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Complete Care at Kaiser Permanente: Transforming Chronic and Preventive Care

Michael H. Kanter, MD; Gail Lindsay, RN, MA; Jim Bellows, PhD; Alide Chase, MS

The Chronic Care Model (CCM) aims to transform care for patients with chronic illnesses through six interrelated system changes: health system, delivery system design, decision support, clinical information systems, self-management support, and community resources.1–3 It has stimulated innovative models of primary care redesign, including the patient-centered medical home.4–7 Many health care organizations have used the CCM to guide care improvements for conditions such as diabetes, asthma, and congestive heart failure.8 However, the quality impact of large-scale redesign implementing system changes across conditions and extending them into wellness and preventive care has been much less frequently reported.9 In addition, little has been reported on redesign spanning settings outside of primary care and entailing increased collaboration between all health care team members to provide person-focused, evidence-based care.

In 2004 senior leaders in the Kaiser Permanente Southern California (KPSC) region, where approximately 6,000 physicians in the Southern California Permanente Medical Group provide care to 3.5 million adult and pediatric members in 13 medical centers and 200 medical office buildings, recognized that performance was below what they aspired to achieve. For instance, among 34 Healthcare Effectiveness Data and Information Set (HEDIS) measures,10 KPSC performance was above the 90th national percentile on 15 of 34 measures. Beginning in 2005 regional leadership identified several system opportunities to enhance evidence-based, person-focused care.

Development of Complete Care: KPSC developed and implemented a comprehensive delivery system redesign and expanded and integrated existing clinical information systems, decision support, work flows, and self-management support—collectively referred to as Complete Care. The goal of Complete Care is to transform care for healthy members, those with chronic conditions, and those with multiple comorbidities. To date, KPSC has applied Complete Care to 26 chronic conditions and areas of preventive and wellness care. Implemented in all care settings and optimizing the roles of all health care team members to maximal scope of practice, Complete Care provides evidence-based, person-focused care addressing a large set of protocol-based health needs for every individual during every encounter within the health care system.

Results: On 51 HEDIS metrics, KPSC improvement using Complete Care averaged 13.0%, compared with 5.5% improvement in the national HEDIS 50th percentile.

Conclusion: Implementation of Complete Care at KPSC was followed by six-year quality gains that outpaced changes in the HEDIS national percentiles for many measures. Additional care gaps have been included in proactive office encounter checklists; these relate to elder care, advance directives, posthospital care, immunizations, health maintenance, and pregnancy care.

Article-at-a-Glance

Background: In 2004 Kaiser Permanente Southern California (KPSC) recognized the potential to improve the quality of care. Healthcare Effectiveness Data and Information Set (HEDIS) performance was below what regional leadership aspired to achieve, exceeding the 90th national percentile on only 15 of 34 measures. Beginning in 2005 regional leadership identified several system opportunities to enhance evidence-based, person-focused care.

Development of Complete Care: KPSC developed and implemented a comprehensive delivery system redesign and expanded and integrated existing clinical information systems, decision support, work flows, and self-management support—collectively referred to as Complete Care. The goal of Complete Care is to transform care for healthy members, those with chronic conditions, and those with multiple comorbidities. To date, KPSC has applied Complete Care to 26 chronic conditions and areas of preventive and wellness care. Implemented in all care settings and optimizing the roles of all health care team members to maximal scope of practice, Complete Care provides evidence-based, person-focused care addressing a large set of protocol-based health needs for every individual during every encounter within the health care system.

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including increasing screening rates and appropriate follow-up, improving medication adherence, and avoiding potentially harmful medication interactions.

In addition, members sometimes arrived at the point of care with evidence-based care needs in addition to presenting needs, but the former were not consistently addressed. For example, in 2004 more than 47,000 members were overdue for a mammogram, and 10,530 were overdue for a glycosylated hemoglobin (A1c) test; of these, 62% and 63%, respectively, presented in specialty care clinics where these evidence-based care needs were not addressed. Finally, Kaiser Permanente primary care providers (PCPs) were working at full capacity, sometimes doing tasks that did not require a physician’s expertise. KPSC leaders saw an opportunity to fully leverage team-based care and thereby enable all members of the health care team to work to maximal scope of practice to enhance care.

Consequently, KPSC developed and implemented delivery system redesign and expanded and integrated existing clinical information systems, decision supports, work flows, and self-management support—collectively identified as “Complete Care” in 2009, which has been applied across a growing portfolio of conditions and prevention needs (Figure 1, right).

The goal of Complete Care is to transform care for every individual in our population: healthy members, those with chronic conditions, and those with multiple comorbidities. It uses every encounter within the health care system and between-encounter surveillance and outreach to reliably provide an individually tailored set of evidence-based, protocol-driven, proactive clinical care related to wellness and prevention and subacute, acute, chronic, and complex conditions. Complete Care is applied across ambulatory, urgent and emergency care, inpatient, continuing care, and virtual (for example, phone, e-mail, and Internet) settings. Complete Care is person-focused, allowing for better recognition of health problems and needs over time and facilitating appropriate care in the context of all of an individual’s health needs. In this article, we describe Complete Care in detail and assess its impact on quality of care.

### What Complete Care Does

Consider a patient with diagnosed diabetes, hypertension, and hyperlipidemia whose diabetes medication and testing conform to protocols. However, she does not routinely take her hypertension medication, and her prescribed statin has not yet lowered her cholesterol levels to the target range. If she presents in primary care, her PCP notes that the chronic care summary in the electronic health record (EHR) shows a low hypertension medication possession ratio and the need for the statin dose to be adjusted; accordingly, the PCP recommends treatment intensification. Clinic support staff and her PCP address medical and behavioral issues, such as medication adherence and physical activity.

If this member does not present for care, because she belongs
to a population targeted for improvement, a panel manager (an RN or a pharmacist) reviews her record and refers to clinical protocols for treatment intensification and follow-up testing. The recommendations appear in the PCP’s electronic task list for review and action. After PCP approval, clinic support staff contact the patient, explain the medication change and testing, and advise her to drop by for a no-appointment blood pressure check. If she does not pick up the new medication and complete ordered testing, she receives a pharmacy reminder by mail or secure messaging. Wherever her next clinical encounter occurs—in primary, specialty, or urgent care or with the telephone call center/providers remind her about the medication and testing. At her next primary care visit, the receptionist, medical assistant, nurse, and PCP each receive prompts tailored to their individual work flows to address her care needs.

Clinical Components of Complete Care

Table 1 (right) summarizes the clinical components of Complete Care: proactive team-based care in all settings, supplemental tactics, and health information technology.

Proactive Team-Based Care in All Settings

At every point of care, KPSC providers address members’ presenting needs, chronic and complex conditions care, and screening, preventive, and wellness care. Providers respond to all needs during the same encounter when possible or order indicated protocol-based care. Addressing all presenting needs, chronic and complex conditions care, and screening, preventive, and wellness care during encounters could exceed the time available for care and overwhelm providers. To avoid overburdening physicians, KPSC reengineered routine office visits into the proactive office encounter, in which all health care team providers—physicians, receptionists, medical assistants, and nurses—address identified patient needs within their scopes of practice, improving the consistency of preventive care, quality of chronic conditions care, and reliability of staff support for physicians. Support staff use electronic checklists customized to each patient to proactively identify “care gaps”—indicated protocol-based chronic and preventive care that patients have not yet received—and use defined protocols and work flows within their scopes of practice to help physicians close them. All health care providers use centrally standardized, diagnosis-specific work flows before, during, and after office encounters (Figure 2, page 487).

Because patients with unmet screening needs were frequently seen only in specialty care, specialty departments also address preventive screening and chronic care needs using the proactive office encounter. Physician leaders brokered an agreement between primary care and specialty care departments that determined which care gaps specialty care would address and specified that primary care would continue to manage medications and abnormal lab findings. After proactive encounter work flows were extended in 2009 into emergency and urgent care depart-
Supplemental Tactics Outside the Proactive Office Encounter

Even with the proactive office encounter supporting Complete Care, optimizing care requires additional tactics (Table 1). Not all care gaps can be closed during encounters, and some patients with care gaps do not initiate health care encounters. In addition, some tactics require specialized skills.

Proactive supplemental tactics are provided by staff at medical centers or at a centralized regional location. Medical center staff provide patient panel management, a set of tools and processes for population care applied systematically at the level of primary care practices. Regional leadership identifies a target population for which a need for improvement exists; examples include patients with diabetes and hemoglobin A1c levels > 9.0% or patients needing a PCP appointment with low-density lipoprotein cholesterol (LDL-C) levels > 100. Working with integrated disease registries, panel management staff members review charts of high-risk patients within physician panels, identify opportunities to align care with evidence-based guidelines, and initiate protocol-based orders for tests or medication changes. Treating physicians review drafted orders—approving them or choosing a different course of action—and arrange for clinical or panel management staff to contact patients. More than 300 care managers at the medical centers also provide care and case management for members who need additional support.

All medical centers offer health education and wellness programs on topics such as diabetes, heart health, stress reduction, depression, weight management, senior health and aging, and tobacco cessation. Point-of-care decision support identifies members as candidates for health education, in which physicians, panel management staff, and office staff strongly encourage participation. Patients receive no financial incentives for participation. Telephone wellness coaching helps members set healthy goals and create strategies to achieve them for tobacco cessation, weight management, physical activity, healthy eating, and stress management. Members can also access health and wellness programs on kp.org.

Centralized regional staff provide outreach through secure messaging, letters, and phone calls related to chronic disease management and screening, immunizations, cancer screening, and ordered but incomplete laboratory tests. Staff conduct outreach once per year for each patient with a particular care gap; patients with multiple care gaps receive separate outreach contacts, although all needed tests can be completed in a single trip to the laboratory. If patients do not respond to outreach, proactive office encounters or panel management (if they belong to an identified target population) address care gaps.

A centralized regional safety net team ensures proper follow-up for all KPSC members for certain diagnostic and screening tests (for example, elevations of creatinine and prostate-specific
antigen [PSA], positive fecal occult blood testing, abnormal Pap smears), monitors selected medications (for example, anticonvulsants, digoxin, angiotensin-converting enzyme inhibitors [ACE-Is] or angiotensin II receptor blockers [ARBs]), and identifies potentially harmful medication interactions (for example, tricyclic antidepressants in patients with dementia). The safety net team notifies treating providers about test results outside the laboratory normal range and informs them about all missed opportunities to follow up; treating providers use clinical judgment regarding the necessity for follow-up care. Centralized regional pharmacy staff also use medication adherence tactics, including automated refill reminder calls and contacting members with overdue refills for or low adherence to certain medications (for example, statins, diabetes medications, beta-blockers, ACE-I/ARBs, lisinopril/hydrochlorothiazide).

Regional outreach can be rapidly implemented and highly specific. For example, within 24 hours of a substantial deterioration in air quality from large brush fires in August 2009, KPSC sent automated phone calls about appropriate precautions to approximately 280,000 members with asthma who lived in the affected areas.

**Health Information Technology’s Prompting and Tracking of All Needed Clinical Actions**

KP HealthConnect™, Kaiser Permanente’s EHR, provides real-time information about care for individual patients and, like other EHRs, is optimized to support individual clinical encounters. To meet our population-based goals of tracking and addressing patients’ care gaps across settings, we also use Permanente Online Interactive Network Tools (POINT), a comprehensive regional set of registries. Beginning in the late 1990s POINT was internally developed to identify members with specific conditions and care gaps and to support activities such as pharmacy-based medication titration. It integrates clinical data from multiple sources (for example, laboratory results, pharmacy, patient encounters) and supports the execution of complex algorithms with multiple contingencies. Algorithms run continuously on all clinical data to identify care gaps. Every patient’s information, updated daily, appears in a set of linked tools, as follows:

- A chronic care summary sheet providing at-a-glance information about chronic conditions treatment and monitoring
- Point-of-care alerts and prompts for all team members (Figure 3, above)
- Stratified outreach and follow-up lists

Health information technology also supports self-management. Patients receive detailed after-visit summaries containing key information, reminders, and instructions, and kp.org provides secure patient-provider messaging, access to medical records, extensive health information, and care reminders. Use of secure messaging between KPSC patients and physicians was associated with improved quality of care for chronic conditions. In 2012 KPSC members made more than 25 million visits to kp.org, viewing laboratory results 11 million times, sending more than 3 million e-mails to their providers, refilling 4 million prescriptions, and reviewing information from previous visits more than 4 million times.
LEADERSHIP AND ADMINISTRATIVE STRUCTURE

Under the oversight of the Southern California Permanente Medical Group, the infrastructure of Complete Care includes leadership and administrative support. Regional leaders identify and prioritize opportunities to better align care with evidence-based guidelines and set annual performance targets using national benchmarks, such as HEDIS 90th percentiles or top-ten performance in the United States on the National Committee for Quality Assurance Quality Compass.24

A team of regional staff and clinical experts identifies strategy and resources required to meet targets. Regional clinical and administrative leaders review the strategy and map needed tactics onto the Complete Care clinical components.

A small regional team has oversight and accountability for implementing Complete Care across sites and conditions. Regional leads for each condition support medical centers. Physician and administrative Complete Care leaders and condition-specific champions at medical centers work to implement identified tactics. As they apply Complete Care to new conditions and preventive needs, regional staff and implementation leaders track the rollout across settings and monitor to ensure sustainability of components over time for all conditions. Medical centers receive monthly performance data.

Biannual meetings of physician and administrative condition champions allow them to share successful practices and brainstorm new ideas. Leaders also celebrate successes and engage providers and staff with compelling stories. For instance, video ethnography and patient stories conveyed early examples of Complete Care to providers and staff, fueling the collective will for change.25

Deploying Complete Care components required minimal investment in personnel. Nurses reassigned from decommissioned condition-specific programs largely staffed new centralized tactics, and Complete Care functions were embedded in work flows for existing staff. For example, existing pharmacy staff implemented centralized pharmacy counseling on medication adherence. However, developing business information systems and POINT registries to augment the EHR required investment.

Complete Care in Action

Complete Care applies to all KPSC members; no enrollment is required. It operates in approximately 20 million annual ambulatory care visits, but much of Complete Care takes place outside of the office visit setting. In 2012 KPSC members experienced approximately 7 million outreach contacts, of which 82% occurred by mail, 16% by phone, and 3% by e-mail. KPSC “touches” approximately 88% of members through Complete Care each year; 61% of members receive 2 to 4 contacts. In 2012 more than 13,000 patients were newly enrolled in care or case management services lasting two months or more, which included more than 1.86 million interactions by mail, e-mail, telephone, and in person. Patients made more than 300,000 online and in-person visits to health education and wellness programs.

By the end of 2012 KPSC applied Complete Care to 25 conditions and preventive needs (Figure 1). Initially targeting adult chronic conditions and preventive needs, KPSC subsequently expanded into pediatrics, obstetrics/gynecology, and less common conditions. Most recently, Complete Care was applied to rare diseases (amyotrophic lateral sclerosis, Down syndrome, and spinal cord injuries), abdominal aortic aneurysms, and hospital readmissions.

Addressing new conditions or additional care gaps is a matter of mapping them to the most appropriate Complete Care components, which can be adapted to any condition and exist at sufficient scale to support all Complete Care goals. Applying standard processes across conditions reduces the complexity of providing care management, a barrier to success.26 As we noted earlier, it also reduces the amount of time required to begin providing Complete Care for a new condition.

In addition, clinical leaders for each condition and at each medical center need no detailed tactical expertise in, for instance, conducting outreach; with the Complete Care infrastructure in place, they can focus on condition-specific clinical care and best practices.

With providers addressing all care needs at every encounter, we anticipated that Complete Care would reduce gaps between recommended and received care. It was impracticable to assign some providers or patients to usual care because of the regionwide implementation of Complete Care over a long time frame. Our retrospective observational assessment used a pre-post design and nationally benchmarked measures to assess KPSC quality of care over time.

Evaluating Improvement with Complete Care

To evaluate the effect of Complete Care on quality of care, we compared improvement in KPSC HEDIS performance from baseline to 2012 (2011 data) with improvement in national average HEDIS performance (50th percentile across all reporting health plans) for 51 chronic and preventive care measures in commercial and Medicare populations. We defined each baseline as the year before application of Complete Care or the earliest year for which trendable HEDIS benchmark data are available.
RESULTS

Using Complete Care, KPSC improvement from baseline averaged 13.0% across 51 HEDIS metrics, compared with 5.5% improvement in the national HEDIS 50th percentile. KPSC improvement from baseline averaged 12.8% across 26 HEDIS metrics in the Medicare population, compared with 5.4% improvement in the national HEDIS 50th percentile (Figure 4, above). Kaiser Permanente Southern California improvement from baseline averaged 13.3% across 25 HEDIS metrics in the commercial population, compared with 5.6% improvement in the national HEDIS 50th percentile (Figure 5, page 491).

KPSC’s improvement from baseline ranged from 2.0 to 60.3 percentage points and exceeded national improvement by ≥5 percentage points for 28 of 51 measures. For the remaining 23 measures, KPSC’s improvement was within 5 percentage points of national improvement for 12 measures and lagged behind national improvement in terms of percentage points for 11 measures. KPSC’s performance on 7 of the latter measures exceeded the national HEDIS 90th percentile at baseline and in 2012. Baseline KPSC scores were at or above the national HEDIS 90th percentile in 21 measures. KPSC’s 2012 HEDIS performance was at or above the national HEDIS 90th percentile in 41 measures.

Discussion

Complete Care has been successfully implemented across 25
conditions and preventive needs among KPSC’s members and is associated with improvements in HEDIS effectiveness-of-care measures. A strength of our assessment is its application to a broad range of HEDIS effectiveness-of-care measures, spanning chronic, acute, and preventive care needs.

Few reports exist of systems-level quality improvements across multiple chronic, acute, and preventive health care needs. Jha et al. assessed the effect of systemwide reengineering on quality of care in the US Department of Veterans Affairs (VA) health care system. They compared 17 quality-of-care indicators before and after reengineering and compared 11 similar indicators with the Medicare fee-for-service program. For the 9 indicators for which data were consistently available, quality of care improved, and the VA outperformed Medicare on all indicators except one. In contrast, in comparing our performance over 26 HEDIS effectiveness-of-care indicators in the Medicare population and 25 in the commercial population, we found that our performance improvement outpaced improvement in the national HEDIS 50th percentile by > 5 percentage points for 28 of 51 measures and by < 5 percentage points for another 12 measures.

Limitations to our assessment of the impact of Complete Care include the absence of a control or comparison group; as-
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signing patients or providers to a usual care alternative was not feasible because Complete Care was implemented throughout KPSC. In addition, we implemented Complete Care in an integrated delivery system with a comprehensive EHR and additional registries. Although individual components, such as the proactive office encounter, could be implemented in other settings, the generalizability of the entire redesign is unknown. The reasons why some HEDIS measures did not show comparable improvement are unknown. Finally, we did not attempt to assess the impact of Complete Care on costs or utilization.

Comparison of KPSC’s improvement with national HEDIS performance reduced the possibility that the improvements we noted reflected large secular trends. Other potential explanations for the reported findings include provider financial incentives to improve quality of care. Although KPSC provider compensation has long included financial incentives for quality performance, incentive structures remained unchanged over the time period described here, and the amount was modest. As we noted earlier, staffing levels remained essentially unchanged as we redirected existing resources, and the capacity to address all patient needs came from all members of the health care team operating at full scope of practice.

The most challenging aspect of implementing Complete Care was the required culture change. For instance, KPSC regional leadership created goals for specialty chiefs related to addressing agreed-on care gaps, but the first year or two of the program saw little progress, which may have reflected resistance related to the time required and the use of standardized work flows. Regional leadership then began measuring and reporting care gaps at the department level, using a “missed opportunities report” to indicate the percentage of patients’ specialty care visits for which pre-senting needs were left unaddressed. In addition, a nominal financial incentive was attached to departmental performance goals.

Existing outreach was a patchwork of efforts, with individual employees responsible for specific conditions and medical centers but without backup when employees took sick or vacation days, thereby undermining outreach effectiveness. It became evident that centralized outreach would be substantially more reliable, and employees turned their outreach responsibilities over to the regional program. Transparency about outreach efforts was pivotal to culture change. Complete Care staff (1) document all regional outreach attempts in the EHR where PCPs and other clinical staff view them and (2) update physicians about outreach impact at the population level, such as the response rates to letters.

Similarly, shifting from existing condition-specific care and case management programs to Complete Care also required a change in organizational culture. Personnel with responsibility for existing programs hesitated to trust regionally standardized programs to provide the same level of care. In addition, physicians were accustomed to simple “referral and report” arrangements; for example, PCPs referred patients to a diabetes care management program and received reports when they were discharged. Again, changing the culture required communication and transparency. Many physicians noted that their confidence in Complete Care grew as they saw HEDIS and other quality metrics improve. By January 2013 physician co-sign rates for regional safety net recommendations exceeded 90%. Sidebar 1 (page 493) provides an example of how implementation occurred through culture change at a single medical center.

CONTINUING ENHANCEMENTS AND FUTURE DIRECTION

The regional safety net currently includes 15 evidence-based screening, diagnostic, and follow-up protocols and 12 medication monitoring protocols. Additional care gaps have been included in proactive office encounter checklists; these relate to elder care, advance directives, posthospital care, immunizations, health maintenance, and pregnancy care. KPSC has begun enhanced population- and/or condition-specific outreach efforts to address disparities in health care, beginning with outreach to African American members with uncontrolled hypertension. To make outreach in general more efficient and support greater patient activation, a Patient Action Plan became available in December 2012 to all members through kp.org; it includes individualized and up-to-date information on cancer screenings, preventive care, health care, chronic health conditions and medications, immunizations, and general guidelines. Nine months of experience has shown that patients who visit the Patient Action Plan address care gaps at a high rate. Areas in need of further refinement include customizing outreach to optimize response rates, such as tailoring the frequency and type of contact (for example, mail, automated phone call, secure message) to patients’ individual preferences. In addition, KPSC is expanding into using technology in new ways to support Complete Care, such as in mobile outreach messaging.

Conclusions

The regional safety net provided by the Complete Care program at KPSC includes 15 evidence-based screening, diagnostic, and follow-up protocols and 12 medication monitoring protocols. Implementation of Complete Care at KPSC was followed by quality gains that outpaced changes in the HEDIS national per-
Sidebar 1. Case Study: Complete Care in San Diego

In 2005 Kaiser Permanente San Diego Medical Center initiated population-based care management programs for conditions such as asthma, diabetes, and heart failure. Run by a separate population-based management department, these programs were siloed from primary and specialty care. In 2008 a new administrative team for the medical center recognized that performance was the lowest in the Southern California region on nine Healthcare Effectiveness Data and Information Set (HEDIS) preventive and chronic care measures (even though it was above the national 90th percentile on six and within three percentage points of the national 90th percentile on the others). In early 2010 new physician and administrative leads for Complete Care were hired at the medical center.

Regional data on departmental performance identified clear opportunities for improvement, and senior leadership placed top priority on establishing a collaborative culture for addressing quality goals. After consulting with regional experts, senior leaders applied successful Complete Care components. They asked clinical champions to self-select for being accountable for addressing improvement opportunities; in most cases, champions were specialty department heads. Senior leaders made sure that the Complete Care leads were on the agendas of multiple leadership meetings, where they consistently communicated the importance of a collaborative approach to quality improvement. The Complete Care Team spread its theme, “All Hands In,” to establish the importance of every member of the health care team to the health of every patient they encountered.

The new Complete Care leads played a consultative role, helping providers identify how everyone on the health care team could act to meet quality goals. Starting with simpler examples—such as mammography and colorectal cancer screening—made it easier for support staff to understand their role in ensuring that all patients received all the care they needed every time they came in contact with the health care system. For example, an orthopedic surgery medical assistant checking in a patient for follow-up of an acute injury would also remind the patient that she needed a mammogram and offer to schedule it. Work on more complex care processes followed. Complete Care leads also talked to all stakeholders for particular measures to identify systems issues. In one instance, the clinical laboratory reported that every month, stool samples for colorectal cancer were often discarded because of illegible labeling by patients. A simple fix was to ensure that sample containers were labeled before distribution to patients. The leads also discovered coding issues affecting reported performance.

Clinical champions provided messaging pertaining to their area of care. For example, an orthopedic surgeon promoted Healthy Bones, an osteoporosis management initiative, among his peers. A nephrologist spurred his colleagues to improve chronic kidney disease through control of cholesterol and to support the Healthy Bones program. Champions were also accountable to senior leaders for performance throughout the service area on their measures. In 2010 and 2011 clinical champions received performance data on a weekly basis, as did senior leaders who recognized improvement and asked questions about the lack thereof.

Throughout 2011, monthly “Guinness World Record” meetings events provided motivation to prevent chronic diseases and to save more lives. Transparent data on individual medical office building quality measures were shared throughout the service area. Competition between buildings and departments helped motivate improvement. Between May 2010 and June 2012 performance on selected HEDIS measures improved by 1.0 to 8.6 percentage points (see table, below). San Diego’s regional rank improved from 13 of 13 medical centers on nine chronic and preventive care measures to between 2nd place (two measures) and 10th place (two measures).

Performance of Kaiser Permanente San Diego Medical Center on HEDIS Measures, May 2010 and June 2012*

<table>
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<tr>
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<th>June 2012</th>
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<tbody>
<tr>
<td>Colorectal cancer screening</td>
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<tr>
<td>Breast cancer screening</td>
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<tr>
<td>Diabetes: LDL-C &lt; 100</td>
<td>61.6%</td>
<td>65.8%</td>
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</tr>
<tr>
<td>Blood pressure control in hypertension</td>
<td>81.5%</td>
<td>86.0%</td>
</tr>
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</table>

* HEDIS, Healthcare Effectiveness Data and Information Set; HbA1c, glycosylated hemoglobin; LDL-C, low-density lipoprotein cholesterol.
centiles for most of the measures. Complete Care provides an example of using core components to provide reliable and scalable health care across 25 conditions and preventive needs.  

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