Special Report

The Importance of Continual Learning in a Rapidly Changing Health Care Environment

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Changes in health care are rapid with increasing participation from nontraditional companies in technology, pharmacy, and others.[1] Most recently, Chase, Berkshire Hathaway, and Amazon announced a joint health care initiative and the formation of an independent company to focus on technology solutions for simplified, high quality, and affordable health care.[2] The announcement sent immediate ripples throughout the health care industry and beyond even though it included no material plans or concrete details.

With the increase of available technology, the promise of new and nontraditional means to access care, and the general trend toward consumerism in health care,[3] patients and purchasers are demanding more value—including higher-quality services, improved access, and lower costs. Moreover, as health care becomes more global through the advent of cloud computing and mass customization, there is growing demand for health equity and the mitigation of health disparities. Kaiser Permanente (KP) is already making great strides in this area and were recently recognized by the Center for Medicare and Medicaid Services as the first recipient of their new Health Equity Award.[4]

New technology is rapidly being applied to health care, leading to great advancements in how we treat and prevent illness. Although this innovation has led to mostly favorable results, some significant problems have surfaced, such as alleged fraud,[5] that require vigilance on the part of health care organizations. These lessons are not new. Looking back on examples like the harm arising from relaxed use of opioids and the dramatic change in prescribing that came as we learned about risks of postmenopausal estrogen use, we learn repeatedly the importance of sound evidence and continuous vigilance as new evidence comes to us through research. There is also increasing recognition that one of the most common causes of harm are diagnostic errors, which may affect more than 12 million patients per year.[6] Improvement efforts are challenging because of difficulties in measuring the problem and the gap in time that often occurs between the initial error and its detection. However, KP has closed many of the systemic gaps that contribute to diagnostic errors through our SureNet programs.[7,8]

There is also great demand to begin measuring outcomes that matter to patients and that go beyond process measures and a limited set of intermediate outcomes measures. Although the work is still in its infancy, KP is leading the way in this area with demonstrated reductions in cardiovascular morbidity and mortality.[9]

Because KP has created effective solutions to many national challenges that affect the health care industry at large, we feel it is important to publish the results of our learning and improvement efforts in hopes of supporting health care improvement outside of our system. For the 15th year, KP is convening its National Quality Conference and will again publish the abstracts of presentations at the meeting to help spread new quality initiatives throughout the nation. The abstracts cover each of the National Academy of Medicine's 6 aims or dimensions of quality (safe, timely, efficient, effective, equitable, and person-centered),[10] which also form the framework for KP's National Clinical Quality Strategy. We recognize that there are many health care quality conferences of high value offered by organizations such as the Institute for Healthcare Improvement, the National Patient Safety Foundation, and others. However, we believe that large health care organizations can and should participate in creating quality forums where practices are not only shared but also published.[11] ❖

How to Cite this Article

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Abstracts from the Kaiser Permanente 2018 National Quality Conference

BEHAVIORAL HEALTH AND WELL-BEING

From Northwest, Southern California, Program Offices

1. X Project: Getting Grounded—How Project Chamai Is Poised to Serve Emotional Wellness Needs of Kaiser Permanente Members

Trina Histon, PhD; W Scott Heisler, RN, MBA; Herbert Ozer, LCSW; Paul Castaldo, LCSW

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Background: Project Chamai was launched in 2016 to apply the Xcelerating Learning and Spread (XLS) framework to develop new options for members that are convenient, timely, and affordable. Working in partnership with Kaiser Permanente (KP) Northwest and Southern California and our members, a minimally viable package to support member needs has been developed and is being tested in operations on kp.org. This includes 1) a landing page with emotional wellness content that can be personalized by the member; 2) workflows to enable therapists who work all along the care path to refer to these tools; 3) tools in an online personalized action plan (oPAP) that supports a member's episode care; 4) small-scale user testing of 3 to 5 online mobile applications to support emotional health.

Methods: At KP it is estimated that 25% of people in Specialty Behaviorial Health have a Patient Health Questionnaire-9 (PHQ-9) score of 10 or less. Project Chamai is primarily for members who are experiencing subclinical symptoms of depression or anxiety that may include but are not limited to sleeplessness, emotional distress, difficulty engaging in social activities, feeling overwhelmed, and difficulty in coping with life transitions. Project Chamai can also be leveraged for members who are in ongoing therapy and Depression Care Management, because cognitive behavioral therapy (CBT) and other evidence-based tools can act as an adjunct to care.

Results: Key insights from the "Understand" phase have been used to inform design principles that in turn led to the development of low- to medium-fidelity prototypes of solutions (new landing page on kp.org, ability to personalize content, tool curation, access to premium applications (CBT, etc) to support members' emotional needs. Action plans for therapists are also being developed for use in oPAP as part of workflow optimization for mental health and wellness needs. Metrics that matter are part of the human- centered design process and include PHQ-9, and regional tools like Tridiuum (Polaris Health Directions, Wayne, PA) and a collaborative outcomes resource network (ACORN, Salt Lake City, UT) to track clinical outcomes in addition to preference and Web-based metrics to track user experience. Results from the small-scale user testing of mobile applications and online programs will also be shared.

Discussion: XLS provides a robust framework to show a cohesive process to chart the progress of national projects accountability for outcomes at each stage. Using human-centered design ensures that KP is truly delivering person-centered care by working with providers and members to build the solution.

From Southern California, Washington

2. Depression Care Management—an Evidence-Based, Collaborative Care Approach to Treating Depression in a Primary Care Setting

Alisa Aunskul, MSHCM; Daniel Hackett, MD; Karen Coleman, PhD; Mark Dreskin, MD

DOI: https://doi.org/10.7812/TPP/18-071-02

Background: Depression affects more than 16 million American adults each year, leading to disrupted interpersonal relationships, substance abuse, substantial losses in productivity, and a 50% to 100% increase in total health care costs. However, as

few as 25% of people with depression receive effective treatment. Most depression is detected in primary care, yet rates of appropriate treatment for patients with a diagnosis remain low. Depression Care Management (DCM) consists of a dedicated team that specializes in the treatment of depression in a primary care setting.

Methods: *Population:* Adult members age 18 years and older with a depression diagnosis (Major Depression Diagnosis or dysthymia), Patient Health Questionnaire-9 (PHQ-9) score 5-19, with or without a medication. Patients with a PHQ-9 score > 20 can be seen by DCM if a specialist believes s/he can treat the patient safely and effectively. *Intervention:* Behavioral activation, mindfulness, problem-solving treatment, cognitive behavioral therapy, medication treatment, adherence, and management. *Outcome measures:* Remission and improvement rates for patients enrolled and in treatment with DCM for a minimum of 3 months with an enrollment PHQ-9 score > 10. Rates are based on changes in PHQ-9 scores.

Results: 1) Increased PHQ-9 rates in Primary Care; 2) increased referral rates to Depression Care Management; 3) treatment outcome targets exceeded: 59% improvement in symptoms (goal 50%) and 44% remission of symptoms (goal 25%).

Discussion: 1) DCM to identify expansion plans for the upcoming year. Plans range from expansion to specialty departments (Obstetrics, Oncology) to further involvement and integration with existing population care management programs such as diabetes; 2) auto-referral pilot to assist with streamlining the process of patients being referred to DCM; 3) develop directional strategy for outreach and monitor penetration rates of DCM program to determine if the right people are getting the right treatment; 4) provide Depression Emmi (Wolters-Kluwer, Chicago, IL) for newly diagnosed patients on online personal action plan; 5) booster sessions and trainings for grief, subsyndromal situational depression, substance use/misuse; 6) Southern California Region participation in Project Chamai.

From Colorado, Georgia, Mid-Atlantic States, Northern California, Northwest, Southern California, Program Offices

3. Moving Upstream: Three Regions' Approaches for Addressing Social Determinants and Needs to Improve Health Outcomes

Nicole Friedman, MS; Irene Alvarez-Zamzow, MPH; Adam Sharp, MD, MS; Ranu Pandey, MHA

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Background: Social and economic circumstances are known to have a powerful impact on health outcomes and health care use. Addressing these circumstances is crucial for improving health equity and fulfilling the Triple Aim. There is growing recognition of the importance of health care organizations assessing and addressing these issues in collaboration with community organizations. The 2014 Institute of Medicine report recommended inclusion of social and behavioral domains in electronic health records, and several Kaiser Permanente (KP) programs wanted to incorporate social needs assessment (SNA) into their health assessments and protocols.

Methods: *Population:* SNA programs servicing 3 target populations: KP Southern California (KPSC) Health Leads (HL) predicted high users (top 1%); KP Northern California (KPNC) Medicaid Managed Care (MMC) members; KP Northwest (KPNW) navigator program handling referrals from across the care continuum. *Intervention:* Social needs screening by various modes (phone, in-person, kp.org) using a validated SNA questionnaire. Members with identified needs referred or connected with appropriate KP or community resources. *Outcome measures:* Phase 1: Number of members screened; social needs prevalence; count and percentage of members identifying one or more needs. For KPSC HL pilot, utilization and costs for intervention and comparison groups. Phase 2: successful referrals, health outcomes, and utilization impact.

Results: KPNW Navigator Program: 10,000 patients screened. More than 42,000 social v-codes in the medical record and more than 12,000 community resource referrals. Additionally, 20% of these referrals were either fully or partially satisfied. KPSC HL pilot (case control): High prevalence of social needs for top 1%; large voltage drops in communication from screen to connection; telephone intervention appears similar, may be more efficient; no overall short-term impact on costs and/or utilization except for very-low-income members (Medicaid, Dual Eligibles). KPNC MMC program: KP SNA tool (YCLS or Your Current Life Situation) integrated into onboarding assessment tool which will be used for all KPNC MMC members in 2018.

Discussion: KP has made great progress in member SNA. The Care Management Institute, with regional partners, developed an SNA questionnaire and item bank that all programs are being encouraged to use to enable cross-program comparisons and pooling of SNA data. SNA tools are integrated into KP HealthConnect. Most KP Regions have or are planning targeted SNA programs, and the Care Management Institute is facilitating sharing of learnings and best practices across programs/Regions. Questions remain about highest priority populations for SNA, staffing requirements, assessment/referral protocols, documentation and tracking of referrals, how to address needs (eg, referral vs active linkage), and how to identify and work with community resources.

From Southern California

4. The Community Action Poverty Simulation: A Powerful, Interactive Experience, Moving People to Make a Difference

Anna Khachikyan

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Background: The Community Action Poverty Simulation promotes greater understanding of poverty in breaking down stereotypes and allowing participants to experience poverty and to step into the real-life situations of others. During the simulation, participants role-play the lives of low-income families, from single parents trying to care for their children to senior citizens trying to maintain their self-sufficiency on Social Security. The simulation opens your eyes to poverty and barriers to health care access.

Methods: According to the US Census, 14.3% of all Californians are at poverty level, which is a household income of $63,783.

Results: One out of every 4 children in California lives below the federal poverty line. Child poverty rates among Latinos and African Americans are much higher (Latino: 30% poverty rate; African American: 31% poverty rate) than for whites (10% poverty rate) and Asians (12% poverty rate). More than 90% of children living in poverty have been born in the US. Children from lower socioeconomic backgrounds have poorer health outcomes.

Discussion: The Community Action Poverty Simulation is a powerful, interactive experience designed to help participants understand what a typical low-income family goes through in just trying to survive from month to month. A goal is to sensitize participants to the realities faced by low-income people and how those social and cultural contexts impact health care. A deeper understanding of barriers to health care access, the underlying causes of those barriers, as well as the impact of those barriers on people living in poverty and their experience of care, would help physicians and health care workers overcome these challenges and provide socially responsive care. Most importantly, it moves people to make a difference.

CARE MANAGEMENT

From Southern California

5. The E-SCOPE Initiative: A Strategic Approach to Identify and Accelerate Implementation of Evidence-Based Best Practices

Joel Whittaker, MPH; Joanne Schottinger, MD; Michael H Kanter, MD; Marguerite Koster, LMFT, MA

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Background: Proposed changes in front-line care often originate with clinician suggestions, but evaluating their merit is time-consuming and expensive. Focused evidence reviews may yield inconclusive findings that do not allow clear-cut decisions, and pilot studies are vulnerable to poor design and less-than-rigorous evaluation. Duplicating clinical trials is costly and inconsistent with our affordability mission. E-SCOPE offers an accelerated, more effective way to break the logjam of identifying and implementing evidence-based practices in the clinical care setting.

Methods: *Problem:* More than 36,000 clinical trials are published yearly, many demonstrating effectiveness of clinical interventions to improve the health of Kaiser Permanente (KP) members. *Intervention:* Combining proactive identification of high-quality evidence with stakeholder engagement, implementation support, and monitoring to accelerate delivery of evidence-based best practices. *Comparison:* Care improvement initiatives driven by expensive, time-consuming evaluation of anecdotal suggestions; focused evidence reviews with inconclusive results and no clear-cut decisions; poorly designed and evaluated pilot studies; duplicating costly clinical trials inconsistent with the KP affordability mission. *Outcome:* Timely, effective, and efficient identification and implementation of evidence-based best practices.

Results: Between 2014 and 2017, the E-SCOPE Initiative proactively identified and accelerated the launch of 17 evidence-based best practices to improve the effectiveness, safety, timeliness, and/or efficiency of care. The date from study publication to date of deployment for all E-SCOPE interventions ranged from 4 to 36 months, a reduction from the 17-year average implementation time documented in published literature (http://bit.ly/1voeaac).

Discussion: The E-SCOPE process can successfully identify and implement beneficial evidence-based practices; minimize reliance on costly, time-consuming, and less-than-rigorous pilot studies; and reduce the time gap between publication and delivery of important patient care interventions supported by high-quality published evidence. The Southern California region is developing knowledge management resources to share the identified evidence-based best practices and implementation strategies with other KP regions, and will seek feedback from workshop attendees on how best to provide E-SCOPE resources to meet existing clinical priorities, delivery system structures, and resources in other regions.

From Southern California

6. Continuing Care Quality Management: Right Care, Right Time, Right Place Applied to Skilled Nursing Facility Care

Peter Khang, MD; Jennifer Cortez; Christine Jordan; Artem Aghourian

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Background: The postacute care marketplace is segmented with high degrees of variability among skilled nursing facility (SNF) leadership, care quality, and outcomes. Appropriate and adequate governance of the care provided and oversight of our members in SNF ensure the care they receive is consistent with what they received in the hospital.

Methods: *Population:* Improving the quality outcomes and utilization of skilled nursing care for members (most often age 65 years and older). *Intervention:* Implement the Continuing Care Quality Management (CCQM) model. *Comparison:* Compare results with historical outcomes and utilization. *Outcome Measures:* SNF patient day rate (PDR), SNF discharge rate, length of stay, and readmissions.

Results: The primary metric for success has been the SNF PDR—measuring the number of skilled days per 1000 members. Between 2015 and 2017, we saw the SNF PDR drop by nearly 33%. SNF PDR is the product of volume of SNF admissions and the length of stay. We have seen our SNF admission volumes decrease as CCQM emphasizes appropriateness of SNF placement, and CCQM-Inpatient Quality Management (IQM) teams work together to send patients home with adequate resources. The average length of stay remained constant, and the SNF Healthcare Effectiveness Data and Information Set (HEDIS) 30-day readmission observed/expected ratio has been relatively stable, despite a 12% increase in the expected rate since 2016.

Discussion: The CCQM model translates Care Without Delay (CWD) to the continuum. It enhances the quality, timeliness and appropriateness of care for members, working relationships (internal and external), and business outcomes. Successful implementation of the model requires engagement of local and regional executive leadership, with a strong oversight component. Interdependent collaboration between IQM/CWD and CCQM is critical to making significant progress, as introducing the model will be the start of a culture change for both hospitalists and SNF specialists.

From Colorado, Hawaii, Northern California, Northwest, Southern California

7. Changing Regional Surgical Practice to Improve Quality and Efficiency of Care

Charles Meltzer, MD

DOI: https://doi.org/10.7812/TPP/18-071-07

Background: Customary referral patterns did not distinguish between higher- and lower-volume surgeons. In 2008-2013, 63% of

patients underwent thyroid procedures by low-volume (< 10 cases per year) surgeons, who had significantly higher rates of complications and 30-day readmissions—and who performed many fewer surgeries on an outpatient basis than higher-volume surgeons: 3% vs. 13% for total thyroidectomies and 29% vs. 46% for hemithyroidectomies. When appropriate, outpatient surgery is both more efficient and preferred by many patients.

Methods: *Population:* Patients with thyroid nodules or primary hyperparathyroidism being considered for surgery. *Intervention:* A multidisciplinary group (Head and Neck Surgery, General Surgery, Endocrinology, Medical Imaging, and Pathology) developed workflows identifying patient management steps, responsible providers, and key metrics. Group members became specialty champions. Published analyses of Kaiser Permanente data demonstrated the need for change. Lower volume surgeons could opt out of performing procedures or increase case volumes. A patient education pamphlet was created to support outpatient procedures. Surgeon-level quarterly reports track metrics. *Comparison:* 2008-2013. *Outcome measures:* Proportions of low-volume surgeons performing thyroid/parathyroid surgery and outpatient procedures and complication rates.

Results: In 2014-2017, the proportion of low-volume surgeons (< 10 cases/y) performing thyroid surgery decreased from 56% to 34%, the proportion of total thyroidectomies performed by low-volume surgeons decreased from 12% to 6%, and the proportion of same-day outpatient procedures increased from 42% to 73%. Among patients undergoing total thyroidectomy, the rate of 30-day all-cause readmissions decreased from 3.5% in 2014 to 2.6% in 2015-2016. The rate of hematomas decreased from 0.3% in 2014 to 0.1% in 2015-2016, and the rate of transient hypocalcemia decreased from 7.8% in 2014 to 6.2% in 2015-2016. In 2016, Lokahi funding supported spread to Colorado Permanente Medical Group (June), Northwest Permanente (August), Hawaii Permanente Medical Group (October), and Southern California Permanente Medical Group (December). Data on interregional spread will also be presented.

Discussion: Changing surgical practice to improve quality is possible with organization-specific data demonstrating the need for change, multidisciplinary champions building workflows that follow clinical practice guidelines and define provider responsibilities, development of provider-level reporting to assure quality outcomes and process adherence, and strong leadership support. Accelerating spread across Regions requires vertical and horizontal alignment of improvement priorities at national, regional, and local levels, executive support, streamlined access to analytic resources and expertise. Taking down the silos across the program to promote active collaboration on an ongoing basis fosters clinical leaders who are adept at both evidence-based care and ongoing performance improvement.

From Colorado, Georgia, Hawaii, Northern California, Northwest, Southern California, Program Offices

8. Sepsis Showdown: A Unified, Interregional Approach to Sepsis Diagnosis and Treatment

Cara Steinkeler, MD; Kenneth Robinson, MD

DOI: https://doi.org/10.7812/TPP/18-071-08

Background: Sepsis-related diagnoses (SEP) are life-threatening conditions caused by a dysregulated host response to infection or inflammation. Progression from signs of an inflammatory response to severe sepsis and septic shock requires prompt recognition and treatment to achieve the best clinical outcomes. Kaiser Permanente (KP) has been on a sustained journey to improve the care of patients with sepsis, with a goal of minimizing sepsis-related deaths and injury. In the past year, an interregional group has worked on additional resources, tools, and data to support these efforts.

Methods: In 2008, KP developed a performance-improvement program to screen and provide effective treatments to patients identified as at-risk for sepsis. The program included education of sepsis champions, quality improvement staff, and operational leadership; development of sepsis scorecards with performance metrics; and ongoing sharing of quality improvement strategies and novel sepsis-related initiatives. Clinical strategies for evaluating and treating patients with less severe sepsis have continued. In 2017 an interregional Sepsis Workgroup was chartered by the KP National Quality Committee. Landscape analysis, definitions and guidelines, and analytics subgroups have completed work which will be shared during this session.

Results: During the past 6 years, increased awareness about sepsis has led to better identification of patients, resulting in an increased number of cases coded as having sepsis, severe sepsis, and septic shock. Mortality among patients admitted to Kaiser Foundation Hospitals with sepsis decreased from 12.0% to 8.1%, and for those patients with severe sepsis and septic shock, mortality over this same 6-year period has decreased from 20.2% to 13.1%. However, in Kaiser Foundation Hospitals, performance on SEP-1 (the bundle of sepsis and severe sepsis/septic shock process measures) varies from 46% to 86%. Although KP outcomes such as inpatient mortality for patients with sepsis-related conditions are lower than those reported in the literature, there are opportunities to improve performance on sepsis bundles/process measures.

Discussion: Chart audits for the Centers for Medicare and Medicaid Services core measures for sepsis may not reflect performance, and thus the focus of this work has been on mortality. However, standardization of metrics across Regions and an automated means of obtaining data will provide better information on performance. Members of the interregional Sepsis Workgroup will share leading practices from across KP for early identification and risk stratification of patients with sepsis. Decision-support and documentation tools will be shared as will educational resources. A status update will be provided on analytic work in progress to improve automated abstraction of sepsis processes and outcome measures.

From Northern California

9. Preventing Unrecognized Deterioration and Honoring Patients' Goals of Care by Embedding an Automated Early-Warning System in Hospital Workflows

Brian Dummett, MD; Shirley Paulson, RN, DNP; Elizabeth Scruth, RN, PhD; Julia Green, MPH; Theresa Villorente, MSN, RN; Liesel Buchner, RN, CCRN-K, CNML; Tamar Fendel, MPH; Vivian Reyes, MD; Gabriel J Escobar, MD

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Background: Acute deterioration of hospitalized patients outside of the intensive care unit (ICU) is a preventable quality and patient safety issue that is associated with excess mortality and morbidity. The failure to recognize, communicate, or act on these early changes

can lead to delays in care and adverse events, including unplanned admissions to the ICU and unexpected deaths.

Methods: We describe the impact of implementing the advance alert monitor (AAM) early warning system using a remote quality nursing team in combination with standardized hospital rescue workflows (inclusive of supportive care to ensure patient preferences are respected) to reduce inpatient and 30-day postdischarge mortality in high-risk medical surgical patients who trigger the AAM alert. We compared mortality outcomes for cases (patients who triggered the AAM alert and received the AAM standard workflow intervention) with controls (patients who triggered the AAM alert and did not receive the AAM intervention) in hospitals in the same integrated network.

Results: Our analysis describes the results from a difference-in-differences evaluation comparing the preimplementation period to the postimplementation period at Kaiser Permanente Northern California hospitals with the AAM intervention relative to those without it, adjusting for patient characteristics. Hospitals employing the intervention showed a statistically significant reduction in hospital and 30-day mortality for the patients who triggered the early warning system relative to a similar patient population at hospitals without the intervention. Several hospitals with the AAM intervention also demonstrated statistically significant decreases in length of stay.

Discussion: The AAM tool combined with review by a remote nursing team and standardized hospital workflows represents a systematic approach to reducing mortality for this at-risk population. Although AAM is the technology for proactive detection, it is only through workflow, culture change, and increased situational awareness that we can make a difference in outcomes. We are spreading this program to all hospitals in Kaiser Permanente Northern California. AAM is a first step toward a vision where predictive analytics and remote monitoring ensure that acutely ill patients remain safe from harm, and their goals are incorporated into treatment decisions before adverse outcomes occur.

From Colorado

10. Using Lean Management to Drive Improvement at East Denver Medical Office

Kristin Banks, DrPH, MPH; Tom Kazutomi, MA, NRP; Mehul Gandhi, MD, MBA; Hanah Polotsky, MD, MBOE

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Background: The East Denver Medical Office Building (MOB) has historically scored below the regional average in Patient Satisfaction and People Pulse scores. In early 2017, East Denver leadership partnered with the Kaiser Permanente (KP) Colorado (KPCO) Regional Performance Improvement team to implement a Lean Management system to drive MOB improvement. The system entailed conducting a value stream analysis, implementing an MOB visual management system and leader standard work, and conducting several innovative pilot projects aimed at improving the member experience.

Methods: In early 2017 the East Denver MOB leadership team consisting of department managers, chiefs, and unit-based teams coleads participated in a value stream analysis to identify areas of improvement. The analysis consisted of three interactive half-day sessions in which teams mapped the entire value stream of the member experience from MOB entry to exit. Several areas of opportunity were identified including 1) patient reception and welcoming process, 2) patient wayfinding and physical navigation, and 3) interdepartmental communication. The goal was to improve member satisfaction and create a "Speak-up" culture at East Denver MOB.

Results: Patient satisfaction scores improved significantly from 2016 to 2017 on a number of scales including Overall Satisfaction (59% to 68%), Likelihood to Recommend KP (46% to 52%) and Coordination of Care (43% to 49%). MOB People Pulse scores improved across all 15 indexes from 2016 to 2017. The following themes achieved the greatest improvement: Line of Sight (9% improvement), Feedback and Development (8% improvement), and Engagement Index (5% improvement). In addition, East Denver MOB scored higher than the Colorado Region on all 15 indexes with the most pronounced being Integrity (7% higher than KPCO).

Discussion: Implementing a Lean Management system in an MOB engages frontline teams in solving problems that can improve the member experience, patient outcomes, as well as employee engagement and line of sight. It has the potential to improve efficiency, reduce waste, and enhance communication. However, this system will be most impactful when adopted by senior leadership and across the Region.

From Northern California

11. Spreading the News: Prevention of Hospital-Acquired Pneumonia is Possible

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Background: A mortality review of hospitalized patients undertaken in 2008 identified hospital-acquired pneumonia (HAP) as a significant contributor to disability and death in the Northern California Region. A subsequent review done in 2012 showed that patients with HAP had longer hospital lengths of stay (an average of two weeks), were more likely to be discharged to skilled nursing facilities instead of home, and were six times more likely to die in the hospital. There were significantly more patients with HAP than those with ventilator-associated pneumonia (VAP). They were more likely to be recovering from routine surgery, elderly, tube-fed, or sedated than patients without pneumonia.

Methods: From 2010 to 2011, the HAP Prevention bundle was tested in pilot sites across the Region. We deployed the bundle to all sites in 2013. Interventions included patient ambulation, upright posture for meals, oral antiseptics, regular incentive spirometry, and reducing the use of sedatives. Decision-support tools were developed, such as banners that alert nurses that a patient is a pneumonia or aspiration risk, as well as a pneumonia provider order set. Reports on performance in the prevention measures were distributed regularly. Collaboration with perioperative teams allowed the inclusion of incentive spirometers in the scheduling kit for surgical patients. HAP was the outcome and confirmed by a natural language extraction algorithm from the radiology result identified as a new opacity, sustained for 24 hours in a chest x-ray obtained 48 hours after hospital admission. Process measures include ambulation rate, compliance with oral chlorhexidine, and benzodiazepine usage.

Results: In 2017, we reduced our HAP by more than 60% from a rate of 7.1 per 1000 admissions to 2.3 per 1000 admissions. Since the implementation, an estimated 308 deaths were prevented and 22,944 patient days saved.

Discussion: HAP was the leading cause of avoidable mortality in the Northern California Region. The reduction was substantial and addressed a risk lacking clinical practice guidelines and having a limited literature to base prevention practices on. This program fits perfectly with the Kaiser Permanente's mission to "provide high-quality, affordable health care services and to improve the health of our members." Preventing a hospital-acquired infection, such as pneumonia, demonstrates our commitment to high-quality care. Health care is made more affordable by preventing complications and associated increased lengths of stay. This project aligns with the organization's mission on affordability by decreasing significant patient morbidity and mortality.

From Colorado, Hawaii, Mid-Atlantic States, Northern California, Northwest, Southern California, Program Offices

12. Same-Day Bilateral Cataract Surgery: Providing More Value to Members and to Kaiser Permanente

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Background: Same-day bilateral cataract surgery (SDBCS) is patient-centered, translates evidence to practice, and improves value to members and Kaiser Permanente (KP). Value includes safety, health outcomes, quality, access, cost, convenience, or satisfaction. This project demonstrates results for patients undergoing cataract surgery and benefits from facilitating interregional clinical collaboration and interentity analysis. Work products include clinical and business cases that ease implementation burden and optimize SDBCS. Southern California Permanente Medical Group (SCPMG) Chiefs of Ophthalmology and Interregional Ophthalmology Practice Leaders established a 2018 goal to increase SDBCS.

Methods: *Population:* Approximately 90,000 members/y have cataract surgery. *Intervention:* The common cataract surgery in the US is performed on each eye, on separate days (delayed, sequential bilateral). *Comparison:* SDBCS is rare in the US because of Centers for Medicare and Medicaid Services reimbursement and fear of rare, bilateral complications. Worldwide rates of Same Day Bilateral Cataract Surgery (SDBCS) are rising. In 2015, KP's SDBCS regional rates varied from 0.3% (SCPMG) to 43.1% (Colorado Permanente Medical Group). *Outcome measures:* Refractive error, best-corrected visual acuity, and endophthalmitis. Evidence, including a large, published KP study, shows that SDBCS is safe and effective for appropriate patients and that risk of bilateral endophthalmitis is not supported in the literature.

Results: During the course of this 1-year project, cataract surgeons studied the evidence and compared available tools, process flows, and member and provider education. The Interregional New Technologies Committee reviewed the published evidence on health outcomes. Members who had both procedures were interviewed about their experiences. Decision Support analyzed surgery, visit, operative time, and pre- and postoperative times. Finance facilitated monthly meetings, documented work, and created deliverables such as the business and clinical cases. Though complete datasets are not yet available for 2017, SDBCS rates continue to increase whereas endophthalmitis rates hold steady, as shown in the Northern California study. Conservative estimates of time savings from the member perspective because of SDBCS are approximately 3 hours, including visits, and 90 minutes of preoperative and postoperative time.

Discussion: Start with sound evidence of increased value to patients. Value was defined as what patients feel or care about. Member interviews demonstrated SDBCS added meaningful conveniences and savings; physicians not yet offering SDBCS listened. Patients' opinions and internal and external outcome data were packaged with implementation tools to reduce barriers to change. Clinicians received needed guidance from similarly motivated, interregional colleagues. The Health and Value Creation Initiative (HAVC)-accessed data, rallied administrative resources, facilitated monthly discussions, and provided business tools for physicians to work with their operational leaders. Regional work continues to translate this work into practice, monitor outcomes and utilization, and measure member satisfaction.

From Southern California

13. The Impact of Improving Access to Primary Care

David Glass, PhD; Michael H Kanter, MD; Paul Minardi, MD

DOI: https://doi.org/10.7812/TPP/18-071-13

Background: There is a large body of literature that posits that many problems in the US health care system would be greatly ameliorated if primary care were more readily available to patients. However, there is little evidence about how quickly and how much utilization would shift and costs change if ready access to primary care were provided. This study fills that gap. It also offers some sobering lessons about challenges that may be encountered.

Methods: This study examines patterns of utilization and costs of employees and dependents at a large employer across an eight-year period, both before (2007-2009) and after (2010-2014) the implementation of a worksite medical office in 2010. The worksite office offered convenient primary care services with no travel from work (for employees), essentially guaranteed same-day access, and had no copay. Trends in all visit rates and costs were compared for the intervention group at the employer with a control group of Kaiser Permanente members who lived in the same area.

Results: The worksite medical office intervention group had an increase in primary care visits relative to the control group (+43% vs +4%, $p < 0.001$). This was accompanied by a reduction in urgent care visits by the intervention group compared with the control group (-43% vs -5%, $p < 0.001$). There were no statistically significant differences in the other types of visits, and the total visit costs for the intervention group increased 5.7% vs 2.7% for the control group ($p = 0.008$). A subgroup analysis of the intervention group (comparing dependents to employees) found that the dependents achieved a reduction in costs of 2.7% ($p < 0.001$) across the study period.

Discussion: Worksite medical offices offer an avenue for providing highly convenient primary care to employees and dependents of large employers. The potential for long-term reduction in utilization and costs with better access to primary care is significant, but not easily nor automatically achieved. Four years after the opening of a worksite medical office, we found members did rapidly and strongly shift towards greater use of primary care. However, the path to cost savings was uneven. There is a large opportunity to further test this approach as 78% of large employers do not have a worksite medical office.

From Colorado, Southern California

14. Spreading and Scaling Kaiser Permanente's Primary Care Plus: An Interdisciplinary, Person-Centered Primary Care Model

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DOI: https://doi.org/10.7812/TPP/18-071-14

Background: Kaiser Permanente (KP) is committed to developing and implementing a systematic, crossregional plan to design, test, and scale programs addressing patients with complex health and social needs. The positive impact of Primary Care Plus (PC+) in KP Colorado (KPCO) resulted in a desire to further learn about person-centered primary care team models across KP. In early 2017, KP launched a direct replication of the PC+ model in KP Southern California's (KPSC's) Woodland Hills Medical Center to understand the impact and scalability of PC+.

Methods: KPCO's PC+ followed strict eligibility criteria to capture high-need, persistently high-cost members older than age 65 years (or age 18-64 years who are enrolled in Medicare). The evaluation design was a prospective matched control study assessing cost and utilization of members from a single clinic at 12 months of enrollment. KPSC Woodland Hills' PC+ adheres to the same eligibility criteria, but the evaluation is a randomized controlled study design using an intention-to-treat approach. The evaluation will assess costs, utilization, and quality of life. All primary outcomes measures will be measured at 12 and 24 months from baseline.

Results: Most recent cohort study findings include statistically significant benefit in mean total health care costs at 12 months for PC+ members vs matched controls; cost savings in inpatient, Emergency Department, skilled nursing facility, and pharmacy expenditure buckets; and PC+ members were more likely to have been screened for depression and anxiety. In addition, the early assessment evaluation reported high satisfaction among practitioners, staff, members, and caregivers.

Discussion: As PC+ spread within KPCO and into KPSC, maintaining adherence to the patient population, core model components, and study design is critical in studying the long-term Triple Aim results of this complex care model. Documentation of PC+ protocols in an implementation guide played a critical role in the ability to spread the intervention to additional medical offices at KPCO and to a replication at Woodland Hills in KPSC. In 2017, Woodland Hills began replicating PC+, with consultative guidance from the KPCO PC+ leadership team; this allows for crossregional transfer and further study of this complex care model. Beginning in May 2018, PC+ will also be tested at the Los Angeles Medical Center in KPSC.

From Northern California

15. Imaging to Treatment: Leveraging Technology to Redesign Care for the Pulmonary Nodule Pathway

Ashish Patel, MD; Daniel Navarro, MD; Michael Rizzo, MD; Steven Levine, MD; Todd Osinski, MD

DOI: https://doi.org/10.7812/TPP/18-071-15

Background: A 68-year-old woman came to Kaiser Permanente (KP) Oakland Emergency Department in 2006 for symptoms of bowel obstruction. Her hospital stay included a chest x-ray that showed an incidental lung nodule suspicious for cancer. She was treated for bowel obstruction, recovered, and went home. She returned 6 months later with shortness of breath and normal bowel function. Repeat chest x-ray showed a large mass consistent with advanced lung cancer.

Methods: A pilot study was started at KP Oakland in 2006 to see how we can improve our care for following-up abnormal lung nodules. All radiologists in the department were asked to flag any study that was suspicious of cancer. A medical assistant in the department kept the list and followed-up each patient to ensure the finding was addressed. Once the pilot demonstrated clinical need and patient benefit, the project was expanded to address the suspicious findings within 48 hours and support the primary care physician to expedite further work-up and treatment.

Results: Pilot: 650 patients (14/wk) were flagged with suspicious findings, of which 151 had cancer. Forty-eight patients (7%) were noted to have no intervention at 3 weeks, at which time the project intervened to ensure care. Expansion: 470 patients were followed. Of the 470 patients, 42 had cancer. The time from initial study, completion of the work-up, and seeing the treatment specialist was reduced from 40 days to 18 days.

Discussion: An effective program to follow incidental lung lesions was designed, tested, piloted, and spread to the entire KP Northern California Region by 2018. Our integrated technology tools allow radiologists to flag the study and the multidisciplinary care team members to take actionable steps in KP HealthConnect. Four centralized multidisciplinary teams (with pulmonologists, radiologists, thoracic surgeons, oncologists, and care coordinators) provide guidance to the primary care physician, on the basis of Comprehensive Cancer Network guidelines. The system provides a safety-net for new cancer diagnoses and expedites care for patients. The model is now being expanded for hepatobiliary, gastric, and adrenal cancer. This redesign in care, made possible by technology, will help us improve care for many more patients to come.

From Northern California, Southern California, Program Offices

16. Bringing Hospital Care into the Home: Designing for Spread of AMCAH and SY@H

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DOI: https://doi.org/10.7812/TPP/18-071-16

Background: The combination of an aging population requiring greater health care and increasing cost pressure on patients, families, and the health care system mandates that high-value solutions to common health care services be developed. Safety, efficiency, efficacy, and patient satisfaction help define high-value solutions to health care problems. Integrated health care systems need to exploit their unique assets to aggressively explore new models of high quality care. These programs are part of an ongoing trend to appropriately relocate care outside of the hospital setting.

Methods: The Advanced Medical Care at Home (AMCAH) program at Riverside Medical Center enrolls adult Kaiser Permanente (KP) members meeting InterQual criteria for hospital admission who present to the Emergency Department, Urgent Care Center, or Outpatient Clinic, or who meet early discharge requirements from the hospital with a qualifying diagnosis. This program targets patients who require

acute hospitalization for the following diagnoses: Congestive heart failure, cellulitis, diverticulitis, chronic obstructive pulmonary disease, pneumonia, and pyelonephritis. Key elements of the program include physician and nursing care, medication management, laboratory tests, member education, caregiver education, home safety assessment, and phone access to clinical support. The See You @ Home (SY@H) Program at Roseville Medical Center enrolls patients who either: 1) present to the Emergency Department; 2) are identified in the hospital; or 3) are identified as having increased risk for acute hospitalization and can receive appropriate interventions at home, in lieu of hospital admission or continued hospitalization. Patients receive daily physician interventions from hospital-based physicians that include home visits, administration of parenteral medications, and appropriate laboratory monitoring. Physicians are available to patients and families by direct telephone access 24/7. Home health nurses are used to provide care when appropriate. Following resolution and stabilization of the acute medical illness, care is transferred to typical outpatient practitioners. A case control matching analysis was used to evaluate program outcomes.

Results: AMCAH and SY@H have demonstrated excellent clinical outcomes, safe and effective medical care at home, prevention of decondition and reduced mobility, low programwide readmission rates, and the prevention of hospital-acquired conditions. Satisfaction results are positive in all aspects of care with patients once in the program requesting admission to AMCAH or SY@H vs hospitalization. AMCAH, on the basis of regional financial analysis, has shown the program is cost favorable compared with traditional hospital care for 7 and 30 days postepisode of care. SY@H has demonstrated utilization outcomes supporting expansion of this alternative care model. Enrolled patients were compared to nonenrolled patients based on diagnosis, gender, age, comorbidity (Comorbidity Point Score, v 2), and measures of acute physiologic derangement (Laboratory Acute Physiology Score, v2).

Discussion: AMCAH and SY@H deliver the right care, at the right place, at the right time. These innovative models transform the way KP cares for patients and adds value by focusing on patient-centered care. Eligible members are receiving time-limited acute care services in the comfort of their own homes as an alternative to hospital admission and inpatient care. KP Southern California seeks to spread and scale the AMCAH program from Riverside Medical Center, starting with Panorama City Medical Center and working with additional demonstration sites to establish operating practices that support regional and national spread. KP Northern California has expanded SY@H to the Sacramento Medical Center as a first step toward spread.

From Colorado, Georgia, Hawaii, Mid-Atlantic States, Northern California, Northwest, Southern California, Washington, Program Offices

17. National Total Joint Replacement Initiative: A Case Study for Accelerated Systemwide Spread and Learning

Jeff Convissar, MD; Kate Koplan, MD; Ronald Navarro, MD; Violeta Rabrenovich, MHA, CHIE

DOI: https://doi.org/10.7812/TPP/18-071-17

Background: National Total Joint Replacement Initiative's (NTJRI's) approach balances safety, person centerness, effectiveness, efficiency, equity, and timeliness. NTJRI provides an opportunity for clinically appropriate patients to recover at home after surgery and to reduce any unnecessary time hospitalized in a facility, which can cut down on complications such as surgical infection and can allow patients to heal in a comfortable, safe environment by planning in advance for the support they will need after surgery. In addition, NTJRI provides a framework and a validated method to accelerate adoption of evidence-based practices and service improvement.

Methods: As the NTJRI work transitioned into a second year, NTJRI stakeholders recognized the importance of having a reliable methodology that evaluates performance on the basis of all aspects of Kaiser Permanente's (KP's) National Quality Strategy. The group developed an appropriate set of measures. Reports are issued quarterly, three months after the close of each quarter. Data for the previous three quarters are automatically updated and included in the charts in each report. In addition, we developed a process to set national and local targets, established a programwide directional target for each length of stay, and developed thresholds for monitoring of balancing measures and identified an appropriate set of benchmarks to compare our performance. The second-year regional gap analysis was conducted, demonstrating significant progress in the Regions.

Results: Each Region established its own length of stay targets that collectively combine to an overall KP programwide target of 22% 0-day and 57% 1-day surgeries. The NTJRI Quarter 3 2017 Report demonstrates an average length of stay (average of number of days past midnight between admission and discharge) decline during the past 12 months to 1.19, compared with 1.64 in Quarter 3 2016. At the national and local levels, quality and operational leaders monitor balancing measures to ensure safe and effective clinical care. Benchmarks have been set by the Total Joint Registry surgeon champions for return to Emergency Department and Urgent Care (ED/UC) within 7 days and hospital readmissions within 30 days. The benchmark for readmissions within 30 days is 3%. The benchmark for return to ED/UC within 7 days is 8%. According to NTJRI Quarter 3 2017 Report, our readmissions (2.7%) and return to ED/UC (7.1%) have remained stable.

Discussion: The learnings from NTJRI and the process can be transferred to other national and interregional initiatives. Collaborative efforts that support successful and reliable implementation of evidence-based practices require strong leadership and support of technical and operational leaders. Strategic alignment of national and regional improvement efforts enables accelerated improvements across the program. Strategically gathered and used patient input results in care delivery pathways that are embraced both by clinicians and patients.

From Colorado, Georgia, Hawaii, Mid-Atlantic States, Northern California, Northwest, Southern California, Washington, Program Offices

18. Care Without Delay

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Background: Care Without Delay (CWD) is a model of care developed by Kaiser Permanente (KP) Southern California (KPSC) in Baldwin Park, which quickly produced remarkable outcomes. By aligning delivery system processes, CWD improves care timeliness, removes system barriers to care, provides a great care experience, and produces cost savings in a true Triple Aim fashion. Because of Baldwin Park's

outcomes, it was spread throughout KPSC and subsequently through KP Northern California (KPNC) with similar results. Now, it is being implemented in all Regions as KP's operating model.

Methods: *Problem:* Many hospital admissions are preventable and frequently patients are not cared for at the right level of care. Untimely care and care delays can lead to longer length of stay, hospital-acquired infections, increased costs, and reduced patient satisfaction. KP strives to improve quality of care in a highly reliable fashion. *Intervention:* A care team addresses all patient (medical and nonmedical) needs in a timely manner. The focus is on doing today's work today, long-term care planning, real-time peer review, escalations, communication and collaboration, and 24/7 staffing with strong leadership and oversight. *Comparison:* Baseline data (patient day rate [PDR], average length of stay, readmission rate, etc) from the previous year. *Outcome Measure:* Reduced PDR and improved quality, safety, and experience for patients.

Results: Benefits realized from CWD implementation have included a decline in PDR from > 300 to ~ 220 in KPNC and KPSC, decreased hospital mortality and reduced variation in PDR across KPNC facilities, and a decline in avoidable hospital days and care costs. The foundation for these results lie in the close patient care coordinator (PCC) and hospitalist partnership focused on the patient, including daily multidisciplinary rounding with the physician, the PCC, a bedside nurse, and the patient or patient's family, allowing immediate removal of barriers and escalation when necessary. Outcomes are a result of timely service availability at all hours, including weekends and after-hours (7-day hospitals), a focus on extended length of stay patients and reduced postacute placement barriers. In addition, CWD has received positive feedback from staff, physicians, and patients.

Discussion: CWD is an operating model that improves the quality and affordability of care KP members receive. It is a hospital-based model, but it can be adapted for non-KP facilities/Regions and services outside the inpatient setting. CWD provides a strong foundation on which to build other initiatives. Innovations for success include strong long view of care planning and application in other areas (eg, ambulatory care, skilled nursing facilities, behavioral health). Success factors for further spread include leveraging the Xcelerating Learning and Spread model as a common language for communication and to better understanding Regional status and needs.

MEDICATION MANAGEMENT

From Colorado, Georgia, Hawaii, Mid-Atlantic States, Northern California, Northwest, Southern California, Washington, Program Offices, The Permanente Federation

19. Optimal ESRD Starts: Moving Upstream Chronic Kidney Disease to Prevent or Delay End-Stage Renal Disease with Predictive Analytics

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DOI: https://doi.org/10.7812/TPP/18-071-19

Background: An Optimal End-Stage Renal Disease (ESRD) Start is defined as starting dialysis with a mature access such as arteriovenous fistula or graft, peritoneal dialysis catheter, or kidney transplant. Interventions in the earlier phases of chronic kidney disease (CKD) is the next frontier in quality management of this population. A methodology for screening patients for proteinuria and accurately staging their CKD has been developed by members of the Nephrology Inter-Regional Clinical Practice Group and Federation Analytics staff. Findings show that 32% of eligible patients were not screened for proteinuria or albuminuria, and 87% of eligible patients have ACE inhibitor (ACEI) or angiotensin II receptor blockers (ARBs) ordered.

Methods: Members with progressive CKD stages 1-5 reaching ESRD. CKD stages defined using Kidney Disease Improving Global Outcomes Staging (stages glomerular filtration rate into nine groups and divides proteinuria stages into seven groups). CKD stages are assigned by requiring 2 outpatient serum creatinine tests > 90 days apart used to estimate glomerular filtration rate according to the CKD-epidemiology equation. To determine members' final CKD stage, a forward-looking algorithm is run until the algorithm reaches the most recent eGFR. Then, all Kaiser Permanente (KP) members are grouped using a standardized method across KP into distinct CKD groups, and this data becomes the foundation for tracking 2 metrics: Proteinuria Screening in CKD1-4 members and ACEI/ARB Treatment in hypertensive CKD1-4 members. The outcome measure will be to evaluate ESRD incidence over time.

Results: Of the 223,627 patients who met the criteria for screening of albuminuria/proteinuria, 32.38% did not receive screening. Of those meeting criteria for ACEI/ARB, 87.40% have ACEI or ARBs prescribed. Regional results for screening of albuminuria/proteinuria vary from 14% to 65%, and for ACEI or ARBs prescribed vary from 78% to 88%. Across the program, the estimated number of patients currently requiring albuminuria/proteinuria testing is approximately 72,000. The maximum for ACEI/ARB treatment is unknown but barring uncontrollable hyperkalemia, most nonallergic patients should be able to take one or the other. We believe 95% is attainable, and KP is currently at 87% nationally. Thus, there are about 4200 candidates for therapy.

Discussion: As the work on Optimal ESRD Starts continues, validation of the North-West Prediction Model in three Regions (Georgia, Northern California, and Hawaii) determined that the model performs very well. Further stratification of proteinuria screening-eligible candidates is needed to identify the most urgent patients at risk and to address this cohort first. Next steps include establishing workflows to screen, stage, and manage CKD patients in each Region.

From Colorado

20. Committee for Improvement of Performance Through People: Strengthening Influence Over Work and Engagement in Primary Care Clinical Pharmacy

Beverly Kroner, PharmD; Alex Block, PharmD

DOI: https://doi.org/10.7812/TPP/18-071-20

Background: Leaders in organizations often say people are their most important assets, yet actions may not always demonstrate this. Supervisors typically try to keep their barometer in the middle, with the organization at one end and the people at the other. In tough times, such as when the financial picture is not looking positive, people are often given less attention and may feel less valued. We wanted to move our barometer more towards people.

Methods: *Problem:* We say people are our number one priority,

but our actions may not always demonstrate this. *Intervention:* After a supervisory off-site meeting with the theme of people, supervisors invited 4 team members to work with them to ensure a renewed focus on people. *Comparison:* People Pulse results in 2017 increased in 16 of 16 indices compared with 2016. *Outcome Measures:* The work unit index (most influential for supervisors) increased by 6 points to 95% and the engagement index increased by 11 points to 90%. The statement, "I have enough say in how I do my job" increased 17 points to 86%.

Results: Primary Care Clinical Pharmacy Services (PCCPS) includes 38 clinical pharmacy specialists supporting patient care teams in 28 ambulatory medical offices. Four team members and the supervisory team formed the Committee for Improvement of Performance through People (CIP2) in April 2016. CIP2 members worked directly with the PCCPS team and supervisory team to identify perceived problems and to develop possible solutions. CIP2 members sent a survey to the team in May 2016. Five major themes were identified from the survey results (Flexibility, Autonomy, Collaboration, Work Environment, and Career Support), and items were further stratified into 1 of 4 quadrants: 1) easy, noncontroversial; 2) easy, controversial; 3) hard, noncontroversial; and 4) hard, controversial. CIP2 delegated responsibilities for individual items, commencing work with easy, noncontroversial items.

Discussion: The Colorado Region has faced significant challenges in providing affordable care to a growing population of shorter-term members with high-deductible coverage. A reaction has been to ask even more of care teams to improve performance. As an alternative reaction, the PCCPS supervisory team collaborated with a team of frontline staff on working smarter and removing barriers to allow the team to work even more efficiently while still delivering on quality, safety, and affordability initiatives. One limitation to expanding this concept is CIP2 members had the respect and credibility of the PCCPS team. Without this, they might not have been as successful.

From Northern California

21. Deprescribing: A Graduation in Medicine

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DOI: https://doi.org/10.7812/TPP/18-071-21

Background: By 2050, the US Census Bureau projects that the US population of adults older than age 65 years will nearly double. Human aging results in physiologic changes, frailty, and added comorbidities that require multiple medications to treat age-related medical conditions. Accordingly, the issue of polypharmacy is increasingly reported in the literature. With more medications, elderly patients tend to have complex medication regimens, often leading to nonadherence, adverse drug events, and a reduced quality of life.

Methods: In partnership with Kaiser Permanente (KP) Northern California Clinical Pharmacy, The Permanente Medical Group Quality, Primary Care, subject matter experts, the Institute for Healthcare Improvement, and the Commonwealth Fund, we designed a pharmacist-led deprescribing program to reduce potentially unnecessary/unsafe medication use in the elderly. *Targeted initiatives:* Well-controlled diabetes and blood pressure, chronic nonsteroidal anti-inflammatory drugs, controlled triglycerides on fibrates, and glucose test strips. Additionally, internal and external partnerships were established to ensure effective dissemination of resources for the deprescribing movement. Although deprescribing exists in KP in siloed forms, we aim to address the big picture by establishing central deprescribing resources, sharing broadly, and supporting deprescribing conversations in all settings.

Results: The project went from idea to regionwide operation in 4 months. During the 15 months of operations since, the pharmacist-led deprescribing program has touched more than 5000 patient lives and decreased medication/self-testing burden for nearly 3000. Clinical and financial outcomes research is underway. An interim analysis showed 95% of patients with diabetes maintained goals of hemoglobin A_{1c} < 7.5% (n ~ 500) and 97% of blood pressure patients maintained goals of systolic blood pressure < 140 (n ~ 40) at 90 days postdeprescribing. The Permanente Medical Group and KP Northern California Clinical Pharmacy worked together to establish partnerships on this topic of deprescribing and polypharmacy. The team also received a grant from the Institute for Healthcare Improvement and Commonwealth Fund to apply performance improvement principles to the pharmacist-led deprescribing programs.

Discussion: A broad range of partnerships is crucial to creating a movement in health care: Nimble use of technology is vital. The core team created a central OneNote. Structured query language algorithms were quickly created and adjusted to identify potential patients to include in the program. Custom KP HealthConnect data elements were built. Tableau was used for automated dashboards. Performance improvement ensures monitoring toward goals. The team applied driver diagrams, process charts, Plan-Do-Study-Act cycles, run charts, Model for Understanding Success in Quality assessments, strengths, weaknesses, opportunities, and threats analysis, aim statements, and more. *Research:* The project is building the foundations of research for patients who have participated in the deprescribing program. Next steps are to spread the message of deprescribing systematically.

From Washington

22. Pharmacy and Care Management Collaboration to Improve Health Outcomes through Medication Reconciliation Program Expansion

Bryan Davis, PharmD

DOI: https://doi.org/10.7812/TPP/18-071-22

Background: Pharmacy and Care Management departments formed a collaboration to expand Kaiser Permanente Washington's (KPWA's) medication reconciliation program from approximately 4700 medication reconciliations per year to a target of more than 17,000 medication reconciliations per year because of a new Centers for Medicare and Medicaid Services 5-Star measure: Medication Reconciliation Postdischarge (MRP). Medication reconciliation has been shown to decrease adverse medication events and has demonstrated potential impact on hospital readmissions. Health and safety outcomes were followed for 6 months to evaluate the program's expansion impact.

Methods: *Population:* All KPWA Medicare patients. *Intervention:* KPWA expanded the medication reconciliation program to all Medicare patients as compared with the original program, which only served "high-risk" patients determined by an internal modified LACE (length of stay, admission, comorbidities, Emergency Department visits in last 6 months) risk stratification tool. *Comparison:* Baseline

measures from prior years. *Outcome measures:* Program impact will be measured by observing readmission data as it pertains to the Healthcare Effectiveness Data and Information Set (HEDIS) Plan All-cause Readmission (PCR) measure described as an O/E ratio (observed/expected readmission ratio). Two Tableau (Seattle, WA) dashboards were built to track the percentage of successful medication reconciliations and to track trends in the O/E ratio that include analyses of patients who have received medication reconciliation.

Results: Initial analysis suggests a correlation between increased successful medication reconciliations and decreased O/E ratio. Successful medication reconciliation increased from a baseline average of about 35% of all Medicare patients to approximately 70% of all Medicare patients during a 3-month timespan. During this 3-month period, the overall O/E ratio decreased 0.15 for all Medicare patients who received medication reconciliation. Evaluating a specific population that had not received postdischarge medication reconciliation in years prior (Medicare patients deemed as "moderate-risk" for readmission), an overall decrease of 0.56 was observed in the O/E ratio (0.44 decrease from year before); and an overall decrease of 0.03 was observed regardless of medication reconciliation, indicating minimal impact because of other process changes.

Discussion: Several variables can have contributions when it comes to evaluating impact on readmissions; however, the timing of the program expansion and the decrease in O/E ratio postulates a direct impact. Readmission data will continue to be followed to confirm the observed trends. The collaboration between pharmacists, care management nurses, home health clinicians, and primary care providers has shown a positive impact on health outcomes and allows for multiple perspectives to identify problems that provides a more holistic and patient-centered focus. This program highlights how medication reconciliation can be successfully leveraged across multiple providers and should be considered across KP programs.

From Northwest

23. "There's No Place Like Home": Creating a Safe, Individualized, Transitional Care Pathway After a Skilled Nursing Facility Stay

Yvonne Rice, PharmD; Hannah Austin, MBA; Preston Peterson, MD

DOI: https://doi.org/10.7812/TPP/18-071-23

Background: Care transitions from skilled nursing facilities (SNF) to home is a known clinical quality gap for medication reconciliation and safe, coordinated follow-up care. Kaiser Permanente Northwest 2016 baseline performance of Hospital 30-day All Cause Readmission Rate for this population is higher than expected at 21% and indicates an opportunity for improvement. The objective is to improve safe transitions of care from SNF, reduce avoidable hospital readmissions, and prevent serious medication discrepancies causing an adverse drug event.

Methods: The target population is patients from contracted SNFs in the East Service Area who discharge to home or to a homelike facility. The intervention is the execution of a SNF Transition Bundle, which includes risk stratification, a transition hotline number, standardized discharge summary, pharmacist medication reconciliation, a transition nurse (RN) follow-up call or mobile health partner home visit, and practitioner follow-up appointment within 7 days. The target population was compared with patients discharged from contracted SNFs outside the East Service Area. The success measures are decreased 30-day hospital readmission rate, decreased harmful medication discrepancies and/or errors, and improved care experience with safer transitions.

Results: Outcomes and performance at Friendship SNF (baseline through September 2017): Hospital 30-day readmission rate decreased from 22.6% to 17.3% after Transition Bundle elements were implemented from January to year end. Serious medication errors at discharge decreased from 42% to 5%. Medication Reconciliation Post-discharge (Centers for Medicare and Medicaid Services 5-star) increased from 14% to 80% (rolling 12-month rate). East Service Area SNF Transition Bundle performance results from first 6 months (June-Nov): Pharmacist medication reconciliation for 91% of patients; follow-up contact (RN phone call or mobile health partner home visit) for 81% of patients; follow-up appointment within 7 days for 47% of high-risk patients.

Discussion: Medication issues are complex and confusing for patients after SNF transitions of care and require dedicated resources to optimize reconciliation in the home. Coordination of care is improved with transition RN calls including family education, assistance with follow-up appointment, transportation, financial assistance, coordination with multiple teams, and action on acute symptoms. Contracted SNFs can be influenced to support safer medication processes, discharge processes, and patient education. Workflow improvement is needed to reduce duplication and rework, and build efficiency. The next step is to spread the SNF Transition Bundle model of care to all contracted SNFs in the Region.

From Northern California

24. Collaborative Protocols between Physicians and Pharmacy Groups to Facilitate Opioid Reduction in the Napa-Solano Service Area

Jeff Chen, PharmD; Diparshi Mukherjee, DO

DOI: https://doi.org/10.7812/TPP/18-071-24

Background: The opioid epidemic is responsible for 6 out of 10 drug overdose deaths and, since 1999, prescription drug deaths from oxycodone, hydrocodone, and methadone have more than quadrupled. Historically, the Napa-Solano Service Area had the highest usage of hydrocodone/acetaminophen combination opioid prescription count out of any other service area in Northern California. The opioid reduction committee, commenced in March of 2016, is meant to tackle the issue of opioid use with support from medicine and psychiatry and with collaboration from the pharmacy group.

Methods: *Population:* Napa-Solano's high rate of opioid utilization. *Intervention:* Physician education, academic detailing, peer-comparison information, and opioid taper. *Comparison:* Northern California service areas outside of the Napa-Solano Service Area. *Outcome measures:* Total morphine milligram equivalents (MME) reduction, total opioid tablet reduction, total opioid/acetaminophen combination tablet reduction, total oxycontin tablet reduction, and total alprazolam tablet reduction.

Results: Quantitative findings: Total MME reduction; total opioid tablet reduction; total hydrocodone/acetaminophen combination tablet reduction; alprazolam (Xanax) reduction; oxycontin reduction; and trinity (any opioid + benzodiazepine + skeletal muscle

relaxant combinations, including carisoprodol) reduction. Charts: Acetaminophen/Opioid Combination Prescriptions and Total Alprazolam Quantity Reduction.

Discussion: Establishment of site champions as point persons to facilitate communication of new opioid initiatives is vital to the success of the opioid reduction program. Assembly of the Opioid Reduction Committee with support from Chiefs of Medicine, Emergency Department, and Psychiatry is the key to obtaining buy-in. Pharmacy collection of opioid data and frontline escalation of appropriate prescriptions to providers fuel the momentum of opioid reduction initiatives. Intensification of current MME threshold to ≤ 50 MME. Implementation of 20-tablet opioid limit for nonsurgical and 50-tablet opioid limit for surgical patients allowing exception for complex orthopedic postoperative patients on a case-by-case basis.

From Colorado, Georgia, Hawaii, Northern California, Northwest, Southern California, Program Offices

25. Improving Performance on Medicare Stars Medication Adherence Measures through Predictive Analytics

Heather Qian, MBA; Lynn Deguzman, PharmD, BDGP; Scott Jacobs; Kevin Chiang, PharmD; Chris Chang, PharmD, BCGP, PMP

DOI: https://doi.org/0.7812/TPP/18-071-25

Background: Low medication adherence is associated with worse clinical and quality outcomes. Accordingly, Centers for Medicare and Medicaid Services measures adherence to statin, blood pressure, and diabetes medications as part of its Medicare Part C and D Star Ratings. These 3 triple-weighted measures represent 11% of the Star Ratings portfolio. Annual changes and competitor improvements continue to raise the bar on performance required for 5 stars.

Methods: *Population:* Actionable patient lists were created by Pharmacy Analytical Services starting in 2015 and delivered through the centralized Permanente Online Interactive Network Tool (POINT) Medication Adherence Tool (MAT) for all Regions. These lists identified patients for intervention by regional pharmacy teams and included a date for each patient by which time refills must be made or the patient will be below the 80% adherence goal (per Medicare 5-Star program threshold) at year end. *Interventions:* Aside from live telephone calls, interventions included automated reminder calls, interactive texting reminders, batch kp.org messages, and outpatient pharmacy clinical services (OPCS) consultation modules. To prioritize outreach under limited resources, a predictive risk score was introduced in Q3 2017 to identify the highest-risk patients.

Results: Adherence scores have improved since the 2015 inception of the medication adherence programs, which leveraged analytic reporting through the POINT/MAT tool. Pharmacist and support staff outreach improved refill rates compared with a control group (39% vs 16% within 7 days, 46% vs 29% within 14 days). Telephone calls are among the most effective interventions for medication adherence. Across 7 Regions, the programs touched more than 160,000 patients in 2016 and 200,000 in 2017. Predictive risk modeling was implemented in Q3 2017. Because of data availability constraints since year end, the impact of the model is still being assessed, with results anticipated in Q1 2018. Outreach data and refill outcomes were collected. Work and partnerships are ongoing to enhance the predictive models in an iterative process.

Discussion: To improve quality outcomes while maintaining 5-Star ratings in medication adherence, pharmacy is building actionable analytics for adherence outreach and developing risk models for population management. This is made possible by internal partnerships within and between Regions, and with Program Office and data partners. Choosing to build analytics in-house leads to a continued cycle of investigative learning, monitoring outcomes, and development of workflows. Setting up analytic plans to track and to evaluate new tools (eg, predictive models) before tool implementation is important for value capture. Work is underway across the Regions to evaluate and enhance the new predictive models, leading to a more efficient and effective programwide effort.

PATIENT ENGAGEMENT

From Colorado

26. A Successful Multimodal Initiative to Increase Access to Long-Acting Reversible Contraception Among Adolescents

Sharisse Arnold-Rehring, MD, FAAP; Jennifer Seidel, MD

DOI: https://doi.org/10.7812/TPP/18-071-26

Background: The US has the highest teen pregnancy rate of developed nations. These primarily unintended births suffer high rates of poor maternal and infant health outcomes. When financial, educational, and access barriers to contraception are removed, adolescents overwhelmingly choose long-acting reversible contraception (LARC), the most effective, safest, and most cost-efficient option. The Kaiser Permanente (KP) Colorado (KPCO) initiative was uniquely designed to address educational and logistical barriers within the KP integrated health system, using existing infrastructure and focusing on training frontline pediatric providers, resulting in wider use of LARC among adolescents.

Methods: The cohort included all female adolescents age 13-18 years cared for by KPCO pediatric, primary care, and women's health clinicians between January 2013 and December 2016. The educational intervention included journal clubs, live interactive educational sessions, and in-service training of clinical staff. Primary care clinicians who received training on LARC were linked with a mentor gynecologist to provide further support. The process improvement intervention included development of a LARC implementation toolkit in the electronic health record to assist with prescribing, documentation, consent, and procedural set up, as well as clinical library guidelines and patient education materials on contraceptive choice.

Results: The proportion of LARC placed by primary care clinicians increased from 5.8% in 2013 to 32.5% in 2016 ($p < 0.001$), with the overall rate of LARC placement increasing from 1.5/1000 members/quarter to 4.8/1000 members/quarter. By the end of the intervention, 61 primary care clinicians had LARC training (vs 8 at baseline) and they practiced in 22 of the 27 primary care clinics (vs 10 at baseline.) Pregnancy rates declined from 1.6/1000 women aged 13-18/quarter to 0.2/1000 women in the same time period. The rate of decline accelerated after the beginning of the intervention ($p < 0.0001$). LARC educational materials and toolkits have been disseminated to the KP interregional obstetrics/gynecology Chiefs and family planning groups, and thus the socialization and spread of this initiative is already underway.

Discussion: A multimodal initiative that combined principles of adult learning, effective education, behavior change, and system-based process improvement successfully transformed clinician behavior, resulting in increased uptake of LARC by adolescents at KPCO. Although this LARC intervention should be adopted as a KP best practice, the true promise of this work is to apply this comprehensive approach for promoting clinician behavior change to other important quality issues within KP.

From Hawaii

27. Patient Partners Redesign kp.org Personal Action Plans

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DOI: https://doi.org/10.7812/TPP/18-071-27

Background: The Personal Action Plan provides members, registered on kp.org, with individualized up-to-date personal information on cancer screenings, preventive care, heart health, chronic health conditions, medications, immunizations, and more.

Methods: The Personal Action Plan engages members to close care gaps. Program/product from Southern California was presented to Hawaii patient partners. Eleven patient partners worked with the analytics team and providers from the Hawaii Permanente Medical Group to redesign the product. These patient partners represented members from Oahu, Maui, and the Big Island (August 2017). Two sessions were facilitated to gather their input and the finished product was presented to the Patient and Family Centered Care Advisor Council meeting on Oahu and Maui.

Results: Qualitative: Satisfaction from advisors and staff in participating. Quantitative: Key revisions included changing structure to be more member centered, creating a framework for display layout, standardizing the "why" section text. The overall product before getting patient partner input was quite different from the product after patient partner input. Use of the Personal Action Plans has increased since launch of the redesign (November 2017).

Discussion: Take-home message: Patient partner input is invaluable. Learnings: Advisors could have been involved sooner. Staff learned that engaging with advisors was less intimidating than initially thought and exceeded expectations.

From Southern California

28. Nothing About Patients Without Patients: Strategically Partnering with Leadership for Patient-Centered Outcomes

Linda Fahey, RN, NP, MSN; Kerry Litman, MD; Susie Becken; Barbara Lewis; Diana Palma, MHA

DOI: https://doi.org/10.7812/TPP/18-071-28

Background: Engaging with patients/families improves quality, safety, care experience, and affordability but is not yet a "core value" throughout Kaiser Permanente (KP). Patient Advisory Councils exist in most KP Medical Centers but are not consistently used in improvement work. We will share tools and processes that make advisory councils and patient collaboration more effective, creating a "continuous cycle," in which more positive results lead to more demand for future patient engagement, adding positive energy to this work.

Methods: Previously, KP had been behind the movement of creating effective Patient Advisory Councils and welcoming advisors' feedback compared to many of the more than 5000 US hospitals. KP has pulled ahead as a leader in embedding the patient voice in health care with the strong support of our executive leaders. The KP Southern California (KPSC) Regional Patient Advisory Council (RPAC) has created a valuable model for a successful regional approach to improve person-centeredness. We have developed a powerful and effective workflow and improvement process with tools, surveys, and metrics leading to many successes. For example, groups requesting RPAC advisors fill out forms that provide RPAC with important information about the activity, and informs the group about advisors' expectations.

Results: The RPAC in Southern California has created an impact log detailing the effect that our patient advisors have had on a range of activities. We will share examples and an in-depth case study outlining how involving patients has positively affected KPSC's Online Personal Action Plan (oPAP), developed to provide virtual access for patients to personal health information/goals. KPSC oPAP leaders collaborated with RPAC to create a more patient-friendly, effective program than originally developed. The KPSC oPAP system has become more effective, and more widely used after implementation of the new patient "codesigned" system. In addition, redesign of colonoscopy prep instructions, implementation of the redesigned ambulatory offices, pharmacy issues, and many other areas were improved by asking for and acting on input from RPAC.

Discussion: "Nothing about patients without patients" is a key strategy noteworthy for adoption throughout KP. However, the process of embedding the patient voice in everything we do requires a clear process. RPAC has time-tested our workflow, incorporating advisors' feedback to optimize impact. A comprehensive procedure ensures success for meaningful advisor participation on councils, conferences, committees, workgroups, etc. This session provides attendees with a road map and a playbook to demonstrate how embedding the patient voice can improve safety, enhance the patient experience, and save money to optimize patient- and family-centered care.

From Program Offices

29. Human-Centered Design@KP: Building Organizational Capacity in Innovation and Patient Engagement

Loulia Kachirskaia, PhD; Jeff Hall; Jonathan Bullock

DOI: https://doi.org/10.7812/TPP/18-071-29

Background: This is a new time in health care. Engaging and delighting our customers is a critical part of the Triple Aim. Human-centered design helps us uncover customer needs, define opportunities, imagine new possibilities, and rapidly test new ways to improve and design care. At Kaiser Permanente (KP), we take human-centered design to the next level by also partnering with our members through CoDesign.

Methods: Applied to multiple projects.

Results: We have trained 1000+ KP staff in human-centered design and CoDesign. By using Human-Centered Design@KP, staff report the following benefits: Greater customer engagement, more innovative solutions, solutions that meet customer needs better, and avoiding working on the wrong problem.

Discussion: Human-Centered Design@KP is spreading across the organization as a way to navigate a complex health care future together with our members and to tackle new challenges. It is an approach that is applicable to any role at KP. Learn how to leverage it for your team.

From Northern California, Northwest

30. Engaging with Members to Develop a Person-Centered Transgender Care Program

Felipe Dest, MHA; Erica Metz, MD; James Kelleher, RN; Stephanie Detlefsen, MD; Erin Waters

DOI: https://doi.org/10.7812/TPP/18-071-30

Background: Kaiser Permanente (KP) is dedicated to providing care to the diverse members and communities we serve. Involving members in designing care and services ensures that we are meeting their health care needs in a meaningful way. A recent survey by the National Center for Transgender Equality (NCTE) illuminated that 23% of transgender people avoided health care in the previous year because of fear of being mistreated; 33% had a negative experience receiving health care in the previous year related to being transgender; and 90% of transgender people surveyed believe there are not enough providers adequately trained to care for them. Both the KP Northwest (KPNW) and KP Northern California (KPNC) Regions engaged with members; through the CoDesign process, members helped to inform what services and performance improvements were needed to deliver high-quality, affirming care to transgender members.

Methods: *KPNW:* The Gender Pathways Clinic did not have adequate resources to meet the growing demand of members seeking transgender care. It was difficult for new members to find resources online. Patient partners and staff identified improvements, developed action plans and measures, and conducted tests of change. These are now in place with future plans to create a full-time patient advisory council. *KPNC: Problem:* There is no mechanism to engage with transgender members to ensure the care program we are building serves them and meets their needs. *Intervention:* Develop multiple mechanisms for patient engagement (Focus Groups, Councils, CoDesign Teams, Peer Navigation). *Comparison:* No engagement. *Outcome measures:* Implementation of improvement efforts that members identify as valuable to them.

Results: KPNW: Within the past year, 2 new members are now participating in the CoDesign meetings, making a total of 5 members. In addition, the clinic has been able to hire 2 pediatric providers, 1 licensed professional counselor, and 1 physician. The Community Navigator for the clinic has gone out to 38 different health care groups to educate staff about transgender care and promote the clinic. There is now a Web site for our patients and a folder for new members that can be customized on the basis of the needs and interests of each member. There is a plan to conduct prototype testing with new members to evaluate all the educational material that has been developed. NCAL: 1) Operational improvements (eg, a change in welcome scripting at the injection clinic); 2) informed meaningful implementation (eg, informed implementation strategy of training program by identifying high-need departments); 3) environmental improvements (eg, provided significant consultation on art and signage for new clinic).

Discussion: 1) Understand the importance of inviting patients to design solutions early and often, 2) apply tools to engage in CoDesign with members and communities to build a care program that meets their needs, 3) develop tactics to transform information systems and create scalable trainings to increase culturally responsive skills for staff and providers, 4) build a framework for providing multidisciplinary care, 5) apply learnings from the KPNW and KPNC paths, challenges, and successes.

From Colorado, Georgia, Hawaii, Northern California, Northwest, Southern California, Washington, Program Offices

31. Putting the Patient First—Shared Decision Making at Kaiser Permanente

Andrew Felcher, MD; Matt Handley, MD

DOI: https://doi.org/10.7812/TPP/18-071-31

Background: Shared decision making (SDM) promotes personalized care that supports patients' values. Successful implementation of SDM furthers the Quadruple Aim, augments care delivery, and accelerates implementation of evidence-based practices. Good SDM programs use high-quality decision aids and point-of-care conversation aids, train physicians in SDM conversations, and measure effects on both patient and clinician satisfaction, resource use, and clinical outcomes. Current adoption of SDM varies by Kaiser Permanente (KP) Region and topic.

Methods: We present a few key studies of SDM programs that assess SDM aid use, including patient and provider satisfaction, referral counts, and provider time spent, and compare them with usual care, such as patient education booklets, in common preference-sensitive conditions such as back surgery. The programs include both patient decision aids and point-of-care conversation aids.

Results: SDM has been demonstrated to improve patient choices, provide a positive effective on patient-provider communication, and improve knowledge of and perception of outcomes with no adverse effect on health outcomes. SDM has received increasing attention from legislators and policy makers. In Regions where SDM aids and clinician training were readily available, use of the aids increased over time, and they have been favorably received with provider and patient satisfaction > 70%. However, KP still uses a variety of vendors and tools, and frontline providers may not understand SDM—many believe they are already engaging in SDM conversations. KP has not historically used a standard framework to evaluate SDM programs and aids. KP is actively developing new SDM topics and converging on high-quality aids, tools, and training.

Discussion: In this session, participants will learn how SDM is personalizing care delivery to help make informed decisions; how we are incorporating evidence-based clinical information and making it accurate and readily available to clinicians and patients at point of care; and how SDM benefits our patients, is doable at the point of care, saves time, and leads to better outcomes. For patients, previsit decision aids provide valuable information to patients and improve SDM. For providers and patients, we hypothesize that the most valuable SDM tools are embedded in the electronic medical record, are easily accessible, show clear risks and benefits, and are displayed in a patient-friendly format. We will be seeking audience input into the design of KP's programwide SDM efforts as well as helping the audience learn about SDM in their Regions and practices. Our hope is that participants will adopt and reliably use the aids and SDM methods showcased.

TEAMS

From Southern California

32. Improving the Culture of Safety: Workplace Safety Unit-Based Teams Interventions that Work

Barbara Zelinski, MBA; Leslie Pole, MA; Samantha Imada, MA

DOI: https://doi.org/10.7812/TPP/18-071-32

Background: Injury prevention is a value of Kaiser Permanente. In analyses done by Engagement and Inclusion, the Workplace Safety (WPS) Index has shown consistent correlations with department injury rates. The higher the WPS Index, the lower the incidence of harm to patients and health care workers. In addition, the higher the WPS Index, the higher the satisfaction of patients and employees. This work will share interventions that improved the unit safety performance.

Methods: Survey of unit-based teams (UBT) interventions that improved the WPS Index and safety outcomes. Interviews with selected high-functioning UBTs that improved safety outcomes and the WPS Index to become high scoring.

Results: UBTs were provided tools to develop plans to address the four People Pulse items that comprise the Workplace Safety Index. Departments that implemented tests of change and later spread the interventions are experiencing fewer injuries and higher WPS Index scores.

Discussion: Successful UBT interventions are not complex and do not need to be resource intensive. Many of the successful interventions were changes in how staff interacted, how managers communicated, and how the team resolved differences. Interventions do not need to be uniform across all departments to be effective. Successful interventions do appear to have common characteristics. *Next steps:* Safety plans at the department level will incorporate relationship and organizational effectiveness as well as systems of safety to create a safer environment for patients and staff.

From Program Offices

33. Leading Inclusively—Utilizing KP's Seven Inclusive Attributes to Build Trust and Increase Engagement and Team Productivity

Susan Terrill; Laura Long, MBA

DOI: https://doi.org/10.7812/TPP/18-071-33

Background: Piloted at the National Diversity and Inclusion 40th Anniversary Conference with a select cohort of executive participants (National Executive Team, Regional Presidents Groups, Executive Medical Directors, and their top direct reports), the Leading Inclusively workshop is fundamental to helping participants understand the critical role participants play in advancing Kaiser Permanente's Equity, Inclusion, and Diversity goals. To continue our journey to become a leader in pursuit of health equity and inclusion for all, we must inspire our own employees with tools and skills to lead inclusively; to tap into the wisdom of our diverse workforce; to act on self-awareness, lessen bias, speak up, challenge the status quo; and adjust readily to cultural and work style differences.

Methods: We have an inclusive culture problem. By helping participants understand that each individual's identity is an amalgamation of our shared experiences, we break down biases, build trust and connectivity, and minimize blind spots—all forceful levers of increased engagement, shifted mindset, and being agents for change.

Results: In our Leading Inclusively Executive Round Table pilot, we conducted a pre-self-assessment inclusion survey. The aggregate survey results were then distributed and discussed among participants and followed-up by individual assessment results. The findings were fascinating; for example, in every trait of the seven attributes assessed, there was a large disparity between one's own perceptions and the perception made by one's peers.

Discussion: Build engagement and excitement around inclusion. Create and practice tangible new habits of inclusive leadership with yourself and your teams. Build inclusive practices into your regular team meetings, and generate commitment and behavior change.

From Northwest

34. How Our Unique Multidisciplinary Care Model Leads to Superior Outcomes for Cardiac Surgery Patients

Yong Shin, MD; Brian Timm, PA-C; William Shely, MD; Thomas Lampros, MD; David Tse, MD; Josh Andrew, PA-C; Julie Faulk, PA-C; Piotr Starosta, PA-C; Victoria Brownlow, PA-C

DOI: https://doi.org/10.7812/TPP/18-071-34

Background: The mission of Kaiser Permanente is to provide high-quality, affordable health care services and to improve the health of our members and the communities we serve. A multidisciplinary approach to caring for complex patients has proven successful in serving this mission, which benefits our members and the health care team that serves them.

Methods: All cardiac surgery patients are cared for via a multidisciplinary team. Our team—physicians (surgeons, anesthesiologists, intensivists, internists), physician assistants, nurses, pharmacists, physical therapists, dieticians, care coordinators, and social workers—rounds twice daily on each patient. The commitment to rounding has established a culture of clear communication, daily goal setting, team accountability, and group decision making which has resulted in proven excellent outcomes including: markedly lower overall and coronary artery bypass graft mortality, decreased blood usage, increased early extubation, and decreased length of stay.

Results: Our multidisciplinary approach has led to the following excellent results: An overall mortality rate of 0.5%, coronary artery bypass graft outcomes of 0.0% mortality for 2 years in a row, transfusion rate of 13.3 % compared with 42.6% nationally, early extubation rate of 78.9% with patients being extubated in the operating room regularly, and an average postprocedure length of stay of 4 days.

Discussion: Modeling the Kaiser Permanente Northwest multidisciplinary approach to caring for complex cardiac surgery patients will result in improved program quality and patient outcomes that further serve Kaiser Permanente's mission of providing high-quality, affordable health care services and improving the health of our members and the communities we serve. Quality is becoming an increasing driver of reimbursement; therefore sustainability is directly linked to quality outcomes.

From Southern California

35. May The Schwartz Be With You: Fostering Ethical Care Environments through Schwartz Rounds—A Live Demonstration

Paula Goodman-Crews, LCSW; Deborah Kasman, MA, MD; Felicia Cohn, PhD

DOI: https://doi.org/10.7812/TPP/18-071-35

Background: The Schwartz Rounds (SRs) facilitated interdisciplinary discussion fosters open dialogue about social, emotional, and ethical issues that arise in patient care. Attending SRs regularly has been shown to increase compassion, improve teamwork, offer new strategies to address challenging cases, and increase sense of belonging, which also is associated with lower employee turnover. Employee and caregiver experiences drive patient experiences; hence when health care staff experience compassion in the workplace, they in turn deliver more compassionate care. Compassionate care has been linked to better outcomes including reduction in costs and higher patient satisfaction.

Methods: *Population:* All Medical Center staff are invited to attend SRs to derive the benefit of improved compassion and teamwork, increased understanding of patient experience, and experience of different disciplines. *Intervention:* One-hour discussion facilitated by a trained individual. Each SR begins with four-minute narratives of three panelists who were directly involved in a challenging case and talk about the emotions generated. Narratives serve as a catalyst to engender similar narratives amongst attendees. *Comparison:* There are no metrics to discern experience of Medical Centers not offering SRs. *Outcome measures:* The Schwartz Center obliges contract Medical Centers to evaluate attendee experience, thus evaluations are completed after each SR.

Results: Kaiser Permanente Medical Centers currently offering SRs have reaped its benefits with more than 95% of participants gaining new insights into patient and family perspectives, and those of coworkers; more than 93% being more open to collaboration with colleagues; 83% feeling less isolated; and 97% planning to attend SR again. Most Medical Center SRs draw from 40 to 100 participants. Kaiser Permanente Southern California aggregate evaluations from 2015 demonstrates that regular attendance at SRs increases compassionate patient care; promotes self-care; improves teamwork; offers strategies to deal with challenging cases; and increases a sense of belonging, which can decrease employee turnover.

Discussion: Burnout rates of physicians are at an all-time high, rising to a mean of 55% across all physician specialties, which is a 10% rise in just 3 years. Nurses are experiencing rapidly rising rates from compassion fatigue and burnout as well. Building resilience amongst our health care providers facilitates better ability to cope with the psychosocial demands of care and perceived stress of care. Having SRs at our Medical Centers has helped our practitioners address the psychosocial demands of care, thereby fostering an improved ethical environment of care.

From Northwest

36. Nurse-Led Strategies to Improve In-Hospital Code Blue Survival Rates

Rebecca Campbell, RN, CCRN; Patrice Chatterton, RNC, CPHQ; Christopher Cox, RN, CEN, CCRN; Anna Sandgren, RN

DOI: https://doi.org/10.7812/TPP/18-071-36

Background: Nationwide, there are more than 200,000 in-hospital cardiac arrests each year. Of these in-hospital cardiac arrests, only about 54% survive the actual code event, whereas far fewer, around 22%, survive to discharge. Rapid response team (RRT) nurses aimed to improve Code Blue response and actual code event survival by focusing on simulation education, cardiopulmonary resuscitation feedback tools, early team debriefing, and structured review of each code event to identify systems issues in a monthly Code Blue Workgroup.

Methods: In 2016, the Kaiser Sunnyside Medical Center (KSMC) Code Blue Workgroup committed to improving quality metrics that included the use of the Philips Q-CPR (Philips, Amsterdam, The Netherlands) feedback tool during code events, documenting end tidal capnography, early code team debrief, and a structured review of each code. Code Blue simulations were conducted with the KSMC Simulation Department and led by RRT nurses. The simulations were tailored for each hospital arena, focusing on code team member roles and competence using the Q-CPR tool. Each month, the Code Blue Workgroup members were assigned codes to review identifying potential contributing factors, systems issues, and adherence to quality metrics, which are presented for discussion.

Results: On the basis of the KSMC team efforts, survival of the code event increased by 18% during this time, or 63% in 2016 (n = 52) to 81% of patients in 2017 (n = 58). Performances measures were tracked on the basis of a percentage target. Q-CPR use during codes went from 61% in 2016 to 95% in 2017, with a target of 90% of code events that include chest compressions. Capnography documentation went from 36% in 2016 to 82% in 2017, with a target of 80% in code events that include pulselessness and intubation. Early debrief by the code team went from 82% in 2016 to 92% in 2017, with a target of 60% of codes. A structured code review by the Code Blue Workgroup remained at 100% of codes in both 2016 and 2017.

Discussion: The most important factors in the success of this work is a dedicated Code Blue team and Workgroup invested in the process and a robust action log based on team debrief concerns. The RRT team was present at each simulation and ensured consistent debriefing occurred. These debrief learnings were then brought to each Code Blue Workgroup meeting and entered in an action log. Concerns identified in codes that led to change included code compatible chairs in hemodialysis and a CareFusion Pyxis machine (Beckton, Dickinson, and Co; Franklin Lakes, NJ) located in the magnetic resonance imaging department. Given the success of this process, the goal is to replicate it with code events involving stroke or massive transfusion.

From Colorado, Georgia, Hawaii, Mid-Atlantic States, Northern California, Northwest, Southern California, Washington, Program Offices

37. Workplace Violence Prevention

Robert Durand, CPP, CHEP, HEM, CHSS; Jeff Kostos, CSP

DOI: https://doi.org/10.7812/TPP/18-071-37

Background: According to the 2011 report from The Joint Commission, hospitals saw a significant increase in assault, rape, and homicide from 2007 to 2010. Between 2011 and 2013, workplace assaults ranged from 23,540 and 25,630 annually, with 70% to 74% occurring in health care and social service settings, according to Occupational Safety and Health Administration statistics. Violence-prevention programs reduce the risk of assault by training workers to recognize frequent cues such as drug use and threatening body language, and educating them about strategies to help defuse situations.

Methods: Kaiser Permanente's mission to provide high-quality care within the communities we serve requires an understanding of individual member experience and needs. As we strive toward continuous care delivery improvements, the implementation of a Defense and De-Escalation model supports our efforts to live up to member expectations, improves outcomes for all our members, and supports the workplace safety credo of creating a workplace free from harm.

Results: 1. Cultural approach critical: Assure we are grounded in the philosophy and basic tenets of our care approach. 2. Regional operation ownership: Ownership assures strategic alignment and a sustainable future. 3. Alignment with key stakeholders: Assure ongoing engagement, avoid duplication and use collective best practices. 4. Philosophy embedded in policy and procedure: Enculturation of a philosophy of care provides the foundation for all we do and guides the efforts to ensure collective understanding. 5. Standardize reporting with metric-driven improvement: Standardized reporting collects the necessary information to observe trends and help with decision making.

Discussion: Protecting patients and staff from violent acts is fundamental to ensuring quality patient care. Creating the appropriate systems, tools, and education is vital to reducing the frequency of situations that may result in harm to our members and staff. The increase in violence in some departments, such as Emergency Departments, has resulted in difficulties in recruiting and retaining highly qualified personnel. Patients with medical emergencies deserve a place of care that is free of physical dangers from other patients, and care from staff that is not distracted by individuals with behavioral or substance-induced violent behavior. Every employee has the right to work in an environment free of harm.

From Northern California

38. Pain Rounds: Implementing an Interdisciplinary Team-Based Approach to Pain Management for Inpatient Rehabilitation

Brian Theodore, PhD; Ryan Doan, MD

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Background: Kaiser Permanente (KP) is renowned for excellent pain management across the system. In the inpatient rehabilitation setting, patients with acquired brain injuries and spinal cord injuries can often suffer from moderate or greater pain. To address the needs of the patient for timely, safe, and more effective pain management, the leadership at Kaiser Foundation Rehabilitation Center (KFRC) piloted an interdisciplinary team-based Pain Rounds program in 2017 as one of our departmental quality-improvement projects.

Methods: *Population:* Patient satisfaction levels with pain care during inpatient rehabilitation remained below our desired benchmark (ie, only 70% of patients reported that their pain was well controlled). *Intervention:* Pain Rounds are conducted 2 times/wk for patients who report a 24-hour average pain rating of > 4 on the pain numeric rating scale. The team is led by a physiatrist and includes nurse and neuropsychology team members. In addition to prescription painkillers, other interventions offered include guided imagery, meditation, heat/ice, massage, a transcutaneous electrical nerve stimulation unit, and aromatherapy. *Comparison:* Comparison of patient satisfaction pre- and postimplementation of Pain Rounds. *Outcome measures:* Patient satisfaction with pain management and longitudinal pain ratings.

Results: Pain Rounds was piloted in a single unit at KFRC occurring 2 times/wk. After successful implementation and documentation of protocols, we expanded it at the end of Q4 2017 to other units within KFRC and increased coverage to include any patient identified by nurses to have poorly controlled pain (even if 24-hour average pain rating < 4). In addition, a dot phrase was designed to be implemented into KP HealthConnect to better document pain ratings, interventions used, and patient satisfaction. During the pilot phase, we successfully elevated patient satisfaction levels from a baseline of 71% to a high of 80% (a 13% increase over baseline), exceeding the departmental target of 77.6% satisfaction. Data collection for the expanded phase of Pain Rounds is ongoing.

Discussion: We have developed a successful pilot for timely, adequate, and safe interdisciplinary team-based pain management for patients undergoing inpatient rehabilitation at KFRC. Next steps include 1) evaluating the usability of the implementation of the dot phrase into KP HealthConnect, 2) identifying the most useful interventions that have resulted in satisfactory pain control, and 3) finalizing and disseminating our Pain Rounds model throughout the Region.

From Northern California

39. Optimizing Specialty Palliative Care: Five Key Strategic Initiatives

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Background: At Kaiser Permanente Northern California (KPNC), there is an identified need for expanding services upstream of hospitalizations to increase consistency in practice and to provide referring practitioners and patients with a clear understanding of what to expect from specialty palliative care (SPC) consults. We have implemented five large-scale initiatives to address these gaps and support our vision that all patients with serious illness and their families live as well and as fully as possible.

Methods: 2017 quality goals: Long-term care plan (LCP) or palliative care (PC) before death: Percentage of adult members with a LCP or PC before death; seven-day-a-week staffing: Percentage of Saturdays and Sundays with PC consult documentation. Optimizing specialty palliative care in KPNC and addressing the above gaps,

KPNC rolled out the following five initiatives: the development of a prospective patient registry, a transdisciplinary staffing model, a uniform approach to assessment and documentation, customized training for all SPC clinicians, and a comprehensive measurement strategy.

Results: Prospective patient registry: Monthly medical record number (MRN) level reporting and identifying more than 11,000 KPNC members in need of specialty palliative care. Transdisciplinary staffing model: The staffing model aims to ensure both access and care consistency for all patients who would benefit from SPC in both inpatient and outpatient settings. Standardized assessment tools and documentation: Three tools are used as part of a comprehensive assessment for every consultation. Customized training for SPC clinicians: Trained more than 300 nurses, social workers, and chaplains. Comprehensive measurement strategy: Measuring the impact of these initiatives included the production of monthly dashboards and leadership reports.

Discussion: These five initiatives set a standard for what every patient across KP receives as part of initial and follow-up SPC consultation and allows us to be deliberate in our measurement strategy to drive optimization in SPC. With monthly data for 2017 providing baseline trends, we have set targets for 2018 for registry penetration and will be considering process measures to assure continued provision of a transdisciplinary staffing model and use of assessment tools.

From Northern California

40. Northern California Medi-Cal Onboarding: Upstream Engagement

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Background: The Affordable Care Act and Kaiser Permanente's (KP's) own efforts to enroll more Medi-Cal-eligible patients led to an influx of new members (85% increase from 2013-2017), challenging KP Northern California (KPNC) to meet the social, behavioral, and medical needs of this population. Medi-Cal members have a higher rate of avoidable, high-cost utilization; gaps in access to preventive care; and are more likely to face behavioral health and nonmedical social needs that impact their health, such as financial barriers and food insecurity.

Methods: New member onboarding (NMO) began in the Sacramento Valley Area in Fall 2015 and has since spread to the Napa-Solano Area and Greater Southern Alameda Area. NMO intervention has six key components: 1) family calls, 2) robust orientation, 3) resources and referrals, 4) scheduling, 5) medication concerns, and 6) documentation enhancements. Process and outcome measures are: Initial Health Assessment (IHA) completion rate (physical exam and questionnaire), Emergency Department visits, patient days, clinic visits, and total cost. NMO evaluation has three components: 1) monthly IHA performance monitoring, 2) observational/case control-matched evaluation (initial results complete), and 3) randomized control trial evaluation (results expected Q3 2018).

Results: Performance results indicate significantly higher IHA completion rate compared with KPNC for the 3 locations that have implemented NMO (Sacramento Valley, Napa-Solano, Greater Southern Alameda), (24.1% for the 3 locations compared to 4.5% for other KPNC locations). The observational/case control-matched evaluation conducted by KP Decision Support and Division of Research KPNC showed that overall, related to the matched control group, Sacramento Valley new Medi-Cal members (cases) showed higher nonpsychiatric patient days, higher Emergency Department visits, lower clinic visits, and lower cost. The subanalysis of Sacramento Valley Medi-Cal adults who completed the IHA (cases) showed lower nonpsych patient days (significant, 46% lower), lower Emergency Department visits (11% lower), higher clinic visits (significant, 23% higher), and higher cost (10% higher) than non-Sacramento Valley Medi-Cal adults (matched control) who did not complete the IHA.

Discussion: NMO is showing promising results. NMO is successful in increasing the IHA completion rate for the three locations that have implemented NMO (Sacramento Valley, Napa-Solano, Greater Southern Alameda), indicating early engagement with the member's primary care physician. The initial evaluation indicates it is possible that the intervention had a favorable impact (lower avoidable high-cost services and higher rates of outpatient services) on members who completed the IHA. Next steps are to continue evaluation efforts, which will include the randomized evaluation (Q3 2018), quality outcomes, no-show rate, pharmacy script rate, patient satisfaction, and trending over time members that received NMO intervention.

From Southern California

41. Embrace New Culture in Postacute Care: Shaking up the Status Quo

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Background: The Continuing Care Quality Management (CCQM) program models the Integrated Quality Management (IQM) philosophies, tools, and principles for continuing care services of Kaiser Permanente Southern California (KPSC) beginning with skilled nursing facility (SNF) partners. The CCQM model enhances systems for service and oversight and moves our organization's goal of matching patients with the "Right Care, Right Place, and Right Time." This results in improved quality of care by standardizing workflows and setting expectations with SNF partners.

Methods: Previously, SNFs were used as a discharge destination because they were the path of least resistance. Patients frequently did not meet the medical necessity for skilled level of care. Because of inappropriate admissions, a rise in length of stay (LOS) and varying workflows in the SNFs, the increased costs created a need for workflow standardization, collaboration, and robust oversight. Implementation of the CCQM model of care in the postacute setting, which was modeled after the IQM philosophies, tools, and principles, began in 2013. To measure performance, the following metrics were monitored: 1) SNF patient day rate (PDR), 2) average LOS (ALOS), 3) 30-day Healthcare Effectiveness Data and Information Set (HEDIS) readmission observed/expected (O/E), and 4) SNF discharge rate.

Results: After implementing CCQM in 2013, performance measures significantly decreased from the 2013 baseline through the current year: 1) SNF PDR for the Riverside Service Area (Central, West, and East markets) decreased 16.7 points and 26.1 points for Riverside Service Area (Coachella Valley market), 2) ALOS for the service area decreased 2.7 days, 3) 30-day HEDIS O/E for the service area increased slightly from 2016 to 2017 by 0.01; however, it decreased significantly from 2015 to 2016 by 0.08. 4) SNF discharge rate for the service area continues to decrease steadily: -0.7 points in 2016 and -0.5 points in 2017.

Discussion: The CCQM model of care enhanced the collaboration with IQM and SNF partners to adopt consistent workflows to increase efficiency and quality of services at the SNFs. Our primary learning was and continues to be the high turnover rate of SNF partners (leadership and staff). To ensure continuity, continual education and engagement on the CCQM model of care is needed. The next step is to spread the CCQM model to our nursing home partners to deliver the same standardized care to our long-term care patients.

From Colorado, Georgia, Hawaii, Mid-Atlantic States, Northern California, Northwest, Southern California, Washington, Program Offices

42. Effective Rounding for Quality and Safety

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Background: Rounding for safety in department/facility includes asking staff about safety risks and observing environmental hazards. Rounding with timely, effective follow-up action is essential to safety excellence. Safety rounding increases communication within a department and related support functions. Regular rounds and effective follow-up can identify problems and risks, surface ideas on better ways to do the work, and reduce risk and inefficiency. The session will include small-group activities to generate discussion on key messages.

Methods: Rounding is recognized as an important tool for employee engagement, and as the starting point for a comprehensive hazard identification and mitigation process. Safety rounds are an important leading indicator and performance metric and foundational component of any safety program, and of the High Reliability Operating Model currently under development.

Results: Metrics related to effective safety rounding are on the list of potential leading indicators the National Workplace Safety Leadership Team is developing for use across the program.

Discussion: Kaiser Permanente is in the process of consolidating various rounding platforms into an integrated rounding tool that can be used across various specialities. The development of many different rounding systems indicates many parts of the organization believe rounding is an important process.

From Southern California

43. Pursuing Health Equity: Our Journey to Improve Diabetes Control With Our Hispanic/Latino Population at Kaiser Permanente in Indio, California

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Background: Diabetes is worsening in our vulnerable populations in areas that are struggling to maintain the necessary health care and resources needed for glycemic control. Kaiser Permanente (KP) race and ethnicity data show a significant disparity gap of 16% between Hispanic/Latino and white/Caucasian members with diabetes. Indio, CA, has a large population of Hispanic/Latino KP members with Spanish being the second most preferred/spoken language at the Indio Medical Office Building (MOB). The Indio MOB was one of the first KP clinics in the area. There was limited awareness of cultural needs and a necessity for an internal quality improvement framework focusing on education of staff and employer groups, and complete care management.

Methods: We stratified our selection criteria based on the disparity gap between Hispanic/Latino and white populations from KP Indio Healthcare Effectiveness Data and Information Set (HEDIS) data. This finding led to the identification of 38% of Indio Hispanic/Latino members with uncontrolled diabetes. We implemented patient-centered diabetes support groups. In these groups, members shared personal stories, struggles, and advice on their own experiences with diabetes. We also included a manager leadership group to give its feedback and opportunities to help improve quality of care. We intend to employ telephone appointment visits, increase remote glucose monitoring utilization, implement a diabetes "One Stop Shop" model, and enhance community engagement.

Results: Our results indicate that successful outcomes are crucial in making change happen. Here are several ways in which the team will review and create interventions to help decrease the disparity gap: Educate members on culturally sensitive food options; increase medication titration by improving provider inertia changes; engage members to check their blood sugars and offer new technology with the remote glucose monitoring; and increase diabetes quality composite scores by being proactive with foot exams, retinal photos, and medication adherence.

Discussion: Overall, the health equity challenge in Indio, CA, is very important to KP and its capacity to help address the social determinants of our disparity populations. This will help us to learn how to perform better with patient-centered focused outcomes. Some lessons along the way in our journey are: Knowing and understanding the population of interest; developing lead and lag metrics for successful outcomes; availability of resources and tools needed; communicating plans to the member, staff, and community; and using interdisciplinary teams such as leadership, physician groups, and frontline staff.