than "risky people."

For chain community pharmacies, we found that pharmacists reported similar factors leading to successful implementation but placed greater emphasis on time and efficiency, using strategies ranging from computer system improvements to preprepared prescriptions to make the additional workload manageable. All 3 chain pharmacies surveyed (CVS Health, Safeway, Walgreens) had a naloxone furnishing protocol and pharmacist training in place at the corporate level. However, previous research has found that fewer than a quarter of California pharmacy locations have implemented such protocols.[10] Implementation strategies across the different chain pharmacies varied widely. The successful pharmacies included in this study took advantage of their larger workforces to overcome the added time and barriers to furnishing naloxone, developed screening questions to identify at-risk patients, and had naloxone billed and ready before the patient requested it. They also used analogies during consultation to improve patients' understanding of naloxone's value and reduce perceptions that accepting naloxone prescriptions would stigmatize them.

The distinction between CBHS pharmacy and chain community pharmacies was highlighted by their approach to perceptions that furnishing would draw unwanted clientele and strategies to reduce perceptions of stigma felt by patients. "Unwanted clientele" in previous studies were defined as those that pharmacists assumed would cause theft, damage, or harm to the pharmacy or staff.[11-17] Not every respondent from chain pharmacies was willing to answer these questions. Although this may stem from administrative pressure or hesitation in sharing personal beliefs, this avoidance highlights hesitancy as a potential limitation in expansion of naloxone furnishing. Further investigation is needed to explore the driver of this nonresponse. Those respondents from chain pharmacies who did answer the question indicated that they resolved concern about unwanted clientele by attempting to create unfavorable situations for clients who they preferred not to treat. The CBHS pharmacy took a different approach by welcoming all clients, which the respondents indicated had stemmed from their public health focus.

### *Limitations*

This study focused on the 4 community pharmacies in San Francisco that actively furnished naloxone. Research in other localities may provide additional insight into undetected cultural and legal influences. This study also excluded pharmacies that did not furnish naloxone; including such sites in future research may provide additional perspective. Although our interview guide was designed to provide a comprehensive evaluation of naloxone furnishing, by its nature, interviews are subject to self-reporting biases. Potential administrative pressure to provide positive response may have led to

**Table 3**
Addressing barriers

| CBHS pharmacy | Chain pharmacy |
|---|---|
| **Addressing time barrier** | |
| - Create prefilled naloxone prescription | - Create prefilled naloxone prescription |
| - Have screening forms in waiting area | - Create quick bulleted list of naloxone education points |
| - Cater education on the basis of patient experience | - Organize naloxone resources into binder |
| - Provide educational materials (pamphlet, video) while waiting | "I would consider just consolidating everything into like a binder, we have a special Narcan binder, we have different dividers, everything you need. So at any point you just take a piece of paper with all the information from each tab and then you bunch it up and then you have it for the patient." |
| "I think time is relative. My experience in community pharmacy is that doing an immunization takes much longer than furnishing naloxone." | "Just prewriting things like we preprint our naloxone prescriptions, so it's super easy, write the patient's name and then your name and Narcan, all the standard directions are printed there. We also have a short hand sig for Narcan. So the technician just writes Narcan and boom, it has the standard Narcan directions so that makes things really smooth." |
| "…in the group, try and elicit their experience of rescuing someone, and often in a class, one or 2 people have actually used naloxone and saved somebody, and so I've just learned more through that experience, as well. Like, I'll ask if anyone's done a rescue, or done Narcan, and often there will be a person, I'll ask what happened, what did the person look like that they were rescuing, what was the response." | |
| **Addressing cost barrier** | |
| - Bill to Medi-Cal for $0 copay | - Automatically apply manufacturer coupon |
| - IM injectable naloxone is lowest cost naloxone formulation | - Bill to Medi-Cal or Medicare Part D if deductible is reached |
| "And then cost, I mean you get reimbursed for it by almost all insurance plans. For us, it's revenue-generating. I don't see why cost would be an issue unless you're giving it out for free. Then it is very costly." | "I would say it works really well when you can identify that it's no-cost. I think cost is always a barrier because it's hard enough to get them on board and understand it. But when they have to pay a lot of money for it, they're like, 'Oh I don't want this.' So I'm catching the patients that it will be free for, so all our Medi-Cal and fee-for-service or all our Medicare patients that have reached the deductible." |
| "The IM injectable has been the lowest cost. That's what's been the main medication that's been dispensed through programs such as needle exchange, where it's worked through physicians' protocol, partly because the population already knows how to use a needle and syringe. But they do have to issue a needle and syringe and a sharps container with the whole thing, so it's this whole entire kit." | |
| **Addressing unwanted clientele** | |
| - Furnishing naloxone attracts diverse patient population | - Naloxone furnishing slows down process time and deters unwanted clientele |
| - Develop policy in response to violence | "So, what I've found is that if you are recommending Narcan, especially to that type of clientele, right, quote unquote, I find it actually deters the more - I don't want to use the word nefarious, but - you know, maybe not as wanted clienteles. Because when you are slowing down the process in any way, those people normally don't want to come back, because they want it quick. They want to basically bamboozle you into just dispensing their medication quickly or whatever they have written. So if it is the case, the naloxone I think would actually be a little bit more of an advantage of maybe helping to deter that type of clientele." |
| "I try to think of opioids as risky drugs, not the people that we're giving them to as risky people and really putting the ownership on opioids." | |
| "They did have a lot of people who were coming in from the streets into their pharmacy, and they were aware of it, they were okay with it, so some of it has to be the staff and the leadership at that pharmacy. It's amazing, you think corporate is corporate, but there's a professional leadership that occurs." | |
| **Addressing stigma** | |
| - Provide nonjudgmental and encouraging environment for patients | - Careful use and phrasing of overdose |
| - Emphasize substance use disorder in pharmacy school education | - Promote understanding of benefits and reasoning behind naloxone recommendation |
| "I think it is consistent with our entire approach here. We want to be respectful, and also honor our clients, and we want to also see that they're safe. So, we try and make things very available, that's kind of the main thing." | "And ultimately the best education and counseling points is not to use the word overdose too literally. But in other words, I'd like to say unintentional overdose and lead to the factors that can lead to unintentional overdose." |

Abbreviations used: CBHS, Community Behavioral Health Service; IM, intramuscular.

exaggeration or telescoping, personal commitment to the program may have generated overly positive outlooks, and there may have been cultural bias in interpreting or explaining events. Owing to limited geographic scope, small sample size, and purposive sampling of pharmacies, the generalizability of this study may have been limited. As an exploratory study, these findings nonetheless shed light into the furnishing practices that could be applicable in many community pharmacy settings.

## Conclusions

The increase in opioid overdoses have affected the lives of many Americans. As part of the efforts to address this problem, pharmacists in California and other states have been empowered to furnish naloxone in an effort to reduce opioid overdoses. However, the uptake of naloxone furnishing by California pharmacies has been slow,[10] and research to date has focused on barriers, with little evidence showing how pharmacies interested in furnishing naloxone can proceed. To our knowledge, this study is the first to evaluate strategies used to implement naloxone furnishing programs within community pharmacy practice settings.[25] Although each pharmacy in our study identified factors unique to their location, their approaches had common features that were not limited to any specific pharmacy, and many of the strategies identified were replicable. A persistent barrier, however, was providing access to vulnerable groups at high risk of overdose, a population that some respondents from chain community pharmacies have indicated that they are not currently willing to serve.[11-17] Our findings provide guidelines that community pharmacies can use to engage patients and expand naloxone access and by doing so, help reduce opioid overdoses.

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## Appendix 1

Interview guide

Program Development and Implementation:

- What is your role in designing the naloxone furnishing program/protocol/process at this pharmacy?
  - Can you describe your approach in designing such model?
  - What were the main factors, such as legal, financial, and logistical factors, that were considered in designing this model?
  - What barriers did the pharmacy faced in the initial implementation of this model, and how did the pharmacy overcame them?

Naloxone Furnishing Process:

- Can you describe the process of furnishing naloxone, starting from when the patient arrives requesting for naloxone?
  - Can you describe the different roles involved in furnishing naloxone at this pharmacy?
    - o What is your role in the naloxone furnishing process?
  - What type of naloxone formulation is furnished at this pharmacy?
    - o Why was this formulation chosen for the pharmacy?
  - How does the pharmacy identify patients to recommending naloxone to?
  - Are there patients the pharmacy does not furnish naloxone to?
  - How does the pharmacy and staff involved in naloxone furnishing meet and maintain compliance with the legal requirements for furnishing naloxone by California Board of Pharmacy?
    - o How does the pharmacy provide naloxone consultation and education to both staff and patients?
  - Can you describe any interaction you have with other health professional in furnishing naloxone?
  - What is your communication or educational strategy for getting the word out about the naloxone furnishing available at this pharmacy?
  - What do you believe are the advantages and disadvantages of this naloxone furnishing model?
  - How well does the naloxone furnishing process fit with existing work processes in your setting?

Barriers:

- What do you believe are current barriers for furnishing naloxone at this pharmacy?
- Some people we discussed with identified barriers in furnishing naloxone were cost and reimbursement, attracting certain clientele to the pharmacy, storage, and time. What are your thoughts on these barriers? How would you address these reported barriers?

Facilitator:

- What factors do you believe led to the pharmacy's success in the implementation of a naloxone furnishing program/protocol
- What do you believe are aspects of this pharmacy's naloxone furnishing model that is different from other pharmacies?

Attitudes

- How would you describe your feelings towards pharmacist furnishing naloxone on a national scale?
- Do you believe there a strong need for naloxone furnishing at this pharmacy? If so, why?
- Do you believe the naloxone furnishing process is effective in this pharmacy? Why or Why not?
- Do you have any moral objections to furnishing naloxone?
  - Are there circumstances where you would object to furnishing naloxone?

Pharmacy Operation Logistics:

- On average, how many prescriptions does the pharmacy receive on a daily basis?
- What percentage of patients does the pharmacy serve that are diagnosed with OUD?
- What are the criteria for OUD?
- Are you familiar with the medication assisted treatment for OUD? (methadone, buprenorphine)
- How many naloxone request does the pharmacy receive each month, and how many of these are furnished?
- Were any naloxone furnished based on pharmacist recommendation, rather than patient request?
- How much does naloxone cost the pharmacy? How much does naloxone cost clients?

Can the cost be billed to insurers?

- Are naloxone expenses reimbursed to the pharmacy?

Background of Participant and Pharmacy:

- How many pharmacists and pharmacy technicians are employed at this pharmacy? Per shift?
- What is your current role at this pharmacy?
- How long have you worked as a pharmacist?
- Have you completed a residency? If so, what type of residency?
- Have you completed any training to furnish naloxone? Q22
  - If yes, what type of training?

Recommendation and Future Direction

- What advice do you have for pharmacies attempting to design their own naloxone furnishing model/protocol?
- How can pharmacists be more engaged in screening and furnishing naloxone to those who may benefit from it?