SCALING UP YEAR-ROUND HEDIS® WITH NLP INSIGHTS

Case Study & ROI Analysis

Astrata   UPMC HEALTH PLAN

ROI STUDY SNAPSHOT

**ASTRATA'S HEDIS®-SPECIFIC NLP PRODUCTS
IN USE AT UPMC HEALTH PLAN FOR MEASUREMENT YEAR 2021**

22.4K GAPS PER ABSTRACTOR
Potential for gaps closed
in prospective season
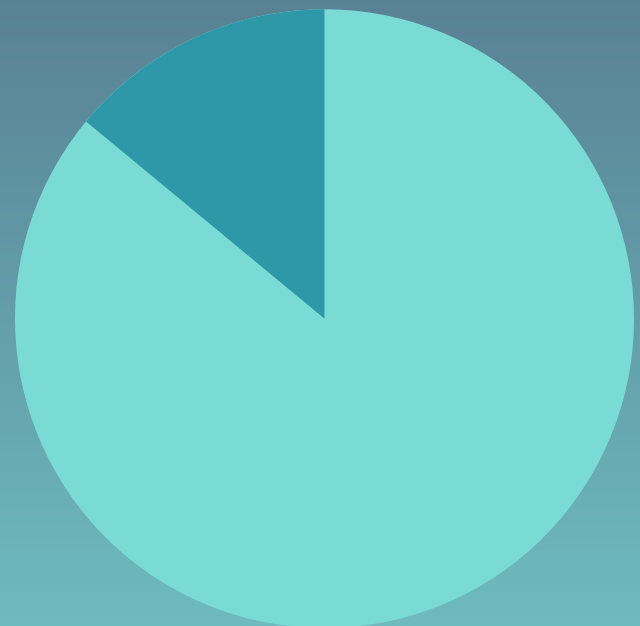
7.6X FASTER
Than standard practice

$2.5 MILLION
Potential for reduced
abstraction costs |
6-month prospective
season | 10-person team

30.3 PER HOUR
Gaps closed per abstractor

$5 MILLION
Potential for reduced
abstraction costs | full year
| 10-person team

Astrata   **UPMC HEALTH PLAN**

✦ BACKGROUND

In 2020, UPMC Health Plan implemented Astrata's Chart Review, a Year-Round Review product to find and close quality care gaps across its entire membership in compliance with the Healthcare Effectiveness Data and Information Set (HEDIS®) quality measurement guidelines. After seeing initial success within a small subset of HEDIS hybrid measures, UPMC Health Plan fully rolled out Chart Review to review quality measures across its Medicare Advantage and Medicaid populations.

✦ UPMC HEALTH PLAN'S QUALITY ABSTRACTION

The National Committee for Quality Assurance (NCQA), the organization that manages the HEDIS measure set, has set a goal to digitize quality measurement by transitioning away from the manual process of retrospective, sample-based medical record review towards a digital future of quality measurement across the entire member population.

As an NCQA accredited Health Plan, UPMC Health Plan performs medical record review (MRR) for a subset of HEDIS measures during "sample season". The additional compliance measured by MRR provides a higher and more accurate reported measure rate, with an associated impact on incentive programs such as Star Ratings and Medicaid pay-for-performance.

Supporting over 700,000 Medicare Advantage and Medicaid covered lives, UPMC Health Plan deploys a team of 20 abstractors to manually obtain and abstract 20,000 charts each year across all measures.

Recently, NCQA has signaled that the HEDIS sample is being phased out. Like other high performing health plans, UPMC Health Plan is moving towards a year-round, population-based approach to quality measurement, which includes the need to abstract quality data from medical charts across entire populations.

To address this evolution, UPMC Health Plan needed a comprehensive, data-driven approach to surface relevant clinical information from member data. The UPMC Health Plan turned to natural language processing (NLP) technology, to increase abstractor productivity in order to conduct MRR at scale, across entire populations.

✦ THE ASTRATA SOLUTION

Developed by Astrata in partnership with UPMC Health Plan, the Chart Review YRR application leverages purpose-built AI & NLP technology to scan the population of health plan members, which analyzes the unstructured clinical data for evidence of applicable measure compliance.

Through a single interface, abstractors leverage prioritized worklists that pinpoint relevant evidence of measure compliance and close gaps within the quality workflow. Increased abstractor efficiency enables the Quality Measurement and Improvement teams to perform MRR throughout the year, close member gaps during the current measurement year (MY), optimize member outreach and intervention and reduce efforts during the sample review process, from reducing chart acquisition to speeding the sample MRR process.

February 17, 2022

◆ SUMMARY OF IMPACTS

From June – December 2021, the UPMC Health Plan used Astrata's Chart Review application and YRR process to close member gaps for the HEDIS 2021 Measurement Year (MY2021) across UPMC Health Plan's Medicare Advantage, Medicaid, and Special Needs populations. The abstraction team reviewed 14 measures and sub-measures developed and deployed through the Chart Review application to **close more than 20,000 gaps**. Additionally, Chart Review will be utilized by the UPMC Health Plan Quality team during the MY2021 sample review from January – June 2022.

◆ ACHIEVING MEDICAL RECORD REVIEW AT SCALE

The Chart Review application enabled the UPMC Health Plan team to achieve efficiency gains necessary to perform YRR on the entire member population by 1) organizing work queues so that members with high likelihood of gap closure were closed first, and 2) pinpointing the necessary evidence for measure compliance within clinical documents for easy confirmation and submission. The integration of Chart Review into the UPMC Health Plan's quality measurement workflow enabled the team of abstractors to **find and close gaps at an average rate 7.6x faster** than the standard MRR process, with some measures like Colorectal Cancer Screening having a speed-up factor over **27x faster** than the baseline MRR.

Across all measures , UPMC Health Plan abstractors were able to find and close an **average 30.3 hits per hour**. With the new technology-enabled workflow, one abstractor performing full-time effort during the YRR season (June – December) would be able to individually close approximately **22,400** open gaps (hits).

This marked increase in abstractor efficiency is made possible by Astrata's high accuracy. With **nearly all measures having a precision (positive predictive value) over 90% (Figure 1)**, the team of abstractors were reliably able to review a member's clinical documentation with the expectation of finding a positive result.

MEASURE	PRECISION (PPV)
Controlling High Blood Pressure (CBP)	0.96
Cervical Cancer Screening (CCS)	0.99
Comprehensive Diabetes Care (CDC)	0.98
Childhood Immunization Status (CIS)	0.97
Care for Older Adults (COA)	0.89
Colorectal Cancer Screening (COL)	0.88
Immunizations for Adolescents (IMA)	0.97
Lead Screening in Children (LSC)	1.00
Prenatal and Postpartum Care (PPC)	0.95
Weight Assessment & Counseling for Nutrition (WCC)	0.94
Transitions of Care (TRC)	0.99
Osteoporosis Screening in Older Women (OMW)	0.90

Precision, a measure of false positives (FPs), is defined as True Positives /(True Positives + False Positives), when measured against a gold standard. It is also known as positive predictive value (PPV).

[1] The number of closeable gaps is determined from a weighted average rate of gap closure taken from the MY 2021 Year-Round Review period.
[2] Chart Review Measures and Sub-Measures: Controlling High Blood Pressure, Cervical Cancer Screening, Comprehensive Diabetes Care, Childhood Immunization Status, Care for Older Adults, Colorectal Cancer Screening, Immunizations for Adolescents, Lead Screening in Children, Prenatal and Postpartum Care, Transitions of Care, Weight Assessment and Counseling for Nutrition

✦ REDUCED LABOR COSTS

Cost savings using the product are dependent on abstraction volume. For each full-time abstractor deployed during the June-December prospective HEDIS season, UPMC Health Plan realized a savings of $254,000 from the increased efficiency in closing gaps. For a team of ten abstractors, a health plan would realize **$2.5 million in savings during YRR**, and $5 million in total savings if that team of ten abstractors worked throughout the entire year closing gaps across its entire member population.

✦ NLP PRIORITIZED MEASURES

YRR enabled UPMC Health Plan to prioritize several important CMS STAR Ratings' measures (Care for Older Adults, Transitions of Care, Controlling High Blood Pressure) where claims provide limited information. For these measures, health plans rely primarily on MRR during the HEDIS sample to determine measure rates. This creates new opportunities for interventions that impact these rates during the measurement year by improving member health and potentially increasing Star Ratings. The Quality team was able to abstract nearly all open gaps that had been prioritized by the NLP for these measures.

✦ FINDING EVIDENCE FASTER

This technology and workflow were able to determine member compliance status far in advance of the administrative claim being generated and processed by the HEDIS measurement process. An analysis of gaps closed first by YRR and then by an administrative claim found that 10.8% of YRR closures occurred 60+ days before the administrative claim was processed, and 4.1% of YRR closures occurred 90+ days before the administrative claim.

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for an overview of Astrata's purpose-built,
HEDIS®-specific NLP products.
For demos and more details,
Reach out to us at
Sales@astrata.co

MEASURE	% ABSTRACTED
Care for Older Adults - Pain Screening	93.0%
Comprehensive Diabetes Care - Nephropathy	83.5%
Care for Older Adults - Functional Assessment	77.5%
Care for Older Adults - Medication Review	75.3%
Care for Older Adults - Medication Reconciliation	73.8%
Colorectal Cancer Screening	69.7%
Comprehensive Diabetes Care - HbA1c	69.0%