United States Government Accountability Office

Report to the Subcommittee on Social Security, Committee on Ways and Means, House of Representatives

January 2020

SOCIAL SECURITY DISABILITY

Action Needed to Help Agency Staff Understand and Follow Policies Related to Prescription Opioid Misuse

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Why GAO Did This Study

The United States is in the midst of an unprecedented opioid epidemic. Opioids are prescribed to treat conditions such as chronic pain. However, opioid misuse can lead to addiction, disability, overdose, and death. Prior GAO and other reports have discussed the use of prescription opioids within federal programs, particularly Medicare. Less is known about the use of opioids in relation to SSA's DI program. GAO was asked to review any correlation between prescription opioids and rates of DI claims, and any related challenges for SSA.

This report examines (1) what is known about the relationship between trends in prescription opioids and DI claims, and (2) how SSA considers potential prescription opioid misuse in its DI eligibility decisions. GAO analyzed county-level data on opioid prescriptions and DI claims from 2006 through 2017; interviewed program staff involved in DI eligibility decisions in Alabama, Kentucky, and West Virginia, selected because of their high rates of opioid prescriptions and percentage of the adult population on DI; and reviewed case files for DI beneficiaries identified by the Centers for Medicare & Medicaid Services as being at risk for prescription opioid misuse or abuse.

What GAO Recommends

GAO recommends that SSA 1) clarify policies and procedures to help staff better evaluate substance use disorders, and 2) ensure staff document their rationale. SSA agreed with GAO's recommendations.

View GAO-20-120. For more information, contact Elizabeth Curda at (202) 512-7215 or curdae@gao.gov.

What GAO Found

The numbers of opioid prescriptions and claims for the Social Security Administration's (SSA) Disability Insurance (DI) program have each declined nationally in recent years, but rates vary widely across the country. National trends show both peaking between 2010 and 2014 and then declining. GAO's analysis shows counties with the highest rates of both were concentrated in the Southeast (see figure). After accounting for economic, demographic, and other factors, GAO found that counties with higher rates of opioid prescriptions tended to have higher rates of DI claims from 2010 through 2017. These rates were also correlated with other factors. For example, counties with higher rates of each tended to have higher poverty rates. However, GAO was unable to determine whether there is a causal relationship between rates of opioid prescriptions and DI claims or other factors, given readily available data.

Counties with the Highest Rates of Opioid Prescriptions and Disability Insurance (DI) Claims (In the Top Third of the Distribution for Each Rate), 2017

Highest opioid prescriptions only
Highest DI claims only
Highest rates of both
Not highest or no data
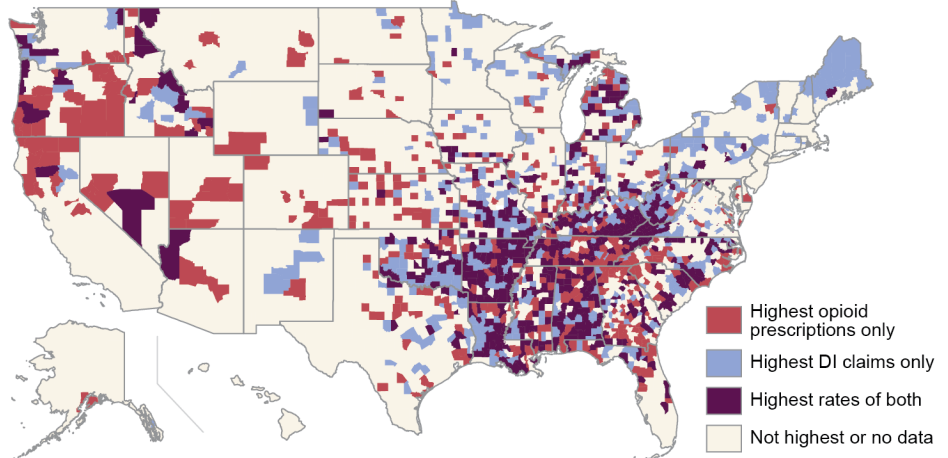
Source: GAO analysis in MapInfo of Centers for Disease Control and Prevention and Social Security Administration data. | GAO-20-120

Program staff are required to evaluate and document substance use disorders (including opioids not taken as prescribed) when making certain DI eligibility decisions. Specifically, staff are required to evaluate potential substance use disorders for certain DI claims and deny benefits, for example, if the claimant would not be considered disabled if they stopped using drugs or alcohol. In addition, staff are generally required to document the rationale for their decision so that another reviewer can understand how they made the decision. However, staff in five of the six offices GAO visited in three states were confused about when to evaluate substance use disorders, and nine of 15 case files that GAO reviewed in which an evaluation was conducted did not have a documented rationale. SSA officials acknowledged the need to clarify policies on when to evaluate substance use disorders, and that a poorly documented rationale could lead to reversals or remands of decisions. Without ensuring that SSA's policies are understood and that staff document their rationale, the agency may expend resources re-working cases and, in turn, delay benefits to individuals eligible for assistance.

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Abbreviations

CDC	Centers for Disease Control and Prevention
CMS	Centers for Medicare & Medicaid Services
DAA	Drug Addiction and Alcoholism
DDS	Disability Determination Services
DI	Disability Insurance
HHS	Department of Health and Human Services
OIG	Office of the Inspector General
SSA	Social Security Administration
SSI	Supplemental Security Income

January 9, 2020

The Honorable John B. Larson
Chairman
The Honorable Tom Reed
Ranking Member
Subcommittee on Social Security
Committee on Ways and Means
United States House of Representatives

The United States is in the midst of an unprecedented opioid epidemic. Physicians and other treatment providers may prescribe opioids to treat conditions such as chronic pain. However, opioid misuse can lead to addiction, disability, overdose, and death. Studies have shown that prescription opioids played a role in the emergence of the opioid epidemic in the 1990s, in part, because of the overprescribing of opioids, such as oxycodone and hydrocodone. The number of overdose deaths from all opioids has grown by nearly 2.5 times over the last decade, from about 19,600 deaths in 2008 to 47,600 in 2017.

Prior reports by GAO and by the Department of Health and Human Services (HHS) Office of the Inspector General (OIG) have discussed the use of prescription opioids within federally funded programs, particularly Medicare.[1] For example, GAO reported on the need for additional oversight of Medicare to reduce beneficiaries' risk of harm from prescription opioid use.[2] The HHS OIG also reported that Medicare Part D paid for about $3.4 billion in prescription opioids in 2017, and nearly one in three (14.1 million) Medicare Part D beneficiaries received at least one prescription opioid that year.[3] Of those beneficiaries, nearly 460,000 received high amounts of prescription opioids, and over 71,000 were at

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[1]Medicare is a federal health insurance program for people age 65 and older, individuals under 65 with certain disabilities, and individuals diagnosed with end-stage renal disease.

[2]GAO, *Prescription Opioids: Medicare Needs to Expand Oversight Efforts to Reduce the Risk of Harm*, GAO-18-15 (Washington, D.C.: Oct. 6, 2017).

[3]Medicare Part D is a voluntary program that provides outpatient prescription drug coverage for Medicare beneficiaries who enroll in Part D drug plans. The numbers reported by the HHS OIG include all Medicare Part D beneficiaries and are not specific to individuals with disabilities.

serious risk of misuse or overdose.[4] However, less is known about the use of these opioids by individuals receiving benefits from the Social Security Administration's (SSA) Disability Insurance (DI) program. DI generally provides benefits to individuals who can no longer work due to qualifying impairments. Many individuals may apply for DI benefits because of pain-related conditions, and may be taking prescription opioids because of these conditions.

You asked us to identify any correlation between prescription opioids and rates of DI claims, and any related challenges for SSA in making DI eligibility decisions. This report examines (1) what is known about the relationship between trends in prescription opioids and DI claims, and (2) how SSA considers potential prescription opioid misuse in its DI eligibility decisions.

To examine the relationship between trends in prescription opioids and DI claims, we reviewed relevant literature and analyzed data from HHS's Centers for Disease Control and Prevention (CDC) and SSA. Specifically, we reviewed existing studies on the relationship between prescription opioids and DI claims, as well as available data from SSA. In addition, we analyzed county-level data on the rates of opioid prescriptions from CDC and number of DI claims from SSA from 2006 through 2017, the most recent year of data available at the time of our review.[5] We used aggregate data to illustrate nationwide trends over time. We also examined variation among counties and conducted multiple regression

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[4]The HHS OIG considered beneficiaries to have received high amounts of opioids if they had an average daily morphine dose equivalent of greater than 120 milligrams for 3 months. In addition, beneficiaries were considered to be at serious risk of prescription opioid misuse or overdose if they received extreme amounts of opioids (had an average daily morphine dose equivalent of greater than 240 milligrams for 1 year) or appeared to be doctor shopping (had an average daily morphine dose equivalent of greater than 120 milligrams for 3 months, had four or more prescribers, and had four or more pharmacies). The HHS OIG excluded beneficiaries who had cancer or were in hospice care. See HHS OIG, *Opioid Use in Medicare Part D Remains Concerning*, OIE-02-18-00220 (June 2018).

[5]The data from CDC represent the number of opioid prescriptions dispensed by retail (i.e., non-hospital) pharmacies per 100 people in a given county and year. According to CDC, these data do not include mail-order prescription drugs, but cover about 90 percent of all retail prescriptions in the United States. These data are limited in that they only count the number of prescriptions filled, which could vary by number of pills, dosage, and potency (i.e., the morphine dose equivalent).

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analyses to examine the relationship between opioid prescriptions and DI claims, taking into account economic, demographic, and other factors.[6]

To examine how SSA considers prescription opioid misuse in its DI eligibility decisions, we reviewed relevant information, interviewed program staff, and reviewed DI case files. We reviewed relevant federal laws, regulations, and SSA policies as well as federal standards for internal control.[7] We also interviewed SSA headquarters officials and staff involved in DI eligibility decisions in six offices in Alabama, Kentucky, and West Virginia. We selected these three states primarily because of their high rates of opioid prescriptions and drug overdose deaths and because a relatively high percentage of their adult population received DI benefits. In addition, we selected and reviewed 30 case files for DI beneficiaries who had been identified by the Centers for Medicare & Medicaid Services (CMS) as being at risk for prescription opioid misuse or abuse.[8] We selected the case files to review based on whether the beneficiary had been evaluated by SSA for an identified substance use disorder, among other factors. The case files we reviewed may not have contained any evidence of prescription opioid misuse or abuse because of the timeframes we used to select them. Specifically, we selected case files for DI beneficiaries who had been allowed in or after 2013, but who were identified as being at risk of prescription opioid misuse or abuse in 2017. Because these beneficiaries may have been allowed as early as 2013, they may not have had any issues with prescription opioid misuse or abuse at the time SSA evaluated their claim (i.e., they may have developed potential issues after being allowed benefits). For further

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[6]In our regression analyses, we accounted for economic factors, including unemployment and poverty rates; demographic factors, including sex, age, and race; and other factors, including state, year, population size/degree of urbanization, and access to health insurance (i.e., uninsured rates).

[7]See GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 10, 2014).

[8]To select case files, we used a dataset from CMS on Medicare Part D beneficiaries that we matched with SSA data on DI beneficiaries. The CMS dataset contained information on Medicare Part D beneficiaries who CMS identified as being at risk of prescription opioid misuse or abuse in 2017. These included beneficiaries who had received high amounts of opioids (i.e., had an average daily morphine dose equivalent of 90 milligrams or more) and appeared to have coordination of care issues (i.e., either had three or more opioid prescribers and three or more opioid dispensing pharmacies, or five or more prescribers regardless of the number of pharmacies) during a 6-month period. In addition, given that this population consists of DI beneficiaries, our case file review did not include denied claims except for cases in which a claimant was denied benefits initially, but was approved at a later date.

details on our scope and methodology, including how we selected case files for review, see appendix I.

We conducted this performance audit from June 2018 to January 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

In addition to retirement benefits to older individuals and their families, SSA administers the nation's largest disability benefit program, the Disability Insurance (DI) program. DI generally pays benefits to individuals if they are unable to work due to qualifying impairments that are expected to last at least 1 year or result in death.[9] In fiscal year 2018, SSA paid DI benefits to more than 10 million beneficiaries each month for a total of about $144 billion that year. In addition to monthly financial benefits, which averaged about $1,234 per disabled worker in 2018, those eligible for DI also gain access to Medicare after a 2-year waiting period, which can help pay for their medical costs, including prescription opioids.

Disabled workers claiming DI benefits must meet work and other requirements to be considered eligible for DI. First, they must have worked for a specified amount of time covered by Social Security as well as worked within a specified timeframe before becoming disabled, based on their age.[10] If these work requirements are met, SSA will assess a number of medical and vocational requirements, including whether the claimant earned more than a set monthly amount, the severity of any impairments they have, and whether they are able to continue working in a similar or other capacity given their age, education, and prior work history (see fig. 1).

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[9]Certain family members may also be eligible for DI based on the eligibility of the disabled worker. In our report, the term "disabled worker" (which is used by SSA, such as in its statistical reports) refers to the individual on whose work record the DI eligibility is based. Family members who may be eligible include spouses and children as well as certain disabled widow(er)s and adult children who were disabled before age 22.

[10]For example, claimants over 31 years old would need to have worked for 5 years out of the 10-year period before their disability began.

Figure 1: SSA's Process for Deciding Disability Insurance (DI) Eligibility
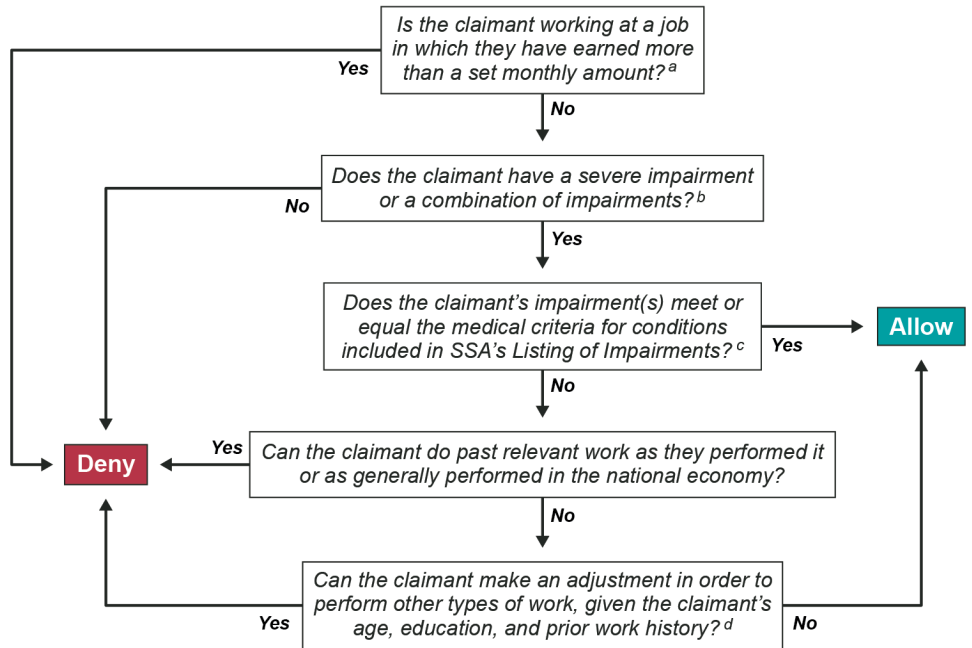
Source: GAO summary of the Social Security Administration's (SSA) Adult Initial Sequential Evaluation process policies. | GAO-20-120

[a]A claimant generally must not be able to engage in work (i.e., "substantial gainful activity") for which they earn above $1,220 for non-blind and $2,040 for blind individuals per month in 2019.

[b]Impairments must be documented in objective evidence from an acceptable medical source, such as physicians and psychologists. Such impairments must also have lasted or be expected to last at least 1 year or result in death.

[c]SSA may allow claims for impairments that meet specific medical criteria. Such impairments include permanent dialysis, deafness, blindness, quadriplegia, cancer, chronic obstructive pulmonary disease, and cardiovascular impairments, according to SSA headquarters officials.

[d]Claimants may be allowed if they have an impairment of a certain level of severity, along with a combination of age, education, and work experience, and be determined to be unable to adjust to other work (i.e., fit a "special medical-vocational profile"). For example, a claimant who has over 35 years of work consisting of arduous, unskilled labor, a marginal education, and a severe physical impairment may be considered unable to do lighter work and thus eligible for DI, according to SSA headquarters officials.

DI claimants may also apply concurrently for SSA's Supplemental Security Income (SSI) program, which provides income to individuals who are aged, blind, or disabled with limited income and resources. Such claimants may be deemed eligible for both programs if they meet certain

income and resource requirements in addition to those for DI.[11] Under SSI, they may receive additional financial benefits as well as access to Medicaid.[12]

Several different program staff are involved in processing DI claims. First, staff in SSA field offices receive applications and determine whether claimants meet nonmedical eligibility requirements, such as having a sufficient work history. Claims for those who meet these requirements are then forwarded to state government Disability Determination Services (DDS) offices, where DDS staff review the claimant's eligibility based on the medical and vocational requirements outlined in figure 1 above.[13] Specifically, DDS examiners assemble any medical and vocational information for the claim. This can involve contacting a claimant's treatment providers, and third parties such as family members, friends, and employers, and referring the claimant for consultative exams, such as with physicians or psychologists if recent treatment records are unavailable. DDS examiners then confer with DDS medical consultants, such as in-house or contracted physicians and psychologists, to determine whether the claimant meets the law's requirements for having a disability. DDS examiners use all of this information to decide whether claimants are eligible for DI.

Claimants who are dissatisfied with the initial DDS decision have several opportunities to appeal. First, they generally may request a "reconsideration" of the claim, which is conducted by a DDS examiner who was not involved in the original decision. Next, they may request a hearing before an SSA administrative law judge, who may collect new evidence and ask other witnesses, such as medical and vocational experts, to testify at the hearing. If their claim is denied at this hearings level, claimants may request that it be reviewed by the Appeals Council, which is comprised of SSA administrative appeals judges and appeals

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[11]To be eligible for SSI, claimants cannot have more than $2,000 in countable resources for an individual and $3,000 for a couple in 2019.

[12]The average monthly benefit for those on SSI in December 2018 was $551. Medicaid, a joint federal-state health care financing program, is one of the nation's largest sources of health care coverage for low-income and medically needy individuals.

[13]Although SSA is responsible for the DI program, the law generally calls for initial decisions of disability to be made by state government DDS offices. See 42 U.S.C. § 421(a)(1). The work performed at DDS offices is federally financed and subject to SSA disability program regulations, policies, and guidelines. For the purposes of our report, we include state government DDS staff in our general references to "program staff."

officers. Beyond the Appeals Council, the claimant may appeal to a federal district court.

Staff at each level of the process must document their decision in a claimant's case file, in accordance with the agency's policies. For example, staff are generally required to document the medical evidence they reviewed, any assessments regarding the claimant's severity of impairments and vocational abilities, and the rationale for their decisions.

For allowed DI claims, federal law requires beneficiaries' cases to be periodically reviewed within specified timeframes to ensure the beneficiary continues to meet DI requirements.[14] DDS examiners conduct such reviews, called continuing disability reviews, conferring with medical consultants and making a decision regarding a beneficiary's disability in comparison to the evidence from when the claim was allowed to determine if medical improvement has occurred. According to SSA, benefits typically continue unless evidence exists that a beneficiary's impairment has medically improved and that they are able to return to work.

Musculoskeletal conditions, which are pain-related, make up the largest proportion of impairments allowed by SSA for DI benefits. Specifically, these conditions, such as back and joint impairments, made up nearly 33 percent of impairments for disabled workers in 2018.[15] Treatments for pain-related symptoms can include prescription opioids.

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[14]According to SSA, the frequency of these reviews depends on the severity of the impairment and the likelihood of improvement, and they can be scheduled for 6 months to 7 years from the time the claim was allowed. GAO has previously reported on ways SSA could improve its processes for these reviews. For example, see GAO, *Social Security Disability: SSA Could Increase Savings by Refining Its Selection of Cases for Disability Review*, GAO-16-250 (Washington, D.C.: Feb. 11, 2016).

[15]Other common impairments include mental disorders (26 percent); nervous system and sense organs impairments (10 percent); circulatory system impairments (8 percent); intellectual disabilities (4 percent); and endocrine, nutritional, and metabolic diseases (3 percent). All other impairments made up 17 percent of impairments for disabled workers in 2018 (these percentages are rounded to the nearest whole number).

Opioid Prescriptions and DI Claims Have Declined in Recent Years; Our Analysis Shows a Correlation between Them

Opioid Prescriptions and DI Claims Have Declined in Recent Years, but Few Studies or Data Sources Provide Information on the Relationship between Them

Nationwide data show that trends in the numbers of opioid prescriptions and DI claims have followed a similar pattern, with both peaking between 2010 and 2014 and then declining. From 2006 through 2017, total opioid prescriptions peaked at about 255 million prescriptions in 2012, and then decreased in each of the following years (see fig. 2).[16]

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[16]We found similar trends between the total number of opioid prescriptions dispensed nationwide and the number dispensed per 100 people. Though our review focused on opioid prescriptions because of their use within federally-funded programs, CDC data show that the opioid epidemic has increasingly involved heroin and synthetic opioids, including illicitly manufactured fentanyl, in recent years. In addition, researchers from CDC also reported that benzodiazepines, cocaine, or methamphetamines were present in 63 percent of all opioid overdose deaths in 25 states from July 2017 through June 2018. See R. Matt Gladden, Julie O'Donnell, Christine L. Mattson, and Puja Seth, "Changes in Opioid-Involved Overdose Deaths by Opioid Type and Presence of Benzodiazepines, Cocaine, and Methamphetamine — 25 States, July–December 2017 to January–June 2018," Morbidity and Mortality Weekly Report (Aug. 30, 2019).

Figure 2: Number of Opioid Prescriptions Nationwide, 2006-2017

Number of prescriptions (in millions)
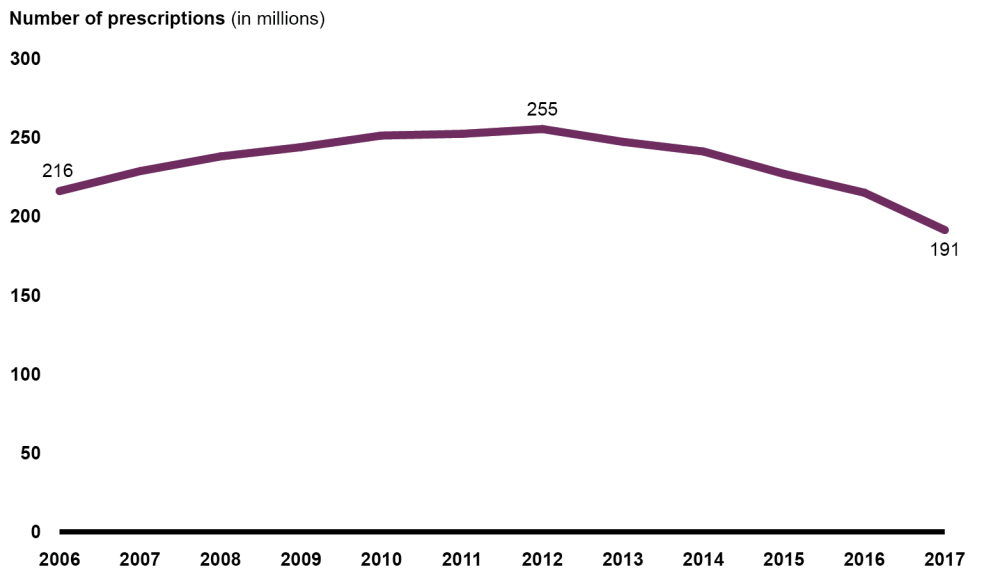
Source: GAO analysis of data from the Centers for Disease Control and Prevention (CDC). | GAO-20-120

Similarly, DI claims peaked at a maximum of about 1.1 million claims in 2014 and have steadily declined since (see fig. 3).[17] Claims in which individuals applied concurrently for DI and the SSI program (i.e., DI/SSI concurrent claims) peaked a little earlier—at about 1.3 million claims in 2010—before also steadily declining.[18]

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[17]We observed similar trends with DI allowances.

[18]We counted any individual filing at least one DI and one SSI claim within a given year as a single DI/SSI concurrent claim. Claimants filing a DI/SSI concurrent claim may have lower incomes than those applying for DI only due to income eligibility requirements under the SSI program. In this report, we focus on DI only claims. However, we generally observed similar results when analyzing data on DI/SSI concurrent claims.

Figure 3: Numbers of DI and DI/SSI Concurrent Claims Nationwide, 2006-2017
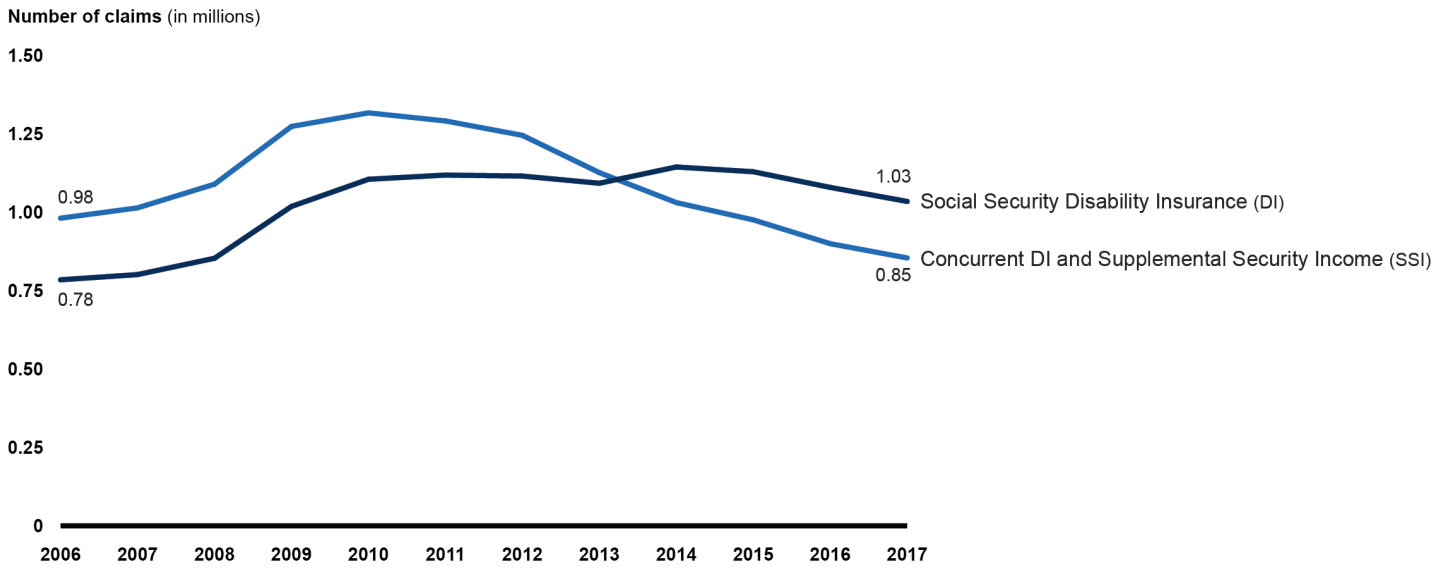
Number of claims (in millions)

Source: GAO analysis of data from the Social Security Administration (SSA). | GAO-20-120

Note: The data shown above do not include dependents who are not disabled, such as children and spouses, who may also file claims for DI benefits. The numbers for DI claims do not include DI/SSI concurrent claims, which are illustrated separately. We counted any individual filing at least one DI and one SSI claim within a given year as a single DI/SSI concurrent claim.

While trends in opioid prescriptions and DI claims have moved in the same general direction over time, few studies and data sources provide information on the relationship between these trends. For example, we identified two studies, both funded by SSA, that examined the relationship between prescription opioids and disability. One preliminary study in 2017 found a positive correlation between prescription opioids and DI claims, but noted that this correlation was not statistically significant in every model.[19] Researchers for this study noted that additional data and analysis are needed to refine the results. A second study in 2018 did not

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[19]This preliminary study analyzed the relationship between changes in the availability of prescription opioids (e.g., quantities of medications shipped) and DI claims at the state level. It also used longitudinal data from a survey on health and retirement to determine the employment outcomes and disability status of individuals who had previously reported experiencing pain. According to the study, the positive correlation between prescription opioids and DI was statistically significant in some, but not all, of its models. See David Cutler, Ellen Meara, and Susan Stewart, "Has Wider Availability of Prescription Drugs for Pain Relief Affected SSDI and SSI Enrollment?" National Bureau of Economic Research Disability Research Center Paper No. NB 17-14 (July 2017).

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identify a direct relationship between opioid misuse and disability, but found that they may have an indirect relationship because of other factors such as having poor health, which may lead to unemployment due to disability.[20] Other studies have examined the relationship between prescription opioids and employment, but not DI claims specifically. One such study noted that, based on available data, it is difficult to separate the effects of prescription opioid use and disability on employment outcomes. The study noted further that disentangling the relationship between prescription opioid use and disability is an area in need of additional work.[21]

In addition to funding research, SSA collects some administrative data on substance use among DI claimants, including use of prescription opioids. However, these data have limitations for analyzing prescription opioid use. Specifically, SSA collects administrative data on the medications claimants report using when filing their claim, which may include prescription opioids. However, these data may be incomplete because claimants may not report all substances they use. Further, researchers working on a study funded by SSA said analyzing these data is challenging because many claimants manually enter the names of their medications into an optional free-text field on their electronic applications rather than selecting from a dropdown menu, and that these entries often include misspellings or alternative names.[22] SSA also collects

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[20]The study relied on self-reported information on both opioid misuse and reasons for unemployment, and noted that individuals who self-reported as being unemployed due to a disability did not necessarily fall within SSA's definition of disability, though such individuals may submit DI claims. See Jeffrey J. Trant, "Examining the Relationship Among Opioid Misuse, Disability, and Employment," School of Social Welfare, University at Albany, State University of New York (2018).

[21]Matthew C. Harris, Lawrence M. Kessler, Matthew N. Murray, and M. Elizabeth Glenn, "Prescription Opioids and Labor Market Pains: The Effect of Schedule II Opioids on Labor Force Participation and Unemployment," Department of Economics and Boyd Center for Business and Economic Research, University of Tennessee (March 28, 2018).

[22]The ongoing Mathematica research project used a machine learning method to identify DI claimants and beneficiaries who self-reported the use of opioids. In preliminary results, the researchers estimated that free-text fields accounted for about two-thirds of self-reported medications among DI claimants from 2007 through 2017. They also estimated that about one quarter to one third of DI claimants in a given year reported using any opioids. See April Yanyuan Wu, Denise Hoffman, and Paul O'Leary, "Trends in Opioid Use Among Social Security Disability Insurance Applicants," SSA Research Consortium Annual Meeting (Washington, D.C.: Aug. 2, 2019). The researchers said they will use the data they extracted on self-reported opioid use to analyze decisions on these claims and outcomes for beneficiaries.

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administrative data on whether its staff evaluated a substance use disorder while processing a DI claim. However, SSA headquarters officials told us that staff are not required to record this information in the administrative data unless substance use disorders are the basis for a denial.[23] Further, these data only indicate whether a substance use disorder involved alcohol or other drugs. They do not include additional details on the types of drugs involved (e.g., opioids versus methamphetamines). According to SSA headquarters officials, these details are not necessary for evaluating the claim or managing the process for DI eligibility decisions.

Our County-Level Analysis Shows Wide Variation in Rates of Opioid Prescriptions and DI Claims, and Differences by Geographic Region

Given the limitations with the claimant-level data described above, we analyzed county-level data for 2006 through 2017 and found that rates of opioid prescriptions and DI claims varied widely across counties.[24] Specifically, the rate of opioid prescriptions ranged from nearly 0 to 396 opioid prescriptions per 100 people per year across all counties in 2017. Likewise, the rate of DI claims ranged from nearly 0 to 16.4 DI claims per 1,000 people. Most counties, however, were clustered around the median of 65 opioid prescriptions per 100 people and 3.7 DI claims per 1,000 people (see fig. 4).[25]

[23]According to SSA headquarters officials, based on an informal analysis, they believe it is uncommon for staff to not record these data when required.

[24]In this report, the rate of opioid prescriptions refers to the number of opioid prescriptions dispensed by retail pharmacies per 100 people in a given county and year. The rate of DI claims refers to the number of DI claims per 1,000 people in a given county and year.

[25]We calculated standard deviations of approximately 37 opioid prescriptions per 100 people and 1.3 DI claims per 1,000 people.

Figure 4: Distribution of Counties by Rates of Opioid Prescriptions and DI Claims, 2017

Opioid prescription rate
Number of counties in each range

Number of opioid prescriptions per 100 people

Disability Insurance (DI) claim rate
Number of counties in each range

Number of DI claims per 1,000 people
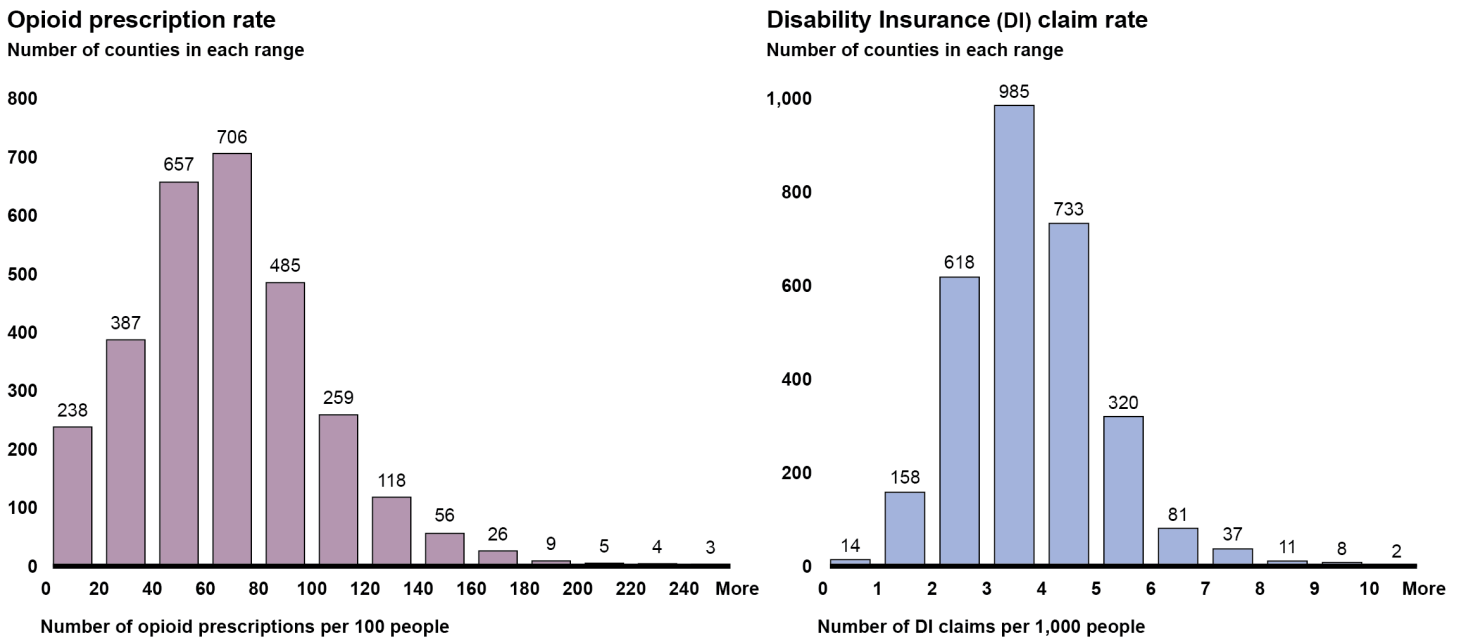
Source: GAO analysis of data from the Centers for Disease Control and Prevention (CDC) and Social Security Administration (SSA). | GAO-20-120

Note: The rate of opioid prescriptions refers to the number of opioid prescriptions dispensed by retail pharmacies per 100 people in a county, and the rate of DI claims refers to the number of DI claims per 1,000 people in a county. The rates of DI claims do not include DI/Supplemental Security Income (SSI) concurrent claims. The rate of opioid prescriptions ranged from nearly 0 to 396 opioid prescriptions per 100 people. A total of 12 counties had opioid prescription rates of 200 or more. These counties generally had small populations. The rate of DI claims ranged from nearly 0 to 16.5 DI claims per 1,000 people.

In examining counties with the highest rates of opioid prescriptions and DI claims (i.e., counties in the top third of the distributions for each rate), we found that those with the highest rates of both were generally concentrated in the Southeast (see fig. 5).[26] Specifically, almost 30 percent of counties in the Southeast were among the highest for rates of both in 2017. In comparison, many counties in the West were among the highest for rates of opioid prescriptions, but not for DI claims. Conversely, many counties in the Northeast were among the highest for rates of DI claims, but not for opioid prescriptions. We also observed that these

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[26]We had data available on both rates of opioid prescriptions and DI claims for 2,953 out of 3,142 counties nationwide in 2017. We examined counties in the top third of the statistical distributions for each rate (i.e., at least 984 counties for each rate). Of these counties, 527 were in the top third of the statistical distribution for both rates.

geographic differences were generally consistent over a 10-year period we analyzed.

Figure 5: Counties with the Highest Rates of Opioid Prescriptions and DI Claims, 2017

Highest rates of opioid prescriptions only

Highest rates of Disability Insurance (DI) claims only

Highest rates of both opioid prescriptions and DI claims

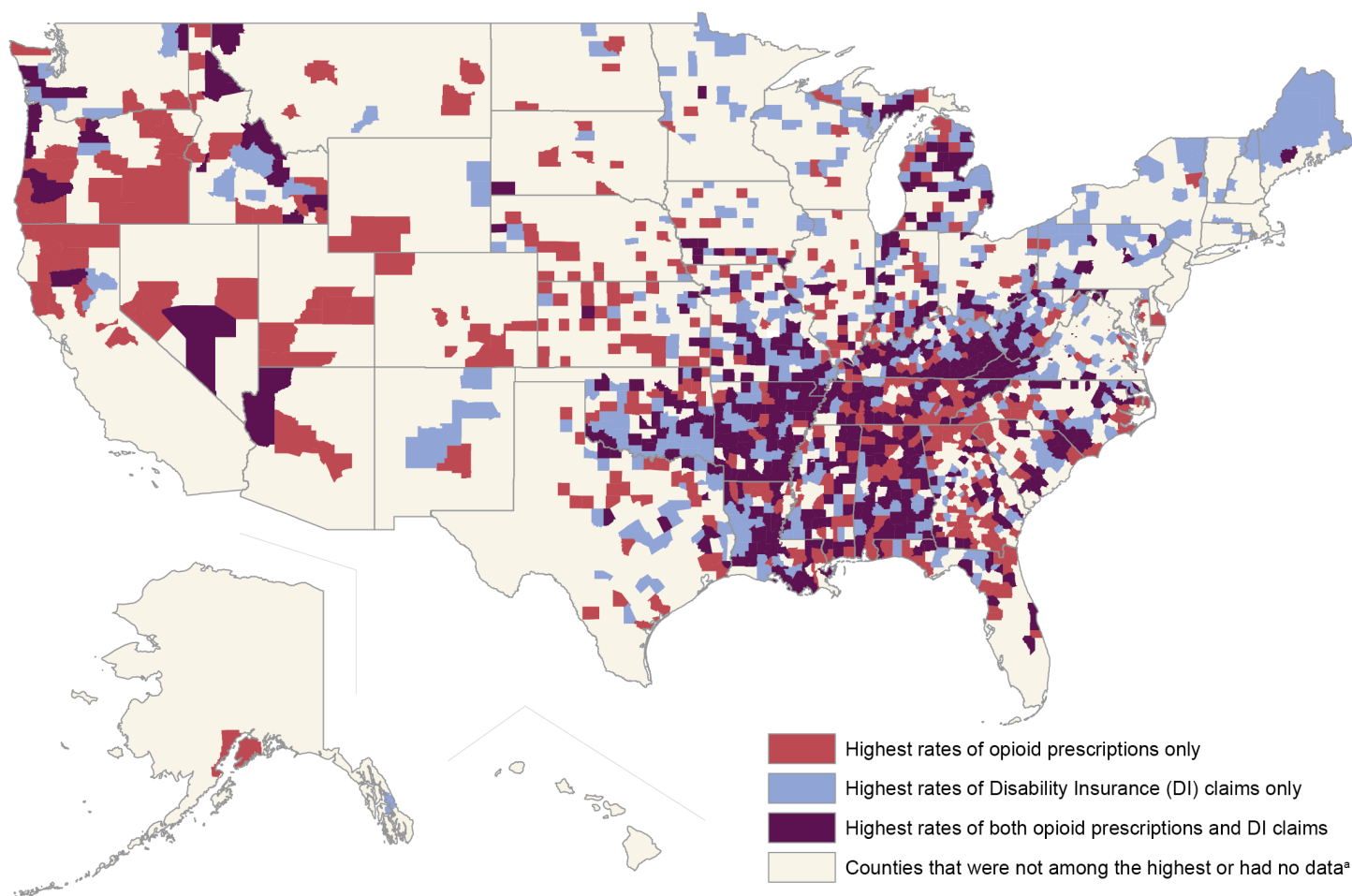Counties that were not among the highest or had no data[a]

Note: The rate of opioid prescriptions refers to the number of opioid prescriptions dispensed by retail pharmacies per 100 people in a county, and the rate of Disability Insurance (DI) claims refers to the number of DI claims per 1,000 people in a county. Counties with the highest rates of opioid prescriptions and/or DI claims refer to those in the top third of the statistical distribution for each rate. The rates of DI claims do not include DI/Supplemental Security Income (SSI) concurrent claims. We analyzed DI/SSI concurrent claims in a separate analysis and generally observed similar results.

[a]We had data available on both rates of opioid prescriptions and DI claims for 2,953 out of 3,142 counties nationwide in 2017 (i.e., we did not have data for 189 counties).

Examples of Counties in Different Regions Affected by High Rates of Opioid Prescriptions and DI Claims

Although counties with the highest rates of opioid prescriptions and DI claims are largely concentrated in the Southeast, many other counties throughout the country also have high rates of both. The two counties described below consistently ranked near the top for rates of opioid prescriptions and DI claims in their geographic regions from 2010 through 2017. While they have different economic profiles, both are dealing with serious problems related to the opioid epidemic.

- One county in the Midwest with a mid-size population had 124 opioid prescriptions per 100 people and 7.1 DI claims per 1,000 people in 2017. In terms of employment, the county's main industry is manufacturing, which includes assembly and other work for plastic molding, electronic components, and food processing companies. While the county's unemployment rate is low, its poverty rate is above average. The county has experienced a nationally publicized HIV outbreak, in part because of needle sharing among opioid users, according to national media reports. The county filed a lawsuit in 2017 against prescription opioid manufacturers and distributors based on their marketing practices.

- Another relatively larger, but sparsely populated county in the West had 112 opioid prescriptions per 100 people and 4.4 DI claims per 1,000 people in 2017. Historically known for mining, today the county's main industries include retail trade as well as accommodation and food services, likely because of its proximity to major tourist destinations. Federal data show that this county has relatively high unemployment and poverty rates. Local media outlets have detailed its struggle with high numbers of opioid overdoses. As a result, the county has been an area of concern for the state in its efforts to address the opioid epidemic, according to local reports. In 2019, the county also filed a lawsuit against prescription opioid manufacturers and distributors.

Source: GAO analysis of data from the Centers for Disease Control and Prevention, Social Security Administration, Bureau of Labor Statistics, and U.S. Census Bureau as well as national and local media reports. | GAO-20-120

Rates of Opioid Prescriptions and DI Claims Are Correlated, Even After Accounting for Economic, Demographic, and Other Factors

Our analysis shows a positive correlation between rates of opioid prescriptions and DI claims, as well as correlations between these rates and other factors (see fig. 6). Specifically, we conducted regression analyses to examine the relationship between rates of opioid prescriptions and DI claims at the county level from 2010 through 2017, taking into account economic, demographic, and other factors.[27] However, we were unable to determine whether there is a causal relationship between rates of prescription opioids and DI claims or other

[27]Correlations we identified were significant at least at the 95 percent confidence level across our regression models. In our regression analyses, we accounted for economic factors, including unemployment and poverty rates; demographic factors, including sex, age, and race; and other factors, including state, year, population size/degree of urbanization, and access to health insurance (i.e., uninsured rates). See appendix II for a detailed discussion of our regression analyses.

factors, given readily available data.[28] Further, given the small numbers of DI claims in most counties, we would not expect differences in the rate of DI claims to fully explain differences in the rate of opioid prescriptions.

- **Correlation between opioid prescriptions and DI claims.** We found that rates of opioid prescriptions and DI claims were positively correlated before and after accounting for other factors. Specifically, counties with higher rates of opioid prescriptions tended to have higher rates of DI claims and vice versa from 2010 through 2017. We would expect this correlation, given that many DI claimants experience pain, and prescription opioids are intended to help manage pain.

- **Correlations between opioid prescriptions and other factors.** Our analysis showed that rates of opioid prescriptions were correlated with poverty rates, population size, and access to health insurance. In particular, counties with higher rates of opioid prescriptions tended to have higher poverty, be less urban and with small- to mid-size populations,[29] and have more people with health insurance from 2010 through 2017.

- **Correlations between DI claims and other factors.** Our analysis showed that rates of DI claims were also correlated with poverty rates, as well as unemployment, age, and race. In particular, counties with higher rates of DI claims tended to have higher unemployment and poverty from 2010 through 2017. Those with higher rates of DI claims also tended to have higher percentages of older adult and white populations.[30]

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[28]We found that the data we reported on were sufficiently reliable for the purposes of our analyses. We found similar results whether we used rates of opioid prescriptions or DI claims as the dependent variable in our regression models, and were unable to determine the direction of any potential relationship (e.g., whether higher rates of opioid prescriptions could have contributed to higher rates of DI claims or vice versa). Further, we were unable to fully account for additional factors that likely vary by county, such as changes in prescribing and law enforcement practices, given readily available data.

[29]We used rural and urban classifications developed by the U.S. Department of Agriculture's Economic Research Service, which examines trends and emerging issues in agriculture, food, the environment, and rural America. These small- to mid-size counties generally included at least 2,500 people and were not part of a metropolitan area.

[30]Categories of race and ethnicity from the U.S. Census Bureau that were included in our regression models were Hispanic, non-Hispanic black, and non-Hispanic white. All other categories served as the omitted variable in our analyses, which included non-Hispanic American Indian or Alaska Native and non-Hispanic Asian and Native Hawaiian or Other Pacific Islander.

Figure 6: County-Level Correlations Found between Opioid Prescriptions, DI Claims, and Other Factors, 2010-2017

As rates of opioid prescriptions increase...	As rates of Disability Insurance (DI) claims increase...
⬆ **Rates of DI claims** tended to be higher	⬆ **Rates of opioid prescriptions** tended to be higher
⬆ **Poverty rates** tended to be higher	⬆ **Poverty rates** tended to be higher
Unemployment rates not significantly correlated	⬆ **Unemployment rates** tended to be higher
Age not significantly correlated	⬆ **Percentage of older adults** tended to be higher
Race not significantly correlated	⬆ **Percentage of white populations** tended to be higher [c]
⬇ **Populations** tended to be smaller and less urban[a]	*Population size not significantly correlated [d]*
⬆ **Access to health insurance** tended to be higher [b]	*Access to health insurance not significantly correlated*

Source: GAO analysis of data from the Centers for Disease Control and Prevention, Social Security Administration, Bureau of Labor Statistics, U.S. Census Bureau, and U.S. Department of Agriculture's Economic Research Service. | GAO-20-120

Note: The correlations we identified are based on regression analyses of county-level rates of opioid prescriptions and DI claims, along with economic, demographic, and other factors. These correlations were significant at least at the 95 percent confidence level across our regression models.

[a]To examine population size and degree of urbanization, we used rural and urban classifications developed by the U.S. Department of Agriculture's Economic Research Service. Though counties with higher rates of opioid prescriptions tended to be smaller and less urban, they generally had at least 2,500 people and were not part of a metropolitan area.

[b]We analyzed data from the U.S. Census Bureau on the uninsured rate (i.e., the percentage of people without health insurance). Counties with higher rates of opioid prescriptions tended to have lower uninsured rates.

[c]Categories of race and ethnicity from the U.S. Census Bureau that were included in our regression models were Hispanic, non-Hispanic black, and non-Hispanic white. All other categories served as the omitted variable in our analyses, which included non-Hispanic American Indian or Alaska Native and non-Hispanic Asian and Native Hawaiian or Other Pacific Islander.

[d]Though some classifications of population size and degree of urbanization were correlated with DI claims, we did not identify a consistent pattern across all classifications. Nonetheless, counties with the smallest populations tended to have lower rates of DI claims. In these counties, people may live in the countryside, and towns may consist of fewer than 2,500 people.

SSA Has Policies to Evaluate Potential Prescription Opioid Misuse, but Staff Faced Challenges Understanding and Following These Policies

SSA's Policies Require Staff to Evaluate Potential Substance Use Disorders in Certain DI Claims, but These Disorders Are Seldom the Key Factor in Denying Benefits

SSA's policies require staff to deny DI benefits to claimants if substance use disorders (including opioids not taken as prescribed) are "material" to the impairments that preclude the claimant from work.[31] For example, substance use disorders would be considered material to the claimant's impairment if (1) they are the claimant's only impairment, or (2) the claimant would not be considered disabled if they stopped using drugs or alcohol. To illustrate, program staff described an example, under SSA's policies, in which they would deny a claimant with a mental health condition, such as depression, who also has a substance use disorder. In particular, if staff determined that substance use was affecting the claimant's depression, and their mental health would improve to the point of non-disability in the absence of drugs or alcohol, SSA would deny the claim. In contrast, they may allow a claimant with permanent liver damage, even if caused by drug or alcohol use, because the damage is irreversible and would continue to be disabling even if the claimant were to stop using these substances.

SSA uses a six-step process, referred to as the Drug Addiction and Alcoholism (DAA) evaluation, to determine whether substance use

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[31]Federal law requires SSA to deny DI benefits to claimants if alcoholism or drug addiction is a contributing factor material to the disability determination. See 42 U.S.C. § 423(d)(2)(C). SSA policies we reviewed for implementing these requirements were from Social Security Administration, *Social Security Ruling, SSR 13-2p: Titles II and XVI: Evaluating Cases Involving Drug Addiction and Alcoholism (DAA)*, published at 78 Fed. Reg. 11,939 (Feb. 20, 2013). In our report, we refer to these policies as "SSA's policies for the DAA evaluation process." We also examined general policies and procedures for determining DI eligibility in SSA's Program Operations Manual System and Hearings, Appeals, and Litigation Law Manual. SSA generally defines drug addiction and alcoholism as "substance use disorders." Under SSA's policies, substance use disorders include those involving alcohol, illegal drugs, toxic substances such as inhalants, and prescription medications, including opioids. However, use of medications as prescribed by a treatment provider is not considered a disorder. These policies exclude substance use disorders involving nicotine and caffeine.
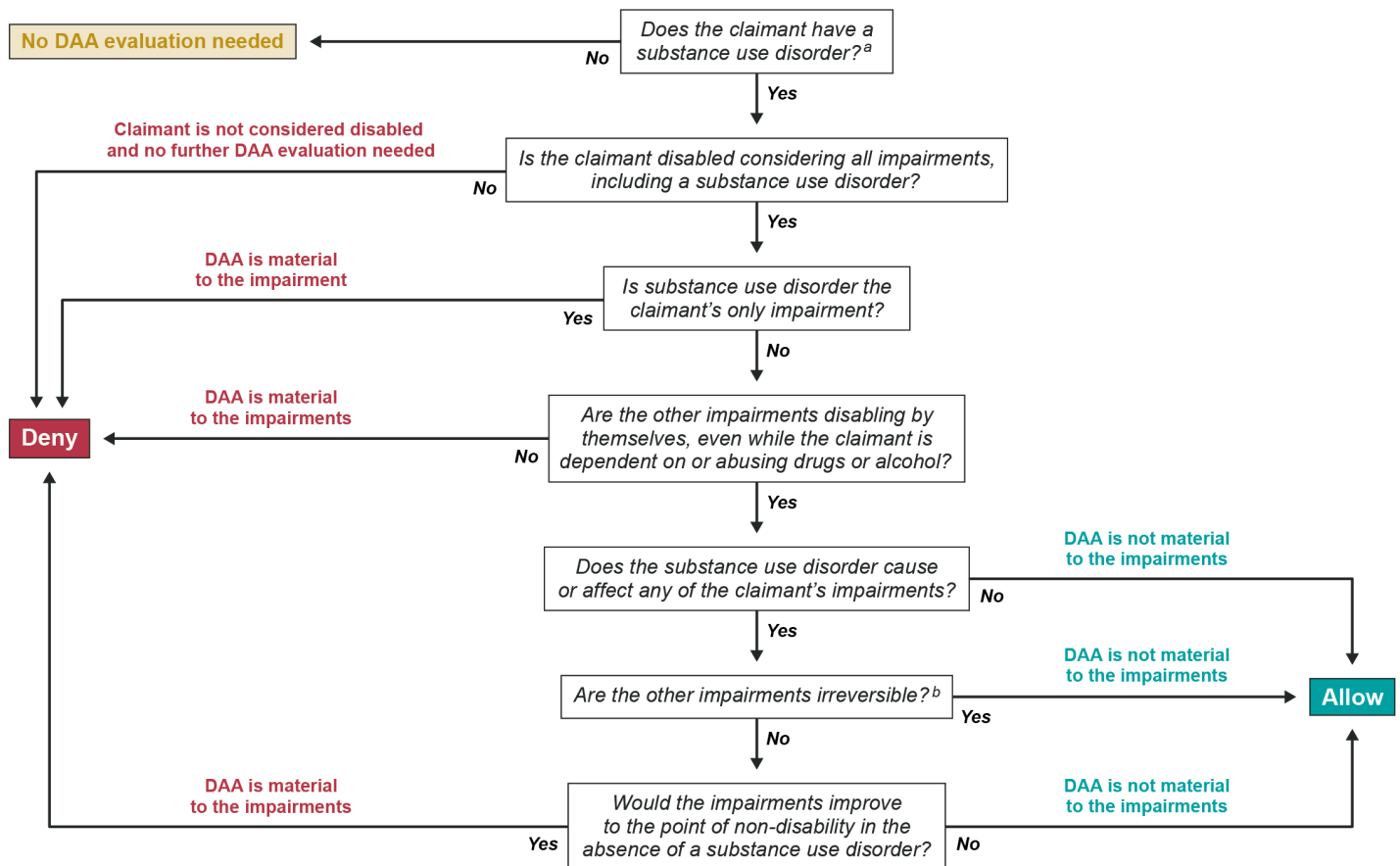
disorders are material to a claimant's impairments.[32] In the first two steps of this process, SSA determines whether a claimant is disabled and whether one of the claimant's "medically determinable impairments" is a substance use disorder. Medically determinable impairments include physical or psychological abnormalities identified through medically acceptable diagnostic techniques and documented in objective evidence from an acceptable medical source, such as a physician or psychologist. If the answer is "yes" to both questions in the first two steps of the DAA evaluation, program staff use the remaining steps to help determine whether the substance use disorder is material to the claimant's disability (see fig. 7).

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[32]Substance use disorders were considered an eligible impairment for DI benefits until the 1990s, when federal laws made changes to DI eligibility rules. For example, the Social Security Independence and Program Improvements Act of 1994 required DI beneficiaries to seek treatment as a condition for continued benefits if alcoholism or drug addiction was a contributing factor material to the disability determination. Pub. L. No. 103-296, § 201(a), 108 Stat. 1464, 1490, with related interim final rules promulgated by SSA at 60 Fed. Reg. 8,140 (Feb. 10, 1995). The Contract with America Advancement Act of 1996 prohibited DI benefits to those for whom alcoholism or drug addiction would be a contributing factor material to the disability determination, and served as the basis for SSA's current policies. Pub. L. No. 104-121, § 105, 110 Stat. 847, 852. SSA headquarters officials told us the agency issued an Emergency Memorandum to staff shortly after the 1996 Act passed, which outlined a process for evaluating substance use disorders. They said this process was relatively similar to the process it uses currently, which SSA formalized in 2013. The DAA evaluation process applies to both DDS staff at the initial level and administrative law judges at the hearings level.

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Figure 7: SSA's Drug Addiction and Alcoholism (DAA) Evaluation Process

No DAA evaluation needed ← *No* — *Does the claimant have a substance use disorder?ᵃ*

Yes

Claimant is not considered disabled and no further DAA evaluation needed

Is the claimant disabled considering all impairments, including a substance use disorder? — *No*

Yes

DAA is material to the impairment

Is substance use disorder the claimant's only impairment? — *Yes*

No

DAA is material to the impairments

Deny ← *No* — *Are the other impairments disabling by themselves, even while the claimant is dependent on or abusing drugs or alcohol?*

Yes

Does the substance use disorder cause or affect any of the claimant's impairments? — *No* — **DAA is not material to the impairments**

Yes

Are the other impairments irreversible?ᵇ — *Yes* — **DAA is not material to the impairments** — **Allow**

No

DAA is material to the impairments — *Yes* — *Would the impairments improve to the point of non-disability in the absence of a substance use disorder?* — *No* — **DAA is not material to the impairments**

Source: GAO summary of the Social Security Administration's (SSA) policies for the Drug Addiction and Alcoholism (DAA) evaluation process. | GAO-20-120

Note: SSA's policies we reviewed for implementing these requirements were from Social Security Administration, Social Security Ruling, SSR 13-2p: Titles II and XVI: Evaluating Cases Involving Drug Addiction and Alcoholism (DAA), published at 78 Fed. Reg. 11,939 (Feb. 20, 2013). Though this process includes various considerations made when conducting a DAA evaluation, SSA headquarters officials noted that staff are not required to follow each step in the order described above. In addition, the process includes both considerations for 1) whether an evaluation is necessary, and 2) whether DAA is material to a claimant's impairments.

ᵃUnder SSA's policies, substance use disorders include those involving alcohol, illegal drugs, toxic substances such as inhalants, and prescription medications, including opioids. However, use of medications as prescribed by a treatment provider is not considered a disorder. These policies exclude substance use disorders involving nicotine and caffeine. Objective evidence of a disorder must be documented by an acceptable medical source, such as a physician or psychologist.

ᵇSSA may find that a claimant's substance use disorder is what caused a disabling impairment. However, the claimant would be considered disabled if the impairment is irreversible or would continue to be disabling even if they were to stop using drugs or alcohol.

In conducting DAA evaluations, program staff can involve medical experts to assist them. At the initial level, DDS examiners confer with DDS

medical consultants, such as in-house or contracted physicians and psychologists. At the hearings level, administrative law judges can also seek opinions from medical experts during the claimant's hearing.

Substance use disorders are seldom the key factor in DI eligibility decisions, according to SSA data and staff. Specifically, SSA data show that DAA evaluations of substance use disorders—aside from those that involved alcohol only—were the reason for a denial in about 0.1 percent of all decisions at the initial level and 0.3 percent of all decisions at the hearings level in 2017.[33]

Staff in our three selected states cited these potential reasons for why substance use disorders are seldom the key factor in DI eligibility decisions:[34]

- **Claimants with substance use disorders may not have qualifying impairments.** Staff explained that those who do not have any impairment severe enough to meet SSA's disability standards can be denied without a DAA evaluation.

- **Medical records do not include enough evidence of a substance use disorder to warrant a DAA evaluation.** Staff said some claimants may not have any evidence of a substance use disorder in their file because they may not report all substances they are taking or lack past medical treatment. In addition, staff said those with suspected substance use disorders may not have enough evidence of a disorder in their medical records to warrant a DAA evaluation. For example, they said pain clinics will often discharge a claimant from the

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[33]These percentages reflect 1,763 denials out of 2,394,008 decisions made at the initial level and 2,104 denials out of 685,657 decisions made at the hearings level in 2017. The number of allowances involving substance use disorders is unknown because SSA does not consistently record this information in its administrative data.

[34]In our interviews in Alabama, Kentucky, and West Virginia, we spoke with program staff involved in DI eligibility decisions. This included interviews with groups of DDS managers, disability examiners, and medical consultants at the initial level, as well as individual administrative law judges at the hearings level. We used semi-structured interview protocols for all interviews that included open-ended questions about SSA's processes for making decisions on claims involving potential prescription opioid misuse and any challenges doing so, among other topics. Because those we interviewed provided responses to open-ended questions, not all respondents commented on every process or challenge. See appendix I for additional information on our methodology for these interviews, including how we selected states and interviewees.

clinic (i.e., stop providing services) due to drug-seeking behaviors.[35] However, these pain clinics may not always document the reasons why the claimant was discharged. Further, staff said isolated instances of drug-seeking behaviors or discharges from pain clinics documented in medical records may not necessarily mean that a DAA evaluation is warranted.

- **Some claimants have qualifying impairments, despite having substance use disorders.** Staff said substance use disorders may not be the reason a claimant cannot work and may have little or no effect on a claimant's impairments. For example, in one case file we reviewed, an administrative law judge conducted a DAA evaluation because of the claimant's substance use disorders, likely involving alcohol and prescription medications, including opioids. The judge allowed the claim after determining that the claimant's back issues were disabling, independent of the substance use disorders.

- **Use of substances as prescribed by a treatment provider, including opioids, is not considered a substance use disorder.** Program staff explained that, per SSA's policies, they would not consider the use of opioids as prescribed to be a substance use disorder warranting a DAA evaluation, even if they thought the claimant was using unusually high amounts. SSA headquarters officials added that the use of prescription opioids could be considered a substance use disorder and result in a denial if medical records from an acceptable medical source included information about excessive or inappropriate use.

Evaluating Substance Use Disorders Can Be Complex, and Staff Faced Challenges Understanding and Following SSA's Policies

Staff told us that making DI eligibility decisions for claims involving substance use disorders, including prescription opioids not taken as prescribed, can be complex. For example, staff in our three selected states noted challenges with subjectivity in conducting DAA evaluations, particularly when the claim involves mental health conditions. They said that certain conditions, such as depression or psychosis, can be exacerbated by substance use disorders. Thus, they said evaluating

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[35]Pain clinics are generally health care facilities that focus on the diagnosis and management of chronic pain, such as through prescription opioids, as well as physical, behavioral, and psychological therapies.

whether these conditions would continue to be disabling in the absence of drug or alcohol use can be difficult and subjective.[36]

We found that program staff faced challenges understanding or following SSA's policies, based on our interviews with staff in three selected states and our review of 30 case files for DI beneficiaries, which included 15 in which a DAA evaluation had been conducted.[37] Specifically, we found challenges with two aspects of the DAA evaluation process:

- **Determining when to conduct a DAA evaluation.** SSA headquarters officials told us that their policies do not require an official diagnosis of a substance use disorder from a treatment provider to conduct a DAA evaluation. Rather, they said a DAA evaluation is required if the potential disorder is considered a medically determinable impairment as defined by the current edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*—which includes descriptions of many types of substance use disorders—and documented by an acceptable medical source.[38] However, program staff in five of the six offices we

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[36]These evaluations are carried out by DDS examiners in conference with medical consultants at the initial level and by administrative law judges who may hear from medical experts at the hearings level. These staff said a documented period of sobriety could help them identify how the claimant would function if they were to stop using drugs or alcohol. However, they said claimants often do not have such periods documented in their medical evidence.

[37]The 30 case files were for DI beneficiaries identified by CMS as being at risk for prescription opioid misuse or abuse in 2017. However, these case files may not have contained any evidence of such misuse or abuse because of the timeframes we used to select them. Specifically, we selected case files for beneficiaries who had been allowed in or after 2013, but who were identified as being at risk in 2017. Because these beneficiaries may have been allowed as early as 2013, they may not have had any issues with prescription opioids at the time SSA evaluated their claim (i.e., they may have developed potential issues after being allowed benefits). From the 30,273 DI beneficiaries identified by CMS, we selected the 30 case files to review based on whether the beneficiary had been evaluated by SSA for an identified substance use disorder, among other factors. As mentioned previously, SSA administrative data do not specify the type of substance use disorder involved beyond alcohol and other drugs. Thus, we could not select case files that were specifically evaluated for prescription opioid misuse. Examples of substance use disorders we observed in our review involved alcohol, benzodiazepines, cocaine, and methamphetamines, in addition to prescription opioids. See appendix I for additional information on our methodology for selecting case files for review. In addition, see appendix III for additional demographic and other information on the larger population of DI beneficiaries identified as being at risk for prescription opioid misuse or abuse.

[38]American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. (Arlington, VA: 2013).

visited in the three selected states, including DDS managers and examiners participating in group interviews and three administrative law judges, told us they believed they should not conduct a DAA evaluation unless they see an official diagnosis documented in the medical evidence.

SSA headquarters officials discussed why staff may be confused about when to conduct a DAA evaluation, and acknowledged the potential effects. Specifically, they said staff may be confused about the policies for determining what is considered a medically determinable impairment for substance use disorders. Officials said there must be evidence of substance use that is consistent with the general definition of a substance use disorder as defined in the *Diagnostic and Statistical Manual of Mental Disorders*. They said staff may mistakenly interpret this requirement to mean that they need an official diagnosis to conduct a DAA evaluation. In fact, SSA's operations manual for determining DI eligibility may also cause confusion. Though officials told us that SSA's policies do not require an official diagnosis, the operations manual states that staff should only conduct a DAA evaluation when "an acceptable medical source establishes that a claimant is diagnosed with a substance use disorder."[39] SSA headquarters officials acknowledged that confusion about when to conduct a DAA evaluation could result in evaluations not being done when they should be, as well as claims being evaluated for substance use disorders unnecessarily when they do not meet the standards for being a medically determinable impairment.

- **Documenting the rationale for why substance use disorders did not affect the claimant's impairment.** SSA's policies for the DAA evaluation process generally require staff to document sufficient information about their evaluations so that a subsequent reviewer can understand the rationale for the decision, which is in keeping with federal standards for internal control.[40] These policies also indicate that a single statement documenting that "DAA is not material" to the claimant's impairments is not sufficient, and that documentation

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[39]SSA, *Program Operations Manual System (DI 90070.050: Adjudicating a Claim Involving Drug Addiction or Alcoholism (DAA))*.

[40]The standards state that agencies should clearly document significant events in a manner that allows the documentation to be readily available for examination. See GAO-14-704G.

should be included in the determination and decision, or in other appropriate documents for DDS staff. In the 15 case files in which SSA had conducted a DAA evaluation, nine did not include a documented rationale. For example, in one case file we reviewed, a DDS examiner initially denied a claim for mental health issues after determining that these issues would not be disabling in the absence of the claimant's substance use disorders, which involved benzodiazepines. An administrative law judge at the hearings level later allowed the claim, but did not document a rationale for why the claimant's substance use disorders did not affect the claimant's impairments.

SSA headquarters officials agreed that a documented rationale was inappropriately missing in four of the nine case files mentioned above, although they did not indicate why the documentation was missing. For the remaining case files, while they agreed that there was no documented rationale, they asserted that neither a DAA evaluation nor a documented rationale was required. For example, for four of these five case files, officials stated that the substance use disorder was not established as a medically determinable impairment, that the claimant's impairments were disabling by themselves regardless of whether there was any history of substance use disorders, and that the impairments were irreversible or could not improve to the point of non-disability. Nonetheless, a DAA evaluation was conducted in these case files, underscoring staff's confusion about when an evaluation is necessary. Furthermore, regardless of whether a documented rationale was required in these case files, such documentation, if included, would ensure the rationale for the decision is clear to a subsequent reviewer, a recommended practice in federal internal control standards.

SSA headquarters officials acknowledged that a poorly documented rationale could lead to reversals or remands if staff conducting appeals or quality reviews are unable to understand the decision. This could result in increased processing time for those conducting appeals and quality reviews, as well as for staff who may be required to revisit their decision. For example, in one case file we reviewed, an administrative law judge allowed a claim for mental health issues that had previously been denied at the initial level as a result of the claimant's substance use disorders involving prescription opioids, alcohol, and marijuana. The case file was later randomly selected for quality review by the Appeals Council, which remanded the case back to the administrative law judge due, in part, to the lack of documented

rationale regarding the claimant's substance use disorders. As a result of the remand, the administrative law judge held a new hearing and issued a new decision that still allowed the claim, but provided a rationale for the DAA decision.

SSA headquarters officials told us about efforts that could help ensure staff understand and follow policies for the DAA evaluation process. For example, they discussed training on DAA evaluation and documentation requirements. For DDS examiners, they said this training includes presentation slides and videos on these topics. Similarly, for new administrative law judges and other hearings-level staff, they said mandatory trainings include a module on the DAA policies. While SSA headquarters officials said they generally do not offer additional training beyond this, they noted that DDS examiners and administrative law judges are able to revisit the training materials and receive more local, ongoing training and resource materials as needed.

We found examples of local, ongoing training and resource materials on the DAA evaluation process during our interviews in our three selected states. For example, one DDS office we visited had developed a DAA flowchart for its internal website, as well as a question and answer section derived from existing SSA information. Another DDS office had developed its own guidance specifically on documentation requirements for DAA evaluations. DDS managers and examiners in this office said they had sought clarification from the SSA office overseeing their region in developing the guidance, which was used during a local training for disability examiners in January 2019.

In addition to training and guidance, SSA headquarters officials told us that compliance with policies for the DAA evaluation process is examined as part of the agency's larger quality review processes. These processes are designed to ensure that cases are decided accurately. They include national and local reviews of randomly selected decisions at the initial level, as well as national reviews at the hearings level. Identified errors are reported back to the respective offices for correction. However, these reviews do not target claims involving substance use disorders. SSA headquarters officials said the agency does not track how often they review such claims at the initial level. DDS managers in the three selected states who are involved in local quality reviews also told us that such claims are not targeted for review.

Despite SSA's efforts to train staff on the DAA requirements, provide guidance, and conduct quality reviews that may cover DAA evaluations,

we found that confusion about implementing the policies remains and staff are not always documenting the rationale for their evaluations as required. If SSA does not clarify its policies regarding when to conduct a DAA evaluation, as well as ensure that staff document the rationale for these evaluations, staff may not be in compliance with the policies. Further, if SSA does not take action, staff conducting subsequent appeals and quality reviews may not have the information needed to effectively examine prior evaluations of substance use disorders. Thus, the agency may expend resources re-working cases and, in turn, delay benefits to individuals eligible for assistance.

Conclusions

The DI program helps people with eligible impairments even if they are also struggling with substance use disorders, including opioids not taken as prescribed, if the impairments would continue to be disabling in the absence of drugs or alcohol. Many people with disabilities have chronic pain for which prescription opioids are used as a legitimate treatment option. Thus, it is not surprising that many people who apply for DI benefits have opioid prescriptions, or that we would observe a positive correlation between these rates.

Though SSA data show that substance use disorders are seldom the key factor in denying benefits, the agency nonetheless has a responsibility to show accountability for the decisions made by staff. Evaluating substance use disorders can be complex. However, without clarification to help staff better understand the policies for evaluating such disorders and ensuring staff document the rationale for their decisions, SSA likely cannot know whether claims are thoroughly assessed and efficiently examined as they move through subsequent reviews. Such inefficiencies can result in delayed benefits to those eligible for assistance. Further, while our review focused on prescription opioids, any improvements SSA makes to this process could help the agency stay ahead of shifting trends in the broader opioid epidemic.

Recommendations for Executive Action

We are making the following two recommendations to SSA:

- The Commissioner of the Social Security Administration should clarify policies and procedures to remind staff that a diagnosis of a substance use disorder is not necessary to conduct a Drug Addiction and Alcoholism evaluation. (Recommendation 1)

- The Commissioner of the Social Security Administration should ensure that staff document their rationale for decisions involving the Drug Addiction and Alcoholism evaluation process. (Recommendation 2)

Agency Comments and Our Evaluation

We provided a draft of this report to SSA and HHS for review and comment. SSA provided technical comments, which we incorporated as appropriate, and formal comments. As part of its technical comments, SSA suggested that we revise the language of Recommendation 1 to focus more directly on the cause of staff's confusion about when to conduct a DAA evaluation (i.e., staff's misconception that a diagnosis of a substance use disorder is required). We agreed with this suggestion, and revised the recommendation accordingly. A letter conveying SSA's formal comments is reproduced in appendix IV. SSA agreed with our recommendations. Regarding both recommendations, SSA stated that it will continue to train staff on the agency's policies and procedures related to substance use disorders and the DAA evaluation process, as well as the importance of fully documenting these evaluations. HHS did not provide any comments.

We are sending copies to the appropriate congressional committees, the Commissioner of the Social Security Administration, the Secretary of Health and Human Services, and other interested parties. The report will also be available at no charge on the GAO website at www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-7215 or curdae@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.

Elizabeth Curda, Director
Education, Workforce, and Income Security Issues

Appendix I: Objectives, Scope, and Methodology

We examined (1) what is known about the relationship between trends in prescription opioids and Disability Insurance (DI) claims, and (2) how the Social Security Administration (SSA) considers potential prescription opioid misuse in its DI eligibility decisions. This appendix provides a detailed account of the information and methods we used to answer these objectives. Section 1 provides an overview of our methods and key data sources. Sections 2 through 4 provide additional details on the three main methods we used to answer our objectives.

Section 1: Overview of Methods and Key Data Sources

To answer our first objective on the relationship between trends in prescription opioids and DI claims, we reviewed relevant literature and analyzed data from the Department of Health and Human Services' (HHS) Centers for Disease Control and Prevention (CDC) and SSA. Specifically, we reviewed existing studies and interviewed several researchers currently examining the relationship between prescription opioids and DI claims.[1] We also reviewed available data from SSA on prescription opioid use among DI claimants. In addition, we analyzed county-level data on the rates of opioid prescriptions from CDC and number of DI claims from SSA from 2006 through 2017, the most recent year of data available at the time of our review. We used aggregate data to illustrate nationwide trends over time. We also examined variation among counties, including differences among those with the highest rates of opioid prescriptions and DI claims. Lastly, we used these data to conduct multiple regression analyses to examine the relationship between opioid prescriptions and DI claims, taking into account economic, demographic, and other factors. We discuss these analyses in greater detail in Section 2.

To answer our second objective on how SSA considers potential prescription opioid misuse in its DI eligibility decisions, we reviewed relevant information, interviewed program staff, and reviewed DI case files. We reviewed relevant federal laws, regulations, and SSA policies, as well as federal standards for internal control.[2] We also interviewed SSA headquarters officials and staff involved in DI eligibility decisions in six offices in Alabama, Kentucky, and West Virginia. We discuss the

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[1]We identified relevant studies based on keyword searches of research databases as well as discussions with SSA officials.

[2]See GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 10, 2014).

criteria we used to select these states in Section 3. Lastly, we selected and reviewed 30 case files for DI beneficiaries who had been identified by the Centers for Medicare & Medicaid Services (CMS) as being at risk for prescription opioid misuse or abuse in 2017. We discuss the data and criteria we used to select these case files in Section 4.

To answer our objectives, we used a variety of electronic data from data sources administered by CDC, SSA, and other federal agencies. Tables 1 and 2 summarize the key data sources and how they were used for each objective. For each data source, we conducted a reliability assessment by completing two or more of these steps: conduct electronic tests for completeness and accuracy, review relevant documentation, and interview knowledgeable officials about how the data are collected and maintained. We found that the data we used were sufficiently reliable for the purposes of our analyses. However, our analytical approach was limited by the availability of data, as discussed below and in appendix II.

Table 1: Key Data Sources for Objective 1 on the Relationship between Trends in Prescription Opioids and DI Claims

Data source	What the data were used for		
	Analysis of nationwide trends	Analysis of variation among counties	Regression analyses
Numbers and rates of opioid prescriptions, 2006-2017 (from the Department of Health and Human Services' Centers for Disease Control and Prevention)[a]	X	X	X
Numbers of Disability Insurance (DI) claims, 2006-2017 (from the Social Security Administration)[b]	X	X	X
Unemployment rates, 2010-2017, (from the Department of Labor's Bureau of Labor Statistics' Local Area Unemployment Statistics program)	.	X	X
Labor force participation rates, 2010-2017 (from the Bureau of Labor Statistics' Local Area Unemployment Statistics program)	.	X	X
Poverty rates, 2010-2017 (from the Department of Commerce's U.S. Census Bureau's Small Area Income and Poverty Estimates program)	.	X	X
Population data, 2006-2017 (from the U.S. Census Bureau's Population Estimates program)	.	X	X
Age of the population, 2010-2017 (from the U.S. Census Bureau's Population Estimates program)	.	X	X
Race of the population, 2010-2017 (from the U.S. Census Bureau's Population Estimates program)	.	X	X
Access to health insurance (i.e., uninsured rates), 2010-2017 (from the U.S. Census Bureau's Small Area Health Insurance Estimates program)	.	X	X
Population size and degree of urbanization, 2013 (from the U.S. Department of Agriculture's Economic Research Service)[c]	.	.	X
Major industries, 2017 (from the Department of Commerce's Bureau of Economic Analysis's Employment by County, Metro, and Other Areas)	.	X	.

Source: GAO summary. | GAO-20-120

[a]Refers to the number of opioid prescriptions dispensed by retail pharmacies per 100 people in a given county and year.

[b]GAO also examined the numbers of DI allowances and DI/Supplemental Security Income concurrent claims and allowances.

[c]Classifications are based on population size, degree of urbanization (i.e., number of people living in a town versus the countryside), and proximity to a metropolitan area.

Table 2: Key Data Sources for Objective 2 on SSA's Consideration of Prescription Opioid Misuse in DI Eligibility Decisions

	What the data were used for	
Data Source	**Selection of states for site visits to interview program staff**	**Selection of case files to review for Disability Insurance (DI) beneficiaries**
Rates of opioid prescriptions, 2016 (from the Department of Health and Human Services' (HHS) Centers for Disease Control and Prevention (CDC))[a]	X	.
Rates of drug overdose deaths, 2017 (from CDC)	X	.
Percentage of the adult population on DI, 2015 (from the Social Security Administration (SSA))	X	.
Data on Medicare Part D beneficiaries, including those who had been identified as being at risk of prescription opioid misuse or abuse, 2017 (from HHS's Centers for Medicare & Medicaid Services)	.	X
Data on DI beneficiaries, all years available (from SSA)	.	X

Source: GAO summary. | GAO-20-120

[a]Refers to the number of opioid prescriptions dispensed by retail pharmacies per 100 people.

Section 2: Analyses of County-Level Data on Opioid Prescriptions and DI Claims

To answer our first objective on what is known about the relationship between trends in prescription opioids and DI claims, we conducted three sets of analyses using county-level data on the rates of opioid prescriptions and number of DI claims from 2006 through 2017. The data on opioid prescriptions are from CDC and represent the number of opioid prescriptions filled by retail (i.e., non-hospital) pharmacies per 100 people per year in each county.[3] Though other datasets on prescription opioids exist, we chose to use CDC data because they show the actual number

[3]According to CDC, these data do not include mail-order prescription drugs, but cover about 90 percent of all retail prescriptions in the United States. These data count the number of prescriptions filled, which could vary by number of pills, dosage, and potency (i.e., the morphine dose equivalent). In addition, these data do not represent the number of individuals, since one individual may have more than one opioid prescription.

of prescriptions filled in each county, were publicly available at the time of
our study, and included data through 2017.[4]

SSA provided data on the number of DI claims, which we used to
calculate rates. We chose to include claims from individuals who are
generally subject to a disability determination, such as disabled workers,
widow(er)s, and adult children. We excluded individuals who are
generally not subject to these determinations, such as dependent
spouses and children under age 18. We examined DI only claims
separately from DI/Supplemental Security Income (SSI) concurrent
claims, and also examined similar data for DI allowances. We calculated
rates of DI claims per 1,000 people per year in each county using
population data from the U.S. Census Bureau. We used county-level data
because claimant-level data, such as prescription opioid use by DI
claimants, were not readily available.

Our three sets of analyses examined:

- **Nationwide trends.** We used aggregate data from CDC on opioid
  prescriptions and data on DI claims from SSA to examine trends
  nationwide from 2006 through 2017.

- **County variation.** We used the data to examine variation among
  counties in their rates of opioid prescriptions and DI claims.
  Specifically, we examined the distribution of these rates among all
  counties. We had data available on both rates of opioid prescriptions
  and DI claims for 2,953 out of 3,142 counties nationwide. We then
  examined counties with the highest rates of opioid prescriptions and
  DI claims. We defined counties with the highest rates as those in the
  top third of the statistical distributions for each rate (i.e., at least 984

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[4]Other relevant datasets we did not use on prescription opioids had limitations. For
example, CMS tracks data on the quantities of prescription medications dispensed to
Medicare Part D beneficiaries, which includes DI beneficiaries on Medicare. However,
matching these data with DI claims data would have required a significant investment of
resources and would not include DI claimants whose claims were denied. In addition, the
Department of Justice's Drug Enforcement Administration tracks data on controlled
substances, including prescription opioids, shipped by manufacturers and distributors to
pharmacies, practitioners, or other entities. However, the data do not indicate whether
those substances were ultimately dispensed to customers. Lastly, CDC collects data on
drug overdose deaths. However, CDC officials told us that data on overdose deaths
specifically related to any drug, including prescription opioids, at the county level are not
reliable because of variations in how counties record substances involved on death
certificates, among other reasons.

counties for each rate in 2017).[5] Of these counties, 527 were in the top third of the statistical distribution for both rates. We plotted these counties with the highest rates on a U.S. map to observe any geographic differences across the Midwest, Southeast, Northeast, and West.

In addition, we identified two counties to feature as illustrative examples. To select these counties, we first calculated the number of years from 2010 through 2017 a given county ranked in the top 10 for rates of opioid prescriptions and DI claims in each geographic region. We then selected two of these high-rate counties to serve as examples from different geographic regions and with different major industries.

- **Regressions on the relationship between opioid prescriptions and DI claims.** We used the county-level data to conduct regression analyses to examine the relationship between rates of opioid prescriptions and DI claims. In our regression models, we analyzed rates of opioid prescriptions and DI claims. In addition, we used data from a variety of sources to control for other county-level factors. Specifically, economic factors we accounted for included unemployment and poverty rates; demographic factors included sex, age, and race; and other factors included state, year, population size/degree of urbanization, and access to health insurance (i.e., uninsured rates). See table 1 above for additional information on the sources of these data, as well as appendix II for a detailed discussion of our regression analyses, including our models and limitations.

Section 3: Interviews with Program Staff in Selected States

To answer our second objective on how SSA considers potential prescription opioid misuse in its DI eligibility decisions, we conducted site visits to Alabama, Kentucky, and West Virginia. We selected these three states primarily because of their high rates of opioid prescriptions in 2016 and drug overdose deaths in 2017, and because a high percentage of their adult population received DI benefits in 2015.[6]

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[5]We examined each third of the distribution (e.g., top third versus bottom two-thirds), in part, because this approach was in line with other federal government research on prescription opioid use at the county level. See Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, *The Opioid Crisis and Economic Opportunity: Geographic and Economic Trends* (June 29, 2018). Though we also examined each fifth of the distribution, we focused on those in the top third to be inclusive of more counties.

[6]We used different years of data based on what was publically available at the time we selected our site visit locations.

In each state, we visited one Disability Determination Services (DDS) office and one Hearing Office. These six offices included the Birmingham DDS and Birmingham Hearing Office in Alabama, the Frankfort DDS and Louisville Hearing Office in Kentucky, and the Charleston DDS and Charleston Hearing Office in West Virginia. We selected offices that were relatively larger, were nearest to or in counties with the highest rates of opioid prescriptions in the state in 2016, and where the DDS and Hearing Office were in close proximity, among other reasons.

At each office, we interviewed a range of staff involved in making DI eligibility decisions. Specifically, for each DDS, we conducted group interviews with managers, disability examiners, and medical consultants. We initially conducted an exploratory site visit to the Frankfort DDS in Kentucky, where we met with all available managers, disability examiners, and medical consultants. In the remaining visits, we met with all available managers, but randomly selected five disability examiners and five medical consultants for the group interviews. Each group included between 5 and 15 participants. For each Hearing Office, we conducted individual interviews with three randomly selected administrative law judges, as well as the chief administrative law judge. For the purposes of our report, we include state government DDS staff in our general references to "program staff."[7]

We used semi-structured interview protocols for all interviews that included open-ended questions about SSA's processes for making decisions on claims involving potential prescription opioid misuse and any challenges doing so, among other topics. Because those we interviewed provided answers in response to open-ended questions, not all respondents commented on every process or challenge. In addition, because we visited a non-probability sample of DDS and Hearing Offices in three selected states, the results of our review cannot be generalized to all offices and states.

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[7]Although SSA is responsible for the DI program, the law generally calls for initial decisions of disability to be made by state government DDS offices. See 42 U.S.C. § 421(a)(1).The work performed at DDS offices is federally financed and subject to SSA disability program regulations, policies, and guidelines.

Section 4: Case File Reviews for DI Beneficiaries

To gain a deeper understanding of how SSA considers potential prescription opioid misuse in its DI eligibility decisions, we selected and reviewed 30 case files from SSA involving DI beneficiaries who had been identified by CMS as being at risk of opioid misuse or abuse. To select case files, we used a dataset from CMS on Medicare Part D beneficiaries that we matched with SSA data on DI beneficiaries. The CMS dataset contained information on Medicare Part D beneficiaries who CMS identified as being at risk of prescription opioid misuse or abuse in 2017.[8] CMS identifies beneficiaries as being at risk of prescription opioid misuse or abuse if they received high amounts of opioids (had an average daily morphine dose equivalent of 90 mg or more) and appeared to have coordination of care issues (either had three or more opioid prescribers and three or more opioid dispensing pharmacies, or five or more prescribers regardless of the number of pharmacies) during a 6-month period. We identified DI beneficiaries within this larger dataset of Medicare Part D beneficiaries using an identifier in CMS's data. This identifier signified that DI eligibility was a beneficiary's reason for Medicare enrollment, since those eligible for DI may gain access to Medicare after a 2-year waiting period. We then worked with SSA to match these data on DI beneficiaries within CMS's dataset with SSA data. Specifically, we obtained information for analysis from SSA's database on various demographic characteristics of this population of DI beneficiaries, including their sex, age, race, and impairments. We also obtained administrative data on beneficiaries' claims.

Using the CMS dataset on Medicare Part D beneficiaries that we matched with SSA's data on DI beneficiaries, we identified 30,273 DI beneficiaries who had been identified by CMS as being at risk of prescription opioid misuse or abuse in 2017. See appendix III for additional demographic and other information on this population.

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[8]CMS developed this dataset in response to the Comprehensive Addiction and Recovery Act of 2016, which authorized the establishment of drug management programs to limit access to frequently abused drugs for beneficiaries considered to be at risk for their misuse, among other things. See Pub. L. No. 114-198, § 704(a), 130 Stat. 695, 742. The dataset was created using criteria from final regulations CMS promulgated in April 2018. These regulations established a framework under which Medicare Part D plan sponsors may establish drug management programs for at-risk beneficiaries. See 83 Fed. Reg. 16,440 (Apr. 16, 2018). Also see Department of Health and Human Services, Centers for Medicare & Medicaid Services, *Part D Drug Management Program Policy Guidance* (Baltimore, Md.: November 2018); and GAO, *Voluntary Medicare Drug Management Programs to Control Misuse*, GAO-19-446 (Washington, D.C.: May 20, 2019). Though this dataset was shared with GAO for the purposes of this report, it was not shared with or used by SSA for the purposes of its work.

From the DI beneficiaries we identified, we selected 30 case files to
review based on a number of claims characteristics related to potential
prescription opioid misuse and SSA's processing of the claim. First, we
only selected case files for individuals who had been allowed benefits
during or after 2013, when SSA formalized its policies for evaluating
substance use disorders, including prescription opioids. In addition, we
randomly selected 15 case files where the beneficiary had been
evaluated by SSA for an identified substance use disorder and 15 where
they had not.[9] As part of the selection of 30 case files, we also randomly
selected 16 case files where the beneficiary had self-reported the use of a
prescription opioid and 14 where they had not, and 14 case files where
the beneficiary had their case reviewed for potential medical improvement
(called a continuing disability review) and 16 where they had not (these
characteristics were not mutually exclusive).[10]

To systematically collect information on how or whether SSA considered
potential prescription opioid misuse in each case file, we developed a
data collection instrument to conduct our review of them. We designed
the instrument to examine SSA's implementation of its process for making
DI eligibility decisions for claims involving substance use disorders,
including opioids not taken as prescribed. For example, the instrument
included questions about how SSA identifies and evaluates such
disorders when making decisions, any documentation of this process, and
how SSA reviews case files for potential medical improvement after
allowing benefits. The instrument was not intended to examine the
accuracy of decisions. In addition, we shared the instrument with SSA
officials in advance, who provided notes on where the needed information

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[9]We selected two of the 30 case files specifically because they involved beneficiaries who
had been evaluated and initially denied because of an identified substance use disorder,
but were later allowed on appeal. The remaining 28 case files were randomly selected to
achieve an even split between 14 where the beneficiary had been evaluated for an
identified substance use disorder and 14 where they had not (totaling 16 where they had
been evaluated and 14 where they had not). We later decided to re-categorize one case
file from the list of 16 as belonging to the list of 14. This decision brought the total number
of case files in each list to 15. We made this decision because SSA headquarters officials
believed and we agreed that a DDS examiner likely marked this case in SSA's
administrative data as having an evaluation done when one was not. The case file
contained little information indicating that the beneficiary had a substance use disorder
warranting an evaluation.

[10]Beneficiaries in the two case files that had been specifically selected had both self-
reported the use of a prescription opioid and had not had their case reviewed for potential
medical improvement. The remaining 28 case files were selected randomly to achieve an
even split between case files that had these characteristics and those that did not.

could be found in the case files. Two GAO analysts independently
reviewed each case file using the instrument, then met to review coding
decisions and reconcile any differences between their reviews. We also
discussed the results of our review with SSA headquarters officials.
These officials provided comments on our observations for each case file,
which we took into consideration.

Though we examined information on all of the case file characteristics
described above, we ultimately focused on SSA's implementation of its
process for evaluating the beneficiary for an identified substance use
disorder. We did not focus on SSA's implementation of its process for
examining whether the beneficiary had self-reported the use of a
prescription opioid. This is because the use of opioids as prescribed is not
considered a substance use disorder under SSA's policies. In addition,
we learned during our case file review that beneficiaries had multiple
opportunities to self-report such use that would not be captured in SSA's
administrative data, and that program staff also had multiple opportunities
to examine such use when collecting and reviewing medical evidence. In
addition, we did not focus on SSA's implementation of its process for
reviewing the beneficiary for potential medical improvement because we
learned during our case file review that substance use disorders seldom
factor into SSA decisions about whether to continue or cease DI benefits.
According to SSA, benefits typically continue unless evidence exists that
a beneficiaries' impairment has medically improved and that they are able
to return to work. SSA headquarters officials told us that staff would not
evaluate a substance use disorder during the continuing disability review
unless the beneficiary has medically improved and a new impairment that
may be affected by a substance use disorder is to be assessed.

Several limitations exist with our review of case files. Because we
selected from a population of DI beneficiaries, the sample did not include
case files for claimants who were ultimately denied. However, we did not
see this as a significant limitation because SSA's policies regarding the
DAA evaluation are the same regardless of whether a claim is ultimately
allowed or denied. In addition, 16 of the 30 case files we reviewed had
been denied at the initial level before being allowed on appeal at later
adjudicative levels. In addition, the case files may not have contained any
evidence of prescription opioid misuse or abuse because of the
timeframes we used to select them. Specifically, we selected case files
for DI beneficiaries who had been allowed during or after 2013, but who
were identified as being at risk of prescription opioid misuse or abuse in
2017. Because these beneficiaries may have been allowed benefits as
early as 2013, they may not have had any issues with prescription opioids

at the time SSA evaluated their claim (i.e., they may have developed potential issues after being allowed benefits). Lastly, because we reviewed a non-probability sample of 30 case files, the results of our review cannot be generalized to the larger population of DI beneficiaries.

We conducted this performance audit from June 2018 to January 2020 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Regression Analyses of County-Level Data

We used regression models and other data analyses to address our first objective on the relationship between opioid prescriptions and Disability Insurance (DI) claims. This technical appendix outlines the data, methodology, limitations, and results for the regression analyses in our report.

Data

We used county-level data from data sources administered by the Department of Health and Human Services' Centers for Disease Control and Prevention (CDC) and other federal agencies from 2010 through 2017. These data included the rates of opioid prescriptions from CDC. We also used ZIP code-level data from the Social Security Administration (SSA) on the number of DI claims, which we transformed into county-level data using ZIP code-to-county crosswalk data from the Department of Housing and Urban Development.[1] Similarly, we examined the numbers of DI allowances and DI/Supplemental Security Income (SSI) concurrent claims and allowances from SSA as well. In addition, we used data on a number of economic, demographic, and other factors.[2] Economic factors included unemployment and poverty rates; demographic factors included sex, age, and race; and other factors included state, year, population size/degree of urbanization, and access to health insurance (i.e., uninsured rates). We used data from 2010 through 2017 because those were the years in which we had data for all of our factors, with the exception of degree of urbanization. We had data on degree of urbanization for 2013, and assumed that this factor was consistent from 2010 through 2017. For a list of the county-level data that we used in our analyses and their sources, see table 1 in appendix I.

Table 3 provides summary statistics for factors included in our regression models. These include the mean, median, standard deviation, and range for the factors among counties from 2010 through 2017.

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[1]Given that ZIP codes may overlap across multiple counties, we assigned each ZIP code to the county that made up the largest proportion of the population.

[2]We selected these variables to cover a range of factors that could affect rates of opioid prescriptions and DI claims, in part, based on past research on these issues as well as data availability.

Table 3: Summary Statistics for Factors Included in Regression Analyses of County-Level Rates of Opioid Prescriptions and DI Claims, 2010-2017

	Mean	Median	Standard Deviation	Minimum	Maximum
Opioid prescriptions (per 100 people)[a]	85.1	80.1	47.1	0.1	583.8
Disability Insurance (DI) claims (per 1,000 people)[a]	4.1	4.0	1.4	0	17.7
DI allowances (per 1,000 people)[a]	2.1	2.0	0.8	0	9.5
Concurrent DI/Supplemental Security Income (SSI) claims (per 1,000 people)[a]	4.3	3.8	2.4	0	20.9
Concurrent DI/SSI allowances (per 1,000 people)[a]	1.3	1.1	0.7	0	7.2
Unemployment rate (%)	6.9	6.4	2.9	1.1	28.9
Poverty rate (%)	16.6	15.7	6.3	2.9	51.2
Over 65 years old (%)	17.1	16.8	4.3	5.6	57.1
White, non-Hispanic (%)	77.6	84.6	19.3	2.7	98.9
Black, non-Hispanic (%)	9.1	2.4	14.3	0	85.6
Hispanic (%)	8.7	3.8	13.0	0.2	96.3
Access to health insurance (i.e., uninsured rate) (%)	14.6	14.3	5.8	2.1	39.4

Source: GAO analyses of data from the Centers for Disease Control and Prevention, Social Security Administration, Bureau of Labor Statistics, U.S. Census Bureau, and U.S. Department of Agriculture's Economic Research Service. | GAO-20-120

[a]Values are based on raw numbers, but were included in our regression models as the natural logarithm. Means and medians are based on 22,789 observations from 2010 through 2017 (i.e., one observation for each county each year).

Methodology

We used linear regression models to analyze the relationship between rates of opioid prescriptions and DI claims, and controlled for the economic, demographic, and other factors described above at the county level. Our unit of analysis was the county-year, meaning that the observations are for each county each year. We had 22,789 observations, since there are over 2,977 counties and we used data from 2010 through 2017. Some of the factors we controlled for, such as unemployment rates, sex, age, race, and access to health insurance (i.e., uninsured rates), were similar to what other researchers used in examining the relationship between prescription opioids and employment variables.

We included state and year fixed effects in our models to help account for additional factors that could vary across states or over time and national time trends. For example, differences in prescribing practices and increased law enforcement strategies across states could affect rates of opioid prescriptions. Further, factors that have previously been identified as possibly affecting the DI population include changes in the

characteristics of the working-age population, federal policies (e.g., DI eligibility criteria), and employment opportunities.[3] The results should be interpreted as changes in the dependent variable (i.e., rate of opioid prescriptions or rate of DI claims) associated with a change in the independent variables, within states.

Because other researchers had highlighted difficulties determining the direction of the relationship between prescription opioids and DI claims, we examined models with both the rates of opioid prescriptions and DI claims as the dependent variable (see below). The dependent variables were transformed using the natural logarithm. Thus, the model coefficients should be interpreted as a percentage change in the dependent variable associated with a change in the independent variable.

- Our models with opioid prescription rates as the dependent variable take the following form:

$$\ln(\text{opioid prescription rate})_{cst} = \alpha + \beta_1 \, ln(DI \, claims \, rate)_{cst} + \gamma X_{cst} + \delta_s + \varphi_t + \varepsilon_{cst}$$

where *c* is the county in state *s* in year *t*. The dependent variable is the rate of opioid prescriptions (the number of opioid prescriptions per capita). The independent variable is the rate of DI claims (the number of DI claims per capita). X_{cst} includes the economic, demographic, and other county-level factors described above. We included unemployment and poverty rates in separate models given potential collinearity.[4] δ_s are state fixed effects, and φ_t are year fixed effects. All standard errors are clustered at the county level.

- Our models with DI claims rates as the dependent variable take the following form:

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[3]See Congressional Budget Office, "Social Security Disability Insurance: Participation and Spending" (Washington, D.C.: June 2016).

[4]We did not include labor force participation rates in our regression models, though we used these rates in our sensitivity analyses. This is because of similarities between the labor force participation and unemployment rates. We chose to use unemployment rates because they were provided directly by the U.S. Census Bureau, whereas labor force participation rates were calculated using data from both the U.S. Census Bureau and the Department of Labor's Bureau of Labor Statistics.

$$\ln(\text{DI claims rate})_{cst}$$
$$= \alpha + \beta_1 \, ln(opioid\ prescription\ rate)_{cst} + \gamma X_{cst} + \delta_s + \varphi_t$$
$$+ \varepsilon_{cst}$$

Compared to the previous model, the main dependent and independent variables are switched, but all other elements of the model are as described above.

Though our primary focus was the relationship between rates of opioid prescriptions and DI claims, we also examined the relationship between rates of opioid prescriptions and DI allowances, as well as concurrent DI/SSI claims and allowances.

Limitations

We found that the data we reported on were sufficiently reliable for the purposes of our analyses. However, our analytical approach was limited by the availability of data. Consequently, our results should be interpreted with caution. Specifically, we were unable to establish whether there is a causal relationship between rates of opioid prescriptions and DI claims (e.g., whether higher rates of opioid prescriptions could have contributed to higher rates of DI claims or vice versa), in part because of potential reverse causality between these variables. While we could have potentially used an instrumental variable approach to establish a causal relationship, we did not identify an appropriate instrument to conduct that analysis. Moreover, individual-level data on opioid use among DI claimants were not readily available. Though we used county-level data, we were unable to account for variations within counties, also due to data not being readily available. Other researchers have noted similar limitations in their studies on prescription opioids.

In addition, the opioid prescriptions data we analyzed only count the number of prescriptions filled, which could vary by number of pills, dosage, and potency (i.e., the morphine dose equivalent). The data also do not account for any potential diversion, or illicit transfer, of prescription opioids from one county to another.

Further, we did not include county-fixed effects in our models. Though there may be constant or long-term characteristics of counties that are related to rates of opioid prescriptions and DI claims, we did not find enough variation in these rates within counties in the timeframe we analyzed to include county fixed effects in our models. In sensitivity analyses, we did include county fixed effects in our models and found that there was not a statistically significant relationship between rates of opioid

prescriptions and DI claims with these effects included. However, this
may be due to the large number of fixed effects introduced in the model
(our analyses included about 3,000 counties) and the relatively short
timeframe of 2010 through 2017.

Lastly, we analyzed DI claims separately from DI/SSI concurrent claims in
our models due to limitations with the units of analyses for these claims.
Specifically, the number of DI claims represents the total number of
claims an individual may have, rather than the number of individuals. For
example, one individual may have five different DI claims and all five
would be counted in the number of DI claims. On the other hand, the
number of DI/SSI concurrent claims represents the number of individuals
who had filed at least one DI and one SSI claim within a given year. The
individual may have filed two DI claims and three SSI claims that year,
but are counted as one DI/SSI concurrent claim.

Results

Though we were unable to determine whether there is a causal
relationship between rates of opioid prescriptions and DI claims (e.g.,
whether higher rates of opioid prescriptions could have contributed to
higher rates of DI claims or vice versa), as discussed above, we did find a
significantly positive correlation between these rates across our models,
on average, from 2010 through 2017. These results were consistent
before and after accounting for the economic, demographic, and other
factors described above.

We also found correlations between rates of opioid prescriptions and
some of the other factors. These correlations are detailed in figure 6 of
our report.[5] Table 4 also provides additional results from our regression
analyses for rates of opioid prescriptions.

[5]We reported correlations in figure 6 that were significant at least at the 95 percent
confidence level across our regression models.

Table 4: Results of Regression Analyses of County-Level Rates of Opioid Prescriptions, 2010-2017

Dependent variable: Opioid prescriptions per capita (natural log)	Model 1	Model 2	Model 3
Disability Insurance (DI) claims per capita (natural log)	0.445***	0.389***	0.336***
	(0.050)	(0.057)	(0.051)
Unemployment rate		0.002	
		(0.007)	
Poverty rate			0.017***
			(0.003)
Percent over 65 years old		0.002	0.003
		(0.004)	(0.004)
Percent white, non-Hispanic		0.003	0.006*
		(0.003)	(0.003)
Percent black, non-Hispanic		-0.002	-0.003
		(0.004)	(0.004)
Percent Hispanic		0.000	0.001
		(0.003)	(0.003)
Population size and degree of urbanization (omitted category is counties in metro areas with 1+ million people)			
Counties in metro areas of 250,000 to 1 million people		0.039	-0.007
		(0.038)	(0.039)
Counties in metro areas of fewer than 250,000 people		0.036	-0.028
		(0.046)	(0.049)
Urban population of 20,000 or more, adjacent to a metro area		0.288***	0.208***
		(0.039)	(0.041)
Urban population of 20,000 or more, not adjacent to a metro area		0.487***	0.401***
		(0.051)	(0.054)
Urban population of 2,500 to 19,999, adjacent to a metro area		0.072*	-0.013
		(0.042)	(0.046)
Urban population of 2,500 to 19,999, not adjacent to a metro area		0.179***	0.086
		(0.051)	(0.055)
Completely rural or less than 2,500 urban population, adjacent to a metro area		-0.570***	-0.664***
		(0.075)	(0.078)
Completely rural or less than 2,500 urban population, not adjacent to a metro area		-0.506***	-0.610***
		(0.078)	(0.081)
Access to health insurance (i.e., uninsured rate)		-0.013***	-0.020***
		(0.005)	(0.005)
Number of observations	22,789	22,789	22,789
R2	0.173	0.251	0.256

Source: GAO analyses of data from the Centers for Disease Control and Prevention, Social Security Administration, Bureau of Labor Statistics, U.S. Census Bureau, and U.S. Department of Agriculture's Economic Research Service. | GAO-20-120

Note: This table presents regression coefficients and standard errors in parentheses. Standard errors are clustered at the county-level. All models include state and year fixed effects. Results with three asterisks (***) are significantly correlated at the 99 percent confidence level, those with two (**) are at the 95 percent confidence level, those with one (*) are at the 90 percent confidence level, and those with none are not significantly correlated. Model 1 includes DI claims rates (log) but no other factors, Model 2 includes other factors except the poverty rate, and Model 3 includes other factors except the unemployment rate. Our primary interest was examining the relationship between rates of opioid prescriptions and DI claims. While we used other variables as controls for economic, demographic, and other factors, our models were not designed to precisely estimate the relationship between our primary variables of interest and these other factors. The omitted category for race and ethnicity is the percentage of the population represented by all other racial and ethnic groups not shown in the table. This includes U.S. Census Bureau categories for non-Hispanic American Indian or Alaska Native and non-Hispanic Asian and Native Hawaiian or Other Pacific Islander.

In addition, we found correlations between rates of DI claims and other factors. Similarly, these correlations are detailed in figure 6 of our report. Table 5 provides additional results.

Table 5: Results of Regression Analyses of County-Level Rates of Disability Insurance (DI) Claims, 2010-2017

Dependent variable: DI claims per capita (natural log)	Model 4	Model 5	Model 6
Opioid prescriptions per capita (natural log)	0.063***	0.048***	0.045***
	(0.006)	(0.006)	(0.006)
Unemployment rate		0.062***	
		(0.003)	
Poverty rate			0.020***
			(0.002)
Percent over 65 years old		0.007***	0.012***
		(0.002)	(0.002)
Percent white, non-Hispanic		0.004***	0.005***
		(0.001)	(0.001)
Percent black, non-Hispanic		0.003**	0.003*
		(0.001)	(0.002)
Percent Hispanic		-0.003**	-0.002
		(0.001)	(0.001)
Population size and degree of urbanization			
(omitted category is counties in metro areas with 1+ million people)			
Counties in metro areas of 250,000 to 1 million people		0.069***	0.026
		(0.016)	(0.017)
Counties in metro areas of fewer than 250,000 people		0.055***	-0.004
		(0.017)	(0.018)
Urban population of 20,000 or more, adjacent to a metro area		0.054**	-0.001
		(0.022)	(0.024)

Dependent variable:			
DI claims per capita (natural log)	**Model 4**	**Model 5**	**Model 6**
Urban population of 20,000 or more, not adjacent to a metro area		0.049*	-0.020
		(0.029)	(0.032)
Urban population of 2,500 to 19,999, adjacent to a metro area		0.070***	0.012
		(0.015)	(0.016)
Urban population of 2,500 to 19,999, not adjacent to a metro area		0.024	-0.045**
		(0.019)	(0.020)
Completely rural or less than 2,500 urban population, adjacent to a metro area		0.045**	-0.026
		(0.021)	(0.024)
Completely rural or less than 2,500 urban population, not adjacent to a metro area		-0.059**	-0.143***
		(0.024)	(0.026)
Access to health insurance (i.e., uninsured rate)		-0.001	-0.003
		(0.002)	(0.002)
Number of observations	22,789	22,789	22,789
R2	0.352	0.486	0.451

Source: GAO analyses of data from the Centers for Disease Control and Prevention, Social Security Administration, Bureau of Labor Statistics, U.S. Census Bureau, and U.S. Department of Agriculture's Economic Research Service. | GAO-20-120

Note: This table presents regression coefficients and standard errors in parentheses. Standard errors are clustered at the county-level. All models include state and year fixed effects. Results with three asterisks (***) are significantly correlated at the 99 percent confidence level, those with two (**) are at the 95 percent confidence level, those with one (*) are at the 90 percent confidence level, and those with none are not significantly correlated. Model 4 includes opioid prescription rates (log) but no other factors, Model 5 includes other factors except the poverty rate, and Model 6 includes other factors except the unemployment rate. Our primary interest was examining the relationship between rates of opioid prescriptions and DI claims. While we used other variables as controls for economic, demographic, and other factors, our models were not designed to precisely estimate the relationship between our primary variables of interest and these other factors. The omitted category for race and ethnicity is the percentage of the population represented by all other racial and ethnic groups not shown in the table. This includes U.S. Census Bureau categories for non-Hispanic American Indian or Alaska Native and non-Hispanic Asian and Native Hawaiian or Other Pacific Islander.

We also examined the relationship between rates of opioid prescriptions and DI allowances, as well as DI/SSI concurrent claims and allowances, and found similar results.

In various sensitivity analyses to check our results, we found that the positive correlation between rates of opioid prescriptions and DI claims remained consistent. For example, these results were consistent in models that:

- Included labor force participation rates instead of unemployment or poverty rates.

- Examined each year of data. Given that we did not find much variation in rates of opioid prescriptions and DI claims within counties from

2010 through 2017, we also ran our models for each year separately to explain variations across counties.

- Accounted for counties with small populations. There were eight counties that were omitted from our regression models because they had no DI claims.[6] To ensure we accounted for all counties in our sensitivity analyses, we took an approach similar to other researchers and aggregated counties with less than 100,000 people in each state for each year.[7] We ran our models when treating these counties with small populations as one county and found similar qualitative results.

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[6]These eight counties with 0 DI claims were excluded from the analysis because it is not possible to take the natural logarithm of 0.

[7]For example, see Janet Currie, Jonas Y. Jin, and Molly Schnell, "U.S. Employment and Opioids: Is There a Connection?" (Working Paper 24440), National Bureau of Economic Research (Cambridge, MA: April 2019).

Appendix III: Characteristics of Disability Insurance Beneficiaries Identified as Being At Risk for Prescription Opioid Misuse or Abuse

Using data from the Centers for Medicare & Medicaid Services (CMS) and the Social Security Administration (SSA), we identified 30,273 Disability Insurance (DI) beneficiaries who had been identified by CMS as being at risk of prescription opioid misuse or abuse in 2017.[1] Figures 8 and 9 describe the demographics of this population, including beneficiaries' sex, age, and race, as well as the primary impairments for which they were allowed DI benefits.

Figure 8: Demographics of DI Beneficiaries Identified by CMS as Being At Risk of Prescription Opioid Misuse or Abuse, 2017
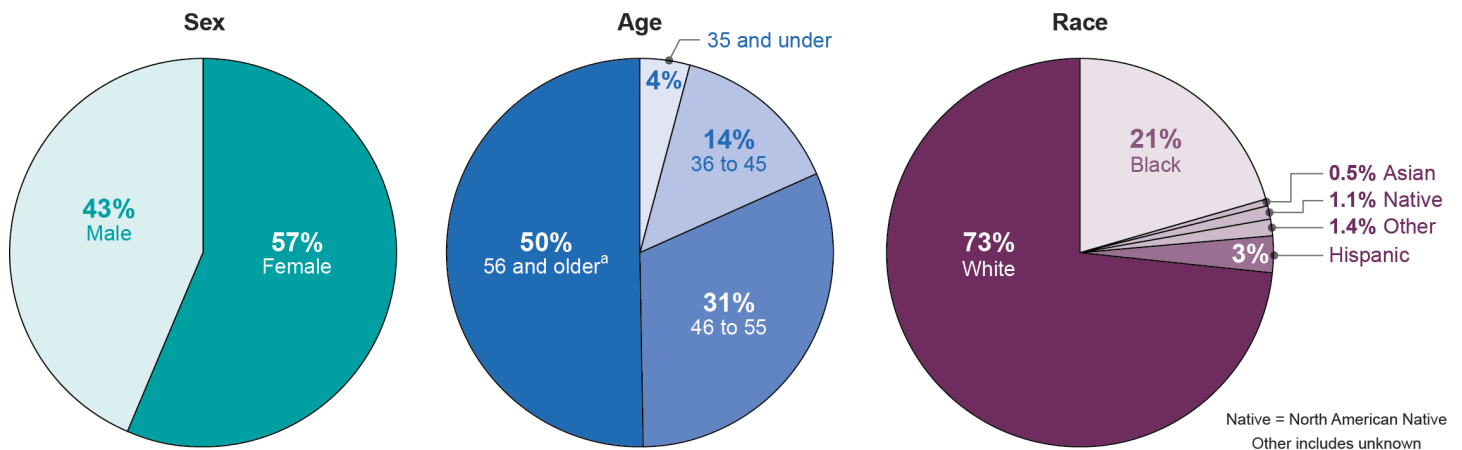
Source: GAO analysis of data from the Centers for Medicare & Medicaid Services (CMS). | GAO-20-120

Note: Percentages are out of 30, 273 Disability Insurance (DI) beneficiaries who had been identified by CMS as being at risk of prescription opioid misuse or abuse in 2017. Because these beneficiaries were likely allowed prior to 2017, they may not have had any issues with prescription opioid misuse or abuse at the time SSA evaluated their claim (i.e., they may have developed potential issues after being allowed benefits). Percentages may not always add up to 100 percent due to rounding.

[a]We calculated the age for DI beneficiaries as of July 24, 2019 using dates of birth. Beneficiaries in this category who have reached full retirement age (65 or older, depending on the individual's birth year) are no longer on DI because they are automatically transitioned to retirement benefits.

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[1]CMS identifies beneficiaries as being at risk of prescription opioid misuse or abuse if they received high amounts of opioids (had an average daily morphine dose equivalent of 90 mg or more) and appeared to have coordination of care issues (either had three or more opioid prescribers and three or more opioid dispensing pharmacies, or five or more prescribers regardless of the number of pharmacies) in a 6-month period. See appendix I for additional information on how we identified these DI beneficiaries.

Figure 9: Top Five Primary Impairments Among DI Beneficiaries Identified by CMS as Being At Risk of Prescription Opioid Misuse or Abuse, 2017
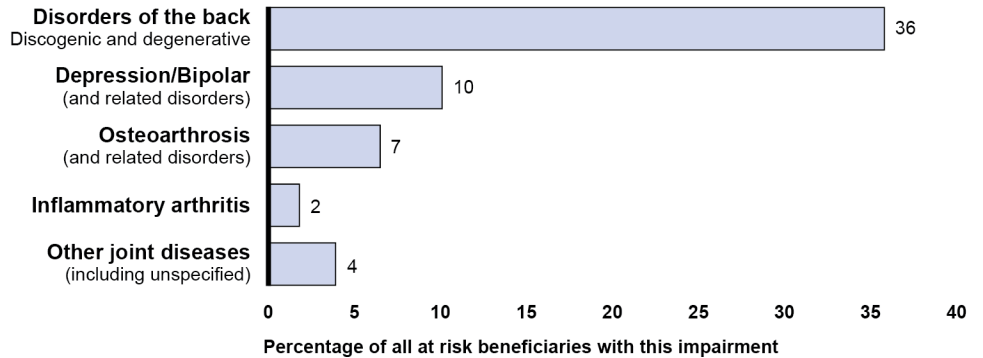
Source: GAO analysis of data from the Social Security Administration (SSA). | GAO-20-120

Note: We calculated percentages based on available data from SSA. Of 30,273 Disability Insurance (DI) beneficiaries who had been identified by the Centers for Medicare & Medicaid Services (CMS) as being at risk of prescription opioid misuse or abuse in 2017, SSA had data on primary impairments for 11,526. SSA headquarters officials said electronic data for the remaining beneficiaries could be missing because these beneficiaries may have been allowed prior to 2007, when SSA transitioned to an electronic database. Because these beneficiaries were likely allowed prior to 2017, they may not have had any issues with prescription opioid misuse or abuse at the time SSA evaluated their claim (i.e., they may have developed potential issues after being allowed benefits). In addition, SSA headquarters officials said Disability Determination Services staff enter codes for these impairments during initial decisions. They said if these staff deny a claim that is later allowed by an administrative law judge during an appeal, the judge may change or update the primary impairment, which would not be reflected in the data above.

Appendix IV: Comments from the Social Security Administration

SOCIAL SECURITY
Office of the Commissioner

December 6, 2019

Elizabeth H. Curda
Director, Education, Workforce, and Income Security Issues
United States Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Director Curda:

Thank you for the opportunity to review the draft report, "SOCIAL SECURITY DISABIILTY: Actions Needed to Help Agency Staff Understand and Follow Policies Related to Prescription Opioid Misuse" (GAO-20-120). We agree with the recommendations.

We assess an individual's disability claim based on the information they provide and all available medical evidence. We will continue to train employees on pertinent policies and procedures related to substance use disorders and drug addiction and alcoholism (DAA) evaluations, and the importance of fully documenting their determinations. In addition, we plan to add an option in our case management system to capture cases that are allowances but do not require a DAA materiality assessment.

If you have any questions, please contact me at (410) 965-9704. Your staff may contact Trae Sommer, Director of the Audit Liaison Staff, at (410) 965-9102.

Sincerely,

Stephanie Hall
Chief of Staff

SOCIAL SECURITY ADMINISTRATION   BALTIMORE, MD 21235-0001

Appendix V: Staff Acknowledgments

GAO Contact

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Staff Acknowledgments

In addition to the contact named above, the following staff members made key contributions to this report: Erin Godtland (Assistant Director), Nhi Nguyen (Analyst-in-Charge), Justin Gordinas, Kathleen McQueeney, and Paul Wright. Also contributing to this report were James Bennett, Joy Booth, Mari Calderón, Breanne Cave, Jessica Farb, Justin Fisher, Alex Galuten, Melissa Jaynes, Lorin Obler, Jessica Orr, Oliver Richard, William Simerl, Almeta Spencer, Shana Wallace, and Eric Wedum.