

Diabetes Initiative

The evaluation of this program, a 30-month, multi-site initiative to improve diabetes self-management and to determine whether self-management principles could be implemented effectively in real-world settings, found that:

- Effective self-management programs can be implemented in real-world clinical and community settings.
- Such programs can increase patient-reported resources and supports for self-management (RSSM), help patients improve self-management behaviors and enhance or maintain metabolic control.
- Hb_{A1c} levels decreased from baseline to 12 months by 0.56 point.
- Patients reporting high levels of RSSM were more likely achieve Hb_{A1c} decreases or maintain baseline controlled levels.

The improvements seen suggest that, in time, diabetes-related mortality and adverse events will be avoided and that programs leading to similar improvements and costing similar amounts are cost-effective.

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THE PROGRAM

Purpose or Objective of the Program

The Diabetes Initiative sought to:

- Test self-management program models
- Disseminate successful models in non-academic, primary care settings.

The Diabetes Initiative consisted of two national programs: Advancing Diabetes Self Management (ADSM) and Building Community Supports for Diabetes Care (BCS).

- The six ADSM sites focused on promoting self management in primary care settings.
- The eight BCS sites focused on promoting self management and diabetes care through community-clinic partnerships.

These 14 grantees provided care to diverse patient populations, most of whom were socioeconomically disadvantaged.

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Program Elements

- *Advancing Diabetes Self-Management* had six grantees and focused on improving patient self-management in primary care settings. It sought to demonstrate that improving patient self-management would also improve patient outcomes.
 - Four of the six sites were community health centers, one was a hospital-based residency program, and one was a university.
- *Building Community Support* had eight grantees and sought to increase community resources available to help persons manage their diabetes.
 - Grantees consisted of community health centers, a county public health department and a tribal leaders' council.

An RWJF committee selected the participating sites from over 300 applicants. Almost all the selected sites served traditionally underserved populations and minorities.

The program supported:

- Ten collaborative learning network meetings.
- Time for leadership and staff of funded organizations to develop and refine their diabetes care programs and participate with other grantees in a collaborative learning network.
- Time for staff in funded organizations to implement self-management programs.
- The NPO's provision of technical assistance on topics related to diabetes care.

Funds from the project did *not* support the introduction of staff or programmatic resources not normally available in the settings involved.

Key Dates

Program dates:

February, 2003 – October, 2006

Evaluation dates:

March, 2003 – October 2008

QI Strategy

- Collaborative Learning Model

Clinical Conditions Targeted

- Diabetes

Level of Intervention

- Organization level
- Provider level
- Patient level

THE EVALUATION

Evaluation Team

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Purpose of the Evaluation

In its evaluation of the *Diabetes Initiative*, the evaluation team examined whether the program's interventions:

- Increased support for self-management.
- Helped people with diabetes change their behavior.
- Led to improved health for these patients.
- Were cost-effective, in a real-world, primary care setting.

Level of the Evaluation

- Organization level
- Patient level

Design of the Evaluation

The evaluation used a quasi-experimental longitudinal study design that did not include a comparison group. The evaluation team used both quantitative and qualitative methods.

- The evaluation team used data from site visits, medical records, and a three-wave survey of patients to assess implementation, patient-reported outcomes, and clinical outcomes.

- The evaluation team used key informant interviews to examine local perceptions and concerns about diabetes, and to identify how organizational capacity and partnership strength can affect an organization’s ability to implement changes that will support diabetes self-management. The team also used interview results to understand and code the intensity of each site’s interventions.

Methodology

Use of Data:

	Used to assess impact at the:		
	Organization level	Provider or staff level	Patient level
Survey			
In-person			
By phone	X		X
Internet			
Mail			
Site visit			
Interview			
Provider	X		X
Patient			
Key Informant	X		
Clinical data/chart review			
Clinical data/other source (electronic registers)	X		X
Participation data	X		X
Other process data			

Data sources were:

- Key informant interviews from administrators, providers, and community partners of each of the 14 grantee sites.
- Clinical records, typically electronic disease registers or electronic files (Excel) extracted from medical records by the grantees. These clinical data supported assessment of the effect of the interventions on key clinical indicators related to diabetes.
- Participant surveys, which provided information on perceived support for self-management as well as self-management behaviors.

Analytic Approach

The qualitative evaluation included the creation of environmental context summaries for all 14 grantees. These summaries were based on characteristics of the communities observed during the site visits and on key informant interviews conducted during these site visits.

The evaluation team used multivariate regression models to analyze the quantitative (survey and clinical data) data received, to assess the impact of the program on the individual patients with diabetes. The team analyzed how clinical and other measures changed over time for each participant.

The team folded these clinical results into a Markov simulation model to estimate the long-term effects of self-management interventions, assessing potential lifetime reductions in disease progression, costs of adverse events, and increases in quality of life. The evaluation team then reviewed the results of this model from a perspective that assessed the cost impact on the entire health system.

Key Measures and/or Constructs

The evaluation used both clinical measures and survey measures.

Clinical measures included:

- Hb_{A1c} levels
- Blood pressure
- Cholesterol levels

The program looked at changes in these levels over time.

Survey measures:

- Perceived access to resources and supports for self-management (RSSM), including:
 - Skills
 - Follow-up and support
 - Collaborative goal setting
 - Individualized assessment
 - Community resources
- Self-management behaviors such as:
 - Eating
 - Exercise
 - Medical management

Baseline clinical measures were available for most patients, and baseline survey measures were available for the late enrollees.

Findings

Grantees were successful in establishing diabetes self-management programs in diverse, real-world settings, even while facing severe constraints on resources and staffing.

Grantees used a variety of specific programmatic strategies to provide resources and supports for self-management:

- Individualized assessment
- Collaborative goal-setting
- Building key skills
- Ongoing follow up and support
- Links to community resources
- Continuity of quality clinical care.

Beneficial changes in metabolic control were observed in a diverse sample representing 12 of the 14 sites of the initiative. The observed .55 point reduction of Hb_{A1c} (from 8.3% to 7.7%) is typical of changes that have been observed in other research settings; the programs in this initiative, however, served traditionally underserved populations. Also, 62% of the survey respondents reported less than high school education and only 14% reported any post-secondary education, making greater socio-economic status an unlikely cause of patterns among these data.

The findings suggest that, controlling for other variables, those who report greater resources and support for self-management (RSSM) went on to realize improved metabolic control. This also supports the predictive validity of the participant self-report of RSSM.

Self-management programs for type 2 diabetes are cost-effective from a health systems perspective when the cost savings due to reductions in long-term complications are recognized. These findings may justify increased reimbursement for effective self-management programs in diverse settings.

Please see Appendix A for a more detailed summary of the evaluation's finding.

Limitations

As with all observational studies of this type, the results might include some biases:

- Persons who have both baseline and follow-up clinical measures could be a more compliant subset of patients.
- Some of the improvements could be attributable to “usual care” rather than to the specific enhanced programmatic elements implemented.

These limitations occur in almost all program evaluations, however, and are not unique to the *Diabetes Initiative*.

The results of the surveys may be subject to some level of non-response bias. Survey measures related to desirable behaviors (e.g., physical activity and eating) may be subject to bias related to social desirability.

Tools and Other Resources Developed in the Evaluation

The Diabetes Initiative developed:

- A Resources and Supports for Self-Management (RSSM) model that served as a template of the needs of people with diabetes. The RSSM identified 17 elements of self-management support, in five categories:
 - Individualized assessment
 - Collaborative goal setting
 - Enhancing skills

- Ongoing follow-up and support
- Community resources.
- A Support from Care Teams measure (or RSSM measure), comprising an 18-item scale with 5 subscales. (Note: RTI has since developed and tested a shorter, 6-item version and currently is using it in other program evaluations). The original, longer version is available in English and Spanish, the short-form RSSM is available in English, Spanish, Portuguese, Haitian Creole, and Vietnamese.
- A tool, the Assessment of Primary Care Resources and Supports for Chronic Disease Self-Management (PCRS), to assess an organization's capability to provide services to meet these needs.

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Evaluation Lessons Learned

The *Diabetes Initiative* did not entail a single self-management protocol, duplicated across 14 sites. Rather, working with the broad framework of Resources and Supports for Self-management, grantees implemented a variety of different intervention strategies according to their settings, populations, and organizational resources. Specific approaches varied considerably, including use of group medical visits; community health workers; self-

management classes; support groups; and various delivery system redesigns such as extensive use of medical assistants in patient lab testing and follow-up.