

IngenioRx's Clinical Rules Engine uses power of data to personalize care



The Clinical Rules Engine (CRE) combs through members' pharmacy, medical, and lab claims data to find gaps in care.

At IngenioRx, we use our ingenuity to bridge gaps between our members and personalized pharmacy care. One powerful tool we use is the Clinical Rules Engine (CRE), an automated data analysis platform. The CRE combs through members' pharmacy, medical, and lab claims data to find gaps in care, ranging from missed prescription refills to untreated chronic health conditions. "The CRE's main goals are to identify and close gaps in care to improve the lives of members and reduce costs," says Product Manager Davena Gramke.

The CRE has been a key part of IngenioRx's evidence-based approach since our launch as a pharmacy benefit manager (PBM). We include the technology in several solutions, including cost management programs, the Rx Care Nexus suite of digital pharmacy tools, and clinical quality measures such as Healthcare Effectiveness Data and Information Set (HEDIS) and Medicare star ratings.

How the CRE Works

Users of CRE technology can create snippets of code logic, called rules. These rules are programmed to identify clinical care gaps and measure outcomes. With this data, we evaluate members' experience, care quality, and costs. The CRE finds care gaps, such as whether:

- The member had a major medical event recently, like a heart attack.
- The member is not being treated appropriately for their condition.
- There is a more effective drug for the member's diagnosis.
- A generic drug would reduce the member's costs.
- The member is not refilling prescriptions on schedule.

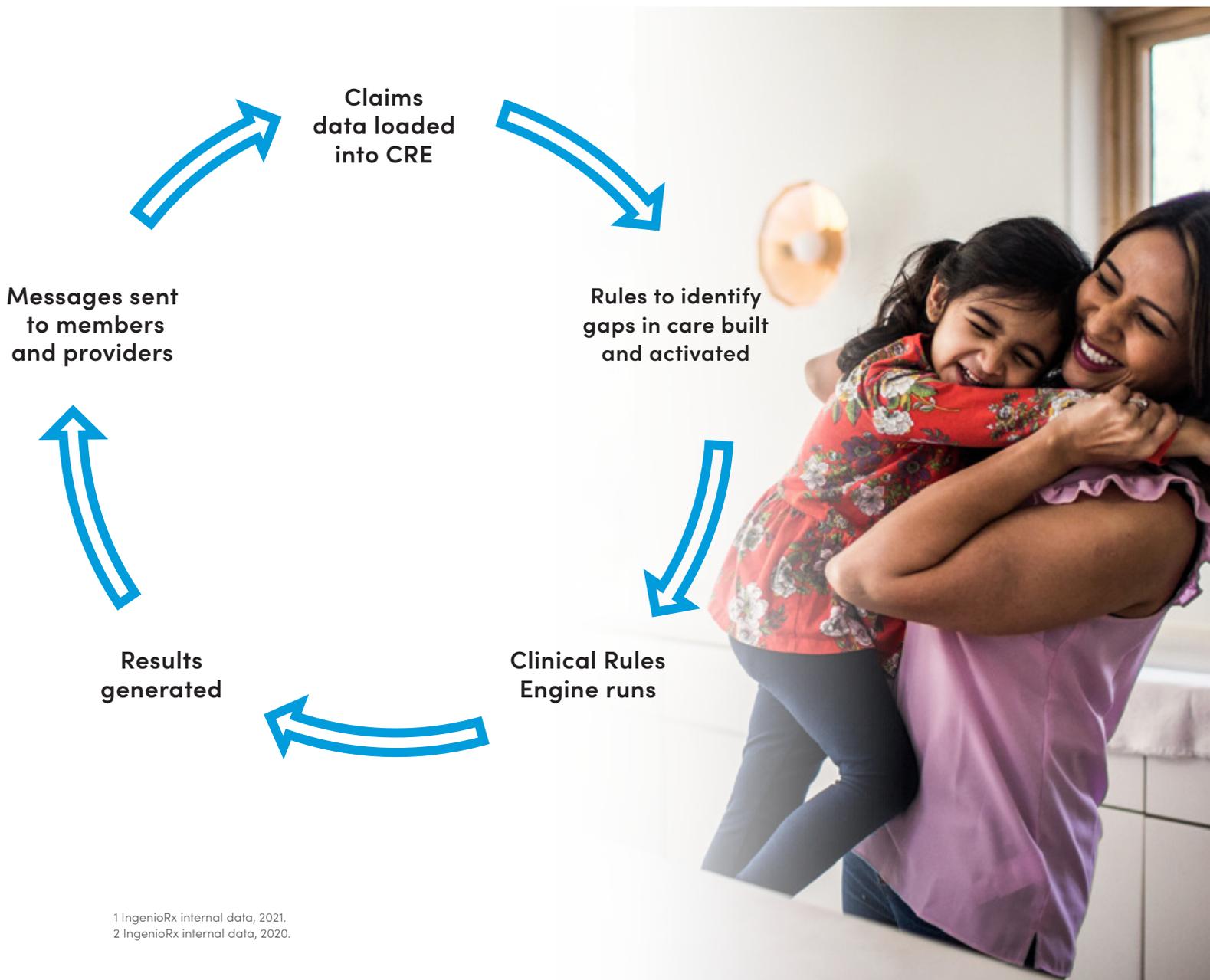


According to Gramke, the CRE runs about 8,000 automated rules each month. To date, the platform has found more than 4 billion possible gaps in care for combined medical and pharmacy claims.¹

When we see a gap, we engage affected members, their doctors, and other healthcare professionals, as needed. We address gaps with actionable plans designed to improve members'

behavior. We support these plans through a variety of channels, including direct mail, phone calls, text messages, and fax. This outreach can improve health outcomes, lower costs, improve adherence, and prevent abuse. In 2020, for example, CRE gap closures offset more than \$1.80 in per member per month (PMPM) medical costs and more than \$0.61 in PMPM prescription costs.²

CRE Data Flow Diagram



¹ IngenioRx internal data, 2021.
² IngenioRx internal data, 2020.

Example of a CRE Rule

We can combine several rules within the CRE to uncover specific care gaps. By following these steps, we identify qualifying members with diabetes who may benefit from an angiotensin-converting enzyme (ACE) inhibitor drug:



Identify all members with diabetes and hypertension.



Filter out members who are under 18 or pregnant.



Filter out members already taking an ACE inhibitor drug.



Flag the remaining population for outreach.

Based on the results provided by this rule, target members (nonpregnant adults with hypertension and diabetes who do not take an ACE inhibitor drug) and their doctors would be engaged.

How Success is Measured for the CRE

Gramke and her team run regular reports to measure how many members and doctors and other healthcare professionals follow our recommended treatments or behaviors. For example, the 2020 conversion rate for Medicaid members in our Controlled Substance Utilization Management program was 39%, representing \$0.03 PMPM in pharmacy savings.³ Statistics like these can positively impact Medicare star ratings, HEDIS measures, health outcomes, and overall cost of care.

Gramke believes the CRE helps IngenioRx act more intelligently. An article in the *New England Journal of Medicine* tends to agree. It states, “Using big data analysis to deliver information that is evidence-based will, over time, increase efficiencies and help sharpen our understanding of the best practices associated with any disease, injury or illness. In short, it can deliver on the promise of lowering healthcare costs while revealing ways to deliver superior patient experiences, treatments, and outcomes.”⁴

³ IngenioRx internal data, 2020–2021.

⁴ *New England Journal of Medicine: Healthcare Big Data and the Promise of Value-Based Care* (January 2018): [catalyst.nejm.org/doi/full/10.1056/CAT.18.0290](https://doi.org/10.1056/CAT.18.0290).



The Future of CRE

Although the current CRE has shown positive results, the platform is constantly evolving to further improve. “New features and functionality are being added all the time,” Gramke says. “We are implementing new rules daily to identify new care gaps for members in varying populations.”

IngenioRx is committed to continually improving the CRE to maintain our best-in-class performance. We upgraded the platform in early 2022, and a larger overhaul is planned for 2023. By consistently using big data to make evidence-based decisions, we can close gaps and deliver more personalized pharmacy experiences to our members.

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