Facilitating Patients’ Diabetes Self-Management
A Primary Care Intervention Framework

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A quality primary care framework for diabetes self-management (DSM) is presented on the basis of prevalent office setting changes. Recent DSM research and literature are reviewed concerning (a) patients’ DSM perceptions and office visit experiences and (b) more effective office-based DSM programs. This quality primary care framework enables nurse clinicians to more consistently assess and integrate individual patient factors using typically limited clinic resources into office visits to optimize DSM patient outcomes. Key words: diabetes self-management, diabetes management supports, primary care, quality care framework

More than 180 million people in the world have been diagnosed with diabetes, with this number likely to more than double by 2030.1 Because of the increasing mortality and morbidity associated with diabetes, improving the primary care management of patients’ diabetes-related needs is an emerging international challenge.2

Although office-based diabetes care processes vary considerably, the constraints placed on many nurse clinicians attempting to meet the complex needs of many adults with diabetes during office visits have worsened.3,4 Currently, diabetes care guidelines recommend 3 to 4 office visits each year, totaling less than 2 hours of formal diabetes care. During the remaining annual 8764 hours, patients must manage most of their own diabetes-related needs.5 Successful diabetes self-management (DSM) generally requires that adults maintain a regimen of behavioral adjustments between office visits.6 Similar findings have been noted by W.D. Corser, C. Lein, M. Holmes-Rovner, V. Gossain (unpublished data, 2008).

The discordance experienced between many patients’ formal diabetes care expectations with their daily DSM experiences has worsened.7,8 Increased previsit preparation is now required for most patients to effectively discuss their DSM approaches with clinicians.9–11

As the relationship between many primary care patients with diabetes and their clinicians continues to change during frequently rushed office visits, a reexamination of earlier DSM intervention activities and the paradigms on which they were based is warranted to more meaningfully support patients between formal care encounters.9,12,13

Purpose

The primary purpose of this article is to present a realistic intervention framework for the consistent delivery of supportive DSM primary care interventions under typical practice circumstances. The authors discuss specific intervention strategies and activities to promote the ongoing support of patients’ DSM efforts and make recommendations for the development and

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evaluation of office-based initiatives of this type.

BACKGROUND

Although most chronic health conditions can impose daily self-management demands, the challenges imposed by routine DSM are especially complex.10,14 Individuals with diabetes must make frequent medication, diet, physical activity, and emotional choices, with an ongoing set of behavioral adjustments and decisions frequently required11 (W. D. Corser et al, unpublished data, 2008). When provided insufficient DSM supports between office visits, patients with diabetes are especially vulnerable to poorer health outcomes.2,10,14,15

One of the most frequently advocated chronic illness implementation frameworks that include a total of 6 patient self-management supports and care delivery system elements is the chronic care model (CCM).16,17 The CCM has been adapted to implement DSM office-based programs, later shown to improve patient health outcomes within controlled samples and settings.17–19 This commonly cited framework has been subsequently adapted by the World Health Organization for international use in the Innovative Care for Chronic Conditions Framework.4 Proponents of more commonly cited chronic illness intervention frameworks such as the CCM have stressed that the more systematic inclusion of both patient- and setting-specific programmatic supports will be necessary to help many primary care patients achieve optimal health outcomes.2,14

Major types of DSM programs

Diabetes self-management supports can be categorized into (a) patient-oriented interventions, (b) clinician or system-oriented interventions, and (c) combined interventions that include both patient and clinician or systems activities. Patient-oriented interventions have been primarily geared to providing patients with educational diabetes information to promote their optimal DSM behaviors. Activities have ranged from brief individual office-based20,21 to intensive group-based activities,22,23 nurse-coaching intervention,24 and multidisciplinary care meetings.22 These promising types of DSM initiatives have generally included thorough assessments of patients' established behavior patterns, beliefs, and self-efficacy to identify patients' barriers to making strategic behavioral changes. Collaborative goal setting and problem solving between more engaged patients and their clinicians have been used to provide key DSM post–office visit supports for patients.20 At the same time, however, the simple provision of diabetes education is not sufficient for many patients to effectively formulate DSM strategies and maintain behaviors11 (W. D. Corser et al, unpublished data, 2008).

Rather than primarily relying on individualized program activities, research has suggested that providing DSM supports through group visits could provide a more cost-effective alternative to significantly improve patients' glycemic control without increasing clinicians' workloads.22,23 These types of group or cluster visit interventions may provide patients with powerful peer supports that cannot be derived from typical office visits.8–10

Clinician-oriented DSM supports have been designed to modify clinicians' practice patterns by educating them about updated diabetes practice guidelines, providing computer system feedback about their orders, and forming interdisciplinary teams to optimize care coordination.25,26 The partnering of generalist physicians with specialists may be one potential solution to improve the delivery of more evidence-based diabetes care. In a program implemented in 2005, internal medicine residents were systematically partnered with endocrinologists to achieve significant improvements in HbA1c levels.26 Still, diabetes experts have confirmed that although improvements in diabetes office care can ameliorate patient health outcomes, they are not necessarily supportive of patients' daily DSM behaviors.7,8,27
Combined DSM support interventions have purposefully included both patient-level and clinician/system activities. Notably, this group of interventions has demonstrated the most consistent effects on both clinicians’ adherence to diabetes care guidelines and patients’ knowledge, behaviors, and HbA1c outcomes. Some of these types of interventions have been specifically based on the CCM framework to include similar educational, counseling, and goal-setting activities to provide both patient DSM supports and care delivery system components such as office visit protocols, decision support, and computer system supports.

One multidisciplinary approach has entailed the services of nurse case managers to provide a more cost-effective means of reviewing patients’ medical needs, providing follow-up phone call contacts, and coordinating the multidisciplinary team.

This growing body of research has indicated that more inclusive types of DSM primary care interventions are generally required to help many patients achieve significant improvements in their health outcomes. The works of the authors of this article and others has emphasized that quality of care initiatives must more purposefully address the growing number of setting-imposed factors such as time constraints, established provider practice patterns, and others, now affecting many contemporary patients’ daily DSM experiences.

PROPOSED DSM INTERVENTION FRAMEWORK

The overall purpose of this proposed DSM framework is to facilitate consistent delivery of effective DSM primary care supports that are compatible with both patients’ individual needs and contemporary clinicians’ practice conditions. This comprehensive framework is purposefully designed to encourage the integration of both primary care patient and clinician supportive activities that sustain patients’ daily DSM behaviors.

This intervention framework (Figure 1) is based on the authors’ conclusion from the recent DSM research that more inclusive activities are needed to address many of the problematic conditions affecting the overall nature of patients’ daily DSM experiences.

Figure 1. A diabetes self-management primary care intervention framework.
of many office-based interactions between patients and clinicians. As depicted in the figure, an intervention that is supportive of patients’ DSM efforts must be first compatible (upper left half of the figure) with patients’ assessed DSM attitudes, beliefs, and self-efficacy while addressing perceived DSM barriers and behavioral patterns. The assessment (and reassessment) of these complex aspects affecting many patients’ DSM experiences is often key to maintaining a therapeutically supportive patient-clinician relationship.

At the same time, a realistic DSM intervention must enable clinicians to provide patients with more supplemental coordination of DSM supports (left lower half of the figure) than what many office-based clinicians can now routinely provide. Intervention activities of this type are often necessary to capitalize on patients’ personal DSM factors and formal clinic processes to support patients’ routine DSM. The authors expect that this more effective type of integration of supports (middle of the figure) will result in more sustainable improvements in patients’ DSM behaviors, accessibility to DSM resources, and clinical health outcomes (far right of figure).

**Application of framework**

The proposed framework provides an integrated approach to patient care including a set of office-based DSM intervention activities that optimally integrate both patient- and clinician-level DSM supports. To accomplish this goal, a number of strategies should be considered.

**Thorough preintervention assessments**

Understanding patients’ DSM-related strengths and barriers to behavior change is important. Therefore, as indicated in the proposed model, primary care clinicians should first systematically assess each patient’s DSM attitudes, beliefs, and behaviors. This information can be documented on some type of summary “profile” sheet to help clinicians identify the patient’s healthy behaviors, which should be reinforced, and monitor the unhealthy behavioral patterns that may require modification. Clinicians need to identify each patient’s specific DSM barriers to making behavioral changes, accessing resources, and managing their own needs, making an effort to eliminate barriers. Data concerning patients’ economic resources, health or lifestyle beliefs, social patterns, cultural preference, and health literacy also should be collected to document the delivery of meaningful intervention activities and materials. Culturally sensitive intervention components can include educational materials in native languages and consideration of patients’ cultural norms and values.

The chronic illness intervention framework such as the CCM has suggested that the redesign of the primary care system is critical to improve quality of care and health outcomes. However, standardized DSM office protocols and program activities may not always be appropriate under some clinician- or setting-specific conditions because of the variability of the available resources and capability of the clinicians and clinical settings. Therefore, as indicated in the proposed model, an ongoing assessment of current clinic protocols and practice patterns is also necessary to identify the strengths and weaknesses of the clinicians and settings. A careful investigation of (a) clinicians’ current diabetes care knowledge and beliefs, (b) prevalent practice patterns, and (c) available office resources to support patients’ DSM can be important for sustaining the program within the primary care practice.

**Strategic activation of patients and clinicians**

Our model proposes that efficient patient-clinical interaction during the office visit is also important to support DSM. A supportive primary care milieu should overtly activate both patients and clinicians. Patients can be trained to be more engaged and assertive with clinicians during office visit decision-making discussions; participating in diabetes
goal-setting sessions and problem-solving exercises help patients better understand these skills. It may be helpful to explicitly instruct patients on specific techniques to more effectively seek medical information, for example, about symptoms and possible complications and negotiate diabetes office visit decisions with clinicians.

Many primary care clinicians require specific training so as to overcome possibly unsupportive practice patterns. Clinicians can be motivated to support patients’ DSM strategies during interactive role-plays of decision-making discussions with patients. Computerized medical record systems can provide clinicians with patient-tracking menus and guideline prompts to order screening tests to augment patients’ routine DSM behaviors. The purposeful motivation of office clinicians to be overtly supportive can be integral to promoting patients’ daily DSM efforts (W. D. Corser et al, unpublished data, 2008).

**Program activities that provide coordinated DSM supports**

Nurse clinicians and researchers need to appreciate the DSM challenges frequently experienced by overburdened diabetes patients and clinicians working under prevalent setting constraints. Whenever possible, intervention activities should provide patients with a set of ongoing and coordinated DSM supports to augment their daily behaviors.

One type of ongoing patient support is periodic telephone follow-ups that have demonstrated positive effects on patient DSM behaviors and outcomes. Scheduled telephone follow-up contacts can be combined with computerized patient tracking systems and clinician reminder prompts to facilitate ongoing support of patients’ established DSM regimens. In settings unable to provide consistent telephone follow-ups, the authors have used printed DSM materials and clinic medical records tracking systems to help clinicians provide patients with more meaningful DSM advice when patients call with problems between office visits. Printed materials for patients listing different DSM decision-making scenarios, major types of DSM goals, parameters for when to contact clinicians, and daily management tips can be useful for facilitating effective patients’ DSM decisions and problem solving.

Case management type services may enhance the continuity of DSM patient supports provided. A nurse case manager or diabetes educator working with other clinicians also can formulate and maintain patients’ plans of care by periodically reassessing their DSM needs, resources, and barriers. Case managers can facilitate the coordination of office resources with other healthcare agencies between patient office visits. Nurse educators are being increasingly employed in office settings to serve as case managers to monitor patients’ acquired DSM knowledge and behaviors while coordinating their care with multidisciplinary teams.

Diabetes researchers have demonstrated how nurses may be in an especially suitable position to deliver quality DSM supports in office settings. As clinicians are used to intervening with patients under frequently fragmented and changing circumstances, nurses can provide the coordination of DSM supports currently lacking in many primary care settings. Because nurses possess clinical expertise and keener awareness of patients’ needs and systems conditions than many other disciplines, quality interventions can capitalize on nurses’ expertise in primary care DSM supports that are sustainable for both patients and clinicians.

The issues connected with supporting patients who possess multiple comorbid conditions and complex psychosocial factors, as well as those who may be largely incapable of benefiting from standard DSM intervention activities need to be carefully considered. In the coming years, office-based DSM activities will ideally be capable of accommodating variable clinician approaches to diabetes care, clinic setting conditions, and patients’ motivation to use available resources between office visits.
DISCUSSION

Diabetes self-management has always been a larger phenomenon than the sum of a patient’s DSM knowledge, behaviors, and decisions. Although the principles underlying patient-oriented interventions are relatively easy to understand, the complexities of consistently delivering supportive DSM activities for patients are not. Because of the practice constraints now occurring in so many primary care office settings, how office nurses strive to effectively integrate DSM supports for increasingly complex patients will require thoughtful preparation.

Certainly, the supportive DSM intervention activities tested to date have indicated that certain activities can significantly improve patients’ subsequent health outcomes. Still, DSM interventions and programs now designed to engage primary care patients and clinicians to achieve diabetes-related outcomes will typically require even more complex strategies.

Nurses may be especially suitable for implementing and delivering a new generation of supportive DSM initiatives in typical settings. Nurses’ ability to provide DSM supports based on holistic nursing care principles can provide a vital contribution to this aspect of office-based diabetes care. Because office visits ideally become more multidisciplinary in nature, the manner in which nurses work to recognize and measure the patients’ outcomes that can be derived from nursing-specific DSM supports will require further development.

In this article, an integrated framework for the more consistent delivery of effective DSM primary care supports that purposefully includes both patient and setting-level elements has been presented. Although each patient’s DSM needs and strategies will continue to be a fundamentally personal phenomenon, the changes occurring in many primary care settings will require nurses to broaden the scope of their supportive activities to help patients manage their own needs. The activities, protocols, and outcome measures used to evaluate the effects of DSM initiatives will need to be customized for many contemporary office settings. As clinicians are accustomed to caring for complex patients under turbulent practice conditions, however, nurses are in an advantageous position to deliver and evaluate the new generation of office-based DSM quality care initiatives.

REFERENCES


