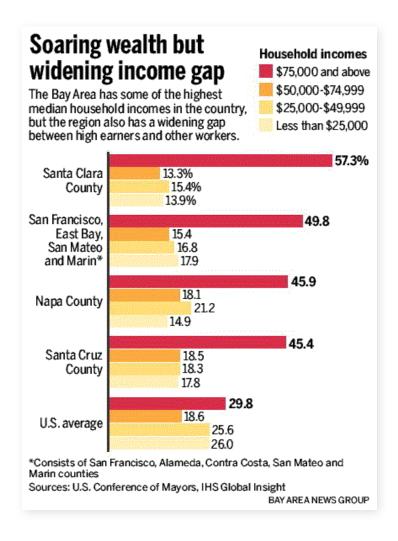
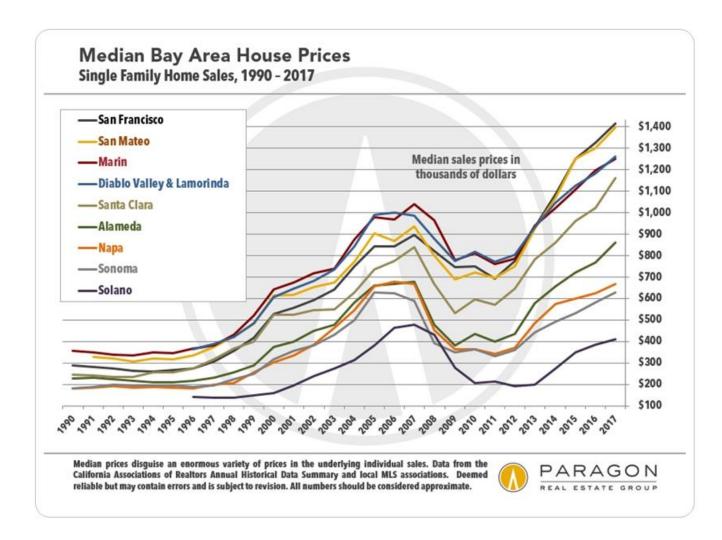
Physician Leaders Rise to Meet Challenges as a Safety-Net Health System Moves from Volume to Value

Becker's Health IT + Clinical Leadership 2019
CMO: Jeffrey Arnold MD; CMIO: Philip Strong MD
County of Santa Clara Health System
San Jose, CA

A Safety Net System in Silicon Valley





A Safety Net System in Silicon Valley

- San José 2012 median income: \$76,000 (U.S. \$51,000)
- 45% of Santa Clara County households make more than \$100,000
- 33.5% of households in Santa Clara County earn below the living wage
- Fourth largest number of homeless individuals of all U.S. metro areas (6,681)

County of Santa Clara Health System

Our Mission:

Provide high quality, compassionate, and accessible healthcare for all persons in Santa Clara County regardless of their social-economic status and ability to pay

Our Vision:

"Better Health for All"

Santa Clara Valley Medical Center

(Delivery network: Hospital & Clinics)

Santa Clara Valley Medical Center (Hospital)

Clinics/Health Centers

Valley Health Center Downtown Valley Health Center Bascom Valley Health Center East Valley

Valley Health Center Gilroy Valley Health Center Milpitas Valley Health Center Moorpark

Valley Health Center Sunnyvale Valley Health Center Tully Valley Health Center Alexian

Valley Health Center HomeFirst Valley Health Center Lenzen Valley Specialty Center Present/Future
Growth & Development

O'Connor Hospital

St. Louise Hospital

OCH Subacute DePaul Urgent Care

Public-Private Partnerships

Community Health Centers Behavioral Health

Some Kind of APM?

Santa Clara Valley Medical Center

- We ARE Santa Clara County's Public Safety Net Health System
 - Largest public hospital system in Bay Area/Northern CA
- 574 Bed Tertiary Level Care Medical Center and 11 Community Based Clinics
 - Accredited by The Joint Commission
 - ACS Verified as Level 1 Adult Trauma and Level 2 Pediatric Trauma
 - CARF Accredited Inpatient and Outpatient Rehabilitation Services
 - ACS Verified Burn Care Center
 - High risk Neonatal Intensive Care Unit (NICU) CCS Region
 - LGBT Healthcare Equity Designation: Leader status (2016)
 - HIMSS Stage 7

(CY 2018 Data):

• Operating Budget: \$1.8 B

• FTE/Employees: > 6,000

• Volunteers: > 500

• Languages spoken: > 150

(CY 2018 Data):

Individuals Served Annually: 275,000

Daily Census in Hospital: 375

• Births: Over 3,200

• Surgeries: Over 10,000

ED/Outpatient Visits: 800,000

Santa Clara Valley Medical Center

A Teaching Hospital for Physicians:

- Four ACGME* accredited residency programs (110 residents/year) at SCVMC
 - Internal Medicine (three-year program & one-year preliminary program) 60 residents
 - Ob/Gyn (four-year training program) 16 residents
 - Radiology (four-year program) 18 residents
 - Transitional (one-year program) 16 residents
- Stanford Medical Students: 200-210 Students per year
 - Emergency Medicine, Surgery, Pediatrics, Orthopedics, Neurology, etc.

^{*}Accreditation Council for Graduate Medical Education (ACGME)

Hospital System Overview – FY2018

Metric	SCVMC	ОСН	SLR	Total
Licensed beds	574	358	93	1,025
Patient days	120,376	45,046	10,948	176,370
ADC	363	123	30	516
Births	3,087	1,631	346	5,064
ED Visits	88,856	51,948	29,556	170,360
Staff headcount	6,000	1,300	400	7,700

County of Santa Clara Health System: Advantages

- Mature EHR Implementation from a single vendor
 - Achieved HIMSS Stage 7 Certification (inpatient and outpatient)
 - Enterprise Data Warehouse (EDW) built around same vendor
- Custody (county jail) went live on same platform (as inpatient facility)
 - All custody patients are registered in the EHR
 - All custody patients are screened on intake: Substance Use Disorder (SUD), Serious Mental Illness (SMI), Chronic Health Problems/Medications
- Progressive Valley Homeless Healthcare Program (VHHP)
 - Serves a large base of patients adversely affected by social determinants of health (SDOH)
- Willing to bring Behavioral Health Services (BHS)/Substance Use Treatment System (SUTS) providers on a common platform county-wide

Background

Thanks to ARRA & HITECH -> marked nationwide increase in EHR adoption

• At SCVMC, this has been underway > 10 years. We recently celebrated the 5 year anniversary of our HealthLink (Epic) EHR implementation

EHR usability is an on-going issue

- Recognized as a significant (but not the ONLY) factor in (physician) burnout and poor (nursing, therapy, etc.) employee engagement
- The situation at SCVMC/HHS led to the rise of Physician Builders locally
- And over the last year, the development of a "provider optimization" program: HAPPI ...

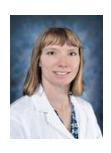




Physician Informatics Team: Active Clinicians With Informatics Involvement



Michael Hwa, M.D. Inpatient Champion



Andrea Cervenka, M.D. Adult Primary Care



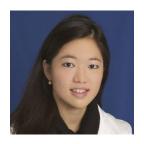
Quynh Pham, M.D. OB-GYN



Dan Vostrejs, M.D. Pediatrics



Jenni Djafari, M.D. Pediatrics & E-Health



Cheryl Pan, M.D.
Op Time Champion



Jason Williams, M.D. Gastroenterology



Alex Chyorny, M.D. Custody



Albert Chiang, M.D. Anesthesia



Sharmila Pramanik, M.D. Pathology and Lab



Snehal Adodra, M.D. Radiology



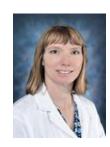
Physician Informatics Team: ABPM Clinical Informatics Board Certified



Philip Strong, M.D. C.M.I.O



Michael Hwa, M.D. Inpatient Champion



Andrea Cervenka, M.D. Adult Primary Care



Quynh Pham, M.D. OB-GYN



Dan Vostrejs, M.D. Pediatrics



Jin Hahn, M.D. Pediatric Neurology



Sunshine Pooley, M.D. Neonatology



Jennifer Tong, M.D. Hospital Medical Director



Physician Informatics Team: 50%-time Informatics



Sean Gaskie, M.D. Family Medicine



Jin Hahn, M.D. Pediatric Neurology



Sunshine Pooley, M.D. Neonatology



Sneha Kapur M.D. Internal Medicine



Jesus Saucedo M.D. Family Medicine/ED



How/Why Did This Develop?

- Prior to Epic implementation providers saw the need for direct physician involvement in clinical content development and workflows
- Dr. Jennifer Tong was approached 6 months (end of 2012) prior to SCVMC Epic golive to develop order sets: "because this was required by the vendor"
- She started this, and recruited others to come alongside because: "without direct physician participation, there would be no clinical content"
- They also realized that the EHR implementation had workflow implications
- And that their best shot at having a positive impact on this was from within the "build team":
 - Seeing what was coming
 - And providing constructive alternatives for improvement





And So ...

Why Doctors Hate Their Computers

Digitization promises to make medical care easier and more efficient. But are screens coming between doctors and patients?

Atul Gawande

On a sunny afternoon in May, 2015, I joined a dozen other surgeons at a downtown Boston office building to begin sixteen hours of mandatory computer training. We sat in three rows, each of us parked behind a desktop computer. In one month, our daily routines would come to depend upon

Gawande, Atul. "Why Doctors Hate Their Computers", The New Yorker, November 12, 2018.





Six Vignettes

- Physicians in End-User Training
- Revenge of the Ancillaries
- Susan Sadoughi: an office-bound colleague and "the Tar Pit"
 - Problem list: a "hoarder's stash"
 - Clinical notes: -> "long, ... deficient, ... redundant."
 - Inbasket: "clogged to the point of dysfunction."
 - Brings up Mayo study: "... one of the strongest predictors of burnout was how much time an individual spent tied up doing computer documentation."
- Gregg Meyer (chief clinical officer): "It is for the patients."
- Medical scribes (e.g. Alan Gorroll): the good and the not-so-good
- John Cameron, construction supervisor who "gets it".





Some Observations

- 3 years is "early" for an Epic implementation
- Optimization is critically important if we're going to get to "the long game"
- I don't doubt that computer documentation time is "strongest predictor of burnout"; emphasizes need for optimization. I believe there <may be> a cause-effect confounder.
- Something we can get behind: **it's for the patient**. But this is complicated, and fulfilling the quadruple aim makes doing things for patients sustainable. Who knew?
- Flip side of the Mayo study: extent of involvement in EHR personalization inversely proportional to self-reported burnout





Furthermore ...

IDEAS AND OPINIONS

Annals of Internal Medicine

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

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

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.

Justify billing to such payers as the Centers for Medicare & Medicaid Services, physicians must specify diagnoses from long and confusing arrays of choices relating to each test or procedure and document a clinically irrelevant number of elements for the history of present illness, review of systems, and physical examination. Documentation requirements in the United States are a relic of feefor-service and will make even less sense as we move to new payment mechanisms.

The movement toward a value-based payment system alone will not ampliorate the effect of documentaDowning L, et al.

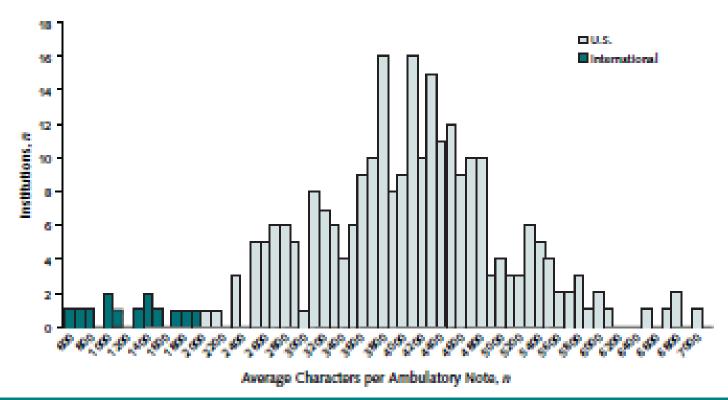
"Physician Burnout in
the Electronic Health
Record Era: Are We
Ignoring the Real
Cause?". Ann Int Med.
169(1): Pp 50-51, July 3,
2018.





US vs. International Ambulatory Documentation

Figure. Average characters per ambulatory progress note in U.S. and international health systems.



Column height represents number of organizations. Dark columns represent 13 organizations outside the United States (140 000 notes from Canada, the United Kingdom, Australia, the Netherlands, Denmark, the United Arab Emirates, and Singapore). Light columns represent 254 organizations in the United States (10 million notes).





Documentation Requirements: A Marker?

- EHR Vendor priorities
- Revenge of the Ancillaries
- Revenge of the Payers (especially CMS)!
- Going to get worse as a consequence of value-based care?

We believe that platform improvements are essential but will be insufficient to address a key cause of physician burnout our outdated regulatory requirements. Value-based reimbursement programs hold the most promise for controlling spiraling costs, but they must avoid overburdening physicians with administrative responsibilities. Regulatory reform (including changes to billing requirements) allowing clinicians to strip documentation to bare essentials would improve accuracy, enable better use for research, and reduce the tedious work that occupies so much of our time. The nation's shift toward value-based care is welcome, but physician burnout is also a critical priority-we risk losing many physicians if the root causes are not addressed.





Value-Based Care: A Working Definition

"In value-based care, health systems take on greater financial risk for the provision and quality of services.

"Public health care systems in-particular have been demonstrating this approach in Medi-Cal managed care, which has led to increased collaboration with health plans to better align managed care payments with quality and efficiency." 1

¹"California's Public Health Care Systems' Journey to Value-Based Care" CAPH/SNI Brief: Journey to Value Based Care. from CAPH/SNI website www.safetynetinstitute.org, March 2019.





Value-Based Care Terminology

Term	Definition +/- Examples
CMS: MU -> MIPS	Center for Medicare and Medicaid Services: federal agency. Meaningful use (MU) defined in stages, but now migrated into the Merit-based Incentive Program System (MIPS). MIPS has 4 axes – quality, cost, interoperability,, administration; (+) and (-) incentives – but (-) most prominent. Over 5 years, axis weights will move to quality (30)%, cost (30%), administration (15%), interoperability (15%).
CMS: Core Measures	From CMS: multiple metrics spread across 8 domains, process and outcomes measures: all-cause readmissions, use of medications for specific conditions (for which there is good evidence), control of hypertension, diabetes, preventive care: immunizations, screening, AMI mortality, etc. Overlaps NCQA
CMS: APMs	From CMS: Alternative Payment Models. These include BPCI, ACO, etc.
ONC: CEHRT	Office of the National Coordinator (ONC): Established with the HITECH act, responsible for evaluating and issuing Certifications of Electronic Health Record Technologies (CEHRT), advising CMS on policy implications for health information technology.
TJC: NPSGs	The Joint Commission (formerly JCAHO). A not-for-profit organization responsible for "accrediting" hospital. Conducts "surveys", can mandate improvements before granting accreditation. The steward for National Patient Safety Goals (NPSGs): SSI, CLABSI, CAUTI, Handwashing, proper patient identification, medication administration
NCQA: HEDIS	National Committee for Quality Assurance: the metric steward for "HEDIS", the Healthcare Effectiveness Data and Information Set: 83 measures over 5 domains: effectiveness, access, experience, utilization and resource use, health plan descriptive information.





Value-Based Care Terminology - California

and distrib FQHC Federally-C DPHs Designated 1115(a) Waiver "Section 11 to waive property requirements."	
DPHs Designated 1115(a) Waiver "Section 11 to waive prequirement	nt of Health Care Services (California): Licenses hospitals; helps define and monitor performance ute payment for the MediCal program
1115(a) Waiver "Section 11 to waive programments."	Qualified Health Center: allows significantly better Medi-Cal fee-for-service payment rates
to waive por requirement	d Public Hospitals (DPHs): the UCs, and most county health systems (including SCVMC).
DSRIP Delivery Sy	115 of the Social Security Act gives the Secretary of Health and Human Services (HHS) authority rovisions of major health and welfare programs authorized under the Act, including certain nts in Medicaid" to do creative things, like pay-for-performance programs
outcomes	rstem Reform Payment Incentives, the first of the 1115(a) Waiver program: process and measures in several categories for DPHs: infrastructure development, preparation for HC reform, apacity for population-based health management, etc.
and Incent	to DSRIP, 4 distinct programs in which DPHs may participate: PRIME (Public Hospital Redesign ives in Medi-Cal), GPP (Global Payments Program), WPC (Whole Person Care), DTI (Dental ation Initiative); finishes at the end of 2020.
Medi-Cal m	Care Rule (MCR) specifies large pool of dollars to be spread among the 21 DPHs that care for nanaged care patients. SCVMC annual shares: Extended Payment Program (EPP) - \$100M; entive Program: (QIP) \$45M. Possible successor to Waiver 2020.





The SCVMC Experience: Moving from FFS -> Value Based Care

Revenues:

For FY2019, we expect >\$300M from these programs:

- PRIME 58 Metrics; mostly P4P
- GPP we get "points (that translate into \$\$) for services to the uninsured
- WPC A broad array of programs and services targeting "high utilizers": we enroll in programs but get paid for services
- QIP/EPP (the new kid on the block) QIP: 21 metrics; that start as P4R but transition to P4P after the first year; EPP: money proportional to MCMC claims; expected to last > 5 years

That is ~20% of overall patient care revenues (\$1.6B)

Where does this end? How did physicians at SCVMC respond?





The Problem

Achieving up to 58 different Pay for Performance metrics established by MediCal for PRIME could equate to over \$50M per year x 5 years in revenue





Our Solutions: (1) Data Governance

PRIME Project 1.2 Ambulatory Care Redesign: Primary Care
PRIME Reporting Manual V1.0 for Mid-Year Reporting, February 2017
DY 12 Mid-Year Report, Measurement Period 1/1/16 - 12/31/16

Population Criteria

- Initial Population =
 - AND: PRIME Eligible Population
 - AND: Age>= 50 year(s) at: "Measurement Period"
 - AND: Age< 75 year(s) at: "Measurement Period"
 - AND: Union of:
 - "Encounter, Performed: Office Visit"
 - "Encounter, Performed: Face-to-Face Interaction"
 - "Encounter, Performed: Preventive Care Services Established Office Visit, 18 and Up" "Encounter, Performed: Preventive Care Services-Initial Office Visit, 18 and Up"
 - "Encounter, Performed: Home Healthcare Services"
 - "Encounter, Performed: Annual Wellness Visit"
 - during "Measurement Period"
- Denominator =
 - AND: Initial Population
- Denominator Exclusions =
 - o OR: Union of:
 - "Diagnosis: Malignant Neoplasm of Colon"
 - "Procedure, Performed: Total Colectomy"
 - starts before end of "Measurement Period"
- Numerator =
 - AND: Union of:
 - "Procedure, Performed: Colonoscopy" <= 9 year(s) ends before end of "Measurement Period"
 - "Laboratory Test, Performed: Fecal Occult Blood Test (FOBT) (result)" during
 "Measurement Period"

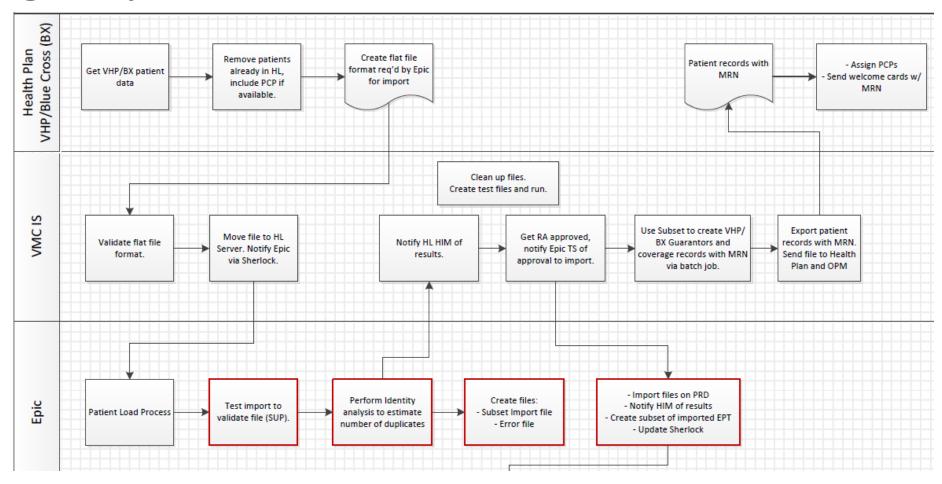
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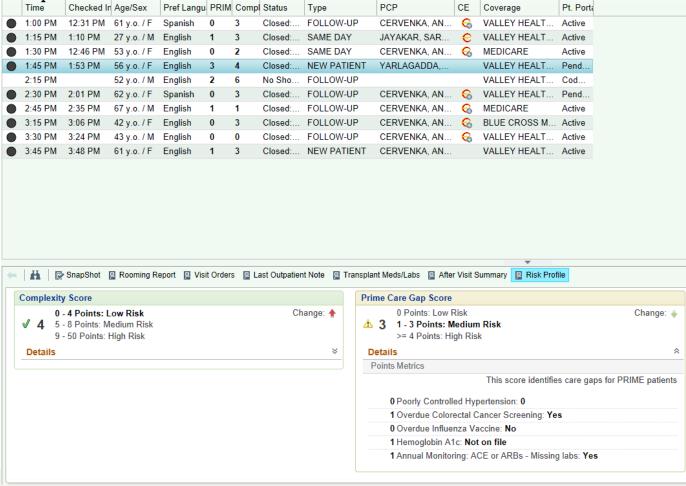
Our Solutions:

(2) Registry and DataLink Action for External Data



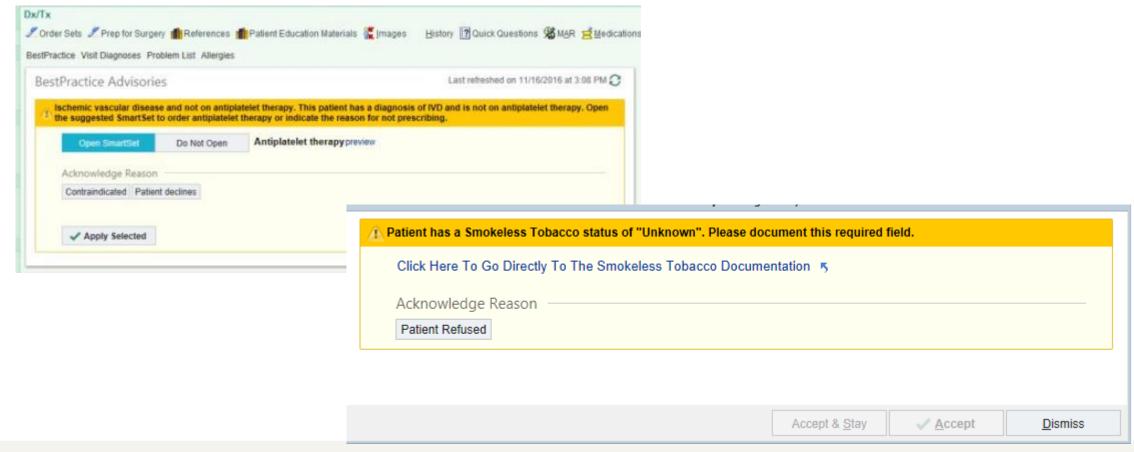


Our Solutions (3) Gap Score within Provider Schedules



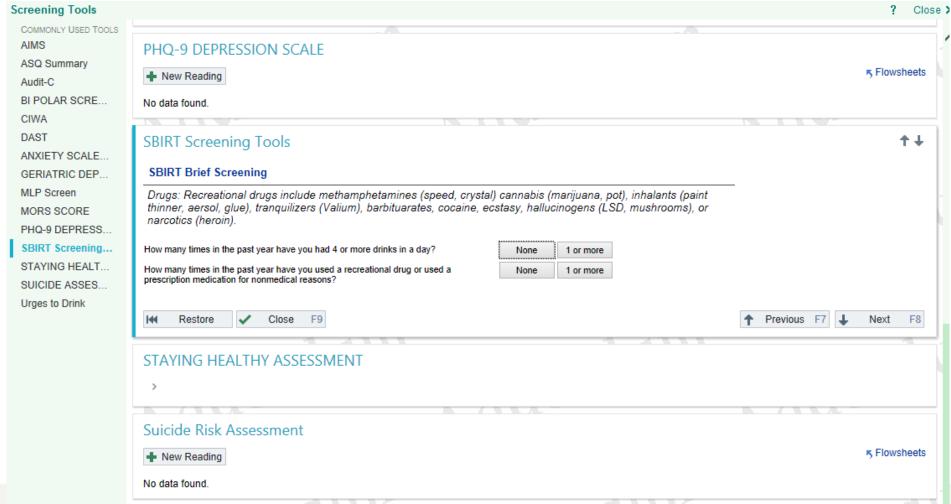


Our Solutions (4) Targeted BPAs and BPA Analysis

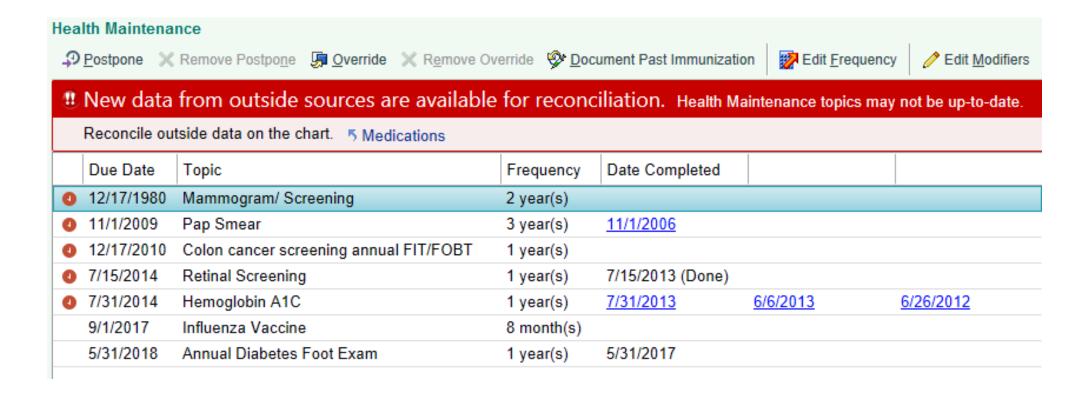




Our Solutions (5) Screening Tools



Our Solutions (6) Health Maintenance



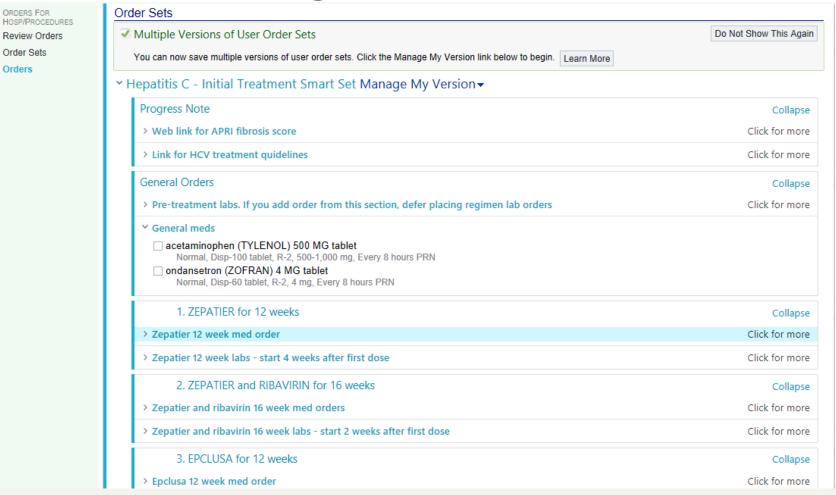




County of Santa Clara

Our Solutions

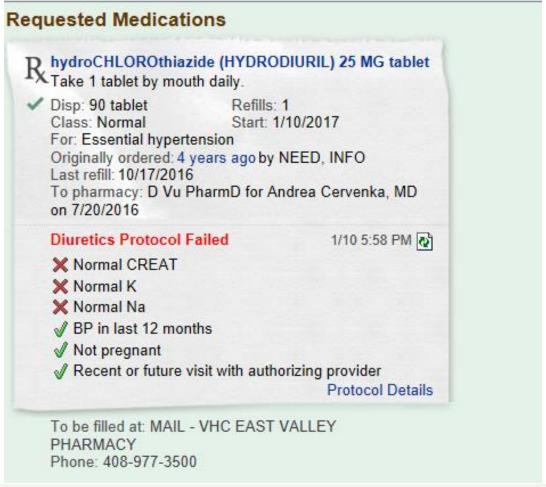
(7) Order Sets for High Cost Medications







Our Solutions (8) Refill Protocols

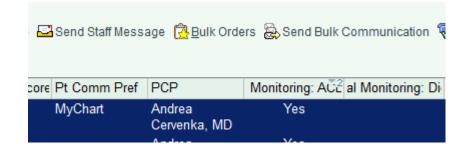


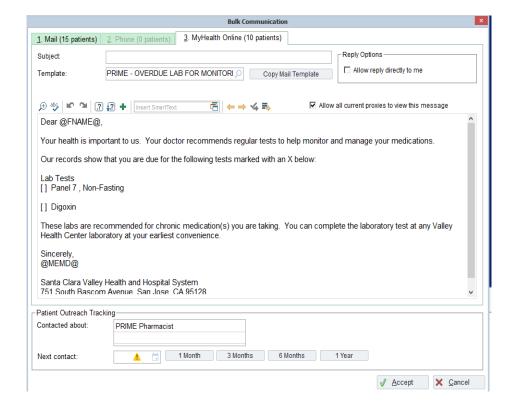




Our Solutions

(9) Bulk Ordering and Communication from RWB Reports



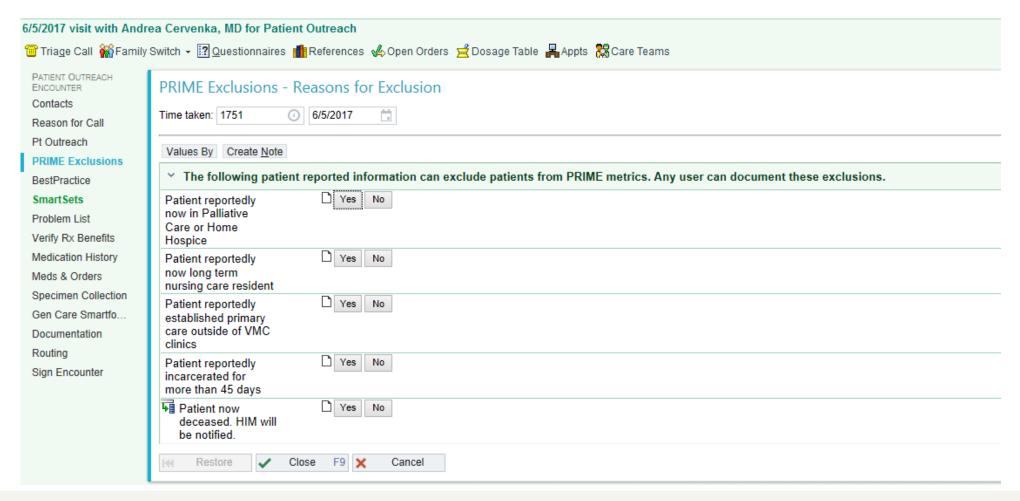






Our Solutions

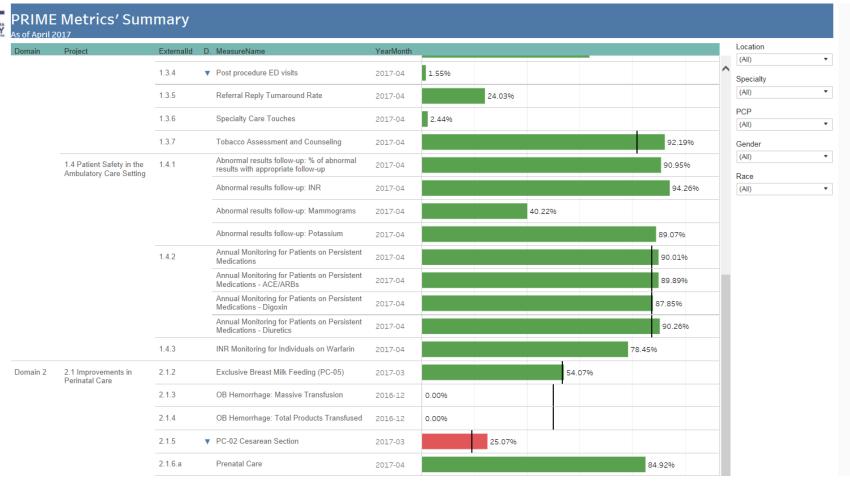
(10) Outreach Encounters with Smart Data Elements for Exclusions







Our Solutions (11) Broad Access via Tableau Dashboard







The Outcome

SCVMC achieved 56 out of 58 Pay for Performance metrics resulting in MediCal revenue of \$53M (FY17)

<Physician leaders and physician builders had direct involvement in tool configuration and implementation>





How Efficiently Are Our Providers Using HealthLink?

Epic Reporting Workbench

Epic Radar

Epic Provider Efficiency Profiles

> Epic Slice Dicer

SAP Business Objects Crysta Reports

SAP Business Objects Webl (Universes)

Tableau







HealthLink Provider Optimization Program

HAPPI -

- Helping
- Achieve
- Provider
- Proficiency
- Intelligently

Goals:

- Reduce redundancies
- Streamline workflow
- Improve Efficiency
- Reduce Off-hour EMR usage
- Improve Physician Satisfaction
- Better Utilize Epic Features
- Enhance the current build where needed





Our Commitment

- Through collaboration and understanding your operations & workflows, we optimize the HealthLink user experience
- Through observation, PEP, and needs assessment, we develop a learning plan
- Learning plan will improve provider efficiency

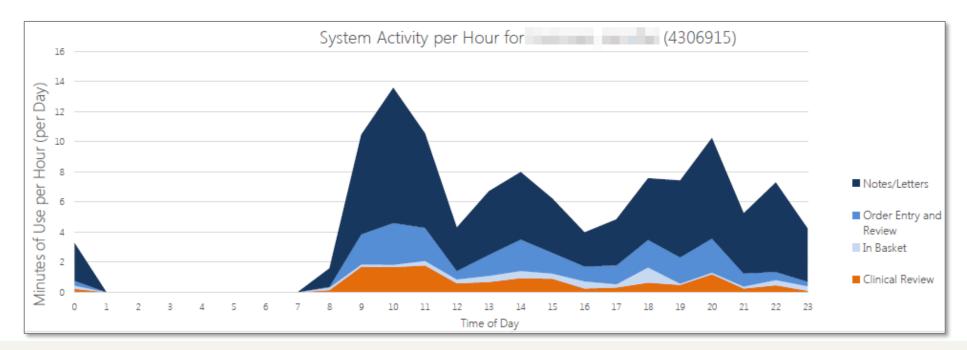






Optimization Precursors

- Provider Needs Assessment (Survey)
- In person Observation
- Monthly Epic PEP (Provider Efficiency Profile)







Optimization Execution

Individualized Learning Plans

• 1:1 Session

Group Learning Plans

- Small classroom training
- QuickWins sessions at Dept. Mtgs

Others Optional Training

- Personalization Labs
- Dragon Medical
 One training





Optimization Schedule 2018



- Pediatrics
- Pediatrics
- Peds Specialties
- Internal Medicine
- PM&R

- Internal Medicine
- Family Medicine
- Medical Specialties
 - Surgical Specialties
 - OB/Gyn





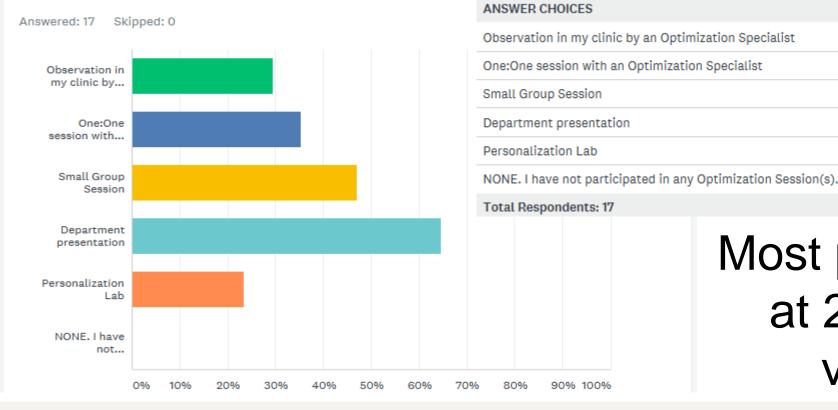


HAPPI Participation



Select all of the types of Optimization Sessions (2017-2018) that you participated in (not including help from

departmental super-user).



Most participants at 2 or more venues





RESPONSES

29.41%

35.29%

47.06%

64.71%

23,53%

0.00%

11

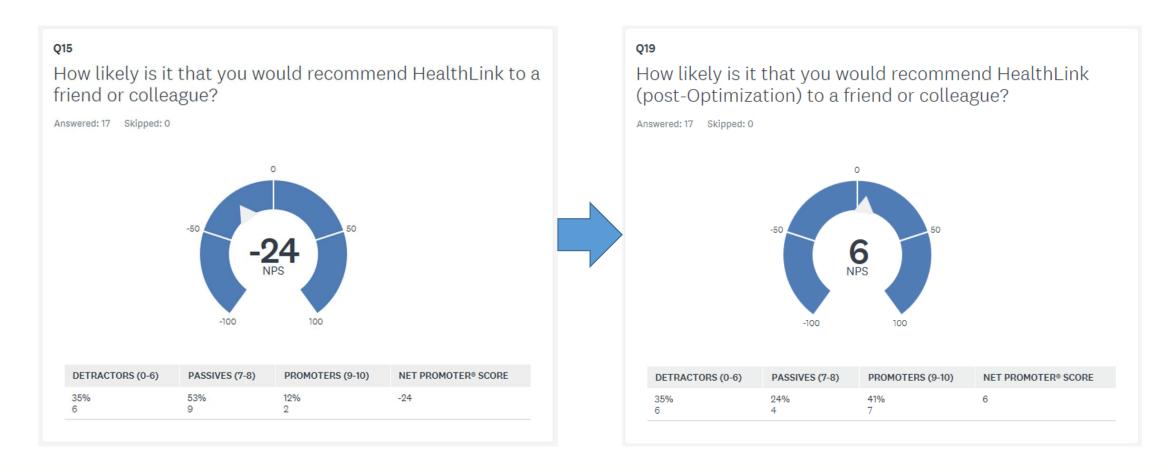
The HAPPI Program: Net Promoter Score

Q18 How likely is it that you would recommend the Provider Optimization Program (HAPPI) to a friend or colleague? Answered: 17 Skipped: 0 DETRACTORS (0-6) PASSIVES (7-8) PROMOTERS (9-10) NET PROMOTER® SCORE 29% 12% 59% 29 10





HAPPI: Moving the Dial for HealthLink NPS







New Opportunities for Physician Leaders: Two new hospitals(!)

For providers:

- "Non-employed" physicians at OCH/SLRH and DePaul
- Differences in how organizations treat providers
 - E.g. "Provider Resource Group (PRG) for dedicated 24x7 IT support
- IT infrastructures/EHRs badly in need of an upgrade
 - OCH is on Quadramed; SLRH is on Paper
 - Recent (last 2 years of) work on an Allscripts inpatient implementation
- Existing/distinct "MSITs" at OCH/SLRH (and SCMVC)
 - But one license -> one medical staff, and one integrated MEC; can delegate to local committees
- Planning Epic implementations at all three new locations
 - But NOT (yet) at individual provider offices outside of SCVMC





New Opportunities for Physician Leaders: Developments from T2020

- All Things Diabetes: Dr. Patty Salmon, Sonia Menzies
 - "doing the right thing for people with -- or at risk of developing -- diabetes"
- All Things Substance Use: Drs. Jack Westfall/Brent Miller and Nari Singh
 - "doing the right thing for people with -- or at risk of harm from -- substance use disorder"
- All Things Health Homes: Dr. JP Pham, Serena Sy, Jake Johnson, others TBD
 - "doing the right thing for people in -- or at risk of entering -- high-utilizer groups"
- Each featuring Clinical & Operational Leadership, HL and Analytics participation, Project Management
- Each featuring new tools from Epic which need configuration, validation and coordination(!)





Implications for SCVMC/HHS

- It's VERY busy now
- We need all hands on deck to help us with new Epic implementations
 - This starts pre-golive w required training AND personalization labs
 - We'll need 24x7 "elbow" support for providers for 4 weeks during golive
 - The aggressive build timeline for OCH/SLRH means MUCH will be left for "optimization"
- Meanwhile, we need to backfill to keep existing high-priority projects going
- Encourage and support your colleagues as they dive in and "Get HAPPI" or go further ...
 - MDs who do their own personalization, become MD powerusers, become MD builders
 - Maybe even pursue board certification in clinical informatics (there are 8 of us now)
- Important to monitor burnout, perhaps see improvement





Our Message for Physician Leaders

- Participate/Encourage Participation in MSIT
- Get HAPPI yourself; encourage your colleagues to get HAPPI
- Help promote our HAPPI surveys: see if all of this is helping with burnout
- Become a HealthLink PowerUser Yes, you(!); help with "elbow" support during golives
- Help Recruit/Support Physician Builders/Analysts
- Support In-Depth Physician (& Provider) Administrative Activity with the CMIO on IT Projects
- Help us promote "Data Literacy" among providers; Learn/Take Advantage of SlicerDicer
- Help Us Prioritize/Roll Out Epic Foundation/Custom Predictive Models
- Work with Us to Identify/Solicit Comparative Effectiveness Projects Locally and Regionally





