

More Signal, Less Noise: Measuring Quality at Scale with Astrata's NLP-based Advanced Analytics

For most providers and payers, calculating quality-based rates is a hunt for dim signals in a sea of noise. Manual record review is slow, expensive, and hard to scale beyond a sample. Astrata's advanced analytics tools use NLP (natural language processing) to bring the signal to the surface, significantly reducing the cost of measuring and improving HEDIS quality scores year-round.

Astrata is a digital healthcare quality company focused on NLP and advanced analytics in value-based care. Since 2017, Astrata has worked with UPMC Health Plan to build, deploy, test, and fine-tune a cloud-based NLP tool-suite designed to vastly improve the efficiency of manual HEDIS chart review, enabling year-round review and continual quality improvement at scale.

The product works strategically across a population and tactically within an individual chart. NLP algorithms work strategically on an entire gaplist, digging out gap-specific signals to help teams prioritize which cases to work on and when. Tactically, at the individual gap level, NLP guides abstractors straight to HEDIS-measure-relevant text in the medical record, slashing abstraction time per case.

During 2019 and 2020, Astrata worked with UPMC Health Plan on a pilot program to determine whether, and by how much, NLP tools assisted in strategic and tactical gap closure. UPMC Health Plan abstractors timed themselves working on cases both with and without Astrata's abstraction tools. **Astrata's NLP-assisted tools helped abstractors close cases from 7 to 38 times faster**, depending on the measure, with an overall acceptance rate of 94%.

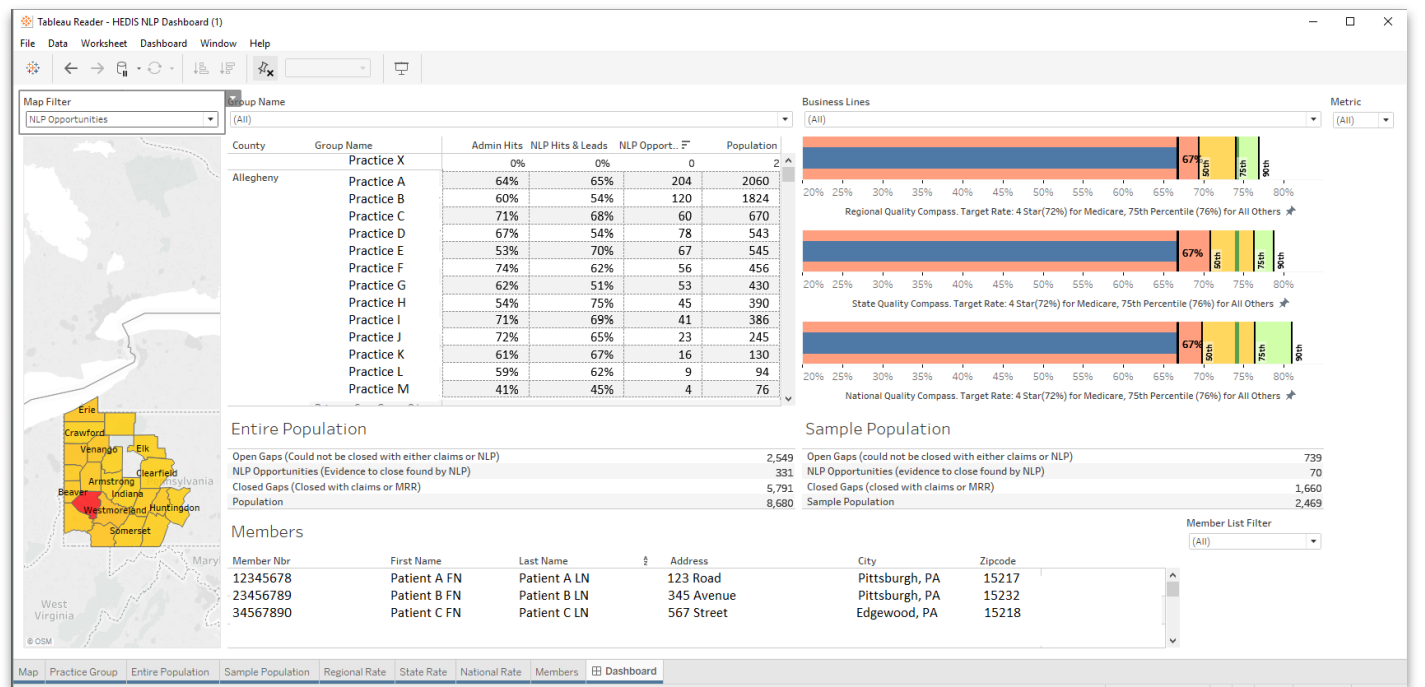
HEDIS Measure	NLP Efficiency Gains (* x hits closed per unit time)
CDC A1c	7.9 x
CDC Neph	6.2 x
CDC Eye	6.5 x
AWC	6.8 x
CCS	11.5 x
COL	27.1 x
W34	38.2 x

Astrata's products provide HEDIS-specific, NLP-assisted workflows, measure guidance, activity tracking, data-entry validation, document upload/download, and audit support for 13 HEDIS measures and counting, including Medicaid and Medicare Advantage measures.

In 2020, NCQA selected Astrata to join the NLP Working Group that is defining how to use NLP to advance quality measurement.

The image displays three overlapping screenshots of the Astrata software interface. The top-left screenshot shows a 'Gap List' table with columns for NLP Hint, Member Name, DOB, UPMC ID, LOB, and Provider Group. The top-right screenshot shows a patient profile for 'Foghorn Leghorn' with a search bar and filters for 'CDC Nephropath...'. The bottom screenshot shows a detailed view of search results for 'Attn to nephropathy within 1 yr (1)', 'Diabetes lead (2)', and 'Nephropathy lead (1)', listing various medical conditions and medications.

Astrata also developed a geographic population dashboard, which can tap into both HEDIS-engine-generated claims data and NLP-derived insights, to let quality managers and strategists examine populations, geographic regions, or providers where large numbers of gaps exist. This level of detail, easily generated without manual chart hunting, can lead to more effective planning of quality initiatives.

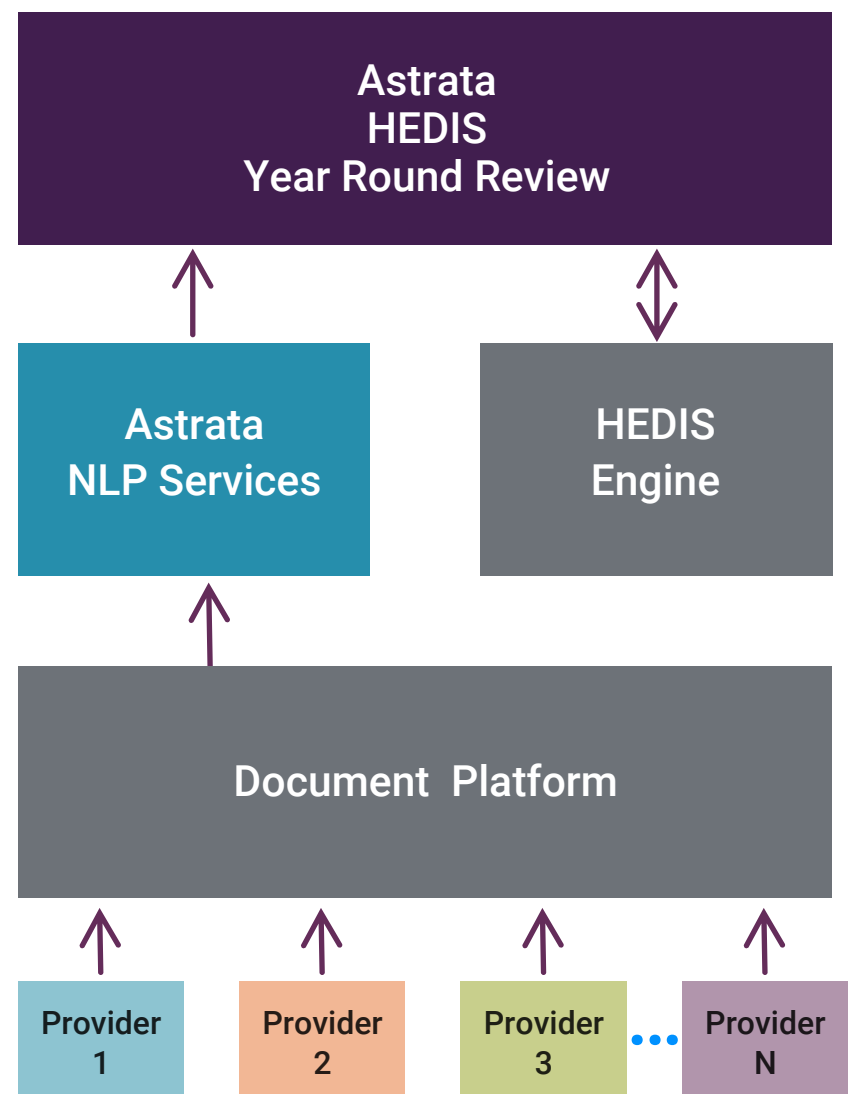


A suite of applications and services

Astrata's suite of cloud-based NLP applications and services is designed to make measuring quality more efficient and accurate through machine learning and automation. NLP tools standardize data collection so pertinent metrics are accurately identified and charts are not interpreted differently from one human abstractor to the next.

Health plans and health systems deploying this suite of applications and services can:

- Increase the number of cases and documents reviewed by 50% or more, with accuracy equivalent to manual review
- Improve the process, outcome, and efficiency of collecting, evaluating, and reporting quality measures
- Reduce medical record review costs
- Expedite and reduce chart chasing
- Strategically front-load gap closures during review
- Gain more time for quality improvement during the performance year
- Increase HEDIS scores and Star Ratings



The full NLP tool suite is currently in production at UPMC Health Plan for HEDIS year round review. The suite is configurable for a variety of health plans and quality programs. Get in touch with us to learn more.

Astrata

For more information on Astrata's healthcare analytics tools, please contact:

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