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On-site provision of substance abuse treatment services at community health centers

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Abstract

We examined on-site and off-site referral-based provision of substance abuse (SA) treatment services among a sample of community health centers (CHCs). Analyses used survey data collected from CHCs in three states merged with administrative claims to both characterize CHC care delivery models and examine the association between models and care quality. Care quality was based on the Washington Circle measures of initiation and engagement. Approximately half the sample provided at least some SA treatment services on site. The provision of intensive outpatient treatment services on site was associated with significantly higher engagement rates. It was also associated with higher (but not significantly) initiation rates. At the same time, on-site provision of screening and counseling services was negatively associated with both initiation and engagement rates. Given limited resources, investing in more intensive services on site may yield better outcomes for CHC patients than lower level services, but further study is recommended.

Keywords: Substance abuse treatment; Community health centers; Care delivery models; Care quality

1. Introduction

Nowhere is the coordination of substance abuse (SA) treatment services and medical care more important than in the delivery of health care to medically underserved populations. In recognition of this, the Federal Community Health Center (CHC) program, a core member of the health care safety net, has long facilitated a care model that seeks to bridge the divide between primary care and behavioral health (BH) services. To date, however, our understanding of these efforts is limited. We know there is growing demand for BH services at CHCs and we know some of the services CHCs are providing in response (Druss et al., 2006; National Association of Community Health Centers [NACHC], 2010; Proser & Cox, 2004). However, existing CHC studies do not distinguish between patients with mental health conditions versus those with SA disorders. These studies also lump mental health services and SA treatment services under the single rubric of BH services. Consequently, we know little about CHC capacity for providing SA treatment services specifically. Furthermore, and perhaps most importantly, we know nothing about the relative utility of different CHC approaches for coordinating primary care and SA treatment services. It was within this context that this study was undertaken.

Studies examining interventions designed to improve care delivery for patients with SA disorders suggest that there may be some advantages to integrated care models in which medical services and SA treatment services are provided at a single site (Butler et al., 2008). Integrated care models have been associated with improved SA treatment outcomes (Friedmann, Zhang, Hendrickson, Stein, & Gerstein, 2003; Weisner, Mertens, Parthasarathy, Moore, & Lu, 2001; Willenbring & Olson, 1999) and improved health outcomes (Friedmann, Hendrickson, Gerstein, Zhang, & Stein, 2006; Parthasarathy, Mertens, Moore, & Weisner, 2003; Umbricht-Schneiter, Ginn, Pabst, & Bigelow, 1994). However, the available evidence is limited, especially when considering the generalizability of findings to community-based, ambulatory care settings, such as CHCs.

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One limitation of the available evidence is that the use of integrated models have mainly been found among more complex patients (patients with relatively severe SA-related medical conditions such as alcoholic liver disease or patients with chronic conditions such as HIV; Parthasarathy et al., 2003; Umbricht-Schneiter et al., 1994; Weisner et al., 2001). In addition, in studies where a less severely ill patient population has been studied, integrated models have generally shown advantages for some but not all treatment modalities (long-term residential and methadone maintenance but not nonmethadone outpatient; Friedmann et al., 2006). Therefore, the available evidence is limited for suggesting that colocated care is advantageous for all patients, all levels of treatments, and all settings.

A second, related limitation is that integrated models have been examined mostly in SA treatment programs, which means we know relatively little about the prevalence and outcomes of colocated SA treatment services in ambulatory care settings (Collins, Hewson, Munger, & Wade, 2010). We also lack evidence about whether off-site referral models have relatively more success in primary care settings, settings which are more accustomed to managing a range of specialty care referrals compared with their SA treatment provider counterparts. Although models that rely on formal off-site referral relationships have had poor results in SA treatment settings (Umbricht-Schneiter et al., 1994), we know less about whether formal referral relationships in primary care settings improve the link with off-site SA treatment services. Because formal referral arrangements differ from informal (or ad hoc) referral relationships in that service providers have agreed to follow a set of rules for dealing with shared patients, they are thought (at least theoretically) to reduce some of the barriers to service integration (D'Aunno, 1997).

Given their history of pioneering efforts to coordinate care, CHCs may offer a unique opportunity to close some of these knowledge gaps. Furthermore, the landmark 2010 Affordable Health Care Act positions CHCs to play a prominent role in efforts to improve delivery system performance, key components of which relate to addressing service fragmentation. Thus, identifying effective models for improving care coordination among CHCs is central to efforts to reform the delivery system. To that end, in this study, we surveyed CHCs to characterize both the type of outpatient SA treatment services they provide and the delivery mode used, identifying both on-site and off-site, referral-based models for linking primary care and SA treatment services. Using multivariate analysis and administrative claims, we additionally examined whether relatively more integrated care models were associated with better care quality. Study results provide greater understanding of the role of community-based providers in coordinating SA treatment services and identify effective linkage models in community-based settings.

2. Methods

2.1. Data sources

We surveyed CHCs by mail in 2009, using an instrument developed by the research team for this study. The survey asked respondents to indicate whether they provided each of the following types of service for patients with SA disorders: (a) screening, (b) counseling, (c) intensive outpatient treatment (IOT), and (d) detoxification. The survey questions asked CHCs to respond to the type of services offered separately for patients with alcohol verse drug disorders. For each service provided, the survey also asked about delivery modes, including on-site (with CHC staff or colocated staff from another provider agency) and/or off-site referrals (through formal or informal referral relationships). Additional survey questions collected information about other organizational characteristics, including whether the CHC had a BH director on staff.

We used several procedures to ensure high-quality, valid, and reliable mail survey data. The research team developed an initial draft survey based on the literature and the study team's prior work (Gurewich, Capitman, Sirkin, & Traje, in press; Gurewich, Tyo, Zhu, & Shepard, 2011). We contracted with the Center for Survey Research, University of Massachusetts to help refine, format, and implement the survey, and we pilot-tested the survey with five CHCs operating in nonstudy states. Hard-copy surveys were mailed to CHC medical directors with a cover letter and fact sheet explaining the study and with payment of $25 enclosed. Telephone follow-up was conducted to all nonresponders, offering them an opportunity to complete the survey by telephone or to be sent another survey copy.

The second data source was Medicaid Analytic Extract (MAX) files for 2002 to 2004, the latest data available at the time of data acquisition. MAX is a person-level data file on Medicaid eligibility, service utilization, and payments maintained by the Centers for Medicaid and Medicare Services. MAX data are derived from the Medicaid Statistical Information System. We linked MAX and survey data via each CHCs unique Medicaid provider number.

2.2. Sample

The provider sample consisted of all CHCs operating in California, Massachusetts, and Texas, which provided a sample universe of 157 CHCs. After address verification, 155 health centers were found to be eligible for the study. Of these, 132 (85%) responded to the survey. By state, our sample included 77 CHCs in California (91% response rate), 25 CHCs in Massachusetts (81% response rate), and 30 CHCs in Texas (77% response rate). These three states were selected because they are among the states with the highest number of CHCs, representing 20% of the CHC delivery sites nationwide (NACHC, 2010). To assess how representative this sample was of

all CHCs, we examined available measures in the Uniform Data System and found that compared with CHCs nationwide, CHCs in our study states were slightly larger (17,841 average users vs. 14,363 nationwide), more urban (65% vs. 56% nationwide), and served more uninsured patients (65% vs. 56% nationwide; Bureau of Primary Health Care, 2004). We note these differences when considering the generalizability of study findings.

The study population was composed of patients with SA disorders who were enrolled in Medicaid for one or more of the three claims-based study years (2002–2004); had a minimum continuous enrollment eligibility of 3 months; were not enrolled in Medicare, managed care, or private insurance; and relied on one of the 132 CHCs that responded to the survey for their usual source of care (USC). Each patient's USC in a calendar year was the provider that rendered the majority of primary care outpatient visits for the patient (Falik, Needleman, Wells, & Korb, 2001). Beneficiaries assigned to non-CHC settings or "mixed use" (i.e., no one provider furnishing the majority of primary care services in a given year) were excluded from the analysis. To eliminate CHCs that would have had unstable results because of small sample variation, we also excluded CHCs, and the beneficiaries for which they were the USC, where fewer than 25 episodes of SA care were identified. This assignment methodology yielded a study sample representing 14,590 episodes of care across 78 CHCs. The final study sample reflected the three-state CHC universe in terms of rural/urban distribution and proportion of uninsured patients, but sample CHCs were, on average, larger (22,819 vs. 17,841 users; Bureau of Primary Health Care, 2004).

2.3. Measures

Our analytic models assessed the relationship between care quality and CHC service models for coordinating primary care and SA treatment services. Our care quality measures were the treatment initiation and engagement measures for alcohol and other drug services defined by the Washington Circle (Garnick et al., 2002) and now incorporated into the National Committee on Quality Assurance's Healthcare Effectiveness Data and Information Set (HEDIS-WC). A beneficiary was considered to have *initiated* treatment if he or she had another SA service (excluding detoxification) within 14 days of the index service. A beneficiary was considered to have *engaged* in treatment if he or she met the initiation criteria and had two additional SA services within 30 days of initiation (National Committee for Quality Assurance [NCQA], 2004). The index service was identified as an outpatient claim with an SA disorder recorded as the primary or secondary diagnosis following a period of at least 60 days, where no claims with primary or secondary diagnoses of SA disorders are observed.

Our main analysis characterized each CHC based on the types of SA treatment services it provided on site. Our limited sample size and high correlations between some services precluded meaningful analyses of all the types of individual service types included in our survey. For example, on-site screening services and on-site counseling services were highly correlated ($r = .77$, $p < .001$). We therefore aggregated these two services into a combined service-type, on-site screening and/or counseling (SC). We also found that on-site IOT and on-site detoxifications were significantly correlated ($r = .21$, $p < .001$). Furthermore, detoxification services do not qualify for either initiation or engagement in treatment. We therefore chose the provision of IOT on site for inclusion in our model. Thus, our main analyses considered two types of services, SC and IOT.

2.4. Analytic strategy

Using descriptive analysis, we examined CHC approaches to providing SA treatment services, both the type of services offered and the delivery mode used. With regression analysis, we compared the likelihood of Medicaid beneficiaries initiating and engaging in SA treatment services across care models defined by scope of service on site and type of services on site. Beneficiary-level covariates in all the regression models included disability status (based on Medicaid eligibility category), gender, age, and race/ethnicity as a variable, defined as White or non-White (as per the available beneficiary race/ethnicity assignments in the Person Summary File of MAX). We included the disability covariate because although SA disorders occur more often in persons with disabilities, beneficiaries with disabilities tend to experience more barriers to care than beneficiaries without disabilities (Lawthers, Pransky, Peterson, & Himmelstein, 2003; Moore & Li, 1998; Shepard, Daley, Ritter, Hodgkin, & Beinecke, 2001). It was thus an important client-level covariate that could be reliably measured without missing data in our data set. An organizational-level covariate representing total users (measured in 1,000s) was also included in all models.

Analysis was performed using SAS 9.2 (SAS Institute Inc., Cary, NC, USA). To avoid the problem of adjusting for clustering at the patient level, only a beneficiary's initial episode of care was entered into the regression analysis so that each beneficiary only represented a single case (with initiation and engagement variables having been determined separately and coded "yes/no" for each beneficiary). All regression models also included statistical control for clustering at the provider level using PROC SURVEYREG or SURVEYLOGISTIC.

3. Results

3.1. SA treatment service models

Either through on-site or off-site referral relationships, most CHCs provide screening and diagnostic services (90% offer these services for patients with alcohol disorders and 93% for patients with drug disorders) and counseling and

Table 1
Characterizing CHC provision of SA treatment services

Service variables	Alcohol disorders	Drug disorders
Total sample	(n = 132)	(n = 132)
Scope of services provided		
No services	3%	3%
Screening and diagnostic	90%	93%
Counseling and therapy	91%	94%
IOT	73%	72%
Detoxification	76%	75%
Sample providing SA services	(n = 129)	(n = 128)
Scope of services provided on site		
No services offered on site	48%	49%
One or more services on site	52%	51%
Type of services provided on site		
Screening and diagnostic	48%	43%
Counseling and therapy	36%	41%
IOT	13%	16%
Detoxification	13%	16%

therapy services (91% offer this service for patients with alcohol disorders and 94% for patients with drug disorders; see Table 1). Although relatively less common, close to three quarters of CHCs provide IOT services (73% for patients with alcohol disorders and 72% for patients with drug disorders) and outpatient detoxification services (76% for alcohol disorders and 75% for drug disorders), regardless of delivery mode.

Among CHCs that provide these SA treatment services, about half rely *exclusively* on off-site referrals (48% and 49%, respectively, do not provide any SA treatment services on site for patients with alcohol or SA disorders). Of the total outpatient SA treatment services provided off site, most (73%) are delivered through informal referral relationships between CHCs and other services providers. Only about one quarter (27%) of off-site services are provided through formal referral relationships (data not shown).

Although roughly half the sample coordinates primary care and SA treatment services primarily through referral relationships, the other half provides one or more SA treatment services on site (52% provide one or more SA treatment services on site for patients with alcohol disorders, and 51% provide one or more SA treatment on-site services for patients with drug disorders). The most common services provided on site are screening and diagnostic services (48% provide these services on site for patients with alcohol disorders and 43% for patients with drug disorders) and counseling and therapy (36% provide this service on site for patients with alcohol disorders and 41% for patients with drug disorders). Only 13% provide IOT services on site for patients with alcohol disorders (16% provide this service on site for patients with drug disorders), and 13% provide detoxification services on site for patients with drug disorders (16% provide this service on site for patients with alcohol disorders). Of the SA services provided on site, about 90% are provided by CHC staff; a colocation model was a far less common delivery mode (data not shown).

3.2. Demographic and other characteristics of CHC patients by service model

Table 2 presents selected measures and shows significant patient and organizational differences across CHCs defined by the provision of IOT on site or not. Beneficiaries served by CHCs with IOT on site were, on average, significantly more likely to be male (55%) compared with their counterparts served by CHCs without IOT on site (46%). Beneficiaries served by CHCs with IOT on site were also significantly more likely to be with disability compared with beneficiaries at CHCs without IOT on site (80% and 64%, respectively). Table 2 also indicates a high correlation between the provision of IOT on site and the presence of a BH director on staff. Almost three quarters (71%) of CHC with IOT on site reported having a BH director compared with only one fifth (20%) of CHCs without IOT on site. The provision of IOT was also associated with larger CHCs: The mean number of users served by CHCs with IOT on site was 41,111 compared with 25,462 at CHCs without IOT on site. Finally, descriptive comparisons indicate no significant performance differences between CHCs with and without IOT on site. In both service models, about 35% of patients initiated SA treatment, and about 21% engaged in SA treatment.

3.3. Multivariate analysis of SA service models

The analysis modeled the initiation and engagement of treatment services. The logistic regression results for initiation presented in Table 3 indicate that Medicaid

Table 2
Patient and other characteristics by service model

Variable	All	Provide IOT on-site		Significance
		Yes	No	
CHCs	78	15	63	
Episodes of care, n	14,590	1,632	12,958	
Demographic				
Female	47%	45%	54%	*
White	55%	55%	55%	*ns*
Disabled	66%	80%	64%	***
Age (average years)	39	40	38	***
Outcome				
Initiation	35%	35%	35%	*ns*
Engagement	21%	22%	21%	*ns*
Organizational				
SC on site	46%	100%	39%	***
Total users (M)	27,165	41,111	25,462	***
BH director	25%	71%	20%	***

Note. Percentages based on episodes of care.
* $p < .05$, significance of bivariate tests (chi-square and t tests).
** $p < .01$, significance of bivariate tests (chi-square and t tests).
*** $p < .001$, significance of bivariate tests (chi-square and t tests).

Table 3
Initiation and engagement regression models

	Initiation (n = 14,590)		Engagement (n = 14,590)	
Variable	OR	95% CI	OR	95% CI
Intercept	0.20		−1.00	
Demographic covariates				
Female	1.02	0.95–1.10 (*ns*)	1.14	1.05–1.23 **
White	0.90	0.84–0.96 **	0.86	0.79–0.93 ***
Age (decade)	0.94	0.83–1.06 ***	0.97	0.92–1.03 *
Case mix				
Disabled	0.75	0.69–0.82 ***	0.77	0.70–0.85 ***
Organizational covariates				
SC on site	0.89	0.83–0.96 **	0.86	0.78–0.94 ***
IOT on site	1.08	0.95–1.22 (*ns*)	1.19	1.03–1.38 *
Total users (1,000s)	1.01	1.00–1.01 ***	1.01	1.00–1.01 ***
State (reference = California)				
Massachusetts	0.70	0.63–0.78 ***	0.53	0.46–0.60 ***
Texas	0.79	0.54–1.15 (*ns*)	0.62	0.40–0.98 *
Fit statistic				
c-Statistic	0.58		0.60	

Note. CI = confidence interval.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

beneficiaries with SA disorders served by CHCs with SC on site were significantly *less* likely to initiate care treatment (odds ratio [OR] = 0.89) compared with beneficiaries served by CHCs without SC on site. The provision of IOT on site was associated with increased odds of initiation, but the effect was not significant. The only organizational factor associated with increased odds of treatment initiation was CHC size: Beneficiaries served by relatively larger CHCs were significantly more likely to initiate SA treatment (OR = 1.01) compared with beneficiaries served by relatively smaller CHCs. Several other covariates were significant. For example, initiating treatment was significantly less likely for Whites (OR = 0.90) compared with non-Whites; it was also significantly less likely for older beneficiaries (OR = 0.94 for each decade of age), beneficiaries with disability (OR = 0.75), and beneficiaries residing in Massachusetts (OR = 0.70).

The logistic regression results for engagement rates indicate a slightly different pattern. The provision of SC services on site was again associated with significantly lower odds of beneficiary engagement in treatment (OR = 0.86). However, beneficiaries served by CHCs with on-site IOT were associated with significantly higher odds of engagement (OR = 1.19). Engaging in treatment was also significantly more likely for beneficiaries served by relatively larger CHCs (OR = 1.01) and for female beneficiaries (OR = 1.14). At the same time, engaging in treatment was significantly less likely for Whites (OR = 0.86), older beneficiaries (OR = 0.97 for each decade), and beneficiaries with disability (OR = 0.77). Compared with California, beneficiaries in both Massachusetts and Texas were significantly less likely to engage in treatment (OR = 0.53 and OR = 0.62, respectively).

4. Discussion

Our analysis showed that most CHCs are involved in efforts to coordinate primary care and SA treatment services and that for about half the sample, these efforts involve the delivery of at least some SA treatment services on site, usually with CHC staff delivering the services.

The findings for the overall quality of SA care indicates that although CHC patients are initiating treatment at a lower rate (35%) than the Medicaid population overall (46%), they are engaging in treatment at a rate (21%) almost double that reported for Medicaid (12%; NCQA, 2010). Compared with commercial plans, where 46% of patients initiate and 16% engage in treatment (NCQA, 2010), CHC patients are again initiating care at a lower rate but engaging in treatment at a slightly higher rate.

One possible explanation for the relatively low initiation but high engagement rates among CHCs may relate to the characteristic patient mix among CHCs, which includes patients who are disproportionately low income, members of immigrant and minority groups, and often challenged by linguistic and cultural barriers (Adashi, Geiger, & Fine, 2010). Patients served by CHCs are also more likely to have serious and chronic conditions (Rosenbaum, Finnegan, & Shin, 2009). Evidence shows that medically complex, high-risk patients tend to have lower initiation rates, which might account for relatively lower initiation among CHC patients (Zivin et al., 2009). At the same time, once a patient enters the CHC delivery system (a process that can take time), CHCs may more effectively engage patients in SA treatment through a comprehensive set of support and enabling services such as care management, translation services, and health education, services more often associated with CHCs compared with other primary care settings (Politzer et al., 2001; Shi, Stevens, & Politzer, 2007).

Regarding the relative use of different service approaches, some of our findings affirm results of other studies that find that the integration of behavioral service with primary care is generally more effective than when delivered off site via referral to a separate care setting (Friedmann et al., 2003). However, our findings suggest that not all on-site services are associated with improved quality and that not all dimensions of quality are affected equally. The provision of on-site IOT in particular was associated with significantly higher odds of a patient engaging in treatment. However, IOT had no significant effect on initiation rates. It is possible that because IOT is a relatively intensive service, its introduction in a patient's treatment plan may occur further down the road than the 15-day requirement of the HEDIS-WC measure. Initial SA treatment may focus on diagnosis, detox, or mental health counseling.

Our findings also suggest that the provision of less-intense SA services (SC) had a significant and an adverse effect on both initiation and engagement rates. One possible explanation for this may relate to how counseling services are delivered by CHCs and coded in administrative claims. Case studies, conducted as part of this study (manuscript in preparation), suggest that at least some CHCs operationalize counseling services for patients with less severe SA disorders as a mental health service. It is possible, therefore, that CHC patients are initiating SA treatment at a higher rate, but the treatment is not observed in the claims because the service is coded in the administrative claims as a mental health service. Furthermore, under Fee-for-Service (FFS) Medicaid, CHCs are reimbursed for counseling (and IOT) services under an all-inclusive billing code, where the rate is insensitive to diagnostic codes. In contrast, stand-alone BH facilities operate under a reimbursement system that is more responsive to both procedure and diagnostic codes, which may result in a stronger tendency to distinguish between mental health and SA disorders, even among less severely ill patients. Others have noted the challenge of specifying WC measures in the absence of standardized data formats (Garnick et al., 2002).

An alternate explanation is that CHC systems for serving patients with less severe forms of SA disorders are less effective than those managed by stand-alone facilities. One telling finding was the high association (100%) between IOT on site and a BH director, an association *not* observed as strongly with on-site counseling services. The presence of a BH director may imply that a CHC has a relatively comprehensive BH department distinct from its medical department. The presence of a department, in turn, may suggest a more advanced level of administrative systems and structures in support of BH service delivery such as the ability to establish structured treatment plans for patients with SA disorders, including individual counseling and more intense treatment plans. Further study will be needed to understand the relationship between on-site counseling services and care quality.

Finally, our findings also indicate state-level differences in initiation and engagement rates. For example, California was associated with relatively higher engagement rates compared with Massachusetts and Texas. These differences likely reflect variations among the states in the structure of the fee-for-service Medicaid program and the SA delivery system. Although it was beyond the scope of this study, we believe that this is a topic that merits further study, including whether there are any interactions between state and types of service in predicting SA treatment care quality.

4.1. Limitations

These analyses have at least four important limitations. First, our analysis did not adjust for patient severity of SA disorder, and therefore, it is possible that CHCs with on-site services cater to patients with a lower level of severity. Our core data source, administrative claims, did not provide this level of information. At the same time, there are arguments against adjustments for case mix for performance measures, including that adjustments appear to give settings with higher case mix severity a partial justification for worse performance (Mehta et al., 2008; Sox & Greenfield, 2010). Second, there was a 5-year time gap between the claims data and the survey data, and it is possible that some CHCs changed their SA service model in the interim. To minimize the bias this might introduce, we included a question in the survey asking CHCs to indicate if their reported service model had changed during the past 5 years (either because of adding more services, eliminating some services, and/or changing delivery modes). We ran all models with and without the five CHCs that reported some change, and our results remained the same. Third, the models have low explanatory power, suggesting that service model explains only a small amount of the performance variance. However, it is not uncommon for cross-sectional data to yield low explanatory power, and other studies have defended the use of models regardless of low c-statistics (Merkow, Bilimoria, & Hall, 2010). Finally, our analysis was based on a subsample of CHCs that were relatively larger and more urban than CHCs nationwide. To that end, the generalizability of study findings should be applied cautiously to smaller, rural CHCs.

4.2. Implications

In sum, we see several implications for CHCs stemming from this work. First, given limited resources, investing in more intensive SA treatment services may yield better outcomes for CHC patients than lower level services. It is therefore important to understand the conditions that support on-site IOT to encourage wider adoption of this approach. Second, further study is needed to understand the relationship between on-site counseling services and SA treatment care quality. Until we can determine whether the findings are a measurement issue or an operational one, conclusions are tentative. However, if it is a measurement problem, several implications follow. Although the identification service would still need to have an SA disorder diagnosis, an expanded WC measure might include mental health diagnoses for the visits used to establish initiation or engagement. Providers and patients may prefer mental health diagnoses, where legitimate, to improve reimbursement and benefits or to minimize stigma, and many clients have co-occurring mental health and SA disorders (Lo Sasso & Lyons, 2004). In addition, CHCs should be advised on the importance of assigning SA diagnostic codes for counseling services provided to patients with SA disorder, especially in light of the growing emphasis on performance measurement. On the other hand, if the negative findings about on-site SC services reflect an operational limitation, policy makers and payers should encourage CHC efforts to invest in systems that support their ability to establish structured treatment plans for patients with both low- and high-intense service

needs. Finally, knowing that colocated services may not be feasible for all providers, there is a need to develop complimentary care linkage models that reflect delivery systems whereby patients with SA disorders seek SA treatment services and general health services in different settings. We are not alone in the final suggestion (Druss et al., 2006; Friedmann, Alexander, Jin, & D'Aunno, 1999).

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