The Evolution of Patient Empowerment

Self-scheduling new patient consultations

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I n 2021, staff of UCSF Health's oncology service line assessed the impact of the pandemic on cancer care and accessibility. Understanding the fear and anxiety that a cancer diagnosis or progression can evoke in patients and their families, the Seeking Care Patient Experience Team centered its efforts on this pivotal juncture in a patient's journey. The team introduced web self-scheduling to revolutionize the existing fragmented workflows and streamline the process of seeking care from a cancer specialist. This approach also was an effective patient acquisition tool, and it contributed to the growth of our cancer service line.

Patients now have the option to conveniently self-register and schedule appointments through 2 distinct models. Model A facilitates direct scheduling of new-patient appointments with a cancer specialist; appointment slots are available in as soon as 2 business days. Alternatively, in model B, patients can swiftly secure an intake appointment with a navigator, with slots accessible as soon as the following day. The seamless web scheduling process operates around the clock, ensuring accessibility at any time. In the event of receiving distressing news in the evening from their primary care or another provider regarding a cancer diagnosis or suspected cancer that requires further examination, patients no longer need to wait until the following day or for several days during weekends. Instead, patients can promptly book their appointment online, providing them with the reassurance that their medical journey is progressing. UCSF Health welcomes self-referred patients, although appointments may be subject to insurance authorization.

Experience in Scheduling Patients With Breast Health Concerns

Office staff of referring physician offices are now actively encouraged to submit a referral form simultaneously when directing their patients to use the convenient web-based self-scheduling process. In the past, patients often remained uncertain as they waited for the cancer specialist's office to reach out after receiving the referral. This revamped workflow places the reins in the hands of patients, granting them greater control over the referral and scheduling process. Moreover, our breast care centers extend a direct invitation to patients with any abnormal breast findings (eg, lumps, abnormal imaging, or pain) to promptly schedule their clinical evaluation with 1 of our dedicated breast care specialists. These specialists then oversee any subsequent steps necessary for the comprehensive workup and assessment.

> Integrating a new self-scheduling system with the existing electronic health record (EHR) platform and other health care management systems can be complex.

Understanding the significance of early detection, UCSF Health introduced a user-friendly, web-based self-scheduling system for screening mammograms at all its imaging center locations that is available to any woman. We eliminated the need for a physician referral or order, thereby removing potential barriers for healthy women who may not be under the care of a clinician. For those with a primary care provider, mammogram results are seamlessly routed to ensure transparency and continuity of care. In the event of an abnormal screening mammogram, our dedicated nurse navigators collaborate directly with patients, which facilitates additional imaging and clinical evaluation coordination.

Accuracy of Patient Self-Selection

We first introduced web-based self-scheduling for new patients with an intake navigator because our clinicians were not ready to allow a patient to make a first appointment. Concerns included patients' inability to accurately self-schedule with the right type of cancer provider or in the right disease area. Patient advisory council members recommended easy navigation and minimal electronic decision-tree branching. Concern over a *wasted visit* was repeatedly expressed with 2 primary scenarios identified:

- The patient arrives to new patient consultation and sees the wrong provider.
- The patient sees the right provider, but adequate medical records and outside imaging and pathology results are not present and available for provider review to render a comprehensive opinion and treatment plan.

Integration With Existing Systems

Integrating a new self-scheduling system with the existing electronic health record (EHR) platform and other health care management

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systems can be complex. Compatibility issues and interoperability challenges needed to be addressed along with feasibility of overlaying the workflow on top of existing web platforms.

Capacity and Timely Access

We could guarantee access to an intake navigation appointment on the next business day, but provider capacity and timeliness of available new patient appointments varied widely across UCSF Health's cancer service line. In most areas, fewer than 50% of new patients were seen within 14 days of their referral. We had to ensure that the web-based patient self-scheduling service did not increase delays and timeliness of care.

We created dedicated early and evening slots for new-patient navigation teams as a pilot program for patients to schedule a phone call with a live person. When patients meet with our intake navigators, the navigators follow practice-based prioritization guidelines—contingent on the patient's clinical presentation and medical record review—that often results in navigators adding patients to already booked templates. Intake navigators may also de-escalate certain patients based on their goals. For example, if patients are seeking a second opinion, intake navigators may strategically coordinate the selected date to occur after the next cycle of chemotherapy and imaging studies.

Guardrails and Workflows

To get provider buy-in to allow new patients to schedule appointments themselves, we had to develop technical solutions and operational workflows that could act as guardrails to ensure an optimal outcome. Our clinical systems team partnered with our practice operations teams to create an Epic work queue that contained all appointments scheduled by new patients. This tool allowed the practice team to review the appointment for several key indicators:

- The team checked the patient's accuracy in scheduling an appointment with the right provider.
- The team noted the timeliness of an appointment; if a patient had self-scheduled on a date later than we would advise, the patient was contacted by the scheduling team to offer a more suitable appointment.
- Patients were instructed to have any outside medical records faxed to the team.

Our practice staff curates records both from our fax queue as well as Epic's Care Everywhere module. Based on the findings, our staff contacts patients to obtain anything clearly missing or to secure actual imaging files or pathology slides.

Enhancing the Patient Experience

Our objective was to enhance accessibility and scheduling efficiency to ensure a seamless experience for new patients around the clock. This objective required a balance between the information we needed from patients and our data requirements as we prioritized their experience. Central to our approach was keeping the patient at the forefront. Initially, each of our practices had its own separate website page, making it necessary for patients to locate the specific landing page to schedule an appointment. To streamline this process, we consolidated all scheduling landing pages into 1 landing page that featured a prominent *Schedule an appointment* button. Now, via a series of user-friendly prompts, patients are seamlessly directed to the appropriate disease-specific scheduling section. Each disease area may include a few targeted decision-tree questions to ensure accurate scheduling, but we also limit the patient self-registration information to optimize the experience. Further, we allow patients to indicate their preference for an in person or a video telehealth initial consultation.

> Scheduled phone calls to arrange an intake appointment allows patients to organize crucial information (eg, insurance details, medical records, and care team information) as they arrange their new patient appointment with a cancer specialist.

Improving the Staff Experience

The new-patient navigators have reported significant improvements from the prior practice of cold calling or even texting potential new patients. In today's digital age, many individuals solely possess a cell phone number and often contend with a barrage of unsolicited marketing or spam calls. Consequently, people tend to ignore calls from unfamiliar numbers. Our new-patient navigators previously grappled with prolonged *phone tag* with potential new patients. Cold calling often resulted in inconvenient timing, and patients frequently could not have a private discussion with our navigators due to various external factors like childcare responsibilities or presence in public settings.

Scheduled phone calls to arrange an intake appointment allows patients to organize crucial information (eg, insurance details, medical records, and care team information) as they arrange their new patient appointment with a cancer specialist. After patients self-schedule an intake appointment, they receive an automated email containing comprehensive instructions on how to prepare for the upcoming call.

The Technology

The scheduling experience was built directly in the EHR using MyChart Open Scheduling (Epic Systems, Inc) with decision-tree functionality to route patients for an optimal provider match. Maintenance was a concern, so questions were standardized and shared wherever possible and customized only when necessary. Onscreen patient instructions and confirmation letters were customized to provide patients with details specific to each cancer specialty. Clinics were given a standard letter template that they could modify to ensure a common patient experience across clinics.

To capture satisfaction metrics and patient feedback, we worked with our clinical systems partners to create a popup survey that displayed 2 seconds after a patient reached the scheduling confirmation

page. The survey captured patient comments and metrics for net promoter score, satisfaction, and ease of use. This feedback was used to adjust the scheduling tool.

Improving Commercial Payer Mix

Web self-scheduling has been beneficial for the cancer program. An overall 63% commercial payer mix has been noted with self-scheduling as compared to an average 45% commercial payer mix noted before self-scheduling was implemented. In scheduling appointments with cancer specialists, the commercial payer mix was 72% when model A was used and 62% when model B was followed.

> The return on investment demonstrates a rise in new-patient volumes that results from the convenience of being able to easily self-schedule specialty cancer care.

One Trailblazer is Often Enough

To overcome many obstacles and barriers, we identified an initial group of physicians who were willing to partner on the process and invest in patient access. We started with our breast surgery group at 1 of our regional sites. These physicians and their advanced practice providers were able to cover 5 days of clinic with each practitioner seeing patients 3 to 4 days per week. These providers had the capacity to see new patients and could typically get them booked within a few days of the referral. Providers were flexible and willing to see a patient who presented without adequate medical records or imaging results.

Once we worked out some of the kinks, the medical oncology team at the same regional site became our next partner. Patients referred to medical oncologists are complex, but simple patient decision trees prompt for guidance. By this point, we had refined our tools and could proactively quarterback and shepherd patients into a successful and value-added appointment with the physician and ensure that we secured records, imaging, and accurate insurance information as well as authorization. As we expanded the types of oncology services available at this regional site, we created an expectation that any provider seeing patients at this location would be part of our web-based new-patient self-scheduling initiative. It took some convincing, but we gained support. Currently, the program offers 7 different services at this location.

We then extended invitations to practices and physicians at our main academic medical center campus in San Francisco to collaborate and adopt this program. Members of 1 of our surgical oncology practices eagerly embraced the opportunity; although providers were concerned about a potential drop in patient volumes, they were willing to explore creative solutions. Historically, our capacity had been lower than the demand, leading to a lack of incentive to try innovative and potentially risky approaches when existing patient referrals could

barely be managed. However, the success of the program in the initial academic medical center practice generated interest from other practices and leaders. As a result, we have successfully implemented the program in additional areas, and we plan for further expansion.

Our Results After the First Year

- *Decreasing time from referral to schedule.* In our academic medical center San Francisco-based practices, we observed a notable improvement in the metric of referral date-to-date scheduled appointments. Three months after implementation, the average improvement for patients scheduled within 5 days of their referral improved by 30 points.
- *Time of day and day of week preferences for self-scheduling.* Some 44% of new-patient self-scheduled appointments with a navigator or with a provider are booked outside of normal business hours, defined as Monday through Friday from 8:00 AM to 5:00 PM (**Figure 1**). From a patient acquisition standpoint, the ability for patients to self-schedule outside of normal business hours has improved our patient acquisition and market share in several disease areas.
- *New patient acquisition metrics.* Since implementation, 28% of the new patients who self-scheduled were new to the UCSF Health System (**Figure 2**).
- *Patients reported usability experience.* Patients were asked about their scheduling experience at the end of the process. 92% selected somewhat easy or extremely easy to use, with 8% requiring some assistance.

Unexpected Outcomes

After careful analysis of these data, we saw that not all patients will select the earliest available appointment offered. In fact, patients in our breast surgery practice often choose an appointment that is over 7 days later than the earliest option. We interviewed several patients, and we learned some drivers of their selection were based on other competing calendar commitments. For example, patients with a breast problem (eg, a breast lump) may not feel as great a sense of urgency and may select an appointment date and time that is most convenient for their schedule versus the earliest 1 available. In the same practice, some patients with a new cancer diagnosis knew they were having additional imaging, so they chose to book an appointment date with our breast surgeon to coincide after completion of additional imaging.

Outcomes Aligned with Our Hypothesis

The return on investment demonstrates a rise in new-patient volumes that results from the convenience of being able to easily self-schedule specialty cancer care. This improvement is further emphasized by enhanced staff productivity that is achieved as patients complete registration fields on the web, eliminating the need for staff to transcribe information from manual forms. Also, the transition from a manual web request form to direct web self-scheduling has increased booking rates. These positive outcomes are underpinned by comprehensive end-to-end experience and engagement analytics, which measure user interactions and gather experience feedback. This analytical approach enables teams to continuously refine and enhance the overall process.
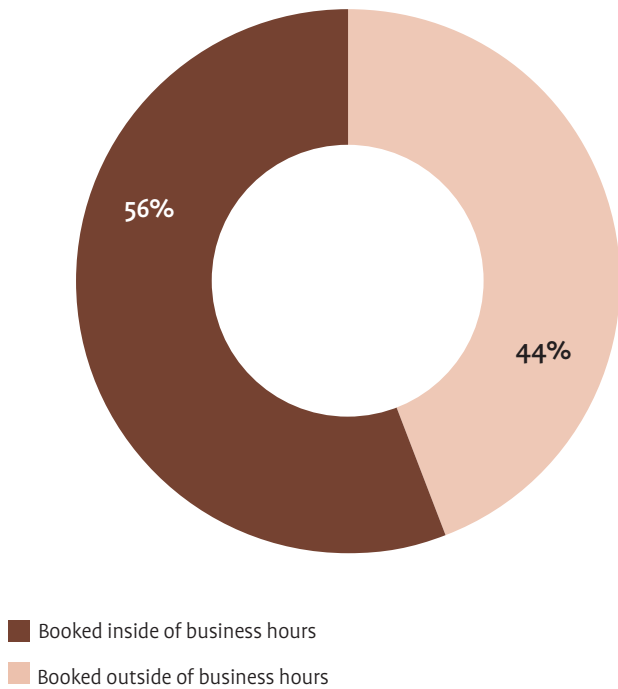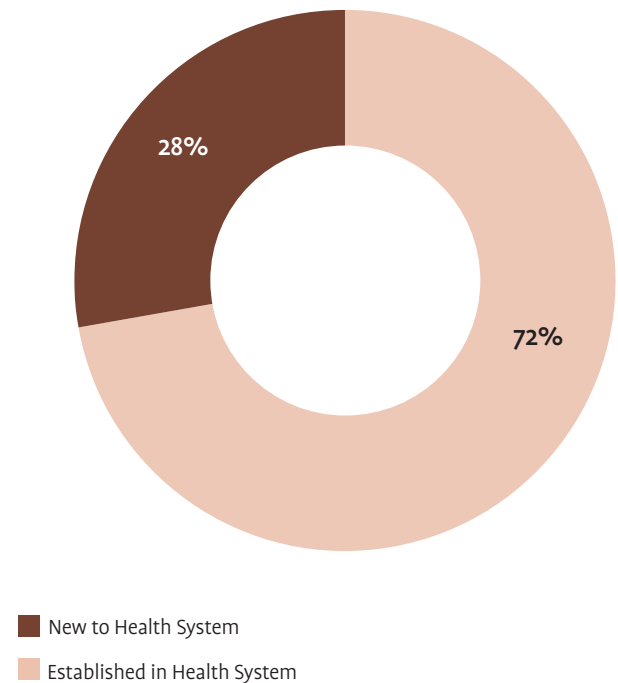
Figure 1. Booking Hours

- 56% Booked inside of business hours
- 44% Booked outside of business hours

Figure 2. Percentage of Self-Schedule Patients New to Health System

- 28% New to Health System
- 72% Established in Health System

Continued Development and Optimization

The journey of patient empowerment through web-based self-scheduling continues to evolve. Some key optimizations currently underway include the following.

- An acknowledgment button should be added so patients do not book something medically urgent or time-sensitive with an appointment date several days or weeks in the future. Since patients enter a reason for a visit now, our staff can review self-scheduled appointments. We have identified a few patients who had clinically time-sensitive medical conditions that require same-day attention (eg, an inability to urinate). We believe that a statement advising them not to self-schedule and to seek immediate medical evaluation will improve our current approach.
- An acknowledgement button should be added for patients to confirm that they understand that they should review our insurance plan contracts web page or to verify with their insurance company that we are in their network.
- To streamline the process, we aim to enhance integration with EPIC's Fastpass features. This improvement will automatically place patients on a waiting list if they self-schedule an appointment more than 14 days into the future. Currently, staff manually review the work queue for self-scheduled patients, calculate the lead time to the appointment, and add them to the waitlist. Automating this process will increase efficiency and accuracy.
- Addressing issues related to patient honesty and scheduling disparities between sites without web-scheduling capabilities is also

crucial for a seamless experience. We need to ensure that patients are truthful in their responses and that individuals who are delayed or turned away at 1 site without web scheduling do not encounter problems when scheduling at a site with web capabilities.

Case Study: New Patient Navigator Scheduling for Endocrine Surgery and Oncology

The patient arrives at the clinic page for UCSFHealth.org and clicks the *Request Appointment* link. When the patient arrives at the scheduling tool, they are asked standard routing questions, custom questions for the clinic, and questions about a desired location for the appointment.

Standard Routing Questions

The patient arrives at the scheduling tool. They are asked a question to help determine whether they are new to the clinic or an existing patient. If they click *No* to having been seen over the past 3 years, they continue to *Open Scheduling*. If they click *Yes*, they receive messaging that they can log into MyChart to book an appointment with a provider they have seen before. Alternatively, they could go back to answer *No* to schedule an appointment with a new provider.

Next, the patient is asked whether they live in the United States. If the patient clicks *Yes*, they continue to the next screens. If they click *No*, they are provided with information about registering with the international services office for assistance.

Custom Questions for Clinics

After the patients answer the standard questions, they may be asked to answer other customized questions that are requested by the clinic. Questions may be customized for a practice to ensure that the patient is a good fit. For example, patients scheduling an appointment with the Endocrine Surgery and Oncology departments are asked this question, "Has a doctor told you to see a surgeon for your diagnosis?" This question is asked to determine whether the patient needs to see a surgeon or an endocrinologist. If a patient has been told to see a surgeon for management of their diagnosis, they click *Yes* and are allowed to continue. Those who click *No* are advised to call the Endocrinology Department for an appointment.

Location Questions

UCSF Health has offices throughout the Bay Area; patients may be seen at a location convenient to them. Patients are offered appointments in the Berkeley or the San Francisco Peninsula areas. If they choose the San Francisco Peninsula area, they will be provided times to talk with a new-patient navigator who can help them to obtain an appointment. Further, patients are offered appointments to speak with a new patient navigator as soon as the next day.

Once a time is selected, the patient clicks the checkbox to go through the completely automated public Turing test to tell computers and humans apart (CAPTCHA) control. Patients must enter the reason for the visit to continue. They will see the date and time, and they will be informed that this is a telephone visit. They will also see standard new-patient navigator visit instructions. Patients can log in to schedule an appointment using their MyChart account or continue as a guest to schedule.

Clicking the *Log in and schedule button* takes the patient to the MyChart login screen, where the patient can log in and get the appointment confirmation. A patient who clicks *Schedule as a guest* is brought to a 2-page registration form.

Questions on the first page involve demographics, including basic patient characteristics and contact details. Following completion of the demographics section, the patient is brought to a webpage that asks for insurance information. They can select their insurance carrier and enter subscriber and member information for their plan. After filling in the insurance details, the patient clicks the *Submit* button and receives an on-screen confirmation.

The confirmation page contains information on the date and time of the appointment and verifies that the patient will have a telephone visit. The patient can add the appointment to the calendar, view full instructions, sign up for MyChart, or cancel the appointment from this screen.

A few seconds later, patients are given the opportunity to complete a survey about their scheduling experience. They can either complete the survey or exit to return to the confirmation page.

If the patient clicks *View full instructions*, they can see key information about how to prepare for the appointment. Those instructions are also sent in a confirmation email. At the bottom of the email is a link that allows the patient to cancel the appointment online. A patient can cancel the appointment without having a MyChart account. If a patient cancels the appointment, they will be given the opportunity to enter a reason for the cancellation, which helps staff to better understand the circumstances.

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Case Study: Direct to Provider Scheduling for Colorectal Surgery

The patient arrives at the clinic page for UCSFHealth.org and clicks the *Request Appointment* link. When the patient arrives at the scheduling tool, they are asked standard routing questions, custom questions for the clinic, and questions about a desired location for the appointment.

Standard Routing Questions

The patient arrives at the scheduling tool. They are asked a question about whether they are new to the clinic. If they click *No* to having been seen over the past 3 years, they continue to Open Scheduling. If they click *Yes*, they receive a message that they can log into MyChart to book an appointment with a provider they have seen before. Alternatively, they could go back to answer *No* to schedule an appointment with a new provider.

Next, the patient is asked whether they live in the United States. If the patient clicks *Yes*, they continue to the next screens. If they answer *No*, they are provided with information about registering with the international services office for assistance.

Custom Questions for Clinics

After patients answer the standard questions, they may be asked to answer other customized questions on additional information that are requested by the clinic. Questions may be customized to ensure that the patient is a good fit and to route them to the correct provider for their condition. As colorectal surgery staff need help from patients to track down relevant records, one of their custom questions is about where the patient previously received treatment.

To help route the patient, the next question concerns diagnosis. The answer to this question will route the patient to the correct set of providers for that condition. Clarifying questions further narrow the selection.

Selecting *Yes* to the question concerning the rectosigmoid junction leads to a selection of appointment times with providers who would be able to help with that condition. A yellow-notes section can be provided to give the patient important information. In this case, we

are letting the patient know that they can select an appointment and ask to be seen promptly. Also, patients are given valuable information about billing.

Where available, provider photos and links to web profiles are provided to help the patient decide which provider they would like to see. These profiles open in a pop-up window so that scheduling progress is not interrupted.

After selecting a time, patients click the checkbox to go through the CAPTCHA control. Patients must then enter the reason for the visit to continue. They will see the date, time, and location. They will also see standard department visit instructions. Patients can log in to schedule an appointment using their MyChart account or continue as a guest to schedule.

Clicking the *Log in and schedule* button takes the patient to the MyChart login screen where they can log into the system and get the appointment confirmation. A patient who clicks *Schedule as a guest* is brought to a 2-page registration form. The first page asks about demographic information, including basic patient characteristics and contact details.

After completing the demographics section, the patient is brought to a webpage that asks about insurance information. They can select their insurance carrier and enter subscriber and member information for their plan. After filling in the insurance details, the patient clicks the *Submit* button and receives an on-screen confirmation.

The confirmation page contains information on the date and time of the appointment and verifies the visit location. The patient can add the appointment to the calendar, view instructions, sign up for MyChart, or cancel the appointment from this screen.

A few seconds later, patients are given the opportunity to complete a survey about their scheduling experience. They can either complete the survey or exit the box and return to the confirmation page.

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Concluding Thoughts

New patient self-scheduling online is a powerful tool for patient empowerment. Via convenient appointment management tools, this innovation not only fosters a more engaged and proactive patient experience but also addresses specific concerns related to delays and uncertainties, especially in the context of accessing cancer specialists. As the health care industry continues to embrace patient-centered care, ongoing efforts to refine and optimize these systems remain imperative to improve patient outcomes. ◻

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Our Program at Glance

UCSF Health is part of the University of California, San Francisco, a top university for health sciences, research, and higher education in the US. UCSF Health is the largest employer in the City and County of San Francisco with over 15000 employees; there are another 12600 employees in the School of Medicine. We are number 1 for cancer care in Northern California, and we are rated 7 nationally. The UCSF Helen Diller Family Comprehensive Cancer Center is a National Cancer Institute (NCI)-designated comprehensive cancer center and a member of the National Comprehensive Cancer Network (NCCN). We are a proud member of the University of California Cancer Consortium, which consists of the 5 NCI-designated comprehensive cancer centers within the University of California. Collectively, these centers handle over 25,000 cancer cases annually, representing 18% of all cancer cases in the state. Notably, 45% of the patients we serve are diagnosed with complex cancer conditions in advanced stages.