



Physician Burnout and Data-Driven Medicine in the EHR Era

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@calonghurst

Willkommen bei UCSD!





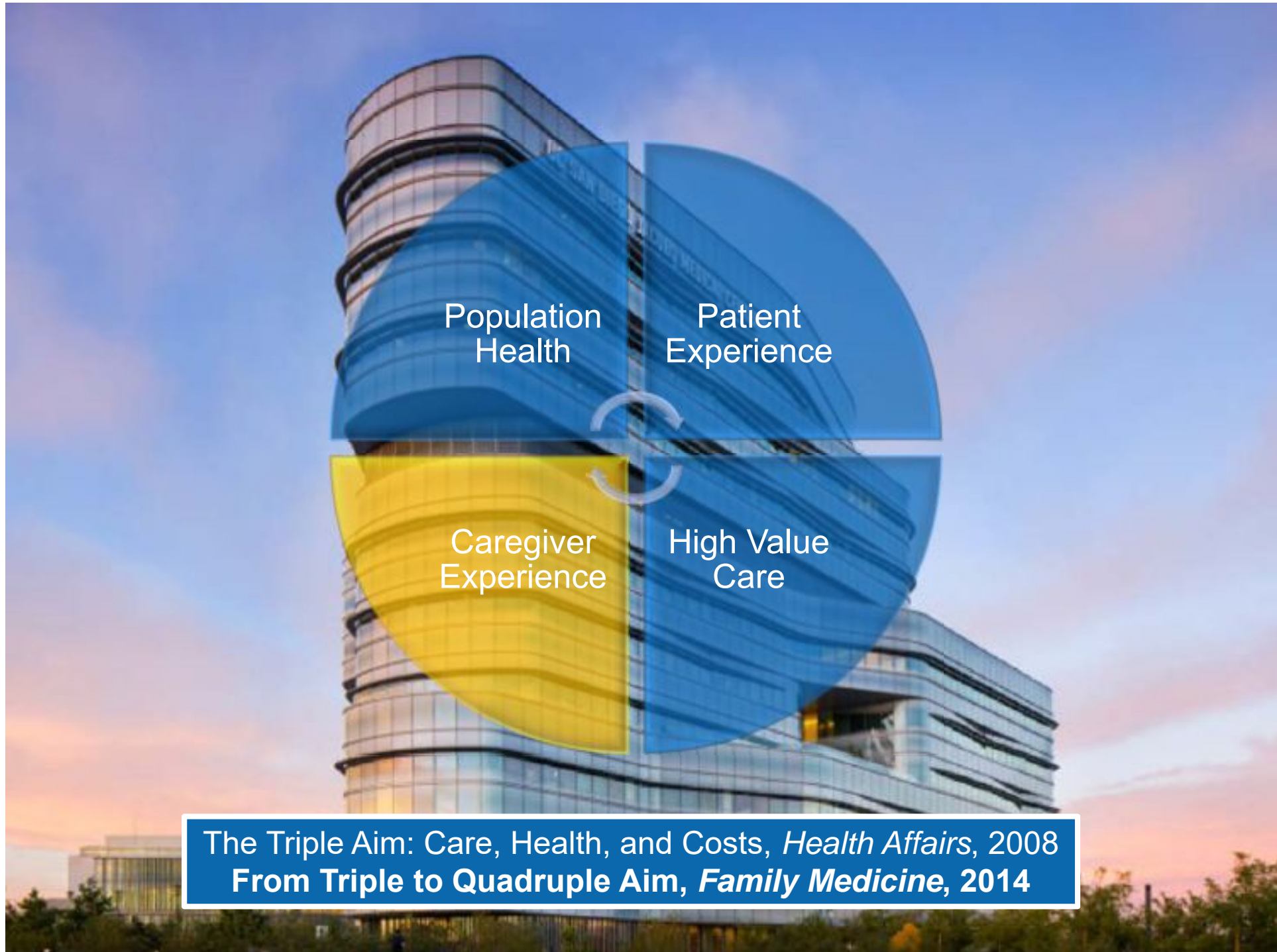
Population
Health

Patient
Experience

Caregiver
Experience

High Value
Care

The Triple Aim: Care, Health, and Costs, *Health Affairs*, 2008
From Triple to Quadruple Aim, *Family Medicine*, 2014



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UC San Diego Health – Clinical Enterprise



~8,900
Employees



1,286
Physicians



2
Campuses:
La Jolla and Hillcrest

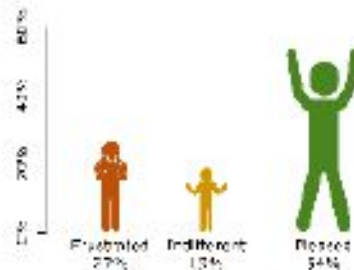
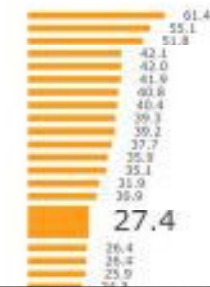


UC San Diego EMR Satisfaction and Efficiency

Net EMR Experience



UC San Diego (n=292)



UC San Diego
Net EMR Experience
27%
Collaborative
72nd Percentile

Ambulatory Care Group 1 (Mixed) (n=69)
Community Health System 6 (Epic) (n=113)
Larger Health System 9 (Epic) (n=209)
Larger Health System 10 (Epic) (n=209)
Larger Health System 7 (Epic) (n=19)
1 (Cerner)
10 (Cerner)
(Allscripts)
nem-4 (Epic)
1 (Allscripts)
IncentivWorks
2 (athena)
ital 2 (Epic)
nem-4 (Epic)
1 (Allscripts)
IncentivWorks
2 (athena)
ital 2 (Epic)
nem-4 (Epic)
up 7 (Epic)
nem-2 (Epic)
up 4 (Mixed)
nem 6 (Cerner)
3 (Cerner)
15 (Cerner)
nem 1 (Epic)
6 (Cerner)
ital 1 (Mixed)
up 3 (Mixed)
nem 8 (Epic)
5 (Cerner)
4 (Cerner)
MEDITECH)
nem 4 (Cerner)
3 (Cerner)
nem 2 (Cerner)
5 (Cerner)
Ambulatory Care Group 2 (Greenway)
Community Health System 7 (Mixed)
Community Hospital 7 (MEDITECH)
Community Hospital 8 (Mixed)
Non-US Health System 4 (Mixed)
Community Hospital 5 (Mixed)
Ambulatory Care Group 6 (Mixed)
Community Hospital 9 (Mixed)
Community Health System 1 (Mixed)



-100.0 100.0

UC San Diego Health medical staff surveyed fall of 2017 and 2018

@calonghurst #pinksocks

UC San Diego Health

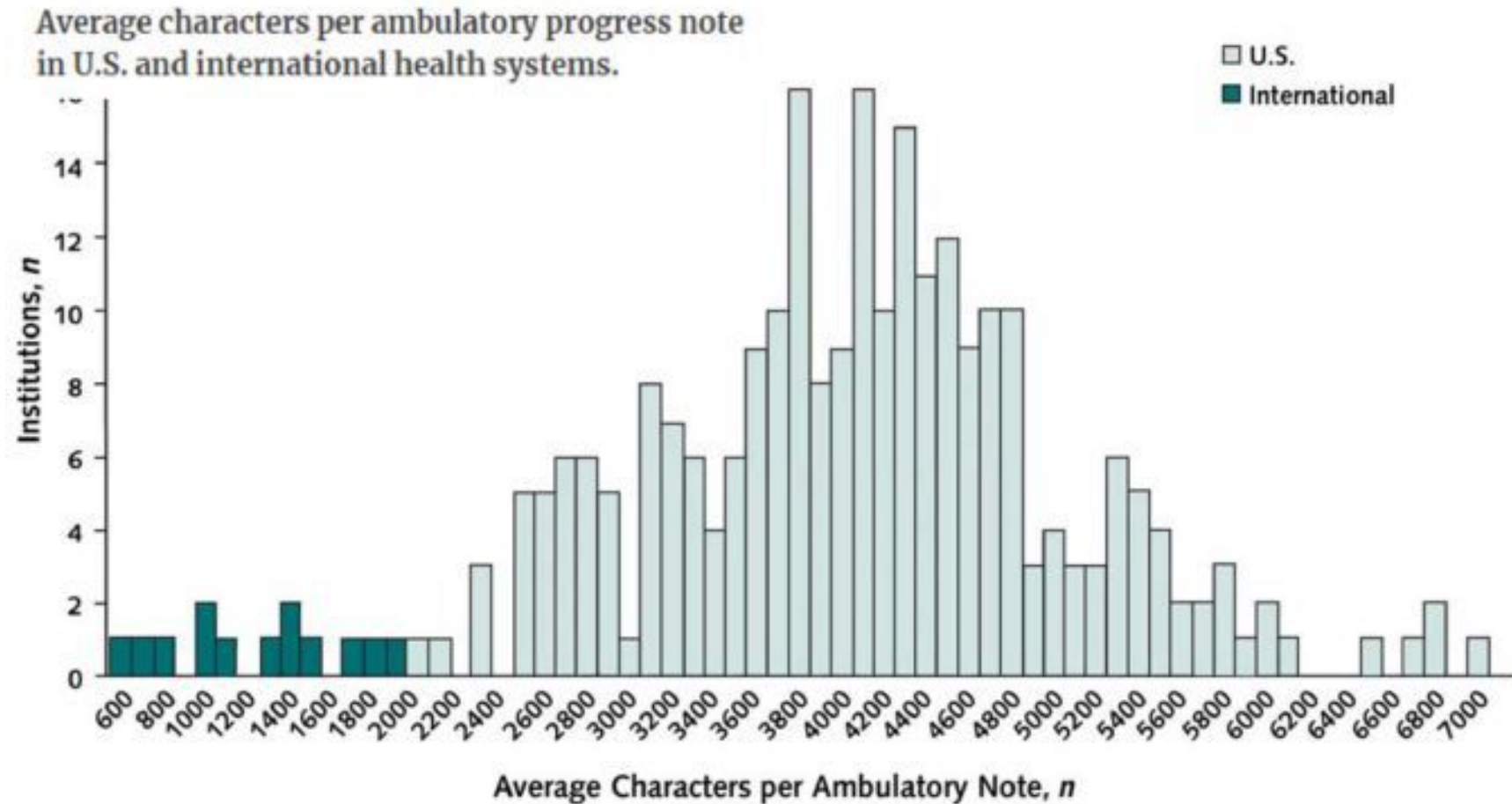
What about outside the US?



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UC San Diego Health

Progress note length in US and international health systems using the same EHR



Annals of Internal Medicine, June 2019

IDEAS AND OPINIONS | 8 MAY 2018

Physician Burnout in the Electronic Health Record Era: Are We Ignoring the Real Cause?

N. Lance Downing, MD; David W. Bates, MD, MSc; Christopher A. Longhurst, MD, MS

Article, Author, and Disclosure Information

FULL TEXT



MORE ▼

Physician burnout is reaching crisis proportions in the United States (1). Studies have noted a rising prevalence of emotional fatigue. One study suggested that more than half of physicians in some disciplines are burned out and that this proportion is increasing. The number of clinicians leaving the workforce represents a major concern to health care professionals and to the health of the nation. Many factors contribute, but the physician's interaction with electronic health records (EHRs) is especially important now that EHRs have been broadly adopted across the country.

Annals of Internal Medicine, June 2019 (comment)

Mike South - Royal Children's Hospital, Melbourne, Australia - May 8, 2018

Yes, you are probably ignoring the real cause

Subjective:

I read the Downing et al article on EMR contribution to Physician Burnout.
Agree with conclusions - significant differences between approaches to EMR documentation USA vs others.

At RCH, Australia

RDS:

1st Australasian customer using EMR from major US vendor mentioned by Downing
Go-live: Apr 2016. Enterprise-wide.
0% documentation or ordering on paper
No scribes, no transcription, no voice-recognition.

Objective findings:

Note documentation is only for clinical purposes
No regulatory, billing, compliance, or low-value medico-legal content is needed
No requirement to link orders, or procedures to anything for charging purpose
Rounding - resident writes note. Attending does not write a note or attest resident's note.
Co-sign required for <1% of orders/documentation
Very few system alerts to clinicians
Lengthy narrative notes - discouraged. Brief bullet point style notes - encouraged.
Notes are brief and facilitate clinical care. Pertinent info is easy to find

Assessment:

RCH Physicians have embraced EMR
82% RCH physicians say EMR makes them more efficient (survey)
58% say quality of patient care is better
Physician burnout is not a major topic of conversation in Australia
Few Physicians leave the workforce prematurely

Plan:

Australian physicians should reject any attempt to change the primary purpose of clinical note keeping.
USA healthcare system may need to go back to the drawing board.

Signed

Mike South CMIO, RCH

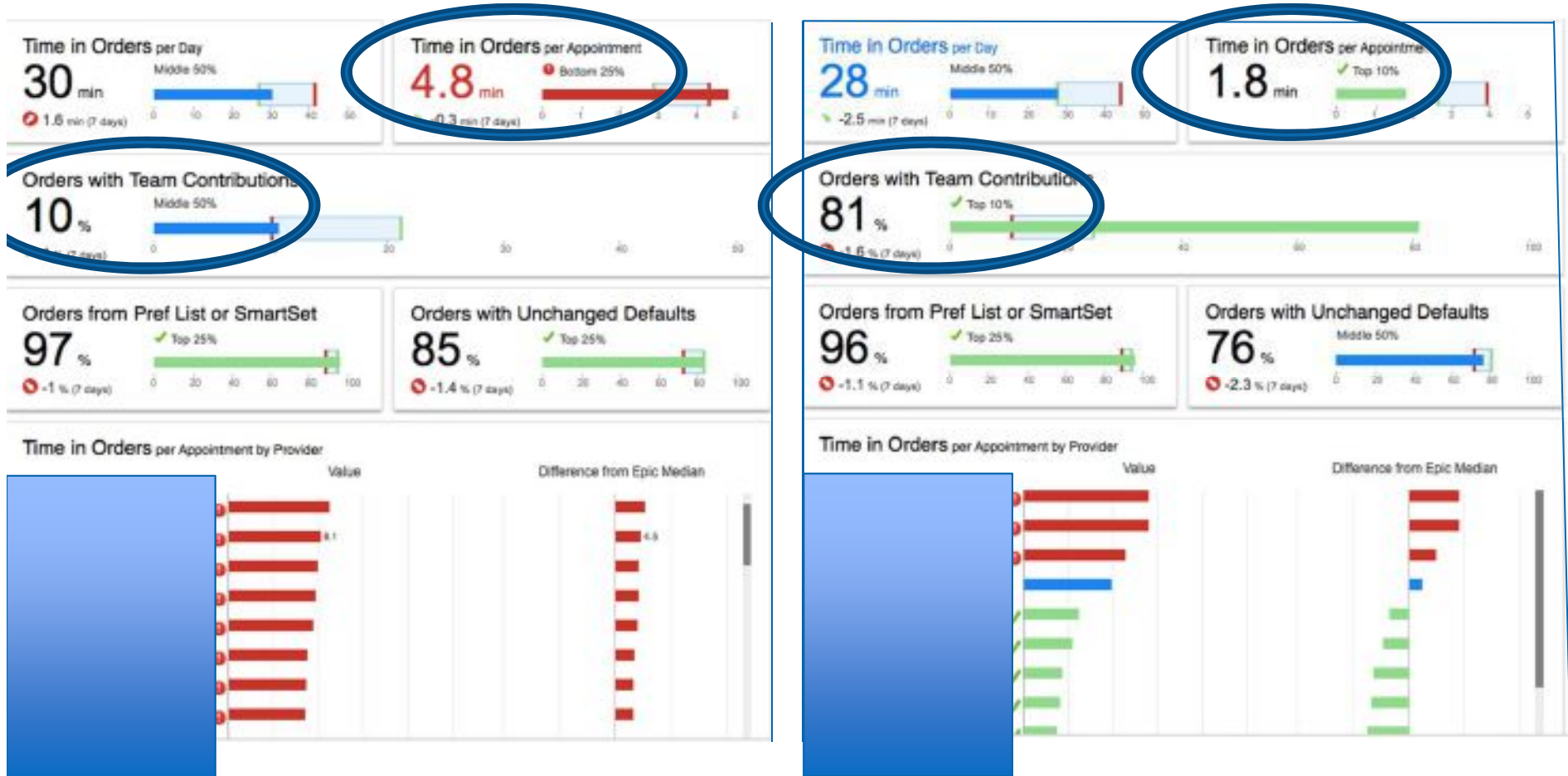
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What can we do?

- Locally
 - Use data analytics to target areas of impact (“hot spotting”)
 - “Home for Dinner” program
 - Practice transformation! Workflow redesign, supported by IS team, to ensure all roles functioning at the top of their license
- Nationally
 - CMS Administrator Seema Verma launched the “Patients over Paperwork” initiative
 - Billing reform!

UC San Diego Health vs. Community Affiliates



UCSD Home for Dinner program

User feedback physician surveys



“I need my entire group to do this, it was amazingly helpful. I have used EPIC for a long time and I am terribly set in my ways but set up ways to help with less jumping around.”

*100% would recommend to a colleague

After hours time report for physicians

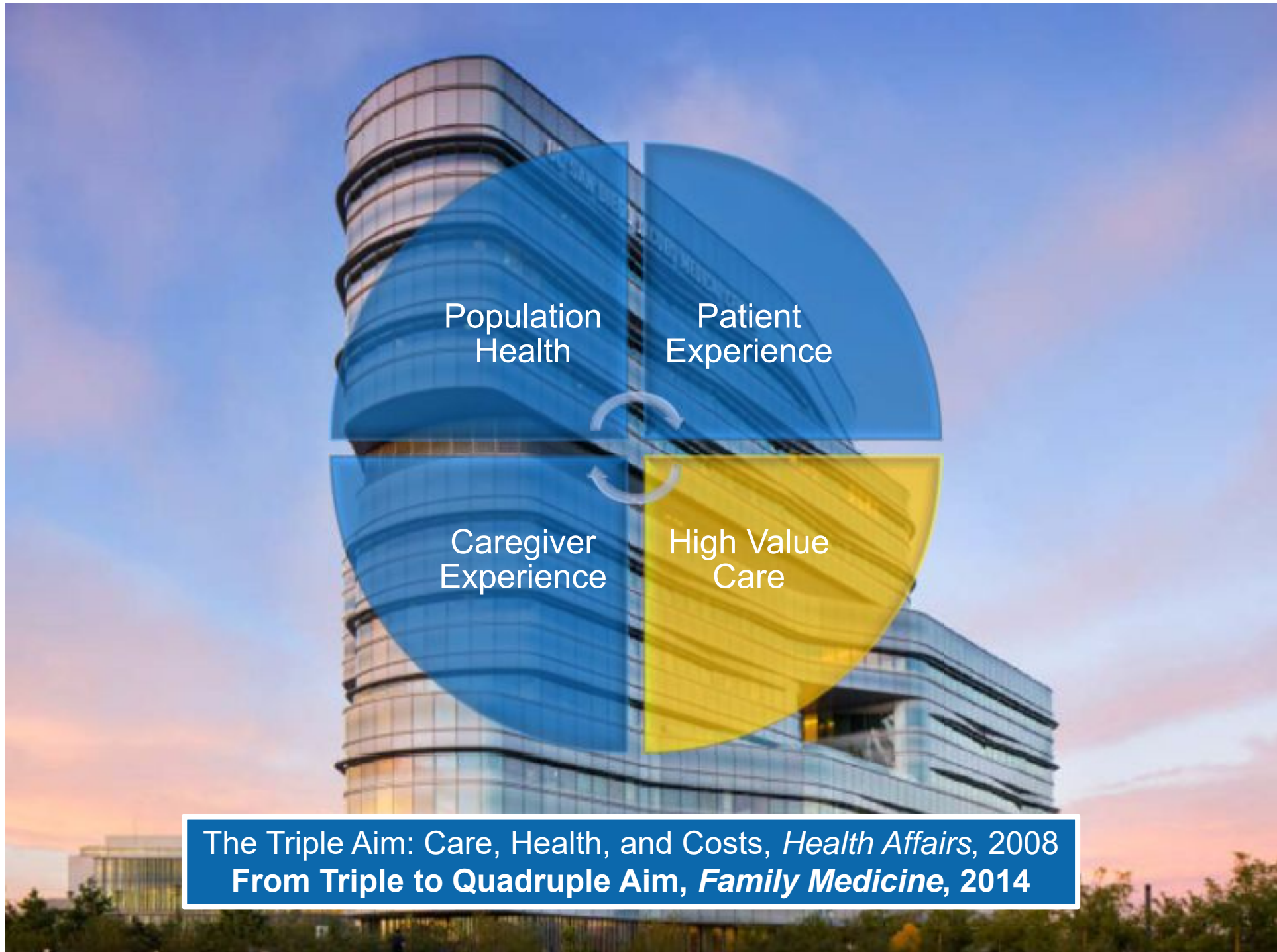


Reduced by up to 75% for half of the individuals.



2018 goals:

- Program is aligned with Primary Care Flow Collaborative
- Goal is to CLOSE VISITS before seeing next patient
- Creating webinars for common issues and videos for training



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Transfusing Wisely: Clinical Decision Support Improves Blood Transfusion Practices

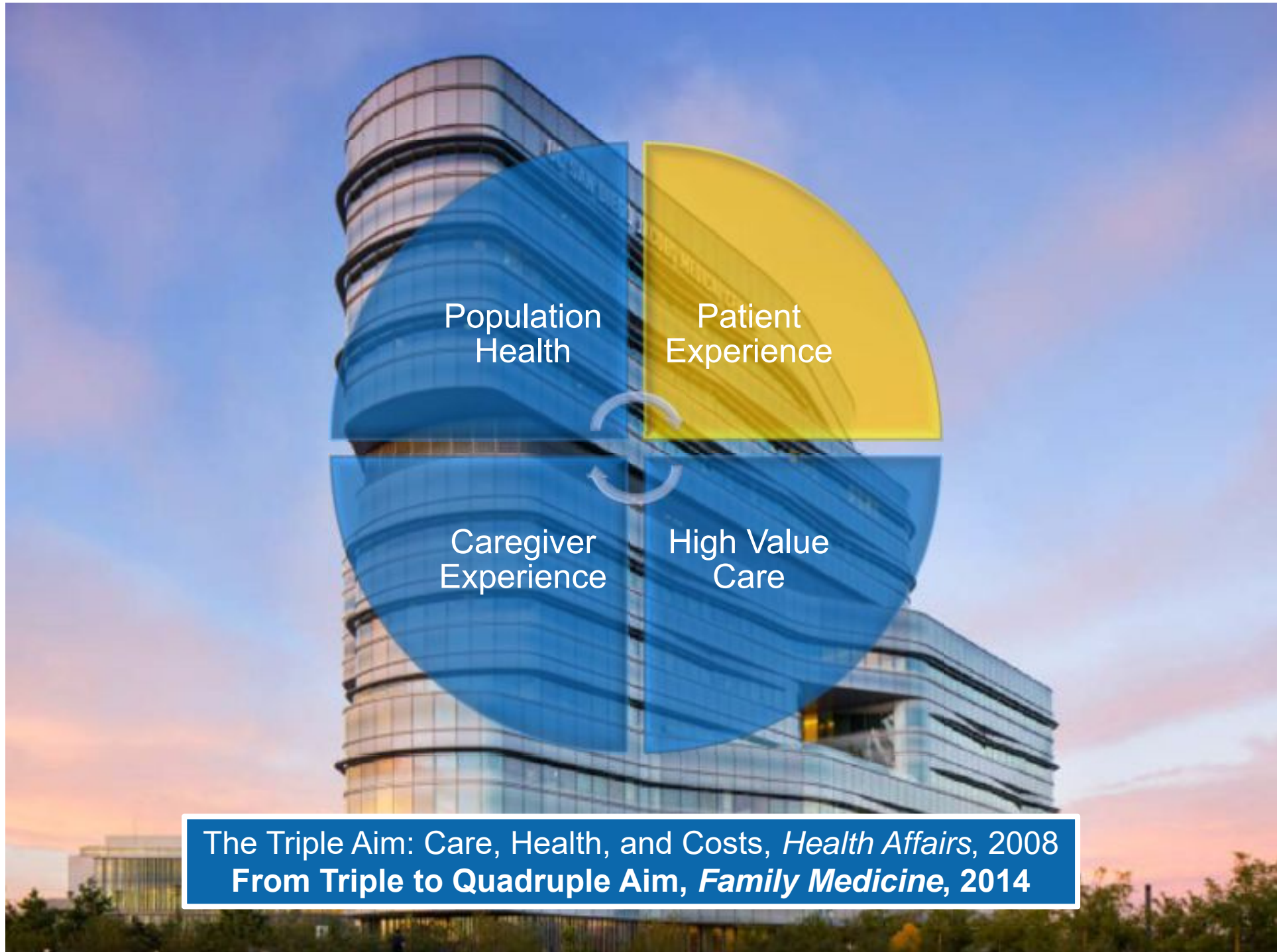
Ian Jenkins, MD, SFHM; Jay J. Doucet, MD; Brian Clay, MD; Patricia Kopko, MD; Donald Fipps, MS, MT (ASCP), DBB; Eema Hemmen, MPH; Debra Paulson, MS

Background: The cost and risks of red blood cell (RBC) transfusions, along with evidence of overuse, suggest that improving transfusion practices is a key opportunity for health systems to improve both the quality and value of patient care. Previous work, which included a BestPractice Advisory (BPA), was adapted in a quality improvement project designed to reduce both exposure to unnecessary blood products and costs.

Methods: A prospective, pre-post study was conducted at an academic medical center with a diverse patient population. All noninfant inpatients without gastrointestinal bleeding who were not within 12 hours of surgical procedures were included. The interventions were education, a BPA, and other enhancements to the computerized provider order entry system.

Results: The percentage of multiunit (≥ 2 units) RBC transfusions decreased from 59.9% to 41.7% during the intervention period and to 19.7% postintervention ($p < 0.0001$). The percentage of inpatient RBC transfusion units administered for hemoglobin (Hb) ≥ 7 g/dL declined from 72.3% to 57.8% during the intervention period and to 38.0% for the postintervention period ($p < 0.0001$). The overall rate of inpatient RBC transfusion (units administered per 1,000 patient-days without exclusions) decreased from 89.8 to 78.1 during the intervention period and to 72.7 during the postintervention period ($p < 0.0001$). The estimated annual cost savings was \$1,050,750.

Conclusion: The interventions reduced multiunit transfusions (by 67.1%) and transfusions for Hb ≥ 7 g/dL (by 47.4%). The improvement in the overall transfusion rate (19.0%) was less marked, limited by better baseline performance relative to other centers.



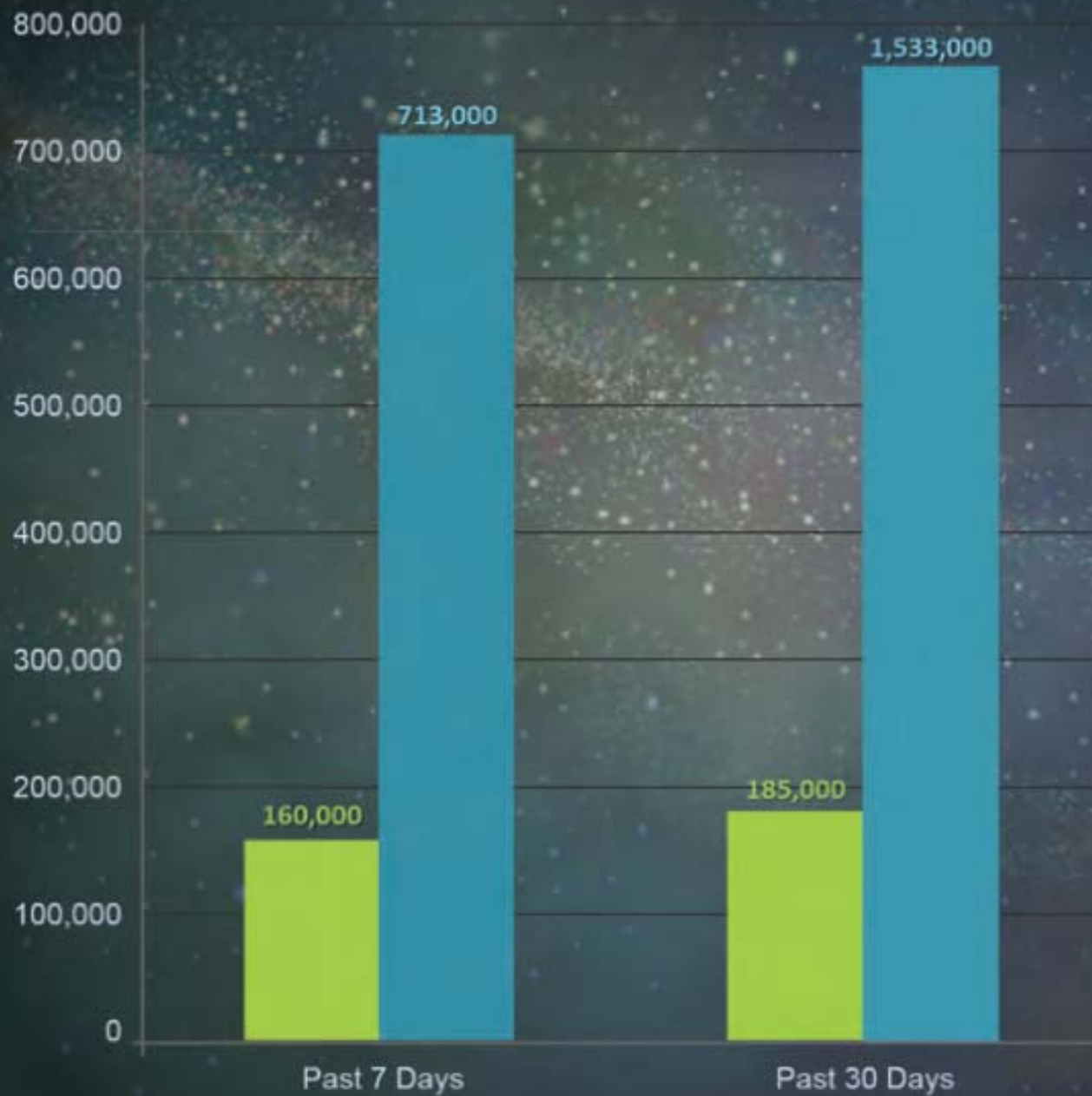
The Triple Aim: Care, Health, and Costs, *Health Affairs*, 2008
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People using your EMR

Count of unique users[®] collected from 12 organizations

■ Organization Users

■ Patients through MyChart



Patient Portal at UC San Diego Health

Patient Engagement

DATA FOR: Oct - Dec 2016

University of California San Diego

ACTIVATION

43%

OF PATIENTS SEEN IN THE PAST 3 MONTHS
HAVE A MYCHART ACCOUNT
COMMUNITY AVERAGE: 29%

TOP DEPARTMENT ACTIVATION

UCSD DOWNTOWN
CONCIERGE EXECUTIVE
HEALTH 86%

UCSD SORRENTO VALLEY
INTERNAL MEDICINE G 84%

UCSD PERLMAN ALLERGY 84%

DEPARTMENTS TO FOCUS ON

UCSD STUDENT-RUN FREE
CLINIC PACIFIC BEA 0%

UCSD STUDENT-RUN FREE CLINIC
DOWNTOWN 1%

UCSD HILLCREST MOS PEDIATRIC
HIGH RISK I 1%



41%

OF MYCHART PATIENTS
HAVE LOGGED IN
OVER THE PAST 3 MONTHS

COMMUNITY AVG: 44%



OpenNotes can help patient *and* provider experience



Home About ▾ For Patients ▾ For Health Professionals ▾ Research Contact Us Movement I

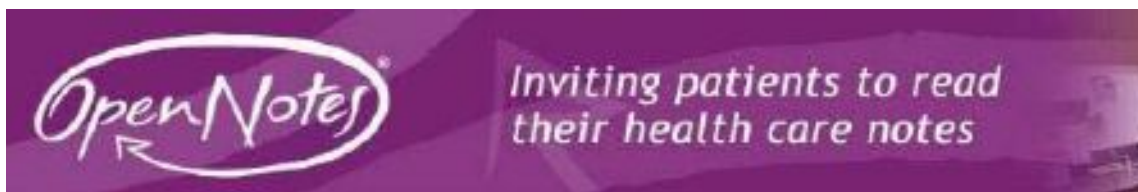
OpenNotes Surges Ahead in Southern California



June 27, 2018

As of this month more than 25 million people are able to access clinical notes through their secure, online patient portals at over 120 health systems throughout North America. A considerable number of health systems launching OpenNotes in 2018 are located in the Golden State, with 10 of the 11 newly launched California health systems located in Southern California alone.

According to the OpenNotes research dissemination team—which tracks and confirms organizations sharing clinical notes—of the health systems that began sharing notes in 2018 four are located in Los Angeles County (Cedars-Sinai Health System, Clinica Oscar Romero, Los Angeles County Department of Health Services, and UCLA Health), while



UC San Diego Health

UC San Diego Jacobs Medical Center, Nov 2016



Bedside tablets control lighting, blinds, temperature, entertainment system, and “smart” portal with care team photos, medical record access, education videos

Health Affairs, March 2019

PATIENTS & CONSUMERS

By Ming Tai-Seale, N. Lance Downing, Veena Goel Jones, Richard V. Milani, Beiqun Zhao, Brian Clay, Christopher Demuth Sharp, Albert Solomon Chan, and Christopher A. Longhurst

Technology-Enabled Consumer Engagement: Promising Practices At Four Health Care Delivery Organizations

Health Record Data Banks circa 2019

UCSD TO PILOT APPLE'S NEW MEDICAL RECORDS PORTAL



12 health systems

selected a dozen health systems from coast to coast to pilot automatic synchronization of re-

Apple's new medical record system puts patients' data from multiple providers into one centralized location.

APP

VIEWPOINT

Personal Health Records More Promising in the Smartphone Era?

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As health care delivery organizations shift from implementation of electronic health records to optimization of these systems, the persistent problem of patient data interoperability is becoming increasingly relevant. Interest in accessing medical information from hospital records and databases and providing convenient patient-controlled portable records is increasing. Technology companies are seeking to develop innovative solutions to meet these demands.

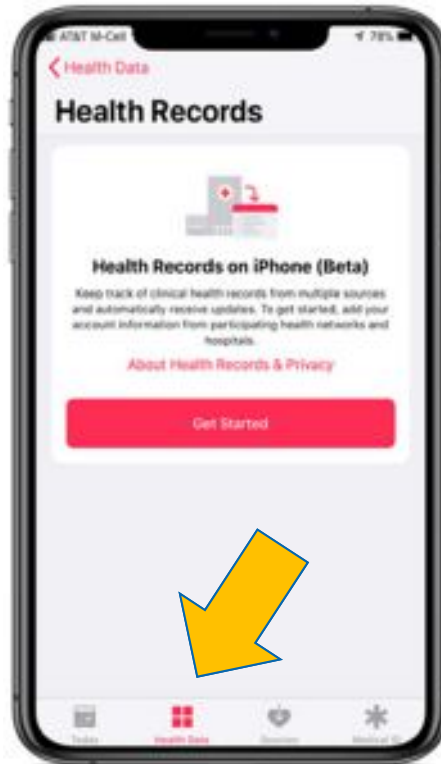
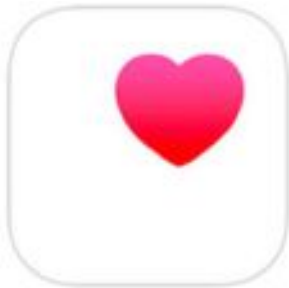
Interoperable personal health records are not a novel concept; unsuccessful attempts to collect digital patient records have been pursued by several major technology companies. As 1 of the first 12 health care organizations to integrate one company's next-generation approach (Apple Health Records) into a patient portal, UC (University of California) San Diego Health is assessing whether this new functionality can overcome prior challenges and catalyze systemic change toward meaningful patient-controlled interoperability.¹

reported improvement with all 3 of these outcomes. As of fall 2018, UC San Diego Health has hundreds of personal health record users who have downloaded thousands of clinical results and other pieces of medical information through the platform.

As with many other new products and solutions, such enthusiasm is common from early adopters. The platform will need to prove that it is useful, sustainable, scalable, and actually improves health outcomes. The key questions are whether this personal health record will improve patient outcomes and lower costs while also increasing quality. Why might this time be different? Three key developments may contribute to success: the ubiquity of mobile technology, the maturation of health data communications standards, and the widespread use of mobile software distribution platforms.

When Microsoft introduced HealthVault (2007) and Google launched Google Health (2008) personal health records, the first iPhone and Android devices

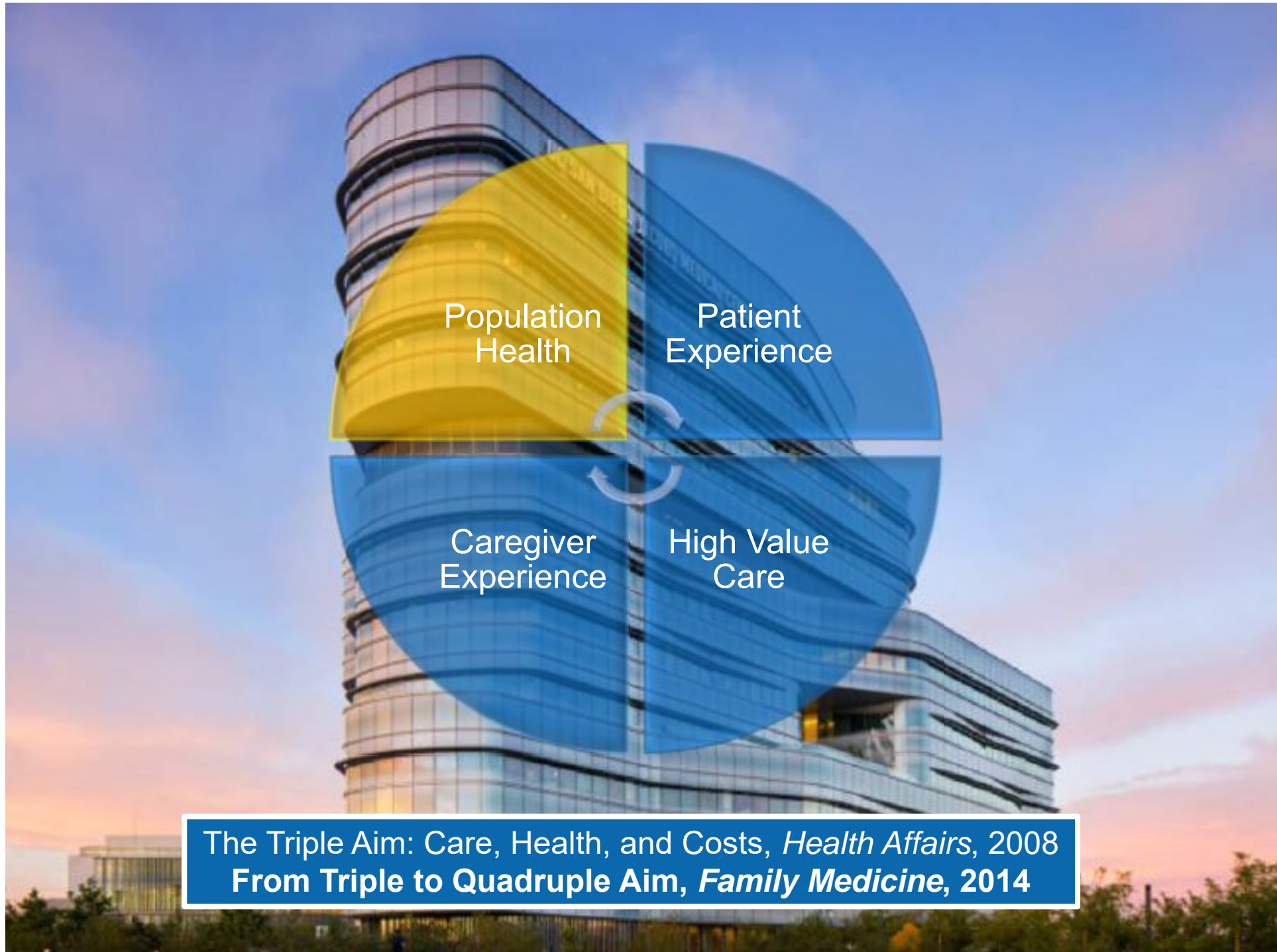
All five University of California academic medical centers provide health data to patients through Apple Health



bit.ly/ucappleh

@calonghurst #pinksocks

UC San Diego Health



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UC Health

University of California

- 10 campuses, 5 medical centers, and 3 national labs
- ~200,000 employees, ~250,000 students/yr

UC Health

- 18 health professional schools (6 med schools)
- Train half the medical students and residents in California
- ~\$2 billion NIH funding
- \$11.4 billion clinical operating revenue
- 5000 faculty physicians, 12000 nurses
- 5 NCI Comprehensive Cancer Centers, 5 NIH CTSA



UC Health, United Healthcare Form New ACO & Clinically Integrated Networks

by Staff Writer

10/03/2016



0 Comments



UNIVERSITY
OF
CALIFORNIA

UC Health

The University of California and UnitedHealth Group are teaming up to form a new accountable care organization (ACO) and clinically integrated network. As part of the 10-year strategic relationship, UC Health's five academic medical centers will expand use of Optum's clinically integrated network services and advanced data analytics services.

The United States is spending \$billions on electronic health records, and too few are using any of this data

Sutter's \$1 Billion Boondoggle-New Electronic Records System Goes Dark

California Nurses Association Press Release, 8/27/13

[Contact Information](#) | [Media Center](#)

Yet Another Risk

A controversial e...
billion went comp...
additional risk be

For several mont...
care delivery tha...
over 100 reports...
Oakland, docum...

Sutter managem...
computerized ver...

routinizing care that limits nurses' abil...
managers at Sutter Delta in Antioch w...
all charges into the computers.

Partners' \$1.2b patient data system seen as key to future

Aims for one file per person, fewer errors



How Kaiser bet \$4 billion on electronic health records -- and won

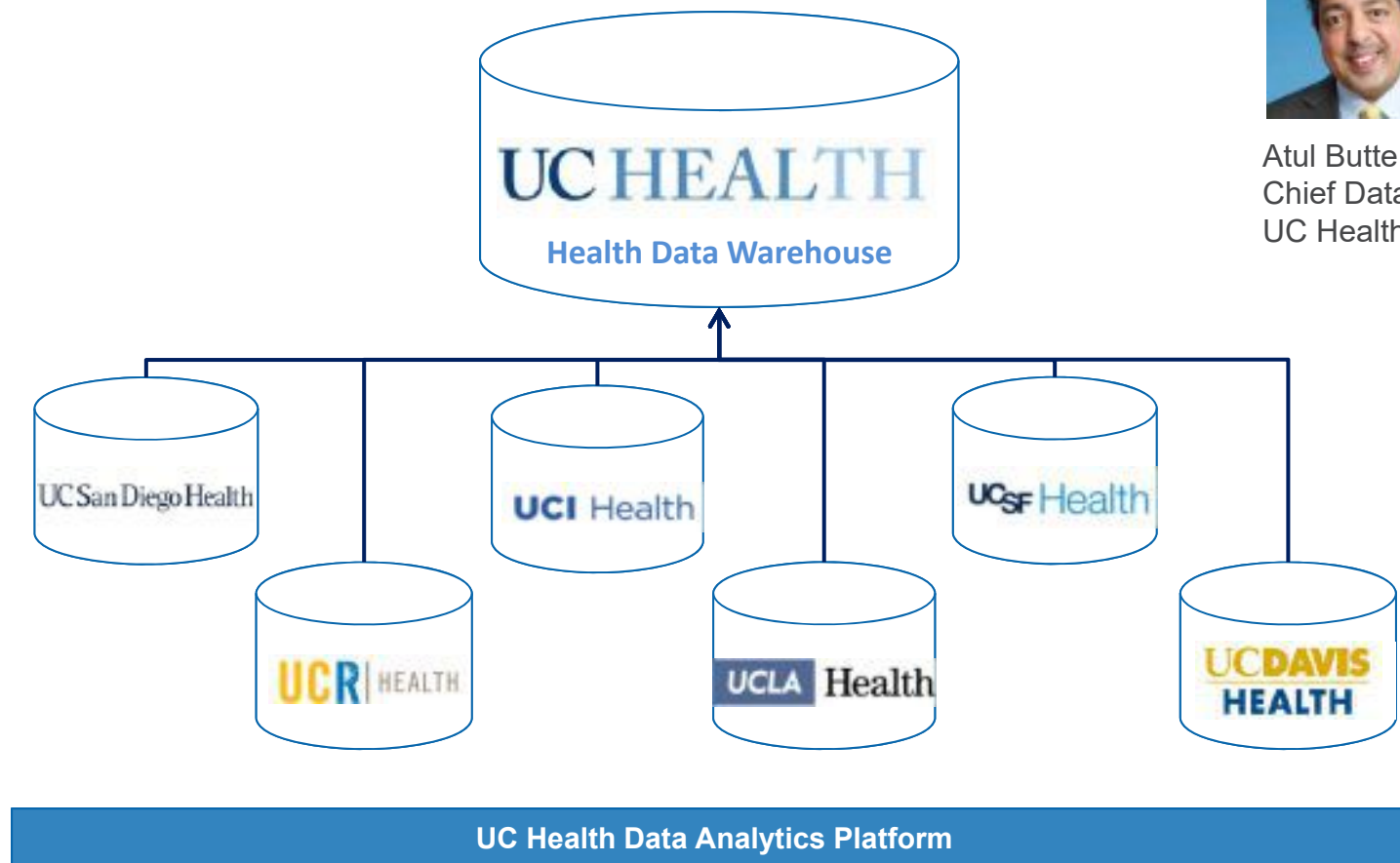
Kaiser Permanente CIO Philip Fasano explains how electronic records have paid off and the health care giant's embrace of mobile technology

InfoWorld | May 2, 2013

Combining healthcare data from across the six University of California medical schools and systems



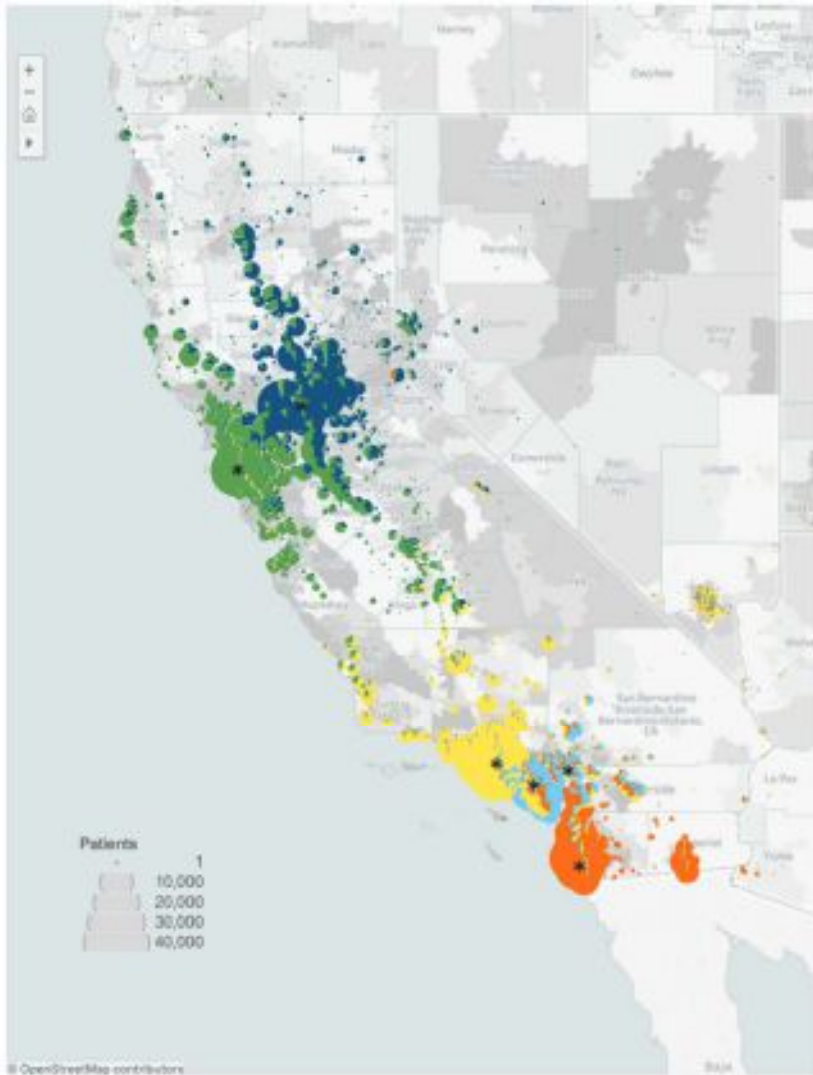
Atul Butte, MD, PhD
Chief Data Scientist
UC Health



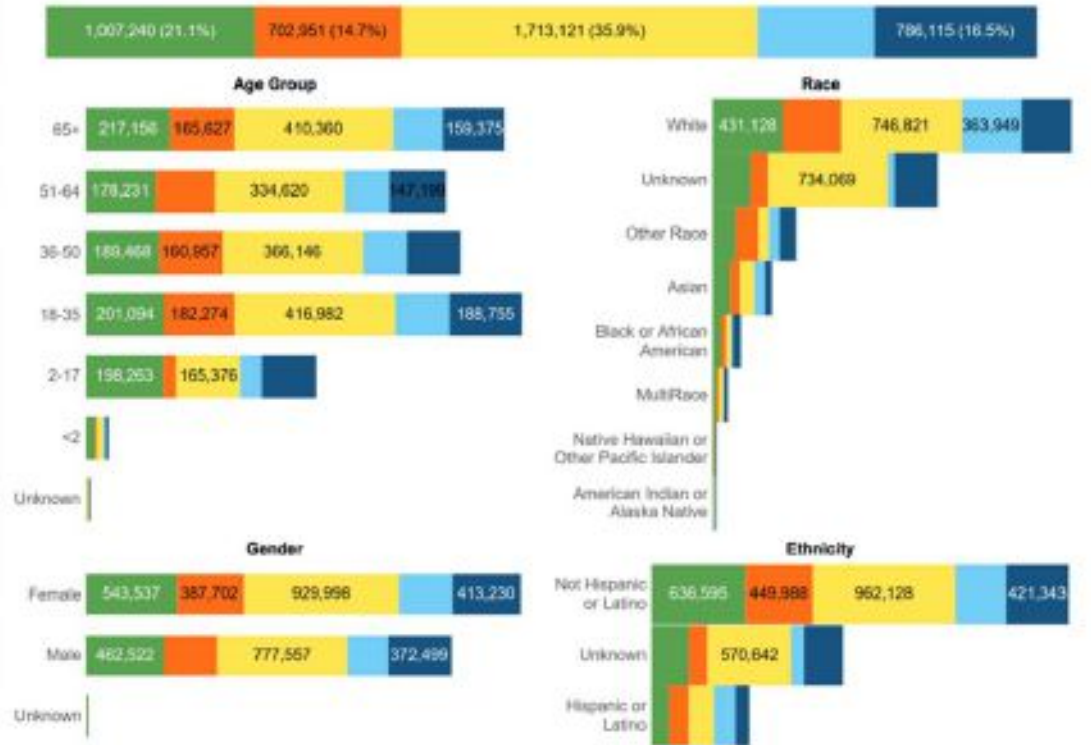
The University of California has an incredible view of population health

- Combined EHR data from UCSF, UCLA, UC Irvine, UC Davis, UC San Diego, and UC Riverside
- Total 15 million patients with an MRN, basic diagnosis data
- Central database built using OMOP (not Epic) as a data backend
 - Structured data from 2012 to the present day
 - 4.77 million patients with “modern” data
 - 133M encounters, 95M procedures, 617M med orders, 495M diagnosis codes, 1.4B lab tests and vital signs,
 - Claims data from our self-funded plans now included
 - Continually harmonizing elements
- Quality and performance dashboards

UC Health Patients since January 2012



4,771,348 Total UC Health Patients



Legends/Filters

Locations

- UCSD (blue)
- UCSD (red)
- UCSF (light blue)
- UCSF (orange)
- UCLA (yellow)
- UCSD (green)

2017 Per Capita Income

- 0 to 27,000
- 27,000 to 31,900
- 31,900 to 36,800
- 36,800 to 44,800
- 44,800 to 194,000

Gender (All)

Race (All)

Age Group (All)

Ethnicity (All)

Active Patient (All)

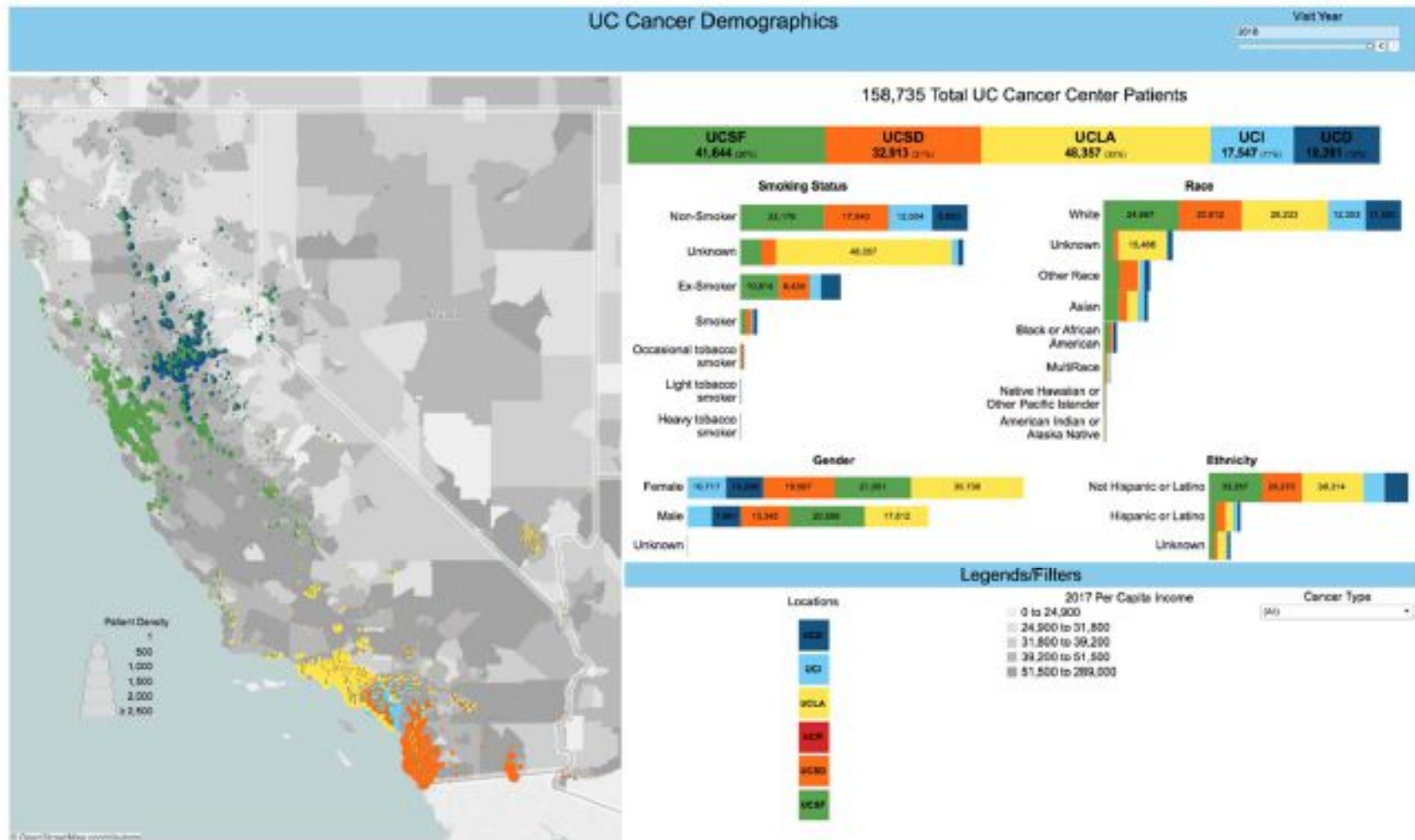
University of California Cancer Consortium Takes on California's \$14 Billion Killer

By [Elizabeth Fernandez](#) on September 11, 2017



University of California President Janet Napolitano announced the formation of a UC Cancer Consortium to include five of the nation's leading academic cancer centers during a press conference in Genentech Hall at Mission Bay. *Photo by Susan Merrell*

UC Health: 158,735 Cancer Center Patients in 2018





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Thank you!

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UC San Diego Health