

The Criticality of CMS Data

Obtaining the most granular view of patient populations, treatment pathways, outcomes, and disease trends.

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How New Medicare and Medicaid Data Improves the Fidelity of Komodo Insights

The average primary care physician sees **approximately 20 patients** per day. Over the course of the typical **51-hour work week**, that adds up to somewhere between 1,800 and 2,000 patients per year. According to the AMA Benchmark survey, Medicare and Medicaid patients comprise 46% of the average physician's patient panel. While that number is an average, and the payer mix of each individual physician will vary, it does illustrate a critical point for anyone using commercial claims data to track provider prescription patterns, patient mix, and outcomes. Without Medicare and Medicaid data, Life Sciences teams could miss almost half of each provider's patient mix. This makes it difficult to accurately measure things like trends in disease progression or drivers of adoption for novel therapies.

For that reason, Medicare and Medicaid data has always been a critical component of Komodo's offerings. Our Healthcare Map™ contains over 100 million patients covered by Medicare, Medicare Advantage, and Medicaid plans, in addition to those insured by commercial health plans and self-insured employers. Komodo was certified as a **CMS Qualified Entity in 2017** to model disease epidemiology and produce public reports to help healthcare teams make decisions and direct resources to where they're most needed. The insights from that research can be integrated with our Map and shared with stakeholders to advance patient outcomes and healthcare system improvements. More recently, Komodo was **awarded** the coveted CMS Innovator's License, which allows us to leverage even more CMS data, representing more than 130 million U.S. beneficiaries, for research purposes. The additional data, made available through the CMS Virtual Research Data Center (VRDC), will unlock a uniquely granular view of patient populations, treatment pathways, outcomes, and disease trends.

Quantifying the Impact of CMS Data

To get a more detailed view of exactly how these additions will augment the 330 million patient journeys already captured in our existing datasets, we conducted an analysis that synthesized commercial claims and government data that currently exists in our Healthcare Map with the new Medicare and Medicaid data we can now access through the CMS Innovator's License.

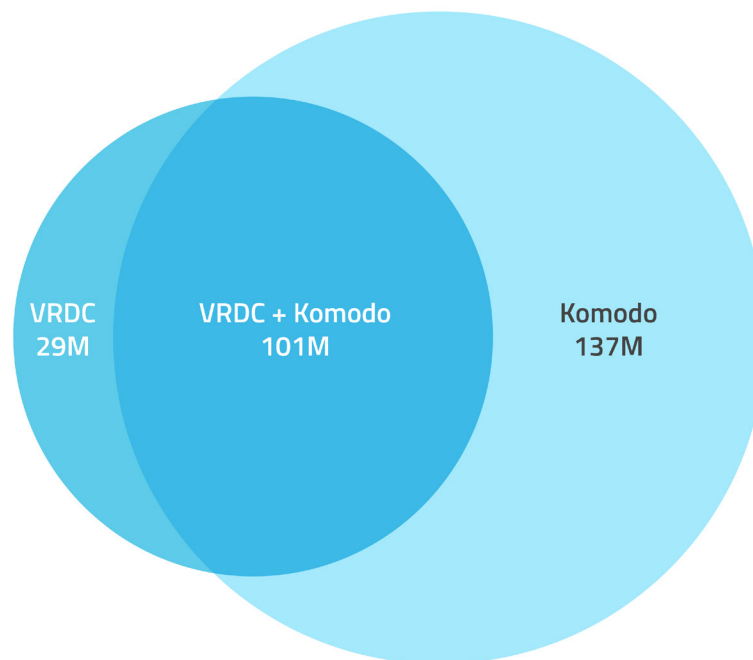
All “closed” patients — those for whom Komodo captures the entire longitudinal encounter history — were included in the analysis. “Open” patients — those for whom only portions of their encounter histories are captured — have an additional layer of business rules applied to ensure adequate data capture and representation.

For the open commercial and Medicaid populations, we tracked all patients with at least one medical claim in 2019. For the open Medicare population, we tracked all patients with:

- One inpatient claim and either:
 - One professional drug claim, or
 - One prescription drug claim, or
- One professional and two prescription drug claims

All told, the data in the VRDC added **29 million** complete patient journeys to the data already captured by Komodo Health, and that’s just looking at 2019 encounters. The results clearly represent exactly how much more provider-level detail we can now capture and the new levels of granularity we can provide for insights into disease progression and patient and provider behavior.

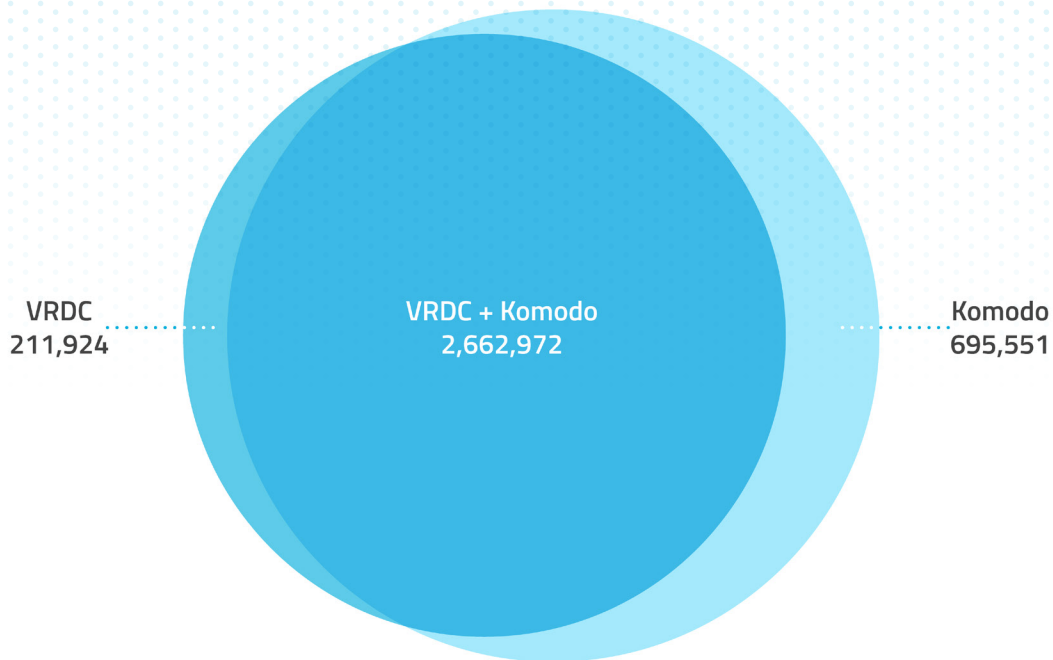
Addressing Data Overlap To Identify Total Universe of Patient Journeys



We see a similar trend in the total number of providers. Prior to adding the CMS Innovator’s License data, Komodo identified 3.4 million total providers that fit our analysis criteria, including many non-physicians, such as RNs, NPs, PAs, MSWs, psychologists, chiropractors, etc. Of those, 2.7 million were treating Medicare and Medicaid patients. With the addition of the Innovator’s License dataset, we identified a total universe of **3.6 million providers**.



Tracking Provider Overlap in Commercial, Medicare, and Medicaid Databases



Where the results got really interesting, however, was when we looked at the total number of healthcare encounters tracked in the combined datasets. When we excluded the VRDC data available through the CMS Innovator's License, we found roughly 2.2 billion discrete outpatient and professional healthcare encounters in the Healthcare Map in 2019. Roughly half of those were for Medicare and Medicaid beneficiaries. When we added the VRDC data and adjusted to remove overlap, **4.2 billion encounters** were identified for the study period in the combined datasets. That's double the amount of encounters that were visible previously.

Beyond Patient Counts to Real Insights

While the sheer number of additional counts in the combined dataset is impressive, the real power is in the level of granularity it can offer. As demonstrated in this analysis, the comprehensive insights from VRDC and Komodo's Healthcare Map offer a holistic and unparalleled view of provider behavior, including the characteristics of the patients they serve. And this is only the beginning. In the future, we hope to expand this research to elucidate the drivers of provider behavior, therapeutic decision-making, and adoption of new therapies. By capturing more provider engagements with a deeper level of understanding, industry stakeholders and Komodo's partners can access reliable, timely, and actionable insights to drive public health and patient outcomes.

In this case, the Healthcare Map and the data we can now access through the CMS Innovator's License offer unique strengths; the real power comes from combining them. That will mean improved coverage in all areas and a more robust platform for conducting provider-level research, helping healthcare stakeholders all across the industry unlock even more real-world insights about the patient experience.

[Learn more](#) about Komodo's Qualified Entity reports.

