Improving appointment throughput and preparation with patient navigation

A retrospective cohort study[1] with Yale New Haven Hospital's Department of Radiology and Biomedical Imaging

Philips teamed up with Yale New Haven Hospital's Department of Radiology and Biomedical Engineering as part of a quality improvement initiative to help reduce the no-show rate, improve patient preparedness for scans, improve patient satisfaction, and ultimately increase revenue for the hospital. Following the success of the diagnostic imaging preparation programs, Yale New Haven Health System and Philips together addressed patient engagement challenges across the enterprise.

12.5%
Increase in total completed appointments

8.6/10
Patient satisfaction

Sample messages

At time of scheduling

Welcome to Yale New Haven Radiology! This texting program will send info for your upcoming scan(s). (Msg/data rates may apply. Reply STOP to stop msgs.)

For your PET scan on 8/01 at 10:00AM:
Prep info: info.clinic/83jf2io ①
Location info: info.clinic/0m3829 ②

For your upcoming PET scan: IMPORTANT! We need you to answer two questions for your scan: info.clinic/a4n6lk ③

T-1 day†

We look forward to seeing you tomorrow at 10:00AM (arrive 30 mins early). If you need to cancel/reschedule your PET scan, call us at (203) 737-XXXX.

① **Radiology & Biomedical Imaging** — Yale NewHaven Health

Metabolic FDG Brain Scan
Pre-Exam Information and Instructions

Your doctor has ordered a FDG-PET scan, which stands for: fluorodeoxyglucose (FDG)-positron emission tomography (PET). This procedure detects metabolic activity of
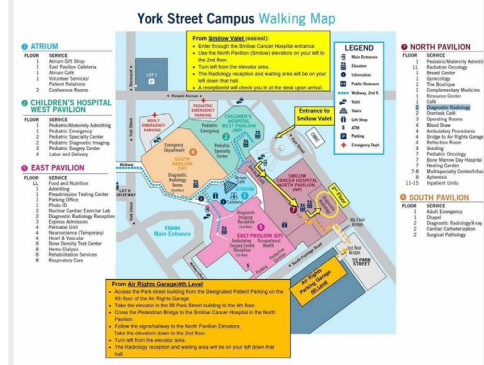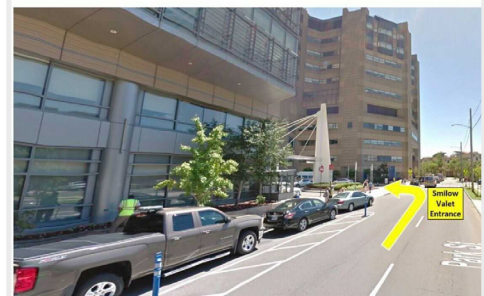
③ 1→ *Page 1 of 2*

Are you currently taking medication for diabetes?

A Yes, I take medication for diabetes.

B No, I do not take medication for diabetes.

② Smilow Valet 35 Park Street, New Haven

York Street Campus Walking Map

The challenge

In 2019, Yale New Haven Hospital's radiology leadership team embarked on a quality improvement project to help patients better prepare for appointments with challenging preparations. Staff recognized that patients who missed important pre-visit instructions were contributing to lost slots and the inefficient allocation of expensive resources. Having previously relied on staff-initiated phone calls and emails, Yale New Haven Hospital targeted an evolution of their patient outreach methods to deliver instructions and content conveniently and directly to patients' mobile devices. By leveraging text messaging as part of their patient outreach capabilities, they sought to streamline and automate their patient communications to improve slot utilization, patient preparedness and ultimately revenue capture. Despite maintaining a relatively low combined no-show and late cancellation rate (9.2%), the team at Yale New Haven Hospital understood that more activated patients also means increased staff and patient satisfaction — metrics core to Yale New Haven Hospital's reputation as a top academic medical center.

The solution

After a robust evaluation phase, Yale New Haven Hospital partnered with Philips to develop SMS-based pre-visit navigation programs designed to educate and provide step-by-step guidance to patients across computed tomography (CT), positron-emission tomography (PET) and nuclear medicine imaging appointments. Yale New Haven Hospital's radiology leadership recognized Patient Navigation Manager's outcomes-driven approach, attentive service support, and the platform's ability to reach patients in their preferred languages and communication modalities. Most importantly, Yale New Haven Hospital valued Philips' collaborative and patient-centered process, matching its own culture of continuous improvement. Philips worked with clinicians, administrators, quality and safety leaders, and the Patient Family Advisory Council at Yale New Haven Hospital to create English and Spanish-language navigational programs for these exams. Patients with exams scheduled more than two days out received a comprehensive pre-visit program, while exams scheduled within two days received an abbreviated set of messages.

The CT, PET, and nuclear medicine programs delivered precisely timed surveys, appointment-specific education, and navigational instructions via text message and web-hosted modules. Patients were sent tailored surveys, instructional content and important time-sensitive information such as NPO and medication-adherence messaging, all of which was based on appointment and patient-specific characteristics.

The Philips and Yale New Haven Hospital partnership tested the impact of time-released, text message navigation on the show rates for patients scheduled for CT and PET scans as well as the rates of poor preparation among patients scheduled for PET scans over a three-month period.

The results

The text message-based outreach program was delivered to a total of 6,610 patients with exams scheduled in November of 2019 through January of 2020. The average patient satisfaction with the digital navigation program was 8.6 out of 10 based on 787 patient responses. The combined no-show and late cancellation rate was reduced by 12.8% relative to the same three-month period from the prior year. Finally, the overall completion rate for patients enrolled in Philips increased from 63.4% to 71.3% (12.5% increase in total completed appointments [p<0.01]). This represented a noteable improvement in staff and equipment utilization. Yale New Haven Health and Philips partnered to launch pre-visit navigation programs across perioperative services and all ambulatory appointments.