Analysis of 2019 Medicare Fee-for-Service (FFS) Claims for Chronic Care Management (CCM) and Transitional Care Management (TCM) Services

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NORC at the University of Chicago

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The Physician-Focused Payment Model Technical Advisory Committee (PTAC) conducted a theme-based discussion on care coordination as it relates to physician-focused payment models (PFPMs) during the June 10, 2021 public meeting.[i] Subsequent to the public meeting, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) requested the development of an "*Analysis of 2019 Medicare Fee-for-Service Claims for Chronic Care Management (CCM) and Transitional Care Management (TCM) Services*" to provide additional context on the role care coordination can play in optimizing health care delivery and value-based transformation under alternative payment models (APMs) in Medicare. This quantitative analysis[ii] provides information on the use of chronic care management (CCM) and transitional care management (TCM) services by fee-for-service (FFS) Medicare beneficiaries in 2019 in relation to beneficiary and provider characteristics.

[i] Prior to the June 10, 2021 public meeting, an *Environmental Scan on Care Coordination in the Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models (PFPMs)* was prepared at the request of the Office of the Assistant Secretary for Planning and Evaluation (ASPE) as background information to assist the Physician-Focused Payment Model Technical Advisory Committee (PTAC) in preparing for the theme-based discussion on the role care coordination can play in optimizing health care delivery and value-based transformation.

[ii] This analysis was prepared under contract #HHSP233201500048IHHSP23337014T between the Department of Health and Human Services' Office of Health Policy of the Assistant Secretary for Planning and Evaluation (ASPE) and NORC at the University of Chicago. The opinions and views expressed in this analysis are those of the authors. They do not reflect the views of the Department of Health and Human Services, the contractor, or any other funding organizations. This analysis was completed in February 2022.

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I. Executive Summary

The Physician-Focused Payment Model Technical Advisory Committee (PTAC) conducted a theme-based discussion on topics important to physician-focused payment models (PFPMs) during the June 10, 2021, public meeting, which focused on care coordination and Alternative Payment Models (APMs). Prior to the public meeting, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) requested the development of an "*Environmental Scan on Care Coordination in the Context of Alternative Payment Models (APMs) and Physician-Focused Payment Models*" to provide background information for Committee members. This analysis provides additional information on recent experience related to the utilization of chronic care and transitional care management services in Medicare fee-for-service.

Prior to 2013, the Medicare Physician Fee Schedule did not reimburse directly for care coordination outside of a medical encounter. The Centers for Medicare & Medicaid Services (CMS) subsequently created several care management codes to compensate providers for the time required to coordinate care for patients beyond a traditional evaluation and management (E&M) visit.

In 2013, Medicare introduced two codes for transitional care management (TCM) to reimburse providers for assisting patients during the transition from a hospital, skilled nursing facility (SNF), or community mental health hospital stay to a community setting.[1] TCM codes have the following requirements: providers must 1) communicate with the patient or caregiver within two business days of discharge; 2) make a medical decision of at least moderate complexity (CPT 99495) or high complexity (CPT 99496); and 3) have a face-to-face visit within 14 days (CPT 99495) or seven days (CPT 99496).[2]

In 2015, CMS created the chronic care management (CCM) code (CPT 99490) to compensate providers who provide 20 minutes of services to chronically ill Medicare beneficiaries outside of the office setting. Three additional codes for 30 minutes of services and for complex CCM[iii] were subsequently added by 2019.[3, 4] Providers can use a CCM code for a patient if the following conditions are met: 1) the patient has two or more chronic conditions expected to last at least 12 months or until the end of life; 2) the chronic conditions place the patient at significant risk of death, decompensation, or functional decline; and 3) the provider establishes, implements, revises, or monitors a comprehensive care plan accessible to the patient.[5] Appendix B provides a list of chronic conditions identified in the Medicare FFS population.

In 2016, CMS adopted two billing codes (CPT codes 99497 and 99498[iv]) for paying providers for Advance Care Planning (ACP) services for Medicare FFS beneficiaries.[6] ACP is a voluntary "face-to-face service between a Medicare physician (or other qualified health care professional) and a patient to discuss the patient's health care wishes if they become unable to make decisions about their care." These services (also known as Advanced Care Management [ACM]), within the context shared decision making, may

[iii] Non-complex CCM CPT codes are 99490 and 99491, and complex CCM CPT codes are 99487 and 99489. A patient can receive either non-complex or complex CCM during a given service month, but not both.

[iv] CPT Code 99497 - Advance care planning including the explanation and discussion of advance directives such as standard forms (with completion of such forms, when performed), by the physician or other qualified health professional; first 30 minutes, face- to-face with the patient, family member(s) and/or surrogate.
CPT Code 99498 is used for each additional 30 minutes of ACP and is listed separately on the claim in addition to CPT 99497.

relate to care coordination in the context of share-decision making. However, the analyses presented here is limited to CCM and TCM services specifically.

Soon thereafter in 2017, CMS started to pay certain clinicians for providing care planning and cognitive assessment services to Medicare FFS beneficiaries, first using Healthcare Common Procedure Coding System (HCPCS) code G0505[v] and then CPT code 99483[vi].[7][vii]

Prior studies show that uptake of these codes has been slow.[8] For example, one study[9] indicated that fewer than 10 percent of eligible beneficiaries had claims for CCM or TCM. A recent study published in January 2022 had similar finding in terms of low uptake of these codes.[10] Several potential barriers to providing and being reimbursed for CCM and TCM services may contribute to low uptake. First, the compensation for CCM and TCM may not adequately cover the additional time, staffing, and infrastructure required to manage complex patients and coordinate with other providers, limiting the incentive to bill these claims.[11, 12] Second, the lack of interoperability among electronic health records (EHRs) across practices and health systems poses challenges to executing care coordination, rendering the codes impractical for certain providers.[13, 14] Third, the patient eligibility rules for these services may be too restrictive for practices to maintain staffing and processes needed to implement TCM and CCM.[15] In addition, the fact that only one entity can bill for CCM or TCM in a calendar month limits the incentive to engage multiple clinicians in care. Providers also cite the burden of documentation requirements for billing as a barrier to using CCM.[16] A recent study suggests that increased reimbursement, strong institutional commitment and support, and streamlined workflow could potentially increase the use of these codes and improve access to Medicare advance care planning. Finally, CCM services are subject to the deductible and 20 percent coinsurance requirements under Medicare Part B, and this can be an impediment to Medicare beneficiaries receiving CCM services. A study published in May 2020 found that dually enrolled beneficiaries were more likely to receive CCM services than non-dually enrolled beneficiaries because Medicaid would cover the monthly charge.[17] Patients without supplemental insurance, such as a Medigap policy, may be reluctant to incur new out-of-pocket spending for CCM. Physicians may also be uncomfortable and less likely to discuss the cost of these services with their patients.

[v] HCPCS Code G0505 - Cognition and functional assessment using standardized instruments with development of recorded care plan for the patient with cognitive impairment, history obtained from patient and/or caregiver, in office or other outpatient setting or home or domiciliary or rest home.

[vi] CPT Code 99843: Assessment of and care planning for a patient with cognitive impairment, requiring an independent historian, in the office or other outpatient, home or domiciliary or rest home.

[vii] In the Final Medicare Physician Fee Schedule ("MPFS") for 2022 (the "Final Rule") issued on November 2, 2021, Review Requirements added one new CPT code in the "CCM" code family and four new CPT codes in the Principal Care Management ("PCM") code family (two of which replaced PCM G codes that were created in the CY 2020 final rule) and increased reimbursement for already existing codes in the same categories. The new CPT codes have higher reimbursement due to higher Work RVUs assigned by the RVS Update Committee ("RUC") survey that showed care management services are currently undervalued. The PCM codes provide reimbursement for services related to managing a patient's care for a single high-risk disease or complex chronic condition. Since the data period for this study is 2019, the impact of these new codes has not been included in the study.

This analysis focuses on CCM or TCM services for potentially eligible Medicare FFS beneficiaries[viii] in 2019 to provide a baseline assessment picture of use of these codes prior to the COVID-19 public health emergency (PHE). Exhibit 1 summarizes five research questions that are addressed in this analysis.

Exhibit 1: CCM and TCM Analysis: Research Questions by Level of Analysis

Beneficiary-Level Utilization Analysis	Corresponding Exhibits
1. What proportion of beneficiaries were potentially eligible to receive CCM or TCM, and what proportion had at least one claim billed?	Exhibit 2
2. What are the characteristics of beneficiaries potentially eligible for CCM or TCM services and of those receiving services? How did the proportion of beneficiaries receiving CCM or TCM per 1,000 potentially eligible beneficiaries vary by those characteristics?	Exhibit 3
3. What is the composition of providers or practices billing for CCM or TCM codes? What proportion of beneficiaries received CCM or TCM services from different types of providers or practices?	Exhibit 4 Exhibit 5
Practice-Level Analysis	
4. What were the practice-level utilization rates of CCM or TCM codes?	Exhibit 6
5. How did the practice-level and beneficiary-level utilization rates of CCM or TCM vary based on different practice characteristics?	Exhibit 7 Exhibit 8

Key highlights from the analyses with an emphasis on findings not in existing literature include:

- **Overall Use:** Just 4.0 percent of beneficiaries potentially eligible for CCM received any CCM services. Of all beneficiaries with acute care discharges eligible for TCM, only 17.9 percent received TCM services. While these rates seem low, it is important to remember that in this analysis determination of potential eligibility is made solely on claims and does not include physician assessment of suitability or appropriateness of CCM or TCM for patients.
- **CCM Use by Patient Characteristics:** Women, non-white beneficiaries, and older beneficiaries received services billed as CCM at somewhat higher rates, as did those with dual eligibility and those originally entitled to Medicare based on disability. Residents of metropolitan areas received CCM in greater proportions than those not in metropolitan areas; and beneficiaries aligned to Accountable Care Organizations (ACOs) received services billed as CCM at a higher rate than those not aligned to ACOs.
- **TCM Use by Patient Characteristics:** Similar to patterns observed with CCM claims, women, older adult beneficiaries, residents of metropolitan areas, and patients aligned to ACOs were more likely to have received services billed as TCM. In contrast to CCM patterns, however, non-

[viii] We use the term "potentially eligible" because quantitative analysis of claims will not necessarily capture patients identified by their providers as qualified for and able to benefit from CCM or TCM. As described later, potential eligibility is based on claims-identified chronic conditions or hospital discharge; this approximation of the clinical appropriateness of the services may overstate the population who could benefit those services.

white beneficiaries and beneficiaries with dual eligibility were less likely to have received services billed as TCM services, and those initially eligible for Medicare based on age were more likely to have received TCM services.

- **Practice-Level Use of CCM:** Of all practices in the U.S. with at least one attributed beneficiary potentially eligible for CCM or TCM, only 5.2 percent of practices billed CCM for at least one potentially eligible beneficiary; these practices billed for an average of 30.7 percent of their potentially eligible patients.
    - Practices that were primary care, large (25 or more providers), or affiliated with an ACO were more likely to bill CCM for at least one potentially eligible beneficiary.
    - Practices that were primary care, had a solo physician, or were located in urban areas billed for higher proportions of potentially eligible beneficiaries.
    - Stratified by the percent of attributed beneficiaries who are non-white, use of CCM is generally greater for practices with larger proportions of non-white beneficiaries, both in terms of the proportion of practices providing service to at least 20 percent of their potentially eligible patients and in terms of the number of attributed beneficiaries served per 1,000 potentially eligible patients. A similar pattern occurs when practices are stratified by the percent of attributed beneficiaries fully dually eligible, although the pattern is essentially flat except for the highest quintile of practices.
- **Practice-Level Use of TCM:** Of all practices in the U.S. with at least one attributed beneficiary potentially eligible for CCM or TCM, 45.6 percent billed TCM for at least one potentially eligible beneficiary, and these practices billed for an average of 22.6 percent of their potentially eligible beneficiaries.
    - Practices that were primary care, large (25 or more providers), or affiliated with an ACO were more likely to bill TCM for at least one potentially eligible beneficiary.
    - Practices that were primary care, large, affiliated with an ACO, or located in urban areas billed for higher proportions of potentially eligible beneficiaries.
    - Statistics for practices based on quintile distributions of these two characteristics of practice attributed population show that the rates of TCM use are inversely corelated with the proportion of attributed beneficiaries seen in the practice who are non-white or who are dually eligible.

In total, Medicare CCM and TCM services for FFS beneficiaries in 2019 were likely not used for many beneficiaries who might have benefitted from them. Further evidence about outcomes from the use of CCM and TCM services is needed.

As noted above, several factors limit the identification of "potentially eligible" individuals from claims for the CCM analysis. The determination of potential eligibility for CCM was based on presence of two or more Chronic Condition Warehouse (CCW) chronic condition flags, one of which was hypertension, hyperlipidemia, or diabetes. Since the identification of potentially eligible beneficiaries was based on claims analysis, we were unable to account for criterion that both conditions must be expected to last 12 months and place the individual in "significant risk" as well as other factors such as frequent illness. This study is based on claims analysis, therefore we were unable to account for clinical factors found in

electronic health records, clinical assessments, or provider perspectives. The comparisons for utilization of CCM / TCM among eligible beneficiaries by provider-type or specialty do not account for the variation in the beneficiary population treated in different settings or by different providers.

II. Research Methods

Appendix A describes this report's data, analysis file construction, and analysis methods. The 100 percent claims files were used, so the results reflect the 2019 Medicare FFS population experience.

The study population excludes beneficiaries with End-Stage Renal Disease (ESRD), those received hospice services in 2019, and those enrolled only in Part A, and those enrolled in a Medicare Advantage (MA) plan. For the practice-level analysis, beneficiaries were attributed to the practice billing hierarchically by CCM, TCM, Annual Wellness Visits (AWVs), or the plurality of E&M visits.

We use the term "potentially eligible" because quantitative analysis of claims will not necessarily capture patients identified by their providers as qualified for and able to benefit from CCM or TCM. In this analysis, a "potentially eligible beneficiary" had two or more Chronic Condition Warehouse (CCW) chronic condition flags, one of which was hypertension, hyperlipidemia, or diabetes. However, this criterion may incorrectly categorize some beneficiaries as eligible or ineligible: because (1) conditions that could qualify an individual for CCM are not limited to or specific to the conditions on the CCW, and (2) both conditions must be expected to last 12 months and place the individual in "significant risk." Furthermore, claims do not allow determination of other criteria that physicians are directed to apply to identify people with "significant risk", such as frequent illness, ED visits, etc. While claims enable determination of whether patients have two diagnosed conditions that might make them eligible for CCM, they cannot replicate the clinical assessment used by providers to determine eligibility; in particular, claims cannot be used to determine if "the chronic conditions place the patient at significant risk of death, decompensation, or functional decline." Appendix A describes how beneficiaries were determined to be "potentially eligible" for CCM or TCM services. [ix]

III. Beneficiary-Level Utilization Findings

In 2019, approximately 22.6 million FFS beneficiaries were identified as being potentially eligible for CCM, and 6.3 million were potentially eligible for TCM, respectively 63.4 percent and 17.7 percent of the 35.6 million Medicare FFS beneficiaries in the study population. The use of CCM or TCM services was low among potentially eligible beneficiaries in 2019 (see Exhibit 2). Just 4.0 percent of beneficiaries potentially eligible for CCM received any CCM services. Of all beneficiaries with acute care discharges eligible for TCM, only 17.9 percent received TCM services. While these rates seem low, it is important to remember that determination of potential eligibility in this analysis is made solely on claims and does

[ix] The determination of potential eligibility for CCM was based on presence of two or more Chronic Condition Warehouse (CCW) chronic condition flags, one of which was hypertension, hyperlipidemia, or diabetes. The determination of potential eligibility for TCM was based on the presence of inpatient stay, SNF stay, observation stay, or partial hospitalization discharge to a non-facility setting. Beneficiaries on Medicare Advantage, with end-stage renal disease (ESRD) or using the hospice benefit were excluded from all analyses.

not include physician assessment of suitability or appropriateness of CCM or TCM for patients, which could overstate the number of eligible beneficiaries

Exhibit 2: Medicare FFS Beneficiaries Receiving CCM or TCM Services in 2019

Category	CCM	TCM
Total Medicare FFS beneficiaries with Part B coverage	35,598,051	35,598,051
Number of FFS beneficiaries potentially eligible for CCM or TCM	22,570,404	6,282,242
Percent of FFS beneficiaries potentially eligible for CCM or TCM	63.4%	17.7%
Beneficiaries with one or more CCM or TCM claims	882,728	1,078,580
Percent of potentially eligible beneficiaries with CCM or TCM claims	4.0%	17.9%

Notes for Exhibit 2: The determination of potential eligibility for CCM was based on presence of two or more Chronic Condition Warehouse (CCW) chronic condition flags, one of which was hypertension, hyperlipidemia, or diabetes. The determination of potential eligibility for TCM was based on the presence of inpatient stay, SNF stay, observation stay, or partial hospitalization discharge to a non-facility setting. Beneficiaries on Medicare Advantage, with end-stage renal disease (ESRD) or using the hospice benefit were excluded from all analyses.

With some exceptions, beneficiaries potentially eligible for CCM services and those receiving services billed as CCM showed similar patterns in terms of distributions by patient characteristics (see Exhibit 3, columns A and B). Bivariate analyses (see Exhibit 3, column C) show that of 1,000 potentially eligible beneficiaries, women, non-white beneficiaries, and older beneficiaries received services billed as CCM at somewhat higher rates, as did those with dual eligibility (full or partial) and those originally entitled to Medicare on the basis of disability. Residents of metropolitan areas received services billed as CCM in greater proportions than those not in metropolitan areas; beneficiaries associated with ACOs also received services billed as CCM at a higher rate than those not associated with ACOs.

Patterns of TCM service use by patient characteristics had distributions somewhat similar to CCM use (see Exhibit 3, columns D and E), but some of the rates of TCM per 1,000 potentially eligible beneficiaries differed from the CCM patterns (see column F). Women, older adult beneficiaries, residents of metropolitan areas, and patients aligned to an ACO were more likely to have received services billed as TCM. However, in contrast to CCM patterns, non-white beneficiaries and beneficiaries with dual eligibility were less likely to have received services billed as TCM services, while those initially eligible for Medicare based on age were more likely to have received TCM services.

Exhibit 4 shows that among the 24,106 individual providers billing for CCM services, the majority (63.1 percent) were primary care physicians (PCPs) and only 8.7 percent were specialists. Three-quarters of beneficiaries receiving CCM services obtained some or all of those services from PCPs, compared to 11.4 percent who received some or all services from specialists. (Some beneficiaries received CCM services from more than one kind of provider during the year.)

The distribution of individual providers billing TCM claims was similar to the distribution of individual providers billing CCM services. Two-thirds were PCPs; a smaller proportion (4.8 percent) was specialists. Almost 80 percent of beneficiaries who received TCM services received some or all of that care from PCPs, compared to 3.9 percent who received some or all care from a specialist. (Again, some beneficiaries received care from more than one type of provider.)

Patterns of practice characteristics are similar to those of individual provider characteristics (see Exhibit 5). A “practice" is defined as the collection of individual providers billing under the same billing National Provider Identifier (NPI), based on CMS guidance.[18] Of the 7,799 practices that billed for CCM, 78.5 percent were primary care practices (defined using the primary taxonomy code reported by the practice), and 79.3 percent of the 23,797 practices billing for TCM were primary care practices. Among specialty practices, Exhibit 5 also identifies the five types of specialty practices that billed most frequently for CCM or TCM; in both cases, clinics were the second most-often reported practice type.

Exhibit 3: Demographic Characteristics of FFS Beneficiaries Receiving CCM or TCM Services

Exhibit 3: Beneficiary Category	CCM			TCM		
	A. Potentially Eligible Population	B. CCM Recipients	C. Recipients per 1,000 Potentially Eligible	D. Potentially Eligible Population	E. TCM Recipients	F. Recipients per 1,000 Potentially Eligible
Total number of beneficiaries or rate per 1,000 potentially eligible	**22,570,404 100.0%**	**882,728 100.0%**	**39**	**6,282,242 100.0%**	**1,078,580 100.0%**	**172**
Race/ethnicity						
Non-Hispanic White	78.8%	73.6%	37	80.1%	84.6%	181
Non-Hispanic Black	9.3%	12.1%	51	9.9%	7.7%	134
Hispanic	6.0%	8.1%	54	5.6%	4.1%	127
Other	6.0%	6.1%	40	4.4%	3.6%	138
Sex						
Male	44.2%	40.6%	36	44.9%	43.2%	165
Female	55.8%	59.4%	42	55.1%	56.8%	177
Age						
Under 45 years	1.4%	1.2%	35	3.3%	1.4%	71
45-64 years	9.6%	9.4%	38	12.5%	9.0%	124
65-74 years	43.5%	35.8%	32	35.9%	32.3%	154
75-84 years	30.7%	34.0%	43	30.2%	34.8%	198
85 years and older	14.8%	19.5%	51	18.1%	22.5%	214
Dual Eligibility						
None	79.4%	71.5%	35	77.4%	81.8%	181
Partial	4.4%	5.0%	44	5.8%	5.0%	150
Full	16.2%	23.5%	57	16.9%	13.2%	134

Note: All Analyses Use 2019 Medicare FFS Data

Exhibit 3 Continued: Demographic Characteristics of FFS Beneficiaries Receiving CCM or TCM Services

Exhibit 3: Beneficiary Category	CCM			TCM		
	A. Potentially Eligible Population	B. CCM Recipients	C. Recipients per 1,000 Potentially Eligible	D. Potentially Eligible Population	E. TCM Recipients	F. Recipients per 1,000 Potentially Eligible
Original Reason for Medicare						
Old age	79.0%	76.7%	38	71.6%	76.6%	184
Disability	20.5%	22.9%	44	27.5%	22.6%	141
End-stage renal disease (ESRD)	0.3%	0.2%	30	0.5%	0.4%	139
Disability and ESRD	0.3%	0.2%	38	0.4%	0.4%	147
Rural-Urban Designation[x]						
Metropolitan	77.0%	81.6%	41	76.5%	79.1%	178
Micropolitan	12.1%	10.7%	34	12.1%	12.1%	172
Small town	6.4%	4.8%	29	6.7%	5.3%	137
Non-core	4.4%	2.8%	25	4.6%	3.4%	127
Not coded/unknown	0.1%	0.1%	36	0.1%	0.0%	49
Accountable Care Organization (ACO) Alignment[xi]						
No	66.0%	62.8%	37	67.2%	55.5%	142
Yes	34.0%	37.2%	43	32.8%	44.5%	233

Note: The determination of potential eligibility for CCM was based on presence of two or more Chronic Condition Warehouse (CCW) chronic condition flags, one of which was hypertension, hyperlipidemia, or diabetes. The determination of potential eligibility for TCM was based on the presence of inpatient stay, SNF stay, observation stay, or partial hospitalization discharge to a non-facility setting. Beneficiaries on Medicare Advantage, with end-stage renal disease (ESRD) or using the hospice benefit were excluded from all analyses.

[x] Based on Rural-Urban Commuting Area Codes https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx

[xi] Beneficiaries aligned to Medicare Shared Savings Program Accountable Care Organization 2019 practices

Exhibit 4: Beneficiaries Receiving CCM or TCM Services, by Type of Rendering Provider

Provider Type	CCM				TCM			
	Providers Billing CCM		Beneficiaries with Claims[a]		Providers Billing TCM		Beneficiaries with Claims[a]	
	Number	Percent Distribution	Number	Percent Distribution	Number	Percent Distribution	Number	Percent Distribution
Total	24,106	100%	882,728	100%	96,819	100%	1,078,580	100%
Primary Care Physicians	15,222	63.1%	666,426	75.5%	64,551	66.7%	855,077	79.3%
Nurse Practitioner, Certified Clinical Nurse Specialist, or Physician Assistant	5,296	22.0%	103,680	11.7%	23,358	24.1%	188,621	17.5%
Specialists	2,086	8.7%	100,312	11.4%	4,692	4.8%	42,221	3.9%
Other Physicians	1,502	6.2%	54,506	6.2%	4,218	4.4%	29,480	2.7%

[a] Detail may sum to more than the total, to the extent that a given beneficiary receives services from more than one practitioner.

Exhibit 5: Beneficiaries Receiving CCM or TCM Services by Type of Billing Practice

Practice Type[a]	CCM				TCM			
	Practices		Beneficiaries with Claims[b]		Practices		Beneficiaries with Claims[b]	
	Number	Percent Distribution	Number	Percent Distribution	Number	Percent Distribution	Number	Percent Distribution
Total	**7,799**	**100%**	**882,728**	**100%**	**23,797**	**100%**	**1,078,580**	**100%**
Primary Care Practices	**6,126**	**78.5%**	**705,087**	**79.9%**	**18,879**	**79.3%**	**827,847**	**76.8%**
Specialty Practices	**1,673**	**21.5%**	**188,853**	**21.4%**	**4,918**	**20.7%**	**258,709**	**24.0%**
Five Most Frequent Specialties[c]								
Clinic/Center, Ambulatory Health Care Facilities	523	6.7%	53,468	6.1%	2,378	10.0%	144,772	13.4%
Specialist; Other Service Providers	284	3.6%	44,020	5.0%	658	2.8%	26,857	2.5%
Nurse Practitioner, specialties	207	2.7%	21,566	2.4%	471	2.0%	7,952	0.7%
Psychiatry and Neurology	69	0.9%	8,480	1.0%	(Not in top 5 most frequent specialties)			
Urology	30	0.4%	15,918	1.8%	(Not in top 5 most frequent specialties)			
General Acute Care Hospital	(Not in top 5 most frequent specialties)				324	1.4%	28,953	2.7%
Surgery (General Surgery, Orthopedic, Neurological, Colon and Rectal, Thoracic, etc.)	(Not in top 5 most frequent specialties)				139	0.6%	12,008	1.1%

[a] Practice type is based on the primary taxonomy code associated with the billing NPI in the National Plan and Provider Enumeration System (NPPES).

[b] Detail may sum to more than the total, to the extent that a given beneficiary receives services from more than one practice.

[c] The sum of the five most frequent specialties (1,113) is lower than the total of 1,673 practices

IV. Practice-Level Utilization Findings

Among a total of 177,220 practices in the United States that billed E&M visits for FFS beneficiaries, 148,113 had at least one attributed beneficiary who was potentially eligible for CCM (see Exhibit 6). Beneficiaries were attributed to practices based on the plurality of CCM visits/AWVs and then followed by the rest of qualified E&M visits during 2019 or a 12-month look-back period (see Appendix A for more details). Among these practices, only 7,729 (5.2 percent) had at least one attributed beneficiary who received CCM services.[xii] During the same period, 126,252 practices had at least one attributed beneficiary who was potentially eligible to have received a TCM service, and 57,532 (45.6 percent) of them had at least one attributed beneficiary who received TCM.

Exhibit 7 provides a detailed analysis of the characteristics of practices with attributed beneficiaries receiving CCM care. Only 10 percent of primary care practices with potentially eligible beneficiaries had beneficiaries who received CCM services. However, this rate was five times the rate for specialty practices (1.9 percent). Almost half (48.2 percent) of both primary care and specialty practices that had any beneficiaries receiving CCM had at least 20 percent or more of their potentially eligible patients receiving CCM. However, primary care practices had a substantially higher rate of potentially eligible patients receiving CCM services per 1,000 potentially eligible patients than did specialty practices (47 versus 25 per 1,000 potentially eligible patients).

The percentage of practices with potentially eligible beneficiaries receiving CCM for at least one patient increased with practice size, ranging from 3.9 percent of solo practices to 14.2 percent of practices with 25 or more providers. However, a larger percentage of potentially eligible beneficiaries in smaller practices received CCM compared to larger practices. For example, 61.7 percent of solo practices with at least one beneficiary receiving CCM had at least 20 percent of their potentially eligible patients receiving CCM, compared to only 14.7 percent of practices with 25 or more providers. This difference is also reflected in beneficiary-level rates of service provision: on average, solo practices' potentially eligible beneficiaries received CCM at a rate of 57 beneficiaries per 1,000 potentially eligible beneficiaries, compared to two per 1,000 potentially eligible beneficiaries for practices with 25 or more providers.

A higher percentage of practices affiliated with ACOs had potentially eligible beneficiaries receiving CCM (12.3 percent), compared to 3.8 percent of non-ACO practices. Although a smaller fraction of ACO practices had at least 20 percent of potentially eligible beneficiaries receiving CCM, the rate of CCM use per 1,000 potentially eligible beneficiaries was somewhat higher for beneficiaries seen in ACO rather than non-ACO practices (41 versus 38 per 1,000 potentially eligible beneficiaries).

A greater percentage of urban practices provided CCM services to 20 percent or more of their potentially eligible population compared to rural practices (50.2 percent versus 37.7 percent). Similarly, a higher proportion of potentially eligible beneficiaries attributed to urban practices received CCM relative to rural practices (41 versus 31 per 1,000 potentially eligible beneficiaries). Although only

[xii] Exhibit 5 includes practices that billed for CCM services (7,779). Exhibit 7 focuses on practices with potentially eligible beneficiaries receiving CCM where eligibility is determined using claims-based rules (7,729). A small number of beneficiaries received CCM services while not eligible using claims-based rules. Exhibit 5 includes practices directly billing for TCM services (23,797). Similarly, Exhibit 8 focuses on practices that had any attributed beneficiary receiving TCM services regardless of whether the practice billed for TCM themselves (57,532).

limited regional variation occurred in the percent of practices providing CCM to any of their beneficiaries or at least 20 percent of their potentially eligible beneficiaries, attributed beneficiaries in the South had the highest rate of CCM use per 1,000 potentially eligible beneficiaries.

Exhibit 7 also provides statistics for practices based on the quintile distribution of each of two characteristics of their patients. Stratified by the percent of attributed beneficiaries who are non-white, use of CCM is generally greater for practices with larger proportions of non-white beneficiaries, both in terms of the proportion of practices providing service to at least 20 percent of their potentially eligible patients and in terms of the number of attributed beneficiaries served per 1,000 potentially eligible patients. A similar pattern occurs when practices are stratified by the percent of attributed beneficiaries with full dual eligibility, although the pattern is essentially flat except for the highest quintile of practices.

The last five rows in Exhibit 7 present rates of service per 1,000 potentially eligible beneficiaries for quartiles of practices when stratified by that rate. Practices with higher rates of service tend to account for higher proportions of beneficiaries served, which is a natural consequence of the stratification. What is instructive is that quartiles reflecting higher use account for smaller shares of potentially eligible beneficiaries.

Exhibit 8 provides a similarly detailed practice-level analysis of TCM services by practice characteristics. Among practices with attributed beneficiaries who were potentially eligible for TCM, a greater proportion of primary care practices had at least one beneficiary who received TCM compared to specialty practices (55.2 percent versus 37.6 percent). Similarly, a greater proportion of primary care practices had at least 20 percent of their potentially eligible beneficiaries receiving TCM (44.8 percent versus 35.5 percent for specialty practices). Potentially eligible beneficiaries attributed to primary care practices received TCM at a greater rate than those attributed to a specialty practice (194 versus 142 per 1,000 potentially eligible beneficiaries). It is important to bear in mind that unlike CCM services, TCM services often were provided by a provider not affiliated with the beneficiary's attributed practice, and that this can obscure practice patterns.

A greater percentage of large practices had at least one potentially eligible beneficiary who received TCM services (80.4 percent for practices with 25 or more providers compared to 36.6 percent for solo practices), and the rates at which potentially eligible beneficiaries received TCM also generally increased with size (e.g., from 159 per 1,000 potentially eligible beneficiaries attributed to solo practices up to 186 per 1,000 potentially eligible beneficiaries attributed to practices with 25 or more providers). However, the proportion of practices providing TCM to at least 20 percent of potentially eligible beneficiaries (see column G) decreased with practice size.

Practices affiliated with an ACO showed a higher proportion of attributed and potentially eligible beneficiaries receiving TCM services. Compared to non-ACO practices, more ACO affiliated practices had at least 20 percent of attributed and potentially eligible beneficiaries receiving TCM.

A higher proportion of potentially eligible beneficiaries attributed to urban practices received TCM services compared to potentially eligible beneficiaries attributed to rural practices (179 versus 160 per 1,000 potentially eligible beneficiaries), but very similar percentages of urban and rural practices

provided TCM services to at least one potentially eligible beneficiary and to at least 20 percent of those potentially eligible.

Exhibit 8 also provides statistics for practices based on quintile distributions of two characteristics of their attributed population. With only minor exceptions, the rates of service receipt are inversely related with the proportion of attributed beneficiaries seen in the practice who are non-white or who are dually-eligible. As with CCM services, the higher-ranked practices in terms of proportion of potentially eligible beneficiaries who received TCM services accounted for relatively fewer of potentially eligible cases, but (unsurprisingly) a higher proportion of those beneficiaries served.

V. Summary

In total, it appears that in 2019, Medicare CCM and TCM services for were not provided to many FFS beneficiaries who might have benefitted from them. Further evidence about outcomes from the use of care coordination is needed.

Exhibit 6: Practices with Attributed Potentially Eligible Beneficiaries Receiving CCM or Receiving TCM

Category	CCM	TCM
Total U.S. practices that billed qualifying Evaluation and Management (E&M) visits for FFS beneficiaries	177,220	177,220
Of which, practices with at least one attributed beneficiary potentially eligible for CCM or TCM	148,113	126,252
Of which, practices with at least one attributed potentially eligible beneficiary with a CCM or TCM claim	7,729[a]	57,532[b]
Percentage of practices with at least one attributed potentially eligible beneficiary with a CCM or TCM claim	5.2%	45.6%
Of practices with beneficiaries receiving CCM or TCM, average % of all potentially eligible beneficiaries who received CCM or TCM services	30.7%	22.6%

[a] Exhibit 5 includes practices that billed for CCM services (7,779). This exhibit and remaining exhibits focus on practices billing CCM for beneficiaries potentially eligible for CCM services using claims-based rules (7,729). A small number of beneficiaries received CCM services while not eligible using claims-based rules.

[b] Exhibit 5 includes practices directly billing for TCM services (23,797). This analysis and remaining exhibits focus on practices that had any attributed beneficiary receiving TCM services regardless of whether the practice billed for TCM themselves (57,532).

The determination of potential eligibility for CCM was based on presence of two or more Chronic Condition Warehouse (CCW) chronic condition flags, one of which was hypertension, hyperlipidemia, or diabetes. The determination of potential eligibility for TCM was based on the presence of inpatient stay, SNF stay, observation stay, or partial hospitalization discharge to a non-facility setting. Beneficiaries on Medicare Advantage, with end-stage renal disease (ESRD) or using the hospice benefit were excluded from all analyses.

Exhibit 7: Characteristics of Practices with Potentially Eligible Beneficiaries Receiving CCM Services

Exhibit 7: Practice Characteristics	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.
	All Practices	Practices with at Least One Beneficiary Potentially CCM Eligible	Practices with Potentially Eligible Beneficiaries Receiving CCM Services					Number of Beneficiaries Potentially Eligible for CCM Services[a]		
			Number	Percent	Percent of Practices with Potentially Eligible Beneficiaries (C ÷ B)	Practices with at Least 20 Percent of Potentially Eligible Beneficiaries Receiving CCM Services		Total	With at Least One CCM Claim	
						Number	Percent (F ÷ C)		Total	Per 1,000 Potentially Eligible
Total	**177,270**	**148,113**	**7,729**	**100.0%**	**5.2%**	**3,723**	**48.2%**	**22,309,323**	**882,728**	**40**
Type of Practice (Primary Care versus Specialty)										
Primary Care	36.7%	41.2%	6,077	78.6%	10.0%	2,927	48.2%	67.0%	79.4%	47
Specialty	63.3%	58.8%	1,652	21.4%	1.9%	796	48.2%	33.0%	20.6%	25
Practice Size (Number of Physicians or Other Providers)										
1	56.0%	51.8%	2,988	38.7%	3.9%	1,845	61.7%	15.6%	22.5%	57
2-5	24.1%	25.2%	2,105	27.2%	5.6%	1,063	50.5%	14.0%	21.6%	61
5-10	11.3%	12.9%	1,187	15.4%	6.2%	474	39.9%	13.7%	17.0%	49
11-24	5.3%	6.2%	627	8.1%	6.8%	220	35.1%	11.2%	13.7%	49
>25	3.3%	3.9%	822	10.6%	14.2%	121	14.7%	45.6%	25.2%	22
ACO status										
No	85.3%	83.7%	4,745	61.4%	3.8%	2,517	53.0%	58.8%	57.0%	38
Yes	14.7%	16.3%	2,984	38.6%	12.3%	1,206	40.4%	41.2%	43.0%	41
Location										
Urban	84.4%	83.7%	6,491	84.0%	5.2%	3,256	50.2%	82.0%	85.6%	41
Rural	15.4%	16.1%	1,224	15.8%	5.1%	461	37.7%	17.9%	14.3%	31
Unknown	0.2%	0.2%	14	0.2%	5.1%	6	42.9%	0.1%	0.1%	44

Exhibit 7 Continued: Characteristics of Practices with Potentially Eligible Beneficiaries Receiving CCM Services

Exhibit 7: Practice Characteristics	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.
	All Practices	Practices with at Least One Beneficiary Potentially CCM Eligible	Practices with Potentially Eligible Beneficiaries Receiving CCM Services					Number of Beneficiaries Potentially Eligible for CCM Services[a]		
			Number	Percent	Percent of Practices with Potentially Eligible Beneficiaries (C ÷ B)	Practices with at Least 20 Percent of Potentially Eligible Beneficiaries Receiving CCM Services		Total	With at Least One CCM Claim	
						Number	Percent (F ÷ C)		Total	Per 1,000 Potentially Eligible
Region										
West	22.1%	21.9%	1,513	19.6%	4.7%	728	48.1%	17.9%	18.1%	40
South	37.0%	37.6%	3,408	44.1%	6.1%	1,702	49.9%	41.6%	51.8%	49
Northeast	20.6%	20.3%	1,515	19.6%	5.0%	759	50.1%	18.1%	16.3%	36
Midwest	17.9%	17.8%	1,278	16.5%	4.8%	527	41.2%	22.1%	13.8%	25
Territories/unknown	2.5%	2.4%	15	0.2%	0.4%	7	46.7%	0.2%	0.1%	16
Quintile of % Non-White Beneficiaries										
1: 0% - 5.55%	19.9%	16.8%	1,090	14.1%	4.4%	392	36.0%	16.1%	10.6%	26
2: 5.56% - 11.18%	20.1%	21.7%	1,552	20.1%	4.8%	637	41.0%	26.3%	22.4%	34
3: 11.19% - 21.05%	20.0%	21.2%	1,699	22.0%	5.4%	748	44.0%	27.8%	26.4%	38
4: 21.06% - 47.14%	20.0%	20.7%	1,713	22.2%	5.6%	891	52.0%	20.3%	23.9%	47
5: 47.15% - 100%	20.0%	19.6%	1,675	21.7%	5.8%	1,055	63.0%	9.5%	16.7%	70
Quintile of % Full Dual Beneficiaries										
1: 0% - 6.25%	20.0%	15.5%	839	10.9%	3.7%	394	47.0%	8.7%	10.1%	46
2: 6.26% - 11.65%	20.0%	21.8%	1,645	21.3%	5.1%	679	41.3%	25.9%	24.2%	37
3: 11.66% to 21.15%	19.8%	21.6%	1,707	22.1%	5.3%	666	39.0%	33.9%	24.1%	28
4: 21.16% - 45.98%	20.2%	21.4%	1,805	23.4%	5.7%	872	48.3%	20.4%	20.4%	40
5: 46% - 100%	20.0%	19.8%	1,733	22.4%	5.9%	1,112	64.2%	11.1%	21.2%	76

Exhibit 7 Continued: Characteristics of Practices with Potentially Eligible Beneficiaries Receiving CCM Services

Exhibit 7: Practice Characteristics	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.
	All Practices	Practices with at Least One Beneficiary Potentially CCM Eligible	Practices with Potentially Eligible Beneficiaries Receiving CCM Services					Number of Beneficiaries Potentially Eligible for CCM Services[a]		
			Number	Percent	Percent of Practices with Potentially Eligible Beneficiaries (C ÷ B)	Practices with at Least 20 Percent of Potentially Eligible Beneficiaries Receiving CCM Services		Total	With at Least One CCM Claim	
						Number	Percent (F ÷ C)		Total	Per 1,000 Potentially Eligible
Quartile of proportion of potentially eligible beneficiaries who received service										
With no use		94.8%						72.3%		
Lowest use quartile		1.3%						15.5%	3.9%	10
Second quartile		1.3%						5.8%	13.3%	91
Third quartile		1.3%						3.7%	30.6%	324
Highest use quartile		1.3%						2.7%	52.2%	759

[a] Beneficiaries are "assigned" to a single practice based on their claims history during CY2019 (or the last 12 months of their life). The number of total beneficiaries shown here differs from that shown in Exhibit 3 because a small number of potentially eligible beneficiaries did not bill any qualifying evaluation and management (QEM) visits in the 12-month look-back period, and therefore are not assigned to any practice.

The determination of potential eligibility for CCM was based on presence of two or more Chronic Condition Warehouse (CCW) chronic condition flags, one of which was hypertension, hyperlipidemia, or diabetes.

Exhibit 8: Characteristics of Practices with Potentially Eligible Beneficiaries Receiving TCM

Exhibit 8: Practice Characteristics	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.
	All Practices	Practices with at Least One Beneficiary Potentially TCM Eligible	Practices with Potentially Eligible Beneficiaries Receiving TCM Services					Number of Beneficiaries Potentially Eligible for TCM Services[a]		
			Number	Percent	Percent of Practices with Potentially Eligible Beneficiaries (C ÷ B)	Practices with at Least 20 Percent of Potentially Eligible Beneficiaries Receiving TCM Services		Total	With at Least One TCM Claim	
						Number	Percent (F ÷ C)		Total	Per 1,000 Potentially Eligible
Total	**177,220**	**126,252**	**57,532**	**100.0%**	**45.6%**	**23,333**	**40.6%**	**6,134,606**	**1,078,449**	**176**
Type of Practice (Primary Care versus Specialty)										
Primary Care	36.7%	45.2%	31,486	54.7%	55.2%	14,099	44.8%	65.0%	71.6%	194
Specialty	63.3%	54.8%	26,046	45.3%	37.6%	9,234	35.5%	35.0%	28.4%	142
Practice Size (Number of Physicians/Other Providers)										
1	56.0%	48.6%	22,474	39.1%	36.6%	11,137	49.6%	13.6%	12.4%	159
2-4	24.1%	25.4%	14,982	26.0%	46.7%	6,313	42.1%	13.0%	13.2%	178
5-10	11.3%	14.3%	9,947	17.3%	55.0%	3,292	33.1%	13.5%	13.4%	174
11-24	5.3%	7.1%	5,478	9.5%	61.3%	1,369	25.0%	11.9%	10.2%	151
>25	3.3%	4.6%	4,651	8.1%	80.4%	1,222	26.3%	48.0%	50.9%	186
ACO status										
No	85.3%	82.0%	42,772	74.3%	41.3%	15,956	37.3%	59.7%	49.4%	146
Yes	14.7%	18.0%	14,760	25.7%	65.0%	7,377	50.0%	40.3%	50.6%	220
Location										
Urban	84.4%	83.2%	47,798	83.1%	45.5%	19,542	40.9%	81.9%	83.6%	179
Rural	15.4%	16.7%	9,679	16.8%	46.0%	3,775	39.0%	18.0%	16.4%	160
Unknown	0.2%	0.2%	55	0.1%	23.9%	16	29.1%	0.1%	0.0%	41

Exhibit 8 Continued: Characteristics of Practices with Potentially Eligible Beneficiaries Receiving TCM

Exhibit 8: Practice Characteristics	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.
	All Practices	Practices with at Least One Beneficiary Potentially TCM Eligible	Practices with Potentially Eligible Beneficiaries Receiving TCM Services					Number of Beneficiaries Potentially Eligible for TCM Services[a]		
			Number	Percent	Percent of Practices with Potentially Eligible Beneficiaries (C ÷ B)	Practices with at Least 20 Percent of Potentially Eligible Beneficiaries Receiving TCM Services		Total	With at Least One TCM Claim	
						Number	Percent (F ÷ C)		Total	Per 1,000 Potentially Eligible
Region										
West	22.1%	21.8%	10,524	18.3%	38.2%	3,598	34.2%	16.9%	12.9%	134
South	37.0%	38.8%	23,989	41.7%	49.0%	9,175	38.2%	41.1%	41.5%	178
Northeast	20.6%	19.7%	12,387	21.5%	49.7%	6,172	49.8%	17.8%	22.2%	219
Midwest	17.9%	17.9%	10,553	18.3%	46.6%	4,354	41.3%	24.0%	23.4%	171
Unknown	2.5%	1.8%	79	0.1%	3.6%	34	43.0%	0.1%	0.0%	19
Quintile of % Non-White Beneficiaries										
1: 0% - 5.55%	20%	16.2%	9,917	17.2%	48.4%	4,774	48.1%	15.8%	17.7%	197
2: 5.56% - 11.18%	20%	21.9%	13,884	24.1%	50.1%	6,119	44.1%	25.9%	30.4%	207
3: 11.19% - 21.05%	20%	21.4%	13,201	22.9%	48.8%	5,115	38.7%	28.6%	29.6%	182
4: 21.06% - 47.14%	20%	21.1%	12,254	21.3%	45.9%	4,077	33.3%	21.2%	16.8%	140
5: 47.15% - 100%	20%	19.3%	8,276	14.4%	34.0%	3,248	39.2%	8.5%	5.4%	111
Quintile of % Full Dual Beneficiaries										
1: 0% - 6.25%	20%	13.3%	6,204	10.8%	37.1%	3,066	49.4%	6.7%	7.7%	203
2: 6.26% - 11.65%	20%	21.5%	13,138	22.8%	48.4%	5,868	44.7%	23.8%	26.7%	197
3: 11.66% to 21.15%	20%	22.2%	14,311	24.9%	51.0%	6,033	42.2%	34.9%	38.6%	195
4: 21.16% - 45.98%	20%	22.4%	13,726	23.9%	48.5%	5,119	37.3%	22.5%	20.1%	157
5: 46% - 100%	20%	20.6%	10,153	17.6%	39.0%	3,247	32.0%	12.1%	6.8%	99

Note: All Analyses Use 2019 Medicare FFS Data

Exhibit 8 Continued: Characteristics of Practices with Potentially Eligible Beneficiaries Receiving TCM

Exhibit 8: Practice Characteristics	A.	B.	C.	D.	E.	F.	G.	H.	I.	J.
	All Practices	Practices with at Least One Beneficiary Potentially TCM Eligible	Practices with Potentially Eligible Beneficiaries Receiving TCM Services					Number of Beneficiaries Potentially Eligible for TCM Services[a]		
			Number	Percent	Percent of Practices with Potentially Eligible Beneficiaries (C ÷ B)	Practices with at Least 20 Percent of Potentially Eligible Beneficiaries Receiving TCM Services		Total	With at Least One TCM Claim	
						Number	Percent (F ÷ C)		Total	Per 1,000 Potentially Eligible
Any TCM Use, and Practices by Quartile of Use Given Some Use										
With no use		54.4%						11.0%		
Lowest use quartile		11.4%						24.0%	5.1%	37
Second quartile		11.4%						22.0%	14.7%	117
Third quartile		11.4%						25.1%	34.8%	243
Highest use quartile		11.4%						17.9%	45.5%	447

[1] Some potentially eligible beneficiaries were unable to be assigned to a practice because they lacked any claims for E&M services over 12 months.

The determination of potential eligibility for TCM was based on the presence of inpatient stay, SNF stay, observation stay, or partial hospitalization discharge to a non-facility setting. Beneficiaries on Medicare Advantage, with end-stage renal disease (ESRD) or using the hospice benefit were excluded from all analyses.

Technical Appendices

Contents

Appendix A: Data and Methodology

For this analysis, we used 100 percent of Medicare fee-for-service (FFS) claims from the years 2018 through 2019. Analysis results for chronic care management (CCM) and transitional care management (TCM) use pertain only to 2019 claims; claims from 2018 were used to attribute beneficiaries to practices (described below). The 100 percent claims file allows determination of the full Medicare FFS experience for practices of all sizes.

Potentially eligible beneficiaries and their identification

Beneficiaries were considered potentially eligible for CCM services during the months in 2019 in which they were enrolled in Medicare FFS Part B, provided that they had two or more chronic conditions in 2019, one of which was hypertension, hyperlipidemia, or diabetes. Eligibility was determined using the Master Beneficiary Summary File (MBSF_ABCD) for enrollment status and the Chronic Condition Data Warehouse (CCW) chronic conditions file (MBSF_CC) to identify chronic conditions (see Appendix D for a list of CCW chronic condition flags). A small percentage of beneficiaries receiving CCM services in 2019 – 5.7 percent – did not meet these criteria and were excluded from the analysis; this exclusion was made in order to preserve a plausible denominator for comparison purposes.

Part B FFS enrollees were considered potentially eligible for TCM services based on an inpatient stay, skilled nursing facility (SNF) stay, observation stay, or partial hospitalization discharge to a nonfacility setting, provided they survived 30 days after that discharge. Eligibility was determined the MBSF for enrollment status and FFS claims with the following types of discharge:

Type of Discharge	Identification
Hospital	Claim in inpatient Research Identifiable File (RIF) with a discharge to ambulatory setting
SNF	Claim in SNF RIF with a discharge to ambulatory setting
Community Mental Health Center (CMHC)	Claims with Claim Certification Number (CCN) digits 3-6 in ranges 1400 – 1499, 4600 – 4799, or 4900 – 4999, or bill type 76
Outpatient observation	Outpatient claim with revenue center 0762 and discharge to ambulatory setting
Partial hospitalization	Outpatient claim with condition code 41 and discharge to ambulatory setting

Practice identification

Practitioners were assigned to a practice based on the carrier billing National Provider Identifier (NPI) or the outpatient organization NPI (which is also the billing NPI). This method of identifying a practice permits direct identification of practice characteristics. Some multi-site Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs) use the Claim Certification Number (CCN, aka provider number) to distinguish among sites, but this is not a uniform custom and was not used here.

Practice type was determined by the most recent taxonomy code associated with the billing NPI in the National Plan and Provider Enumeration System (NPPES), or by the bill type submitted for outpatient claims.

Beneficiary attribution to practices

CY2018 and CY2019 claims were used to attribute beneficiaries to a practice in CY2019. Beneficiaries who survived through the end of 2019 were attributed to a single practice based on their 2019 utilization. For beneficiaries who died in 2019, a 12-month look-back period was used to attribute to a practice based on the utilization in the year prior to their death, thus going back into CY2018 data. Beneficiaries were assigned to the same practice for CCM analysis and for TCM analysis, based first on receipt of CCM services, then on Annual Wellness Visits and Welcome to Medicare Visits, and then on the plurality of eligible primary care visits within 2019 or the 12-month look-back period. In the case of a tie in the number of primary care visits, the beneficiary is aligned with the practice from whom the beneficiary most recently obtained a primary care visit. The same claims-based attribution methodology was applied to identify beneficiaries receiving TCM-related services. Eligible primary care visits were identified by a claim with one of the following CPT codes:

SERVICES	CPT CODES
Office/outpatient visit evaluation and management (E&M)	99202–99205, 99211–99215
Prolonged E&M	99354, 99355, 99415, 99416
Transitional care management services	99495, 99496
Home care/domiciliary care E&M	99324–99328, 99334–99337, 99341–99345, 99347–99350
Advance care planning	99497, 99498
Welcome to Medicare and Annual Wellness Visits	G0402, G0438, G0439

CCM/TCM codes

The following codes were used to identify CCM and TCM months:

SERVICE	CPT CODES
Non-complex CCM	99490, 99491
Complex CCM	99487, 99489
TCM	99495, 99496

Unit of measurement

For each practice, the numerator and denominator for a measure was a beneficiary-month. A beneficiary-month was one in which the beneficiary:

- Was alive at the beginning of the month;
- Was enrolled in Medicare Part B;
- Had Medicare as their primary payer;
- Did not have end-stage renal disease;
- Was not enrolled in hospice;
- Was not covered under Medicare Advantage or another Medicare health plan;

- Was not long-term institutionalized or incarcerated; and
- Was not aligned or attributed to an entity participating in any other CMS program or model with a "no overlaps" policy.

The overall base for each practice was the number of months of Part B eligibility for Medicare FFS enrollees attributed to the practice.

Beneficiary- and practice-level analyses

We used univariate analyses to present beneficiary-level and practice-level utilization rates of CCM and TCM codes listed in research questions 1,2 and 4, and bivariate analyses to present these rates by the beneficiary- and practice-level characteristics listed in research questions 3 and 5.

Appendix B: Chronic Conditions Identifiable in Medicare Claims Data

The conditions listed below are already identified in the Medicare FFS population in the Chronic Condition Data Warehouse (CCW). We considered any beneficiary with at least two of these conditions in the MBSF to be eligible for CCM, provided that one of the conditions was hypertension, hyperlipidemia, or diabetes.

CCW Chronic Conditions

- Acquired Hypothyroidism
- Acute Myocardial Infarction
- Alzheimer's Disease
- Alzheimer's Disease, Related Disorders, or Senile Dementia
- Anemia
- Asthma
- Atrial Fibrillation
- Benign Prostatic Hyperplasia
- Cancer, Breast
- Cancer, Colorectal
- Cancer, Endometrial
- Cancer, Lung
- Cancer, Prostate
- Cataract
- Chronic Kidney Disease
- Chronic Obstructive Pulmonary Disease
- Depression
- Diabetes
- Glaucoma
- Heart Failure
- Hip/Pelvic Fracture
- Hyperlipidemia
- Hypertension
- Ischemic Heart Disease
- Osteoporosis
- Rheumatoid Arthritis/Osteoarthritis
- Stroke/Transient Ischemic Attack

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