

**TREATING OPIOID ADDICTION IN OFFICE BASED SETTINGS:
FINDINGS FROM A PHYSICIAN SURVEY**

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INTRODUCTION

The Maryland Alcohol and Drug Abuse Administration estimates that there are over 300,000 alcohol- and drug-dependent adults in the state.(1) Although alcohol remains the most commonly used substance throughout the region, heroin and prescription opioid abuse continues to rise in both urban and rural areas.(2) Maryland currently ranks among the top five states in the country with the highest heroin addiction rates.(3)

Historically, methadone has been the main pharmacological treatment effective for opioid addiction. Due to concerns about abuse and diversion, however, access to methadone has been limited to tightly regulated clinics in which patient turnover is low. With fierce community opposition, expanding the existing methadone maintenance system is not a viable solution to adequately meet treatment need and demand.(4)

Recognizing the disparity between the capacity of the substance abuse treatment system and demand for care, President Clinton signed into law the Drug Addiction Treatment Act of 2000.(5) This regulation allows qualified office-based physicians, for the first time in nearly a century, to prescribe approved medications for the treatment of opioid addiction, without the strict regulations governing methadone. In 2002, the Food and Drug Administration approved sublingual buprenorphine for this purpose.(6)

Sublingual buprenorphine acts on the same opioid receptors as heroin and methadone but because it reaches a ceiling level of effect, it has less overdose and abuse potential. To lessen abuse and diversion potential even further, buprenorphine is marketed in combination with naloxone, a narcotic antagonist, which inhibits any positive effect of the buprenorphine if someone attempts to inject the medication. To

qualify as a prescriber of buprenorphine, a physician must have received at least 8 hours of approved training or equivalent specialty training, must obtain a waiver from the Drug Enforcement Agency, and must have the ability to refer patients for substance abuse counseling. Furthermore, a physician or practice is limited to 30 patients on buprenorphine at any one time.(5)

Prior studies on the adoption of new pharmacological interventions for addictions, including naltrexone for alcoholism and nicotine replacement products for smoking cessation, have shown slow and low rates of adoption by office-based physicians.(7;8) Early anecdotal experience with sublingual buprenorphine indicated that it might face a similar fate. We aimed to assess the willingness of office-based physicians in Maryland to prescribe buprenorphine, and describe resources they need to do so and barriers that might discourage them. Findings from this project are intended to help guide the Medical Society of Maryland in establishing programs for the education of providers, and assist them in advocating for changes in health policy if necessary. It will also serve as a baseline for future surveys of the effectiveness of physician training in opioid dependence treatment.

METHODS

Study Design and Sample

We conducted a cross-sectional survey of a randomly selected sample of physicians with outpatient practices in Maryland identified through the AMA physician directory. Eligible physicians for the survey were those who provide direct patient care for at least 20 hours per week in an office-based setting to patients at least 16 years of age or older. Initially, we included internists, family medicine physicians, psychiatrists, pain

management specialists, pediatricians, obstetricians/gynecologists, and infectious disease specialists. After receiving an 12-15% response rate from the latter three specialties with several mailings, we narrowed the scope of our survey to four groups; internal medicine, family medicine, psychiatry, and pain management. From the original sample derived from the AMA directory, we randomly chose 86 names in each of the four specialties, for a final, total sample of 344 physicians.

We excluded physicians-in-training, hospitalists, and physicians providing direct patient care for fewer than 20 hours per week. Nurse practitioners and physicians assistants were excluded because they currently are not eligible to prescribe buprenorphine. In addition, we excluded retired physicians and those whose mailings were returned to us as undeliverable by the U.S. Postal Service. The Institutional Review Board at Johns Hopkins School of Medicine approved all aspects of the study.

Survey Instrument Development

We developed the survey instrument with input from three different sources. First, we conducted six individual interviews with eligible survey participants to identify and confirm key domains for the instrument. Second, we incorporated items related to knowledge and attitudes on substance abuse and its treatment from previously developed questionnaires.(9-11) Third, we sought input on the instrument from an advisory committee with representation from substance abuse experts and relevant federal and state agencies. To assess reliability, we pilot tested the instrument with 10 potential study participants.

Survey Instrument Domains

Primary Outcome

The primary outcome was willingness to prescribe buprenorphine to a patient with opioid addiction. This was measured on a 5-point Likert scale from *not at all willing* to *extremely willing*, using short case descriptions. To distinguish differences in willingness to prescribe by type of patient, we developed separate items describing a new versus an established patient.

Secondary Outcomes

We had two secondary outcomes: 1) resources required by office-based physicians to prescribe buprenorphine; and 2) barriers that discourage office-based opioid addiction treatment. We used a multi-part item to measure level of need for 15 specified resources on a 5-point Likert scale from *no need* to *great need*. To measure barriers, respondents rated their level of agreement with 14 specific reasons why they might choose not to prescribe buprenorphine using a 5-point Likert scale from *strongly disagree* to *strongly agree*. Six of the fourteen reasons described an attitude towards either opioid addiction treatment or opioid dependent patients and are included in analyses of attitudes.

Independent Variables

Other survey domains included sociodemographic characteristics (age, gender, race/ethnicity, date of residency completion), practice patterns (type of practice, payer mix, patient panel sizes), experience and knowledge of, and attitudes toward opioid addiction, its treatment, and opioid dependent patients.

Data Collection

We initially mailed an advance letter announcing the survey and outlining the approval of buprenorphine and its indications for use to the total sample of 1287 physicians. This was followed by a five-stage regular mail strategy, including two survey mailings, two reminder postcards, and a final email/fax. As incentive, every physician, upon completing and returning the survey, received a \$25 voucher toward a MedChi-sponsored CME program in 2003 or 2004. Our goal was to achieve a response rate of at least 60% to ensure that our results were representative of the targeted physician groups, and to maximize the precision of our primary outcome estimate.

After this five-pronged strategy resulted in less than a 40% response rate from all the physician groups combined, we narrowed our sampling frame as described above. Of the final, total sample of 344 physicians, 62% had responded to either the first or second survey mailing. These respondents received a final \$25 gift certificate to an online store along with a thank you letter.

To the non-respondents, we mailed a third survey, accompanied by a cover letter and a \$25 gift certificate to an online store. Respondents to this mailing also received the \$25 voucher toward a MedChi-sponsored CME activity.

Statistical Analysis

For each of the case scenarios describing a new vs established patient with opioid dependence, we defined willingness to prescribe buprenorphine as a three-level categorical variable—unwilling, willing, and unsure. We defined as unwilling those respondents who answered a one or two on the Likert scale, while willing respondents marked a four or a five. The unsure group included those physicians who checked a three.

Similarly, for each case scenario, we defined willingness to refer for methadone and buprenorphine separately, according to the same categories as above—unwilling, willing, and unsure. Since outcome measures did not significantly differ between established versus new patients, we present data on established patients only.

We categorized resources and barriers needed to prescribe buprenorphine into three groups, respectively: 1) financial, 2) operational/programmatic, and 3) education/training. We grouped attitudinal statements according to whether they referred to opioid dependence, opioid treatment, or opioid dependent patients.

Descriptive data were analyzed using proportions and means with standard deviations. We calculated 95% confidence intervals (CIs) for comparison of categorical variables.

All analyses were performed using Stata statistical software, Version 8.0 (StataCorp. 2003. *Stata Statistical Software: Release 8*. College Station, TX: StataCorp LP).

RESULTS

Of 341 surveys included in final sample, 331 were deemed eligible for final participation. We excluded three retired physicians, and 16 surveys were undeliverable for reasons including “not known at this address”, “wrong address”, and “forwarding time expired”. We included 9 respondents who had missing demographic information, including specialty. We received 118 responses for a total response rate of 36%.

The majority of respondents were white, middle-aged, and practiced in solo or single specialty group practices. With the exception of those who were unsure about prescribing buprenorphine, over half of the respondents were male. Respondents were

fairly evenly distributed across the four specialties. Although not statistically significant, a higher percentage of those willing to prescribe buprenorphine were minority respondents compared to the other two groups (**Table 1**).

Overall, 36% of respondents reported a willingness to prescribe buprenorphine in their offices to an established patient with opioid dependence, while 28% would do so for a new patient ($p>0.05$). Physicians reported being much more willing to refer patients for either buprenorphine or methadone (**Figure 1**).

We found no significant differences in the proportions of physicians reporting a need for specific resources to prescribe buprenorphine between those who expressed a willingness to do so, those who were unwilling to adopt this practice, or those who were unsure (**Table 2**). The majority of physicians in each group reported needing up-front and ongoing training, adequate reimbursement for visits, better access and relationships with specialty addiction, mental health, and community services, and practice related changes.

Although not statistically significantly different, there were a few noteworthy differences. Among those physicians willing to prescribe buprenorphine, adequate reimbursement ranked as the item of greatest need (89% [95% CI 75-97%]). However, among those unwilling to or unsure about adopting this practice, reimbursement was important (77% [95% CI 62-88%], and 69% [95% CI 39-91%], respectively) but buprenorphine training (83% [95% CI 69-92%], and 83% [95% CI 52-98%], respectively), detailed protocols for its use (83% [95% CI 69-92%], and 77% [95% CI 46-95%], respectively), and quick or better access to addiction treatment referral sites for difficult patients (83% [95% CI 69-92%], and 92% [95% CI 64-100%], respectively) topped the list for these physicians.

A significantly higher proportion of physicians willing to prescribe buprenorphine agreed that incomplete reimbursement was a barrier compared with those doctors unwilling to adopt this practice (72%, 95% CI [55-86] vs 37%, 95% CI [24-52]) (**Table 3**). We found no other statistically significant differences in barriers noted by physicians across the three groups of willingness, with the exception of attitudes.

A significantly larger proportion of respondents unwilling to prescribe buprenorphine agreed that opioid addiction is best described as a habit rather than an illness compared with those willing to adopt this practice [17% [95% CI 8-30%] vs 0%) (**Table 4**). There was a borderline significant trend towards willing physicians being more likely to have had a positive experience caring for an opioid dependent patient than those unwilling to prescribe buprenorphine (69% [95% CI 53-83%] vs. 38% [95% CI 25-53%]), and these doctors were significantly more likely to agree that if their leadership recommended obtaining certification for buprenorphine prescribing, they would do so (71% [95% CI 53-85%] vs 26% [95% CI 15-40%]). While not statistically significant, twice the percentage of unwilling physicians as the other two groups agreed that prescribing buprenorphine was beyond the responsibility of primary care physicians (50% [95% CI 36-65%] vs 25% [95% CI 12-42%], and 23% [95% CI 5-54%], respectively).

No clear significant differences in attitudes towards opioid dependent patients emerged, although higher proportions of unwilling physicians either did not want to or felt unsure about the presence of addicted patients in their clinics, and about prescribing potentially abusable medications.

Although this is a quantitative study, we have replicated below one of the most extreme comments we received hand-written on returned questionnaires for illustration.

The reason I am not interested is I see this as an opportunity for drug users who are by class the most lying scheming, dishonest group of patients. They need hard based no nonsense Tx programs. I can't stand their manipulative behavior. I'm an easy going nice guy type, but once I discover that I have [been] lied to in order to obtain drug, I'm done. It's simply not worth the hassell [hassle] of another paperwork burden.

Conclusions:

About one third of office-based physicians responding to the survey indicated a willingness to prescribe buprenorphine to established opioid dependent patients. Nearly three-quarters of them would pursue required training and certification if their clinic leadership recommended it. Although these physicians have a number of operational/programmatic and educational/training needs, it appears that financial issues, specifically adequate reimbursement, are the main barriers for this group to adopt this important medical and public health practice.

For those physicians who are either unwilling or unsure about prescribing buprenorphine, non-financial barriers are at least as important, and recommendations from clinic leadership would not seem to sway their decision. It appears that attitudes toward opioid addiction, its treatment, and opioid dependent patients drive much of their resistance to buprenorphine.

Half of unwilling physicians believe that opioid addiction treatment is beyond the scope of practice for an office-based physician, and nearly as many agreed that opioid dependent patients are undesirable to have in clinic settings. While views of addiction as

a disease have significantly improved over the past 20 years(10), physicians who are unwilling or unsure about prescribing buprenorphine still hold beliefs that opioid dependence is a habit that addicts are not committed to dropping from their lives.

A positive message, however, is the association between physicians who have had good experiences in caring for patients with opioid addiction and their willingness to prescribe buprenorphine. While attitudinal and practice change among physicians has proven difficult in many areas of medicine(12-14), the current insight allows for the development of a potentially effective intervention. In addition, the vast majority of all respondents were willing to refer patients for either methadone or buprenorphine therapy, indicating their recognition of opioid dependence as a significant problem that requires treatment.

Limitations:

There are certain limitations to our study. First, the low response rate limits our ability to generalize our findings, and decreases the confidence with which we can state that our results are representative of the larger population of office-based physicians in Maryland. However, we believe that we may have captured the extremes of both sides of the opinion spectrum on the issue of buprenorphine prescribing based on the reported willingness of respondents on one hand and the extremely negative comments we received on the other hand.

In addition, although about a third of physicians reported willingness to prescribe buprenorphine, they answered in response to a hypothetical situation, not an actual

scenario. If faced with real patients with real problems, these physicians' actual behavior with regards to buprenorphine may be different.

Implications and Recommendations:

Strategies to increase physician adoption of office-based opioid addiction treatment with buprenorphine need to target where physicians are in their willingness to prescribe the medication. Likely, multi-pronged approaches will have the most impact as even willing physicians require better support and resources than they currently have. We have several recommendations for specific components of such an approach.

1. MedChi and the MedChi Foundation could act as advocates at the state level for the development of appropriate and adequate financial reimbursement mechanisms by third party-payers for buprenorphine-related services, including counseling.
2. MedChi, in collaboration with other interested agencies, could serve as a web-based central resource for physicians interested in adopting office-based opioid addiction treatment. For example, MedChi could host and coordinate a list of physicians already prescribing buprenorphine who would be willing to serve as mentors to give on-site visit experience to physicians considering adopting the practice.
3. MedChi and the MedChi Foundation could target clinical practice leadership with marketing and educational materials on the benefits of adding a buprenorphine

program to their services. In addition, in collaboration with experienced buprenorphine prescribers, MedChi Foundation could develop a “how-to” manual for practice leadership with practical insights on how to deal with the most commonly faced issues in office-based opioid addiction treatment.

4. MedChi Foundation could hold a symposium on office-based opioid addiction treatment with a panel of actual prescribing physicians and their patients on buprenorphine.
5. MedChi should include updates on buprenorphine and addiction treatment in a monthly newsletter to all MedChi members.
6. MedChi should add an addiction treatment component to their new physician orientation curriculum that would have a specific section on office-based opioid addiction treatment.
7. MedChi and MedChi Foundation should evaluate the impact that their efforts have on increasing the number of physicians in Maryland who pursue buprenorphine training and certification.

Table 1. Demographic characteristics of office-based physicians, N=107*

Characteristic	Willing (N=39)	Unwilling (N=54)	Unsure (N=14)
Gender, %			
Male	64	60	38
Age, mean (+/- SD)	48 (9)	52 (12)	47 (11)
Race/ethnicity, %			
White	65	83	77
Asian	19	13	8
Black or Latino	16	4	15
Specialty, %			
Internal Medicine	26	26	23
Family Medicine	26	19	23
Psychiatry	26	26	23
Pain management	21	28	31
Practice Type, %			
Solo practice	46	38	30
Single specialty group practice	23	42	30
Multispecialty group practice	10	6	20
Other	21	15	20
HIV+ patient panel size			
0%	24	43	7
1-10%	70	55	62
>10%	5	2	31
Insurance Accepted			
Private insurance	87	78	64
Medicaid or other public funds	64	63	50
Medicare	82	74	64
Self-pay or no charge	90	85	71

*Data on this variable was missing for 11 of 118 respondents

Figure 1. Physicians' Level of Willingness in Prescribing Buprenorphine or Referring Established Patients with Opioid Dependence for Pharmacological Intervention

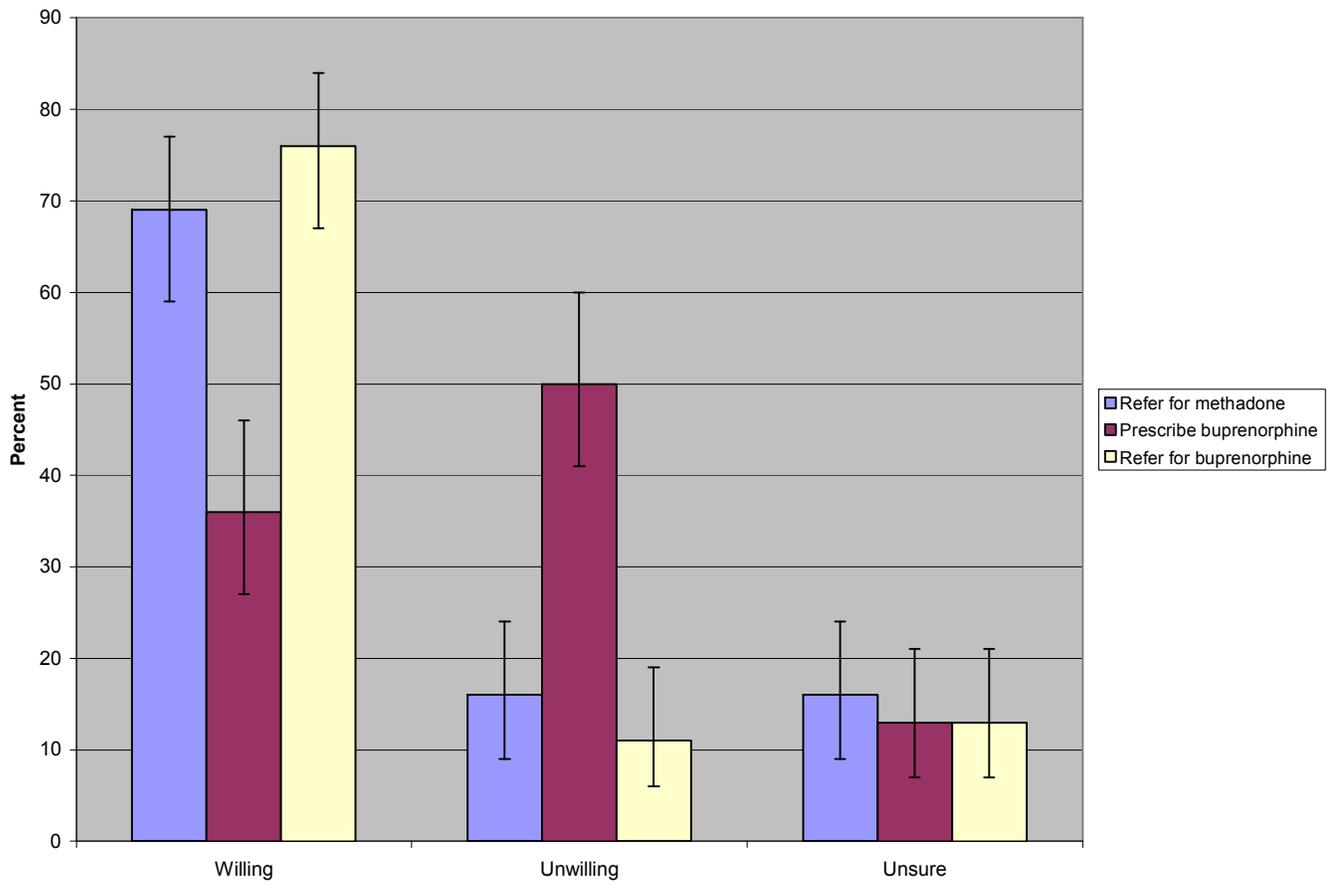


Table 2: Resource Need and 95% Confidence Intervals Reported by Physicians to Prescribe Buprenorphine, N=107*

Resource	Willing (N=39)	Unwilling (N=54)	Unsure (N=14)
Adequate Reimbursement	89 (75-97)	77 (62-88)	69 (39-91)
More time per visit	76 (60-89)	66 (51-79)	69 (39-91)
Better access to addiction counseling services	76 (59-89)	79 (64-89)	92 (64-100)
Better access to mental health counseling services	71 (54-85)	72 (57-84)	85 (55-98)
Extra space	18 (8-34)	28 (16-43)	8 (0.2-36)
Quick access to referral sites for difficult patients	84 (69-94)	83(69-92)	77 (46-95)
Relationships with addiction specialists	74 (57-87)	74 (60-86)	69 (39-91)
Relationship with pharmacist	66 (49-80)	62 (46-75)	77 (46-95)
Detailed protocols	84 (69-94)	83(69-92)	77 (46-95)
Community resources/case management	82 (66-92)	79 (64-89)	77 (46-95)
Clinic staff education	68 (51-82)	78 (64-89)	54 (25-81)
Buprenorphine training	82 (66-92)	83 (69-92)	83 (52-98)
Patient information	87 (72-96)	72 (57-84)	92 (64-100)
CME on opioid addiction treatment	84 (69-94)	74 (60-86)	92 (64-100)
Prescribing colleague on-site	33 (19-51)	38 (25-54)	23 (5-54)

*Data on primary outcome variable was missing for 11 of 118 respondents

Table 3: Agreement and 95% Confidence Intervals with Barriers to Physician Prescribing of Buprenorphine, N=107*

Barrier	Willing (N=39)			Unwilling (N=54)			Unsure (N=14)		
	Agree	Disagree	Unsure	Agree	Disagree	Unsure	Agree	Disagree	Unsure
Incomplete reimbursement	72 (55-86)	22 (10-39)	6 (1-19)	37 (24-52)	24 (13-37)	39 (26-54)	55 (23-83)	9 (1-41)	36 (11-69)
Lack of support from my clinic	53 (35-70)	17 (6-33)	31 (16-48)	71 (57-83)	12 (4-23)	17 (8-30)	58 (28-85)	25 (5-57)	17 (2-48)
Lack of time	46 (29-63)	27 (14-44)	27 (14-44)	57 (42-71)	25 (14-40)	18 (8-31)	62 (32-86)	15 (2-45)	23 (5-54)
My colleagues would resist me	24 (12-41)	62 (45-78)	14 (5-29)	31 (19-46)	40 (26-55)	29 (17-44)	17 (2-48)	42 (15-72)	42 (15-72)
Lack of access to counseling	54 (37-71)	27 (14-44)	19 (8-35)	58 (43-71)	21 (11-35)	21 (11-35)	62 (32-86)	15 (2-45)	23 (5-54)
Need for a DEA waiver	27 (14-44)	49 (32-66)	24 (12-41)	49 (35-63)	24 (13-37)	27 (16-42)	62 (32-86)	15 (2-45)	23 (5-54)

*Data on primary outcome variable was missing for 11 of 118 respondents

Table 4: Attitudes with 95% Confidence Intervals of office-based physicians towards opioid dependence, its treatment, and opioid dependent patients, N=107*

Barrier	Willing (N=39)			Unwilling (N=54)			Unsure (N=14)		
	Agree	Disagree	Unsure	Agree	Disagree	Unsure	Agree	Disagree	Unsure
Opioid addiction is not a problem in my clinic	27 (14-44)	57 (39-73)	16 (6-32)	31 (19-45)	38 (25-53)	31 (19-45)	25 (5-57)	42 (15-72)	33 (10-65)
Opioid addiction is best described as a habit rather than an illness	0	85 (69-94)	15 (6-31)	17 (8-30)	62 (48-75)	21 (11-34)	7 (0-34)	86 (57-98)	7 (0-34)
My involvement with a drug abusing patient has made a positive difference in his/her health behaviors	69 (53-83)	18 (7-36)	13 (4-27)	38 (25-53)	34 (21-49)	28 (16-42)	50 (23-77)	7 (0-34)	43 (18-71)
If the leadership of my practice recommended certification to prescribe buprenorphine I would get it	71 (53-85)	18 (7-35)	12 (3-27)	26 (15-40)	52 (37-66)	22 (12-36)	42 (15-72)	33 (10-65)	25 (5-57)
Beyond responsibility of physician	25 (12-42)	58 (41-74)	17 (6-33)	50 (36-65)	33 (20-48)	17 (7-30)	23 (5-54)	46 (19-75)	31 (9-61)
I don't want to prescribe anything with abuse potential	16 (6-32)	70 (53-84)	14 (5-29)	26 (15-40)	47 (33-61)	26 (15-40)	23 (5-54)	69 (39-91)	8 (0-36)
I don't want these patients in my clinic	25 (12-42)	61 (43-77)	14 (5-29)	46 (32-61)	37 (24-51)	17 (8-30)	15 (2-45)	54 (25-81)	31 (9-61)
Patients with drug abuse are not really committed to stop using drugs	5 (1-18)	68 (50-82)	27 (14-44)	19 (10-33)	48 (34-62)	33 (20-47)	8 (0-36)	77 (46-95)	15 (2-45)

*Data on primary outcome variable was missing for 11 of 118 respondents

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