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# **The Cost of Adding Substance Use Disorder Services and Professionals to Medicare**

Prepared for

**The Legal Action Center**

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## **Executive Summary**

Medicare excludes commonly used, effective substance use disorder (SUD) therapies, settings, and provider types. Medicare effectively excludes coverage for SUD treatment in intensive outpatient, partial hospitalization, specialty addiction outpatient clinics, and residential addiction programs, as well as by licensed professional counselors, certified addiction counselors, and peers.

In this report, we estimated the cost to Medicare of adding SUD coverage for residential programs, intensive outpatient programs, and licensed and certified counselors. We determined that Medicare would incur an additional \$1.9 billion annually to cover 75,637 residential treatment episodes, 116,029 intensive outpatient episodes, and 58,890 visits with counselors. These costs would be partially offset by reduced costs from treating medical conditions caused by SUD and from fewer SUD-related hospitalizations and emergency department visits. Collectively, we estimate that these cost savings would amount to as much as \$1.6 billion annually. Overall, the net impact on Medicare spending of adding coverage for residential addiction programs, intensive outpatient programs, and licensed and certified counselors would be \$362 million per year. To put this number in context, total Medicare spending in 2020 was \$825.9 billion (CMS, 2021b).

### **1. Introduction**

In 2020, there were 61.5 million Medicare beneficiaries (CMS, 2021a). Parish et al.'s (2022) analysis of data from the National Survey of Drug Use and Health (NSDUH) found that approximately 3% of Medicare beneficiaries (1.7 million) had a past year substance use disorder (SUD). However, only 11% of Medicare beneficiaries with SUD received SUD treatment in any given year (Parish et al., 2022). Among Medicare beneficiaries who wanted SUD treatment, key reasons they did not receive treatment was a lack of SUD insurance coverage and that they could not afford treatment (Parish et al., 2022).

Despite the need for effective treatments to address SUD, Medicare does not cover all SUD therapies, settings, or provider types. Medicare effectively excludes coverage for SUD treatment in intensive outpatient, partial hospitalization, specialty addiction outpatient clinics, and residential addiction programs, as well as by licensed professional counselors, certified addiction counselors, and peers. Medicare only began covering opioid treatment programs, which provide methadone and other medication treatment, in 2020 because of the SUPPORT for Patients and Communities Act of 2018 (govinfo.gov, 2018). Furthermore, unlike most private insurance and Medicaid-managed care plans, Medicare is not subject to the Mental Health Parity and Addiction Equity Act (Wellstone & Domenici, 2013) (MHPAEA) of 2008, which requires coverage of and access to SUD and mental health (MH) benefits at the same level as medical and surgical benefits.

The goal of this study was to estimate the cost to Medicare of adding coverage for residential SUD care and intensive outpatient programs (IOP), and allowing certified addiction counselors to bill Medicare.

IOP provides a specified number of hours per week of structured individual, group, or family therapy and psychoeducation about substance use and mental disorders. Intensive outpatient programs are an alternative to inpatient and residential treatment for individuals who do not need 24-hour monitoring or medical detoxification. The American Society of Addiction Medicine (ASAM) describes the criteria for Level 2.1: Intensive Outpatient Services (Mee-Lee et al., 2013). Randomized trials and quasi-experimental studies consistently report equivalent reductions in problem severity and increases in days abstinent at follow-up for participants who received intensive outpatient or day treatment services, compared with those in an inpatient or residential care (McCarty et al., 2014). In 2017, there were 6,241 intensive outpatient facilities in the United States (SAMSHA, 2018).

Residential treatment programs involve 24-hour stays in non-hospital settings. ASAM describes four types of residential settings: (1) Level 3.1—clinically managed low-intensity residential services, (2) Level 3.3—clinically managed population-specific high-intensity residential services, (3) Level 3.5—clinically managed high-intensity residential services, (4) Level 3.7—medically monitored high-intensity inpatient services. Studies show that when individuals are treated in a lower level of care than recommended (e.g., outpatient as opposed to residential), they have worse outcomes (Angarita et al., 2007; Magura et al., 2003; Neighbors et al., 2021; Sharon et al., 2003). In 2017, there were 1,738 short-term residential facilities in the United States (SAMSHA, 2018).

As described in the report, we estimated the cost to Medicare of adding coverage for residential SUD care, IOP, and allowing licensed and certified addiction counselors to bill Medicare, by determining:

- Number of Medicare beneficiaries that would use SUD residential, IOP, and counseling services per year (utilization estimates);
- Average unit price of a residential and IOP treatment day and the cost of 1 hour of counseling (price estimates); and
- Average number of days utilizing residential or IOP per year and the number of counseling sessions per year that a Medicare beneficiary is likely to use (intensity of service use estimates).

The utilization, price estimates, and intensity of service use estimates can be multiplicatively combined to derive a per-year cost to Medicare associated with expanding coverage for these services.

In addition to measuring the budgetary impact arising from increases in direct spending to expand Medicare coverage of SUD services, we also present estimates of potential cost offsetting effects associated with reducing the incidence of some of the medical conditions precipitated by SUD, as well as SUD-related ED and inpatient encounters.

## **2. Methods**

### **2.1 Utilization Estimates**

We used the Substance Abuse and Mental Health Services Administration's (SAMHSA's) National Survey on Drug Use and Health (NSDUH) to estimate utilization rates (i.e., percentage of individuals with SUD who use a service) for residential SUD and IOP. We identified two groups to predict utilization rates among Medicare beneficiaries. The first was used to predict utilization rates among Medicare beneficiaries aged 18–64 and included beneficiaries in this age group who were dually eligible for Medicare and Medicaid. Individuals with Medicare and Medicaid insurance are likely to have coverage for residential and intensive outpatient services through Medicaid. As of 2018, 33 states covered residential treatment for SUD (Kaiser Family Foundation, 2022b), and 38 states covered IOP for SUD (Kaiser Family Foundation, 2022a). Moreover, these individuals are relatively comparable to Medicare-only beneficiaries in that they are entitled to Medicare benefits due to long-term disabilities or end-stage renal disease. The second group was used to predict utilization rates among Medicare beneficiaries aged 65 and over and included individuals aged 50–64 with private or Medicaid insurance. The assumption here is that individuals close to gaining entitlement to Medicare due to their age are comparable to those aged 65 and older but have health insurance that is likely to cover residential and IOP services.

To estimate utilization of counseling services, we assumed that persons currently receiving SUD treatment in doctor's offices would also utilize services from substance abuse counselors. Thus, we estimated the percentage of Medicare beneficiaries with SUD who received any treatment in a doctor's office in the past year.

### **2.2 Price Estimates**

We estimated the price per day of residential treatment based on the results of a survey of residential treatment programs in the United States, conducted by Beetham and colleagues (Beetham et al., 2021). Beetham and colleagues reported that the average daily cost for residential treatment among respondents was \$618 (Standard Deviation \$468). However, for-profit programs were more than twice the average cost of nonprofit programs (\$758 for-profit vs. \$357 nonprofit).

We estimated the price per day for intensive outpatient treatment using the reimbursement rate from Virginia Medicaid (Jones, 2017). Virginia Medicaid reimburses at a rate of \$250

per day of treatment (Jones, 2017). We considered a range around this estimate of plus/minus \$50 per day.

To calculate the price per hour of counseling, we used data from the Bureau of Labor Statistics on the average hourly wage for substance abuse counselors (OEWS, 2022). The Bureau of Labor Statistics reports that the average hourly wage for substance abuse counselors is \$23.33 per hour, with a relative standard error of 0.5% (OEWS, 2022). We considered a range around the reported wage of plus/minus 0.5%.

### **2.3 Intensity of Service Use Estimates**

To estimate the intensity of service use, we assumed that residential treatment episodes would be less than 30 days, which aligns with the definition of short-term residential. Beetham and colleagues reported that on average, residential treatment programs requested insurance authorization for 20 days (Beetham et al., 2021). We assumed that the average length of stay would be 20 days.

For intensive outpatient treatment, we assumed that episodes include approximately three days of treatment per week and last for up to 12 weeks, or a total of 36 days of intensive outpatient treatment per year.

For counseling services, we assumed that, on average, individuals with SUD would use no more than 3 hours of counseling per week and would have episodes of care lasting no more than 24 weeks, or a total of 72 hours of counseling per year.

### **2.4 Cost Savings from Reducing Medical Conditions Caused by SUD**

To estimate potential cost offsets associated with reducing the incidence of comorbid health conditions, we conducted a literature search to identify health conditions for which alcohol, opioid, or other substance use is a known risk factor and to determine the biological mechanisms explaining this risk relationship. We then focused analyses on those health conditions where the biological mechanisms strongly suggest a causal relationship between substance use and the development of a health condition.

The literature review identified the following conditions as causally related to SUD: depression, anxiety, infection diseases (e.g., HIV, Hepatitis C), cardiac conditions (e.g., atrial fibrillation), bone-related disorders (e.g., osteoporosis, hip/pelvic fractures), dementias, and liver diseases.

Using data on the census of all fee-for-service Medicare beneficiaries enrolled in Medicare in 2019, we then used regression modeling to measure risk ratios for each of these health conditions. We matched individuals with alcohol, opioid, or other SUD diagnoses to individuals without these disorders. We then estimated the association between having an

SUD and developing each of the medical conditions found to be associated with substance use.

The resulting risk ratios were all statistically significant. They ranged from 1.08 to 2.14. For example, Medicare beneficiaries aged 65 years or older with an alcohol use disorder had 1.58 times the risk of developing Alzheimer's disease or dementia.

These risk ratios were then converted to population attributable fractions and SUD-attributable costs to Medicare, representing total Medicare spending attributable to untreated SUDs. Population attributable fractions are functions of the prevalence of SUD and the risk ratios. We estimated two population attributable fraction for each comorbid condition: one based on the 2019 prevalence of SUDs, and the other based on an estimate of how many additional people with SUDs would be effectively treated if Medicare expanded coverage for SUD treatments.

To estimate the number of people who would have effectively treated SUDs per year, we used data from NSDUH to estimate the marginal increase in the percentage of beneficiaries with SUD who would receive any SUD treatment if they had better coverage for these services. On average, we found that the number of Medicare beneficiaries with SUD who receive treatment would likely increase by 10 percentage points, from 11% (among non-dually eligible Medicare beneficiaries) to 21% (among dually eligible Medicare beneficiaries).

We also assumed that some people would get treatment, but relapse. Research suggests that 50% of individuals who enter SUD treatment recover without relapsing (McLellan et al., 2000). Thus, we assumed that half of those receiving treatment would not relapse. The difference in attributable costs between the status quo versus after subtracting the estimated reduction in individuals using substances was used to estimate the cost offsets resulting from reduced incidence of comorbid conditions.

## **2.5 Cost Savings from Reducing SUD-related Hospitalizations and ED Visits**

We also estimated cost offsets resulting from reduced hospitalizations and ED visits for the treatment of SUDs. Research from a recent systematic review and meta-analysis shows that on average, 29% of individuals who use drugs had an SUD-related ED visit per year, and 22% of individuals who use drugs had an inpatient admission per year (Lewer et al., 2020). Using the same number of beneficiaries who are estimated to discontinue substance use as for comorbidity-related cost offsets, we estimated the number of individuals who would avoid hospitalizations or ED visits each year by applying these rates. We then multiplied data from a recent study that showed that on average, an SUD-related inpatient encounter cost \$9,693 and an SUD-related ED visit cost \$1,985 to approximate the cost savings associated with reduced hospitalizations and ED visits associated with expanding Medicare coverage (Peterson et al., 2021).

## 2.6 Sensitivity Analyses

To capture uncertainty around these inputs, we also estimated lower- and upper-end estimates. Specifically, we estimated costs over a range of utilization, price, and service intensity estimates. We considered the 95% confidence interval around the estimated utilization rates for all types of services to identify lower and upper bounds on the utilization estimates. For residential treatment, we looked at the average price per day of residential treatment for nonprofit versus for-profit organizations for lower and upper bounds on the price estimates, using a range of 10 to 30 days of residential treatment for lower and upper bounds on the service intensity estimates. For intensive outpatient treatment, we used a range of prices from \$200 to \$300 per day for lower and upper bounds on the price estimates and a range of 9 to 12 weeks of treatment for lower and upper bounds on the service intensity estimates. For counseling services, a price range was identified as 0.5% (the relative standard error) of the mean hourly wage of counselors for lower and upper bounds on the price estimates. Service intensity estimates used a range of 12 to 24 weeks of treatment for lower and upper bounds. The range of total Medicare budget impacts shown in Table 3 represents the smallest and largest estimates under these different scenarios.

## 3. Results

### 3.1 Utilization Estimates

**Table 1** shows the utilization rates for residential, IOP, and counseling services based on the NSDUH. The percentage of Medicare beneficiaries with past year SUD using each service is shown separately for males and females ages 50 – 64 with non-Medicare insurance (e.g., Medicaid and private insurance). We assumed that if Medicare covered these services, Medicare beneficiaries age 65+ would use services at this rate. The table also shows utilization among males and females ages 18 - 64 with Medicare and Medicaid insurance. We assumed that Medicare beneficiaries younger than age 65 would use services at this rate once they were covered.

**Table 2** shows the predicted number of Medicare beneficiaries expected to utilize these services by age and sex. These numbers were obtained by applying the percentages from Table 1 to the number of Medicare beneficiaries with SUD by age and sex, which are reported in Table 2.



**Table 1. Percentage of Individuals with a Past Year SUD Who Used SUD Treatment Services**

Sex and Service Type	95% Confidence Interval (CI)	
	Ages 50–64 with Non-Medicare Insurance	Ages 18–64 with Medicare and Medicaid Insurance
Female		
Residential treatment	3.6% (1.5%–5.7%)	3.3% (<0%–6.6%) <sup>a</sup>
IOP treatment	4.1% (1.8%–6.3%)	9.7% (4.3%–15.2%)
Counseling services	3.6% (1.3%–5.9%)	9.2% (2.2%–16.4%)
Male		
Residential treatment	3.2% (1.2%–5.1%)	7.3% (2.4%–12.3%)
IOP treatment	3.9% (1.8%–6.1%)	11.0% (5.6%–16.7%)
Counseling services	3.1% (0.8%–5.3%)	1.5% (<0%–3.0%) <sup>a</sup>

IOP = intensive outpatient; SUD = substance use disorder.

<sup>a</sup> The lower bound of the confidence interval was below zero. To predict sample sizes at the lower bound, we assume a utilization rate of 0.1%.

Source: Authors' calculations using data from the 2015–2019 National Survey of Drug Use and Health.

**Table 2. Predicted Number of Medicare Beneficiaries Per Year Who Would Use Each Type of Service if Medicare Expanded Coverage**

Sex and Service Type	Sensitivity		
	All Ages	Age 65+	Age 18–64
Female			
Number of beneficiaries with SUD	513,399	277,356	236,043
Residential treatment	17,723 (4,389–31,535)	10,029 (4,153–15,906)	7,694 (236–15,629)
IOP treatment	34,065 (15,168–53,276)	11,255 (5,037–17,473)	22,810 (10,131–35,803)
Counseling services	31,707 (8,669–55,157)	9,953 (3,559–16,346)	21,754 (5,110–38,810)
Male			
Number of beneficiaries with SUD	1,155,927	641,915	514,012
Residential treatment	57,913 (20,281–96,167)	20,376 (7,798–32,953)	37,538 (12,483–63,214)
IOP treatment	81,964 (40,040–124,588)	25,236 (11,509–38,963)	56,728 (28,531–85,625)
Counseling services	27,183 (5,920–49,347)	19,712 (5,406–34,018)	7,471 (514–15,329)

(continued)

**Table 2. Predicted Number of Medicare Beneficiaries Per Year Who Would Use Each Type of Service if Medicare Expanded Coverage (continued)**

Sex and Service Type	Sensitivity		
	All Ages	Age 65+	Age 18–64
All Genders			
Number of beneficiaries with SUD	1,669,326		
Residential treatment	75,637 (24,671–127,702)		
IOP treatment	116,029 (55,209–177,863)		
Counseling services	58,890 (14,589–104,503)		

IOP = intensive outpatient; SUD = substance use disorder.

Predicted sample sizes are based on using estimated utilization rates within comparison populations and applying these rates to the number of Medicare beneficiaries by age and sex. The comparison population for individuals aged 65 years and older included non-Medicare, but insured, individuals aged 50–64 who had a past year SUD. The comparison population for individuals less than age 65 years included Medicare beneficiaries in this age group who were dually enrolled in Medicare and Medicaid.

### 3.2 Total Costs

As shown in **Table 3**, we estimated the per-year change in Medicare spending from adding coverage of SUD residential (\$935 million), intensive outpatient (\$928 million), and counseling (\$66 million). The total is \$1,929 million annually. Table 3 also shows that cost offsets from reduced incidence of comorbid conditions and reduced SUD-related hospitalizations and ED visits are \$1,567 million annually. Thus, the total net impact of expanding Medicare coverage for SUD residential, intensive outpatient, and counseling is \$362 million annually.

**Table 3. Per Year, 5-Year, and 10-Year Costs to Medicare Associated with Adding Excluded Substance Use Disorder Services, in Millions of Dollars**

Medicare Spending Changes	Change in Medicare Spending (Range)		
	Per Year	5-Year	10-Year
Increases in direct spending			
Providing coverage for residential treatment for substance use disorder	\$935 (\$88–\$2,904)	\$4,281 (\$403–\$13,299)	\$7,975 (\$751–\$24,771)
Providing coverage for intensive outpatient treatment for substance use disorder	\$928 (\$298–\$1,921)	\$4,251 (\$1,365–\$8,797)	\$7,918 (\$2,543–\$16,386)
Allowing certified drug counselors to bill Medicare	\$66 (\$12–\$184)	\$302 (\$53–\$844)	\$563 (\$99–\$1,572)
Total (a)	\$1,929	\$8,834	\$16,455

(continued)

**Table 3. Per Year, 5-Year, and 10-Year Costs to Medicare Associated with Adding Excluded Substance Use Disorder Services, in Millions of Dollars (continued)**

Medicare Spending Changes	Change in Medicare Spending (Range)		
	Per Year	5-Year	10-Year
Cost offsets			
Resulting from reduced incidence of comorbid conditions	-\$1,296	-\$5,933	-\$11,051
Resulting from reduced hospital/ED spending associated with treating SUDs	-\$271	-\$1,241	-\$2,312
Total (b)	-\$1,567	-\$7,175	-\$13,364
Net costs (a + b)	\$362	\$1,660	\$3,092

Source: Authors' calculations. The 5- and 10-year cost projections are based on a 3% annual discount rate.

## 4. Discussion

We estimate that the cost of adding coverage for residential treatment, IOP, and counseling services is \$362 million annually. Because Medicare beneficiaries who are dually eligible for Medicaid often already have coverage for these services under Medicaid, some portion of this estimated cost increase represents a shift from Medicaid spending to Medicare spending. Approximately 12% of Medicare beneficiaries also have Medicaid coverage.

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