

Robert Wood Johnson Foundation Payment Reform Evaluation Project

California Maternity Episode Bundled Payment

Pacific Business Group on Health

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Introduction and Context

The California Maternity Episode Bundled Payment Project (henceforth, “the Maternity Project” or “Project”) is being implemented in a health care economy that is changing rapidly, both nationally and within the state of California. The widespread national movement toward accountable care organizations (ACOs), value-based payment, and patient-centered care has stimulated experimentation by providers, purchasers, and health plans with new models for payment: changing from fee for service (FFS), volume-driven payment models toward shared savings, bundled payment based on episodes of care, and various forms of global payment, including risk-adjusted capitation, one-sided and two-sided risk models in ACOs (both in commercial health insurance and Medicare)¹.

Approximately one-third of births in the nation are delivered by cesarean section (C-section), significantly greater than the clinically recommended maximum of 15 percent². C-section delivery rates in California have risen dramatically, from 22 to 33 percent between 1998 and 2008, with rates as high as 80 percent in some hospitals³. Increasing numbers of primary (first birth) C-sections, repeat C-sections, and early elective deliveries (pre-term, at or before 39 weeks) among healthy women when they are not necessarily medically indicated lead to more complications for the mother and baby. Average total costs of care for mother and newborn with cesarean births in 2010 were approximately 50 percent higher than for normal vaginal delivery for commercially insured persons (\$27,866 and \$18,329, respectively)⁴. Although roughly 90 percent of women with a prior C-section have subsequent deliveries by C-section, generally those women are able to safely undergo normal vaginal deliveries (VBACs) in subsequent births⁵. Several potential complications arise from C-sections, and are more likely with subsequent C-section. These include infections and hemorrhage, the two most frequent reasons for readmission after delivery. Risks from early elective deliveries also are significant and include sepsis, respiratory distress, hypoglycemia, and feeding problems⁶. In sum, the evidence illustrates substantial adverse economic and clinical consequences of inappropriate C-sections and early elective deliveries

¹ Conrad D, Grembowski D, Hernandez SE, Lau B, Marcus-Smith M. Emerging Lessons from Regional and State Innovation in Value-Based Payment Reform. *The Milbank Quarterly*. 2014 (September).

² Main E, Morton C, Hopkins D, Giuliani G, Melsop K, and Gould J. (2011). “Cesarean Deliveries, Outcomes, and Opportunities for Change in California: Toward a Public Agenda for Maternity Care Safety and Quality.” Palo Alto, CA: CMQCC. Available at: <https://www.cmqcc.org/resources/2079>

³ California State Innovation Model (SIM) Maternity Care Initiative: Frequently Asked Questions (FAQ). http://www.chhs.ca.gov/PRI/_Calpercent20SIMpercent20Maternitypercent20FAQpercent20Aprilpercent202014.pdf Accessed June 19, 2014.

⁴ Truven Health Analytics. *The Cost of Having a Baby in the United States*. 2013 (January); Greenwood Village, CO. <http://transform.childbirthconnection.org/wp-content/uploads/2013/01/Cost-of-Having-a-Baby1.pdf> Accessed June 19, 2014

⁵ Centers for Medicare & Medicaid Services (CMS). (2012). “Reducing Early Elective Deliveries in Medicaid and CHIP.” Available at: <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Quality-of-Care/Downloads/EED-Brief.pdf>

⁶ Main E, Morton C, Hopkins D, Giuliani G, Melsop K, and Gould J. (2011). Op Cit.

(EEDs). To reinforce this point, maternity care is the leading component of spending for Medi-Cal and commercial payers in California⁷.

In California, ACOs are moving toward a three-pronged payment approach that combines (1) negotiated FFS reimbursement directly to providers and practices; (2) a care management payment per member per month (PMPM) to the integrated medical group or independent practice association (IPA); and (3) shared savings divided between the ACO and health plan based on a pre-negotiated health care spending target⁸.

Health maintenance organizations (HMOs) and capitated payment models dominate California's insurance market: the most recent California Health Care Almanac, based on year-end 2013 data, showed Kaiser with a 42 percent share of total private insurance enrollment in California, and other HMO plans leading the commercially insured market (Anthem Blue Cross, California Blue Shield, Health Net, United, Aetna, LA Care, and Cigna collectively accounting for 39 percent of total commercially insured enrollment). Large employers account for the lion's share of private insurance in California, and 79 percent of large group enrollment in 2013 was in HMOs.⁹

Regulatory requirements facing organizations seeking to forge two-sided risk models implicitly encourage ACOs and physician organizations to move cautiously, but this caution is counterbalanced by increasing pressures from large employers (e.g., Disney, Qualcomm) for premium cost containment and for payment models that align provider financial incentives with efficiency, as well as improved quality of care and patient outcomes. These market forces – exemplified by the actions of the Pacific Business Group on Health (PBGH) and the Silicon Valley Forum – have played an important role in building support for the Project.

As of June 2014, the expansion of the state's Medicaid program (Medi-Cal) resulted in 2.8 million new managed care enrollees (a 58 percent increase in 18 months).¹⁰ Given that roughly half of California's births are to mothers receiving Medicaid, this adds further support for the Project by aligning public payment with private sector incentives for cost containment¹¹. CMQCC leadership is working directly with Medi-Cal.

⁷ <http://www.hcup-us.ahrq.gov/reports/statbriefs/sb160.jsp> Accessed August 4, 2015.

⁸ Robinson JC. Accountable Care Organizations for PPO Patients: Challenge and Opportunity for PPO Patients: White Paper. Integrated Health Care Association. Oakland, CA: 2011.

⁹ See "The Private Insurance Market in California." <http://www.chcf.org/publications/2015/02/data-viz-health-plans>

¹⁰ Ibid, p.2.

¹¹ One of the concepts in the California proposal for renewal of its 1115 waiver is a global payment approach that provides federal flexibility to integrate Medicaid DSH and Safety Net Care Pool funding. The funding pool could be structured as a bundled payment for an episode of care. See: Concepts for California's Next Medicaid Waiver Renewal July 2014.

http://www.dhcs.ca.gov/provgovpart/Documents/Waiver%20Renewal/Initial_Concepts_for_2015_Waiver-July_2014.pdf Accessed July 10, 2014.

Notwithstanding the historically strong HMO plan and capitated payment presence in California, distinctive payment contracting in California has been slowed somewhat by the shift of management of two major insurers in California to outside the state: PacifiCare (acquired by United Health Group) and Anthem Blue Cross of California (now managed from Anthem Blue Cross corporate headquarters in Indiana). The earlier paper by Robinson (2011) noted increased provider leverage over health plans: “Although many medical groups remain enthusiastic about the delegated model, some perceive opportunities in the current health care environment to achieve higher incomes by switching to fee-for-service payment. The erosion of the delegated model in California, in which health plans transfer much of the population health risk to provider organizations, may have important implications for health care spending trends in the state, and for federal efforts to develop new provider payment mechanisms that include elements of capitation.¹²” In this environment, the opportunity to implement reimbursement models based on bundled, episode of care payment allows payers and providers to move toward value-based payment while mitigating some of the regulatory and risk-bearing challenges facing global payment tied to capitation. Implementation of the Affordable Care Act (ACA) has created greater acceptance by providers of value-based payment (VBP) models, including ACOs and bundled payment. In particular, hospitals are aligning with physician groups, which have embraced capitation and more recently the ACO construct as a means for developing VBP with PPO plans.

In a surprise to several Project stakeholders, California did not receive funding for its State Innovation Model (SIM) Test grant application to the Center for Medicare and Medicaid Innovation (CMMI). Elements of the PBGH Project on maternity care were a major part of that proposed initiative. While smaller scale maternity care activities are proceeding in the absence of the large grant, one interviewee described these efforts as “SIM-lite.”

The aforementioned national and state market forces shape the regulatory, organizational, and economic environment for provider payment innovation in California, including the design and implementation of the maternity care bundled payment that is the subject of this report.

Stakeholders. Spurred by the documented shortcomings and adverse trends in maternity care in California, the PBGH convened a multi-stakeholder, public-private coalition to tackle the principal factors underlying the rising costs of births and the failure to improve quality: lack of positive incentives to providers for appropriate care; absence of a best practice culture that deters medically unnecessary interventions in birthing and delivery; limited adoption of clinical registries with physician-level actionable data, and gaps in patient education regarding options for safe and effective delivery¹³. The following major stakeholders are cooperating in the Project:

¹² Robinson (2011).

¹³ Chenok K. California Maternity Episode Bundled Payment: Proposal Narrative. Proposal ID 9375: Submitted to Robert Wood Johnson Foundation: Payment Reform Strategies for High Value Care. Project Period: May 15, 2012 – May 14, 2015,

- PBGH, headquartered in San Francisco, is a not-for-profit coalition of 60 member companies which together offer employer-sponsored health insurance to approximately 10 million persons and their dependents. It serves as Project lead and manages collaboration with participating health insurers, provider organizations (principally hospitals and physician organizations), and consumer organizations. The coalition will summarize the learnings from this initiative and will disseminate the results of the practices which have successfully implemented maternity payment reform.
- Three quality improvement (QI) organizations are directly involved:
 - Cynosure Health's primary role in this project is-was to link hospital and physician leaders in an effort to identify early adopters of the maternity bundled payment. It also contributed technical assistance to payment bundle design and assisted with the clinical measurement and political aspects of implementing the payment strategy. Cynosure assisted PBGH in brokering relationships with potential new hospital and physician group participants over the life of the Project.
 - The Integrated Health Care Association (IHA) convened stakeholders and clinical experts to develop episode definitions of the maternity bundle and also runs a parallel project sponsored by the Agency for Health care Research and Quality (AHRQ) to develop bundled payment models for 10 different conditions, including maternity care. IHA developed two bundled episode payment definitions: (1) a single, blended case rate (identical whether the delivery is vaginal or C-section) for all facility and professional services delivered during a woman's hospitalization for labor and delivery (including postpartum complications within 60 days of delivery; (2) a single, blended case rate for all facility and professional services delivered during a woman's pregnancy, labor, and delivery, including care following delivery and services related to complications and including readmissions¹⁴. IHA has incorporated maternity metrics in its Value Based Pay for Performance Program for physician organizations¹⁵.
 - The California Maternal Quality Care Collaborative (CMQCC) has provided clinical expertise on bundle design and clinical work flows, and has developed a variety of toolkits for management of maternal labor and delivery and related complications of childbirth. It manages the California Maternal Data Center, which is the backbone of the maternal quality data infrastructure and which provides an on-line tool that produces rapid-cycle maternal quality performance metrics¹⁶.

¹⁴ See the following:

http://iha.org/pdfs_documents/bundled_payment/Maternity_Comprehensive_Definition.pdf
 Accessed July 10, 2014

¹⁵ California State Innovation Model Initiative: Maternity Care Initiative for Health Plans and Hospitals. Working Draft (public information): April 10, 2014.

<http://www.chhs.ca.gov/PRI/CalSIMpercent20Maternitypercent20Initiativepercent20WriteUpperpercent20Aprilpercent202014.pdf> Accessed June 22, 2014.

¹⁶ California Maternal Data Center (CMDc). https://www.cmqqc.org/california_maternal_data_center_cmdc
 Accessed on June 21, 2014.

- California Blue Shield, Aetna, and CIGNA. Aetna and Blue Shield are piloting the maternity care case rate in four hospitals and medical groups in 2015. CIGNA attempted to negotiate agreements with two hospitals and their affiliated medical groups. However, While CIGNA has not concluded an agreement, but it has been an important player in development of blended case rates and value-based payment for maternity care. Medi-Cal is not yet participating in the Project, but is observing implementation and participated in the (ultimately not funded) State Innovation Model (CalSIM) Maternity Care Initiative, which would have expanded the reach of blended bundled payment at the same rate for C-sections and normal deliveries. Payer scrutiny is a critically important market force in maternity care, as health plans seek to reduce unnecessary C-sections, lower inpatient length of stay, and reduce cost per discharge¹⁷.

Patients and consumer organizations are increasingly significant in the Project, as the provider organizations reach out to women in the community through patient education materials, e.g., newsletters touching on maternity care, a “Waiting for Baby” video. Within a successful ACO collaboration between the hospital, a major medical group, and a health plan, one organization has fashioned a personalized patient education web portal.

Project Objective

The Project’s objective is to reduce the rate of non-clinically-indicated C-sections for low-risk first births (nulliparous¹⁸ term singleton vertex) over three years and to achieve healthier maternal and infant health outcomes. The Project is deploying three levers to achieve its objectives: (1) an innovative blended case rate payment redesign; (2) information support from the California Maternity Data Center, underpinned by data transparency; and (3) targeted QI support. Widespread implementation of the approach throughout all of California’s health care delivery systems is intended to reduce unwarranted variation in C-sections across the state, and is expected to result in better health outcomes for patients and their newborns and lower health care costs¹⁹. The deployment of the aforementioned three levers requires improved documentation, data management, and analytics. The stated Project objective does not explicitly highlight health care cost reduction and places more emphasis on quality and outcomes improvement, but containing cost was mentioned as an objective by provider organizations, QIOs, and health plans.

¹⁷ Main E, Murphy B. A rational approach to reducing first-birth (NTSV) Cesarean birth rates. Presentation at Mother’s Day Teleconference: Innovations in Maternal Health. Webinar convened by PBGH and CMQCC, with support from AcademyHealth and the Robert Wood Johnson Foundation (May 11, 2015).

¹⁸ More technically, “nulliparous” is the medical term for a woman who has never given birth to a viable, or live, infant. See womenshealth.about.com (updated November 25, 2014). Accessed May 25, 2015

¹⁹ This statement reflects the UW project team’s inference of the Project objective, as stated in the original proposal to RWJF and revised based on suggestions received from several interviewees.

Approach

Payment Model. The core of the Project strategy is a “blended case rate” payment model, which combines a blended case rate for the hospital with a separate blended case rate for the physician organization. The blend for the hospital case rate is based on the targeted proportion of deliveries by C-section and the proportion of normal vaginal deliveries; the weights are then multiplied by the case rate for each type of delivery. The hospital blended case rate includes all hospital facility and related professional services for the inpatient birth and delivery. The payment to the physician organization is a single blended case rate for all professional services provided during the inpatient delivery, irrespective of whether the delivery is normal vaginal birth or C-section. This is the general payment approach adopted by the two participating insurers, but there are refinements in its implementation at each hospital and affiliated medical group:

- (1) One hospital and one of its major payers crafted separate blended case rates for the hospital and the OB/Gyn physician group. The hospital has had an agreement in place since July 2014. Our understanding is that for both hospital and medical group, the case rate was weighted at the group’s and hospital’s current C-section/vaginal delivery rates to give them an incentive to reduce the C-section rate without reducing their overall reimbursement, resulting in a higher overall reimbursement for vaginal deliveries. For the hospital and one health plan’s blended case rate, there is a stop-loss clause that allows per diem payments for outlier cases. The six-physician OB/Gyn group is paid a separate “incentivized rate,” which translates into a blended rate that covers all maternal care from the first prenatal visit through six weeks post-partum care. While the blended payment for the hospital includes all the plan’s HMO and PPO lives, the OB/Gyn group blended case rate applies only to the plan’s PPO enrollees.
- (2) A health system and its three hospitals providing maternity care have agreed to payment redesign with another major payer. They have adopted the blended case rate for maternity care for the hospital. The bundled payment for the hospital is computed as a blended case rate with an assumed percentage shift of cases from C-section to normal delivery. The assumed case shift percentage used in this calculation can vary by hospital and depends upon the hospital’s current C-section rate compared to the market average. The plan’s payment model with the system’s affiliated OB/Gyn group(s) currently focuses on pay for performance (P4P) incentives, based on a package of measures of patient safety, clinical efficiency, network efficiency, and quality. These metrics are based on 2-3 years of experience and reward improvement over time. Most of the system’s affiliated medical group’s covered lives are in HMOs -- paid on capitation-- and thus not subject to bundled payment.
- (3) Another health system and its four hospitals and affiliated OB/Gyn physician group are exploring the blended case rate for maternity with three interested payers.

Delivery System Reform. As a complement to facilitating maternity care bundled payment development and technical assistance, the project is supporting QI programs for hospitals and medical groups, “... to

align the culture of labor and delivery with medically appropriate practices,²⁰ as well as patient engagement and education regarding safe and effective birthing. With data support and consultation from CMQCC, the hospitals and medical groups are free to develop their own QI programs; the project is not prescribing a common QI intervention for all health care partnerships.

CMQCC has played a major role in maternity care QI. One of the CMQCC's most effective strategies is the deployment of the Maternal Data Center (MDC) at hospitals. This data deployment is complementary to QI activities. Hospitals can submit data to the MDC without participating explicitly in CMQCC-led or other QI initiatives. In fact, the MDC and QI work of CMQCC can be viewed as separate arms of the Project. The MDC provides accurate, timely and relevant maternity data to hospitals on an array of key metrics. By combining birth certificate and Office of State Health Planning and Development (OSHPD) data, the MDC captures roughly 50 percent of all births in California.

In addition to the MDC, the CMQCC provides expert-driven technical assistance and training. Given the wide variation in primary C-section rates throughout the state (from 10 to 76 percent²¹), the training emphasizes examining C-section rates (especially for first births) in order to identify opportunities for improvement. The analysis focuses on root causes of the variation: the management of labor by the doctors and nurses, induced labor, or no labor, respectively, with the MDC allowing stratified analysis by hospital and by provider. The CMQCC clinical leaders meet with clinicians and hospital leadership, and present at Grand Rounds as means of conveying the QI message and sharing data. Targeted interventions are also designed for nurses, in recognition of their major role in effecting change in the management of labor and delivery.

As part of its QI efforts, CMQCC has developed a labor management recommendation that aims to simplify and standardize the care processes for physicians and nurses. This requires working with nursing staff to improve understanding of the new guidelines, retraining, and involving nurse leadership. Using un-blinded data to show within-hospital variation across physicians has really captured attention: in one hospital C-section rates by physician ranged from 16-50 percent. A critical feature in the push to reduce inappropriate C-sections is the use of balancing measures to address the concern that lengthier labors in normal vaginal deliveries might result in poorer fetal outcomes. To this end, the MDC tracks a National Quality Forum (NQF) endorsed metric, unexpected newborn complications, at the OB/Gyn department level each month.

Public education is underway regarding appropriate maternity care and C-sections. For example, an infographic released by California Health Care Foundation (CHCF) in November 2014 showed the wide variation between high-performing and low-performing hospitals on four birthing measures: (1) rate of low-risk C-sections (19 percent vs. 56percent); (2) rate of episiotomy, which makes more space for the

²⁰ Op cit. Annual Progress report to RWJF, p. 1

²¹ CMQCC. A rational approach to reducing first-birth (NTSV) Cesarean birth rates. (2013 data)

baby's birth, but which could lead to complications for the mother (2percent vs. 46 percent); (3) exclusively breastfeeding before hospital discharge, which benefits baby and mother (88 percent vs. 19 percent); (4) vaginal birth after C-section (27 percent versus one percent)²².

The development of quality improvement targets for maternity care in the California State Innovation Model (CalSIM) proposal was an important ingredient within redesign of the birthing and delivery process. As mentioned earlier, CMMI's decision not to fund CalSIM was a setback for the PBGH maternity Project since the initiative explicitly included the blended case rate piloted in the PBGH-sponsored Maternity Project as one of its four priority areas. Nonetheless, momentum continues with the efforts of IHA, CHCF, and Hospital Quality Institute (HQI) to spread maternity care QI statewide.

One of the participating payers collaborated with the March of Dimes to issue a request for information (RFI), identifying whether the hospital had policies and procedures in place to prevent early elective deliveries. As a result of the stimulus from the RFI, one of the health systems was able to achieve designation as an organization with such best practices and to participate as part of the health plan's P4P program.

One participating hospital noted that its ACO has created the foundation for maternity care redesign. Specifically, its maternity QI activities have centered on reducing variation in how inductions and C-sections are scheduled, how patients are educated during their pregnancy (whether in person or through a web-based portal), and completely eliminating early elective deliveries. In optimizing and standardizing care, the hospital is standardizing order sets, clinical pathways, computerized physician order entry, and the emergency room admission and care of OB patients. As a result of this standardization and optimization, one interviewee reported that VBACs have increased from 4.9 to 15 percent and inductions have declined to 10 percent of births. The same hospital replaced their prior hospitalist OB group in early 2015 -- working with a new laborist group, "... to raise the bar for delivery of care and integration of care for the hospitalized patient, probably moving more toward standardization and evidence-based (care)."

Even within a single health system, hospitals vary widely in their birthing and delivery models: one hospital has a large independent group that takes call, whereas the OB/Gyn physicians in the hospital's medical foundation model deploy two physicians and a midwife as the delivery team in the hospital for 24 hours, and has rearranged call with a mandatory report and handoff each morning. Another hospital in that system has formed a laborist program, in which other physicians can sign out to the laborist group. The same system interviewee observed that the most significant change in the past year has been joining the Maternity Data Center, which has resulted in quarterly real time data, attributable to

²² California Health Care Foundation (CHCF) Infographic, November 2014. (Presented as part of the Mother's Day Teleconference.

the individual provider, and which can be acted on prior to public reporting. The new, high-quality data allows cost and care pattern comparisons among individual providers.

Tracking Measures. The principal indicator being tracked in the Project at present is the primary NTSV C-section rate (i.e., among mothers with no prior C-section). To understand the major drivers of C-section rates overall, CMQCC also tracks two other subpopulations among primary C-sections, but not as explicit Project outcome objectives: (1) multiparous term singleton vertex births (MTSV), i.e., among mothers previously having given birth to a live, viable infant); (2) pre-term, multiple, or non-vertex births. These measures are tracked at three measurement levels: the individual hospital level, for all community neonatal ICUs (NICUs), and statewide.

In turn, the NTSV C-section (CS) rate is subdivided at the same measurement levels into three mutually exclusive subpopulations: (1) spontaneous labor resulting in CS; (2) induced labor resulting in CS; (3) CS with no labor²³. The balancing measure of unexpected newborn complications is also an important tracking metric for attending to potential adverse consequences.

In addition to measures related to NTSV CS rates, the Project also tracks the rate of vaginal births after C-section (VBACs) and early (pre-term) elective deliveries.

In contrast to the QI data measures, the episode of care cost metrics are not yet available. In that sense, the quality improvement data effort seems to be considerably ahead of the payment and cost analysis in the four hospitals currently participating in the blended case rates. Direct reporting of MDC data to hospitals can avoid lags in health plan-supplied data on cost and utilization due to incurred but not reported claims.

Logic Model

In this “virtual” project, characterized by a geographically dispersed and diverse array of key stakeholders (purchasers, health plans, hospitals, health systems, physician organizations, and QI entities), a single logic model -- describing the order and chain of events or processes expected to achieve ultimate project objectives – did not emerge from our interviews or document review, nor was such uniformity expected. However, there was convergence among our interviewees on several common elements:

- Reliable and timely quality and outcomes data infrastructure, exemplified by the MDC, is a crucial antecedent to maternity care payment reform, in that it provides credible and actionable clinical data to physicians and hospitals for organizing their QI programs. Such data secure the attention of clinicians and empowers their design and execution of best practices in birthing and delivery. The data displays allow blinded and un-blinded comparisons among hospitals and physicians and create a “burning platform” to elicit improvements in documentation and care practices. The ability to

²³ Slides from Mother’s Day Teleconference (May 11, 2015): (1) 3 Major Drivers of the Primary CS Rate; (2) 3 Major Drivers of the NTSV CS Rate

access real-time data from the organization's electronic health record (EHR) is also important. One health system noted that building decision support tools, e.g., standardized templates and order sets, would elicit more rapid cycle care improvement. Agreement on patient safety metrics between the hospital and health plan is critical for the bundled payment to work.

- Early engagement of the major purchasers within PBGH was critical in securing the support of health plans. The plans and PBGH then worked collaboratively to identify large hospitals and affiliated medical groups who accounted for a significant share of deliveries in their respective regional markets. The Project was pitched to the hospitals and providers as principally a QI initiative: in return for participating in the MDC, the hospitals and physician organizations would receive free, hands-on training and technical assistance from maternity experts. The continued commitment of the hospitals and their medical groups to this QI effort is instrumental, and one champion noted that a turnaround in birthing and delivery practices takes more than a year and requires strong data support from CMQCC. This point was reinforced by an interviewee who observed that regular conversations between hospitals and their medical groups regarding their organizations' maternity care data, tied to proposed QI strategies and awareness that value-based payment was on the horizon, were significant catalysts in sustaining progress on maternity care innovation.
- The tacit consensus among health plan interviewees was that the financial incentive alone would not spur change in maternity care. As one plan executive noted, the clinical drivers of change are multiple, and many are related to patient preference. To address the latter, the insurer has advanced greater involvement in consumer-directed health plans (CDHPs) and a parallel effort to secure support of providers for CDHPs. The underlying strategy is to create behind-the-scenes collaboration between the insurers, public health, and the provider community to induce doctors and their patients to think differently about delivery practices. The CMQCC data are a strong force leveraging mutual change in expectations and practice patterns.

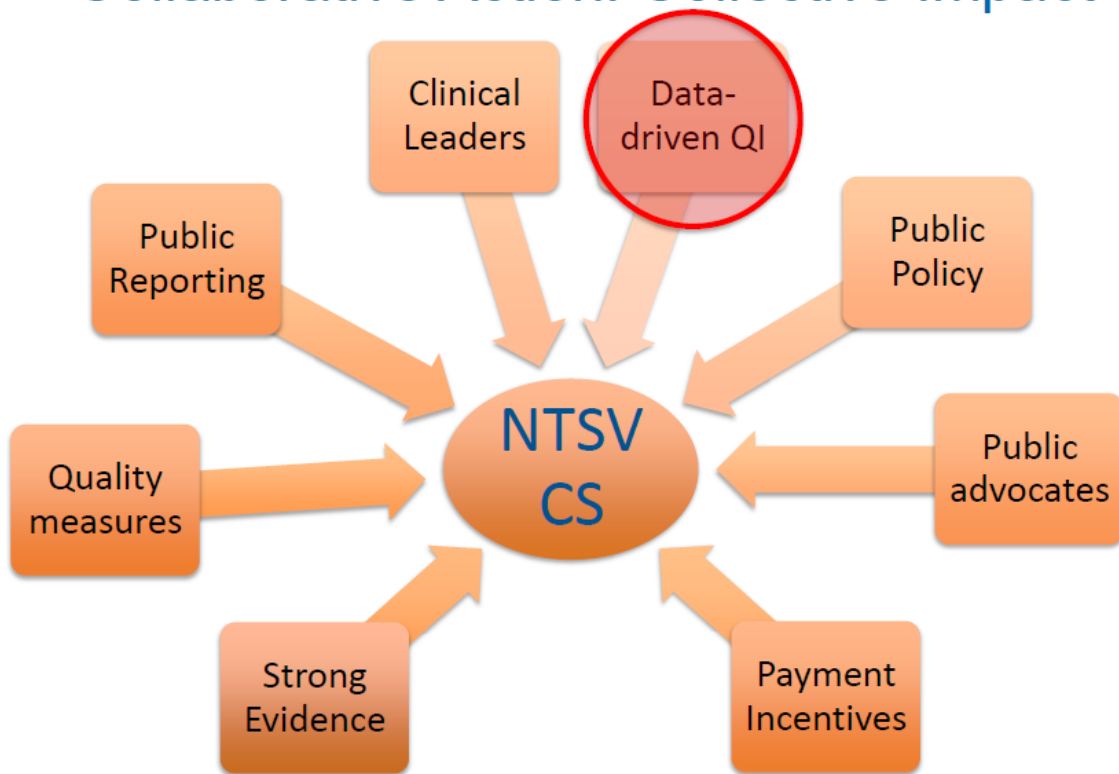
One interviewee opined that, to achieve more significant change in C-section rates and corresponding maternity outcomes, state government would need to change its contracting approach in Medi-Cal, which accounts for roughly 50 percent of deliveries in the state; often the penetration of individual commercial plans in a given hospital is too modest to galvanize change. Currently there are regional variations in Medi-Cal payment; choice of payment model under Medi-Cal is delegated to the managed care organization. This interviewee suggested that a mandated Medi-Cal bundled payment pilot might be the means to catalyze wider spread statewide. Moreover, the Medicaid payment policy allows payment only to the doctor delivering the baby, and this hampers integrated care of the type required under bundled payment. From the perspective of the CMQCC leadership, the Project's logic model could be summarized in several steps:

- Analysis of drivers for NTSV Cesareans
- New national guidelines for labor management converted to simple-to-follow checklists
- Physician and nursing-focused education in the form of academic detailing at the level of individual providers (real-time, actionable data – evidence-based and clinically relevant)

- Audit and feedback utilizing monthly reports of hospital and provider-level rates, coupled with balancing measures showing no harm
- Alignment of payment incentives with desired behaviors and outcomes for reduced NTSV C-section rates and further significant improvement in maternity care and maternal and fetal outcomes: creating a partnership for shared savings (presumably between physicians, hospitals and health plans)
- Administrative and physician leadership

The Figure below, prepared by CMQCC, shows -- in the form of a series of vectors impacting NTSV C-section rates -- the “pressure points” supporting the Project’s main objective:

Collaborative Action: Collective Impact



Multiple Pressure Points are much more effective than one or two alone

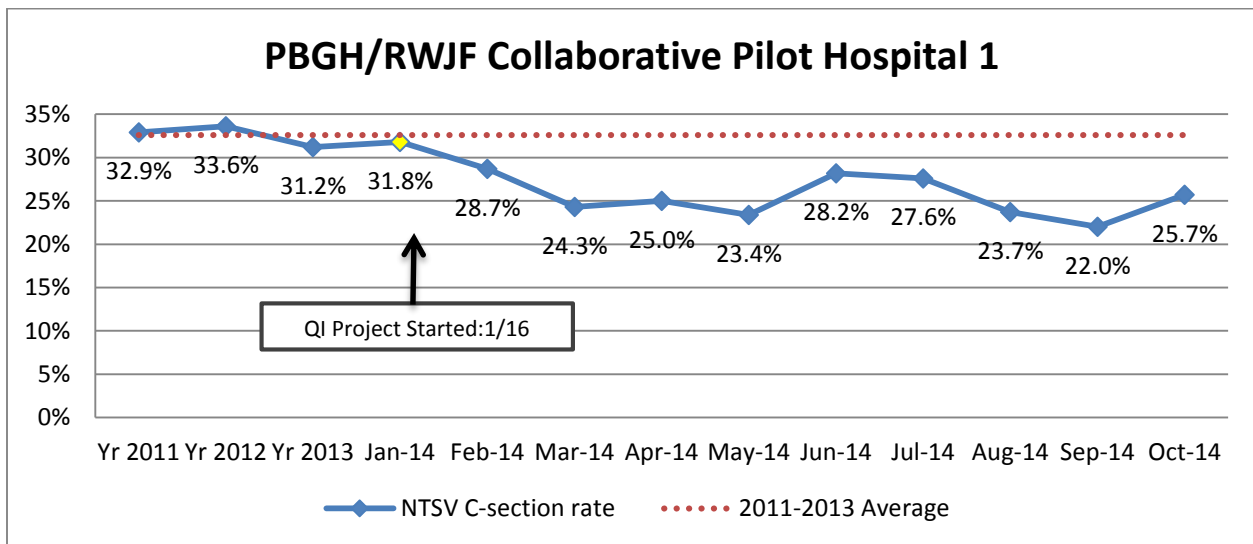
(Figure source: Mother’s Day Teleconference [May 11, 2015], sponsored by PBGH; from presentation by Elliott Main, MD and Barbara Murphy, RN, MSN.)

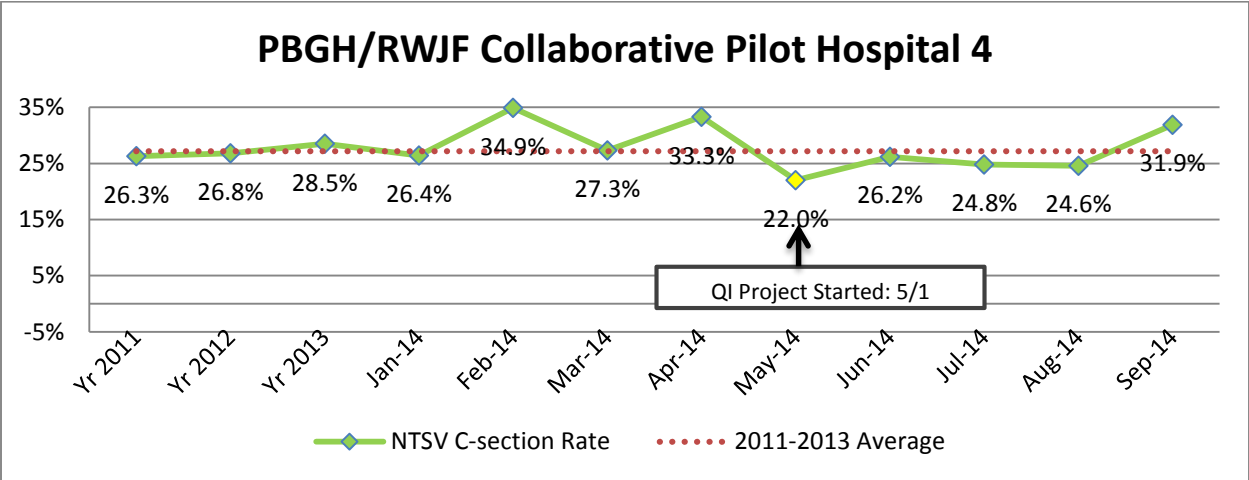
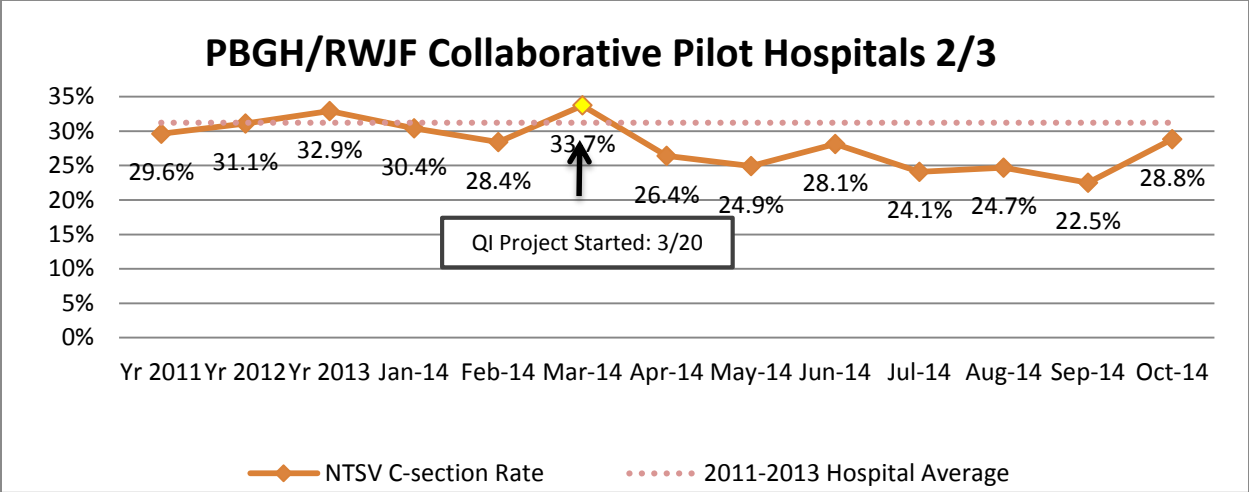
Project Progress and Results

Three of the four hospitals currently participating in blended case rate contracts have shown reductions in NTSV C-section rates, but it would be implausible to attribute those changes to the payment reforms

because the declining C-section rates began well before the blended case rates went into effect. The first hospital to participate in the Project has achieved a reduction in NTSV C-section rate from 33 percent to 25 percent and an increase in VBAC rate from 9.5 percent to 14 percent. The declining C-section rate has continued post-payment change into the second quarter of 2015, and the VBAC rate rose even more rapidly after the switch to blended case rates in early 2014. Notably, these improvements have been attained with no change in the rate of unexpected newborn complications. This evidence suggests that, while not necessarily driving the observed reductions in C-section rate and increases in VBAC rates, the new payment model is supporting the changes initiated by the organization's QI initiatives. Moreover, the participating organizations were involved in contract negotiations for six to 18 months, and thus were aware at the outset of the QI initiative that payment change was likely. At the fourth pilot hospital, during the first four months of the QI initiative, C-section rates did not decline and even rose in the fifth month (September 2014), but starting in the fourth quarter of 2014 and through the first quarter of 2015, the fourth pilot hospital's C-section rates have declined.

The following graphs illustrate the time path of NTSV C-section rates for the four participating hospitals through October 2014:





(Source: PBGH, using CMQCC data.)

A major component in continuing progress is the creation of the hospital/physician/health plan nexus for collaboration, as well as the development of an operational definition of blended case rates. Active participation of four flagship hospitals and their medical groups is a catalyst for other provider organizations to follow. The payer community has recognized the opportunity for bundled payment innovation, going beyond episode-based payments for hip replacement and knee replacement. One health plan leader remarked on the leverage for improving maternity care derived from the growth of its hospital P4P program being implemented across California and the movement of hospitals into ACOs, which are tracking quality and other performance metrics that include maternity care. The dialogue between the plans and hospitals is considerably less adversarial than three-four years ago, and the new ACOs have played a role in advancing that dialogue. Within the pilot hospitals the administrative, medical and nursing leadership has awakened to the issues.

The timing for significantly increased patient engagement seems propitious, and consumers are beginning to demand appropriate treatment. For example, the foundation of a major Silicon Valley employer is currently exploring a QI project to prevent inappropriate C-sections. Simultaneously, the participation of flagship hospitals in the Project, the active engagement of physicians and medical groups supported by actionable data from CMQCC, and the continuing leadership from PBGH and CMQCC has reinforced multi-stakeholder collaboration. For example, PBGH's Transform Maternity Care project has produced a 2014 public report on NTSV C-section rates for California's 245 hospitals performing deliveries.²⁴

Another physician leader observed that the blended case rate was "... starting to get on the radar of the CFO [chief financial officer]," and physicians were realizing that private payers were moving toward similar value-based payment models as Medicaid and Medicare. This is an important realization, given that providers have historically relied on private payers to offset losses on federal programs.

Facilitators and Barriers

Facilitators and barriers are presented in no particular order.

Facilitators

- California's favorable market environment for testing new payment models, including but transcending ACO development.
- PBGH's understanding of the nuances in this state's environment; the organization's credibility and history of utilizing the leverage of large commercial Purchasers to influence health plans and the delivery system.
- The September 2014 PBGH Maternity Care Summit introduced an expanded set of employers and provider organizations to the prospects for integrating QI and bundled payments for maternity care, and has led to active consideration of a blended case rate with a third health system and as many as three private health insurers.
- IHA's initial leadership role in technical definition of episode-based bundles (including maternity care) and defining key principles for bundled payment.
- Readiness among stakeholders to focus on maternity care, spurred by the baseline statewide C-section rate of 33 percent.
- Reputation and active leadership role of the CMQCC and the California Maternity Data Center, providing actionable and clinically appropriate data on maternity care patterns and outcomes. This infrastructure was in place prior to the RWJF-sponsored Project and was foundational for the Project.

²⁴ http://www.pbgh.org/storage/documents/TMC_Program_Summary1214.pdf Accessed May 27, 2015
PBGH. Transform Maternity Care (TMC): Advancing High-Value Maternity Care. December 2014

- Engagement of several insurers in the state, who are sending a supportive message aligning payment with desired change in clinical behavior.
- Involvement of women’s groups and patient groups. Consumer engagement has increased over the last few years, particularly as maternity care becomes a prominent issue in the public media and on social media. The use of increased patient cost-sharing and value-based payment design by insurers also reinforces consumer awareness and cost-consciousness. Silicon Valley Forum employers, with their young, high-tech employee populations, are particularly interested in maternity care.
- Support of American College of Obstetrical and Gynecological Surgery (ACOG) and other professional societies.
- Physician and nurse champions and supportive administrators of participating hospitals, including contracting managers who could capture the administrator’s attention.
- Changing climate in the purchaser community, which seemingly has passed a tipping point and is more engaged and sophisticated, stepping up as partners with insurers and provider organizations to prompt innovation. Employer support of QI initiatives in maternity care. In certain instances, direct pressure from large employers considering re-directing their employees and dependents to alternative provider organizations -- due to concerns regarding high C-section rates and consequently high costs of maternity care – triggered active moves by hospitals and their OB/Gyn groups to engage in more intensive maternity care QI and to align their payment contract incentives with those efforts.

Barriers

- Challenging and time-consuming logistics: many players to assemble at the same table, typically with competing priorities and varying degrees of interest and resources.
- The narrow perspective of several health plans despite general movement towards innovation: tendency to focus on simply deploying P4P bonuses as the incentive; piecemeal approach to innovation. Health plan difficulties in redesigning payment systems for value-based and episode of care-based payment also impede progress toward new payment models seeking unified action among hospitals and physicians and with the plans.
- It is difficult and slow to develop these programs and to negotiate with providers; the need for new analytics, report cards, and forums for provider discussion of these issues.
- Physician practice patterns unlikely to change because of new payment incentives of a single health plan with limited market share.
- Physicians seek control over the timing of delivery to mitigate its impact on their office practice and personal life, and those preferences can conflict with payment and care delivery strategies encouraging normal vaginal delivery, hard stops precluding elective early deliveries, and spontaneous (often lengthier) labor management.
- Challenge of changing culture of providers and payers and reconciling competing interests; physician champions are needed to drive the payment and care delivery innovation.

- Difficulty in implementing a single hospital and physician bundled payment, given incomplete integration of hospitals and physician organizations. For example, prohibition of employment of physicians by hospitals in California (corporate practice of medicine laws) complicates payment of a single bundle. It is also difficult to integrate independent OB/Gyn providers (non-foundation), not organizationally aligned with the hospital) within blended case rate contracts.
- Recognition by hospitals of the contribution of maternity care to the organization's bottom line is somewhat lacking. This limits the resources and energy devoted to realizing the clinical and economic benefits of improved maternity care²⁵.
- Challenges in convincing providers of the merit of bundled payment (prerequisite of clinical and financial data to demonstrate feasibility and utility of new payment models).
- Patient expectations of the "perfect baby" providing implicit encouragement for early induction and discouraging normal vaginal delivery.
- Competing priorities for attention and "change fatigue" associated with multiple elements of health care reform: the Affordable Care Act (ACA), ACOs, and other major efforts; need for maternity care bundled payment to be part of a larger organization-wide transformation to gain traction.
- CMQCC leadership and supporting clinical experts are widely stretched; need for more resources and a more "scalable" QI model to leverage the value of local one-on-one improvement activities into broader statewide impact; inability to tap economies of scale in QI programs when dealing with multiple small practices.
- Time and energy demands on providers from rapid movement toward increased adoption of electronic health record systems.
- Need for more vocal support from PBGH members and other employers.
- Hospitals perceived legal exposure when implementing cesarean reduction programs.
- Nationally endorsed quality measures related to C-sections (such as Joint Commission and LeapFrog measures) did not go into effect until half way through the RWJF grant cycle (2014) for the Project and are limited in scope.

Evaluation and Sustainability

Evaluation. There is no formal state-based evaluation plan for the Project, but hospital-level data are available from the MDC maintained by CMQCC: the proportion of early elective deliveries, primary C-sections not repeated, VBACs, and newborns without complications. Moreover, CMQCC and the data center are a natural locus for evaluation and measurement. The original PBGH proposal for the project included measures for a pre-post evaluation, especially targeting C-section rates. Provider and staff satisfaction surveys also are planned. The first pilot hospital will draw on CMQCC data regarding NTSV C-

²⁵ For example, one clinical champion observed that 26 percent of the hospital's contribution margin is derived from women's health, of which 70 percent is maternity care.

section rates, VBAC rates, length of stay for deliveries, as well as internal hospital data on contribution margin, cost per discharge, and maternity admission rates, to evaluate its progress. The three hospitals in the second participating health system are evaluating balancing measures for low Apgar scores²⁶ and neonatal ICU admissions.

Sustainability. There are several positive signs sustaining the project's gains. The California Health Care Foundation (CHCF) continues its active support of the CMQCC and the Maternity Data Center. For example, at a briefing in October 2014 sponsored by CHCF, IHA announced that it is working with CMQCC to produce several maternity care measures at the physician organization level as part of its commercial HMO value-based P4P program. The metrics for clinical quality are unexpected newborn complications in full term babies, incidence of episiotomy, and infants under 1500 grams delivered at the appropriate level of care; for appropriate resource use, the program measures the C-section rate for low-risk births and the VBAC rate²⁷. The results achieved at the first participating pilot hospital have attracted significant external (and internal) recognition. The hospital's efforts have included a feasibility study for expansion of maternity care innovation into another regional health system, which might include a birthing center within that hospital, incorporating nurse midwives and lower-cost alternatives for pain management.

CMQCC's receipt of a Merck for Mothers grant will assist with scaling up maternity care QI initiatives in the state. The organization has developed a paid mentor system of physician-nurse champions, each working with 6-8 hospitals, and has garnered 125 participating hospitals. Funding for the MDC from CDC continues for the next 2 and one half years, and CMQCC has assembled a variety of ongoing funding sources – including CHCF. The physician champion at a second participating health system remarked that embedding maternity care measures into the EMR will be key to building maternity care improvement into the daily clinical work flow. That organization is currently testing feedback reports and a dashboard that would allow chart-by-chart review to track variations from protocol.

The two private insurers with blended case rates in place express commitment to continuing the model, and one indicated that the health plan would emphasize hospital P4P and ACO development. Ultimately, sustainability from the payer's perspective will depend on results – in particular, a favorable return on investment for the payer. For the first pilot hospital, the blended case rate is the “new normal.” As a

²⁶ The Apgar scale is determined by evaluating the newborn baby on five simple criteria on a scale from zero to two, then summing up the five values thus obtained. The resulting Apgar score ranges from zero to 10. The five criteria are summarized using words chosen to form a backronym (Appearance, Pulse, Grimace, Activity, and Respiration). Source: http://en.wikipedia.org/wiki/Apgar_score
Accessed May 30, 2015

²⁷ Dolores Yanagihara. State and Private Sector Initiatives to Improve Maternity Care in California. Value-Based P4P Maternity Measures (Slide 15). October 1, 2014.
<http://www.chcf.org/~media/MEDIApercent20LIBRARYpercent20Files/PDF/S/PDFpercent20Sacto10012014MaternityYanagihara.pdf> Accessed May 30, 2015.

cautionary note, one interviewee involved in the initial design and spread of the blended case rates remarked that a champion for bundled payment or blended case rates has not emerged. The collective energy for improved maternity care seems strong; the movement toward bundled payment or (even) blended case rates seemingly has less momentum.

Ultimately, sustainability will depend on some positive proof of concept. That proof -- demonstrating value to the hospitals and payers, in particular -- would determine the prospects of charging hospitals and payers for CMQCC tools and products. The project could be scaled without further implementation grant funding, and further spread in the near term will build on the quality measurement tools that CMQCC is disseminating with the support of several grants. Interviewees from the participating payers and provider organizations expressed commitment to the project, while acknowledging that sustainability for the long term is dependent on showing results to those constituencies.

Lessons Learned

One interviewee involved from the inception of the Project noted that California poses some particular challenges for implementing bundled payment (whether as a unified hospital-physician bundle or separate blended case rates). This observer posited that because of the extensive hospital-physician consolidation in many parts of the state, and the significant penetration of capitated payment, global payment arrangements often are a better fit in the California environment. In smaller, semi-rural areas a bundled payment for condition-specific episodes of care might strike the right balance between incentive and risk-bearing capacity. Another challenge has been the fragmented private health insurance market, in which the individual insurer has insufficient covered lives in a given hospital and physician group to create a strong business case for value-based payment innovation. This reality is reflected in the limited scale of health plan involvement in the Project to date. Another Project champion proposed that if a strong OB/Gyn group had created a laborist program and led the charge, rather than the administration, the pace of change for QI and payment alignment would have been more rapid.

Culture (of physicians, nurses, and the community) exerts significant influence, and might prove to be more important in determining the adoption of maternity care QI than the level and method of payment. Heightened patient engagement, while hard to achieve, is critical, and -- in the next phase -- improved messaging and direct outreach to patients will be priorities. Patient education has suffered from underinvestment, and well-informed patient advocates have an important role to play in improving maternity care. Such patient education is important in finding common ground to stimulate practice change.

The importance of real-time, actionable data at the hospital and individual provider level was highlighted by several participants, one of whom summed it up: "You can't change what you can't

measure.” Such data have proven instrumental in addressing criticism and inertia from skeptics of maternity care change. Physician education regarding the evidence base on birthing and delivery was also emphasized by a health plan executive, who remarked, “You need to get to the place where docs do the right thing because it’s the right thing, not because patients ask them to.”

Certain large employers have been a significant stimulus for maternity care improvement and cost containment. Particularly among employers with a large proportion of young employees, reduced costs of birthing and delivery and improved outcomes are a major issue, and that reality has brought them to the table with provider organizations and payers. Enlightened human resource executives have spurred change, too.

Our evaluation team concludes that the principal factors driving improved maternal and fetal outcomes in the Project are the concerted efforts of selected quality improvement QI organizations, health systems, hospitals, and provider organizations to change care, reduce unnecessary C-sections, and deploy high-quality and actionable data in driving better care. The strong pressure for organized health care purchasers has been a crucial catalyst in motivating these changes, and a much broader engagement of purchasers, health plans, and patients will be required to scale and sustain these improvements in care. At this juncture, rather than driving the change, the role of value based payment (a la the blended case rates) will be to **align** the financial incentives with the desired clinical change.