

Remote Monitoring Methods and Data Supplement

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Introduction

The Center analyzed administrative enrollment claims and encounter data in Traditional Medicare, Medicare Advantage (MA), and Medicaid to understand trends in the frequency, duration, and use of remote monitoring codes.

Methodology

This analysis used Traditional Medicare, MA, and Medicaid enrollment, claims, and encounter data from the Chronic Condition Warehouse (CCW) combined with additional sources of provider information (i.e., National Plan and Provider Enumeration System [NPES], Federal Office of Rural Health Policy [FORHP]), and Clinical Classifications Software Refined [CCSR]) to meaningfully categorize patient subgroups among distinct insurance programs. Administrative data utilized for this project begins with 2018 and carries through the most current period available to our research partners through the CMS Virtual Research Data Center (VRDC) for each dataset (Traditional Medicare, 2023; MA, 2021; Medicaid, 2022). Beneficiaries are included in the analysis if they have at least one claim with any remote physiologic monitoring (RPM) or remote therapeutic monitoring (RTM) service based on CPT codes described in the table below. Exclusion criteria are minimal.

RPM data shown in this analysis are from 2019 to the most recent year available for each payer: 2023 for Traditional Medicare, 2021 for MA, and 2022 for Medicaid. This analysis also captures RTM data from 2022 to 2023 for Traditional Medicare, and 2022 for Medicaid.

The following CPT codes were used to identify patients using **RPM**:

Code	Description	Category
99453	Initial set-up and monitoring of physiologic parameters. Includes time spent on patient education on equipment use. Billed just once, and after 16 days of data are collected within a 30 day period.	Education and device setup
99454	Remote monitoring of physiologic parameters with the device providing daily readings, within a 30 day period.	Device supply and data collection
99457	Remote physiologic monitoring treatment management services requiring interactive communication between patient/caregiver and health care professional. Only applies to the initial 20 minutes of communication, can be billed once per calendar month.	Treatment Management
99458	Remote physiologic monitoring treatment management services requiring interactive communication between patient/caregiver and health care professional. Applies to subsequent blocks of 20 minutes of communication.	Treatment Management
99091	Collecting and interpreting RPM physiologic data, requiring a minimum of 30 minutes of time spend collecting/ interpreting and can be billed once per calendar month.	Treatment Management

The following CPT codes were used to identify patients using **RTM**:

Code	Description	Category
98975	Initial setup and patient education on use of equipment. Billed just once.	Education and device setup
98976	Device supply for respiratory system.	Device supply
98977	Device supply for musculoskeletal system.	Device supply
98980	Remote therapeutic monitoring treatment management services requiring interactive communication with a health care professional; codes are billable once per calendar month. Only applies to the initial 20 minutes of communication, can be billed once per calendar month.	Treatment Management
98981	Remote therapeutic monitoring treatment management services requiring interactive communication with a health care professional. every additional 20 minutes.	Treatment Management

Beneficiary Characteristics

This analysis utilized claims data containing person-level encrypted identifiers that were applied to link observations across data sets. Specifically, encrypted beneficiary IDs are linked to the Master Beneficiary Summary File (MBSF) and T-MSIS Demographic and Eligibility (DE) base file, also referred to as “denominator” files. These denominator files include demographic data (age, race, sex), program enrollment data (dual enrollment) and person-level geographic data (ZIP, state). Additionally, for Traditional Medicare beneficiaries, these denominator files include chronic condition flags which indicate the prevalence of that chronic condition at the beneficiary-level. The denominator files were used to summarize beneficiary characteristics for beneficiaries using RPM and RTM codes in Traditional Medicare, MA, and Medicaid from 2019 to 2023. For urbanicity measures, beneficiary residential zip codes are categorized as rural using the FORHP designations.

Disease Grouping

Disease groups are defined using information from the relevant service claims' primary diagnosis codes. This analysis utilized the CCSR, a system that categorizes ICD-10 codes, to group primary diagnosis codes from claims to major categories for output and analysis. Chronic conditions classified using the CCW Master Beneficiary Summary File chronic conditions summary, along with replications of CCW algorithms for Medicaid enrollees.

For the purposes of this analysis, the following conditions of interest were grouped by **CCSR codes**:

Condition Group	CCSR Codes
Hypertension	CIR007, CIR008, CIR036, PRG020
Diabetes	END002, END003
Musculoskeletal disorders	MUS001, MUS002, MUS003, MUS004, MUS005, MUS006, MUS007, MUS008, MUS009, MUS010, MUS011, MUS012, MUS013, MUS014, MUS015, MUS016, MUS017, MUS018, MUS019, MUS020, MUS021, MUS022, MUS023, MUS024, MUS025, MUS026, MUS028, MUS030, MUS031, MUS032, MUS033, MUS034, MUS037, MUS038

Respiratory disorders	RSP001, RSP002, RSP003, RSP004, RSP005, RSP006, RSP007, RSP008, RSP009, RSP010, RSP011, RSP012, RSP013, RSP014, RSP015, RSP016, RSP017
Mental and behavioral health disorders	MBD002, MBD003, MBD004, MBD005, MBD006, MBD007, MBD008, MBD009, MBD010, MBD011, MBD012, MBD013, MBD014, MBD017, MBD018, MBD019, MBD020, MBD021, MBD024, MBD025, MBD026

Geographic Distribution

Geographic distribution is examined at the state level to identify variations in the utilization of RPM and RTM. In addition to the state-level analysis, this analysis analyzed the relationship between rurality and use of RPM and RTM. For urbanicity measures, residential zip codes are categorized as rural using the FORHP designations.

Payment

Payments were calculated by the sum of claim payment amount for remote monitoring or services (described by CPT above) included on the claim header. Only Traditional Medicare payments are presented in the analysis. Medicaid claim payments included services provided to both Traditional and Managed Care Organization (MCO) enrollees and did not represent true total outlays (i.e., payments were not inclusive of per member per month or complete MCO payments to providers). MA payment data was not available.

Episode Durations

To understand long-term utilization of RPM and RTM, the analysis took an episodic approach to produce accurate, unduplicated total counts of users and service duration. An “episode” is defined as one or more RPM or RTM service(s) per beneficiary. An episode may include multiple services and be of any length. Gaps in services of 37 days or more resulted in the start of a new episode. This definition aligns both to billing guidelines (indicating a 30-day billing period for management services, plus a 7-day additional “grace” period) and was arrived at empirically through examination of the distribution of gaps between ‘adjacent’ services. In practice, beneficiaries could receive multiple services for any duration (up to several years); as such, gaps longer than 37 days are thought to signify distinct clinical episodes rather than very long, continuous episodes with sparse services. Beneficiary episodes are counted in the year in which they end. An episode begins with the first identified instance of a service for a beneficiary; the next service is included in the episode if it occurred within the next 37 days, and so on. This analysis estimated average episode duration in months and the distribution of episodes that had durations that fell within timeframes of 1-3 months, 4-6 months, 7-9 months, and over 9 months.

For the purposes of this analysis, the following measure definitions were used for **patient episodes** in Traditional Medicare, MA, and Medicaid:

Measure	Definition
State	The state of beneficiary residence as listed on available enrollment data.
Year	The year in which the care episode ended.

Age Category	Age of enrollee in reference year: <18, 18-34, 35-49, 50-64, 65-74, 75-84, 85+.
Disease groups	Patient episodes grouped by CCSR of the primary diagnosis found on RPM/RTM claim. This is derived from the ICD-10 claim diagnosis. Disease groups are kept that represent at least one percent of patients utilizing the remote technology.
Dual eligible status	If the beneficiary is dually eligible for at least one month in the year, they are indicated to be a dual Medicare-Medicaid enrollee.
Complexity	Based on chronic condition algorithm flags; these are provided by CMS for Traditional Medicare enrollees and replicated for MA and Medicaid enrollee data. Ranges include 0-4, 5-7, and 8+ chronic conditions.
Rurality	Indicates whether the beneficiary residence zip code is listed as a rural area based on FORHP designations. Data quality varies, particularly for Medicaid enrollees with some states not fully reporting geographic data.
Sex	Listed enrollee sex: female, male, or missing.
Race/Ethnicity	Listed enrollee race/ethnicity where available (missing in part or whole for certain states in Medicaid). Medicare values include: Non-Hispanic White, Non-Hispanic Black, Hispanic, Non-Hispanic Asian/Pacific Islander, Non-Hispanic American Indian/Alaska Native, Missing, and Unknown. Medicaid values include: Non-Hispanic White, Hispanic, Non-Hispanic Black, Non-Hispanic Asian, Non-Hispanic Hawaiian/Pacific Islander, Non-Hispanic American Indian/Alaska Native, and Non-Hispanic Multiracial
Number of beneficiaries with an RPM / RTM episode	The distinct number of service utilizers with at least one episode ending in the reference year and who pertain to the payer and patient subgroup listed.
Total beneficiaries	Total enrollees in the subgroup (e.g., all Traditional Medicare enrollees).
Rate of beneficiaries with an episode per 100,000 beneficiaries	Number of distinct beneficiaries with an RPM/RTM episode, divided by number of beneficiaries enrolled in the category, multiplied by 100,000.
Total claims payments for episodes	Sum of claim payments for Traditional Medicare RPM / RTM claims included in the measured episodes.
Claim payment per beneficiary with an RPM / RTM episode	Sum of claim payments divided by number of beneficiaries with an RPM/RTM episode.
Episode duration measures	Measures of the duration of episode apply to services for beneficiary that occurred with gaps no greater than 37 days.

Patient Non-episodes

The analysis also included a non-episodic point of view to describe the services and beneficiaries within each referenced calendar year. This approach counts all services within the calendar year for all enrollees utilizing services.

For the purposes of this analysis, the following measure definitions were used for **patient non-episodes** in Traditional Medicare, MA, and Medicaid:

Measure	Definition
State	The state of beneficiary residence as listed on available enrollment data.
Year	The reference year in which care is measured.
Age Category	Age of enrollee in reference year: <18, 18-34, 35-49, 50-64, 65-74, 75-84, 85+.
Disease groups	Patient claims grouped by CCSR of the primary diagnosis found on RPM/RTM claim. This is derived from the ICD-10 claim diagnosis. Disease groups are kept that represent at least one percent of patients utilizing the remote technology.
Dual eligible status	If the beneficiary is dually eligible for at least one month in the year, they are indicated to be a dual Medicare-Medicaid enrollee.
Complexity	Based on chronic condition algorithm flags; these are provided by CMS for Traditional Medicare enrollees and replicated for MA and Medicaid enrollee data. Ranges include 0-4, 5-7, and 8+ chronic conditions.
Rurality	Indicates whether the beneficiary residence zip code is listed as a rural area based on FORHP designations. Data quality varies, particularly for Medicaid enrollees with some states not fully reporting geographic data.
Sex	Listed enrollee sex: female, male, or missing.
Race/ethnicity	<p>Listed enrollee race/ethnicity where available (missing in part or whole for certain states in Medicaid).</p> <p>Medicare values include: Non-Hispanic White, Non-Hispanic Black, Hispanic, Non-Hispanic Asian/Pacific Islander, Non-Hispanic American Indian/Alaska Native, Missing, and Unknown.</p> <p>Medicaid values include: Non-Hispanic White, Hispanic, Non-Hispanic Black, Non-Hispanic Asian, Non-Hispanic Hawaiian/Pacific Islander, Non-Hispanic American Indian/Alaska Native, and Non-Hispanic Multiracial</p>
Number of beneficiaries with an RPM / RTM claim	The distinct number of service utilizers in the reference year and who pertain to the payer and patient subgroup listed.
Total beneficiaries	Total enrollees in the subgroup (e.g., all Traditional Medicare enrollees).
Rate of RPM / RTM utilization per 100,000 beneficiaries	Prevalence of RPM / RTM utilization multiplied by 100,000.
Total payment for RPM / RTM services	Sum of claim payments divided by number of beneficiaries with an RPM / RTM claim.
Payment per beneficiary who used RPM / RTM	Total payments for RPM / RTM divided by number of beneficiaries who used RPM / RTM.

Limitations

Data applied in this study are administrative enrollment, claims, and encounter data paid for under Traditional Medicare, MA, and Medicaid. Data represent final adjudicated claims with these payers and as such, RPM and RTM services or equipment not billed through these systems is not included. We have heard some anecdotal evidence that at least some health systems provide these technologies and services without billing claims and with no expectation of reimbursement. Further, administrative healthcare data as made available under the CCW program has experienced some degree of limited run-out for adjudication (i.e., 13 months after the end of the year) as well as some cleaning steps for research use (particularly removal of non-final action claims).

Medicaid data for this study is accessed under the Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files (TAF) program of CCW. TAF Medicaid data is submitted by states to CMS. In practice, data completeness varies by state. For state-level utilization analysis, this results in an issue whereby some states are systematically missing some or all race/ethnicity data. Individuals with missing race/ethnicity data are kept and reported as 'unknown'.

MA encounter data tends to be less complete than commensurate Traditional Medicare claims. This typically results in dropped provider information or diagnostic information in cases where it may be less likely to impact risk scores. In general, we did not experience high data missingness within observed encounter data.

Supplemental Tables

Section 1: RPM Episode Data

1a: Traditional Medicare

Exhibit 1.1: Traditional Medicare RPM Utilization, Payments, and Duration Over Time

Year	Number of beneficiaries with an RPM episode	Total claims payments for episodes	Claim payment per beneficiary with an RPM episode	Average episode duration (months)	Episode duration distribution			
					1-3 months	4-6 months	7-9 months	Over 9 months
2019	38,013	\$3,320,000	\$87	1.7	79%	11%	6%	4%
2020	106,314	\$14,900,000	\$140	2.2	71%	14%	8%	6%
2021	181,933	\$43,072,000	\$237	3.8	58%	15%	11%	15%
2022	249,124	\$63,760,000	\$256	4.3	55%	16%	11%	18%
2023	306,394	\$84,069,000	\$274	5.2	51%	16%	11%	22%

Note: RPM = remote physiologic monitoring. Dollar values rounded to the nearest thousand.

Source: Traditional Medicare claims, 2019-2023

Exhibit 1.2: Most Common Conditions Billed for RPM Over Time, Traditional Medicare 2019-2023

Condition	Number of beneficiaries with an RPM episode				
	2019	2020	2021	2022	2023
<i>All</i>	38,013	106,314	181,933	249,124	306,394
Hypertension	11,140	44,134	96,266	137,669	175,030
Diabetes	5,516	12,396	22,472	33,451	39,944
Sleep-wake disorders	9,618	16,377	19,379	19,035	19,749
Disorders of lipid metabolism	1,139	4,541	8,255	11,058	13,528
Heart failure	1,000	3,087	5,215	7,381	9,218
Chronic obstructive pulmonary disease and bronchiectasis	1,063	2,650	4,256	6,441	8,382
Obesity	353	1,484	3,757	4,936	6,698
Cardiac dysrhythmias	1,098	4,375	3,308	5,774	6,455
Chronic kidney disease	363	779	1,872	3,452	6,236
Coronary atherosclerosis and other heart disease	716	2,155	3,128	5,301	6,197

Note: RPM = remote physiologic monitoring.

Source: Traditional Medicare claims, 2019-2023

Exhibit 1.3: Duration for Most Common RPM Conditions, Traditional Medicare 2023

Condition	Number of beneficiaries with an RPM episode	Share of beneficiaries with an RPM episode	Claim payment per beneficiary with an RPM episode	Average episode duration (months)	Episode duration distribution			
					1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	306,394	100%	\$274	5.2	51%	16%	11%	22%
Hypertension	175,030	57%	\$305	6.6	42%	17%	13%	29%
Diabetes	39,944	13%	\$205	4.9	50%	16%	12%	21%
Sleep-wake disorders	19,749	6%	\$111	3.1	65%	12%	13%	11%
Disorders of lipid metabolism	13,528	4%	\$206	5.0	51%	15%	11%	23%
Heart failure	9,218	3%	\$155	3.5	64%	14%	8%	14%
Chronic obstructive pulmonary disease and bronchiectasis	8,382	3%	\$201	4.5	56%	15%	10%	19%
Obesity	6,698	2%	\$201	4.5	52%	19%	12%	17%
Cardiac dysrhythmias	6,455	2%	\$169	4.0	59%	14%	11%	16%
Chronic kidney disease	6,236	2%	\$163	4.0	56%	18%	11%	15%
Coronary atherosclerosis and other heart disease	6,197	2%	\$167	3.9	60%	15%	10%	15%

Note: RPM = remote physiologic monitoring. Dollar values rounded to the nearest thousand. Conditions shown are those that compose of greater than one percent of RPM episodes.

Source: Traditional Medicare claims, 2023

Exhibit 1.4: Characteristics of Beneficiaries with an RPM Episode, Traditional Medicare 2023

Characteristic	Number of beneficiaries with an RPM episode	Beneficiaries with an RPM episode as a share of all beneficiaries	Rate of beneficiaries with an RPM episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
					1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	306,394	0.8%	773	5.2	51%	16%	11%	22%
Age								
18-34	844	0.2%	189	3.6	63%	15%	8%	14%
35-49	4,752	0.4%	438	4.2	57%	16%	10%	17%
50-64	20,451	0.7%	740	4.7	54%	16%	10%	20%
65-74	117,210	0.6%	572	5.0	51%	16%	11%	21%
75-84	111,327	1.1%	1,063	5.5	49%	16%	11%	24%
85+	51,436	1.2%	1,185	5.3	52%	15%	11%	23%
Dual eligible status								
Not dually eligible	227,457	0.7%	670	5.3	56%	16%	10%	18%
Dually eligible	78,563	1.4%	1,387	4.7	48%	16%	12%	24%
Complexity								
0-4 chronic conditions	67,843	0.3%	264	4.5	56%	16%	10%	18%
5-7 chronic conditions	108,605	1.2%	1,229	5.5	48%	16%	12%	24%
8+ chronic conditions	129,588	2.6%	2,605	5.2	51%	15%	11%	22%
Rurality								
Non-rural	253,881	0.8%	842	5.2	51%	16%	11%	22%
Rural	52,139	0.6%	551	5.1	51%	16%	12%	21%
Sex								
Male	131,523	0.7%	702	5.3	51%	16%	11%	23%
Female	174,497	0.8%	836	5.1	51%	16%	11%	22%
Race/ethnicity								
White	211,119	0.7%	704	5.1	51%	16%	11%	22%
Black	42,903	1.3%	1,262	5.0	51%	16%	11%	21%
Hispanic	27,185	0.9%	887	5.4	50%	16%	11%	23%

Asian/Pacific Islander	15,300	1.1%	1,062	6.2	46%	16%	12%	26%
American Indian/Alaska Native	767	0.5%	455	4.4	58%	14%	9%	19%
Unknown	5,906	0.5%	522	5.3	50%	16%	12%	22%
Other	2,840	0.7%	680	5.5	49%	15%	11%	24%

Note: RPM = remote physiologic monitoring.

Source: Traditional Medicare claims, 2023

Exhibit 1.5: RPM Utilization and Duration by State, Traditional Medicare 2023

State	Number of beneficiaries with an RPM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
Georgia	14,943	1,426	4.7	57%	15%	10%	18%
Nevada	4,793	1,382	4.4	55%	15%	11%	19%
New Jersey	15,844	1,338	5.2	53%	15%	10%	22%
California	52,172	1,325	5.8	46%	16%	12%	25%
DC	948	1,300	5.7	42%	17%	16%	24%
Texas	33,334	1,270	5.5	50%	16%	11%	24%
Arizona	10,726	1,256	5.5	49%	13%	11%	27%
Mississippi	5,294	1,210	6.2	42%	15%	12%	31%
Maryland	10,187	1,069	6.0	45%	18%	11%	27%
New York	21,552	968	5.0	53%	15%	11%	22%
Delaware	1,727	945	4.6	46%	18%	18%	18%
Utah	2,487	941	4.5	55%	16%	8%	21%
Florida	22,905	855	5.4	49%	16%	13%	22%
Alabama	4,768	851	5.3	47%	18%	11%	23%
Louisiana	4,339	850	5.3	48%	18%	11%	23%
Iowa	4,030	828	2.5	67%	22%	7%	4%
Virginia	9,687	825	5.5	45%	18%	14%	24%
Connecticut	3,233	815	4.1	58%	15%	11%	16%
Arkansas	3,522	809	4.6	54%	17%	11%	18%
National	306,394	773	5.2	51%	16%	11%	22%
Tennessee	5,899	707	4.8	50%	17%	12%	21%
North Carolina	8,268	686	4.7	52%	17%	12%	19%
South Carolina	4,877	636	4.4	53%	17%	12%	18%
Oklahoma	3,507	635	4.3	63%	11%	8%	17%
Indiana	4,673	569	4.2	60%	14%	9%	17%
Illinois	8,910	562	5.3	52%	14%	10%	24%
Kentucky	3,020	545	4.3	55%	15%	12%	18%
Michigan	5,799	532	4.7	53%	18%	11%	18%
Idaho	1,157	496	2.8	67%	15%	8%	9%
Wyoming	498	433	5.8	33%	16%	28%	23%
New Mexico	1,150	428	6.4	45%	17%	14%	24%

Nebraska	1,134	402	4.4	54%	15%	10%	21%
Massachusetts	4,159	396	4.8	57%	13%	9%	20%
Pennsylvania	6,408	389	5.4	52%	15%	10%	23%
Kansas	1,693	388	4.1	51%	19%	15%	15%
Hawaii	636	387	4.5	56%	16%	10%	19%
Maine	679	348	2.5	69%	17%	8%	6%
Ohio	4,589	340	3.3	61%	19%	9%	11%
Missouri	2,428	326	5.2	49%	16%	12%	23%
Colorado	1,822	317	6.1	49%	14%	12%	25%
South Dakota	405	283	3.6	66%	10%	10%	14%
Washington	2,482	268	6.7	44%	15%	11%	30%
Oregon	1,288	256	3.0	67%	14%	8%	12%
North Dakota	280	254	2.2	78%	7%	5%	11%
West Virginia	604	235	5.3	47%	16%	13%	23%
Alaska	272	230	6.4	45%	12%	12%	31%
Minnesota	1,018	181	3.6	63%	13%	8%	15%
Wisconsin	915	135	4.7	54%	15%	11%	21%
Rhode Island	163	134	6.4	53%	10%	7%	30%
New Hampshire	295	119	4.5	57%	12%	9%	22%
Montana	162	80	5.8	40%	15%	15%	31%
Vermont	71	58	5.2	51%	17%	9%	22%

Note: RPM = remote physiologic monitoring.

Source: Traditional Medicare claims, 2023

1b: Medicaid

Exhibit 1.6: Medicaid RPM Utilization and Duration Over Time

Year	Number of beneficiaries with an RPM episode	Average episode duration (months)	Episode duration distribution			
			1-3 months	4-6 months	7-9 months	Over 9 months
2019	11,450	1.5	83%	9%	4%	4%
2020	26,930	1.9	75%	13%	7%	5%
2021	55,468	2.9	65%	15%	10%	10%
2022	98,097	4.6	52%	17%	11%	20%

Note: RPM = remote physiologic monitoring.

Source: Medicaid T-MSIS data, 2019-2022

Exhibit 1.7: Duration for Most Common RPM Conditions, Medicaid 2022

Condition	Number of beneficiaries with an RPM episode	Share of all beneficiaries with an RPM episode	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	98,097	100%	4.6	52%	17%	11%	20%
Hypertension	58,465	60%	5.9	41%	19%	13%	27%
Diabetes	11,547	12%	4.4	54%	17%	10%	19%
Sleep-wake disorders	3,784	4%	2.3	71%	14%	9%	6%
Disorders of lipid metabolism	3,347	3%	4.1	56%	17%	11%	16%
Chronic obstructive pulmonary disease and bronchiectasis	2,345	2%	3.6	56%	20%	11%	12%
Heart failure	2,212	2%	3.5	60%	18%	8%	13%
Obesity	2,113	2%	3.9	58%	16%	10%	16%
Coronary atherosclerosis and other heart disease	1,521	2%	3.7	59%	17%	9%	15%
Chronic kidney disease	1,288	1%	3.9	51%	24%	12%	13%
Cardiac dysrhythmias	1,141	1%	3.1	65%	16%	9%	10%

Note: RPM = remote physiologic monitoring.

Source: Medicaid T-MSIS data, 2022

Exhibit 1.8: Characteristics of Beneficiaries with an RPM Episode, Medicaid 2022

Characteristic	Number of beneficiaries with an RPM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	98,097	90	4.6	52%	17%	11%	20%
Age							
18-34	5,518	20	2.5	70%	13%	9%	8%
35-49	11,843	72	3.6	59%	17%	10%	14%
50-64	25,897	198	4.3	53%	18%	11%	17%
65-74	23,650	399	4.8	50%	18%	11%	21%
75-84	18,322	630	5.6	45%	18%	11%	26%
85+	9,791	678	5.5	46%	17%	11%	25%
Dual eligible status							
Not dually eligible	37,599	38	3.7	59%	17%	10%	14%
Dually eligible	60,455	562	5.1	48%	18%	11%	23%
Complexity							
0-4 chronic conditions	51,011	145	4.2	54%	17%	11%	17%
5-7 chronic conditions	30,392	1,152	5.2	48%	18%	12%	23%
8+ chronic conditions	14,377	1,901	4.9	50%	18%	11%	21%
Rurality							
Non-rural	96,380	109	4.6	52%	18%	11%	20%
Rural	1,674	8	3.8	61%	14%	7%	18%
Sex							
Male	36,418	75	4.5	53%	17%	11%	19%
Female	60,591	103	4.6	52%	18%	11%	20%
Race/ethnicity							
White	35,078	92	4.3	54%	17%	11%	18%
Hispanic	23,212	88	4.6	51%	17%	11%	20%
Black	17,953	93	4.2	53%	19%	11%	17%
Asian	8,761	200	6.2	43%	15%	11%	31%
Hawaiian/Pacific Islander	632	79	4.4	54%	18%	10%	18%
American Indian/Alaska Native	583	42	3.9	58%	19%	10%	14%
Multiracial, non-Hispanic	334	35	3.2	64%	16%	8%	11%

Note: RPM = remote physiologic monitoring.

Source: Medicaid T-MSIS data, 2022

Exhibit 1.9: RPM Utilization and Duration by State, Medicaid 2022

State	Number of beneficiaries with an RPM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
Florida	1,544	462	3.3	44%	42%	7%	7%
North Carolina	8,305	347	4.6	51%	19%	11%	19%
New Mexico	1,873	181	2.9	65%	16%	9%	10%
Arkansas	4,610	176	4.4	54%	17%	10%	19%
Maryland	3,096	170	4.1	53%	18%	11%	18%
Ohio	13,809	135	4.1	55%	17%	11%	16%
New Jersey	569	134	3.9	59%	10%	18%	14%
Indiana	647	132	3.4	62%	18%	7%	13%
New Hampshire	452	131	2.2	65%	22%	12%	0%
Colorado	20,928	121	4.9	48%	18%	11%	22%
Nebraska	1,982	117	3.6	52%	29%	9%	11%
DC	1,537	117	4.4	58%	16%	10%	16%
Minnesota	2,096	114	6.6	42%	14%	11%	33%
Vermont	1,801	91	4.6	50%	21%	12%	17%
National	98,097	90	4.6	52%	17%	11%	20%
Oklahoma	2,676	87	3.9	55%	20%	10%	15%
Delaware	1,536	82	4.6	74%	5%	3%	19%
Massachusetts	1,709	81	4.5	47%	17%	21%	15%
Pennsylvania	2,904	79	4.0	58%	13%	10%	20%
Iowa	356	70	3.2	64%	15%	12%	9%
Michigan	294	61	4.0	57%	18%	10%	14%
Missouri	1,946	59	3.2	62%	15%	13%	10%
Mississippi	1,389	57	5.0	51%	14%	13%	21%
Nevada	797	51	5.9	46%	14%	11%	29%
Kentucky	1,081	47	1.7	72%	26%	0%	1%
West Virginia	1,045	46	3.1	65%	17%	7%	12%
Montana	626	41	2.1	74%	13%	7%	6%
California	490	40	4.2	57%	18%	9%	17%
Idaho	1,167	40	4.1	55%	17%	11%	16%
Wyoming	933	38	5.0	56%	12%	8%	23%
Rhode Island	585	37	1.6	80%	6%	13%	1%
Alabama	542	36	5.0	49%	20%	11%	20%

North Dakota	331	32	4.8	50%	15%	11%	24%
Utah	46	28	1.0	94%	2%	4%	0%
Virginia	155	28	2.6	78%	9%	4%	9%
Maine	149	26	4.3	55%	14%	12%	19%
Alaska	70	25	6.2	57%	9%	16%	18%
Hawaii	1,183	20	4.2	56%	19%	8%	17%
Louisiana	160	17	2.7	68%	11%	14%	8%
Kansas	633	16	3.3	59%	14%	12%	16%
Georgia	47	15	0.0	100%	0%	0%	0%
South Carolina	407	10	3.1	70%	13%	5%	12%
New York	26	9	2.9	71%	11%	4%	14%
Texas	93	6	2.4	68%	13%	8%	12%
Tennessee	13	3	1.2	86%	10%	5%	0%
Washington	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arizona	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Connecticut	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Illinois	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Missing	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Dakota	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: RPM = remote physiologic monitoring. N/A = not available. States with not available data have less than 10 beneficiaries with an RPM episode.

Source: Medicaid T-MSIS data, 2022

1c: Medicare Advantage

Exhibit 1.10: Medicare Advantage RPM Utilization and Duration Over Time

Year	Number of beneficiaries with an RPM episode	Average episode duration (months)	Episode duration distribution			
			1-3 months	4-6 months	7-9 months	Over 9 months
2019	17,978	1.5	80%	11%	6%	3%
2020	56,809	2.1	72%	15%	8%	5%
2021	159,901	4.5	50%	18%	13%	19%

Note: RPM = remote physiologic monitoring.

Source: Medicare Advantage Encounter data, 2019-2021

Exhibit 1.11: Duration for Most Common RPM Conditions, Medicare Advantage 2021

Condition	Number of beneficiaries with an RPM episode	Share of beneficiaries with an RPM episode	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	<i>159,901</i>	<i>100%</i>	<i>4.5</i>	<i>50%</i>	<i>18%</i>	<i>13%</i>	<i>19%</i>
Hypertension	83,475	52%	5.7	39%	19%	15%	27%
Diabetes	30,074	19%	3.8	53%	21%	12%	14%
Sleep-wake disorders	8,747	5%	2.9	68%	11%	11%	11%
Disorders of lipid metabolism	5,672	4%	3.9	56%	18%	10%	16%
Heart failure	3,918	2%	3.6	59%	16%	10%	15%
Obesity	3,891	2%	4.6	49%	17%	14%	20%
Chronic obstructive pulmonary disease and bronchiectasis	3,385	2%	3.8	55%	17%	13%	14%
Coronary atherosclerosis and other heart disease	1,830	1%	3.4	60%	17%	9%	13%
Cardiac dysrhythmias	1,669	1%	3.8	59%	13%	11%	16%
Chronic kidney disease	1,578	1%	2.6	69%	17%	6%	8%

Note: RPM = remote physiologic monitoring.

Source: Medicare Advantage Encounter data, 2021

Exhibit 1.12: Characteristics of Beneficiaries with an RPM Episode, Medicare Advantage 2021

Characteristic	Number of beneficiaries with an RPM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	<i>159,901</i>	<i>543</i>	<i>4.5</i>	<i>45%</i>	<i>50%</i>	<i>18%</i>	<i>19%</i>
Age							
18-34	480	240	3.4	54%	58%	19%	12%
35-49	3,926	537	3.9	49%	54%	18%	16%
50-64	22,325	747	4.4	45%	50%	19%	18%
65-74	70,049	489	4.5	46%	50%	18%	19%
75-84	47,267	577	4.7	45%	49%	18%	20%
85+	15,850	528	4.6	46%	50%	17%	20%
Dual eligible status							
Not dually eligible	121,205	491	4.6	45%	50%	18%	20%
Dually eligible	38,692	816	4.3	45%	51%	19%	18%
Complexity							
0-4 chronic conditions	144,463	510	4.6	45%	49%	18%	20%
5-7 chronic conditions	10,089	1,254	3.8	47%	53%	19%	15%
8+ chronic conditions	5,345	1,620	3.1	52%	61%	18%	11%
Rurality							
Non-rural	131,172	553	4.5	45%	50%	18%	19%
Rural	28,725	503	4.5	45%	50%	18%	19%
Sex							
Male	65,998	511	4.6	46%	50%	17%	20%
Female	93,899	568	4.5	45%	50%	18%	19%
Race/ethnicity							
White	82,433	419	4.3	48%	52%	18%	18%
Black	41,560	1,067	4.6	43%	49%	19%	19%
Hispanic	26,545	676	5.1	42%	45%	18%	23%
Asian/Pacific Islander	6,037	511	4.6	45%	48%	18%	20%
American Indian/Alaska Native	347	466	3.6	49%	56%	20%	14%
Unknown	1,774	382	4.4	47%	51%	18%	19%
Other	1,201	496	4.5	46%	51%	18%	18%

Note: RPM = remote physiologic monitoring.

Source: Medicare Advantage Encounter data, 2021

Exhibit 1.13: RPM Utilization and Duration by State, Medicare Advantage 2021

State	Number of beneficiaries with an RPM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
Georgia	14,691	1,606	4.5	47%	22%	12%	19%
Texas	32,064	1,464	5.0	46%	17%	13%	23%
New Jersey	7,540	1,211	5.1	43%	18%	18%	21%
Arizona	6,872	1,020	4.4	53%	16%	12%	20%
Mississippi	1,843	908	5.4	40%	17%	15%	27%
Louisiana	3,830	845	4.1	53%	17%	12%	18%
DC	209	795	3.7	53%	17%	17%	12%
Delaware	438	784	2.5	68%	13%	12%	7%
New York	12,398	676	4.0	53%	19%	13%	15%
Alabama	3,875	670	4.9	47%	17%	14%	22%
Florida	16,837	646	5.3	42%	21%	14%	23%
North Carolina	6,232	628	4.3	50%	18%	14%	18%
Arkansas	1,490	621	4.9	41%	23%	16%	21%
Maryland	1,127	582	3.5	59%	17%	11%	13%
National	159,901	543	4.5	50%	18%	13%	19%
Virginia	2,631	526	4.5	47%	19%	13%	21%
Nevada	1,307	496	1.5	79%	11%	6%	4%
Oklahoma	1,232	480	3.5	56%	19%	13%	11%
Tennessee	3,080	451	4.6	53%	17%	11%	19%
Connecticut	1,548	428	5.9	48%	14%	10%	28%
Michigan	4,518	384	4.2	53%	17%	12%	18%
Illinois	3,256	378	4.5	51%	16%	13%	20%
Indiana	2,089	372	3.2	63%	16%	9%	12%
South Carolina	1,656	365	5.0	44%	19%	15%	21%
Kentucky	1,623	364	4.0	54%	18%	11%	17%
New Mexico	678	340	5.5	55%	12%	9%	25%
North Dakota	99	290	1.8	74%	10%	10%	7%
Pennsylvania	4,007	288	4.2	55%	14%	13%	18%
Hawaii	428	282	4.3	50%	20%	12%	18%
Idaho	422	272	1.5	81%	10%	4%	5%
Massachusetts	1,141	265	4.1	54%	18%	10%	19%
Nebraska	229	240	3.6	54%	23%	10%	13%

Minnesota	1,375	233	1.3	86%	7%	2%	5%
Washington	1,396	232	3.7	55%	16%	14%	15%
California	7,464	228	4.2	55%	16%	10%	18%
Ohio	2,857	227	3.3	58%	22%	9%	12%
Oregon	971	207	4.3	57%	9%	9%	25%
Kansas	311	204	2.6	70%	15%	9%	6%
Maine	367	204	4.2	50%	26%	10%	14%
Colorado	956	204	4.9	50%	19%	8%	23%
Wisconsin	1,293	202	1.8	80%	10%	5%	4%
South Dakota	102	196	1.6	83%	11%	4%	2%
Wyoming	15	195	2.7	70%	10%	15%	5%
Utah	374	189	4.0	59%	12%	11%	19%
Iowa	329	170	4.5	46%	16%	21%	17%
Missouri	995	167	3.8	55%	19%	13%	13%
West Virginia	317	156	7.9	50%	14%	9%	27%
Vermont	49	148	2.7	63%	29%	2%	6%
New Hampshire	118	133	3.3	49%	34%	6%	11%
Rhode Island	120	96	2.7	62%	22%	7%	9%
Montana	51	85	2.5	69%	13%	8%	10%
Alaska	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: RPM = remote physiologic monitoring. N/A = not available. States with not available data have less than 10 beneficiaries with an RPM episode.

Source: Medicare Advantage Encounter data, 2021

Section 2: RTM Episode Data

2a: Traditional Medicare

Exhibit 2.1: Traditional Medicare RTM Utilization, Payments, and Duration Over Time

Year	Number of beneficiaries with an RTM episode	Total claims payments for episodes	Claim payment per beneficiary with an RTM episode	Average episode duration (months)	Episode duration distribution			
					1-3 months	4-6 months	7-9 months	Over 9 months
2022	12,562	\$782,000	\$62	1.0	89%	8%	3%	1%
2023	47,597	\$5,474,000	\$115	2.1	74%	12%	7%	7%

Note: RTM = remote therapeutic monitoring. Dollar values are rounded to the nearest thousand dollars.

Source: Traditional Medicare claims, 2022-2023

Exhibit 2.2: Duration for Most common RTM conditions, Traditional Medicare 2023

Condition	Number of beneficiaries with an RTM episode	Share of beneficiaries with an RTM episode	Claim payment per beneficiary with an RTM episode	Average episode duration (months)	Episode duration distribution			
					1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	47,597	100%	\$115	2.1	74%	12%	7%	7%
Musculoskeletal disorders	27,849	59%	\$96	1.7	79%	10%	5%	5%
Hypertension	2,519	5%	\$113	2.2	65%	20%	10%	6%
Respiratory disorders	2,390	5%	\$186	4.0	50%	15%	15%	19%
Sleep-wake disorders	1,861	4%	\$125	3.1	60%	14%	13%	13%
Nervous system signs and symptoms	1,845	4%	\$67	1.3	85%	9%	4%	2%
Nervous system pain and pain syndromes	1,581	3%	\$98	2.3	71%	14%	10%	6%
Diabetes	1,644	3%	\$167	3.6	53%	18%	13%	16%
Implant, device or graft related encounter	1,123	2%	\$61	1.2	86%	11%	2%	2%
Heart failure	867	2%	\$196	4.3	49%	13%	16%	22%
Sequela of cerebral infarction and other cerebrovascular disease	482	1%	\$125	2.6	72%	10%	12%	7%
Mental and behavioral health disorders	472	1%	\$103	2.1	66%	20%	11%	3%

Note: RTM = remote therapeutic monitoring. Dollar values rounded to the nearest thousand. Conditions shown are those that compose at least one percent of RTM episodes.

Source: Traditional Medicare claims, 2023

Exhibit 2.3: Characteristics of beneficiaries with an RTM Episode, Traditional Medicare 2023

Characteristic	Number of beneficiaries with an RTM episode	Beneficiaries with an RTM episode as a share of all beneficiaries	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
					1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	47,597	0.12%	120	2.1	74%	12%	7%	7%
Age								
18-34	281	0.06%	63	3.3	57%	17%	10%	16%
35-49	1,265	0.12%	117	3.3	59%	15%	12%	14%
50-64	3,439	0.12%	124	2.6	66%	16%	9%	9%
65-74	21,885	0.11%	107	2.0	77%	11%	6%	7%
75-84	15,214	0.15%	145	1.9	76%	11%	6%	6%
85+	5,469	0.13%	126	2.2	72%	12%	10%	6%
Dual eligible status								
Not dually eligible	38,655	0.11%	114	2.0	76%	11%	6%	7%
Dually eligible	8,898	0.16%	157	2.5	67%	16%	11%	7%
Complexity								
0-4 conditions	14,742	0.06%	57	1.6	81%	10%	4%	4%
5-7 conditions	16,831	0.19%	190	2.0	75%	12%	7%	7%
8+ conditions	15,988	0.32%	321	2.5	69%	13%	9%	9%
Rurality								
Non-rural	40,429	0.13%	134	2.0	75%	11%	7%	6%
Rural	7,124	0.08%	75	2.5	69%	13%	8%	10%
Sex								
Male	18,065	0.10%	96	2.1	74%	11%	7%	7%
Female	29,488	0.14%	141	2.1	74%	12%	7%	7%
Race/ethnicity								
White	38,994	0.13%	130	2.0	75%	11%	7%	7%
Black	3,362	0.10%	99	2.5	68%	14%	10%	8%
Hispanic	2,274	0.07%	74	2.2	71%	15%	9%	6%
Asian/Pacific Islander	1,230	0.09%	85	2.0	75%	11%	8%	6%
American Indian/Alaska Native	131	0.08%	78	2.3	74%	12%	8%	7%

Unknown	1,171	0.10%	104	1.8	78%	11%	5%	5%
Other	391	0.09%	94	1.7	77%	13%	6%	5%

Note: RTM = remote therapeutic monitoring.

Source: Traditional Medicare claims, 2023

Exhibit 2.4: RTM Duration and Payment by Provider Type, Traditional Medicare 2023

Code	Number of beneficiaries with an RTM episode		Total claims payments for episodes		Claim payment per beneficiary with an episode	Average duration (months)
	Count	Share	Total	Share		
<i>RTM (all)</i>	47,597	100%	\$5,474,434	100%	\$115	2.1
RTM delivered by PT or OT	26,183	55%	\$4,083,302	75%	\$156	2.8
RTM delivered by PTA or OTA	21,813	46%	\$1,391,133	25%	\$64	1.1

Note: RTM = remote therapeutic monitoring. PT = physical therapist. OT = occupational therapist. PTA = physical therapist assistant. OTA = occupational therapist assistant. Dollar values rounded to the nearest thousand.

Source: Traditional Medicare claims, 2023

Exhibit 2.5: RTM Utilization and Duration by State, Traditional Medicare 2023

State	Number of beneficiaries with an RTM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
New Jersey	3,310	280	2.0	73%	15%	9%	3%
Washington	2,424	262	1.9	76%	14%	6%	4%
Connecticut	965	243	1.4	83%	11%	4%	3%
Arizona	1,814	212	1.8	81%	9%	5%	5%
California	8,216	209	1.5	79%	11%	7%	3%
Oklahoma	1,104	200	2.5	72%	10%	7%	11%
Delaware	350	192	2.5	69%	13%	12%	6%
Oregon	944	188	1.7	79%	13%	6%	3%
Texas	4,203	160	2.6	68%	15%	8%	9%
Nevada	467	135	2.9	62%	18%	10%	10%
Virginia	1,537	131	1.9	78%	12%	4%	6%
South Carolina	999	130	2.3	76%	11%	6%	8%
Nebraska	354	126	1.7	82%	5%	7%	6%
National	47,597	120	2.1	74%	12%	7%	7%
Alaska	139	118	2.6	66%	15%	9%	9%
North Carolina	1,373	114	2.1	74%	11%	7%	8%
New York	2,530	114	1.3	86%	7%	3%	3%
Massachusetts	1,178	112	1.2	86%	7%	2%	4%
Maine	210	108	1.7	84%	5%	6%	5%
Utah	280	106	4.7	46%	10%	15%	28%
Tennessee	868	104	2.2	74%	9%	7%	9%
Maryland	991	104	2.6	64%	21%	7%	8%
Florida	2,734	102	2.1	75%	8%	6%	10%
Colorado	545	95	2.6	68%	13%	8%	12%
Illinois	1,485	94	1.9	79%	9%	5%	7%
Louisiana	472	92	2.1	73%	8%	7%	12%
Missouri	669	90	2.8	65%	12%	12%	11%
Georgia	934	89	2.7	67%	13%	8%	13%
Indiana	719	88	2.1	74%	8%	7%	10%
Wyoming	99	86	2.9	62%	19%	7%	13%
Arkansas	370	85	2.7	65%	16%	9%	11%
Pennsylvania	1,378	84	2.2	71%	15%	9%	5%

Michigan	878	81	1.7	78%	14%	4%	4%
Wisconsin	547	80	2.2	75%	10%	8%	7%
New Mexico	166	62	2.8	64%	13%	10%	12%
Kansas	256	59	3.0	61%	13%	12%	14%
Minnesota	269	48	1.4	86%	5%	5%	4%
South Dakota	68	48	2.6	71%	6%	14%	9%
Idaho	111	48	2.9	63%	12%	8%	18%
Iowa	221	45	2.8	67%	12%	9%	12%
Mississippi	187	43	3.9	52%	15%	12%	21%
Rhode Island	47	38	1.7	75%	11%	4%	9%
North Dakota	41	37	4.2	48%	9%	30%	13%
Alabama	208	37	4.0	55%	10%	14%	21%
Montana	67	33	3.7	57%	16%	11%	16%
DC	23	32	2.2	63%	11%	7%	19%
Ohio	411	30	3.4	59%	11%	14%	16%
New Hampshire	75	30	3.8	54%	15%	7%	24%
Kentucky	163	29	4.4	43%	23%	15%	18%
West Virginia	75	29	4.4	44%	20%	17%	20%
Hawaii	42	26	1.6	76%	17%	7%	0%
Vermont	21	17	3.6	50%	25%	18%	7%

Note: RTM = remote therapeutic monitoring.

Source: Traditional Medicare claims, 2023

2b: Medicaid

Exhibit 2.6: RTM Utilization and Duration, Medicaid 2022

Year	Number of beneficiaries with an RTM episode	Average episode duration (months)	Episode duration			
			1-3 months	4-6 months	7-9 months	Over 9 months
2022	2,613	1.4	82%	11%	4%	3%

Note: RTM = remote therapeutic monitoring.

Source: Medicaid T-MSIS data, 2022

Exhibit 2.7: Duration for Most Common RTM Conditions, Medicaid 2022

Condition	Number of beneficiaries with an RTM episode	Share of beneficiaries with an RTM episode	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	2,613	100%	1.4	82%	11%	4%	3%
Musculoskeletal disorders	1,036	40%	1.5	82%	11%	4%	3%
Nervous system pain and pain syndromes	461	18%	0.8	89%	7%	1%	2%
Mental health disorders	333	13%	0.6	93%	4%	4%	0%
Hypertension	210	8%	3.0	60%	26%	2%	12%
Sleep-wake disorders	166	6%	0.8	90%	7%	4%	0%
Respiratory disorders	91	3%	2.5	67%	16%	6%	11%
Diabetes	52	2%	2.5	65%	25%	6%	4%
Implant, device or graft related encounter	38	1%	1.5	97%	3%	0%	0%
Disorders of lipid metabolism	37	1%	2.2	54%	35%	3%	8%
Nervous system signs and symptoms	27	1%	1.1	85%	11%	4%	0%

Note: RTM = remote therapeutic monitoring.

Source: Medicaid T-MSIS data, 2022

Exhibit 2.8: Characteristics of Beneficiaries with an RTM Episode, Medicaid 2022

Characteristic	Number of beneficiaries with an RTM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
<i>All</i>	2,613	2	1.4	82%	11%	4%	3%
Age							
18-34	325	1	0.7	93%	5%	1%	1%
35-49	583	4	1.2	85%	9%	4%	2%
50-64	823	6	1.5	82%	11%	3%	4%
65-74	464	8	1.6	77%	16%	4%	4%
75-84	157	5	2.0	71%	17%	5%	6%
85+	65	5	2.0	73%	17%	1%	8%
Dual eligible status							
Not dually eligible	1,542	2	1.2	86%	8%	3%	3%
Dually eligible	1,070	10	1.6	78%	15%	4%	3%
Complexity							
0-4 chronic conditions	1,622	5	1.2	85%	10%	3%	2%
5-7 chronic conditions	468	18	1.8	75%	15%	5%	5%
8+ chronic conditions	218	29	2.0	69%	22%	4%	6%
Rurality							
Non-rural	2,572	3	1.4	82%	11%	4%	3%
Rural	40	0	0.6	98%	0%	2%	0%
Sex							
Male	932	2	1.3	83%	10%	4%	3%
Female	1,678	3	1.4	82%	12%	3%	3%
Race/ethnicity							
White	1,139	3	1.4	83%	10%	4%	3%
Hispanic	519	2	1.1	86%	9%	3%	3%
Black	526	3	1.6	78%	14%	4%	5%
Asian	77	2	1.5	84%	12%	1%	2%
Hawaiian/Pacific Islander	N/A	N/A	0.7	100%	0%	0%	0%
American Indian/Alaska Native	12	1	1.0	83%	17%	0%	0%
Multiracial, non-Hispanic	17	2	2.1	74%	11%	11%	5%

Note: RTM = remote therapeutic monitoring.

Source: Medicaid T-MSIS data, 2022

Exhibit 2.9: RTM Utilization and Duration by State, Medicaid 2022

State	Number of beneficiaries with an RTM episode	Rate of beneficiaries with an episode per 100,000 beneficiaries	Average episode duration (months)	Episode duration distribution			
				1-3 months	4-6 months	7-9 months	Over 9 months
Florida	78	23.4	2.8	72%	6%	4%	18%
North Carolina	522	21.8	1.0	88%	8%	2%	2%
Rhode Island	286	18.1	1.2	86%	11%	2%	1%
Idaho	325	11.0	2.1	71%	17%	7%	5%
Maryland	199	10.9	0.2	99%	1%	0%	0%
Delaware	138	7.3	0.6	91%	4%	4%	0%
Alaska	17	6.0	0.3	100%	0%	0%	0%
Michigan	21	4.4	3.9	52%	17%	0%	30%
Kansas	120	3.0	2.7	44%	51%	4%	1%
Mississippi	65	2.6	1.0	88%	6%	4%	1%
National	2,613	2.4	1.4	82%	11%	4%	3%
New Mexico	23	2.2	0.5	100%	0%	0%	0%
Virginia	12	2.1	0.0	100%	0%	0%	0%
North Dakota	19	1.8	0.1	100%	0%	0%	0%
Minnesota	24	1.3	0.7	93%	7%	0%	0%
Pennsylvania	43	1.2	0.5	95%	2%	2%	0%
Colorado	191	1.1	0.9	93%	5%	2%	0%
California	12	1.0	0.4	100%	0%	0%	0%
DC	12	0.9	0.2	100%	0%	0%	0%
Vermont	13	0.7	0.7	85%	15%	0%	0%
Ohio	56	0.5	1.1	89%	5%	2%	4%
Wyoming	180	0.1	1.5	82%	10%	5%	2%
West Virginia	23	0.0	0.7	91%	9%	0%	0%
Oklahoma	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nevada	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Carolina	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New York	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Massachusetts	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Maine	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tennessee	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Missouri	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Georgia	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Indiana	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Arkansas	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Iowa	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Montana	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New Hampshire	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kentucky	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New Jersey	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Connecticut	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arizona	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Texas	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Nebraska	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Utah	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Illinois	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Louisiana	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Dakota	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Alabama	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hawaii	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Washington	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wisconsin	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Note: RTM = remote therapeutic monitoring. N/A = not available. States with not available data have less than 10 beneficiaries with an RTM episode.

Source: Medicaid T-MSIS data, 2022

Section 3: RPM Non-Episode Data

3a: Traditional Medicare

Exhibit 3.1: Traditional Medicare RPM Utilization and Payments Over Time

Year	Number of beneficiaries with an RPM claim	Rate of RPM utilization per 100,000 beneficiaries	Total payment for RPM services	Payment per beneficiary who used RPM
2019	44,449	111	\$6,833,000	\$154
2020	151,598	387	\$43,547,000	\$287
2021	255,078	679	\$104,246,000	\$409
2022	357,618	884	\$151,706,000	\$424
2023	450,860	1,138	\$194,452,000	\$431

Note: RPM = remote physiologic monitoring. Dollar values rounded to the nearest thousand.

Source: Traditional Medicare claims, 2019-2023

Exhibit 3.2: Characteristics of Beneficiaries Who Used RPM, Traditional Medicare 2023

Characteristic	Number of beneficiaries with an RPM claim	Beneficiaries who used RPM as a share of all beneficiaries	Rate of RPM utilization per 100,000 beneficiaries
<i>All</i>	450,860	1.1%	1,138
Age			
18-34	1,107	0.2%	248
35-49	6,242	0.6%	575
50-64	27,768	1.0%	1,005
65-74	175,404	0.9%	856
75-84	166,335	1.6%	1,588
85+	73,586	1.7%	1,696
Dual eligible status			
Not dually eligible	341,841	1.0%	1,007
Dually eligible	108,601	1.9%	1,918
Complexity			
0-4 chronic conditions	97,240	0.4%	378
5-7 chronic conditions	166,318	1.9%	1,882
8+ chronic conditions	186,917	3.8%	3,757
Rurality			
Non-rural	374,451	1.2%	1,242
Rural	75,991	0.8%	803
Sex			
Male	195,752	1.0%	1,045
Female	254,690	1.2%	1,220
Race/ethnicity			
White	313,347	1.0%	1,045
Black	61,924	1.8%	1,822
Hispanic	38,378	1.3%	1,253
Asian/Pacific Islander	22,569	1.6%	1,566
American Indian/Alaska Native	1,096	0.6%	649
Unknown	8,856	0.8%	783
Other	4,272	1.0%	1,023

Note: RPM = remote physiologic monitoring.

Source: Traditional Medicare claims, 2023

3b: Medicaid

Exhibit 3.3: Medicaid RPM Utilization Over Time

Year	Number of beneficiaries with an RPM claim	Rate of RPM utilization per 100,000 beneficiaries
2019	12,271	13
2020	33,333	35
2021	68,190	66
2022	98,620	91

Note: RPM = remote physiologic monitoring.

Source: Medicaid T-MSIS data, 2019-2022

3c: Medicare Advantage

Exhibit 3.4: Medicare Advantage RPM Utilization Over Time

Year	Number of beneficiaries with an RPM claim	Rate of RPM utilization per 100,000 beneficiaries
2019	20,441	83
2020	77,261	289
2021	160,137	544

Note: RPM = remote physiologic monitoring.

Source: Medicare Advantage Encounter data, 2019-2021

Section 4: RTM Non-Episode Data

4a: Traditional Medicare

Exhibit 4.1: Traditional Medicare RTM Utilization and Payments Over Time

Year	Number of beneficiaries with an RTM claim	Rate of RTM utilization per 100,000 beneficiaries	Total payment for RTM claims	Payment per beneficiary with an RTM claim
2022	15,694	39	\$2,182,000	\$139
2023	52,489	133	\$10,374,000	\$198

Note: RTM = remote therapeutic monitoring. Dollar values rounded to the nearest thousand.

Source: Traditional Medicare claims, 2022-2023

Exhibit 4.2. RTM Duration and Payment by Provider Type, Traditional Medicare 2023

Code	Number of beneficiaries with an RTM claim		Total payment for RTM claims		Payment per beneficiary with an RTM claim
	Count	Share	Total	Share	
<i>RTM (all)</i>	52,489	100%	\$10,374,000	100%	\$198
RTM delivered by PT or OT	29,753	57%	\$7,811,000	75%	\$263
RTM delivered by PTA or OTA	23,290	44%	\$2,563,000	25%	\$110

Note: RTM = remote therapeutic monitoring. Dollar values rounded to the nearest thousand.

Source: Traditional Medicare claims, 2023

4b: Medicaid

Exhibit 4.3: Medicaid RTM Utilization

Year	Number of beneficiaries with an RTM claim	Rate of RTM utilization per 100,000 beneficiaries
2022	2,643	2

Note: RTM = remote therapeutic monitoring.

Source: Medicaid T-MSIS data, 2022