UC San Diego Health

2019 Sautter Award Application
UC San Diego Health Information Services

Project title:

A Program-Level Approach to Making Health Data Transparent for Patients and Clinicians

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Short statement

This submission describes an enterprise-level effort over the last three years to transform the ability of UC San Diego Health's patients and clinicians to have access to health care-related data to improve patient outcomes, increase organizational efficiency, and support scholarly inquiry.

Project narrative

Improving Data Transparency for Patients

Optimizing data availability via the patient portal. We firmly believe that when patients have more of their health data in hand, not only are they better informed, but they also can better understand their care management and engage with their health care team. Over the last two years, we have completed, or are about to complete, the following projects involving MyUCSDChart, our ambulatory patient portal that is part of our Epic electronic medical record (EMR) system.

- **Patient results**. In addition to the usual lab results (e.g., chemistries, blood counts, etc.), UC San Diego Health (UCSD Health) has made microbiology and radiology results available within MyUCSDChart. By the end of calendar year 2019, cardiology, pathology, and cytology results will also be available in MyUCSDChart. Our current data show that we are releasing more than 75% of finalized tests to patients, with this number anticipated to increase to well above 90% once these latter categories of results are made available.

- **Open Notes**. UCSD Health was the first in the UC Health system to embark on the Open Notes journey, giving clinicians the ability to share clinic notes with patients in June 2018. Since then, several clinical areas, including Internal Medicine, Family Medicine, and Urology, are sharing all of their clinic notes with patients by default. We intend to share all of our clinic notes by default by the end of calendar year 2019.

- **Release of Information**. Three years ago, UCSD Health gave patients the ability to request an electronic copy of their entire medical record through MyUCSDChart – eliminating the need for them to go through our Health Information Management department to obtain their medical records. Now, not only can patients make this request electronically via MyUCSDChart , they can also receive an electronic copy of their records within a day or two. This has proven to be immensely popular with our patients, with an estimated 1,400 to 1,500 requests sent each month.

Lowering barriers to joining the patient portal. Naturally, our patients are only able to take advantage of all of these benefits if they sign up for MyUCSDChart in the first place. UCSD Health has made it easy for patients to either sign up for MyUCSDChart when they arrive at the clinic, or set up their own accounts after they get home. We are nearing completion of a project that will allow patients to create their own MyUCSDChart account prior to their first appointment at UCSD Health, giving them all the benefits of the patient portal the moment they begin getting their care with us.

Expanding the patient portal to the inpatient areas. Epic also makes available an inpatient patient portal, called MyChart Bedside. UCSD Health was one of the first Epic client sites to implement MyChart Bedside, by way of placing iPads in every patient room in the Jacobs Medical Center hospital facility that opened in November 2016. MyChart Bedside allows patients to see their care team members, laboratory results, medication schedules, and more, allowing them to fully engage and participate in their care. We detailed some of the outcomes of this project as part of a *[Health Affairs](...)* publication earlier this year.

Creating a MyUCSDHealth mobile application for patients. Patients need not only their health data, but also other types of information to help them navigate their care. Two years ago, we began developing a MyUCSDHealth mobile application for patients, which launched in early 2018. To date, we have had thousands of users download the mobile app, which includes mobile access to the patient portal and:

- **Clinical information**. In addition to access to MyUCSDChart, the mobile health app facilitates online scheduling of appointments in multiple specialties, including primary care, orthopedics, and urgent care. The app also allows patients to search for a provider by specialty, location, etc., to help them identify providers and locations that work best for them.

- **Facility information**. The mobile app includes easy-to-navigate information on clinic locations and parking. Patients can even use the app to see the current wait time or "save a spot" at each of our urgent care locations, letting them avoid having to wait in person!

- **Logistical information**. Finally, we have incorporated a number of other content areas into the app to help make our patients' journey with us a smooth one. This includes providing patients with pharmacy locations and refill request instructions, guidelines on patient visitation at our hospital locations, and easy ways to contact UCSD Health or to provide feedback on their care experience with us.

Giving patients the power to use their health data from multiple organizations to coordinate their own care. Many of our patients get care at other health care organizations in addition to UCSD Health. We believe that patients are entitled to the tools they need to help inform other health care providers about the care they received at UCSD Health.

- **Integration of MyUCSDChart with Apple HealthKit**. UCSD Health was one of the initial [12 health care organizations](#) that enabled integration of the EMR-based patient portal with Apple's HealthKit platform on iOS mobile devices. This allows a patient to aggregate their health information from one or more organizations into a single location on their personal mobile device, which they can then use in a number of ways to engage in their care management. We detailed some of our initial experiences with this successful integration in an article published in the *[Journal of the American Medical Association](#)* earlier this year. UCSD Health was the first UC Health site to enable this integration, and now patients across [the entire UC Health system](#) can use Apple Health Records to manage their data.

- **Adoption of Epic's "Share Everywhere" functionality**. Even in 2019, patients are sometimes seen at clinics or health care organizations that do not yet have interoperability and health data exchange well established with other health care organizations. Therefore, when functionality became available in Epic last year to allow a patient to use MyUCSDChart to proactively share a read-only copy of their record with an outside provider, we were very excited to enable this functionality for our patients.

Improving Data Transparency for Clinicians

As with our patients, we firmly believe that making as much health care data available to our clinicians will help them better care for their patients and better understand their patients' health issues. We have made a series of changes to our systems in the last few years to make it easier for clinicians to have external (non-UCSD Health) patient data available, as well as tools to better use and learn from data that we already have on our own patients.

Lowering barriers to health data exchange. Since many of our patients are seen at health care organizations other than UCSD Health, it is essential that we take the appropriate steps to make their health data readily available to our clinicians.

- **Moving to opt-in by default for health information exchange (HIE)**. More than three years ago, we completed a project to exchange health information through our regional HIE (San Diego Health Connect) and our Epic-based HIE (Care Everywhere) by default, rather than require point-of-care consent from patients to do so. Under the HIPAA Privacy regulations, health information exchange is allowed without consent for clinical management, and we noted that patients were expecting their respective health care organizations to share data between them. Making this change immediately increased our rate of record exchange 6-fold, and the volume of records exchanged continues to grow year on year. Some summary statistics from our experience:
    - 7.8 million patient records exchanged in 2018 alone
    - Records exchanged with more than 1,700 hospitals and 1,400 emergency departments
    - Records exchanged with more than 39,000 clinics
    - Currently sending and receiving 300,000 patient records each month

- **Adopting a standards-based approach to health information exchange.** Although Epic's Care Everywhere HIE platform is very powerful to exchange records between Epic client sites, many of our patients are seen at health care organizations that do not use Epic as their EMR system. Therefore, we have pushed to put in place other mechanisms to allow the exchange of data with these organizations.
  - We enabled interoperability via eHealth Exchange and the Sequoia project in 2016. This allowed us to exchange health information with the Social Security Administration, Department of Defense, and Veterans Affairs (VA) hospital system.
  - We enabled interoperability using the Carequality exchange standards in 2016. This allowed us to exchange health information with other health care organizations using non-Epic EMR systems, including athenahealth, eClinicalWorks, and others.

Using analytics platforms to empower clinicians. In addition to putting systems in place to bring in outside health data for our clinicians, we also recognized the power inherent in the health data we have on our own population. Over the last three years, we have launched two programs to give our clinicians tools to use this data.

- **Enterprise analytics platform with Tableau**. Two years ago, UCSD Health decided to move to a single, enterprise-wide business intelligence tool, called Tableau. Over that time, we have made an incredible amount of organizational data available for our clinicians, which they can review and manipulate using the Tableau platform (including a mobile app!). Since inception, our clinicians now have the following available to them:

  - More than 125 Tableau "workbooks" using over 100 data sources
  - Dashboards summarizing organizational data in a number of areas, including patient flow, infection prevention, quality improvement, physician group access, and perioperative management
  - Dashboards summarizing publicly reportable data, including key metrics involved in the Public Hospital Redesign and Incentives in Medi-Cal (PRIME) program

  We continue to build out more data views in Tableau, and we anticipate being able to make clinical service-level quality dashboards available to every clinical service at UCSD Health by the end of calendar year 2019.

- **Use of Epic's SlicerDicer self-service analytics tool**. SlicerDicer is a self-service tool within the Epic EMR system, which allows the user to take the patient population within our Epic instance (2.5 million patients), and "slice and dice" the population by any of a series of criteria (medical diagnosis, lab result, demographic data, etc.). When Epic first made SlicerDicer available, we recognized the potential power of this tool to enable quality improvement and scholarly inquiry. Over the last two years, we have now made the SlicerDicer tool available to our medical staff, residents, fellows, medical students, and pharmacists. SlicerDicer has been a key tool in a number of organizational efforts, including the following:

  - SlicerDicer helped identify the proper target population for hepatitis A vaccination during the hepatitis A outbreak in Southern California in 2017. It also allowed us to build clinical decision support into Epic to get hundreds of patients vaccinated upon arrival to our emergency department.

- o SlicerDicer was used to identify those patients at high risk of a poor outcome from ongoing tobacco use (a key PRIME metric), allowing us to refer these patients for tobacco cessation counseling.
- o SlicerDicer is routinely used by our residents participating in our Value in Quality (VIQ) rotation, as well as by our enterprise EMR Efficiencies program. For the latter program, the tool is used to look for opportunities to reduce inappropriate laboratory testing, reduce overuse of expensive medications, or avoid duplicative imaging studies.

Over the last three years, UCSD Health has sought to embody a philosophy of data transparency for patients and clinicians. We strongly believe that patients and providers are best supported when they can access the health data that they need.

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