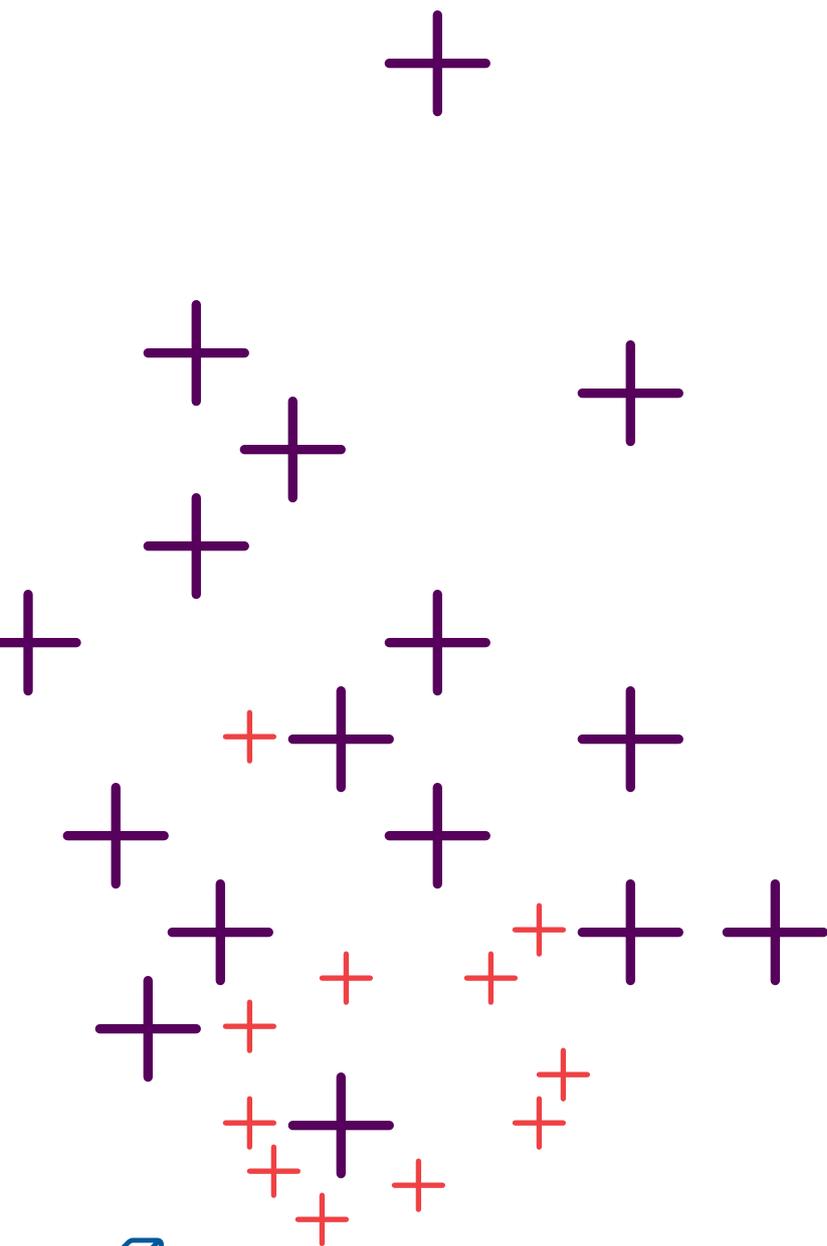


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How a Diabetes System of Care Can Reduce Costs and Improve Patient Outcomes

By Thomas Graf and Cynthia Bailey

A physician-led, team-based model of care is at the core of a diabetes system of care.

Can a comprehensive system of diabetes care actually reduce costs while improving quality? According to new evidence, the answer is an emphatic “Yes” and within a short period of time.

Two recent studies have demonstrated a significantly reduced risk of complications such as stroke, myocardial infarction (MI), and retinopathy among diabetes patients after only one year (Bloom, F.J. Jr., Yan, X., Stewart, W.F., et al., “Primary Care Diabetes Bundle Management: 3-Year Outcomes for Microvascular and Macrovascular Events,” *The American Journal of Managed Care*, June 2014, vol. 20, no. 6, pp. e175-e182.). At the same time, the total cost of care was reduced significantly over five years (Maeng, D.D., Yan, X., Graf, T.R., et al., “Value of Primary Care Diabetes Management: Long-Term Cost Impacts,” *The American Journal of Managed Care*, March 2016, vol. 22, no. 3, pp. e88-e94).



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A New Approach to Improving Outcomes and Value

Health systems across the country are struggling with effective management of the diabetes patient population, which has continued to rise in recent years and is now estimated at 12 percent of the adult population (National Diabetes Statistics Report from the Centers for Disease Control and Prevention, 2014). Although the American Diabetes Association and others have published detailed, evidence-based recommendations, delivering all of the recommended care is difficult, particularly for patients with multiple comorbid conditions.

Fortunately, a comprehensive diabetes system of care that aligns care team incentives and enables reliable care delivery can improve patient outcomes and the patient experience and reduce avoidable downstream costs.

What Is a Diabetes System of Care?

The following are key components of a diabetes system of care.

An “all-or-none” approach to measuring and rewarding performance. At the core of the diabetes system of care is an all-or-none diabetes performance bundle that consists of nine quantifiable measures of care based on commonly accepted clinical elements and intermediate outcome targets (see the exhibit at right).

Physician and team incentives are awarded only when a patient fulfills *all* nine components of the bundle. Each clinician, nurse, and front-office staff member is evaluated and receives financial incentives based on meeting or exceeding the team’s all-or-none bundle improvement goal. Results are reported monthly and shared among all teams.

Initial studies show that the move from individual to bundled measures resulted in significant increases in compliance rates for all measures of diabetes care within one year of implementation (Bloom, F.J. Jr., Graf, T.R., Anderer, T., et al., “Redesign of a Diabetes System of Care Using an All or None Diabetes Bundle to Build Teamwork

and Improve Intermediate Outcomes,” *Diabetes Spectrum*, 2010, vol. 23, no. 3, pp. 165-169).

Physician-led, team-based model of care.

Implementing this diabetes system of care depends on shifting the traditional clinical care model to a team-based approach, with delegated responsibilities for each team member. The team includes a physician, nurse, case manager, and front-office staff, with each team member working top-of-license.

With clear accountabilities and decision-support tools in place, nurses and medical assistants provide all process-related diabetes care and act on alerts for influenza and pneumococcal immunizations, lab work, eye exam referrals, and foot screenings. Physicians receive decision support for only the elements of care that require complex medical decision making, such as medication and lab result management.

A shift of this magnitude requires clinical, cultural, and structural changes that can be challenging for clinicians and staff alike. Strong physician leadership to guide the development of new practices, policies,

and roles and to help build support among clinicians and other caregivers within the practices is critical to a successful transition. Alignment around what the shared future will look like for patients, physicians, and the care team is the first step in this process. Physicians are in the best position to articulate the need for change to their colleagues and assist in detailed plan development to support all team members and physicians who may be in very different stages of readiness and acceptance. Constant, varied, and continuous communication is key to achieving acceptance and sustaining change over time.

Standard, EHR-enabled care processes.

A diabetes system of care enables clinicians and teams to consistently deliver all evidence-based care and reduce unwarranted variations in care through streamlined practice-based processes, standardized workflows, and optimal utilization of electronic health records (EHRs). More specifically, a diabetes system of care requires the following elements.

- > Workflows that are measurable, scalable, reliable, and not dependent on individual provider preferences

The 9 Components of the All-or-None Diabetes Performance Bundle

Diabetes system of care performance is measured using nine quantifiable measures of care.

Bundle Component	Quality Standard
A1C measurement	Every 6 months
A1C control	Patient-specific goal <7 or 7-8%
LDL measurement	Annually
LDL control	Patient-specific goal <70 or <100 mg/dL
Blood pressure measurement	<140 SBP, <80 DBP
Urine protein testing	Annually
Influenza immunization	Annually
Pneumococcal immunization	Once before age 65 years, once after age 65 years
Smoking status assessment	Nonsmoker

Key: A1C = glycemic hemoglobin, DBP = diastolic blood pressure, LDL = low-density lipoprotein, SBP = systolic blood pressure

Source: The Chartis Group, Chicago. Used with permission.

- > EHR decision support for all process-related care and select standing orders
- > A patient portal that allows patients to view and act on their own care
- > Auto-generated patient report cards to be shared with the patients and used as learning tools
- > Automatic updating of patient registries that drive alerts for scheduling of needed tests, immunizations, and exams
- > Meaningful team and individual performance data and reports

Early Impact on Quality and Total Cost of Care

Two recent studies conducted at Geisinger Health System, Danville, Pa., show significant and rapid improvement in both quality and cost of care after a diabetes system of care implementation. The three-year study focused on patient outcomes, showing statistically significant risk reduction for serious macrovascular and microvascular complications including stroke, MI, and retinoplasty for diabetes system of care patients versus usual care, with notable risk reduction occurring even in the first year. Over the three-year period, prevention of one heart attack required treatment of only 82 patients, and prevention of one stroke required treatment of only 178 patients. These phenomenal results hold the key to significant reductions in complications for the 30 million diabetic patients across the United States.

The five-year study focused on costs and demonstrated a 6.9 percent reduction in total cost of care over five years, primarily in inpatient facility costs (see the exhibit above).

Supporting a Diabetes System of Care

The following are ways finance leaders can support the development and implementation of a diabetes system of care customized for their specific organizations.

Create a culture of collaboration. Work with other administrative leaders to determine the opportunity for improved management of diabetes and other chronic diseases

Diabetes Bundle Exposure Impact on Total Medical Cost of Care Per Member Per Month

Significant and rapid results can be achieved in both patient outcomes and total cost of care through an effective diabetes system of care that aligns incentives and supports consistent, reliable care delivery.

Diabetes Bundle Exposure (months)	Medical: Observed	Medical: Expected	Difference	Percent Difference	P-Value
>0*	\$630	\$677	-\$47	-6.9%	<.05
1-12	\$551	\$551	\$0	0.0%	.99
13-24	\$520	\$562	-\$42	-7.4%	.21
25-36	\$513	\$586	-\$73	-12.5%	<.05
37-48	\$603	\$620	-\$17	-2.7%	.69
49-60	\$538	\$662	-\$124	-18.8%	<.01
61-72	\$602	\$706	-\$104	-14.7%	<.01
>72	\$804	\$834	-\$31	-3.7%	.54

*The average of all the categories below.
 Source: The Chartis Group, Chicago. Used with permission.
 Citation: Maeng, D.D., Yan, X., Graf, I.R., et al., "Value of Primary Care Diabetes Management: Long-term Cost Impacts," *The American Journal of Managed Care*, March 2016, vol. 22, no. 3, pp. e88-e94.

through more consistent delivery of all evidence-based care and reduction of unwarranted variations in care. A small, dedicated team whose primary focus is the development of new people systems, extended automation, and training on these new systems will provide significant leverage and support with minimal upfront investment. These results indicate that, at least in some situations, additional resource requirements are small (three FTEs/100 physicians) and are best used in system redesign, automation, support, and training of operations staff, rather than direct patient care positions.

Invest in leadership. Identify physician and administrative leaders with the capability and authority to guide the organization through the design and implementation of a new system of care. Invest in innovative individuals who can envision a better process that aligns training with specific tasks, emphasizing top-of-license work with the tools and training required to ensure reliably better outcomes.

Be a change agent. Actively support the clinical, cultural, and structural changes required by the new system of care, including new accountabilities and the shift to team-delivered care.

Focus on aligning incentives. Review physician and staff incentive structures ensuring alignment with leadership's strategic goals for the organization. A significant portion of physician total cash compensation, 15-25 percent, should be allocated for quality outcome performance for comprehensive improvement (e.g., bundled measures) of chronic disease and other conditions, rather than process measures. Support staff should also have the opportunity to earn incentive dollars based on these shared metrics as well as role-specific performance. These systems should be designed with significant physician involvement in the process from beginning to end.

Make wise IT investments. Ensure EHR and other system and infrastructure requirements are adequately resourced to support

a comprehensive measurement and feedback system, clinical process redesign, and enhanced patient engagement. These systems need to provide complete, accurate, and proactive information for each user and to ask intelligent and actionable questions that can be resolved with minimal physician or patient frustration.

Use predictive analytics and other tools to forecast costs. In conjunction with clinical leadership, quantify the improvement opportunity of reducing avoidable downstream care

costs and its importance in a value-based care environment. Work with operations leaders to develop contingency plans to build volume replacement programs, and coordinate with the contracting team to ensure that value created is realized by the organization.

With strong financial, administrative, and clinical leadership, a diabetes system of care can help organizations deliver better care to a vulnerable and growing patient population while reducing complications and costs. Properly implemented,

a diabetes system of care also can serve as a model for advanced chronic care management and superior quality and cost performance required in an increasingly value-based environment. +

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