

Automated Pill Dispenser Pilot Program Helps Members with Chronic Conditions



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For many people living with chronic conditions, prescription drugs are a daily part of life. Successful disease management often requires discipline – taking the right dosage at the right time. Unfortunately, according to a study published by the U.S. Department of Health and Human Services (HHS), up to 50% of prescribed medications are not taken as directed.¹ To help our members stay on track, IngenioRx launched an automated pill dispenser pilot program in March 2021.

The pilot empowers Medicare members with certain chronic conditions to better understand when and why they take medication. Multiple barriers to care can cause nonadherence in this group, including medication affordability, forgetfulness, misunderstanding, or a lack of transportation to the pharmacy. We hope to offer our Medicare members more independence and personalized care. An easy-to-understand automated pill dispenser could ease the need for relatives and caregivers to help with medication management.

Our program also supports the [Centers for Medicare and Medicaid Services \(CMS\) Five-Star Quality Rating System](#). This system measures healthcare plans and systems on a scale of 1 to 5 stars, with 5 stars being the highest. Star ratings measure areas such as patient experience, safety, and adherence. By following these measures and keeping our clinical pharmacy Star ratings high, IngenioRx can be a direct, positive influence on members' care.

How the Pilot Works

The automated pill dispenser pilot targets Anthem Blue Cross and Blue Shield Medicare members who have three chronic conditions — hypertension, Type 2 diabetes, and hyperlipidemia; take five or more oral medications; and have a history of medication nonadherence. Using verified claims, we identified nonadherent members as those who had medication on hand for less than 80% of total days prescribed. One hundred of these members agreed to participate in the program.

Once a member opts-in to our pilot, they receive a complimentary automated pill-dispensing machine. Our pharmacy partner mails a separate, prepackaged medication box labeled with a quick response (QR) code containing instructions customized for each member. The member plugs in the machine and follows on-screen activation prompts. Next, they load their medications into the top of the dispenser. Based on the QR code, the machine knows what medications the member is taking, when medication doses are due, and sends reminder alerts.

When it is time to take medication, the dispenser's screen flashes green and beeps. Members press the dispense button on the screen and the machine releases one dose. The beeps grow louder if the dose is not retrieved, and the screen flashes red if a dose is missed. Once the dose has dispensed, members are prompted to answer survey questions such as, "How are you feeling today?" and "Have you experienced any dizziness in the past week?"

Each month, the filling pharmacy prepares and sends additional boxes with medication refill packets, so the member never runs out of their prescribed medications. "The dispenser requires little or no effort on the part of the member," says Chelsea Day, Senior Product Manager at IngenioRx.

IngenioRx receives weekly reports on individual participants' adherence rate, as well as statistics on the entire pilot group. A technical support team is available if issues with the machine arise, and a dedicated pharmacy specialist is on-hand to answer participants' questions.



Medication Adherence Leads to Better Health and Lower Costs

The overall goal of the pilot is to make it easier for members to take their medications as prescribed. Annual costs associated with medication nonadherence in the U.S. range from \$100 to \$290 billion.² Such costs are attributed to pharmacy expenses, inpatient hospitalizations, and emergency room visits. The automated pill dispenser pilot is designed to improve health outcomes and lower the cost of disease management.

Evidence already suggests that automation improves adherence. A study published by the National Institutes of Health affirmed that older adults with chronic conditions found medication dispensing devices easy to use, very reliable, and helpful in managing their medications.³ Eighty-four percent of participants expressed a desire to use an automated machine in the future.³

"We believe this exceptional product supports not only medication adherence, but also addresses a number of barriers members may face when trying to access their medications," says Day.

The IngenioRx pilot will conclude mid-2022, after all participants have spent a year using their dispenser machines. At that time, we will assess medication adherence, adverse event occurrence, and total cost of care. Adverse events include data gathered from members' responses to survey questions, as well as frequency of hospital and emergency room visits. Success will be measured by increased adherence, using pharmacy claims data to calculate the proportion of days covered (PDC scores), comparing pre- and post-pilot results. If this pilot is successful, IngenioRx hopes to offer the dispenser to members on a larger scale.

1 U.S. Department of Health and Human Services, "Organizational Toolkit on Medication Adherence," September 2019.

2 Cutler, Raechelle Louise, Fernando Fernandez-Llimos, [Michael Frommer](#), [Charlie Benrimoj](#), and [Victoria Garcia-Cardenas](#), British Medical Journal. Economic Impact of Medication Non-adherence by Disease Groups: A Systematic Review. (January 2018).

3 [Blaine Reeder](#), PhD, [George Demiris](#), PhD, and [Karen D. Marek](#), PhD, MBA, RN, FAAN, National Institutes of Health, "Older Adults' Satisfaction with a Medication Dispensing Device in Home Care," August 2014.

