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Estimating Demand for Primary Care-Based Treatment for Substance and Alcohol Use Disorders

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Abstract

Background and Aims—While there is broad recognition of the high societal costs of substance and use disorders, treatment rates are low. We examined whether, in the United States (US), participants with substance or alcohol use disorder would report a greater willingness to enter SUD treatment located in a primary care setting (primary care) or more commonly found specialty care setting in the US (usual care).

Design—Randomized survey-embedded experiment.

Setting—US web-based research panel in which participants were randomized to read one-paragraph vignettes describing treatment in usual care (specialty drug or alcohol treatment center), primary care, or collaborative care within a primary care setting.

Participants—42,451 panelists aged 18+ were screened for substance or alcohol use disorder using validated diagnostic criteria. Participants included 344 with a substance use disorder and 634 with an alcohol use disorder not in treatment with no prior treatment history.

Measures—Willingness to enter treatment across vignettes by condition.

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Findings—Among participants with a substance use disorder, 24.6% of those randomized to usual care reported being willing to enter drug treatment compared with 37.2% for primary care (12.6 percentage point difference; 95% CI: 0.8, 24.4) and 34.0% for collaborative care (9.4 percentage point difference; 95% CI: −2.0, 20.8). Among participants with an alcohol use disorder, 17.6% of those randomized to usual care reported being willing to enter alcohol treatment compared with 20.3% for primary care (2.6 percentage point difference; 95% CI: −4.9, 10.1) and 20.8% for collaborative care (3.1 percentage point difference; 95% CI: −4.3, 10.6). The most common reason for not being willing to enter drug (63%) and alcohol (78%) treatment was the belief that treatment was not needed.

Conclusions—In the US, people diagnosed with substance or alcohol use disorders appear to be more willing to enter treatment in a primary care setting than in a specialty drug treatment center. Expanding availability of primary care-based substance use disorder treatment could increase treatment rates in the United States.

INTRODUCTION

The costs of substance and alcohol use disorders are high worldwide.^{1,2} Within the United States (US), the social costs of substance and alcohol use disorders account for an estimated \$151.4 billion and \$191.6 billion in total annual costs, respectively.^{3,4} At the individual level, the direct health care and other costs are also high.^{5,6,7,8,9} These disorders confer major adverse consequences, including those associated with impaired driving,^{10,11} communicable disease transmission,¹² educational attainment^{13,14,15} and crime.^{16,17,18} Despite broad international recognition of these negative impacts, treatment rates are low across the globe. Only one in six problem substance users worldwide, about 4.4 million people, are estimated to receive required drug treatment at a cost of about \$35 billion annually, and treatment rates vary substantially by region.¹⁹ In the US, less than 20% of individuals with substance use disorders and 10% with alcohol use disorders received treatment.²⁰

While many factors explain low treatment rates worldwide, one contributor within the US is the ongoing separation of drug and alcohol treatment from the rest of the medical system.²¹ Lack of integration limits access to various treatments options more readily available in other countries, and can exacerbate stigma in treatment-seeking by reinforcing the notion that these disorders are different from other medical conditions.²² Delivery system reforms being initiated in the US under the Affordable Care Act (ACA), including accountable care and patient-centered medical homes emphasizing care coordination and improved integration combined with payment reforms (e.g., global payment), offer new opportunities for care integration.²³ Such approaches give medical groups more flexibility to co-locate drug and alcohol treatment providers within their practice setting or to contract for services not traditionally paid for. Better integration of drug and alcohol treatment in primary care could improve treatment rates in the US, and potentially lower stigma, as well.

The clinical evidence base on treating behavioral health disorders in primary care is growing. The strongest evidence on the value of primary care-based treatment using a collaborative care approach comes from depression.^{24,25,26} Screening and treatment in

primary care, care management, psychiatrist specialty consultation, and information technology support, such as depression registries that include symptom measurement and tracking, have been shown to be cost effective.^{27,28,29,30,31}

Much less is known about the role of primary care integration in drug and alcohol treatment. While screening, brief intervention and referral to treatment (SBIRT) for at-risk drinking in primary care is efficacious and cost-effective,^{32,33,34} the effectiveness of this approach has not been demonstrated for drug use.³⁵ Newer treatments, such as medication-assisted treatment with buprenorphine-naloxone and counseling, are effective in allowing physicians to effectively manage treatment of opioid-dependent patients in an office-based setting.³⁶ However, recently released findings from the US AHEAD study, a randomized trial involving chronic care management for alcohol and drug dependence in a hospital-based primary care setting, show no increase in self-reported abstinence compared with primary care-based treatment alone.³⁷ One impediment to development and broader adoption of office-based collaborative treatment options is that services such as care management and specialist addiction consultation for primary care physicians can be challenging to reimburse in the US. Nonetheless, primary care and collaborative care approaches to addiction treatment have gained national prominence in recent years. A 2013 report from the White House Office of National Drug Control Policy emphasized the promise of SBIRT and chronic care treatment as the so-called “third way” to addressing substance use disorders.³⁸

No evidence is available on how more-integrated care models may influence consumer willingness to enter treatment; there are reasons to believe they may be more desirable than traditional drug or alcohol treatment specialty services for a subset of individuals. First, office-based primary care settings may be viewed with less stigma than specialty settings such as methadone clinics. Second, consumers might appreciate the whole-person focus of primary care to address substance use alongside other health issues. Third, consumers might value the convenience of getting all their health care needs addressed within the same visit. On the other hand, due to stigma, some consumers may actually prefer receiving treatment in specialty care, where they will not risk being recognized by primary care users.

To fill this gap, we fielded a web-based experiment randomizing persons with substance and alcohol use disorders to read a one-paragraph vignette describing treatment in a specialty drug or alcohol treatment center (hereafter referred to as usual care), a primary care setting (hereafter referred to as primary care), or a primary care setting including features from the collaborative care model such as care management (hereafter referred to as collaborative care). We restricted our study sample to participants not currently in treatment with no prior treatment history, a hard-to-study group because these individuals are often entirely disconnected from the health system. First, we compared willingness to enter treatment at no cost across the three groups by condition. Second, for participants not willing to enter treatment, we calculated the proportion endorsing each of nine different reasons why not. Third, participants willing to enter treatment were asked whether they would enter treatment if, instead of being free, there was an out-of-pocket charge for a visit. Finally, participants unwilling to enter treatment were asked whether they would be willing to enter if paid a financial incentive.

METHODS

Data & Procedures

We conducted a web-based randomized experiment using the GfK survey research panel. The GfK panel is a nationally representative online panel with 50,000 members recruited from an address-based sampling frame comprising 97% of US addresses, including non-phone, cell phone only and non-internet households. Participants without Internet access or hardware are provided it when they agree to participate. The GfK panel used probability sampling at the first stage of recruitment, when individuals are approached to participate in the panel, and the panel recruitment rate was 16.6%. Participants consented to be included in the GfK panel.³⁹

A total of 42,451 panelists aged 18+ were screened online to participate in the experiment between September 20 and November 25, 2013. Of those contacted, 72.7% completed the screener (N=30,876). The screening instrument included was closely adapted from the screener for the 2012 National Survey on Drug Use and Health⁴⁰ to identify panel members with a substance or alcohol use disorder based on DSM-IV diagnostic criteria (Appendix 1). Of those screening positive for a substance or alcohol use disorder, we excluded those in drug/alcohol treatment or with any history of drug/alcohol treatment. Due to concerns about obtaining sufficient sample size in the substance use arm, individuals screening positive for both substance and alcohol use disorder were assigned to the substance use arm. After these exclusions, 344 participants with a substance use disorder (or a substance and alcohol use disorder) and 634 participants with an alcohol use disorder only were enrolled. Of the 344 subjects in the substance use disorder arm, 196 (57%) had substance use disorders only and 148 (43%) had both substance and alcohol use disorders.

Measures

After agreeing to participate, each participant with a substance or alcohol use disorder were separately allocated using random assignment to one of three groups. For each condition, vignettes described: 1) usual care; 2) primary care; or 3) collaborative care within a primary care setting. Exhibit 1 contains an example of the format for the substance use disorder treatment vignettes. Alcohol use disorder treatment vignettes were identical in form. All vignettes included three components. First, vignettes noted that, “[E]ffective drug treatment options are currently available.” Second, the vignettes described the treatment group—usual care, primary care, or collaborative care. In contrast to usual care arm, the primary care arm highlighted the ability to receive drug treatment in a medical care setting, the ability to get care for other medical issues, and referral to an addiction specialist if more intensive services were needed. The collaborative care arm described primary care-based treatment using nearly identical language. However, it included an additional description of a nurse care manager performing various functions, including working with the primary care doctor to coordinate treatment, providing additional counseling, and being available if a person has difficulty controlling drug use or an urgent need for a visit. In contrast with the primary care arm, which described an uncoordinated referral hand-off, the collaborative care arm described a “warm hand-off,” noting that, if more intensive services were needed, the care

manager would work closely with patients to link them to an addiction specialist and to help coordinate those services.

The primary outcome was a dichotomous measure of stated willingness to enter treatment. For all vignettes, treatment was described as “free to you” and “available in your area with appointments open” in order to determine willingness to enter treatment based on the characteristics of the treatment alone. Participants willing to enter treatment were then asked whether they would be willing to enter treatment if, instead of being free, there was an out-of-pocket visit charge. We randomly assigned each group to 1 of 3 different out-of-pocket visit copayments (\$10, \$30, \$50).

Participants who responded that they would not be willing to enter treatment were asked two follow up questions about the reason(s) why they were unwilling. First, respondents were asked to choose one primary reason among 9 options for not being willing to enter treatment. Second, those same respondents were asked whether there were additional reasons for not being willing to enter treatment, and they were allowed to select any or all of the remaining 8 choices. Finally, participants unwilling to enter treatment were asked whether they would be willing if they were paid a financial incentive, and were randomly assigned to 1 of 5 visit incentives levels (\$5, \$10, \$15, \$20, \$25).

Analyses

We checked that random assignment led to balance across vignette exposures by testing for differences in participant characteristics including gender, age, education, marital status, parent status, employment status, household income, MSA status, region of the country, if participant had a serious or chronic illness/injury/disability requiring a lot of medical care, and if participant had a usual source of care using Fisher exact tests (Appendix 2). Since the primary outcome was dichotomous, we calculated unadjusted proportions of participants willing to enter treatment by vignette. We estimated logistic regressions of willingness to enter treatment as a function of vignette group and calculated average marginal effects on the probability scale with standard errors and confidence intervals for these differences calculated using the Delta method. To compare proportions across the three conditions, we used pairwise Wald tests of equality. We pre-specified two participant baseline characteristics that were hypothesized to be prognostic for willingness to enter treatment: having a serious or chronic illness, injury or disability requiring a lot of medical care, and having a usual source of medical care, and ran adjusted analyses including both covariates in the models.⁴¹

Among the subset willing to enter drug treatment (N=107) or alcohol treatment (N=124) with zero copayments, we calculated the proportion of participants willing to pay a co-pay of differing amounts or to accept a financial incentive of differing amounts to enter treatment. Finally, we fit linear regressions predicting willingness to enter treatment as a function of copay or financial incentive. All analyses were conducted separately for participants assigned to substance versus alcohol use disorder vignettes.

RESULTS

Socio-demographic characteristics of study participants with substance use disorders (drug only or drug and alcohol) and alcohol use disorders only are presented in Exhibit 2. Over half reported having a usual source of care.

Exhibit 3 shows unadjusted and adjusted willingness to enter treatment comparing treatment arms. In adjusted models, among participants with substance use disorders, 24.6% of those randomized to usual care reported being willing to enter drug treatment compared with 37.2% for primary care (12.6 percentage point difference; 95% confidence interval [CI]: 0.8, 24.4) and 34.0% for collaborative care (9.4 percentage point difference; 95% CI: -2.0, 20.8). Willingness to enter treatment was comparable between those randomized to primary care versus collaborative care (3.2 percentage point difference, 95% CI: -9.8, 16.3). Among participants with alcohol use disorders, 17.6% of those randomized to usual care reported being willing to enter alcohol treatment compared with 20.3% for primary care (2.6 percentage point difference; 95% CI: -4.9, 10.1) and 20.8% for collaborative care (3.1 percentage point difference; 95% CI: -4.3, 10.6).

Among participants not willing to enter drug treatment (N=237), the most common reason identified was the belief that treatment was not needed (63%), with no significant differences across the three vignette arms ($p=0.48$) (Exhibit 4). Similarly, among those not willing to enter alcohol treatment (N=509), 78% cited lack of a need for treatment as the primary reason, with no differences across arms ($p=0.61$). At least 10% of participants with substance use disorders also mentioned other reasons for not wanting to enter treatment, including: not being ready to begin, dealing with other health problems, not wanting others to know, and not thinking treatment would help. Those with alcohol use disorders identified most of these same reasons.

Panel A of Exhibit 4 examines the subset of participants responding that they were willing to enter drug treatment (N=107) or alcohol treatment (N=124) with zero copayments. As noted above, based on a willingness to enter treatment with zero copayments, participants were randomized to a follow-up question asking about willingness to enter treatment at non-zero copayment levels. Among those randomized to a \$10 copay per visit, 70% continued to state that they were willing to enter treatment, but that share dropped to 29% at a \$30 co-payment and 23% at \$50. The drop in the share of those willing to enter alcohol treatment with increasingly large co-payment levels was similar.

Panel B of Exhibit 4 examines the subset of participants unwilling to enter drug treatment (N=237) or alcohol treatment (N=509) with zero co-payments. These participants were randomly assigned to a follow-up question asking about willingness to enter treatment at different incentive payment levels. With a \$5 incentive payment per visit, only 10% of those initially unwilling were persuaded to alter their original decision and enter treatment. This share increased to 19% with a \$10 payment, but then increased minimally with larger incentives. Similar patterns are observed among participants initially unwilling to enter alcohol treatment.

In the substance use disorder sample, an incremental \$1 was associated with 0.8 percentage point higher willingness to enter treatment (95% CI: 0.05 to 1.6 percentage points), and an incremental \$1 of required payment was associated with 1.2 percentage point lower willingness to enter treatment (95% CI: -1.8 to -0.6 percentage points). In the alcohol use disorder sample, an incremental \$1 of incentive was associated with 0.7 percentage point higher willingness to enter treatment (95% CI: 0.3 to 1.2 percentage points), and an incremental \$1 of required payment was associated with 0.9 percentage point lower willingness to enter treatment (95% CI: -1.4 to -0.4 percentage points).

DISCUSSION

This study examined whether US participants with substance or alcohol use disorders reported being more willing to enter primary care-based treatment compared to usual care. Participants with a substance use disorder were more willing to enter primary care based addiction treatment than usual care in a specialty drug treatment center. Among participants with an alcohol use disorder, we found no differences in willingness to enter treatment among those randomized to usual, primary care or collaborative care. Among all study participants, the most commonly stated reason for not entering treatment was the belief that treatment was not needed. The decision to enter treatment was altered in expected ways when participants were asked to pay a co-payment or offered a monetary incentive.

Strengths of this study included its use of a nationally-representative survey panel to screen participants for substance and alcohol use disorders, and inclusion of individuals with no contact with the health system for drug or alcohol treatment, a very difficult group to study in a research context. The use of hypothetical treatments allowed us to identify participant preferences about specific treatment characteristics, which are often difficult to isolate.

Our findings raise a number of clinical and policy considerations. First, in the collaborative care vignette, we attempted to highlight aspects of the model that we thought would be most appealing to consumers—in particular, the care manager role, receipt of care for other medical issues and, if needed, a ‘warm hand-off’ to specialty drug treatment. We did not make reference to other critical aspects of collaborative care, like patient registries that tend to be less visible to patients. However, our findings indicate that participants did not value collaborative care over primary care alone. While it is important to design systems of care that will appeal to consumers, it is possible that components of collaborative care, such as care management, are not viewed as critical to consumers, even if they are valued by clinicians and can improve care quality. It also may be that care management is a so-called “experience good,” in that its value is difficult to observe in advance but can be ascertained upon use.⁴² If this is the case, which seems plausible, our participants, who had no prior experience with care management in an addiction treatment context, may place a higher value on this care component after entering treatment.

Second, while our study indicates that broader availability of primary care-based drug treatment options might increase treatment rates, it does not provide insight to the underlying reasons why primary care appears to be more appealing. We speculated that office-based treatment might carry less stigma, consumers might be attracted by the option

of more integrated addiction and medical care, or some other reason. More research is needed to better understand why some consumers find primary care more appealing to respond optimally to consumer preferences in redesigning systems of care.

Third, our study provided no information on *why* so many individuals meeting diagnostic criteria viewed treatment as unnecessary. Given that our sample was not treatment seeking, it is likely that these individuals were in the pre-contemplation phase. It is important to note that we did not use the more stringent criteria for substance or alcohol dependence in identifying study participants. This decision was made in part to increase our study sample. If we had restricted the sample to the subset meeting criteria for dependence, we expect that a larger proportion would have perceived a need for treatment. Nonetheless, these results highlight the challenges associated with motivating individuals to seek treatment, and suggest that system-level changes alone will be insufficient to shift people into treatment. The availability of a broader variety of effective treatment options combined with financial incentives such as contingency management, an approach using small incentives shown to keep people in treatment longer,⁴³ or other incentive-based approaches^{44,45} may warrant wider adoption.

This study has several limitations. First, respondents were not seeking treatment. Preferences of individuals with substance and alcohol use disorders who are motivated to seek treatment may differ from those identified through routine screening or other sampling strategies. Second, exposure to a single, one-paragraph vignette describing a treatment setting differs fundamentally from an individual's interaction with real-world treatment. We describe two characteristics of treatment in vignettes—'free' and "with appointments available"—often not present in real-world treatment settings. Likewise, prior experience with treatment will affect a person's beliefs about the effectiveness and desirability of different treatment modes. We attempted to minimize this by limiting our participants to persons with substance or alcohol use disorders with no prior treatment experience. This reduces our ability to generalize our results to all those in need of addiction treatment (although only 74 participants [18%] with drug use and 64 [9%] with alcohol use were excluded due to this restriction). However, our approach addresses the concern that the treatment vignettes would be viewed through the prism of prior treatment experience. Third, the decision to enter treatment is self-reported. We would expect self-reported treatment preferences to differ from actual behavior, although we would not expect this to be differential across vignette arms. Fourth, web-based experiments may be vulnerable to sampling biases. GfK attempts to minimize such problems by using probability-based sampling of households, including those without landline telephones or internet access.

Invitations to participate in the experiment did not include the topic of the experiment, so it is unlikely that participants chose whether or not to participate according to their interests. In addition, the substance and alcohol use disorder rates identified through our screening procedures are nearly identical to those reported in the 2012 National Survey on Drug Use and Health, increasing our confidence in the generalizability of our findings. Fifth, we did not explicitly describe the usual care vignette as being outpatient care and some respondents could have misinterpreted a specialty treatment facility as requiring residential treatment. Finally, this experiment provides no information about individuals with less severe

symptoms who do not meet diagnostic criteria. It is plausible that individuals with sub-threshold conditions may be even more attracted to receiving treatment in the primary care setting.

With the push toward increased integration in the US, careful attention should be paid to how these financial and delivery system changes are perceived by the population of often vulnerable individuals who will be affected by them, including persons with drug and alcohol treatment needs.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

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Exhibit 1**Participants with Substance Use Disorders Randomly Assigned to Experimental Treatment Vignettes**

	Drug Treatment Vignettes
Usual Care	Effective drug treatment options are currently available. Treatment in a specialty drug treatment center would involve being evaluated and getting on-going counseling, medication or both. If care in a drug treatment center were free to you and available in your area with appointments open, would you enter this treatment?
Primary Care	Effective drug treatment options are currently available. Some primary care doctors have experience providing drug treatment. Treatment in the primary care office would involve being evaluated and getting on-going counseling, medication or both. You would be receiving your drug treatment in a medical care setting where you could also get care for other medical issues. If you needed more intensive services, your primary care doctor would give you the name of an addiction specialist in your area to schedule an appointment. If drug treatment in a primary care physician's office were free to you and available in your area with appointments open, would you enter this treatment?
Collaborative Care	Effective drug treatment options are currently available. Some primary care doctors have experience providing drug treatment. Treatment in the primary care office would involve being evaluated and getting on-going counseling, medication or both. You would be receiving your drug treatment in a medical care setting where you could also get care for other medical issues. A nurse care manager would work with your primary care doctor to coordinate your treatment and to provide additional counseling. If you were having difficulty controlling your drug use or if you had an urgent need for a visit, the care manager would be available. You could also call the care manager if you were having a problem scheduling an appointment. If you needed more intensive services, the care manager would work closely with you to link you to an addiction specialist and to help coordinate those services. If drug treatment in a primary care physician's office with additional care management were free to you and available in your area with appointments open, would you enter this treatment?

Note: Each vignette included a clarification in parenthesis that "free means there would be no cost to you even if you do not have insurance or if your insurance company sometimes charges copayments."

Exhibit 2
Socio-demographic Characteristics of Study Participants with Substance and Alcohol Use Disorders, 2013

Variable Name	Substance Use Disorder Group			Alcohol Use Disorder Group		
	Usual Care	Primary Care	Collaborative Care	Usual Care	Primary Care	Collaborative Care
Male, % (N)	46% (65)	47% (46)	45% (48)	56% (118)	58% (121)	60% (131)
Age, % (N)						
18-29	26% (36)	31% (30)	27% (29)	20% (42)	25% (52)	24% (53)
30-44	17% (24)	19% (19)	23% (24)	27% (57)	29% (59)	29% (62)
45-59	36% (50)	31% (30)	34% (36)	29% (61)	26% (54)	29% (62)
60+	21% (30)	19% (19)	16% (17)	24% (50)	20% (42)	18% (40)
Education, % (N)						
< High school degree	11% (15)	6.1% (6)	11% (12)	4.8% (10)	4.3% (9)	2.3% (5)
High school degree	26% (37)	18% (18)	15% (16)	17% (35)	14% (28)	19% (41)
Some college	39% (54)	50% (49)	40% (42)	35% (73)	42% (87)	39% (84)
Bachelor's degree or higher	24% (34)	26% (25)	34% (36)	44% (92)	40% (83)	40% (87)
Married or Living w Partner, % (N)	52% (73)	55% (54)	41% (43)	63% (132)	56% (115)	59% (129)
Child <17 living in household, % (N)	32% (45)	32% (31)	32% (34)	29% (61)	27% (55)	28% (60)
Working Currently, % (N)	49% (69)	57% (56)	51% (54)	64% (134)	70% (145)	71% (154)
Household income, % (N)						
Under \$40,000	53% (74)	55% (54)	54% (57)	30% (62)	31% (65)	28% (61)
\$40,000 – \$74,999	29% (40)	28% (27)	24% (25)	31% (65)	31% (64)	29% (63)
>=\$75,000	19% (26)	17% (17)	23% (24)	40% (83)	38% (78)	43% (93)
MSA status, % (N)						
Non-metro	12% (17)	16% (16)	13% (14)	13% (28)	13% (27)	12% (27)
Metro	88% (123)	84% (82)	87% (92)	87% (182)	87% (180)	88% (190)
Region, % (N)						
Northeast	18% (25)	21% (21)	16% (17)	11% (23)	14% (29)	17% (36)
Midwest	21% (29)	20% (20)	24% (25)	24% (51)	30% (63)	25% (54)
South	34% (48)	31% (30)	34% (36)	42% (88)	36% (75)	35% (77)
West	27% (38)	28% (27)	26% (28)	23% (48)	19% (40)	23% (50)
Serious Medical Illness, % (N)	29% (41)	29% (28)	25% (27)	15% (31)	16% (33)	16% (35)
Usual Source of Care, % (N)	65% (91)	58% (57)	61% (65)	56% (117)	59% (122)	52% (113)

Variable Name	Substance Use Disorder Group			Alcohol Use Disorder Group		
	Usual Care	Primary Care	Collaborative Care	Usual Care	Primary Care	Collaborative Care
Sample Size	140	98	106	210	207	217

Have you had a serious or chronic illness, injury, or disability that has required a lot of medical care in the past 2 years? Of the 344 subjects with substance use disorder, 196 (57%) had substance use disorder only and 148 (43%) had both substance and alcohol use disorders.

Unadjusted and Adjusted Willingness to Enter Treatment among Participants with Substance and Alcohol Use Disorders Comparing Treatment Arms, 2013

Exhibit 3

	Participants with Substance Use Disorders				Participants with Alcohol Use Disorders			
	Unadjusted Willingness to Enter Treatment				Unadjusted Willingness to Enter Treatment			
	Usual Care	Primary Care	Collaborative Care		Usual Care	Primary Care	Collaborative Care	
N Percent (N)	140 24.3 (34)	98 37.8 (37)	106 34.0 (36)		210 17.6 (37)	207 20.3 (42)	217 20.7 (45)	
Unadjusted Differences in Willingness to Enter Treatment								
	PC - UC	CC - UC	PC - CC		PC - UC	CC - UC	PC - CC	
Difference 95% CI	13.5 [1.5, 25.4]	9.7 [-1.8, 21.2]	3.8 [-9.4, 17.0]		2.7 [-4.8, 10.2]	3.1 [-4.3, 10.6]	-0.4 [-8.1, 7.2]	
Adjusted Willingness to Enter Treatment								
	Usual Care	Primary Care	Collaborative Care		Usual Care	Primary Care	Collaborative Care	
N Percent (N)	140 24.6 (34)	98 37.2 (37)	106 34 (36)		210 17.6 (37)	207 20.3 (42)	217 20.8 (45)	
Adjusted Differences in Willingness to Enter Treatment								
	PC - UC	CC - UC	PC - CC		PC - UC	CC - UC	PC - CC	
Difference 95% CI	12.6 [0.8, 24.4]	9.4 [-2.0, 20.8]	3.2 [-9.8, 16.2]		2.6 [-4.9, 10.1]	3.1 [-4.3, 10.6]	-0.5 [-8.2, 7.2]	

Exhibit 4**Reasons Given by Participants for Not Entering Treatment by Health Condition¹, 2013**

	Substance Use Disorder Group		Alcohol Use Disorder Group	
	Primary Reason	Any Reason	Primary Reason	Any Reason
I do not feel a need for treatment (% , N)	63.3 (150)	72.2 (171)	78.0 (397)	86.4 (440)
I am not ready to begin treatment (% , N)	5.9 (14)	12.7 (30)	3.5 (18)	11.8 (60)
I am dealing with other health problems right now (% , N)	4.2 (10)	16.5 (39)	3.0 (15)	9.4 (48)
I would not want others to know (% , N)	3.4 (8)	11.0 (26)	3.1 (16)	10.6 (54)
I do not think treatment would help (% , N)	2.5 (6)	11.8 (28)	2.0 (10)	10.0 (51)
I do not have time (% , N)	2.5 (6)	14.4 (34)	2.4 (12)	11.6 (59)
It would be difficult for me to find transportation to treatment (% , N)	0.4 (1)	3.0 (7)	0.8 (4)	2.4 (12)
It would have a negative effect on my job (% , N)	1.7 (4)	6.3 (15)	1.2 (6)	4.3 (22)
Other reason (% , N)	16.0 (38)	--	5.7 (29)	--
Refused to answer (% , N)	0 (0)	0 (0)	0.4 (2)	0.4 (2)
N	237		509	

¹Survey questions identifying reasons given by participants for not entering drug or alcohol treatment adapted from the National Survey of Drug Use and Health (NSDUH).

Exhibit 5

Proportion of Participants Willingness to Pay Co-Payment (Panel A) or Willingness to Accept Incentive (Panel B) to Enter Drug or Alcohol Treatment

	Willing to Enter Drug Treatment (%)	Willing to Enter Alcohol Treatment (%)
<u>PANEL A:</u> Percent willing to enter treatment with: ¹		
Zero co-payment	100 (N=107)	100 (N=124)
\$10 co-payment	70 (N=27)	68 (N=41)
\$30 co-payment	29 (N=49)	37 (N=41)
\$50 co-payment	23 (N=31)	31 (N=42)
	Willing to Enter Drug Treatment (%)	Willing to Enter Alcohol Treatment (%)
<u>PANEL B:</u> Percent willing to enter treatment with: ²		
Zero co-payment	0 (N=237)	0 (N=509)
\$5 incentive	10 (N=39)	8 (N=113)
\$10 incentive	19 (N=48)	19 (N=90)
\$15 incentive	26 (N=57)	17 (N=102)
\$20 incentive	22 (N=50)	19 (N=109)
\$25 incentive	30 (N=43)	25 (N=95)

¹ Includes only the subset of participants reporting they were willing to enter randomized treatment vignette described as “free to you” and “available in your area with appointments open” (107 participants with drug use disorders and 124 with alcohol use disorders).

² Includes only the subset of participants reporting they were unwilling to enter randomized treatment vignette described as “free to you” and “available in your area with appointments open” (237 participants with drug abuse and 509 with alcohol abuse).