Dr. Edward Yu, MD, currently serves as the Chief Quality Officer of Palo Alto Medical Foundation. In this role, he directs clinical quality programs to promote evidence-based practices in the fields of preventive health, chronic disease management, population health, and health system innovations. Dr. Yu holds expertise in change management, strategic planning involving lean management systems and service line deployment. Dr. Yu has led multiple initiatives in population health management, value based care and evaluation sciences that have ultimately improved outcomes in clinical quality, patient experience, patient safety and clinic operations in multi-specialty group practice. In addition to his role as Chief Quality Officer, he is the current Chairman of the PAMF Regional Quality Improvement Steering Committee.

Dr. Yu is Family Medicine Board Certified and completed his residency at the UCLA David Geffen School of Medicine.
COVID-19 Impact on Clinical Care
May 2020
PREVENTIVE CARE
Pediatric Vaccines Declined Precipitously

• A CDC Morbidity and Mortality Weekly Report (MMWR) Early Release report published online May 8 “documented substantial decreases in the number of vaccines ordered and administered to children since the United States declared a national emergency in response to the COVID-19 pandemic on March 13, potentially leaving hundreds of thousands of children at increased risk for vaccine-preventable diseases.”

• The AAFP and AAP recommend helping parents get their children back on track with their vaccinations.

• AAFP AAP MMWR 5/8/2020
FIGURE. Weekly changes in Vaccines for Children Program (VFC) provider orders* and Vaccine Safety Datalink (VSD) doses administered† for routine pediatric vaccines — United States, January 6–April 19, 2020

- Cumulative change in all noninfluenza doses ordered Jan 6–Apr 19, 2020 versus Jan 7–Apr 21, 2019
- Cumulative change in all measles-containing doses ordered Jan 6–Apr 19, 2020 versus Jan 7–Apr 21, 2019

Key events:
- Jan 20: first U.S. COVID-19 case reported (Washington)
- Mar 13: U.S. national emergency declared

*Providers who order vaccines through a vendor who submit claims with VFC billing codes and who are enrolled in the VFC.
†VSD includes active and passive reports of suspected cases of vaccine-associated adverse events.
FIGURE. Weekly changes in Vaccines for Children Program (VFC) provider orders* and Vaccine Safety Datalink (VSD) doses administered for routine pediatric vaccines — United States, January 6–April 19, 2020

- Jan 20: first U.S. COVID-19 case reported (Washington)
- Mar 13: U.S. national emergency declared

No. of measles-containing vaccine doses administered

<table>
<thead>
<tr>
<th>Week beginning date</th>
<th>≤24 mos</th>
<th>&gt;24 mos–18 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>2,500</td>
<td>1,500</td>
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<tr>
<td>13</td>
<td>3,000</td>
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<tr>
<td>20</td>
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<td>27</td>
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<td>10</td>
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</tr>
<tr>
<td>6</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>500</td>
<td></td>
</tr>
</tbody>
</table>
In California and across the U.S., recent data show troubling decreases in childhood vaccination, leaving many children unprotected. In comparison to April 2019, in April 2020, the number of shots given to children 0 through 18 years old in California decreased by more than 40 percent.

Dr. Sonia Angell, Director of the California Department of Public Health and State Health Officer. “During and after the pandemic, unvaccinated infants and children will be more vulnerable to dangerous diseases like measles and whooping cough. It’s so important that parents make sure their children are up-to-date on their immunizations.”

Source: Press release, CDPH: Staying Safe & Getting Vaccinated During the Pandemic, Date: May 18, 2020
https://www.cdph.ca.gov/Programs/OPA/Pages/NR20-090.aspx
Cancer Screening Completion Dropped 86-94%

- EHR data show a recent abrupt drop – between 86% and 94% – in preventive cancer screenings performed across the United States, presumably due to access disruptions caused by COVID-19.
- This study compares the number of screenings for cervical, colon, and breast cancer completed each week in 2020 to the average number of screenings completed during equivalent weeks from 2017–2019.
- The data set includes 2.7 million patient records from 39 organizations that represent 190 hospitals spanning 23 states.
- If the trend continues, the data suggest that many cancer cases could go undiagnosed or be diagnosed at a later stage with a poorer prognosis.” 
  EPIC Health Research Network 5/4/2020
Cancer Screenings in the U.S.

Figure 2. Weekly cancer screening volume vs. week in year for each kind of cancer screening.
DIABETES
COVID-19 patients with diabetes and/or uncontrolled hyperglycemia had a longer length of stay (LOS) and markedly higher mortality than patients without diabetes or uncontrolled hyperglycemia.

Figure 4. Mortality rates among patients who were discharged or died comparing patients with diabetes ($n = 88$) with hyperglycemia patients ($n = 96$).

- 5/9/20 Journal of Science and Technology
EMERGENCY CARE
Kaiser Northern California noted their weekly rates of hospitalizations for acute myocardial infarction (MI) dropped as much as **48%**. A similar drop in MI hospitalizations was noted in Northern Italy.
PATIENT ENCOUNTERS
## Impact to Inpatient and Outpatient Encounters

<table>
<thead>
<tr>
<th>Condition</th>
<th>Change</th>
<th>Condition</th>
<th>Change</th>
<th>Condition</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cataracts</td>
<td>-97%</td>
<td>Chronic Otitis Media and Sinusitis (ear infection/sinuses)</td>
<td>-75%</td>
<td>Asthma</td>
<td>-62%</td>
</tr>
<tr>
<td>Sleep Apnea (often a harbinger of cardiac disorders)</td>
<td>-91%</td>
<td>Hypertension</td>
<td>-74%</td>
<td>Ischemic Stroke</td>
<td>-56%</td>
</tr>
<tr>
<td>Glaucoma</td>
<td>-88%</td>
<td>Hyperlipidemia</td>
<td>-74%</td>
<td>Congestive Heart Failure</td>
<td>-55%</td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>-88%</td>
<td>Neuro Pain and Neuropathy</td>
<td>-71%</td>
<td>Chest Pain (non-cardiac)</td>
<td>-44%</td>
</tr>
<tr>
<td>Coronary Heart Disease</td>
<td>-75%</td>
<td>Care for Diabetes</td>
<td>-67%</td>
<td>Prostate Cancer</td>
<td>-44%</td>
</tr>
</tbody>
</table>

Model examined YoY comparison for a 2 week period (March 24 - April 6, 2019 and March 22 - April 4, 2020)

Care Family definition per Sg2 Care Grouper™

© Strata Decision Technology

Data current as of 5/11/2020
PATIENT PERSPECTIVES
WHAT PATIENTS ARE TELLING US...

Source: External Patient Experience Consumer Reports

Five points in looking to the future of experience:
1. Experience efforts will reach more broadly to the issues facing the populations healthcare serves.
2. An expanding global conversation will shift the centers of experience excellence.
3. Measurement will move away from static and lagging points of data.
4. Consumer voice will bend policy direction and ultimately leadership action.
5. A focus on human experience will root itself at healthcare’s core.

- 60% of consumers think there is an elevated risk when visiting their providers.
- 53% of consumers have delayed care for themselves or someone in their household.
- 55% of consumers want strict social-distancing measures implemented across the U.S., until a treatment or vaccine is available.
- 37% of consumers first call their PDP if they suspect they have COVID-19 symptoms. The second most popular decision is to self-quarantine for 14 days (27%).

- 71% of patients would prefer a separate waiting room for sick patients versus other patients.
- 72% of consumers trust local hospitals or national healthcare leaders to handle the crisis more than they trust the government.

Source Details: See Appendix, Part I: Integrating the Voice of Our Patients
WHAT PATIENTS ARE TELLING US...
Source: Sutter Health Consumer Research via Sutter Health Web Team and Market Insights & Research Team

How concerned are you about the possible implications of COVID-19 on you personally?
Extremely worried – 45%
Very worried – 30%
Somewhat worried – 16%
Not so worried – 9%
Not worried at all – 1%

In today’s environment, do you feel comfortable going to the Emergency Room, Urgent Care or another medical provider’s office if you have a condition that requires treatment? Indicate the reason(s) for your concern.
Yes - 77%
No - 23%

What are you most concerned about during this time? Select all that apply.

Consumer Thoughts & Behaviors
Anxiety | Fear | Avoidance | Loss of Control | Loss Overall | Worry
Altruism | Isolation & Loneliness | Boredom | Stress | Gratitude
VIRTUAL CARE
Virtual Visits projected to be up to 25% of all ambulatory visits post COVID
RE-ENGAGING PATIENTS
Example Prototype of Simple Messaging from the ED

This prototype is sized for a Facebook post. Similar prototypes have been developed for Instagram. EDC designs will be available for use by other hospitals in an open source forum.

Having an emergency?

Go to the emergency room!

If you think you are having a heart attack or stroke, do not wait to go to the ER.

We will keep you safe.

- Temperature & symptom screening upon entry
- Care given in respiratory symptom-free zone
- Training & protective equipment for all staff
- Enhanced & more frequent cleaning procedures
- Masks provided to everyone
- Inpatient visitor limits

Source: The authors
NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society
Example of Sutter Health Messages Sent Via Our Patient Portal

We’re Here for You

We realize you may wonder if it’s okay to go to the doctor. The answer is yes! Your provider’s office might contact you, but if you need care, don’t hesitate to reach out. Call your doctor’s office or contact them through My Health Online. Our employees and healthcare teams are ready to serve you and look forward to providing care, either in person or by Video Visit.

If you have a chronic condition like diabetes or have needs related to ongoing treatment, don’t wait to contact your care team for appointments. Delaying care can be dangerous. To avoid unwanted outcomes and complications, call your doctor’s office or send your care team a message through My Health Online.

The Sutter Health footprint reaches across Northern California. This means your nearest Sutter facility’s services may differ according to the local COVID-19 situation. Check your county’s COVID-19 guidelines and contact your provider for more information about local availability.

We’re maintaining a high level of screening and cleaning procedures for the safety of our patients and staff. Temperature screening, masking, isolation of anyone with COVID-19 symptoms and extra cleaning will continue. Our goal is to keep you and our workers protected and healthy.

If you think you have COVID-19 symptoms, try our COVID-19 Screener or call our COVID-19 Advice Line, (866) 961-2889.

Thank you for trusting us with your care. Together, we’re #SutterStrong.
Example of Sutter Health Visual Displays

Your health is our main priority.

We are committed to policies and procedures that support the safety and well-being of everyone in our care facilities. Steps we’re taking to stop the spread of COVID-19 include:

☑ Mandatory Masks
All patients, visitors and staff must wear a mask inside our facilities at all times, for everyone’s mutual protection. An approved mask can be provided if needed.

☑ Screening
All patients are screened before entering a Sutter building. All employees are screened before each shift.

☑ Isolation
Systems are in place to effectively separate patients with COVID-19 symptoms from other patient groups.

☑ Cleaning
Our teams are performing extra cleaning and disinfecting procedures in all spaces.

☑ Minimizing
We’ve removed unessential papers and materials and moved most information online.

☑ Distancing
Public and waiting areas have been redesigned to provide adequate physical distancing.

☑ Health Supplies
Hand sanitizer, tissues and other supplies are available throughout each center.

To find out more about the steps we’ve taken to prepare for COVID-19 and answers to frequently asked questions, visit sutterhealth.org/covid.
Key Message

Safety First

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650-388-0867 (M)
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