



## State-Level All-Cause Emergency Department Utilization for Medicaid Beneficiaries

### *Draft Testing Results for Public Comment*

#### 1.1 Measure Testing Results

##### **1.1.1 DATA SAMPLE DESCRIPTION**

The all-cause ED utilization measure is a claims-based measure that uses Medicaid administrative claims data from the TAF for calculation.

To construct the denominator, TAF claims data were used to identify all eligible participants within the measurement period. Using MSIS ID, claims data were linked to eligibility records within the TAF Annual DE file to restrict the IP to Medicaid participants aged 18 years and older with at least 10 months of enrollment in Medicaid.

To construct the numerator, value sets were authored to identify the appropriate code systems for ED utilization, using the NLM VSAC. Within these code sets, CPT encounter codes associated with ED visits were identified within TAF claims data to enumerate ED utilization for the measurement period.

To supplement the risk model demographic factors, TAF claims data were linked to eligibility records within the TAF Annual DE file.

##### **1.1.2 HOW MANY AND WHICH MEASURED ENTITIES WERE INCLUDED IN THE TESTING AND ANALYSIS?**

Measured entities include all 50 states, the District of Columbia, and two United States territories, which were represented in the Medicaid data. Data for the United States territories were removed from the analysis, however, due to low prevalence of emergency department utilization cases. In addition to the territories, two states have been removed from the analysis.

##### **1.1.3 HOW MANY AND WHICH PARTICIPANTS WERE INCLUDED IN THE TESTING AND ANALYSIS?**

Participants eligible for Medicaid, aged 18 years and over, and who met the 10-month enrollment requirement were included in the analysis. For the 2018 measurement period, this represented 31,652,726 participants; for the 2019 measurement period, this represented 31,427,010 participants.

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**Exhibit 1** presents descriptive data about states' participants who were included in the sample for the 2018 and 2019 measurement periods and include participant-month counts used for this measure. **Exhibit 2** displays demographic information about the sample.

**Exhibit 1. Sample of Participants and Participant Months, by Measurement Period, for States Retained in the Analysis (2018 and 2019)**

State	2018		2019	
	Participants (N)	Participant Months	Participants (N)	Participant Months
Total	36,628,382	434,173,511	36,327,003	430,504,664
01	108,347	1,287,432	114,977	1,368,462
02	427,800	5,081,468	436,638	5,192,180
03	473,082	5,597,375	456,278	5,407,916
04	986,738	11,680,756	1,012,017	11,996,020
05	7,857,839	93,083,621	7,627,097	90,326,279
06	682,866	8,074,512	643,220	7,613,417
07	495,624	5,898,400	509,967	6,067,437
08	168,897	2,015,920	168,587	2,009,948
09	111,722	1,321,187	112,732	1,333,432
10	2,067,521	24,673,698	1,984,980	23,688,066
11	721,316	8,535,835	741,292	8,764,271
12	163,711	1,942,964	159,135	1,889,825
13	315,467	3,735,889	322,699	3,825,338
14	82,964	983,154	82,937	983,232
15	584,020	6,895,889	601,165	7,108,546
16	134,944	1,601,400	128,551	1,524,294
17	944,223	11,293,440	930,527	11,121,516
18	837,873	9,968,872	842,419	9,985,451
19	1,069,227	12,658,974	1,049,850	12,431,288
20	712,879	8,467,598	725,660	8,624,361
21	149,542	1,775,255	165,551	1,959,148
22	1,290,021	15,273,660	1,258,298	14,893,622
23	518,684	6,117,488	471,077	5,533,595
24	347,750	4,112,862	327,581	3,875,706
25	287,769	3,417,091	287,008	3,408,286

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State	2018		2019	
	Participants (N)	Participant Months	Participants (N)	Participant Months
26	119,120	1,412,826	112,934	1,334,229
27	956,174	11,360,435	973,519	11,581,191
28	42,581	501,820	40,349	475,247
29	74,230	877,830	74,269	878,363
30	95,385	1,127,297	90,201	1,066,409
31	848,308	10,029,182	808,106	9,551,564
32	453,356	5,380,073	452,118	5,368,033
33	306,960	3,604,530	301,998	3,545,777
34	3,572,398	42,299,799	3,590,030	42,487,184
35	1,501,821	17,798,849	1,443,272	17,103,035
36	236,054	2,784,436	232,385	2,740,476
37	590,375	6,987,533	604,159	7,158,984
38	1,450,420	17,156,674	1,396,314	16,504,683
39	80,315	943,027	114,485	1,338,465
40	558,108	6,637,268	575,741	6,843,710
41	34,653	409,908	34,806	411,579
42	691,233	8,240,397	727,017	8,665,779
43	1,102,073	13,025,459	1,095,303	12,947,162
44	513,663	6,093,178	673,465	7,960,534
45	99,460	1,179,038	92,436	1,095,210
46	883,933	10,480,388	864,441	10,248,765
47	547,210	6,455,159	549,779	6,491,099
48	309,644	3,657,024	299,974	3,543,434
49	20,082	236,641	19,659	232,116

In total, 36,628,382 participants, with 434,173,511 participant months contributed to the denominator, were identified for the 2018 measurement period. In 2019, 36,327,003 participants were identified, with 430,504,664 participant months contributed to the denominator.

For both measurement years, the number of participants and participant months varied, ranging from 20,282 participants to 7,857,839 participants in 2018, and from 19,659 participants to 7,627,097 participants in 2019.

**Exhibit 2. Demographic Information for Participants, by Measurement Period, for States Retained in the Analysis (2018 and 2019)**

Demographic		2018		2019	
		Participants (N)	Distribution (%)	Participants (N)	Distribution (%)
<i>Total</i>		36,628,382	100.0	36,327,003	100.0
<b>Racial or Ethnic Identity</b>	<i>American Indian and Alaska Native</i>	460,080	1.26	477,107	1.31
	<i>Asian</i>	1,999,107	5.46	1,987,269	5.47
	<i>Black or African-American</i>	6,012,417	16.41	6,351,519	17.48
	<i>Hawaiian and Pacific Islander</i>	175,478	0.48	176,759	0.49
	<i>Hispanic (All Races)</i>	7,018,010	19.16	6,719,868	18.50
	<i>Multiracial</i>	45,710	0.12	50,976	0.14
	<i>Not Available or Missing</i>	7,292,670	19.91	6,153,752	16.94
	<i>White or Caucasian</i>	13,624,910	37.20	14,409,753	39.67
<b>Age Band</b>	<i>18–29</i>	9,832,634	26.84	9,497,594	26.14
	<i>30–39</i>	7,128,052	19.46	7,091,558	19.52
	<i>40–49</i>	5,352,112	14.61	5,277,092	14.53
	<i>50–55</i>	3,361,386	9.18	3,253,296	8.96
	<i>56–59</i>	2,335,529	6.38	2,347,954	6.46
	<i>60–64</i>	2,535,893	6.92	2,607,811	7.18
	<i>65–69</i>	1,886,618	5.15	1,964,935	5.41
	<i>70–74</i>	1,416,195	3.87	1,470,747	4.05
	<i>75–79</i>	1,068,072	2.92	1,090,768	3.00
	<i>80–84</i>	798,166	2.18	812,667	2.24
	<i>85+</i>	913,725	2.49	912,581	2.51
<b>Biological Sex</b>	<i>Female</i>	22,198,761	60.61	21,974,020	60.49
	<i>Male</i>	14,425,950	39.38	14,350,685	39.50
	<i>Not Available or Missing</i>	3,671	0.01	2,298	0.01
<b>Dually Eligible</b>	<i>No</i>	26,950,772	73.58	26,611,274	73.25
	<i>Yes</i>	9,677,610	26.42	9,715,729	26.75

Black or African-American, Hispanic, and white participants were disproportionate contributors to the denominator for both 2018 and 2019. Younger participants made up a greater portion of the sample, with the 18 to 29 age band representing the largest group in both measurement years. Females contributed more months of coverage than did males. And, Medicaid-only participants made up a larger percentage of the sample than did Medicare-Medicaid (dually eligible) enrollees.

#### 1.1.4 PERFORMANCE RESULTS FROM STATISTICAL TESTING

**Exhibits 3a** and **3b** contain performance data for the state-level all-cause emergency department utilization measure for 2018 and 2019, the two years included in testing.

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**Exhibit 3a. Performance Rate, by State, for those Retained in the Analysis (2018)**

<b>State</b>	<b>Eligible Participant Months Denominator</b>	<b>ED Visits Numerator</b>	<b>Performance Rate per 1,000 Participant Months</b>
01	1,287,432	89,930	69.85
02	5,081,468	232,698	45.79
03	5,597,375	224,369	40.08
04	11,680,756	632,466	54.15
05	93,083,621	5,193,146	55.79
06	8,074,512	494,873	61.29
07	5,898,400	406,363	68.89
08	2,015,920	142,643	70.76
09	1,321,187	84,866	64.23
10	24,673,698	367,977	14.91
11	8,535,835	451,221	52.86
12	1,942,964	107,230	55.19
13	3,735,889	286,974	76.82
14	983,154	83,908	85.35
15	6,895,889	665,612	96.52
16	1,601,400	133,994	83.67
17	11,293,440	727,244	64.40
18	9,968,872	922,427	92.53
19	12,658,974	914,660	72.25
20	8,467,598	621,220	73.36
21	1,775,255	131,932	74.32
22	15,273,660	982,241	64.31
23	6,117,488	412,267	67.39
24	4,112,862	398,092	96.79
25	3,417,091	289,447	84.71
26	1,412,826	78,413	55.50
27	11,360,435	727,341	64.02
28	501,820	22,349	44.54
29	877,830	66,112	75.31

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State	Eligible Participant Months <i>Denominator</i>	ED Visits <i>Numerator</i>	Performance Rate <i>per 1,000 Participant Months</i>
30	1,127,297	51,015	45.25
31	10,029,182	655,671	65.38
32	5,380,073	294,711	54.78
33	3,604,530	262,081	72.71
34	42,299,799	1,587,788	37.54
35	17,798,849	1,848,647	103.86
36	2,784,436	217,152	77.99
37	6,987,533	364,552	52.17
38	17,156,674	1,022,691	59.61
39	943,027	11,194	11.87
40	6,637,268	337,579	50.86
41	409,908	29,859	72.84
42	8,240,397	800,988	97.20
43	13,025,459	896,090	68.80
44	6,093,178	336,235	55.18
45	1,179,038	65,996	55.97
46	10,480,388	672,573	64.17
47	6,455,159	591,922	91.70
48	3,657,024	478,439	130.83
49	236,641	22,284	94.17

In 2018, performance rates ranged from 11.87 to 130.83 emergency department visits per 1,000 participant months; the median for this reporting period is 65.38 emergency department visits per 1,000 participants months, with a mean of 67.11 visits per 1,000 participant months. These data show a wide range in emergency department use across states with a slight right skew when comparing the median and mean.

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**Exhibit 3b. Performance Rate, by State, for those Retained in the Analysis (2019)**

<b>State</b>	<b>Eligible Participant Months Denominator</b>	<b>ED Visits Numerator</b>	<b>Performance Rate per 1,000 Participant Months</b>
01	1,368,462	91,194	66.64
02	5,192,180	221,429	42.65
03	5,407,916	223,545	41.34
04	11,996,020	636,255	53.04
05	90,326,279	4,553,018	50.41
06	7,613,417	473,109	62.14
07	6,067,437	405,865	66.89
08	1,333,432	85,794	64.34
09	1,333,432	85,794	64.34
10	23,688,066	1,129,457	47.68
11	8,764,271	637,860	72.78
12	1,889,825	107,625	56.95
13	3,825,338	279,173	72.98
14	983,232	80,429	81.80
15	7,108,546	734,933	103.39
16	1,524,294	126,190	82.79
17	11,121,516	705,525	63.44
18	9,985,451	898,517	89.98
19	12,431,288	883,938	71.11
20	12,431,288	883,938	71.11
21	1,959,148	144,551	73.78
22	14,893,622	925,905	62.17
23	5,533,595	382,820	69.18
24	3,875,706	375,194	96.81
25	3,408,286	289,110	84.83
26	1,334,229	74,800	56.06
27	11,581,191	698,320	60.30
28	475,247	20,744	43.65
29	878,363	68,410	77.88

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State	Eligible Participant Months <i>Denominator</i>	ED Visits <i>Numerator</i>	Performance Rate <i>per 1,000 Participant Months</i>
30	1,066,409	66,004	61.89
31	9,551,564	673,800	70.54
32	5,368,033	298,599	55.63
33	3,545,777	279,490	78.82
34	42,487,184	1,565,696	36.85
35	17,103,035	1,792,680	104.82
36	2,740,476	210,382	76.77
37	7,158,984	383,439	53.56
38	16,504,683	1,127,478	68.31
39	1,338,465	32,398	24.21
40	6,843,710	332,355	48.56
41	411,579	29,041	70.56
42	8,665,779	772,016	89.09
43	12,947,162	861,822	66.56
44	7,960,534	627,931	78.88
45	1,095,210	62,910	57.44
46	10,248,765	660,098	64.41
47	6,491,099	594,008	91.51
48	3,543,434	354,007	99.91
49	232,116	20,995	90.45

In 2019, performance rates ranged from 24.21 to 104.82 emergency department visits per 1,000 participant months; the median for this reporting period is 66.89 emergency department visits per 1,000 participants months, with a mean of 68.15 visits per 1,000 participant months. Similar to 2018, these data show a wide range in emergency department use across states with a slight right skew when comparing the median and mean.