

EBOOK

USING DIGITAL HEALTH TECHNOLOGY TO MONITOR AT-RISK PATIENTS DURING COVID-19

**CATALYST HEALTHCARE PARTNERS WITH SPENCER HEALTH
SOLUTIONS TO MAKE CLINICAL MONITORING FASTER AND
EASIER**



**spencer
health
solutions**

RAPID OUTREACH TO PATIENTS AT RISK OF COVID-19

In early 2020, [Catalyst Healthcare](#), developer of the Catalyst AdhereNet® pharmacy software platform, partnered with [Spencer Health Solutions](#) to quickly deploy COVID-related survey questions to people using spencer® in-home medication dispensers. Outreach was especially important because the average patient was 71-years-old, took 7.5 medications daily, and often had more than one chronic condition — factors that put them at higher risk of complications associated with COVID-19.

The questions were an important tool for efficiently engaging patients in response to the novel coronavirus outbreak. This additional layer of clinical services was delivered to pharmacists to help them engage with customers quickly and efficiently using traditional methods, such as email or phone calls.

MEETING PATIENTS WHERE THEY ARE

In addition to dispensing the proper medication at the proper time, the spencer device engaged users with questions and other helpful information. Catalyst created two assessment questions specifically addressing COVID-19 symptoms to support early triage of those at risk:



1. Are you currently experiencing aches/pain/fatigue, sore throat, runny nose, some or all of the above, none of the above?
2. Are you currently experiencing fever, dry cough, difficulty breathing, some of the above, none of the above?

The queries were launched after every 12 dispenses. Since patients were already interacting with spencer to get their medications, the questions didn't feel like an inconvenience or interruption.

If a patient chose any answer other than "none of the above," the responses were analyzed by Catalyst's clinical team and flagged for follow up by a community pharmacist, when necessary.



TARGETED INTERVENTIONS REDUCE RISK

In the initial phase of the program, pharmacists followed up with 550 patients for intervention. A small number of patients (5 percent) were referred for COVID testing and ultimately received a negative result. The majority of respondents with symptoms (58 percent) were confirmed to be experiencing effects related to other medical conditions, such as COPD, asthma, allergies, cancer, or chronic pain. Of those, 12 percent were given additional counseling and resources, or referred to a doctor or nurse.

"There is one story that stuck out for me," recalls Kristen Antunes, Director of Clinical Outcomes at Catalyst Healthcare. "A patient had indicated difficulty breathing and when the pharmacist followed up, they discovered this patient was having issues with their asthma. The pharmacist took the opportunity to counsel again on the use of inhalers, and remind them what to look for if symptoms were to worsen and when to seek medical attention."

"Patients are feeling isolated and appreciate the phone call to check in and connect. These follow-up calls have given us the opportunity to check in with them, answer their questions, provide counseling, adjust medication times, reach out to their physician on their behalf, and even add reminders to their spencer devices. Overall, this has been a very positive initiative and a great opportunity to optimize medication therapy for our patients."

— Gabrielle Ho, B.Sc.Pharm., RPh.
Pharmacist, [Pack4U](#)

SPENCER AND COVID SCREENING



Sharon

55-year-old with difficulty breathing whose symptoms were confirmed to be due to asthma. Her pharmacist provided counseling on the use of a rescue inhaler, and encouraged her to seek medical attention if symptoms worsened or if new COVID-like symptoms developed.



Hugh

57-year-old with a dry cough who reported “some or all of the above.” He was referred to a physician and later admitted to the hospital for chest, groin, and kidney pain unrelated to the coronavirus. His COVID-19 test came back negative.



James

86-year-old with a sore throat who had recently visited a walk-in clinic, and was treated for allergies and sinus issues. He appreciated being contacted by the pharmacist for follow-up.

** Stories and impacts are real; names and images are not.*

IN-HOME TECHNOLOGY MAKES MORE POSSIBLE

As healthcare professionals take on more roles and responsibilities, it can be difficult to find time to reach out to patients.

“I’m no stranger to how busy and fast-paced a day in a pharmacy can be,” Antunes notes. “With often little time to counsel a patient or follow up, these COVID-19 screening questions give the pharmacist a quick update on how their patients are doing and a chance to check in.”

Using the spencer smart hub, healthcare providers can collect actionable, real-world data daily without an in-person or telehealth visit. And because the surveys are automatically delivered to patients, and alerts are automatically sent to professionals, the care team can focus on those patients with the most urgent needs or who are at the highest risk. In other words, they can deliver more and better care. In addition, when questions are customized for each patient, healthcare providers can gain insight into specific conditions.

“There are countless stories of success with patient engagement questions,” she notes, “From identifying new issues, counseling on existing medications or chronic conditions, and providing resources or community support.”

In addition to asking survey questions, spencer can connect to Bluetooth-enabled devices, such as blood pressure monitors, blood glucose monitors, and weight scales. “This allows vitals and other information to be recorded and analyzed in a timely way, giving us more relevant information about our patients’ overall health,” Antunes adds.

Atunes expects to see an increasing use of connected technology, particularly as the healthcare industry “adjusts to meet the needs of patients, specifically high-risk patients that need to minimize exposure and trips outside the home,” she explains. “Not only are telehealth visits and remote patient monitoring safer for these patients, but they also make it easier to connect with everyone in a patient’s circle of care.”

REAL-WORLD DATA ENHANCES CARE

“Our COVID-19 screening program is keeping our users and communities safe by catching symptoms early, making sure people know how and where to get tested, and providing timely, appropriate care, while keeping the rate of transmission as low as possible,” Antunes concluded.

The results of this program convinced Catalyst to expand its capture of real-world data (RWD) to include mental health data points in an effort to better assess and connect people with appropriate community resources.

TECHNOLOGY’S ROLE IN CARE

1. Real-world data – Automated surveys and health questions prompt patients to share important information with healthcare providers who can keep them healthy and safe. “Most times a health provider only receives this type of information during a clinic visit or perhaps a telehealth visit,” notes Alan Menius, Chief Scientific Officer for [Spencer Health Solutions](#). “When combined with health records, labs, and biometric data, survey questions help provide a continuous view of a patient’s daily health status.” Data reported from Spencer Health Solutions’ commercial pharmaceutical programs shows that 90 percent of users engage with the spencer smart hub by answering health questions and interacting with members of their care team.

2. Positive reinforcement – App- and device-delivered communications — such as reminders, reassurance, and recognition — reward patient engagement and engender feelings of empowerment and support. “By engaging with spencer, patients are acting as advocates for their health and well-being,” Antunes says.

3. Better adherence – Patients are more likely to take their medications as prescribed and stay on their therapy regimens when given convenient and consistent support. This support increases positive outcomes — even among patients with multiple medications and conditions — and reduces harmful interactions, emergency room visits, and other negative outcomes. “Patients typically achieve greater than 95 percent adherence when they use spencer, even if they have more than one chronic illness and/or manage multiple daily medications,” Menius notes.

4. Stronger connections – Automated and personal communications allow healthcare providers to form and nurture personal relationships with patients. “The COVID-19 screening questions are a valuable addition to spencer,” says Craig Tostenson, B.Sc.Ph., pharmacist and owner of Pharmasave Glenmore. “When I follow up with my patients, they appreciate the phone call. It’s a great point of contact.”



ISSUES

The Catalyst Healthcare clinical team had several issues to resolve concerning its patients during the global COVID-19 pandemic, including:

- An immediate need to monitor patients for COVID-19 symptoms
- A high number of at-risk patients
- An increased demand on community pharmacists' time, which in turn led to a recognized need for digital health tools to help flag patients who needed help



“A major ‘take-home’ for me was that we designed a specific question to handle an epidemic, and ended up creating a type of triage system for pharmacists to interact with their patients. Ultimately, we really helped many people in their healthcare journeys.”

— Alan Menius
Chief Scientific Officer
Spencer Health Solutions

SOLUTIONS

With help from Spencer Health Solutions and its spencer® smart hub, the Catalyst Healthcare clinical team was able to address the aforementioned concerns with the following interventions:

- Two screening questions were developed to identify known COVID symptoms and then deployed to patients' in-home spencer® devices every 12 dispenses.
- Reports were sent to the Catalyst Healthcare clinical team for assessment and population health analysis.
- The team worked with community pharmacists to identify and follow up with at-risk patients.

RESULTS

550

Patient interventions

5%

Patients who were flagged for testing and received a negative COVID result

58%

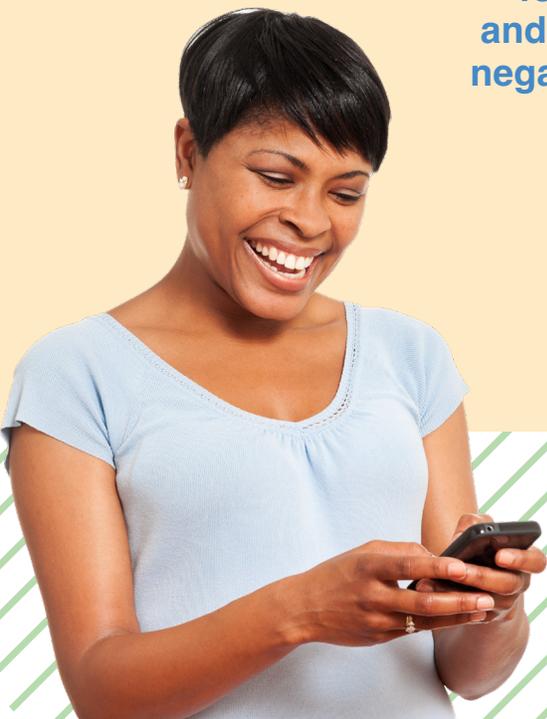
Patients who were contacted and had symptoms attributable to conditions other than COVID

12%

Interventions that included additional counseling and resources, or referral to a physician or nurse

75%

Patients who took action after being contacted by their pharmacist



Authors



Kristen Antunes holds a BS in Pharmacy from the University of Saskatchewan, Canada. As Director of Clinical Outcomes at Catalyst Healthcare, she leads patient engagement initiatives and works with community pharmacists to get meaningful results. For a patient or a population, improving health outcomes is her jam!



Alan Menius is the Chief Scientific Officer at Spencer Health Solutions. He is responsible for developing the scientific strategy for using the spencer smart hub in clinical research, as well as leveraging spencer data. Prior to this role, Alan spent 25 years at GlaxoSmithKline where he led advanced analytics teams responsible for leveraging disparate data sources and advanced analytics to inform the safety and effectiveness of medicines. Alan has more than 20 publications in peer-reviewed journals, and has been invited to give numerous presentations at national and international meetings regarding his work with advanced analytics.

ABOUT SPENCER HEALTH SOLUTIONS

Spencer Health Solutions is a digital health technology provider dedicated to improving patient engagement and medication adherence for clinical trials and commercial pharmaceutical programs. Headquartered in North Carolina's Research Triangle Park, Spencer Health Solutions' award-winning spencer® smart hub provides near real-time monitoring of patients' behaviors and Rx patterns that result in improved persistency, improved patient retention, and more positive health outcomes. For more information, visit www.spencerhealthsolutions.com.

ABOUT CATALYST HEALTHCARE/ PACK4U

Catalyst Healthcare, which is now known as Pack4U, is an award-winning technology company whose patented AdhereNet platform links pharmacists, patients and care teams to manage drug complexity and medication administration. Catalyst's connected technologies gather, share and correlate data in real-time, allowing pharmacists to better serve their patients and to play a key role in population health. For more information, visit catalystrms.com or pack4u.com.

