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INNOVATIONS

In the Incubator: Using 22otters for Colonoscopy Prep

Doctors can't be with patients everywhere—especially in the safety net. 22otters is a customizable patient outreach and education platform featuring a smartphone app that can walk patients through taking medication or prepping for a procedure. San Mateo Medical Center uses 22otters to instruct patients on completing bowel prep and educate them about the colonoscopy procedure—as well as explore the potential of this innovation to help coach patients on their health.

Seeing the Problem

Colonoscopies are routine procedures, but preparing patients for them can be difficult. Patients are asked to fast, avoiding solids and consume only particular types of foods. Patients should also arrange for a safe ride home, since they will be groggy from the medication after the procedure is finished. If patients show up after having forgotten, ignored or misunderstood these strictures, the colonoscopy can't be performed and the appointment has to be rescheduled. Even when followed correctly, questions about the preparation instructions account for a disproportionate number of calls to providers. This is costly, inefficient and frustrating for both patients and providers, and it impairs access to this important exam. These issues further compound the other factors that result in appointment no-shows, such as the lack of transportation options common among safety net patients.

A Health Coach on Your Phone

Among other things, 22otters saves providers time by providing an automated health coach to give patients information about their procedure and guidance about their prep. The 22otters platform includes both a smartphone app that uses voice and visuals to walk patients through the process and an interactive voice response (IVR) system that calls patients on the phone. It's available in both English and Spanish.

These digital interventions don't just save provider time—they also allow patients to study the instructions at their leisure. Too often time constraints force providers to rush through these explanations, leaving patients with confusion and unasked questions. By being able to go back on the app to review parts that were unclear, patients can make sure they fully understand what they need to do to prep for their procedure.

How It Works

- Patients being scheduled for colonoscopies are shown the 22otters smartphone app and encouraged to get it if they have a smartphone. If possible they should download and log into the app in the exam room. Otherwise they can be given a brochure to remind them to get the app later.
- Patients merely considering getting a colonoscopy should also be encouraged to download the app, which can explain the benefits and ease of the procedure and remind them to schedule one.
- Patients without smartphones who are being scheduled for colonoscopies should be signed up for the IVR call using their home or cellphone number.
- After downloading the app, patients can use it to look up their colonoscopy appointment date using the name of their provider and some basic personal information. When they have found that date, the app will then set up a notification to remind them of the appointment several days before and walk them through the preparations. If they don't have an appointment date yet, the app will encourage them to make one and set up notifications to check back a month later.
- After registering their appointment (or if they haven't yet made an appointment), the app will use simple slides and high quality voice recordings to give patients more information about the procedure, explaining the health benefits of getting a colonoscopy and using testimonials to ease patient nervousness.
- About a week before their procedure, patients will receive a notification from the app and/or a call on their phone to remind them of their appointment. The first reminder prompts patients to arrange for a trusted adult to take them home after their colonoscopy, as the medication will likely leave them drowsy. Patients will be asked if they have a ride set up. When they respond 'yes,' the app will check that step off their list.
- The day before the exam a notification from the app or a call from the IVR system will remind patients to begin their bowel prep fast. This will walk the patients through what they are allowed to consume and what they have to avoid. It will ask if they are okay with these dietary restrictions and reinforce their importance.
- The day of their exam the system will remind patients to wear comfortable clothes, bring their ID and insurance cards, and arrive early.
- As patients check off each step of these preparations, compliance data will be sent back to their provider. 22otters can also be used to track patient compliance on taking medication.
- 22otters offers a \$10 Target gift card to patients that complete confirmation of their colonoscopy prep steps via their system.

“This kills two birds with one stone. It reminds patients about their appointment and helps educate them about the procedure.”

-Syed Khan, Project Manager, San Mateo Medical Center

Results of the Pilot

San Mateo Medical Center piloted 22otters' colonoscopy prep platform for a year. In that time 967 patients were eligible for the trial (accounting for 1003 procedures). Only a small percentage (4.5%) downloaded the smartphone app, but the vast majority of those did use it, making over 2300 interactions with the app.

Status	2013-2014 (Pre-Go Live)	2014-2015 (Post-Go Live)
Canceled	222	190
Reschedule	165	195

Meanwhile the IVR system called 852 patients, most of whom answered the phone. 537 patients successfully answered questions using the IVR system. SMMC has seen a reduction in canceled appointments, and an increase in successfully rescheduled appointments.

Lessons from Practice

- For safety net patients, particularly older adults with low incomes, smartphone ownership is relatively low. Providers also found that many patients who did have smartphones were unable to download the app in the exam room due to a lack of phone reception. Giving patients a brochure to remind them to download the app proved to be ineffective. This made the IVR system a much more accessible option for most patients.
- SMMC found it critical to find ways to help staff and providers find time to incorporate use and marketing of the 22otters system into their workflow.

What's Next?

San Mateo Medical Center is continuing its use of 22otters for colonoscopy prep, and is looking for ways to more successfully push the smartphone app side of the platform. They are producing training videos to help staff learn how to explain and market the intervention to patients. Meanwhile 22otters is a platform that could be used for a variety of patient engagement projects, including tracking medication compliance, helping patients prepare for a general doctor's visit, and improving post-discharge self-management.

Learn More

- The San Mateo Medical Center tests technology interventions as a hub in the Innovation Centers for the Safety Net. Visit their website here: www.sanmateomedicalcenter.org
- For more information about 22otters, visit: www.22otters.com
- Find more Incubator briefs on our website: careinnovations.org.