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Report to Congressional Committees

December 2023

MEDICARE COGNITIVE ASSESSMENTS

Utilization Tripled between 2018 and 2022, but Challenges Remain

Accessible Version

GAO-24-106328

GAO Highlights

Highlights of GAO-24-106328, a report to congressional committees

December 2023

MEDICARE COGNITIVE ASSESSMENTS

Utilization Tripled between 2018 and 2022, but Challenges Remain

Why GAO Did This Study

The number of Medicare beneficiaries living with a cognitive impairment, such as Alzheimer's disease, is projected to increase as the American population age 65 and older grows. Such beneficiaries' health care costs are also projected to increase.

CMS began covering the cognitive assessment and care plan services visit in 2017 to increase access to cognitive care services in Medicare.

The Consolidated Appropriations Act, 2021, includes a provision for GAO to review use of the cognitive assessment service in the Medicare program. This report describes (1) utilization of the cognitive assessment service in traditional Medicare from 2018 through 2022; (2) stakeholder views on challenges providers face delivering and beneficiaries face accessing the service; and (3) steps CMS has taken to increase awareness of the service.

GAO analyzed claims and enrollment data from traditional fee-for-service Medicare from 2018 through 2022 to identify service utilization.

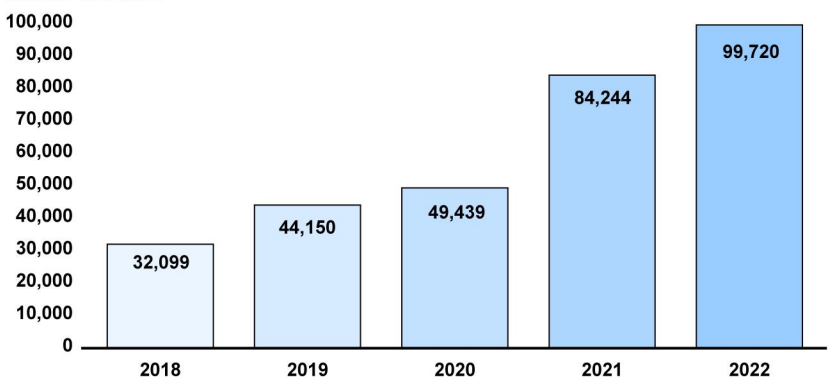
GAO interviewed officials representing seven stakeholder groups regarding access and delivery challenges. Organizations included the American Academy of Family Physicians and AARP. GAO also scanned literature to identify research on access challenges; and interviewed agency officials regarding the agency's outreach campaign. GAO provided a draft of this report to HHS.

View GAO-24-106328. For more information, contact Leslie V. Gordon at (202) 512-7114 or GordonLV@gao.gov.

What GAO Found

"Cognitive assessment and care plan services" is a service available to Medicare beneficiaries in which providers diagnose and develop a plan to manage cognitive impairments, such as Alzheimer's disease. Providers typically need 60 minutes of face-to-face time to deliver the cognitive assessment service, which includes a cognitive assessment and care plan. GAO found that use of the service in traditional fee-for-service Medicare tripled from 2018 through 2022. However, a relatively small number of Medicare beneficiaries diagnosed with a cognitive impairment received the service. GAO calculated that, at most, in 2021, about 2.4 percent of traditional Medicare beneficiaries with a diagnosis of Alzheimer's disease or a related disorder may have received the service. Similar services can be delivered during other types of visits, such as through evaluation and management visits. GAO found that from 2018 through 2022, certain types of providers—neurologists, nurse practitioners, internists, family physicians, and geriatricians—delivered more than 80 percent of services, mostly in urban locations.

Annual Utilization of the Cognitive Assessment Service in Traditional Medicare, 2018 through 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Accessible data for Annual Utilization of the Cognitive Assessment Service in Traditional Medicare, 2018 through 2022

Year	Service utilization
2018	32,099
2019	44,150
2020	49,439
2021	84,244
2022	99,720

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Stakeholders described various challenges faced by providers delivering the cognitive assessment service and beneficiaries trying to access the service. Provider challenges include (1) the time needed, particularly for providers who typically schedule 15-20-minute visits; (2) billing limitations that prevent providers

working in teams to collaborate on the service visit; and (3) limited training for primary care providers. Beneficiary advocacy groups described access challenges including the stigma associated with being diagnosed with a cognitive impairment and lack of awareness of the service.

To increase awareness of the cognitive assessment service, the Centers for Medicare & Medicaid Services (CMS), the agency within the Department of Health and Human Services (HHS) that administers the Medicare program, conducted a provider outreach campaign targeting 1.4 million providers eligible to deliver the service. Additionally, to increase awareness among beneficiaries, the agency added a description of the service to the Medicare.gov website and the *Medicare & You* handbook.

Contents

Figures

Abbreviations

CMS Centers for Medicare & Medicaid Services
HHS Department of Health and Human Services

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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Congressional Committees

More than 10 million Americans aged 65 and older live with a cognitive impairment.[1] Cognitive impairment is characterized by memory loss, confusion, and difficulty performing daily tasks. It can range from mild impairment to dementia, where impairment becomes severe enough to disrupt daily functioning and independence. Individuals living with a cognitive impairment may require more coordination of care across providers and caregivers to address their behavioral and physical health needs and additional support services.

Age is the greatest risk factor for cognitive impairment. The prevalence of dementia, as well as costs of care for individuals with dementia, such as nursing home stays and home health services, are projected to increase as the American population age 65 and older grows.[2]

Cognitive assessment and care plan services—which we will refer to as "the cognitive assessment service" in this report—is a service available to Medicare beneficiaries to diagnose and develop a plan to manage cognitive impairments, such as Alzheimer's disease.[3] The Centers for Medicare & Medicaid Services (CMS), the agency within the Department of Health and Human Services (HHS) that administers the Medicare program, began covering cognitive assessment visits in 2017 to increase access to services for individuals with cognitive impairments. Diagnosing cognitive impairment and developing a plan of care may help manage symptoms, improve quality of life, and give beneficiaries the chance to take part in care decisions before their impairment becomes severe.

[1]Alzheimer's Association, *"2023* Alzheimer's Disease Facts and Figures,*" Alzheimer's & Dementia,* vol. 19, no. 4 (2023).

[2]Michael D. Hurd et al., "Monetary Costs of Dementia in the United States," *The New England Journal of Medicine*, vol. 368, no. 14, (2013).

[3]Alzheimer's disease is the most common form of dementia. It was the seventh leading cause of death in the United States in 2020. Kenneth D. Kochanek et al., *National Vital Statistics Reports, Deaths: Final Data for 2020*, vol. 72, no. 10, Centers for Disease Control and Prevention, (Hyattsville, Md.: National Center for Health Statistics, Sept. 22, 2023).

The Consolidated Appropriations Act, 2021, included a provision for GAO to report on the use of the cognitive assessment service in the Medicare program. This report describes

1. utilization of the cognitive assessment service in the traditional fee-for-service Medicare program from 2018 through 2022;

2. stakeholder views on challenges providers face in delivering and Medicare beneficiaries face in accessing the cognitive assessment service; and

3. steps CMS has taken to increase awareness of the cognitive assessment service.

To describe utilization of the cognitive assessment service, we analyzed traditional fee-for-service Medicare claims and enrollment data from 2018 through 2022. Specifically, we analyzed data for billing procedure code 99483. This is the code providers—physicians and other clinicians—use to bill for this service under the Medicare Physician Fee Schedule when they deliver the cognitive assessment service.[4] We analyzed aggregate utilization trends as well as sub-aggregate trends, including by provider type and geographic location, the number and characteristics of beneficiaries accessing the service, and common diagnoses. We excluded beneficiaries in Medicare Advantage plans—private Medicare managed care plans.[5]

We assessed the reliability of CMS claims data used for this report by reviewing relevant documentation, checking our analysis for consistency with other analyses, and identifying and noting weaknesses in CMS's claims data, specifically the limitations in Medicare's race and ethnicity data. Based on these steps, we determined the claims data were reliable

[4]Providers bill Medicare for their services using five-digit billing codes based in part on codes developed by the American Medical Association's Current Procedural Terminology panel. This panel maintains and updates a list of billing codes that CMS adopts for use. Medicare's Physician Fee Schedule determines how much providers are paid for each service based on estimates of resources for the physician's work, practice expenses, and malpractice premiums required to provide a service relative to all other services. The Physician Fee Schedule is updated annually through the rulemaking process.

[5]Medicare Advantage plans can use other methods to provide cognitive care services to their enrollees, for instance through the health risk assessment process, and may not consistently code these services. Our analysis of CMS enrollment data shows that in 2022, 54 percent of the Medicare population was enrolled in traditional Medicare and 46 percent in Medicare Advantage.

for the purpose of identifying utilization of the cognitive assessment service in the traditional Medicare program.

To describe challenges in delivering and accessing the service, we interviewed officials representing seven selected stakeholder groups to obtain their views on challenges to delivering and accessing the service. Specifically, we interviewed two beneficiary advocacy organizations, four provider groups, and one policy organization.[6] We quantified stakeholder perspectives across the groups we interviewed. To supplement our interviews, we conducted a literature scan to identify research on the challenges providers may face delivering the service and beneficiaries may face accessing the service.

To describe steps CMS has taken to increase awareness of the cognitive assessment service, we reviewed agency guidance and interviewed CMS officials to obtain information on the actions taken by the agency. For more information on our scope and methodology, see Appendix I.

We conducted this performance audit from October 2022 to December 2023 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

Under Medicare guidelines, providers can deliver the cognitive assessment service to patients showing signs of, or already diagnosed with, a cognitive impairment. The service involves a cognitive assessment that includes a detailed patient history and a written care plan based on information from the assessment. A written care plan identifies those responsible for carrying out the plan, and lists referrals to community resources and other supports, such as counseling, legal and financial assistance, and resources for caregiver needs. The plan is filed with a patient's medical record and shared with family, caregivers, and other providers to maintain continuity of care.

[6]We selected provider groups that represented four of the top seven types of providers billing for cognitive assessment and care plan services in 2022. We interviewed two groups representing physicians who deliver primary care and geriatric services, one group representing nurse practitioners, and one specialty group representing neurologists. A full list of the stakeholder groups we interviewed is included in Appendix I.

The cognitive assessment service billing code expects that it typically takes a provider 60 minutes of face-to-face time to deliver the cognitive assessment service. To be reimbursed for delivering the cognitive assessment service, a provider must furnish all required service elements, such as an assessment of the individual's ability to perform daily tasks. (See table 1 for the required elements of the cognitive assessment service.) There are no frequency limits on the number of times a single beneficiary can receive the cognitive assessment service. An "independent historian," typically a family member or caregiver, must be present at the appointment to provide a detailed patient history.

Table 1: Traditional Medicare Required Elements for the Cognitive Assessment Service (code 99483)

Eligible providers	• Physicians • Nurse practitioners • Physician assistants • Clinical nurse specialists

Service elements	• Cognitive assessment
	  ○ Examine the patient with a focus on observing cognition
	  ○ Record and review the patient's history, reports, and records
	  ○ Assess ability to perform daily tasks, including decision-making capacity
	  ○ Use standardized screening tools (such as validated tests) to measure and assess the stages of dementia
	  ○ Reconcile and review for high-risk medications, if applicable
	  ○ Use standardized screening tools to evaluate for neuropsychiatric and behavioral symptoms—including aggression, depression, and delusions
	  ○ Conduct a safety evaluation for home and motor vehicle operation
	  ○ Identify supports, including caregiver ability and willingness to provide care
	  ○ Address Advance Care Planning and any palliative care needs
	• Care plan to address
	  ○ Neuropsychiatric and neurocognitive symptoms—including memory loss, confusion, and difficulty communicating
	  ○ Functional limitations that reduce or limit physical and mental abilities—including performing daily tasks and decision-making
	  ○ Referrals to community resources—such as rehabilitation services, adult day programs, and support groups—shared and discussed with the patient or caregiver

Independent historian	• Spouse, caregiver, or other individual to provide detailed patient history

Source: GAO analysis of guidance from the Centers for Medicare & Medicaid Services. | GAO-24-106328

Medicare's Adoption of the Cognitive Assessment Service

Prior to the adoption of a specific code for the cognitive assessment service, providers billed Medicare for cognitive care services using other codes, such as evaluation and management visit codes—codes used to bill for patient visits provided in various settings such as physicians' offices or hospitals. In 2016, CMS recognized that these evaluation and management visit codes did not appropriately capture the complex work and resource costs involved with delivering cognitive care services, relative to other physician services.[7] CMS sought public comment on new billing codes that would more appropriately describe the work incurred by primary care providers and other specialty providers in delivering cognitive care services.

In 2016, the American Medical Association developed and approved a billing code that described a comprehensive set of services to assess, treat, and manage care for cognitive impairments. This ultimately became the cognitive assessment service code.[8] CMS began making separate payment for the cognitive assessment service in 2017 under a temporary billing code—G0505—while the American Medical Association finished developing recommendations for the amount of time and other resource costs needed to deliver the cognitive assessment service under the billing code relative to other physician services.[9] (See text box below for information on how the American Medical Association develops billing codes.) In 2018, CMS accepted the recommendations and permanently adopted the cognitive assessment service under billing code 99483.[10]

[7]81 Fed. Reg. 80,170, 80,252 (Nov. 15, 2016).

[8]The American Medical Association is a professional organization representing physicians and medical students across medical specialties. It develops and updates a list of billing codes used to report services by physicians and other providers.

[9]81 Fed. Reg. 80,170, 80,366 (Nov. 15, 2016).

[10]82 Fed. Reg. 52,976, 53,077 (Nov. 15, 2017).

How the American Medical Association Develops Billing Codes and Relative Values

When developing a billing code for a new service, the American Medical Association determines which service elements to include, the amount of time needed to deliver the elements, and suggested relative value. The relative value is an estimate of resources for the physician's work (time, skill, and level of training) and practice expenses (the costs of running a practice such as employee salaries, rent, and overhead) required to deliver the service relative to all other services. An American Medical Association panel—consisting of members representing provider specialty groups and other health care professions—informs code development by reviewing a case study of a typical patient who might receive the service, the amount of time to deliver it, and suggested relative values for the service. The panel reviews the results of the study and makes a recommendation on the relative value of the service described by the new billing code.

Source: GAO analysis of prior GAO reports and materials from the American Medical Association. | GAO-24-106328

According to CMS, by providing separate payment for the cognitive assessment service, providers can more accurately assess for cognitive impairment in its early stages. Early detection can allow more time to plan, identify treatment options, and enable access to support services. Between 2018 and 2023, the provider payment rate for the cognitive assessment service increased from approximately $242 to approximately $273. In establishing the 2023 payment rate, officials noted they increased the value of the provider's time to perform the service in order to support access to the service.[11]

Accessing Cognitive Care Services

Many patients seeking care for cognitive concerns may start with their primary care providers, such as family physicians or internists. These providers may be the first to detect a cognitive impairment because of their familiarity with individual patients. Primary care providers play a key role in early detection, diagnosis, and management, and in ruling out other medical issues, such as a stroke, that may also cause cognitive changes. Primary care providers may refer patients to specialty providers, such as neurologists, psychologists, and geriatricians, for further evaluation. These providers are specifically trained to conduct cognitive assessments, diagnose cognitive impairment, evaluate psychiatric and behavioral symptoms, and identify treatment options.

Primary care and specialty providers may deliver the service in small practice settings with minimal staff or larger practice settings with a clinical care team that cares for patients using a team-based model. A team-based care model consists of a group of providers who collaborate

[11]87 Fed. Reg. 69,404 (Nov. 18, 2022).

to deliver care, and can include physicians, nurses, social workers, and other providers depending on the practice needs.

Conducting Cognitive Assessments

The cognitive assessment service billing code requires the use of standardized instruments to assess for dementia, identify dementia symptoms, and evaluate for psychiatric and behavioral symptoms. Providers can choose from numerous tools to conduct the required cognitive, functional, and safety evaluations, depending on their preferences, training, and needs of the patient. For example, the Functional Assessment Staging Tool and the Clinical Dementia Rating are two such tools providers can choose to assess for dementia. Both provide a framework for assessing cognitive impairment using a scale.[12] The results of these evaluations inform the development of a plan to meet the patient's medical and functional care needs.

Utilization of the Cognitive Assessment Service Increased; Urban Beneficiaries Accessed Services at Higher Rates

Utilization of the Cognitive Assessment Service Tripled from 2018 through 2022

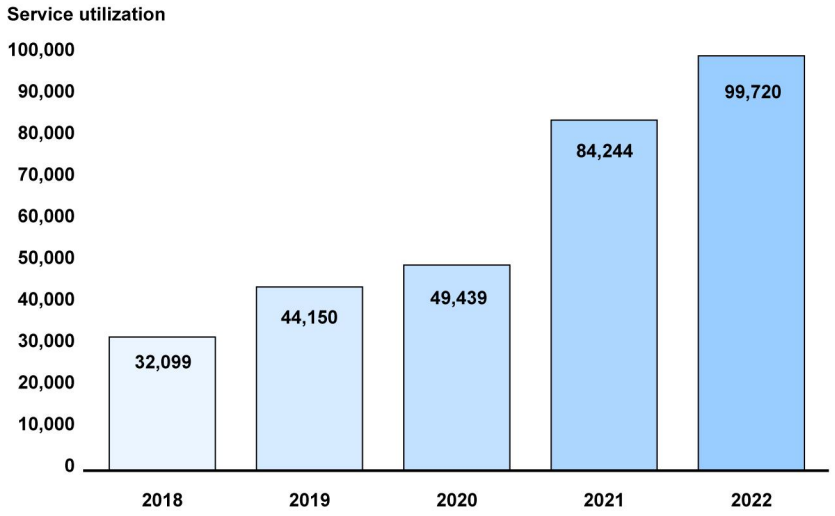
Overall utilization of the cognitive assessment service by beneficiaries in traditional Medicare increased from 32,099 to 99,720 visits between 2018 and 2022, with the largest increase occurring from 2020 to 2021. According to CMS, increases in utilization may have slowed in 2020 due to the COVID-19 pandemic, but started increasing again in 2021 (see fig.

[12]The Functional Assessment Staging Tool (FAST) scale, or Reisberg Functional Assessment Staging Scale, ©1984 Barry Reisberg, M.D., measures dementia progression by assessing an individual's functional status, such as memory and recognition, and ability to perform daily tasks.

The Clinical Dementia Rating (CDR) scale, ©2001, The Charles F. and Joanne Knight Alzheimer's Disease Research Center, Washington University, St. Louis, Missouri, assesses the level of cognitive and functional impairment applicable to Alzheimer's disease and related dementias. It tracks an individual's level of impairment using information obtained through interviews with the individual and an independent historian.

1).[13] In addition, the number of beneficiaries in traditional Medicare receiving the cognitive assessment service at least once per year more than tripled from 28,545 in 2018 to 91,230 in 2022.

Figure 1: Annual Utilization of the Cognitive Assessment Service in Traditional Medicare, 2018 through 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Accessible data for Figure 1: Annual Utilization of the Cognitive Assessment Service in Traditional Medicare, 2018 through 2022

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2022	99,720

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Utilization of the cognitive assessment service was low relative to the number of beneficiaries diagnosed with a cognitive impairment—those

[13]Our analysis of traditional Medicare data for the cognitive assessment service (Current Procedural Terminology code 99483) is consistent with analysis reported by the U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation, which showed low but steadily increasing uptake from 2017 through part of 2018. See, U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation, Office of Behavioral Health, Disability, and Aging Policy, *Advance Care Planning Among Medicare Fee-For-Service Beneficiaries and Practitioners: Final Report*, (Washington D.C.: September 2020).

who may have benefited from the service.[14] We calculated that, at most, in 2021, about 2.4 percent of traditional Medicare beneficiaries with a diagnosis of Alzheimer's disease or a related disorder may have received the service.[15] The cognitive assessment service is also used for other diagnoses.

Similar services can be delivered using other codes, such as evaluation and management visit codes.[16] This makes it difficult to determine whether beneficiaries are not getting cognitive care services at all or are just not getting them under the cognitive assessment service billing code.

During the time of our review, about 90 to 92 percent of beneficiaries who received the cognitive assessment service in any given year received it only once, while the remaining beneficiaries received it multiple times. Beneficiaries may need to receive the service multiple times per year to assess their disease progression or address changes in their health status. CMS officials told us that they did not adopt frequency limits because they want to give providers flexibility in determining when it is medically necessary to deliver the service.

Five Provider Types Delivered More than 80 Percent of Services, Mostly in Urban Areas

Five types of providers accounted for 80 percent of services delivered under the 99483 cognitive assessment billing code. Among these five

[14]CMS did not have its own estimate of how many beneficiaries might need the service when it adopted the temporary code in 2017. The American Medical Association developed a utilization estimate in 2016 of about 50,000 services per year to Medicare beneficiaries. The estimate was based on an estimated 5.3 million cases of dementia in the United States with about 500,000 new cases diagnosed each year. Of those new cases, the American Medical Association estimated 10 percent would receive the service per year, resulting in 50,000 services per year of the estimated 500,000 new cases of dementia diagnosed each year.

[15]2021 is the most recent available data. Centers for Medicare & Medicaid Services, Chronic Conditions Data Warehouse, *Medicare Chronic Condition Counts* (Washington, D.C.: April 2023), accessed Aug. 7, 2023, https://www2.ccwdata.org/web/guest/medicare-tables-reports.

[16]According to CMS officials, Medicare pays providers for diagnosing or addressing cognitive impairment using a number of billing codes, including Current Procedural Terminology code 99483, as well as most other evaluation and management visit codes (Current Procedural Terminology code range 99202-99499), and annual wellness visits (Healthcare Common Procedure Coding System G0438-9). CMS officials noted that many care planning services (such as chronic care management, transitional care management, or advance care planning) could be used to address cognitive impairment treatment and care planning.

provider types, we observed a shift in the type of provider who delivered the most cognitive assessment services in traditional Medicare. Urban providers delivered more than 90 percent of cognitive assessment service visits.

Provider types. Neurologists, nurse practitioners, internists, family physicians, and geriatricians made up the top five provider types delivering the cognitive assessment service from 2018 through 2022.[17] These five provider types accounted for more than 80 percent of cognitive assessment services delivered annually during the time of our review. Other providers delivering the cognitive assessment service included physicians specializing in psychiatry, general practice, hematology, and cardiology, as well as physician assistants.[18]

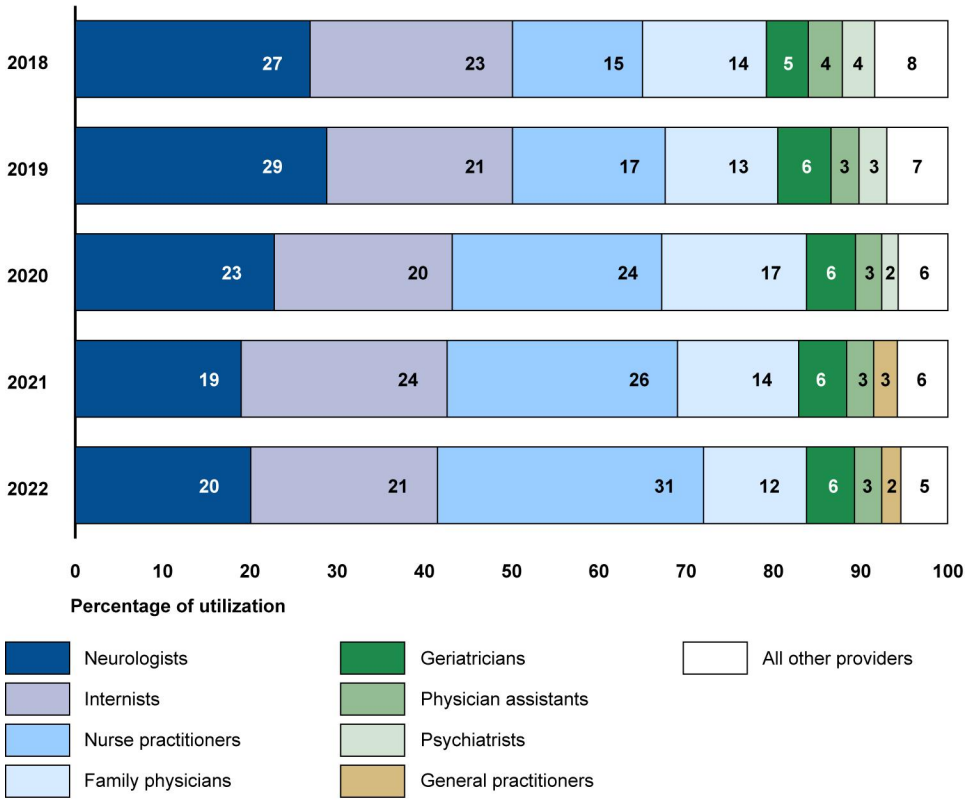
We observed a shift in the type of provider that delivered the highest proportion of services. From 2018 through 2019, neurologists delivered the largest percentage of cognitive assessment services, relative to other providers. In 2020, nurse practitioners delivered the largest percentage, and they continued to deliver the largest share through 2022.[19] (See fig. 2.)

[17]Data limitations do not allow for the identification of the settings—primary care or specialty practice—in which nurse practitioners work.

[18]Physician assistants are licensed clinicians who examine, diagnose, and treat patients under the supervision of a physician. Physician assistants are educated in general medicine and can practice medicine in every specialty and medical setting. Data limitations do not allow for the identification of the settings in which physician assistants work.

[19]Representatives of one provider group we interviewed told us that nurse practitioners are delivering a larger share of cognitive assessment service visits because cognitive care is integrated into the education curriculums for nurse practitioners, which gives them more specific training to deliver the service.

Figure 2: Percentage of Cognitive Assessment Services Delivered in Traditional Medicare, by Provider Type, 2018 through 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Accessible data for Figure 2: Percentage of Cognitive Assessment Services Delivered in Traditional Medicare, by Provider Type, 2018 through 2022

Year	Neurologists	Internists	Nurse practitioners	Family physicians	Geriatricians	Physician assistants	Psychiatrists	General practitioners	All other providers
2018	26.9	23.2	14.9	14.2	4.8	3.9	3.7		8.4
2019	28.8	21.3	17.5	12.9	6.1	3.2	3.2		7.0
2020	22.8	20.4	24.0	16.6	5.6	3.0	1.9		5.7
2021	19.0	23.6	26.4	13.9	5.5	3.1		2.8	5.7
2022	20.1	21.4	30.5	11.8	5.5	3.1		2.3	5.3

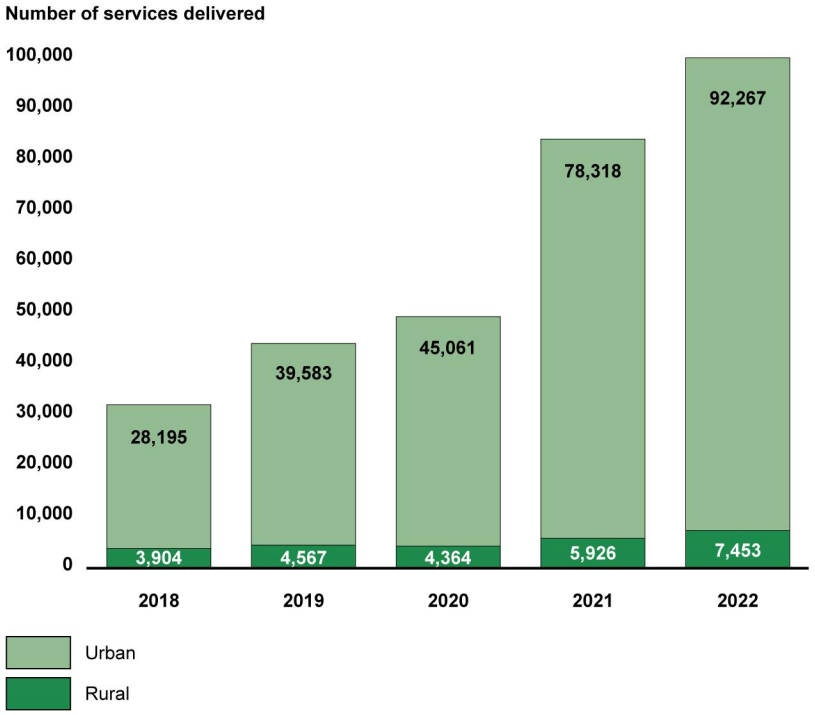
Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Note: Data limitations do not allow GAO to identify the specialty settings in which nurse practitioners or physician assistants work.

Urban vs. rural location. From 2018 through 2022, providers in urban locations delivered a greater number of cognitive assessment services compared with those in rural locations. Specifically, the number of

services delivered by urban providers in traditional Medicare tripled from 2018 to 2022, compared with the number of services delivered by rural providers (see fig. 3). Of the 99,720 cognitive assessment services delivered in 2022 in traditional Medicare, only 7.5 percent (7,453) of these services were delivered by rural providers.

Figure 3: Delivery of the Cognitive Assessment Service in Traditional Medicare, by Provider Location, 2018 through 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Accessible data for Figure 3: Delivery of the Cognitive Assessment Service in Traditional Medicare, by Provider Location, 2018 through 2022

Year	Services delivered at urban areas	Services delivered at rural areas
2018	3,904	28,195
2019	4,567	39,583
2020	4,364	45,061
2021	5,926	78,318
2022	7,453	92,267

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

It is unclear if providers who did not deliver the service did not offer the cognitive assessment service at all or if they delivered elements of the

service during other visits using other billing codes. It is also possible that some beneficiaries in rural locations traveled to urban areas to access the service.

We found that in 2022, nurse practitioners delivered more of the cognitive assessment service than other types of providers in both rural and urban areas. Specifically, we found that nurse practitioners delivered the largest percentage of cognitive assessment services in rural areas in 2022 relative to other providers. Nurse practitioners increased their delivery of the service in rural areas from 100 visits in 2018 to 2,917 visits in 2022. We also found that nurse practitioners delivered the largest percentage of the service in urban areas, followed by internists and neurologists. We found that primary care physicians—internists, family physicians, and general practitioners—in urban areas delivered roughly the same percentage of the service as primary care physicians in rural areas in 2022—37 and 33 percent, respectively.[20] See Appendix II for additional details on the providers delivering the cognitive assessment service in urban and rural areas.

Research we reviewed indicates rural areas are less likely to have specialists, such as neurologists, or trained providers to diagnose and care for patients with dementia.[21] Research also indicates that shortages of providers trained in caring for patients with cognitive impairments, such as geriatricians, are projected to increase, particularly in rural areas.[22]

[20]Data limitations do not allow for the identification of the settings—primary care or specialty practice—in which nurse practitioners and physician assistants work.

[21]Wendy Y. Xu, et al., "Rural-Urban Disparities in Diagnosis of Early-Onset Dementia," *JAMA Network Open*, vol. 5, no. 8, (2022); Jay B. Lusk, et al., "Racial/Ethnic Disparities in Dementia Incidence, Outcomes, and Health-Care Utilization," *Alzheimer's & Dementia,* vol. 19 (2023): 2376-2388; Maria Pisu, et al., "Dementia Care in Diverse Older Adults in the US Deep South and the rest of the US," *Journal of Alzheimer's Disease*, vol. 83, no.4, (2021): 1753-1765.

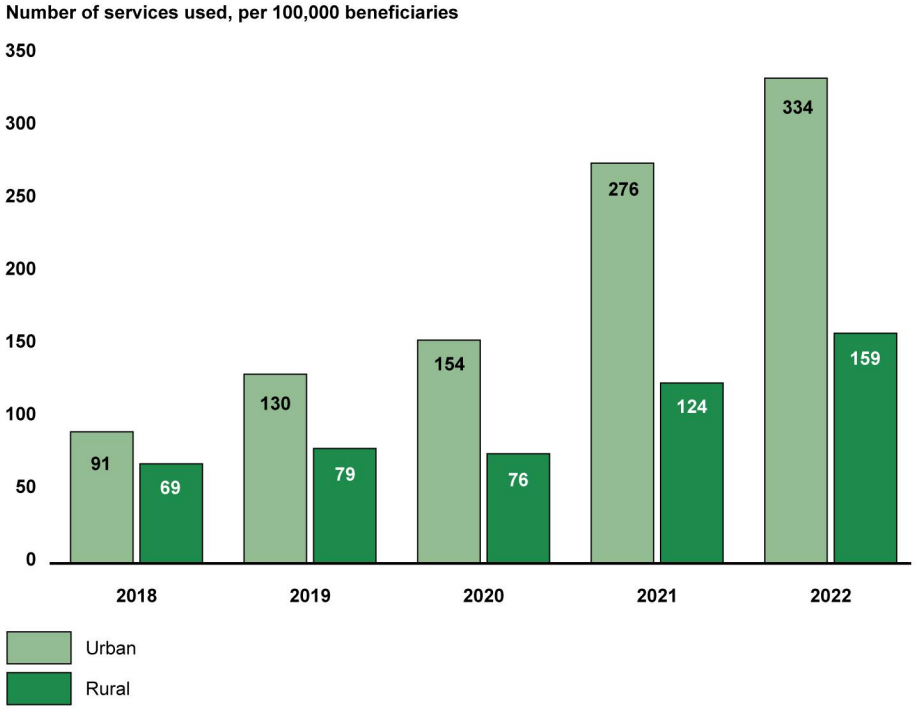
[22]Molly Waymouth et al., "Barriers and Facilitators to Home- and Community- Based Services Access for Persons With Dementia and Their Caregivers," *Journals of Gerontology: SOCIAL SCIENCES*, vol. 78, no. 6, (2023): 1085–97; U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis, *National and Regional Projections of Supply and Demand for Geriatricians: 2013-2025*, (Rockville, MD.: April 2017); and U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis, *Physician Workforce Projections: 2020-2035*, (Rockville, MD: Nov. 2022), accessed Oct. 17, 2023, https://bhw.hrsa.gov/data-research/projecting-health-workforce-supply-demand.

Urban and Older Medicare Beneficiaries Accessed More Cognitive Assessment Services at Higher Rates

We observed differences among subgroups of beneficiaries in traditional Medicare who accessed the cognitive assessment service under billing code 99483, including differences by geographic location, race and ethnicity, age, gender, disability status, and dual-eligible status.

Geographic location. Urban beneficiaries in traditional Medicare used the cognitive assessment service about twice as often as rural beneficiaries in 2022 (see fig. 4). Use of the service by urban beneficiaries grew at a faster rate than rural beneficiaries as well.

Figure 4: Number of Cognitive Assessment Services Used by Beneficiaries in Traditional Medicare, by Beneficiary Location, 2018 through 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Accessible data for Figure 4: Number of Cognitive Assessment Services Used by Beneficiaries in Traditional Medicare, by Beneficiary Location, 2018 through 2022

Year	Services used, per 100,000 beneficiaries from rural areas	Services used, per 100,000 beneficiaries from urban areas
2018	90.7	68.73

Year	Services used, per 100,000 beneficiaries from rural areas	Services used, per 100,000 beneficiaries from urban areas
2019	130.35	79.23
2020	153.77	75.68
2021	275.55	124.34
2022	334.05	158.5

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Reduced provider availability and access to health care services in rural areas may be contributing factors to the differences in use between urban and rural Medicare beneficiaries. For example, we reported in 2021 that from 2013 through 2020, more than 100 rural hospitals closed.[23] Following those rural hospital closures, rural residents had reduced access to health care providers and services—including geriatric services.[24] In addition to the research noted above on the lack of specialists in rural practices, research also indicates rural beneficiaries have less access to cognitive care services and may travel to urban areas to obtain care.[25]

Race and ethnicity, by location. We observed differences in the race and ethnicity of beneficiaries accessing the cognitive assessment service, in both urban and rural areas, according to the available race and ethnicity data for traditional Medicare.[26] Asian beneficiaries in urban areas accessed the service at the highest rate in 2022, followed by Hispanic

[23]GAO, *Rural Hospital Closures: Affected Residents Had Reduced Access to Health Care Services*, GAO-21-93 (Washington, D.C.: Dec. 22, 2020).

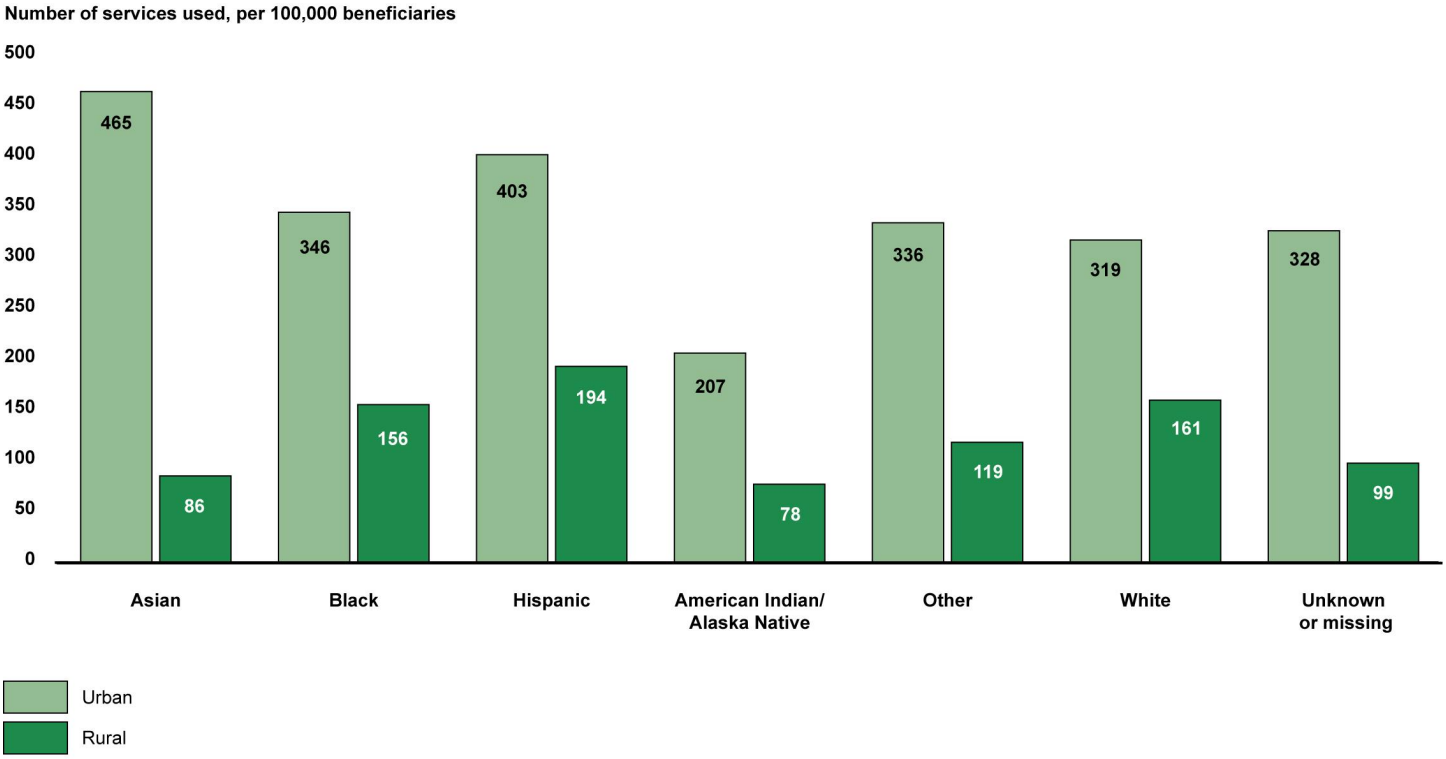
[24]Specifically, we found that residents living in the closed hospitals' service areas had to travel further to access services, including geriatric psychiatric services and gerontology specialty services—those that are specific to older adults. We also found that the availability of health care providers—including primary care providers—in counties with rural hospital closures generally was lower, compared to counties without closures. See GAO-21-93.

[25]Wendy Y. Xu, et al., "Rural-Urban Disparities," 8; E.L. Abner, et al., "Rural-urban differences in Alzheimer's disease and related disorders diagnostic prevalence in Kentucky and West Virginia," *The Journal of Rural Health*, vol. 32, no. 3 (2016): 314-320; and Momotazur Rahman et al., "Assessment of Rural-Urban Differences in Health Care Use and Survival Among Medicare Beneficiaries With Alzheimer Disease and Related Dementia," *JAMA Network Open*, vol. 3 no.10, (2020).

[26]Medicare race and ethnicity data are known to have some limitations. For more information, see Appendix I and see U.S. Department of Health and Human Services, Office of Inspector General, *Data Brief: Inaccuracies in Medicare's Race and Ethnicity Data Hinder the Ability to Assess Health Disparities*, OEI-02-21-00100 (Washington, D.C.: June 2022).

and Black beneficiaries.[27] In comparison to beneficiaries in other racial and ethnic groups, in 2022 Asian beneficiaries were more likely to live in urban, rather than rural areas. Given that beneficiaries in urban areas overall were more likely to receive cognitive assessment services, the greater use by Asian beneficiaries may be occurring due to their greater likelihood of residence in urban areas. In rural areas, Hispanic beneficiaries accessed the service at the highest rate in 2022, followed by White and Black beneficiaries (see fig. 5). See Appendix II for additional details on the use of the cognitive assessment service by race and ethnicity in urban and rural areas.

Figure 5: Number of Cognitive Assessment Services Used by Urban and Rural Beneficiaries in Traditional Medicare, by Race and Ethnicity, 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

[27]While the data indicate that the rates at which cognitive assessment services were accessed varied across racial and ethnic groups, interpretation can be complicated, for example, due to services being potentially more available in urban areas. As such, we chose to present data on service use by different racial and ethnic groups broken down by location.

Accessible data for Figure 5: Number of Cognitive Assessment Services Used by Urban and Rural Beneficiaries in Traditional Medicare, by Race and Ethnicity, 2022

Race or ethnicity	Urban	Rural
Asian	465.35	85.97
Black	346.16	156.4
Hispanic	403	194.17
North American Native	207.19	77.83
Other	335.8	119.16
White	318.79	160.76
Unknown or missing	327.99	98.58

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Racial and ethnic disparities in dementia care have been documented in prior research.[28] Research shows that Black and Hispanic adults have a higher prevalence of dementia, and that Black, Hispanic, and Asian adults have a lower likelihood of receiving a timely diagnosis or comprehensive evaluation compared to White adults.[29] Further, research shows that some racial and ethnic groups such as Black and Hispanic adults face impediments to timely diagnosis of cognitive impairment, which may prevent access to cognitive care services.[30]

Age. Older beneficiaries (75 and older) used the cognitive assessment service more often compared with younger beneficiaries (74 and under) in traditional Medicare. Use among beneficiaries 85 and older also increased the most during the 5-year time period of our review. See fig. 6. Overall, use among beneficiaries in traditional Medicare increased from

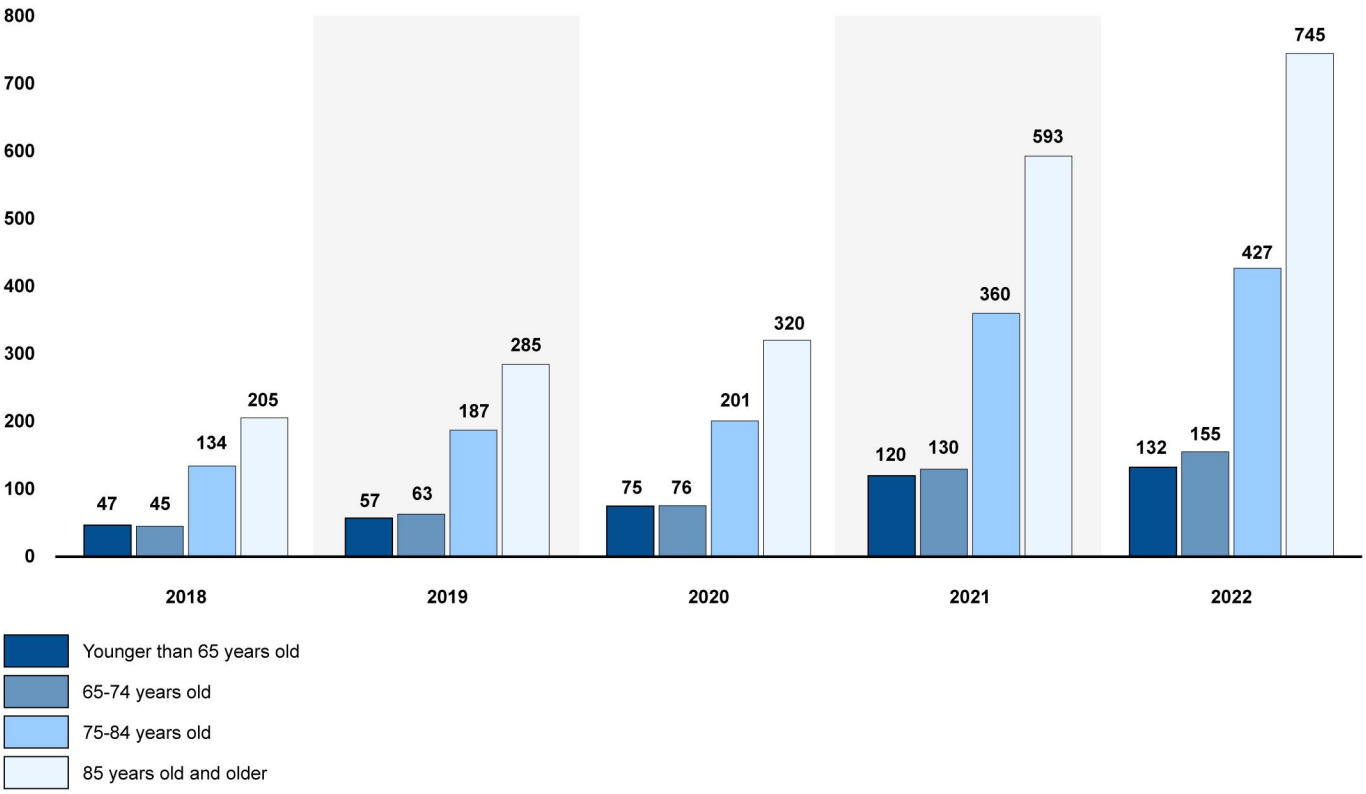
[28]For example, see Elena Tsoy et al., "Assessment of Racial/Ethnic Disparities in Timeliness and Comprehensiveness of Dementia Diagnosis in California," *JAMA Neurology*, vol. 78, no. 6 (2021); and Jay Lusk et al., "Racial/ Ethnic Disparities," 2376.

[29]For example, see, Kyle Steenland, "A Meta-Analysis of Alzheimer's Disease Incidence and Prevalence Comparing African-Americans and Caucasians," *Journal of Alzheimer's Disease*, vol. 50, no. 1 (2016): 71-76; Melinda C. Power, "Trends in Relative Incidence and Prevalence of Dementia Across Non-Hispanic Black and White Individuals in the United States, 2000-2016," *JAMA Neurology,* vol. 78, no. 3 (2021): 275-284; Cynthia Chen and Julie M. Zissimopoulos, "Racial and ethnic differences in trends in dementia prevalence and risk factors in the United States," *Alzheimer's & Dementia*, vol. 4 (2018) 510-520; and Elena Tsoy et al., "Assessment of Racial/Ethnic Disparities," 1.

[30]Patricia C. Clark, et al., "Impediments to Timely Diagnosis of Alzheimer's Disease in African Americans," *Journal of the American Geriatrics Society*, vol. 53, no. 11 (2005); L. Jaime Fitten, et al., "Frequency of Alzheimer's Disease and Other Dementias in a Community Outreach Sample of Hispanics," *Journal of the American Geriatrics Society*, vol. 49, no. 10 (2001); and Kan Z. Gianattasio, et al., "Racial disparities and temporal trends in dementia misdiagnosis risk in the United States," *Alzheimer's & Dementia*, vol.5 (2019).

83 services per 100,000 beneficiaries in 2018 to 282 services per 100,000 beneficiaries in 2022.

Figure 6: Number of Cognitive Assessment Services Used by Beneficiaries in Traditional Medicare, by Age, 2018 through 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Accessible data for Figure 6: Number of Cognitive Assessment Services Used by Beneficiaries in Traditional Medicare, by Age, 2018 through 2022

Year	Younger than 65 years old	65-74 years old	75-84 years old	85 years old and older
2018	46.88	45.08	134.42	205.5
2019	57.22	63.16	187.32	284.65
2020	75.02	75.76	200.98	320.45
2021	119.8	129.66	360.19	593.04
2022	132.49	155.3	427.14	744.95

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Gender. Female beneficiaries used more cognitive assessment services than male beneficiaries, and both increased their use by more than three

times in this period. Specifically, the number of services used by female beneficiaries in traditional Medicare increased from 94 per 100,000 beneficiaries in 2018 to 325 per 100,000 beneficiaries in 2022, compared with an increase from 72 per 100,000 beneficiaries in 2018 to 242 per 100,000 beneficiaries in 2022 among male beneficiaries in traditional Medicare. Across all age groups, female beneficiaries used the cognitive assessment service more often than male beneficiaries. See Appendix II for additional details.

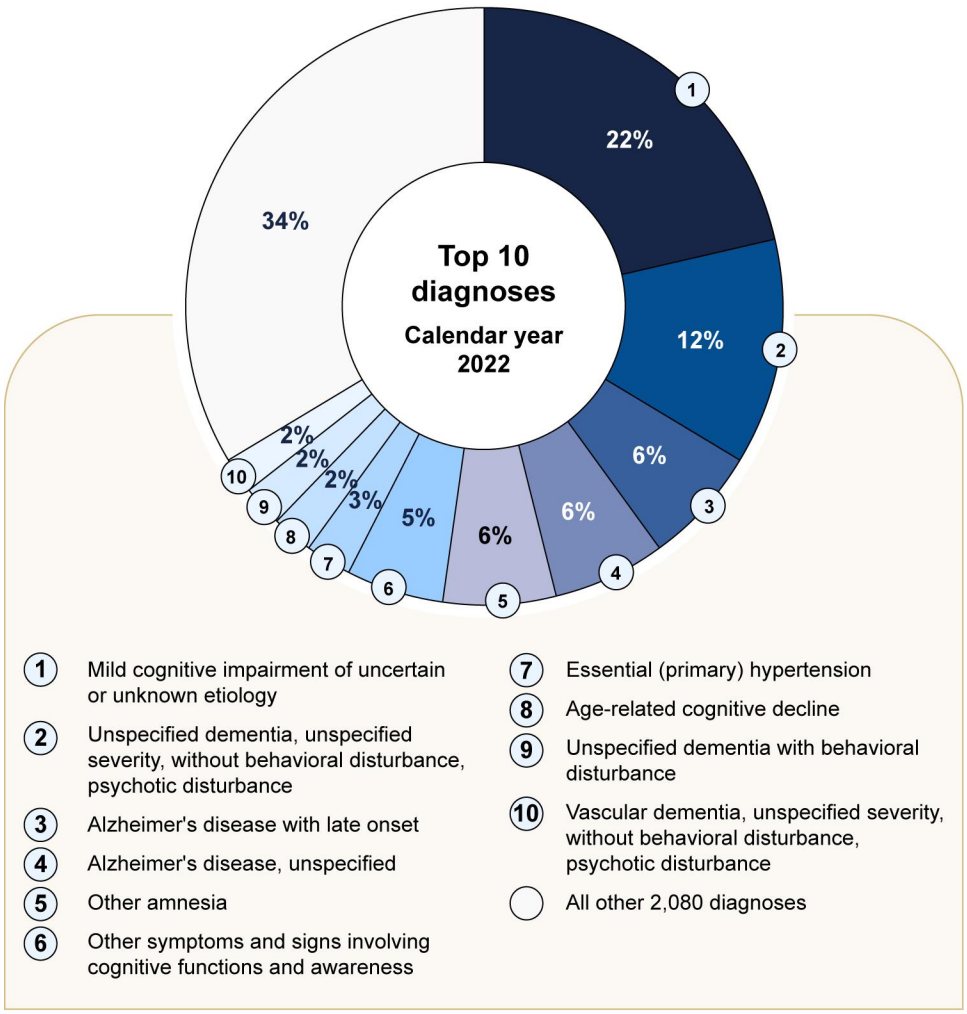
Disability status and dual-eligible status. Disabled beneficiaries used less cognitive assessment services than non-disabled beneficiaries.[31] This finding is consistent with the lower service use among beneficiaries younger than 65 years old. Dual-eligible beneficiaries—those covered by Medicare and Medicaid—used the cognitive assessment service at higher rates than non-dual eligible beneficiaries. In general, dual-eligible beneficiaries are often in poorer health and require more care than other beneficiaries.

One Fifth of Beneficiaries Receiving Cognitive Assessments Were Diagnosed with Mild Cognitive Impairment

Mild cognitive impairment was the primary diagnosis most frequently associated with beneficiaries in traditional Medicare who received the cognitive assessment service in 2022, affecting about 22 percent of beneficiaries. Alzheimer's disease, both late onset and unspecified, was the primary diagnosis for about 12 percent of beneficiaries in traditional Medicare who received the service. However, there were a wide range of other primary diagnoses connected with the service, including other amnesia, hypertension, age-related cognitive decline, vascular dementia, and over 2,080 other primary diagnoses (see fig. 7).

[31]Beneficiaries under age 65 may qualify for Medicare coverage on the basis of disability (such as a physical disability, developmental disability, or disabling mental health condition). Disabled individuals typically enroll in the federal Social Security Disability Insurance program and then have a 24-month waiting period before Medicare benefits begin.

Figure 7: Top 10 Primary Diagnoses Associated with the Cognitive Assessment Service in Traditional Medicare, 2022



Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Accessible data for Figure 7: Top 10 Primary Diagnoses Associated with the Cognitive Assessment Service in Traditional Medicare, 2022

Top 10 diagnoses in calendar year 2022	Percent
Mild cognitive impairment of uncertain or unknown etiology	21.5
Unspecified dementia, unspecified severity, without behavioral disturbance, psychotic disturbance	12.4
Alzheimer's disease with late onset	6.2
Alzheimer's disease, unspecified	6.2
Other amnesia	6.1

Top 10 diagnoses in calendar year 2022	Percent
Other symptoms and signs involving cognitive functions and awareness	5.2
Essential (primary) hypertension	2.5
Age-related cognitive decline	2.3
Unspecified dementia with behavioral disturbance	2.2
Vascular dementia, unspecified severity, without behavioral disturbance, psychotic disturbance	1.8
All other 2,080 diagnoses	33.6

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Stakeholders Described Several Challenges to Delivering and Accessing the Cognitive Assessment Service

Provider Challenges Included Time Needed to Deliver Service

All stakeholders we interviewed identified provider delivery challenges related to the cognitive assessment service, which could delay or prevent timely treatment and early care planning options for beneficiaries living with cognitive impairments.[32]

Amount of time needed to deliver service. Five of the seven stakeholder groups told us that providers find the amount of time it takes to deliver all the elements of the cognitive assessment service a challenge. CMS estimates it takes about 85 minutes of provider time (including 60 minutes of face-to-face time, plus time spent before and after the visit) and another 89 minutes of time spent by clinical staff (such as nurses or medical assistants) to deliver the cognitive assessment service for a typical patient.

Two provider groups said it is difficult for providers, particularly primary care providers, to carve out 60 minutes for the face-to-face time involved in the cognitive assessment service. They noted that visits are usually scheduled for 15 to 20 minutes. The same provider groups told us it can take more than 60 minutes—the amount of time the cognitive assessment

[32]We interviewed seven stakeholder groups to obtain their views on challenges to delivering and accessing cognitive assessment services. These groups included two beneficiary advocacy organizations, four provider groups, and one policy organization.

billing code expects for the face-to-face portion of the service—to deliver all its elements. One group said that it can take a full hour to deliver the cognitive assessment element of the service, notwithstanding the time needed for the care planning element.

Three provider groups explained that specialists, such as neurologists and geriatricians, are better suited to deliver the cognitive assessment service because they can schedule longer appointment times. However, three stakeholder groups noted that accessing specialty providers is a challenge due to long wait times for an appointment. Multiple studies have cited a shortage of specialists such as neurologists and geriatricians.[33] One neurologist we spoke with explained that the cognitive assessment service is more useful for patients already diagnosed with a cognitive impairment because the provider already has a background on the patient's cognitive condition, obtained during a prior visit. The provider can then use the cognitive assessment service visit to obtain more specific details on their history and ability to perform daily tasks, and work with family or caregivers to identify treatment options and develop a written care plan.

Five groups told us providers may be hesitant to invest time delivering the cognitive assessment service because they can conduct multiple shorter visits during the same time span and potentially receive a higher reimbursement for these visits than for the cognitive assessment service visit. Three provider groups explained that some primary care providers may choose not to deliver the cognitive assessment service because of the time it takes to furnish all the service elements. These groups noted that some primary care providers may instead deliver cognitive care services during other visits or refer patients to specialists. Multiple research articles we identified are consistent with stakeholder perspectives on the time challenge, stating that evaluation, diagnosis, and

[33]U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis, *National and Regional Projections of Supply and Demand for Geriatricians: 2013-2025*, (Rockville, Md.: April, 2017); U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis, *Health Workforce Projections: Neurology Physicians and Physician Assistants*, (Rockville, Md.: March 2017); The American Geriatrics Society, "Projected Future Need for Geriatricians" (May 2016), accessed Sept. 13, 2023, https://www.americangeriatrics.org/sites/default/files/inline-files/Projected-Future-Need-for-Geriatricians.pdf; and Timothy M. Dall et al., "Supply and demand analysis of the current and future US neurology workforce," *Neurology*, vol. 81, no. 5 (July 2013): 470-478.

treatment of memory disorders take significant clinician time and ongoing follow-up.[34]

Limitations on billing prevents use of team-based care model. Three stakeholder groups noted that an inability to use a team-based care model—where physicians and other clinical staff collaborate to deliver care—is a challenge.[35] The stakeholders say this is due to limitations on who can bill for the cognitive assessment service. As noted previously, only a physician, nurse practitioner, physician assistant, or clinical nurse specialist can bill for the service. CMS stated, effective in 2017, the agency's position was that they believed the service should be delivered and billed exclusively by a physician, nurse practitioner, or physician assistant because of the level of medical decision making needed to evaluate the patient and identify treatment options.[36]

Three stakeholder groups said it may be more appropriate for a provider to deliver some elements of the cognitive assessment service and to leave other elements to other clinical staff. Two stakeholder groups noted that although social workers are not eligible to deliver the cognitive assessment service, they are best equipped to provide the care planning portion due to their expertise on community resources. One provider group noted that the ability to implement a team-based care model would enable the cognitive assessment service to be delivered within the 60-minute time frame for the face-to-face visit. Research we identified stated

[34]For example, see Ladson Hinton et al., "Practice Constraints, Behavioral Problems and Dementia Care: Primary Care Physicians' Perspectives," *Journal of General Internal Medicine*, vol. 22, no. 11 (2007): 1487-92; and Linda Boise et al., "Dementia Assessment in Primary Care: Results from a Study in Three Managed Care Systems," *Journal of Gerontology: Medical Sciences*, vol. 59, no. 6 (2004): 621-626.

[35]Team-based care is a collaborative system in which interdisciplinary team members share responsibilities to deliver patient care. Team members may include physicians, nurse practitioners, physician assistants, medical assistants, pharmacists, behavioral health specialists, and social workers, among others. Team members coordinate patient care responsibilities, thereby allowing providers to spend more time evaluating patients. See Christine Sinsky and Ellie Rajcevich, "Team-Based Care: Improve Patient Care and Team Engagement through Collaboration and Streamlined Processes," *American Medical Association,* (2021), accessed July 18, 2023, https://edhub.ama-assn.org/steps-forward/module/2702513.

[36]81 Fed. Reg. 80,170, 80,252-53 (Nov. 15, 2016).

that interdisciplinary care teams would lead to improved dementia care, particularly in primary care practices.[37]

Primary care providers face training and resource challenges. Three stakeholder groups, including one group representing primary care providers, said that in general primary care providers have limited training on conducting cognitive assessments or developing care plans, with one group noting that this limited training may lead to missed observations about a patient's condition during a cognitive assessment.

Researchers also have reported that some primary care providers lacked confidence or comfort administering cognitive assessments due to knowledge, training or skill deficits, with primary care providers having a high rate of overlooking cognitive impairment symptoms.[38] Two stakeholder groups told us that primary care providers may lack access to some screening tools used to assess cognitive impairment, because there is an associated licensing cost, and necessary training to properly use and implement the tools.

Three stakeholder groups, including representatives from both primary care and specialist groups, noted that some primary care providers' perceptions regarding cognitive care may lead to challenges delivering the service. Some of the perceptions noted by these stakeholder groups include possible negative outcomes associated with a dementia diagnosis. These stakeholder groups noted that some providers may not understand treatment options, and may be hesitant to deliver the service.

Although CMS adopted the cognitive assessment service billing code to give primary care providers more options for delivering cognitive care

[37]See for example, Ladson Hinton et al., "Practice Constraints, Behavioral Problems, and Dementia Care: Primary Care Physicians' Perspectives," *Journal of General Internal Medicine*, vol. 22, no.11 (2007): 1487–92; Lee A. Jennings, et al., "Health Care Utilization and Cost Outcomes of a Comprehensive Dementia Care Program for Medicare Beneficiaries," *JAMA Internal Medicine*, vol. 179, no. 2 (2019): 161-166; and James E. Galvin et al., "Collaborative transdisciplinary team approach for dementia care," *Neurodegenerative Disease Management*, vol. 4, no. 6 (2014): 455-69.

[38]See for example, Ladson Hinton, et al., "Practice Constraints, Behavioral Problems, and Dementia Care: Primary Care Physicians' Perspectives," *Journal of General Internal Medicine*, vol. 22, no. 11 (2007): 1487-92; Linda Boise, et al., "Dementia Assessment in Primary Care: Results from a Study in Three Managed Care Systems," *Journal of Gerontology: Medical Sciences*, vol. 59A, no. 6, (2004): 621-626; Molly Waymouth et al., "Barriers and Facilitators to Home- and Community- Based Services Access for Persons with Dementia and Their Caregivers," *Journal of Gerontology: Social Sciences*, vol. 78, no. 6, 1085–97; and James E. Galvin et al., "Collaborative transdisciplinary team approach for dementia care," *Neurodegenerative Disease Management*, vol. 4, no. 6 (2014): 455-69.

services, stakeholders we spoke with said specialists may be better suited to delivering the service because they have specialized training and resources. Two provider groups, one representing primary care providers and another representing neurologists, explained that specialists, such as neurologists and geriatricians, have the skillsets and comfort level to deliver the service regularly because they have specialized training in diagnosing and managing cognitive conditions, an understanding of how to use the screening tools, and access to community resources.

Stigma and Lack of Awareness Are Challenges to Beneficiary Access

Some stakeholder groups reported that the stigma of being assessed for, or being diagnosed with, a cognitive impairment is a challenge for beneficiaries. Research we reviewed found that individuals aged 40 and older have stigmas or negative thoughts and perceptions regarding cognitive impairments and potentially being diagnosed with these conditions.[39] Both beneficiary advocacy groups and the policy group we interviewed noted that such stigmas can make beneficiaries hesitant to access the cognitive assessment service. According to one primary care provider group, the very act of performing a cognitive assessment implies to a beneficiary that a cognitive impairment exists. Additionally, five stakeholder groups noted that beneficiaries' understanding of cognitive impairments and the services available to them may be related to perceptions of stigma, or negative thoughts and perceptions about their conditions. Further, research has found that stigma, including worry, fear, and shame, is known to interfere with and delay seeking important medical care for cognitive impairments.[40]

In addition, both beneficiary groups and the policy group we spoke with stated that beneficiaries are not aware of the service, and therefore do not know to request it. One provider group noted that a cognitive assessment service typically is not a service beneficiaries would initiate on their own. This group also noted that observations by a family member

[39]Laura Mehegan, et al., "2021 AARP Survey on the Perceptions Related to a Dementia Diagnosis: Adults Age 40+" *AARP Research*, accessed August 25, 2023, https://www.aarp.org/pri/topics/health/conditions-treatment/dementia-diagnosis-stigma/

[40]Rebecca M. Lovett et al., "Associations Between Cognitive Impairment Severity and Barriers to Healthcare Engagement Among Older Adults," *Journal of Applied Gerontology*, vol. 42, no. 7, (2023): 1387-96.

or primary care provider of changes in a patient's behavior are often the initial step to starting cognitive assessment services.

CMS Conducted an Outreach Campaign to Increase Provider and Beneficiary Awareness of the Cognitive Assessment Service

CMS has taken steps to increase provider and beneficiary awareness of the cognitive assessment service through ongoing outreach efforts. As required by the Consolidated Appropriations Act, 2021, CMS conducted a provider outreach campaign to raise awareness of the service and its service elements.[41] CMS targeted its outreach campaign to approximately 1.4 million providers eligible to deliver the service using multiple methods, including webpages, direct mailings of letters and fact sheets, online videos, and email messaging. CMS officials told us provider outreach continued throughout 2022. They said these efforts will continue, as needed, through the Physician Fee Schedule rulemaking process, webpage updates, and updates to other educational resources.

CMS also took steps to increase beneficiary awareness of the cognitive assessment service. In 2021, CMS added a description of the service to Medicare.gov. In 2022, CMS also added the cognitive assessment benefit to the Medicare & You handbook's descriptions of benefits.

Agency Comments

We provided a draft of this report to HHS for review and comment. HHS and CMS did not have comments on the draft report.

We are sending copies of this report to the appropriate congressional committees and the Secretary of Health and Human Services. In addition, the report is available at no charge on the GAO website at https://www.gao.gov.

If you or your staff have any questions about this report, please contact me at (202) 512-7114 or GordonLV@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on

[41]Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, § 116(a), 134 Stat. 2949 (2020). CMS submitted a report to Congress in December 2021 summarizing its efforts. See CMS, *Report to Congress: CMS Provider Outreach & Reporting on Cognitive Assessment & Care Services* (Baltimore, Md.: December 2021).

the last page of this report. GAO staff who made key contributions to this report are listed in appendix III.

Leslie V. Gordon
Director, Health Care

List of Committees

The Honorable Ron Wyden
Chairman
The Honorable Mike Crapo
Ranking Member
Committee on Finance
United States Senate
The Honorable Cathy McMorris Rodgers
Chair
The Honorable Frank Pallone, Jr.
Ranking Member
Committee on Energy and Commerce
House of Representatives
The Honorable Jason Smith
Chairman
The Honorable Richard Neal
Ranking Member
Committee on Ways and Means
House of Representatives

Appendix I: Objectives, Scope, and Methodology

This report describes:

1. utilization of cognitive assessment and care plan services (the cognitive assessment service) in the traditional fee-for-service Medicare program from 2018 through 2022;

2. stakeholder views on challenges providers face in delivering and Medicare beneficiaries face in accessing the cognitive assessment service; and

3. steps the Centers for Medicare & Medicaid Services (CMS) has taken to increase awareness of the cognitive assessment service.

To describe utilization of the cognitive assessment service, we used data from CMS's Integrated Data Repository to identify traditional fee-for-service Medicare claims and enrollment data from calendar years 2018 through 2022—the most recently available annual data at the time of our review.[1] Specifically, we analyzed data on claims for procedure code 99483, which is the code providers—physicians and other clinicians—use to bill for the service under the Medicare Physician Fee Schedule when they deliver the cognitive assessment service.[2] We analyzed the data to identify aggregate utilization trends as well as sub-aggregate trends during the period of our review, including by:

[1]The Integrated Data Repository is a data warehouse integrating claims from all parts of Medicare. It also includes other data sets, including beneficiary and provider data sources. We pulled data from files containing Medicare Part B claims data for physicians and other practitioners, as well as information on beneficiary demographics from the enrollment file. We excluded data from Medicare Part B hospital outpatient claims. Medicare Part B covers outpatient services including physician, outpatient hospital, and home health care.

[2]Providers bill Medicare for their services using various five-digit billing codes based in part on codes developed by the American Medical Association's Current Procedural Terminology panel. This panel maintains and updates a list of billing codes that CMS adopts for use. CMS refers to these codes as Level I Healthcare Common Procedure Coding System codes. CMS adopted a temporary code—G0505—in 2017 before permanently adopting billing code 99483 in 2018.

- type of provider and specialty to identify providers delivering the service, such as family physicians, internists, and neurologists, nurse practitioners, and physician assistants;[3]
- provider geographic location, including by urban and rural;[4]
- primary diagnoses given during the service, identified by service diagnosis code;[5]
- number and frequency of unique beneficiaries accessing the service; and characteristics of these beneficiaries, including by geographic location (urban and rural); race and ethnicity, by location; age; gender; disability; and dual-eligible status.[6]

We calculated the percent of beneficiaries in traditional Medicare with a diagnosis of Alzheimer's disease or a related disorder who may have received the cognitive assessment service visit in 2021. We did so by dividing the number of traditional Medicare beneficiaries with a cognitive assessment service visit in 2021 (76,292) by the number of traditional Medicare beneficiaries (about 3.2 million) diagnosed in 2021 with Alzheimer's disease or a related disorder in CMS's Chronic Condition Data Warehouse.[7]

For all demographic characteristics in our review (geographic location, race and ethnicity by location, age, gender, disability status, and dual-eligibility status), we report utilization per 100,000 beneficiaries in traditional Medicare.

[3]We identified providers by their Medicare provider specialty code. We reported on the providers who accounted for at least 90 percent of cognitive assessment service utilization for each year during our timeframe. Data limitations do not allow for the identification of the settings in which nurse practitioners and physician assistants work. Our interviews with two stakeholder groups indicate nurse practitioners who deliver these services are located in practices that deliver primary care, such as internal medicine or family practice. Nurse practitioners may also work in specialty settings, such as neurology.

[4]The data variable used to identify provider location is the CMS designation of urban or rural for where the provider is located.

[5]We identified the top 10 primary diagnoses associated with billing code 99483 in calendar year 2022.

[6]Dual-eligible beneficiaries are those covered by Medicare and Medicaid.

[7]2021 was the most recently available data at the time. The Chronic Condition Warehouse requires a claims history, so newly enrolled Medicare beneficiaries with dementia may not be identified in the file until they develop a claims history to support the designation. Centers for Medicare & Medicaid Services, Chronic Conditions Data Warehouse, *Medicare Chronic Condition Counts*, (Washington, D.C.: April 2023), accessed August 7, 2023, https://www2.ccwdata.org/web/guest/medicare-tables-reports.

We excluded beneficiaries in Medicare Advantage plans—private Medicare managed care plans—because Medicare Advantage plans can use other methods to provide cognitive care services to their enrollees, for instance through the health risk assessment process. In addition, such services may not be consistently coded in Medicare Advantage encounter data—data submitted by Medicare Advantage plans on the services their enrollees receive. We and others also have reported gaps in the completeness and accuracy of Medicare Advantage encounter data.[8] Our analysis shows that in 2022, 54 percent of the Medicare population was enrolled in traditional Medicare and 46 percent in Medicare Advantage.

CMS adopted a temporary code—G0505—in 2017 before permanently adopting billing code 99483 to describe cognitive assessment and care plan services. Since 99483 replaced the temporary code, we consider 99483 to be implemented in 2017. We began our analysis in 2018, when CMS finalized the code's description, as well as the time, and other resource costs to deliver the service relative to other physicians' services.

We assessed the reliability of the CMS claims data used for this report by reviewing relevant documentation and written responses to our questions from CMS officials. The data are used by the Medicare program as a record of payment to health care providers and are monitored by both CMS and the Medicare contractors that process, review, and pay claims. We compared utilization data on the Integrated Data Repository to other Medicare claims data for code 99483, and found the data closely matched.

We also checked our analysis for consistency with other published analyses of Medicare fee-for-service data. For example, analysis by the U.S. Department of Health and Human Services (HHS), Assistant Secretary for Planning and Evaluation showed low but steadily increasing uptake from 2017 through part of 2018.[9] We also reviewed data provided to us by CMS officials. We determined the utilization data reported by these sources aligned with our data.

[8]See GAO-17-223 and GAO-22-106026. Medicare Payment Advisory Commission, "Chapter 7: Ensuring the accuracy and completeness of Medicare Advantage encounter data," *Report to Congress: Medicare and the Health Care Delivery System*, (Washington, D.C.: June 2019).

[9]U.S. Department of Health and Human Services, Assistant Secretary for Planning and Evaluation, Office of Behavioral Health, Disability, and Aging Policy, *Advance Care Planning Among Medicare Fee-For-Service Beneficiaries and Practitioners: Final Report*, (Washington D.C., Sept. 2020).

Although based on the best available data, Medicare race and ethnicity data are known to have some limitations. The HHS Office of Inspector General reported in 2022 that Medicare's race and ethnicity information contains more inaccuracies for beneficiaries with a race and ethnicity of American Indian/Alaska Native, Asian/Pacific Islander, or Hispanic due to limitations in the source data, which may limit the ability to identify differences among racial and ethnic groups. Medicare's race and ethnicity information are sourced from Medicare enrollment data, which CMS derives primarily from data voluntarily provided to the Social Security Administration when individuals applied for Social Security cards.[10] The HHS Office of Inspector General reported that this source data combines race and ethnicity into one category and limits beneficiaries to choosing one of only a few race and ethnicity categories.[11] In addition, the HHS Office of Inspector General found that race and ethnicity data are lacking for more than 2 million beneficiaries, as of 2020.[12]

To improve the accuracy of the race and ethnicity data, we used a CMS variable that applied an algorithm to beneficiaries' race and ethnicity data based on the last name and location of the beneficiary. The HHS Office of Inspector General reported that this variable is more accurate and

[10]The HHS Office of Inspector General reported that the Social Security Administration stopped routinely collecting race and ethnicity data in 1989 when individuals started receiving a Social Security Number automatically. However, most current Medicare beneficiaries received a Social Security card before 1989. The Office of Inspector General recommended that CMS (1) develop its own source of race and ethnicity data for Medicare beneficiaries and (2) use self-reported race and ethnicity information to improve data for current beneficiaries. See, U.S. Department of Health and Human Services, Office of Inspector General, *Data Brief: Inaccuracies in Medicare's Race and Ethnicity Data Hinder the Ability to Assess Health Disparities*, OEI-02-21-00100 (Washington, D.C.: June 2022).

[11]The HHS Office of Inspector General reported that CMS applies an algorithm to existing Medicare enrollment data to improve the accuracy of race and ethnicity data for Hispanic and Asian/Pacific Islander beneficiaries, but this algorithm is less accurate and complete than self-reported data. U.S. Department of Health and Human Services, Office of Inspector General, *Data Brief: Inaccuracies in Medicare's Race and Ethnicity Data Hinder the Ability to Assess Health Disparities*, OEI-02-21-00100 (Washington, D.C.: June 2022).

[12]The HHS Office of Inspector General reported in 2023 that 1.3 million beneficiaries were categorized as "Unknown or missing" and 600,000 categorized as "Other." The Office of the Inspector General noted that these beneficiaries were more likely to be American Indian/Alaska Native, Asian/Pacific Islander, and Hispanic but were categorized as such, based on Medicare's source data for race and ethnicity information. U.S. Department of Health and Human Services, Office of Inspector General, A *Resource Guide for Using Medicare's Enrollment Race and Ethnicity Data*, OEI-02-21-00101 (Washington, D.C.: June 2023).

complete for Asian/Pacific Islander and Hispanic beneficiaries, but still less accurate than self-reported data.[13]

Based on all steps taken, we determined the claims data were reliable for the purpose of identifying utilization of Medicare cognitive assessment and care plan services in traditional Medicare.

To describe challenges that providers face in delivering and beneficiaries face in accessing cognitive assessment and care plan services, we interviewed representatives of seven selected stakeholder groups with experience and knowledge in cognitive care services to obtain their views on challenges. For a list of stakeholder groups we interviewed, see table 2.

Table 2: Stakeholder Groups Interviewed

Provider groups
• American College of Physicians • American Academy of Family Physicians • American Association of Nurse Practitioners • American Academy of Neurology
Beneficiary advocacy groups
• Medicare Rights Center • AARP
Policy organization
• Alzheimer's Association

Source: GAO interviews with stakeholder groups. | GAO-24-106328

For both objectives, we identified and obtained relevant studies and reports about cognitive assessment and care plan services from agency officials and the stakeholder groups we interviewed. We also conducted a literature scan to identify research on cognitive care services and the challenges providers may face delivering and beneficiaries may face in accessing cognitive care.

To describe steps CMS has taken to increase awareness of the cognitive assessment service, we reviewed agency guidance and interviewed CMS officials to obtain information on the actions taken by the agency.

We conducted this performance audit from October 2022 to December 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to

[13]See U.S. Department of Health and Human Services, Office of Inspector General, *Data Brief: Inaccuracies in Medicare's Race and Ethnicity Data Hinder the Ability to Assess Health Disparities*, OEI-02-21-00100 (Washington, D.C.: June 2022).

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: Additional Information on Utilization of the Cognitive Assessment Service

Table 3: Percent of Cognitive Assessment Services Delivered in Traditional Medicare, by Provider Type and Geographic Location, 2018 through 2022

Provider type	geographic location	2018	2019	2020	2021	2022
Nurse practitioners	Urban	17.8	18.2	24.1	26.3	30.6
	Rural	3.0	22.4	35.1	40.0	42.3
Neurologists	Urban	30.0	31.3	24.4	19.9	20.6
	Rural	22.2	26.0	17.8	14.6	21.5
Internists	Urban	20.9	21.3	21.9	25.0	22.9
	Rural	57.0	34.1	14.5	14.4	12.6
Family physicians	Urban	15.7	13.8	16.6	13.9	11.8
	Rural	12.1	14.0	24.5	20.1	16.2
Geriatricians	Urban	5.7	7.2	6.3	6.0	6.0
	Rural	1.3	1.0	0.9	1.8	1.5
Psychiatrists	Urban	4.4	3.8	2.2	3.0	2.4
	Rural	0.3	0.0	0.6	0.3	0.1
Physician assistants	Urban	4.6	3.7	3.0	3.3	3.3
	Rural	1.7	1.2	4.1	1.6	1.6
General practitioners	Urban	0.8	0.8	1.5	2.6	2.3
	Rural	2.4	1.3	2.6	7.3	4.2

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Note: We identified the percent of cognitive assessment services delivered by provider type and geographic location for the top eight provider types billing the service each year, 2018 through 2022.

Table 4: Number of Cognitive Assessment Services Used by Beneficiaries in Traditional Medicare, per 100,000 Beneficiaries, by Race and Ethnicity and Geographic Location, 2018 through 2022

Race and ethnicity	geographic location	2018	2019	2020	2021	2022
Asian	Unknown/missing	0.00	0.00	1.25	0.00	3.50
	Urban	72.34	88.20	135.54	376.53	465.35
	Rural	90.75	64.88	48.31	80.23	85.97

Race and ethnicity	geographic location	2018	2019	2020	2021	2022
Black	Unknown/missing	0.00	0.00	0.00	4.53	1.48
	Urban	95.23	129.10	203.64	327.21	346.16
	Rural	168.30	134.48	61.95	124.54	156.40
Hispanic	Unknown/missing	0.63	0.00	1.28	1.86	4.35
	Urban	95.44	135.88	164.62	357.49	403.00
	Rural	52.88	56.14	53.17	146.11	194.17
American Indian/Alaska Native	Unknown/missing	0.00	0.00	0.00	0.00	0.00
	Urban	42.07	64.58	96.94	183.87	207.19
	Rural	17.73	27.31	23.85	46.86	77.83
Other	Unknown/missing	0.00	0.00	0.00	0.00	0.00
	Urban	88.35	122.52	151.16	295.96	335.80
	Rural	69.73	72.01	37.75	111.47	119.16
White	Unknown/missing	0.00	0.74	0.97	2.09	4.30
	Urban	92.01	134.23	148.46	256.73	318.79
	Rural	63.36	78.03	79.37	126.53	160.76
Unknown/Missing	Unknown/missing	0.00	0.00	0.00	2.51	0.00
	Urban	47.22	78.42	113.89	235.99	327.99
	Rural	26.48	33.08	42.17	58.05	98.58

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Table 5: Number of Cognitive Assessment Services Used by Beneficiaries in Traditional Medicare, per 100,000 Beneficiaries, by Age and Gender, 2018 through 2022

Age	gender	2018	2019	2020	2021	2022
Below 65 years	Female	53.29	66.46	71.95	124.66	137.90
	Male	43.78	51.69	80.90	120.92	133.94
65-74 years	Female	49.63	69.76	80.53	142.19	170.67
	Male	41.48	57.98	72.80	120.49	144.64
75-84 years	Female	142.23	197.72	215.05	388.24	470.00
	Male	125.10	174.99	184.18	326.90	376.60
85 and older	Female	213.94	295.52	339.00	634.50	798.76
	Male	190.12	265.15	287.35	519.61	650.51

Source: GAO analysis of Centers for Medicare & Medicaid Services data. | GAO-24-106328

Appendix III: GAO Contact and Staff Acknowledgements

GAO Contact

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Staff Acknowledgements

In addition to the contact named above, Lori Achman (Assistant Director), Maggie Holihan (Analyst in Charge), and Gail-Lynn Michel made key contributions to this report. Also contributing were Jennie Apter, Sandra George, Deborah Healy, Ying Hu, Stephanie Lola, Diona Martyn, Monica Perez-Nelson, Dan Ries, and Ethiene Salgado-Rodriguez.

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