Quality improvement (QI) activities are critical to achieve the Triple Aim and to the Institute of Medicine’s six “Aims for Quality Improvement”: Safe, Effective, Patient-Centered, Timely, Efficient, andEquitable. These QI activities are essential to create a learning health care system. Academic publishing is critical to foster continuous QI and sharing, and yet it tends to favor more traditional research articles. Publishing QI activities has great value, encourages greater rigor, and helps facilitate greater willingness to share improvement opportunities.

Often QI activities are undertaken in a Medical Center. After some evaluation is done, an attempt is made to spread the results through word of mouth using physician “champions” or other engaged clinicians. Then we wonder why best practices spread slowly. When looking at whether a QI project might be suitable for spread, one should critically examine the methodology. QI projects may be highly context dependent and thus not readily transferable. Because these occur outside of an experimental setting, there is a high risk of bias as compared with research studies. Because spread of a QI study may incur costs and command some organizational attention, one should be aware of how a QI project has been evaluated. Because randomization is usually not practical, QI studies may be conducted using a before-after design, time series, or stepped wedge design with greater potential for bias in the first and least in the latter. In some cases statistical adjustments may control for confounding variables in observational studies. Additional attention should be paid to data quality, whether the correct unit of analysis was used, and was followed-up long enough.

Given the above, it behooves organizations that sponsor quality meetings to attempt to have presentations that describe the rigor of their studies and to encourage eventual publication. In trying to think through ways to better spread quality learnings, we enlisted The Permanente Journal to publish the abstracts of presentations from the KP National Quality Conference. There are many benefits to publishing these abstracts including 1) creating a permanent record of the quality projects, 2) forming a means of communicating both positive and negative outcomes from QI activities, 3) promoting more scientific rigor in designing and presenting QI activities, and 4) providing additional motivation for quality projects to be written and presented. Ideally, after going through the process of creating an abstract of publishable quality, authors would be encouraged to subsequently submit their work for publication in a peer-reviewed journal such as The Permanente Journal.

The 2017 KP National Quality Conference centered around the Institute of Medicine’s “Six Aims for Quality Improvement,” which our organization has adopted as our National Clinical Quality Strategy. In the spirit of continual improvement and striving to achieve these aims in everything we do, we hope that publishing the abstracts from this conference will encourage greater rigor and help facilitate greater willingness to share improvement opportunities both within and outside our organization. Perhaps this will also open the door to more academic publishing of QI projects. There is great value to learning from each other’s improvement attempts—even those that do not achieve their intended outcomes or do not stick.

Disclosure Statement
The author(s) have no conflicts of interest to disclose.

How to Cite this Article

References
Abstracts from the Kaiser Permanente 2017 National Quality Conference

BEHAVIORAL HEALTH AND WELL-BEING

From Northern California

1. Health Achieved Through Lifestyle Transformation (HALT): The Power of Lifestyle to Reverse Chronic Disease

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Objective: To assess the effectiveness of a multidisciplinary lifestyle program on improving health metrics related to heart disease and diabetes using existing resources at Kaiser Permanente South Sacramento.

Design: We sought out patients with diabetes or coronary artery disease for participation. Patients initially engaged in an 8-week lifestyle program that focused on a low-fat, whole-foods, plant-based diet; exercise; and stress reduction. The program was later expanded to a 20-week evidence-based behavioral change program along with weekly follow-up classes. This program was led by a physician. Health educators taught the classes with psychologist support. Cooking demonstrations were included in the classes. We surveyed outcomes from 4 cohorts of patients.

Main Outcome Measures: We collected data from the electronic medical record on weight, lipids, blood pressure, diabetes control (hemoglobin A1c [HbA1c]) and exercise. We also collected survey data on dietary compliance using a food frequency survey and mental health measures using the short form (SF-20) survey.

Results: Program attendance in all 4 cohorts ranged from 78% to 92%. Average minimum weight loss at 6 months was approximately 16 lbs. For cohort 1, average weight loss at 1 year was 24 lbs. In all cohorts, there was a trend towards reduction in blood pressure, low-density lipoprotein cholesterol, HbA1c, role functioning, body pain, health perceptions, physical functioning, and reduction of medications for diabetes. Spousal participation in the program was a predictor of success. Three patients fully reversed their diabetes.

Conclusion: This is an example of a successful, multidisciplinary program focused on behavior modification that has the potential to reduce medication costs, improve quality metrics for heart disease and diabetes, and reduce obesity and associated sequelae. HALT uses existing resources that are readily available. We have demonstrated the reversal of diabetes in some patients, a feat that cannot be done with medications.
From Northern California and the Care Management Institute

2. Incorporating Life Care Planning into Specialty Care Populations

Matthew Handley, MD; Melissa Stern, MBA

DOI: https://doi.org/10.7812/TPP/17-140-02

Though most people say they are willing to discuss end of life and agree that documenting their wishes is important, only a very small number actually do. When the process is done well, it has the power to produce a written plan that accurately represents the individual's preferences and thoroughly prepares others to make health care decisions consistent with these preferences. Life Care Planning is a National Quality Initiative driven by the six aims to deliver care that is patient-centered, effective, efficient, equitable, timely, and safe. It is currently being implemented in five Regions with a sixth to begin before year-end. This presentation describes an evidenced-based approach for ensuring that patients facing a life-threatening illness align the care given to their personal values and wishes and demonstrates how to integrate the methodology into “normal routine” care within the Nephrology and Cardiology specialties, which serve as examples of how it may be applied to any specialty. Making these decisions is difficult and the implications for not making them can have significant impact on patients, their families, and practitioners. This evidenced-based approach ensures patients are supported and guided in an unbiased and nonjudgmental way.

From Program Offices and Southern California

3. Cultural Medicine: Speaking Up at Kaiser Permanente

Grace Balbuena; Vanessa Benavides, JD; Quristin Coleman; Kathy Gerwig; Linda Leavell, RN, PhD

DOI: https://doi.org/10.7812/TPP/17-140-03

Introduction: A “speaking-up” environment is one in which people feel valued and respected, have a say in their jobs, are comfortable voicing opinions, can speak up about problems, and action is taken on their input. When people speak up, we learn about issues and hazards as well as opportunities to innovate and improve.

Methods: Analysis of the 2014 through 2016 People Pulse results identified correlations between speaking up and business outcomes. Practices that correlate to improved speaking up were also identified through People Pulse, focus groups of employees, and interviews with managers.

Results: Departments that score well on the People Pulse Speaking Up Index have 58% fewer workplace safety injuries, 41% fewer lost work days, and 14% lower patient mortality rates. But the Index shows that a speaking-up environment is not fully present across Kaiser Permanente. We score 9% below “best-in-class” benchmarks. Barriers to speaking up include: Lack of management follow through on ideas or concerns, fear of retaliation, exclusion behaviors, and lack of trust.

Discussion: A proven practice for improving speaking-up environments is Direct Report Rounding. These are short, private discussions between a manager and an employee that occur on a monthly or other regular schedule. Information on how to conduct this practice is available at: http://kpnet.kp.org/qrm/service2/COE/roundings.html.

A second proven practice is involving employees in their work. The Food and Nutrition Services Department at the Los Angeles Medical Center achieved an 11% improvement in their Index in one year. They initiated a “respect” campaign that included team-building activities and bringing family and social traditions into the workplace.

Conclusion: Great health care is inherently built on significant trust. Creating a speaking-up environment links to our ability to fulfill our mission.

From Northern and Southern California

4. Transforming the Health Care Response to Intimate Partner Violence

Brigid McCaw, MD, MS, MPh; Lyn Yasumura, MD; Tracy Flanagan, MD

DOI: https://doi.org/10.7812/TPP/17-140-04

Introduction: Intimate partner violence (IPV) is common and is associated with many health problems and increased health care utilization. Health care interventions can improve patient safety and outcomes, and the US Preventive Services Task Force recommends routine IPV screening for women.

Kaiser Permanente (KP) is the national leader in the health care response to IPV. Using an innovative systems model approach, performance improvement methodology, health information technology, and implementation science has resulted in significant and sustained improvement in addressing IPV.

Methods: The systems model includes four components: Supportive environment, clinician inquiry and brief intervention, referral to on-site behavioral health services, and community partnerships. Clinical workflows, training, and electronic health records (EHR) tools facilitate evaluation and referral. Quarterly reported metrics support performance improvement. Physician champions lead facility-based teams using a step-wise approach to implementation.

Results: As the systems model has been fully implemented in Medical Centers across KP Northern California (KPNP), there has been a 27-fold increase in IPV identification. As part of a 2010 strategic partnership between the KPNP IPV Champions and OB/Gyn Chiefs, IPV identification rate was added to the Women’s Health Quality Dashboard, catalyzing rapid spread of best practices and significantly increasing IPV identification.

Discussion: In 2007, KP Interregional Family Violence Prevention (FVP) Physician Leaders adopted the systems model approach; developed clinical training, workflows and referral pathways; designed EHR tools; and created patient resource information, facilitating the implementation in other KP Regions.

In 2016, this group partnered with the Interregional (IR) OB/Gyn Chiefs. A common metric, IPV identification rate, was chosen to track progress across the Regions, and the IR OB/Gyn Chiefs selected improving IPV identification and response as a quality improvement initiative.

Conclusion: An interregional FVP leadership group has facilitated the spread of a successful KPNP approach to improving IPV identification and clinical care across KP. Now, a partnership with the IR OB/Gyn Chiefs and the use of a programwide metric will advance the work further.
ORIGINAL RESEARCH & CONTRIBUTIONS

From the Northwest

5. Proactive Risk Assessment Using Simulation to Optimize the Institute for Healthcare Improvement Framework and Improve Safety

Georgina Ottaviano, BSN, RN-BC; Huy Huu Nguyen, BSN, RN, CHSE
DOI: https://doi.org/10.7812/TPP/17-140-05

Introduction: Proactively analyzing risk by using analytical tools such as the Failure Modes Effects Analysis (FMEA), rather than using retrospective analyses such as Root Cause Analysis and peer review, is becoming more prevalent in healthcare management. Simulation is proving to be an effective method to proactively probe for failure points and to identify strategies to mitigate risk. Applying the Institute for Healthcare Improvement (IHI) FMEA tool to multidisciplinary simulation scenarios taking place in the actual clinical setting has proven effective in our organization for proactively identifying patient safety risk and developing actionable action plans designed to improve outcomes. This approach has provided guidance in determining where educational efforts and process improvement plans would best be focused.

Methods: Multidisciplinary teams of stakeholders initially met to review objectives, introduce and score the FMEA tool, and schedule the simulation(s). The simulation was conducted in situ using a high-fidelity patient simulator. The stakeholders then met to discuss and rescore the FMEA, and identify action items.

Results: Participants and leaders scored the process as valuable, because it proactively identified potential areas of risk and vulnerability. This method was also effective in prioritizing and focusing education and training based on the FMEA scoring, leading to efficient use of valuable education resources.

Conclusion: Using medical simulation in this manner can be an effective tool for teams to identify and mitigate vulnerabilities proactively. This process can be applied to all areas of a health care organization.

From Southern California

6. Benchmarking Inpatient Antimicrobial Use: Is Risk-Adjustment Possible?

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DOI: https://doi.org/10.7812/TPP/17-140-06

Introduction: Antibiotic overuse has become a worldwide concern. *Clostridium difficile* and drug-resistant bacteria are of increasing clinical importance. California state law requires antimicrobials stewardship programs (ASPs) for all acute care facilities. We describe a risk-adjusted antibiotic exposure ratio that may help facilitate benchmarking of antimicrobial use.

Methods: The study included members admitted to 35 Kaiser Permanente Southern and Northern California hospitals in 24 consecutive months. Potential predictive variables were assessed using linear regression models. Ratios of risk-adjusted antibiotic consumption were calculated comparing: A) a gold standard consisting of all available antibiotic use risk factors and B) a simplified “Encounter Ratio” using only the most significant factors.

Results: Diagnosis-related groups, infection present on admission, patient class, and unit type were the major predictors of antibiotic use. Aside from history of methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant enterococci for anti-MRSA drugs, additional clinical and comorbidity information did not improve the model. Analyses demonstrated high fit between the Encounter Ratio and the gold standard.

Discussion: Metrics of antibiotic use differ when using raw consumption data compared with a risk-adjusted model. The Encounter Ratio model we developed helps analyze consumption data in a risk-adjusted fashion that takes into account the types of patients seen at each facility. This type of metric may therefore better inform ASP operations.

Conclusion: Risk-adjustment of antibiotic use observed to expected ratios is possible. Diagnosis-related groups, infection present on admission, unit type, and patient class are major determinants of our Encounter Model and are information data sets that can potentially be applied to other hospitals in the nation.

From the Northwest and Colorado

7. Supportive Care for Complex Needs—Kaiser Permanente Care Team Management Models

Tracy Ellen Lippard, MD; Stacey Moret, MOT, OTR/L; Michelle Wong, MPH, MPP
DOI: https://doi.org/10.7812/TPP/17-140-07

Introduction: Responding to the needs of patients with complex needs is currently inadequate. Patients with complex needs suffer from medical comorbidities, functional limitations, and unmet social needs.

Methods: Kaiser Permanente (KP) Colorado’s Primary Care Plus (PC+) followed a strict eligibility criteria to capture high-need, high-cost members older than age 65 years (or age 18-64 years on 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. KP Northwest’s (KPNW’s) Team-Based Care (TBC) evaluation design was a retrospective matched control study that compared members 12 months pre-enrollment and 23 months post-enrollment. A secondary assessment sampled members enrolled in TBC for 12 months between summer 2014 and summer 2015.

Results: In Colorado, office visit costs were 21% higher among PC+ participants compared with the control group; however this cost was more than offset by inpatient costs that were 75% lower among participants. In contrast to PC+, KPNW’s TBC did not show a significant difference in cost and utilization (ie, operating cost per patient per month, admits per 1000 patients, average length of stay, inpatient cost per patient per month, Emergency Department [ED] visits per 1000, and ED visits per member).

Discussion: Early assessment evaluations of both programs reported high satisfaction among clinicians, staff, members, and caregivers. In addition, among the initial group of PC+ program participants, 104 members had 21 important pharmacy interven-
tions (ie, alendronate starts) within the first 6 months of enrollment compared with zero in the matched control group of 108 patients. The PC+ intervention group also saw an increase of specialty palliative care/hospice touches from 8% to 55%.

**Conclusion:** Initial findings from PC+ and TBC indicate that holistic, interdisciplinary focus on what matters most to high-cost, high-need members and their caregivers, with proactive outreachs and improved access to someone who knows them well, can yield benefits across the quadruple aim.

**From Colorado**

8. Depression Care Management from Implementation to Expansion: “No More Wasted Years”

Jennifer Stamps, MBA, RN, CPHQ; Ann Wells, MD; James Hardee, MD

DOI: https://doi.org/10.7812/TPP/17-140-08

**Introduction:** With limited resources in specialty Behavioral Health, we sought creative solutions to provide care for the growing population of patients with depression. Implementing a Depression Care Management (DCM) program was the first step in standardizing the criteria for the diagnosis of depression, decreasing treatment variability, assuring adequate monitoring of symptoms, and assessing for remission or relapse. In addition to enrolling “typical” Primary Care patients with newly diagnosed depression, we also reached out and enrolled more vulnerable populations with depression, such as Medicare members, postpartum women, adolescents, and those with multiple comorbid medical conditions.

**Objective:** To assess the effectiveness of a DCM program consisting of Registered Nurse Care Coordinators using proactive telephone and e-mail (kp.org) outreach to monitor and manage medications for patients recently started on an antidepressant. The patient health questionnaire-9 (PHQ-9) depression score was tracked, and standardized outreach and treatment protocols were followed.

**Methods:** A retrospective analysis was conducted using 908 patients enrolled in DCM, from January 2012 through August 2014, and a comparison group of 5468 patients. Outcomes were controlled for age, sex, health status, line of business, number of Behavioral Health visits, and baseline PHQ-9 score.

A financial analysis of the DCM program was completed in 2015 (based on 2012 through 2014 enrollments).

**Results:** Despite starting with similarly elevated PHQ-9 depression scores at baseline, within 3 months of enrollment, DCM participants’ PHQ-9 scores were lower than the comparison group (adjusted mean score of 4.7 versus 9.4, respectively). The depression symptom improvement was sustained over time, and there was significant gratitude expressed by DCM enrollees for the thoughtful and thorough care. In addition, patients enrolled in DCM were screened for bipolar disorder, substance abuse, and suicidality—and referred appropriately when needed.

With the top and bottom 5% “outliers” excluded, the total per member per month (PMPM) costs were affected with an average of $62 PMPM savings for the 12 months post-DCM enrollment compared with a matched comparison group of depressed patients not enrolled in DCM.

**Conclusion:** DCM, using evidenced-based protocols in a virtual, telephonic setting is highly effective in reducing PHQ-9 scores, improving patient symptoms, and controlling costs for patients with depression. The clinical outcomes of this DCM program are seen quickly and remain sustained over time.

9. Engaging Kaiser Permanente’s Business Side in Community Health Promotion Using a Data Visualization and Hotspot Mapping Tool

Dana Barnes, MPH; Samika Ramirez, MHA; Jeffrey Reynoso, DrPH

DOI: https://doi.org/10.7812/TPP/17-140-09

**Introduction:** Since its inception in the 1940s as one of the US’s first prepaid health plans, Kaiser Permanente (KP) has had built-in incentives to invest in wellness and prevention among members. Recent efforts have expanded this prevention focus beyond the clinical sphere into social determinants of health and community-level health promotion—ie, “Total Health.” Along with individual risk factor data, a member’s zip code can be an informative proxy for disease risk, socioeconomic context, resource availability, and environmental barriers. Therefore, having actionable zip code-level data about both medical and nonmedical measures of Total Health is crucial for quantifying which efforts are most needed and where.

**Methods:** In 2016, the KP Southern California (KPSC) Region began piloting the Total Health Action Tool (THAT)—a data visualization and hotspot mapping tool that integrates zip code-level enterprise data with zip code-level external data. THAT is a set of resources on an internal intranet site that includes raw data as well as interactive dashboards. Through simple point-and-click, users can customize to any desired geography and subject matter.

**Results:** In the first six months post-“go live,” KPSC developed three signature use cases in which THAT has been applied in both clinical and nonclinical functions: In facility planning (assessing the “Total Health” needs of the zip codes in a new facility’s catchment to guide service planning), in clinical program planning (identifying highest-need zip codes for targeted intervention), and in procurement (prioritizing businesses and contractors located in high-unemployment/low-income zip codes).

**Discussion:** Among the three signature use cases, the recurring themes that illuminated the value of this tool were that: 1) it has helped users objectively identify areas of need, quantify potential impact, and justify the business case for upstream place-based interventions; 2) health promotion efforts have primarily targeted vulnerable communities in the service area; and 3) it has helped users reduce data bottlenecks which, before, may have hindered data-driven decision making. The next step for THAT, through 2017, is to continue gathering KPSC-user feedback to improve the tool’s functionality and to expand the metric library. Then, in 2018 and beyond, the lessons from the KPSC pilot will be used to inform how to enhance the tool and to spread this resource across all KP Regions.
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From Program Offices and Southern California

10. Consistent, Efficient, and Effective A1c Management to Goal: Novel Approaches from Kaiser Permanente Kern County, San Diego, and Northern California

R James Dudl, MD; Todd Martin, X; Benjamin Ha, MD; Richard Dlott, MD
DOI: https://doi.org/10.7812/TPP/17-140-10

Introduction: New Kaiser Permanente (KP) data show delaying A1c lowering from > 8% to < 7% by 1 year resulted in a 58% higher microvascular disease risk; however, KP Regions, except Northern California (NC) are not yet above HEDIS 90th percentile for the A1c < 8% metric.

Methods: A population-based care program design promoted appropriate treatment of patients with high A1c's: in Kern County (KC) > 5.7%, in NC > 8%, and in San Diego (SD) 7% to 8%. KC ensured patients with an A1c > 5.7% received prediabetes/diabetes education and follow-up A1c's to monitor prediabetes or diabetes status or to confirm its new diagnosis. NC and SD used processes with an accountable clinician to ensure timely, verified treatment intensification and automated A1c follow-up for every patient with A1c above goal. Clinician-level reporting was sent to managers to support performance improvement. All 3 program locations used similar diabetes "Treat-to-Target" protocols.

Results: KC's population with diabetes increased by 11.9% vs Southern California's of 8.1% during 1 year. SD increased A1c > 7 from 40.2% to 45.3% in 6 months. NC achieved > 90th percentile and led all KP Regions for HEDIS A1c < 8%.

Conclusion: Four features: Moving to a population-based approach, fixing clinician responsibility, promoting timely treatment intensification, and automating A1c follow-up orders were associated with the programs' successes.

From Program Offices and Southern California

11. Fundamentals of Evidence-Based Care: How to Find, Evaluate, and Use Evidence in Your Quality Journey

Helen Wu, PhD; Craig Robbins, MD, MPH, FAAFP; Qiana Amos, MPH; Mary E White, MLS
DOI: https://doi.org/10.7812/TPP/17-140-11

The term "evidence based" is a common catchphrase that suggests an intervention or practice is backed by science and thus proven to work. The promise of evidence-based care is not always realized, however, because of substantial variation in how evidence is defined, identified, evaluated, and applied. We addressed these discrepancies in a multifaceted, minicourse format that outlined how to build a strong evidence-based foundation for quality improvement (QI) within the Plan phase of a Plan-Do-Study-Act (PDSA) cycle. First, we established a common definition of “evidence-based”: The integration of best research evidence with clinical expertise and patient values. Core principles include the use of systematic, a priori methods, in contrast with nonsystematic approaches. Then, we described information resources for finding evidence, including PubMed, Cochrane, UpToDate, and DynaMed. The evidence quality in all these resources is mixed, and users should be aware of the limitations. Next, we reviewed A Measurement Tool to Assess Systematic Reviews (AMSTAR) and the Appraisal of Guidelines for Research and Evaluation (AGREE II), tools with accepted frameworks for critically appraising systematic reviews and clinical practice guidelines, respectively. Kaiser Permanente’s National Guideline Program uses these tools to evaluate the credibility of such resources, which often have important gaps and limitations. Finally, we shared insights about translating evidence into action, describing ways to assess the overall strength and relevance of a body of evidence and the need to implement interventions in a manner that balances local adaptation with fidelity to the evidence.

From Mid-Atlantic

12. Streamlining Screening to Treatment: The Hepatitis C Care Cascade in the Mid-Atlantic Region

Carla V Rodriguez, PhD; M Cabell Jonas, PhD; Kevin B Rubenstein, MS; Yan Sun, MS; Michael Horberg, MD; Bernadette Loftus, MD
DOI: https://doi.org/10.7812/TPP/17-140-12

Introduction: In 2015, the Mid-Atlantic Permanente Medical Group implemented a hepatitis C virus (HCV) care cascade (pathway) to identify patients with HCV and close care gaps. We describe this pathway and evaluate whether HCV antibody screening has increased since its implementation. We also describe changes in confirmatory testing, genotyping, and patient follow-up over time.

Methods: The pathway included an automated screening alert for patients without evidence of a prior HCV antibody (Ab) test, reflex testing (HCV RNA, hepatitis B surface antigen, and HIV Ab) on stored samples of those patients testing HCV Ab positive, and coordinators to assist patients and to support clinical workflow. We used electronic health record data to retrospectively compare screening among patients visiting during a ten-month period before the pathway was implemented and a ten-month period since the pathway began. We followed each cohort for an additional six months to measure differences in HCV Ab, HCV RNA, HCV genotyping, and follow-up visits with gastroenterology or infectious diseases. We used a proportional hazards model to compare the time to HCV antibody screening across cohorts, adjusting for race, age, sex, neighborhood median income, medical specialty, number of visits in the prior year, patient address, and payer type. We describe proportions of patients receiving care measures downstream from the antibody result.

Results: The adjusted screening rate during the pathway era was 2.89 (95% CI 2.83-2.95) times higher than it was pre-intervention. Measures downstream from the antibody test also improved: HCV RNA confirmatory testing increased from 85% to 93% (p 0.001); genotyping from 82% to 87% (p 0.05); and specialty follow-up from 85%-94% (p < 0.001).

Discussion: HCV screening and subsequent care measures have increased since the implementation of the HCV care pathway.
From Southern California

13. Branding Urgent Care: A Journey in Shifting Acute Outpatient Care Away from the Emergency Department

David Glass, PhD; Kathy Kigerl, RN, MN; John Shohfi, MD; Michael Neri, Jr, MD
DOI: https://doi.org/10.7812/TPP/17-140-13

Introduction: The Urgent Care Strategic Workgroup engaged in a four-year journey (2012 to 2016) to reposition and rebrand urgent care at Kaiser Permanente in Southern California. The mission is to provide convenient services for patients who perceive symptoms as needing urgent attention and do not want to inappropriately use the Emergency Department (ED). The “overuse” or “misuse” of the ED is a longstanding issue inside and outside of Kaiser Permanente.

Methods: In a qualitative study in 2012, the Workgroup found that members were often confused about the location, hours, and services of urgent care. Those going to the ED in low-acuity situations often sought guidance and were directed to go to the ED either indirectly (eg, lack of appointments in primary care) or directly.

The Workgroup, building on these insights, made the following interventions:

1. Standardized urgent care clinics across the Region in terms of services provided and more closely aligned hours of operation (through the development of a “playbook” and a certification process)
2. Implemented a marketing campaign on urgent care
3. Co-branded Urgent Care and ED signage on campuses to make the choice more obvious to patients at the point of service.

Results: Eighty percent of Southern California Kaiser Permanente members are now aware of the location and services at Urgent Care. After 4 years, low acuity visits to the ED dropped 32% whereas urgent care increased by 39%.

Discussion: Members are often confused about the appropriate place to seek care in non-life-threatening but acute situations in which they are in a great deal of pain. It is possible to brand urgent care, lower the confusion, and substitute urgent care visits for low-acuity ED visits.

From Northern California

14. Prospective Calling for Spanish-Speaking Diabetic Patient Pilot to Improve Failed to Keep Appointment Rate

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DOI: https://doi.org/10.7812/TPP/17-140-14

Introduction: Disparity in health care, particularly diabetes control, continues to exist between the Spanish- and English-speaking populations. In 2016, there was a 7.5% disparity among patients who had an A1C less than 9% at Kaiser Permanente San Jose. One of the barriers that may contribute to this disparity is the 40% rate among Spanish-speaking patients with diabetes who failed to keep appointments (FTKA) with the bilingual diabetes pharmacist. In this study, we looked to see if prospective calling of these patients could help improve the FTKA rate by 20%.

Methods: Between August 24, 2016 and September 30, 2016, patients with appointments to discuss diabetes control with a Spanish-speaking diabetes pharmacist received an appointment reminder phone call from the bilingual program assistant one business day before the appointment. Patients who did not keep their appointments received follow-up phone calls to rebook the appointment and to identify patient-specific barriers that contributed to the missed appointment.

Results: The FTKA rate decreased to 18% after process implementation. Additionally, those who received a live call instead of a voicemail reminder had a 9% FTKA rate vs 29% for those who received a voicemail. Additionally, 6 weeks after the project ended, the number of patients with an A1C < 9% increased by 2%. Patient-reported barriers for missing their appointments were primarily related to work or family issues.

Discussion: Prospective calling appeared to decrease the FTKA rate, decrease time to A1C control, and increase access to the diabetes pharmacist. There were several keys to success including a direct line for patients to call, consistent staffing for prospective calling, and the establishment of a relationship between clinicians and patients. Further study is required to continue to evaluate other solutions.

From Colorado

15. Applying the Stepped Care Model to Chronic Pain Management

Heidi Clune, MD; William Gersch, PharmD; Laurence Hren, MBA
DOI: https://doi.org/10.7812/TPP/17-140-15

Introduction: Chronic pain management requires a resource-intensive multidisciplinary approach. At Kaiser Permanente Colorado (KPCO), the Integrated Pain Service (IPS) needed to devise a system that increased access to pain specialists to improve patient safety and chronic pain management throughout the Region, using a limited number of full-time employees.

Methods: KPCO implemented a stepped-care model for chronic pain management to direct members to more intensive resource interventions using a risk stratification model to predict the risk of an opioid-related overdose.

Results: This approach also increased access to pain specialists from about 3500 members at a limited number of clinics to all 15,000 chronic opioid therapy members and to any member with a chronic pain concern at KPCO. In addition to improved access, the implementation of the stepped-care model resulted in 421 chart reviews in a 1-year period, a greater volume than IPS was able to manage previously. The stepped-care model also resulted in a 41% decrease in overall opioid dose, a 33% reduction in concurrent opioid and benzodiazepine prescribing, a 40% improvement in urine drug screen monitoring, and a 16% reduction in the number of high-risk chronic opioid therapy members. There was also a favorable impact on health care utilization with a 25% reduction in per member per month cost, driven mainly by a reduction in ambulatory care appointments, inpatient hospitalizations, and emergency room visits.
Beginning in 2010, Kaiser Permanente Northern California (KPNC) underwent a performance improvement effort to increase the rate of optimal starts for new end-stage renal disease (ESRD) patients. Optimal starts are defined as patients who begin renal replacement therapy by one of these modalities: Peritoneal dialysis, home hemodialysis with permanent vascular access, in-center hemodialysis with permanent vascular access, or preemptive kidney transplantation. Optimal starts are associated with improved clinical, quality of life, and financial outcomes. The performance improvement approach included sequential implementation of several initiatives: Educational programs on peritoneal dialysis were developed and presented for nephrologists and renal case managers; a training program in peritoneal dialysis catheter insertion was provided for general surgeons; an ESRD tracking system was built within the KPNC electronic medical record (HealthConnect); regional leadership conducted site visits to each Medical Center; Medical Center performance was published monthly on the Region’s quality report card; and “playbooks” (standardized process guides) were created for optimal hemodialysis and peritoneal dialysis practices.

Results: Optimal Start performance improved from 39% in 2010 to 67% in 2015, and has remained high since.

Discussion: A multifaceted performance-improvement approach resulted in marked improvement in care for ESRD patients. Significant leadership effort and cultural change was needed as well as specific educational and training and information technology improvements. Efforts are underway to extend this work to all Kaiser Permanente Regions.
goal of preventing HAP. The bundle elements are: R: Respiratory (incentive spirometer use) and Reduced Sedation, O: Oral Care (preoperative and twice-a-Chlorhexidine mouthwash and tooth brushing), U: Up (head of bed elevated 30 degrees, out of bed for meals, ambulating 20 feet or more twice a day), T: Tube Care (gastric feeding), and E: Education. An operational definition for HAP was introduced to measure outcomes along with implementation and process measures. Process measures reported were ambulation, sedation use (specifically benzodiazepines), and preoperative chlorhexidine oral rinse use.

**Results:** A 66% decrease in HAP incidence rates was noted across the Region: The rate decreased from 7.1/1000 to 2.4/1000 patient admissions between 2011 to 2016. Twice a day ambulation demonstrated a 138% increase in frequency from 2013 to 2016. During that time, an estimated 308 deaths were avoided and 22,944 patient days were saved by preventing 1648 HAP cases. This saved the organization approximately $72,640,704.

**Discussion:** Identifying patients at risk for HAP, providing standardized physician’s orders for prevention strategies, and facilitating documentation supported consistent and reliable bundle implementation and led to profound patient benefits. Other tools, such as a daily ambulation report, helped managers on medical/surgical/telemetry units recognize patients who did not have elements of the bundle in place.

**Conclusion:** A targeted multidisciplinary approach can significantly reduce HAP in acute care hospitals.

**From Northern California**

19. The Sacramento Medical Center Discharge Prescription Improvement Process

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**Introduction:** In June of 2016, the Morse Discharge Pharmacy was confronted with a number of complaints from patients and nursing staff regarding delays in discharging patients caused by delays in filling medication orders. Discharge medication orders for 30% to 40% of the patients were not processed within the regional standard of 1 hour.

**Methods:** The pharmacy team initiated an improvement project to track the time and the process to fill discharge medications. An updated Discharge Tracker Log Sheet was developed and officially implemented into the daily workflow on July 8, 2016. Prescription processing times for every hospital discharge were tracked and delays were documented. Common trends were identified and addressed with key stakeholders from various departments involved in the discharge process. Workflow challenges were acknowledged at the daily safety and operations briefings and resolved among the appropriate stakeholders. This process was implemented, repeated, and fine-tuned on a daily basis, resulting in significant and positive outcomes within the first month.

**Results:** Monthly average processing times for discharge medications ranged from 51 to 62 minutes per patient for the months of January 2016 through June 2016. Within the first month of implementing the improvement project, the monthly average processing time decreased to 34 minutes in July. By the third month, the average processing time was 28 minutes and each subsequent monthly average was maintained under 30 minutes. The percentage of discharge orders with processing times greater than 1 hour decreased from 30%-40% to 15% within the first month and was steadily maintained at ≤ 10% by the third Month.

**Discussion:** Pharmacy processing times were significantly reduced by identifying recurrent issues through the use of a simple tracking tool and promptly addressing them with key stakeholders. Note-worthy achievements and partnerships were established throughout the process with minimal cost impact on the department and high impact for patients.

**From Northern California**

20. Time is Brain: Redesigning Stroke Care at Kaiser Permanente Northern California

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**Introduction:** Stroke is the number one cause of adult disability. Reduction of time of arrival to the emergency room to administration of alteplase has been shown to reduce mortality and morbidity, and reduce poststroke disability. Endovascular stroke treatment has also been shown to dramatically improve outcomes in patients with large vessel occlusion in a time-sensitive manner, necessitating rapid identification of large vessel occlusion and rapid transfer after alteplase treatment. In 2015, Kaiser Permanente (KP) Northern California (KPN) redesigned acute stroke treatment at all 21 hospitals to facilitate very rapid alteplase treatment and rapid identification and transfer of patients for endovascular stroke therapy.

**Methods:** The stroke alert process was redesigned with the introduction of initial evaluation of all acute stroke patients by teleneurologists as well as significant workflow changes. Changes include prenotification of the teleneurologist, rapid assessment, immediate ordering of critical care ambulance service when a large vessel occlusion is suspected, ordering of alteplase before computed tomography, administration of alteplase in the scanner after a safety check, and performance of computed tomography angiogram immediately after starting intravenous alteplase infusion. Systematic simulation work in partnership with local Medical Centers completed the culture change required.

**Results:** After implementation, median door-to-needle time was reduced from 61 minutes to 39 minutes. The complication rate of symptomatic intracerebral hemorrhage is 4.2%, pre-implementation rate of 4.5%. National averages are 4% to 6%.

**Discussion:** KP leads the nation in stroke care. The national average for door-to-needle in 30 minutes or less is 17%; KPN was 63% for June 2017. All KPN Medical Centers have received the highest stroke award from the American Heart Association. Multiple patients have received alteplase with positive outcomes, enabling return to a fulfilling life vs years in a nursing home.
21. Rome was not Built in a Day: Creating a System of Support and Structure for Unit-Based Teams to Thrive

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In the workshop, “Rome was not built in a day,” participants learned how the Roseville Medical Center built a culture of continuous improvement through performance improvement and Unit-Based Team (UBT) integration, and how Redwood City Women’s Health Team drove frontline improvement. Roseville increased their percentage of high-performing UBTs (Levels 4 and 5) from 9% to 75%, by using 3 foundational interventions: 1) joint (The Permanente Medical Group and Kaiser Foundation Hospitals and Health Plan) senior leadership and frontline labor leader engagement, 2) strategy integration in partnership with the performance-improvement program, and 3) communication via visual boards.

Roseville used existing structures (Local Resource Network [LRN] and Labor Management Partnership [LMP] Steering Committee [LMPSC]) to create support for UBTs. LMPSC leaders “adopted” teams to assist struggling teams, and the LRN provided oversight to hold sponsors and teams accountable. “Super Sponsors,” labor and management high performers, are trained to coach targeted teams, and sponsor forums are held to help build trust among UBTs and to learn from one another across the service area.

Implementation of visual boards allowed teams to huddle daily or weekly without disrupting the work environment. Visual boards facilitated real-time problem solving, brainstorming, visual management, and communication flow.

Associate Improvement Advisor training was required of all Level 5 coleads, as was equipping frontline employees with tools to lead continuous improvement and to mentor other teams; training includes SMART goals, Rapid Improvement Model, and UBT Tracker.

Teamwork was key to improvement and to making patient care a priority. The Redwood City Team provided details of how communication within their UBT (including medical assistants and clinicians) drove improvement. Their primary goal was to have patients walk out the office feeling like they were family and knowing they had received exceptional care. The biggest improvement was their use of senior medical assistants to help both staff and patients. Senior medical assistants also helped with problem-solving and brainstorming new ideas. An additional key is how staff-led UBT and staff meetings helped implement ideas and achieve department goals.

22. Improvement is a Mindset, not a Department

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There is no such thing as perfect. Leaders are reminded of this daily: stoplight dashboards flash red on metrics not meeting goals, tightening margins call for greater affordability, and regulators visit often to scrutinize our safety. Although many of our regional offices and service areas have departments called “Performance Improvement” (PI) or “Quality Improvement” (QI), the responsibility to design systems that optimally deliver safe, affordable care does not reside with them alone.

In companies that are the best at continuously improving, employees from the frontline to the “C-suite” have a role in identifying and in addressing improvement opportunities. We are no different in Kaiser Permanente. Each of our unit-based teams is responsible for improving service, safety, quality, and affordability in their departments. Managers are responsible for leading improvement within or across multiple departments. Labor and management leaders serve as sponsors for larger, strategic initiatives.

The PI/QI boot camp was created for the emerging leader who is new to the world of improvement or who is seeking a refresher. It provides participants with basic concepts and tools to: Differentiate problems from symptoms, identify improvement opportunities, design systems around the patient, test system changes quickly using Plan-Do-Study-Act cycles, implement controls that make it easy to do the right thing (and hard to do the wrong thing), and use data to interpret variation and drive improvement.

Ultimately, it is incumbent upon all of us to understand these basics because PI and QI are not just departments; they are a state of mind. To learn more, contact your local PI leader.

23. Taking Total Joint Replacement Surgery and Care to the Next Level

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Introduction: With the evolution of new medical technologies, treatments, and care delivery models, both clinicians and patients frequently face the challenge of understanding and adopting the complex scientific evidence in the self-care or care delivery process. At Kaiser Permanente (KP), Total Joint Care Teams have been innovating and improving quality outcomes and affordability of care for years. Recent innovations have led to shifting total joint recovery from the hospital to home. Patients who are engaged in selecting their recovery pathway and are reliably given the care they need for years. Recent innovations have led to shifting total joint recovery from the hospital to home. Patients who are engaged in selecting their recovery pathway and are reliably given the care they need for years.

Methods: KP’s Total Joint Care Teams and leaders collaborate across the program in an innovative and methodical approach to spread the National Total Joint Replacement Initiative (NTJRI). At the national level, an interregional multidisciplinary team of clinical and administrative experts (eg, orthopedics, anesthesiology, perioperative nursing and management, performance improvement, analytics, and communications) collaborates to design, spread, and implement clinical improvement efforts. The following are some highlights of our approach: 1) ongoing evaluation of opportunities for improvement and a methodical process to address these opportunities; 2)
sharing of reliable performance data in a transparent and collaborative way; 3) systematic communication to support spread and to engage clinical teams; 4) carefully designed learning sessions to support each Region’s learning objectives; 5) applying performance improvement methodology.

Results: On the basis of regional feedback and performance data, the NTJRI team initiated several interventions: 1) developed a spread guidebook with successful practices; 2) completed a baseline analysis of patient and clinician satisfaction and shared results with KP Regions for appropriate actions; 3) created a methodology and tool to assist Regions in calculating the value of this program; and 4) incorporated shared decision making into care delivery practices.

Conclusion: The KP NTJRI leads a process that emphasizes a person-centered approach to care delivery to accelerate spread and adoption of successful practices at KP.

From Program Offices
24. To Spread or Not to Spread: That is the Question … That Evaluation Can Answer

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Introduction: Program evaluation informs decisions at each stage of Kaiser Permanente’s (KP’s) Accelerating Learning and Spread (XLS) model. The objective of this minicourse was to guide participants in using the right evaluation tools and methods at the right time to optimize KP programs and make evidence-informed decisions about scale and spread.

Methods: The Care Management Institute’s Evaluation team developed and shared a framework for Evaluation for XLS, informed by KP Colorado’s framework in a National Academy of Medicine discussion paper. The framework includes the “5 Rights” of program evaluation: Right People, Right Questions, Right Design, Right Data, and Right Analysis and Interpretation. We also designed an Evaluation for XLS Roadmap workbook and SharePoint site to guide participants in program evaluation planning and execution throughout a program’s life cycle.

Results: Using case studies involving recent KP Voh’s Awards winners, participants, ranging from improvement advisors, evaluators, researchers, analysts, program champions, and sponsors, worked in inter-role groups to apply the roadmap to common evaluation challenges. After course completion, participants were given the evaluation roadmap to continue strengthening their developmental or impact-evaluation efforts.

Discussion: Participants learned how to identify questions, methods, tools, and resources to help inform program optimization and decision making. Moving forward, courses that align evaluation methods with the XLS model will contribute to augmenting evaluation capacity at KP by ensuring widespread access to evaluation resources, consultation, and peer review within the organization. All minicourse materials can be found at: https://sites.sp.kp.org/teams/colqlt/XLS/SitePages/Learning%20and%20Evaluation.aspx.

From The Care Management Institute
25. Current State and Next Steps for Specialty Palliative Care

Wui-Leong Koh, MD; Daniel Johnson, MD, FAAHPM

Introduction: Despite growing evidence that demonstrates the many benefits of Specialty Palliative Care (SPC), access to high-quality, specialty-level support across inpatient and outpatient settings remains highly variable. Most Regions lack a standardized approach to the identification and assessment of seriously ill members with the highest risk of having unmet physical, emotional, practical, and/or spiritual needs. Even in Regions with more consistent access to SPC services, referrals to specialty support are variable and often late during the course of illness.

Methods: The SPC National Quality Initiative (NQI) aims to transform the way Kaiser Permanente delivers high-quality palliative care support. The National Permanente Quality Leadership, in partnership with the Care Management Institute and regional SPC Leadership, have created an initial roadmap to guide NQI design and implementation.

Results: To date, the National Permanente Quality Leadership has endorsed a six-step framework to facilitate the successful spread of high-quality, integrated SPC support: 1) invest in partnership; 2) agree upon high-risk patient population; 3) negotiate expectations, team staffing, and work flows; 4) incorporate standardized patient-family needs assessment; 5) triage and titrate support on the basis of needs; and 6) measure outcomes, learn, and spread. Initially, this framework will guide efforts to integrate SPC support for patients with serious cancer.

Discussion: The SPC NQI aims to ensure more systematic SPC support for high-risk populations. The NQI will accelerate interregional learning, scale, and spread by exposing SPC gaps and opportunities, driving investments in SPC services across settings, leveraging critical partnerships, and standardizing care delivery and quality measurement.