

# Two Years After Coding Changes Sought to Decrease Documentation, Notes Remain ‘Bloated’

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## Key Findings:

- The average length of clinical notes has continued to increase over the last three years despite coding changes enacted in 2021 meant to reduce documentation burden.
- However, time spent writing notes by providers has slightly decreased over the same time.
- While overall average note length increased, around 40% of providers reduced their average note length.

In 2021, the Centers for Medicare and Medicaid Services (CMS) implemented changes to evaluation and management (E/M) CPT billing codes aimed to reduce the administrative documentation burden on providers.<sup>1</sup> A study looking at early outcomes related to these changes from January to April 2021 did not observe any decrease in note length.<sup>2</sup> Now that the E/M coding changes have been in place for more than two full years, we wanted to understand whether there has been any influence on documentation length.

We evaluated 1.7 billion clinical notes written by 166,318 outpatient providers in the U.S. from May 2020 to April 2023 to determine the average length in characters for each note. We found that the average note length across all clinical notes has increased 8.1%, from 4,628 characters in May 2020 to 5,002 characters in April 2023, as shown in Figure 1.

## Average Note Length Over Time

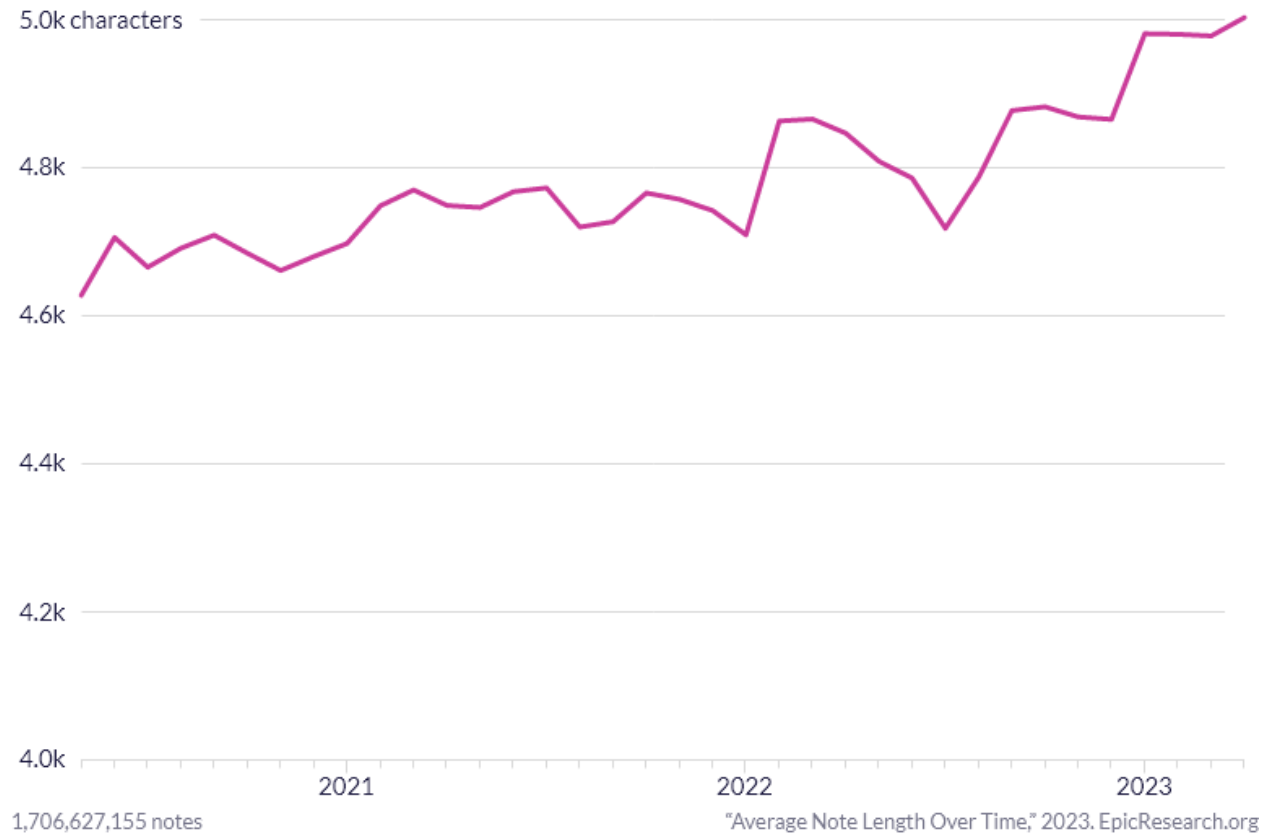


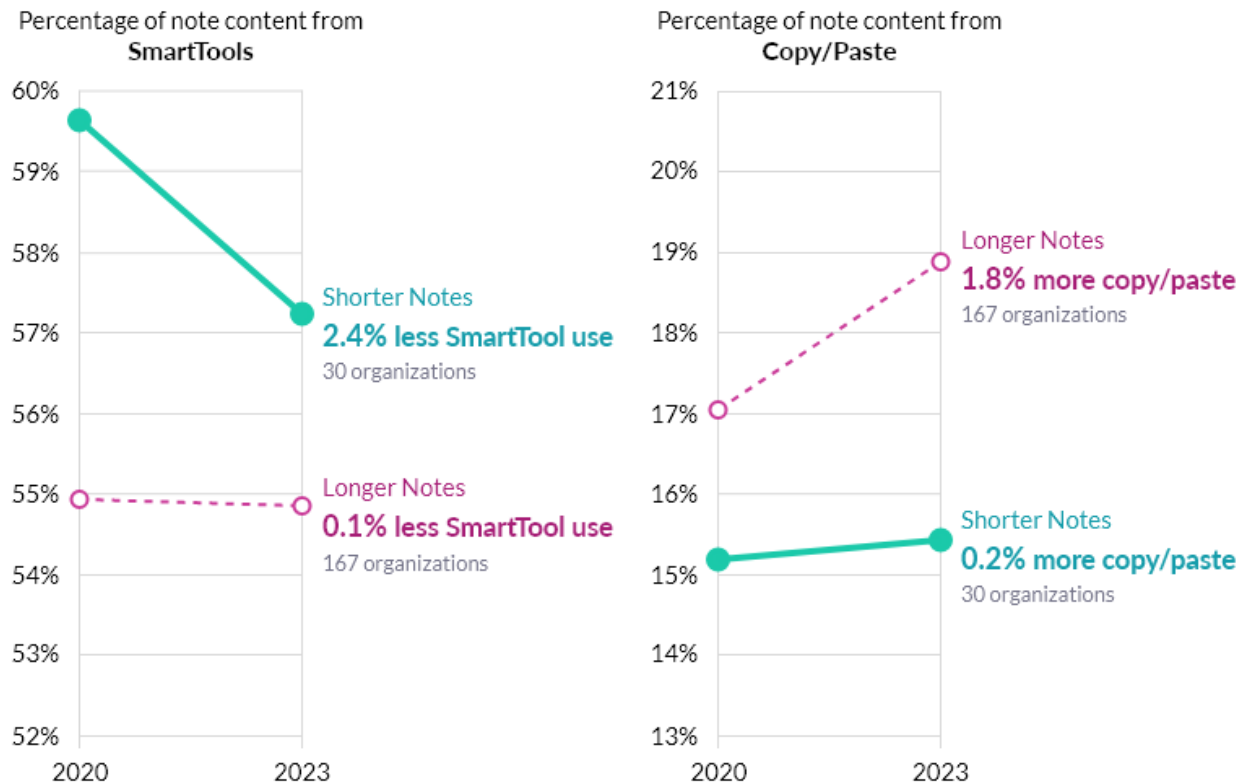
Figure 1. Average length of notes in characters from May 2020 to April 2023.

However, despite these increases in note length, the average time spent writing notes decreased 11.1% over this same period, from an average of 5.4 minutes per note to 4.8 minutes per note. Additionally, providers are spending less time in clinical review activities in the EHR.

We then compared each provider's average note length in 2020 to that same provider's average note length in 2023. We stratified providers into deciles based on how much their average note length changed during that time and found that about 40% of providers decreased their average note length over those three years, as shown in Figure 2. Additionally, we found that the 10% of providers who decreased their note length the most represented a wide variety of specialties including primary care, internal medicine, surgical specialties, dermatology, cardiology, and psychiatry. This suggests that a reduction in note length is achievable in nearly any specialty. Furthermore, nearly 90% of providers reduced the average time they spent writing each note.



## Composition Methods and Influence on Organizational Note Length



"Composition Methods and Influence on Organizational Note Length," 2023. EpicResearch.org

Figure 3. Average change in use of various note composition methods for organizations that increased or decreased their average note length by at least 5% over the study period.

Even though average note length increased, most providers spent less time writing notes, which could help providers free up time for patient care or reduce work after hours. Previous studies suggest there may be other benefits to the E/M changes that influence a provider's well-being, such as reducing cognitive burden or increasing physician efficiency with documentation.<sup>3,4</sup>

These data come from Signal, which aggregates Epic EHR use data for providers across 384 organizations. This study was completed by two teams that worked independently, each composed of a clinician and research scientists. The two teams came to similar conclusions.

## References

1. Centers for Medicare and Medicaid Services. Final Policy, Payment, and Quality Provisions Changes to the Medicare Physician Fee Schedule for Calendar Year 2019 | CMS. Accessed on June 6, 2023.
2. Apathy NC, Hare AJ, Fendrich S, Cross DA. Early Changes in Billing and Notes After Evaluation and Management Guideline Change. *Ann Intern Med.* 2022;175(4):499-504. doi:10.7326/M21-4402
3. Apathy NC, Rotenstein L, Bates DW, Holmgren AJ. Documentation dynamics: Note composition, burden, and physician efficiency. *Health Serv Res.* 2023;58(3):674-685. doi:10.1111/1475-6773.14097
4. Maisel N, Thombley R, Overhage JM, Blake K, Sinsky CA, Adler-Milstein J. Physician Electronic Health Record Use After Changes in US Centers for Medicare & Medicaid Services Documentation Requirements. *JAMA Health Forum.* 2023;4(5):e230984. doi:10.1001/jamahealthforum.2023.0984

## Data Definitions

Term	Definition
Study period	May 2020 – April 2023
Study population	Outpatient providers with a categorization of “clinician”
Note length	Average length of progress note in characters
Time in note per note	Average time spent by clinician composing note per note
Time in clinical review per day	Average time spent by clinician in clinical review activities in the EHR per scheduled day
Copy/paste note composition	Average proportion of the note composed using copy and paste functions
SmartTools note composition	Average proportion of the note composed using a SmartLink, SmartText, SmartPhrase, or SmartList
Organizational note length decrease	At least a 5% reduction in average note length
Organizational note length increase	At least a 5% increase in average note length
No change in organizational note length	Less than a 5% increase or reduction in average note length

**Table 1: Average Note Length Over Time**

Period	Number of Notes Written	Average Note Length
2020-5	34,570,686	4627.7
2020-6	34,293,866	4705.7
2020-7	35,629,277	4665.7
2020-8	46,926,076	4691.3
2020-9	38,110,221	4708.8
2020-10	50,858,247	4684.3
2020-11	38,889,062	4661.2
2020-12	38,393,885	4680.2
2021-1	48,509,742	4697.7
2021-2	39,557,300	4748.5
2021-3	43,078,028	4769.7
2021-4	41,484,726	4749.0
2021-5	55,039,143	4746.2
2021-6	41,804,706	4767.4
2021-7	53,107,556	4772.5
2021-8	45,428,394	4719.8
2021-9	44,593,296	4726.9
2021-10	59,031,151	4765.7
2021-11	43,826,076	4757.2
2021-12	45,706,228	4741.8
2022-1	53,405,716	4709.3

2022-2	44,846,511	4862.7
2022-3	47,284,088	4865.3
2022-4	57,349,244	4846.3
2022-5	46,068,059	4808.5
2022-6	39,510,748	4785.8
2022-7	57,477,365	4718.1
2022-8	46,561,010	4786.6
2022-9	46,964,048	4876.8
2022-10	62,752,348	4882.0
2022-11	47,924,102	4868.3
2022-12	59,365,363	4864.9
2023-1	49,611,298	4980.6
2023-2	51,446,673	4979.7
2023-3	52,365,632	4977.6
2023-4	64,857,284	5002.2

**Table 2: Change in Average Note Length and Change in Time Spent per Note by Provider**

2020 Note Length				2023 Note Length			2020 Time In Notes (in Minutes)			2023 Time In Notes (in Minutes)		
Decile	Average	Lower CI	Upper CI	Average	Lower CI	Upper CI	Average	Lower CI	Upper CI	Average	Lower CI	Upper CI
1	5314.5	5240.9	5388.0	3732.6	3681.7	3783.4	7.4	7.3	7.6	5.7	5.6	5.9
2	5143.4	5079.9	5206.8	4510.7	4454.9	4566.4	6.9	6.8	7.0	5.7	5.6	5.8
3	5201.1	5135.9	5266.4	4881.2	4820.0	4942.4	6.6	6.5	6.7	5.7	5.6	5.8
4	5249.6	5184.2	5315.1	5150.8	5086.5	5215.0	6.4	6.3	6.6	5.7	5.6	5.8
5	5280.7	5216.7	5344.8	5369.7	5304.5	5434.8	6.4	6.3	6.5	5.7	5.6	5.8
6	5357.9	5291.6	5424.2	5640.0	5570.2	5709.8	6.6	6.4	6.7	5.9	5.8	6.0
7	5365.3	5297.9	5432.8	5866.0	5792.2	5939.7	6.8	6.7	6.9	6.2	6.1	6.3
8	5210.2	5140.1	5280.4	5982.1	5901.4	6062.9	7.0	6.9	7.2	6.5	6.4	6.7
9	4836.5	4768.4	4904.6	5998.7	5914.4	6082.9	7.2	7.1	7.4	6.9	6.7	7.0
10	3601.2	3539.4	3662.9	5688.0	5594.9	5781.1	6.8	6.6	6.9	6.9	6.8	7.1

**Table 3: Composition Methods and Influence on Organizational Note Length**

Note Length Change	Number of Orgs	SmartTools % 2020	SmartTools % 2023	Copy/Paste % 2020	Copy/Paste % 2023
Decrease	30	59.64%	57.24%	15.19%	15.42%
Increase	167	54.94%	54.85%	17.05%	18.88%
No Change	191	57.49%	56.60%	16.50%	17.77%