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Brief Report

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Characteristics of accountable care organizations offering methadone to patients with opioid use disorder

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Abstract

Understanding whether organizations with Medicare and Medicaid accountable care organization (ACO) contracts offer methadone provides important context about how organizations invested in payment and delivery system reform address the needs of patients with substance use disorders. We used data from the 2021-2022 National Survey of Accountable Care Organizations to assess whether organizations with ACO contracts, which are held accountable for the cost and quality of care for an assigned patient population, offered methadone to patients with opioid use disorder (OUD), and the organizational and contextual characteristics associated with doing so. We found that 28.3% of survey respondents reported that clinicians in their organizations offered methadone via an opioid treatment program. In adjusted analyses, organizations with a Medicaid ACO contract but no Medicare contract were more likely to offer methadone (46.0%, $P < 0.05$) than organizations with a Medicare-only contract (19.6%) or a Medicare and Medicaid contract (30.3%). Despite incentives to prioritize population health, most ACO-affiliated organizations were not offering individuals with OUD the full range of recommended medications and should work to enhance treatment options for this patient population.

Lay summary

Less than 30% of organizations with a Medicare or Medicaid ACO contract reported that their clinicians offered methadone to patients. Organizations with a Medicaid ACO contract were significantly more likely to offer patients methadone than those without one; these organizations were also more likely to include an opioid treatment program in their ACO contract.

Key words: accountable care organizations; methadone; opioid use disorder; substance use disorder; survey.

Introduction

An estimated 7 million U.S. adults live with opioid use disorder (OUD), yet only about 20% of these individuals accessed medications for OUD (MOUD) in the past year.[1,2] Methadone, one of three evidence-based MOUD, reduces individuals' opioid use and the risk of overdose and is associated with a lower risk of treatment discontinuation than buprenorphine/naloxone.[3] Methadone is a particularly effective treatment option for individuals with OUD, yet patients face barriers to access: federal regulations limit methadone dispensing to certified opioid treatment programs (OTPs), and OTPs tend to be heavily concentrated in urban areas.[4] Additionally, many patients must receive daily methadone doses in-person, although an increasing number have the option to take their medication at home following COVID-era regulation changes.[5]

As more healthcare organizations adopt alternative payment and delivery models, it is unclear whether model participants seek to offer patients access to outpatient methadone. Organizations with accountable care organization (ACO) contracts—in which providers bear financial risk for meeting healthcare quality and cost targets for a designated population—face incentives to enhance patient access to outpatient services that prevent costly hospital admissions and emergency department visits. However, patients with (vs patients without) substance use disorders (SUD) tend to have higher overall healthcare costs and high rates of hospitalization and readmission,[6,7] making them less attractive to include in risk-based contracts, particularly without adequate risk adjustment.

Existing ACO models have not demonstrated much success in improving access or cost outcomes for this population. For example, provider organizations that joined the Alternative Quality Contract (AQC), a commercial ACO contract, saw little change in treatment utilization or spending for individuals with SUD.[8] Notably, neither the AQC nor Medicare ACO models include SUD quality measures,[9,10] while some ACO contracts exclude SUD from total cost of care calculations. However, we know of no research that has specifically examined characteristics associated with ACO-affiliated organizations offering methadone; existing studies have examined the

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change over time in availability of all major OUD medications among ACOs, as well as the integration of substance abuse treatment organizations into ACO contracts.[11,12]

This study uses a national survey of organizations with Medicare or Medicaid ACO contracts[11,13] to assess organizational and contextual characteristics associated with clinicians offering methadone to patients with OUD via an OTP that provides onsite administration, dispenses take-home doses, or does both. We hypothesized that organizations with Medicaid ACO contracts, those classified as health systems or hospitals, and those located in geographic areas with high rates of overdose deaths would be more likely to offer methadone than ACO-affiliated organizations without these characteristics.

Methods

This cross-sectional study was approved by the Harvard University and Dartmouth College institutional review boards. It followed the Strengthening the Reporting of Observational Studies in Epidemiology reporting guidelines. We fielded the 2021-2022 National Survey of Accountable Care Organizations (NSACO) from October 2021 to June 2022 to representatives from all Medicaid or Medicare ACO contracts nationally ($N = 505$, organizational response rate = 55%). We did not survey representatives from commercial-only ACOs.

We constructed our primary outcome, a measure of whether clinicians in an ACO offered methadone, as a "yes" response to the survey question: "Do clinicians in your organization offer patients methadone for OUD?" We also asked: "Do clinicians in your organization offer patients buprenorphine (ie, Subutex, Suboxone) for OUD?" and "Do clinicians in your organization offer patients naltrexone (ie, Revia, Vivitrol) for OUD?" Another survey item stated: "We'd like to know whether your largest Medicare or Medicaid ACO contract (as measured by total attributed members) includes any specialty substance use treatment providers. Please identify whether the following facilities are participating in your largest Medicare or Medicaid ACO contract." The first option to mark as "yes" or "no" was: "SAMHSA certified narcotic treatment program that provides methadone OTP." Details about the survey instrument are available online.[14]

Surveys were sent to individuals engaged in ACO governance, such as ACO executive officers and ACO chief medical officers. Multiple surveys may have been sent to representatives from the same ACO. If we received more than 1 ACO-level response, we weighted them by $1/n$, where n is the number of respondents per ACO, a strategy employed in prior studies.[15] We coded missing responses as "no" for primary analyses; we then tested the sensitivity of results by excluding these respondents.

We fit a logistic regression model to estimate whether the availability of methadone among ACO participants was associated with organizational characteristics (public ACO contract type and organization type), geographic region, drug overdose mortality rate, and buprenorphine prescriber rate in the ACO's state of operation. Two secondary analyses examined possible mechanisms for offering methadone: one added a measure to the model about whether the ACO participant's largest contract included an OTP, and the second recategorized ACO public contract types to: (1) include a Medicaid contract and (2) does not include a Medicaid contract. We report the adjusted percent offering methadone.

Results

Our sample included 304 responses from 276 organizations that reported participating in at least 1 Medicare or Medicaid ACO contract. Of the respondents, 44 had a Medicaid contract but no Medicare contract, 147 had a Medicare contract but no Medicaid contract, and 113 had both a Medicaid and Medicare contract (Table S1 and Figure S1). Overall, 86 respondents (28.2%) indicated that clinicians in their organization offered patients methadone for OUD via an OTP delivering onsite administration, dispensing take-home doses, or both (Table 1). Of these 86 respondents from ACOs offering methadone, 95% indicated that clinicians offered buprenorphine ($n = 82$) or naltrexone ($n = 82$) for OUD. Overall, these figures were just 51.0% (buprenorphine) and 41.8% (naltrexone).

Organizations with only a Medicaid ACO contract were more likely to offer patients methadone than those with only a Medicare contract or with both a Medicare and Medicaid contract (Table 1). In adjusted analyses, 19.6% of organizations with only a Medicare contract offered patients methadone, compared with 46.0% of organizations with a Medicaid ACO contract but no Medicaid contract ($P < 0.05$) and 30.3% of organizations with a Medicare and Medicaid contract. In the secondary analysis in which we reclassified the ACO contract type variable to include just 2 categories of ACO contract (Medicaid vs no Medicaid), we found 20.2% of organizations with no Medicaid contract offered methadone, compared with 33.8% with a Medicaid contract ($P < 0.05$) (Table S2).

Health systems and hospitals, the reference group, were most likely to report offering methadone (36.5%). Only safety net providers (16.4%) and "other" types of organizations with a Medicare/Medicaid ACO contract (4.5%) were significantly less likely than health systems and hospitals to report offering methadone ($P < 0.05$). Geographic region, overdose mortality rate, and buprenorphine prescriber prevalence were not significant predictors of offering methadone. A sensitivity analysis that first excluded the missing responses and then excluded the "other" category for organization type yielded similar results to the main analysis. Of 157 organizations with a Medicaid ACO contract, 39.5% (vs 10.9% of those without a Medicaid ACO contract) reported including an OTP in their ACO network. When we included a variable in the model for having an OTP in an organization's largest Medicare or Medicaid ACO contract, the large and statistically significant effect of having a Medicaid ACO contract was reduced substantially and no longer significant.

Discussion

In this study analyzing 304 survey responses from organizations with public ACO contracts, we found that very few organizations with ACO contracts—<30%—reported that their clinicians offered methadone to patients. This number is surprisingly low given that methadone is considered a gold standard of OUD treatment and has been well documented as effectively preventing OUD-related overdose and death.

Having a Medicaid ACO contract was a significant predictor of offering methadone, likely because organizations with a Medicaid ACO contract were more likely to report having an OTP participating in the contract. This result suggests that organizations that are held accountable for the cost and quality of care for Medicaid-enrolled individuals tend to provide greater access to evidence-based OUD treatment, an encouraging result

Table 1. Characteristics of organizations with ACO contracts that do and do not offer methadone.

Characteristics	Total ($N = 304$) No.	Offers methadone ($N = 86$) (28.3%) No.	% out of total	Does not offer methadone ($N = 218$) (71.7%) No.	% out of total	Adjusted percent offering methadone (95% CI)
Public ACO Contract type						
Only medicare contract (reference)	147	29	19.7	118	80.3	19.6 (12.8, 26.5)
Only medicaid contract	44	17	38.6	27	61.4	46.0* (28.5, 63.5)
Medicare and medicaid contract	113	40	35.4	73	64.6	30.3 (22.0, 38.5)
Organization type						
Health system/hospital (reference)	161	61	37.9	100	62.1	36.5 (28.9, 44.2)
Physician/medical Group	73	16	21.9	57	78.1	23.7 (13.4, 34.0)
Safety net Provider	23	5	21.7	18	78.3	16.4* (0.0, 32.7)
Other	47	4	8.5	43	91.5	4.5* (−0.9, 9.9)
Geographic region						
Northeast (reference)	67	18	26.9	49	73.1	24.1 (12.5, 35.8)
South	110	28	25.5	82	74.5	27.4 (19.3, 35.6)
Midwest	72	22	30.6	50	69.4	24.1 (13.4, 34.7)
West	55	18	32.7	37	67.3	34.4 (20.6, 48.2)
Drug overdose mortality rate tertile of state[a] in 2019						
Bottom-tertile (reference)	99	27	27.3	72	72.7	18.3 (8.1, 28.5)
Middle-tertile	121	35	28.9	86	71.1	29.2 (21.3, 37.1)
Top-tertile	84	24	28.6	60	71.4	33.7 (21.0, 46.4)
Provider prevalence in ACO state of operation[a]		**Mean (SD)**	**Mean (SD)**	**Mean (SD)**	**Adjusted percent offering methadone (95% CI)**	
Active buprenorphine prescribers per 1 million population[b]		109.1 (46.8)	109.3 (44.5)	109.1 (47.8)	At mean: 27.0 (22.2, 31.9) At mean + 1 SD: 25.0 (16.7, 33.2)	
OTPs per 1 million population[c]		5.6 (3.5)	5.4 (3.6)	5.6 (3.4)	At mean: 27.1 (22.2–32.0): At mean + 1 SD: 21.3 (13.2, 29.3)	

*P-value < 0.05 for difference compared with reference group.
[a]For ACOs serving multiple states, this refers to the state where the plurality of attributed beneficiaries reside.
[b]Adjusted percent evaluated at mean buprenorphine provider prevalence in ACO state of operation and reference organization (Medicare only or Medicare-Commercial ACO contract, Health system/hospital organization, Northeast region, at mean OTP prevalence in ACO state of operation).
[c]Adjusted percent evaluated at mean OTP prevalence in ACO state of operation and reference organization (Medicare only of Medicare-Commercial ACO contract, Health system/hospital organization, Northeast region, at mean number of active buprenorphine prescribers per population in ACO state of operation).
Source: 304 responses (276 organizations) to the 2021-2022 NSACO.

given that the U.S. opioid crisis disproportionately impacts Medicaid beneficiaries and imposes substantial financial burdens on state Medicaid programs.[16] NSACO data were collected <2 years after Medicare began paying for OTP coverage for methadone, so organizations with Medicare-only ACO contracts may have still been less likely to offer methadone due to the historic lack of Medicare payment,[17] even as access to OTPs for Medicare beneficiaries increased following the coverage change.[18]

Non-traditional ACO contract holders were significantly less likely to report offering patients methadone than hospitals and health systems. This "other" category includes organizations that identify as health plans and "ACO enablers," third-party firms that provide services to ACOs like financial assistance, care management support, and technical infrastructure. This finding could suggest that such organizations are prioritizing financial outcomes by not requiring or incentivizing providers in their ACO network to offer methadone, or that these non-clinical entities are less aware of how ACO-affiliated clinicians are interacting with patients.

A limitation of this study is the reliance on survey data: individual survey respondents may over- or under-report their organization's available services, and the 55% response rate means we were not able to analyze data for almost half of Medicare and Medicaid ACOs. Additionally, the NSACO question about offering methadone did not ask respondents to specify where or how the methadone was offered, so we cannot infer locations or settings when analyzing this question's responses. Another limitation is that we were unable to distinguish between ACO-affiliated organizations operating in rural vs urban areas, so we were unable to account for geographical differences that could affect access to OTPs.

Finally, mortality was measured at the state level, which does not capture differences in county-or local-level drug overdose mortality rates; we therefore do not know if lack of an association between overdose death rates and offering patients methadone is related to imprecision in the variable definition or to the fact that ACO-affiliated organizations in states with high overdose rates do not provide more (or more accessible) OUD treatment services. Future research should explore the relationship between a location's OUD prevalence and overdose mortality rate and the availability and uptake of methadone and other MOUD options in that area.

Overall, these results suggest that while organizations with ACO contracts have an incentive to provide high-quality, cost-effective care to their patients, most were not offering outpatient methadone to patients with OUD, and therefore not adequately meeting their treatment needs. A first concrete step to increase the likelihood that ACO-participating organizations offer methadone would be to include SUD quality measures in ACO contracts, particularly related to SUD diagnosis, treatment initiation, treatment retention, and recovery. Measure examples include the NCQA HEDIS "Initiation and Engagement of SUD Treatment" measure[19] and National Quality Forum's measures on OUD diagnosis and treatment (NQF 3400, 3175).[20] Inclusion of such measures in publicly reported quality data or in the formula to determine ACO shared savings would provide an incentive to expand access to methadone and other MOUD.

Supplementary material

Supplementary material is available at *Health Affairs Scholar* online.

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Conflicts of interest

Please see ICMJE form(s) for author conflicts of interest. These have been provided as supplementary materials.

Notes

1. Keyes KM, Rutherford C, Hamilton A, et al. What is the prevalence of and trend in opioid use disorder in the United States from 2010 to 2019? Using multiplier approaches to estimate prevalence for an unknown population size. *Drug Alcohol Depend Rep*. 2022;3:100052. https://doi.org/10.1016/j.dadr.2022.100052
2. Jones CM, Han B, Baldwin GT, Einstein EB, Compton WM. Use of medication for opioid use disorder among adults with past-year opioid use disorder in the US, 2021. *JAMA Netw Open*. 2023;6(8):e2327488-e. https://doi.org/10.1001/jamanetworkopen.2023.27488
3. Nosyk B, Min JE, Homayra F, et al. Buprenorphine/naloxone vs methadone for the treatment of opioid use disorder. *JAMA*. 2024;332(21):1822-1831. https://doi.org/10.1001/jama.2024.16954
4. Jehan S, Zahnd WE, Wooten NR, Seay KD. Geographic variation in availability of opioid treatment programs across US communities. *J Addict Dis*. 2024;42(2):136-146. https://doi.org/10.1080/10550887.2023.2165869
5. Methadone take home flexibilities extension guidance [Internet]. SAMHSA. 2021. Accessed November 22, 2024. https://www.samhsa.gov/substance-use/treatment/opioid-treatment-program/methadone-guidance
6. Kirson NY, Scarpati LM, Enloe CJ, Dincer AP, Birnbaum HG, Mayne TJ. The economic burden of opioid abuse: updated findings. *J Manag Care Spec Pharm*. 2017;23(4):427-445. https://doi.org/10.18553/jmcp.2017.16265
7. Englander H, Weimer M, Solotaroff R, et al. Planning and designing the improving addiction care team (IMPACT) for hospitalized adults with substance use disorder. *J Hosp Med*. 2017;12(5):339-342. https://doi.org/10.12788/jhm.2736
8. Stuart EA, Barry CL, Donohue JM, et al. Effects of accountable care and payment reform on substance use disorder treatment: evidence from the initial 3 years of the alternative quality contract. *Addiction*. 2017;112(1):124-133. https://doi.org/10.1111/add.13555
9. Acevedo A, Mullin BO, Progovac AM, Caputi TL, McWilliams JM, Cook BL. Impact of the medicare shared savings program on utilization of mental health and substance use services by eligibility and race/ethnicity. *Health Serv Res*. 2021;56(4):581-591. https://doi.org/10.1111/1475-6773.13625
10. Quality: APP Requirements [Internet]. Centers for Medicare & Medicaid Services. 2024. Accessed March 5, 2025. https://qpp.cms.gov/mips/app-quality-requirements
11. Newton H, Miller-Rosales C, Crawford M, Cai A, Brunette M, Meara E. Availability of medication for opioid use disorder among accountable care organizations: evidence from a national survey. *Psychiatric Services*. 2024;75(2):182-185. https://doi.org/10.1176/appi.ps.20230087
12. D'Aunno T, Friedmann PD, Chen Q, Wilson DM. Integration of substance abuse treatment organizations into accountable care organizations: results from a national survey. *J Health Polit Policy Law*. 2015;40(4):797-819. https://doi.org/10.1215/03616878-3150062
13. Miller-Rosales C, Busch SH, Meara ER, King A, D'Aunno TA, Colla CH. Internal and environmental predictors of physician practice use of screening and medications for opioid use disorders. *Med Care Res Rev*. 2023;80(4):410-422. https://doi.org/10.1177/10775587231162681
14. Crawford M, Barnett M, Brunette M, Busch SH, Cai A, Hardy BL. *Availability of Medications for Opioid Use Disorder Under ACO*

Contracts 2017-2022 (NIDA R01DA049757). Center for Open Science; 2022.
15. Miller-Rosales C, Morden NE, Brunette MF, Busch SH, Torous JB, Meara ER. Provision of digital health technologies for opioid use disorder treatment by US health care organizations. *JAMA Netw Open*. 2023;6(7):e2323741-e. https://doi.org/10.1001/jamanetworkopen.2023.23741
16. Weiner SG, El Ibrahimi S, Hendricks MA, et al. Factors associated with opioid overdose after an initial opioid prescription. *JAMA Netw Open*. 2022;5(1):e2145691-e. https://doi.org/10.1001/jamanetworkopen.2021.45691
17. Harris SJ, Abraham AJ, Andrews CM, Yarbrough CR. Gaps in access to opioid use disorder treatment for medicare beneficiaries: an analysis of the availability of evidence-based, FDA-approved medication for opioid use disorder treatment for the nation's medicare population. *Health Aff*. 2020;39(2):233-237. https://doi.org/10.1377/hlthaff.2019.00309
18. Liu R, Beetham T, Newton H, Busch SH. Access to treatment before and after medicare coverage of opioid treatment programs. *Health Aff Sch*. 2024;2:qxae076. https://doi.org/10.1093/haschl/qxae076
19. HEDIS MY 2025 Measure Descriptions [Internet]. NCQA. 2024. Accessed March 5, 2025. https://wpcdn.ncqa.org/www-prod/wp-content/uploads/HEDIS-MY-2025-Measure-Description.pdf
20. Behavioral Health and Substance Use, Spring 2022 Cycle: CDP Report [Internet]. National Quality Forum. Accessed March 5, 2025. https://www.qualityforum.org/Publications/2023/01/Behavioral_Health_Final_Report_-_Spring_2022_Cycle.aspx