



# QUALITY

“We constantly innovate — thinking of new and better ways to care for our patients, mindful that the more time we can spend at the bedside caring for our patients’ minds, bodies, and spirits, the faster they will heal, ultimately leading to more affordable care that is accessible to everyone.”

**Marilyn Chow, Ph.D., RN, FAAN**  
Retired VP, National Patient Care Services  
Kaiser Foundation Hospitals and Health Plan

## ENHANCED RECOVERY AFTER SURGERY (ERAS)

Shirley Paulson, MPA, RN, Regional Clinical Practice Leader  
Members of the Northern California ERAS team

### Transforming Surgical Nursing Care

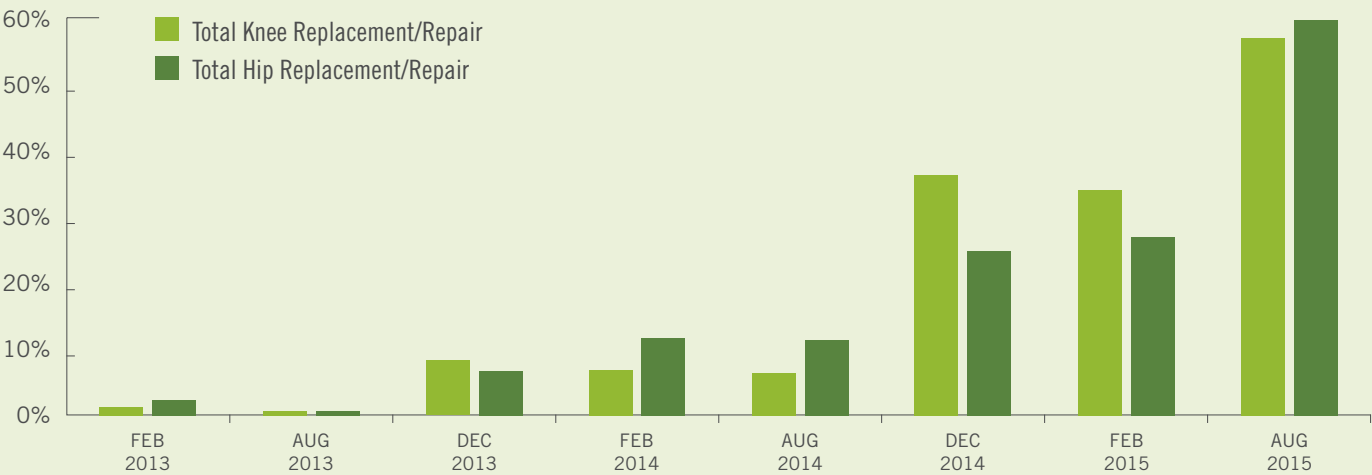
In 2014, we first implemented the Enhanced Recovery After Surgery (ERAS) program. Since then, more than 15,480 patients have experienced the program. The primary principles of ERAS are to use multimodal analgesia, encourage early mobilization, maintain adequate nutrition, and promote active patient participation in their care. Through ERAS, we have implemented evidence-based practices that can reduce surgical complications and improve the patient experience of surgery.

#### Multimodal Analgesia

We continue to increase the use of multimodal analgesia that includes intravenous acetaminophen, non-steroidal anti-inflammatory medications, and local nerve blocks. This augments the need for high-dose opioids in post-operative pain management. Overall, we have seen a 33 percent decrease in opioid use without worsening patient-reported pain levels.



Use of Multimodal Analgesia



ERAS is designed to...

-  Minimize Opioids
-  Feed Early
-  Walk Early

Getting Up and Moving

We have found that many patients can be alert, fed, and ready to walk around within 12 hours post-operatively. This is true even after hip fracture repair or total joint replacement surgery. We now encourage early and sustained ambulation for a larger population of our surgical patients. This has helped us achieve a 15 percent reduction in post-operative complications after a surgical procedure. Patient length of stay has also decreased considerably.

Spreading Across the Region

After being successfully introduced in 2014, ERAS principles are now provided to many surgical patients as part of their plan of care. We continue to expand the surgical procedures included in the ERAS program, as well as the number of sites implementing the care pathway. In our total hip replacement and total knee replacement patients, the outcomes have been positive. We have fewer hip fracture patients discharged to long-term care, and have seen no increase in readmissions during the past two years.

Use of Local Experts

We asked expert clinicians and operational leaders across a variety of disciplines to help create ERAS. Facilitated by our regional business consultants, these subject matter experts developed clinical protocols and pathways to meet the program’s goals. Medical center leadership has given significant input as well. Every ERAS unit is able to customize the program to their specialty, while staying aligned to the overall principles.

ERAS Mentors

We designated ERAS Mentors to act as resources to the medical centers. This was critical to our success. ERAS mentors are registered nurses who are trained in performance improvement. They coach local teams at the point of care. As the program continues to evolve, we are adapting our people, infrastructure, and processes to help meet the goal of enhanced recovery.

Lawrence Safety Award

We are pleased to announce that the ERAS team received the 2016 David M. Lawrence Patient Safety Award. This was in recognition of the project’s impact in improving the safety of care for patients, and for accelerating the rate and scope of patient safety improvements at Kaiser Permanente. This prestigious award is a reminder that our collective efforts can help transform the organization. Together, we are changing the face of surgical care in nursing practice.



THE ERAS TEAM RECEIVED THE 2016 DAVID M. LAWRENCE PATIENT SAFETY AWARD



15,480+ ERAS PATIENTS SINCE 2014

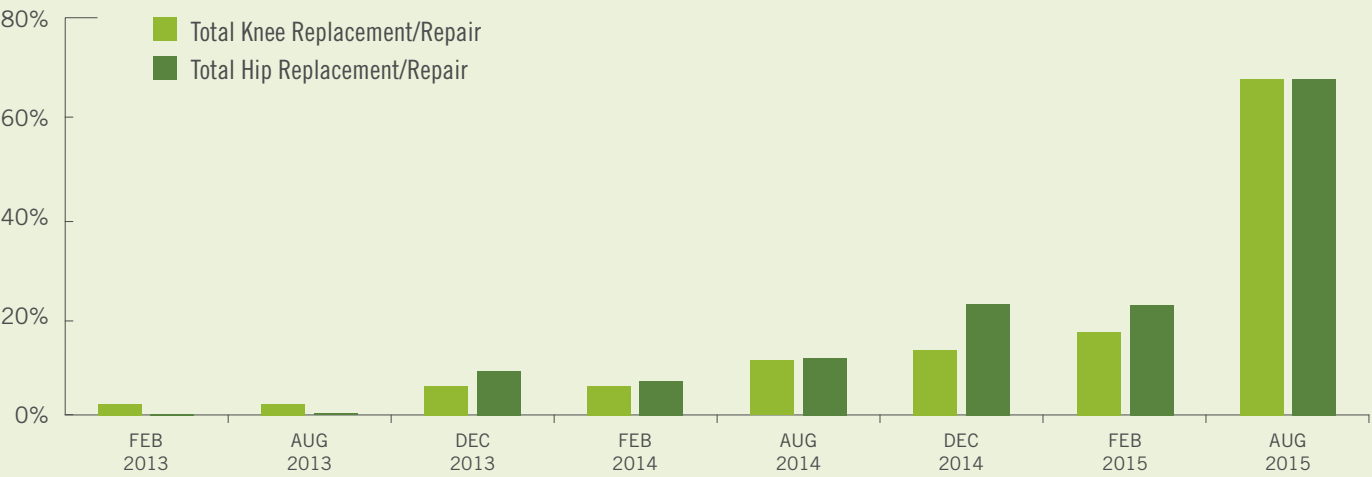


33% DECREASE IN OPIOID USE WITH NO CHANGE IN PAIN LEVELS

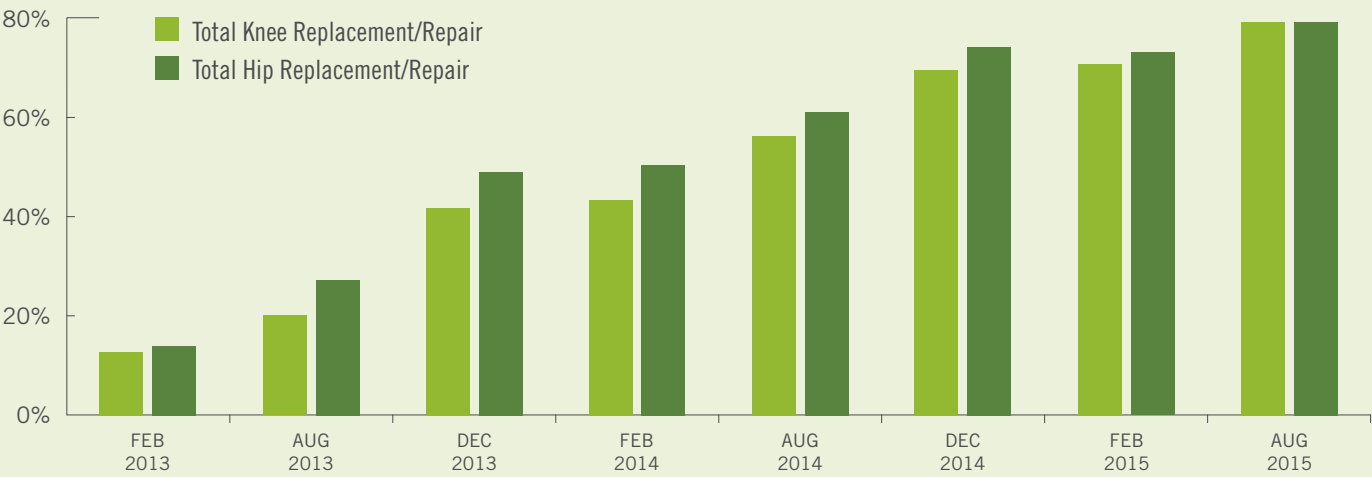


15% DECREASE IN POST-OPERATIVE COMPLICATIONS

First Ambulation in 12 Hours



Sustained Ambulation





# ADVANCE ALERT MONITOR (AAM)

Marilyn Mahugh, MSN, RN, Regional Director Clinical Adult Services  
Shirley Paulson, MPA, RN, Regional Clinical Practice Leader

## Saving Lives Through “Big-data” Innovation

### Preliminary Data Shows Positive Trends



INPATIENT MORTALITY  
REDUCTION



HOSPITAL LENGTH OF  
STAY REDUCTION



ICU LENGTH OF  
STAY REDUCTION



To help save lives and reduce inpatient mortality, Kaiser Permanente Northern California is implementing an early warning system called Advance Alert Monitor (AAM). Since 2013, the Kaiser Permanente Northern California Division of Research has pilot-tested AAM. Our South San Francisco medical center was the first site to pilot-test AAM, followed by Sacramento medical center. As of January 2017, AAM is active at four medical centers in Northern California.

### What is AAM?

AAM is a statistical tool that proactively identifies Medical Surgical inpatients with a high likelihood of clinical deterioration. Built on recent data, AAM leverages information from over 650,000 Kaiser Permanente patients. Sudden clinical deterioration can result in the activation of a Rapid Response Team or a Code Blue. Both have uncertain outcomes. Every hour, AAM analyzes a patient’s electronic health record data. An advanced algorithm produces a score that identifies those patients who are at risk for deterioration in the next 12 hours, thus giving clinicians plenty of lead-time to prepare a response. The score is based on more than 62 separate factors, including multiple lab values, nursing assessment data (vital signs, neurological status, pulse oximetry), and patient demographics.

### eHospital

In 2014 we also developed an off-site command center known as eHospital Safety Net. This site is staffed by Northern California regional quality registered nurses (RNs) in either a quality consultant or a practice consultant role. Originally, these nurses supported inpatient practice through quality audits of KP HealthConnect. Now, eHospital nurses support AAM as well.

When a patient’s AAM score is above the defined threshold, KP HealthConnect automatically notifies a RN at eHospital with an early warning alert. Next, the eHospital RN reviews this clinical data with a rapid response team RN at the local medical center. These two RNs



collaborate with the larger clinical care team to review the plan of care for the patient. Sometimes, the plan of care is updated to address early changes in the patient’s condition.

### Early Warning Saves Lives

To date, AAM data reflects a significant trend in reducing the likelihood of rapid patient deterioration. Preliminary results demonstrate a reduction in inpatient mortality when AAM is used. Hospital length of stay has decreased and intensive care unit length of stay has decreased as well. By using technology as an essential resource, we can work to optimize care and care delivery.

### Validating Nursing Intuition

As registered nurses, we trust our skills, experience, and intuition to tell us when a patient is in danger. Using AAM in our daily work will allow us to validate and support our health care intuition, and provide actionable data that we use with the clinical care team. Having hard data can change the conversation about a patient who may be in danger, and empowers nurses and fellow clinicians to take action sooner.

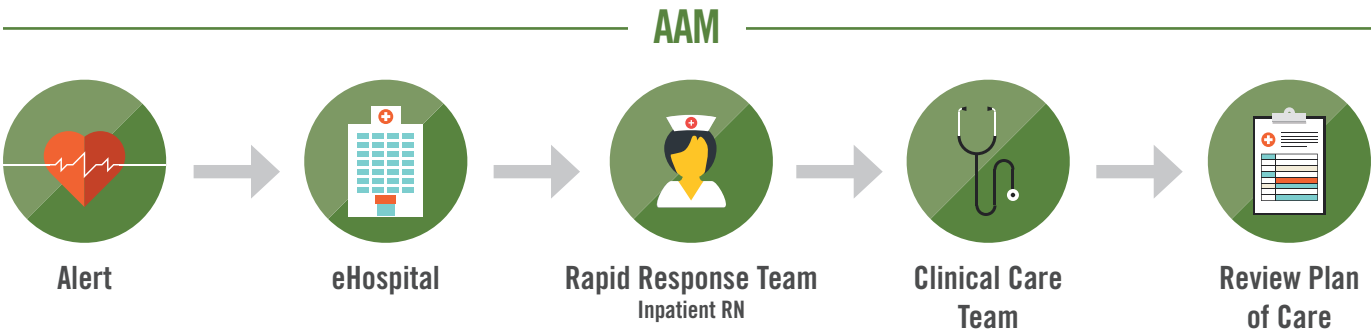
AAM continues to move forward as data is gathered and analyzed from the 4 pilot medical centers. We will work to further refine and develop this system in the coming year.



4 PILOT MEDICAL CENTERS



BASED ON DATA FROM MORE  
THAN 650,000 KAISER  
PERMANENTE PATIENTS



# PROMOTING BREAST MILK FEEDING

Lisa Cowan, DNP, RN, Regional Director Maternal Child Health

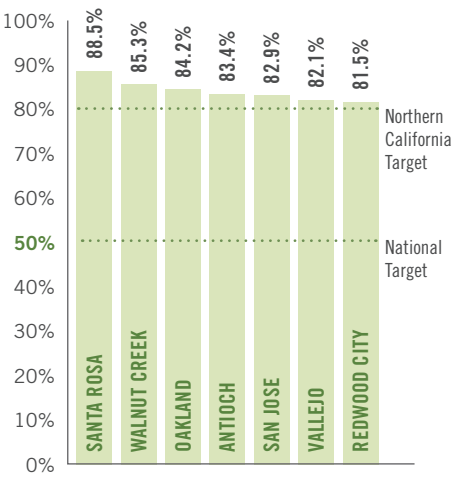
## Improving Outcomes for Moms and Babies



### PC-05 EXCLUSIVE BREAST MILK FEEDING

National Target	50%
Northern California Target	80%

### REGIONAL LEADERS IN PC-05



Kaiser Permanente’s vision for maternity care is to be the provider of choice for maternal and newborn health in the United States. We recognize that childbirth is a major life event. By providing exceptional maternal and newborn care, we help create excellent outcomes and life-long memories. Through interdisciplinary team collaboration, we promote perinatal safety, and we excel on key national indicators of care quality.

### Benefits to Mom and Baby

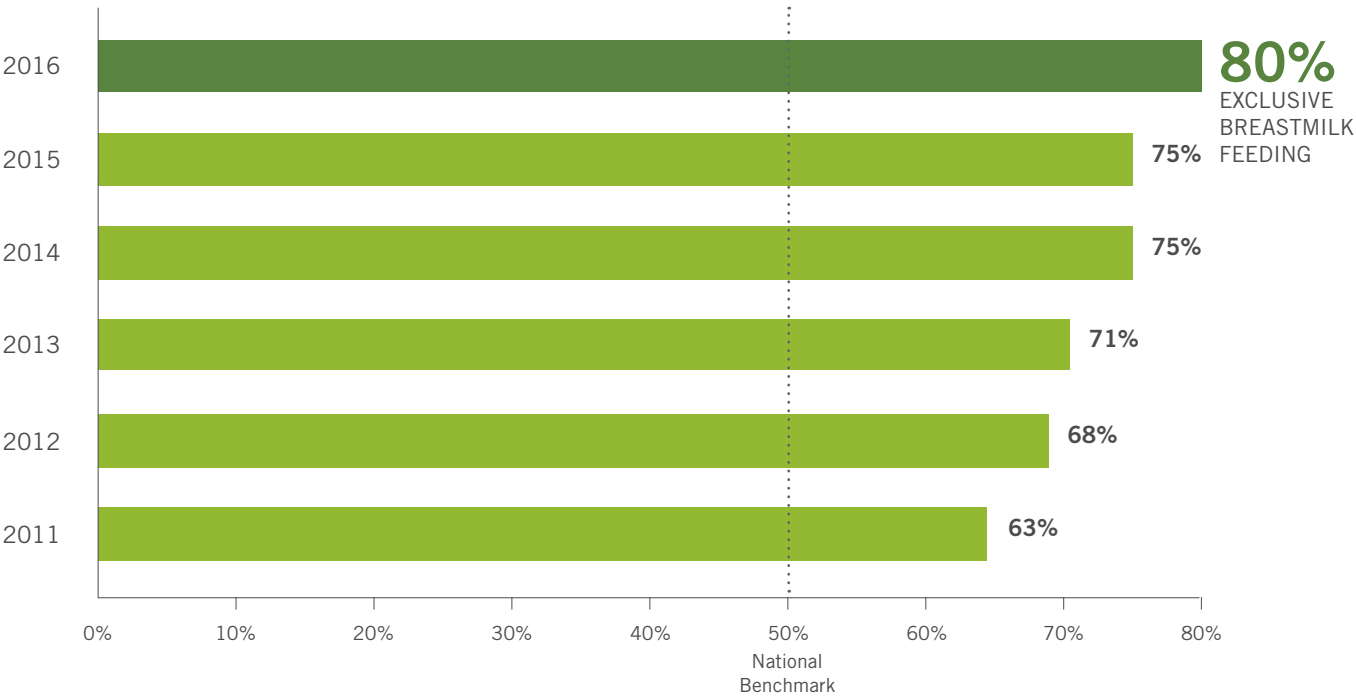
Breast milk contains antibodies to prevent bacterial and viral infections in the first few months of life. It may lower the risk of asthma, allergies, diabetes, obesity, and sudden infant death syndrome (SIDS). There are many maternal benefits linked to breastfeeding as well, including: (1) decrease in blood loss postpartum; (2) promotion of postpartum weight loss; (3) decrease in the risk of breast, uterine and ovarian cancers; and (4) prevention of osteoporosis. Equally significant, breast milk feeding fosters maternal and newborn attachment with skin-to-skin contact.

### Joint Commission Measure

Joint Commission Exclusive Breast Milk Feeding (PC-05) is a publically-reported national quality measure. PC-05 looks at what percentage of newborns are breastfed exclusively from birth. This measure only looks at mothers who have the choice to breastfeed or not breastfeed. More than half of all Joint Commission accredited hospitals fall below the national benchmark of at least 50 percent exclusive breastfeeding. Our current rate of more than 80 percent exclusive breast milk feeding is a proud accomplishment for the Northern California region.

**BREAST MILK FEEDING  
FOSTERS MATERNAL AND  
NEWBORN ATTACHMENT**

## PC-05 Q1 2016 Reported Scores for Kaiser Permanente Northern California



### Integrated Health Approach

Kaiser Permanente’s nurses and physicians recognize the significance of promoting and supporting breastfeeding efforts for our new mothers and babies. Kaiser Permanente provides lactation education and consultation prior to delivery during the perinatal period. We support mothers and babies during the immediate postpartum period, as well as in the outpatient setting once they are discharged from the hospital. This coordinated effort across our integrated health care system is a reflection of our team approach to care delivery. As a regional interdisciplinary team, our clinicians continue to work together to improve breastfeeding efforts during the first six months to promote wellness as the infant grows and develops.

**BREAST MILK CONTAINS  
ANTIBODIES TO PREVENT  
BACTERIAL AND VIRAL  
INFECTIONS IN THE FIRST  
FEW MONTHS OF LIFE**