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Achievement of Weight Loss and Other Requirements of the Diabetes Prevention and Recognition Program: A National Diabetes Prevention Program Network Based on Nationally Certified Diabetes Self-management Education Programs

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Purpose

The purpose of this report is (1) to describe the use of the American Association of Diabetes Educators' (AADE's) model of implementation of the National Diabetes Prevention Program through nationally certified diabetes self-management education (DSME) programs and (2) to report the aggregated program outcomes as defined by the Diabetes Prevention and Recognition Program standards of the Centers for Disease Control and Prevention (CDC).

Methods

In 2012, the AADE worked with the CDC to select 30 certified DSME programs for National Diabetes Prevention Program delivery. For the following 3 years, the AADE continued to work with 25 of the 30 original programs. Results for all CDC recognition standards have been collected from these 25 programs and analyzed as aggregated data over the course of 36 months.

Results

At the end of the full-year program, average percentage body weight loss for participants across all 25 programs exceeded the CDC's minimum requirement of 5% weight loss. All programs on average met the CDC requirements for program attendance.

Conclusion

Increasing access to the National Diabetes Prevention Program, through an array of networks, including certified DSME programs, will better ensure that people are able to engage in an effective approach to reducing their risk of diabetes.

Type 2 diabetes and its precursor, prediabetes, continue to increase in prevalence. The most recent data[1] from the Centers for Disease Control and Prevention (CDC) estimate that 29.1 million people in the United States (>9% of the population) have diabetes. Of this number, only 21 million are aware of their diagnosis, meaning that about 28% are not even aware that their glycemic control has deteriorated to the point where they have overt diabetes. Compared with the data for those with diabetes, the estimate is that 86 million individuals (>66% of the US population) have prediabetes. Of these, only about 10% are aware that they have prediabetes, putting them at very high risk of developing diabetes.

The guidance from the US Preventative Services Task Force about screening for type 2 diabetes in asymptomatic adults was updated in December 2015. Although the previous recommendation was for screening for abnormal blood glucose in asymptomatic adults with sustained blood pressure >135/80 mm Hg (treated or untreated),[2] the current update broadens the category of adults to be screened to those at "increased risk," defined as having factors that raise the chance of developing diabetes, such as being ≥40 years old, being overweight or obese, having a close relative with diabetes, or having a history of gestational diabetes or polycystic ovarian syndrome.[3] In its updated recommendation, the task force has assigned the revised guidance on screening for type 2 diabetes a grade of B, indicating a high certainty that the net benefit is moderate or a moderate certainty that the net benefit is moderate to substantial.[4] Implementation of this recommendation has great potential to increase awareness of glycemic status in individuals with diabetes and prediabetes.

An important factor resulting in the broader definition for the target population, in whom screening would be of benefit, was the strong evidence base demonstrating the efficacy of lifestyle and/or drug interventions programs to significantly reduce the rate of diabetes onset.[5-15] Lifestyle intervention for glycemic control is considered first-line therapy for most; it entails targeting weight loss through improvement to diet and increased physical activity or exercise. While both lifestyle and drug interventions have been seen to reduce the rate of diabetes onset, lifestyle (not metformin) has been associated with a higher quality of life based on physical health score. However, metformin and lifestyle interventions have both been found to be effective in the long term.[7,16]

Building on the outcomes from the Diabetes Prevention Program (DPP) Research Group,[10] a cost-effective model for delivering a group-based version of the DPP in partnership with the YMCA was evaluated and found to have promising outcomes.[17] The success of this program—in combination with awareness of the increasing prevalence of type 2 diabetes and its economic ramifications—likely contributed to authorization in the Affordable Care Act for the CDC to establish the National DPP,[18] which resulted in the CDC's issuance of the Funding Opportunity Announcement for Preventing Type 2 Diabetes Among People at High Risk.

In 2012, the American Association of Diabetes Educators (AADE) submitted a grant application in response to this opportunity, which was issued by the CDC's Division of Diabetes Translation. An underlying premise of AADE's submission was that the national network of certified diabetes self-management education (DSME) programs—composed of those accredited through AADE's Diabetes Education Accreditation Program or recognized through the American Diabetes Association's Education Recognition Program—could serve as valuable resources through which to deliver the National DPP. In this report, the nationally certified DSME programs that received funding from AADE to deliver CDC-recognized DPPs are designated as *AADE DPP Sites*. For the purpose of the grant, AADE initially restricted its project to 14 states with the greatest prevalence of diabetes and obesity. Two more states were added to the project as of January 1, 2016, for a total of 16 states. This article reports on the original DSME programs that AADE began CDC-recognized DPP work with in 2013 and has continued to work with up to the present time in 2016, for a total of 25 AADE DPP Sites.

To qualify for consideration as an AADE DPP Site, the organization must be a nationally certified DSME program. Engaging certified DSME programs provides assurance that the personnel have in-depth knowledge about diabetes and its complications, a demonstrated ability to collect data, as well as an understanding of the needs of the people whom they will engage in terms of culture, differences in learning styles, and awareness about literacy and numeracy issues. By virtue of their being certified as being in compliance with the National Standards for Diabetes Self-Management Education and Support, they have experience tapping into the working knowledge of relevant community stakeholders.[19]

The feasibility of the AADE DPP as a model for the delivery of the National DPP and its reported outcomes required by the Diabetes Prevention Recognition Program (DPRP) of the CDC are provided here from the perspective of a 3-year time frame. CDC recognition (DPRP) is an assurance of program quality, and it indicates that participants engage in a program that has demonstrated efficacy to reduce development of type 2 diabetes. This article reports findings that delivery of the National DPP in the AADE model of CDC-recognized DPP implementation by nationally certified DSME programs is an effective delivery option for the program.

Methods

Setting and Sample

In its agreement with the CDC, AADE proposed 12 states in which to work, based on rates of diabetes and the number of certified DSME programs that would be able to provide CDC-recognized DPPs. AADE then posted a request for proposal at the end of 2012. AADE worked with the CDC to send a request for applications to nationally certified DSME programs in 14 target states, and programs interested in delivering the National DPP responded. Applications were scored on the basis of documented experience with community outreach, provision of DSME, and participant retention. Site selection included consideration of coverage in the desired geography. In January 2013, AADE reviewed all applications (>100) and chose sites that were in its proposed states and that were able to demonstrate a current successful DSME program (based on attendance and completion rates) as well as a potential capacity to scale a National DPP (based on staff, physician referrals, and current contacts with potential CDC-recognized DPP payers and employer groups). AADE selected 30 sites and began to work with them as subgrantees. Over the next 2 years, the subgrantee relationship was ended with 5 of the original 30 sites, due to staff turnover and sites' decision to discontinue their CDC-recognized DPPs and/or inability to comply with AADE DPP grantee requirements. Thus, AADE was able to continue CDC-recognized DPP work with 25 of these programs, called AADE DPP Sites, up to the present and inclusive of the years 2013, 2014, and 2015.

Payment Markers and Staffing Requirements

AADE designed its grant funding to the programs to be segmented into markers that programs had to achieve to receive funding. The initial marker required programs to apply for the CDC's DPRP pending status, identify a program coordinator, and send 2 staff members for lifestyle coach training. While AADE required that the program coordinator be a diabetes educator, there was no requirement that staff trained as lifestyle coaches be health care professionals. However, due to the nature and setting of the programs, almost all the staff at these programs were diabetes educators. Subsequent payment markers for AADE funding required documentation of progress of up to 3 cohorts of CDC-recognized DPP participants in the first year (2013). A cohort of participants was defined by AADE requirements as at least 8 participants to enroll and a maximum of 20. Most cohorts comprised approximately 10 to 12 participants.

Data Collection and Outcome Measures

In the first year of funding, AADE DPP Sites submitted their data biannually to DPRP and monthly to AADE. Average weight loss, attendance, and other variables are reported here for the 3-year period of 2013-2015 through analysis of the data from those participants who attended ≥4 sessions of the 12-month program. Weight loss was examined both as a function of the number of sessions attended and as a function of self-reported minutes of physical activity based on the locally weighted scatterplot smoother LOESS, as implemented in the SGPANEL procedure of SAS 9.3 for Windows with a specified smoothing constant of 0.4. Spearman correlation coefficients were used to examine the relationships between weight loss and (1) sessions attended and (2) self-reported minutes of physical activity, due to the data not following a bivariate normal distribution and to minimize the effects of outliers.

Lifestyle Coach Training and Participant Recruitment

AADE ensured that AADE DPP Sites had funding each year to attend lifestyle coach trainings and required each staff member to be trained in CDC-recognized DPP delivery by a CDC-approved training entity. In 2015, AADE became a CDC-approved training entity, allowing easier assembly of trainings to meet programs' staffing needs to address turnover and/or program expansion. Each site was also responsible for recruiting and enrolling eligible participants. In the first year, participants were enrolled in the program at no cost to them and were funded through scholarships covered through the grant. In following year, many of the sites received some type of outside reimbursement stream as well as reduced grant funding from AADE. The overall goal for the cooperative agreement from the CDC was for the AADE DPP Sites to become sustainable without grant funding; therefore, AADE worked to provide support, tools, resources, and technical assistance in place of scholarships for participants through the second and third funding years. AADE also asked AADE DPP Sites to submit a true cost report on each cohort of participants engaged in the first year and an overall summery of costs for cohorts in the second and third years. As of 2016, all of the current AADE DPP Sites have attained outside reimbursement.

Results

In response to the request for proposals in the geography delineated in AADE's grant application to the CDC, AADE received 106 applications. A total of 30 nationally certified DSME programs were selected to receive grant funding. This article provides an analysis of the program outcomes, as defined by the CDC's DPRP standards, of the 25 programs that worked continuously with AADE in CDC-recognized DPP implementation over a 3-year period (2013-2015). All 25 programs received the same amount of funding to scale and sustain their delivery of CDC-recognized DPPs.

Aggregation of the data collected from the 25 AADE DPP Sites (2013-2015) for compliance with CDC reporting produced the following results. There were 168 cohorts over the 3-year period with a total of 1735 participants. Based on the definition of retention as including only those participants who attended ≥4 sessions, the retention rate over the 3-year period was 1596 of 1735 total participants (92.0%).

Based on the categories for race defined by the DPRP, self-report of race by AADE DPP participants over the 3-year period was 1% Asian (n = 10), 11% black or African American (n = 185), 2% Hispanic (n = 35), 5% Native American (n = 86), 0% Hawaiian/Pacific Islander (n = 1), and 82% White (n = 1425). A few participants self-reported as >1 race/ethnicity, resulting in a total number of 1742, which slightly exceeds the total participant number of 1735.

Table 1 provides a summary of aggregated data from the 25 AADE DPP Sites over the 3-year period as compared with the current standards (implemented as of January 1, 2015) for full CDC recognition through the DPRP. Metrics tracked include measures related to session attendance, body weight, and physical activity. Regarding program eligibility, 67% of the 1596 participants who attended ≥4 sessions were determined to be eligible per a blood test indicating prediabetes or a history of gestational diabetes; 31% were eligible according to the CDC Prediabetes Screening Test, the American Diabetes Association Type 2 Diabetes Risk Test, or a claims-based risk test; and 2% were ineligible (Table 1).

For the 1596 participants who attended ≥4 sessions, average percentage body weight loss at the end of their participation in the full year program was −5.63% ± 0.16 (SEM). Percentage weight loss for men and women was associated with the number of sessions attended by participants; this was a low significant negative relationship. The Spearman correlation coefficients for weight loss as a function of the number of sessions attended by participants were −0.12550 ($P = .0358$) for men and −0.28562 ($P < .0001$) for women. Examination of the impact of self-reported minutes of physical activity showed an association between percentage weight loss and the average number of minutes of self-reported physical activity per week; this too was a low significant negative relationship. The Spearman correlation coefficients for weight loss as a function of participant-reported minutes of physical activity were −0.19744 ($P = .0009$) for men and −0.18517 ($P < .0001$) for women.

Discussion

Although it has been reported that more than half of people at increased risk of developing diabetes report trying to manage their weight, restrict their caloric intake, and increase their level of physical activity,[20] recidivism rates with individual efforts are high.[21] In contrast, the modest weight loss achieved by participation in the

Table 1

CDC DPRP Requirements for Program Recognition and Summary of 2013-2015 Aggregate Data from 25 AADE DPP Sites

			Participants		
Standard	**Current Requirements[a]**	**AADE DPP Sites[b]**	**Sites Meeting the Criterion (Out of 25), n (%)**	**Across All Sites Meeting the Criterion (Out of 1596), n (%)**	**Weight Loss With Attendance ≥4 Sessions, Mean ± SEM, %**
1: Application for recognition	Must provide the organization's identifying information to DPRP	Application for recognition to DPRP is a requirement	25 (100)		
2: Lifestyle curriculum	Must meet requirements for curriculum content described[c]	Utilized the curriculum available from the CDC,[d] the University of Pittsburgh's Group Lifestyle Balance curriculum,[e] or Native Lifestyle Balance curriculum[f]	25 (100)		
3: Intervention duration	1-y duration	Offer program as a 1-y engagement	25 (100)		
4: Intervention intensity	MIN of 16 sessions, delivered approximately 1/wk during months 1-6, followed by a MIN of 6 sessions delivered at least 1/mo, during months 7-12	Offered 16 sessions ("core sessions") approximately 1/wk, followed by at least 6 sessions offered over the remaining 12-mo period	25 (100)		
5: Session attendance during months 1-6	MIN of 9 sessions attended, on average		25 (100)	1409 (88)	
6: Documentation of body weight	On average, participants must have had body weights recorded at a MIN of 80% of the sessions attended		25 (100)	1544 (97)	
7: Documentation of physical activity minutes	On average, participants must have had physical activity minutes recorded at a MIN of 60% of all sessions attended		10 (40)	847 (53)	

(continued)

Table 1

(continued)

Standard	Current Requirements[a]	AADE DPP Sites[b]	Participants		
			Sites Meeting the Criterion (Out of 25), n (%)	Across All Sites Meeting the Criterion (Out of 1596), n (%)	Weight Loss With Attendance ≥4 Sessions, Mean ± SEM, %
8: Weight loss achieved at 6 mo	Average weight loss achieved by participants attending a MIN of 4 sessions must be a MIN of 5% of "starting" body weight		15 (60)	758 (47)	–5.59% ± 0.15
9: Participant average session attendance during months 7-12	MIN of 3 sessions in months 7-12		6 (24)	645 (40)	
10: Weight loss achieved at 12 mo	Average weight loss achieved over the entire 12-mo intervention period by participants attending a MIN of 4 sessions must be a MIN of 5%-5.6% of "starting" body weight		16 (64)	745 (47)	–5.63% ± 0.16
11: Program eligibility requirement	MIN of 50% of participants must be eligible for the lifestyle intervention based on a blood test indicating prediabetes or a history of GDM. The remainder (maximum: 50% of participants) must be eligible per the CDC prediabetes screening test, the ADA type 2 diabetes risk test or a claims-based risk test.			Blood or GDM history: 1068 (67) Not by blood but by test: 488 (31) Ineligible: 40 (2)	

Abbreviations: AADE, American Association of Diabetes Educators; ADA, American Diabetes Association; CDC, Centers for Disease Control and Prevention; DPP, Diabetes Prevention Program; DPRP, Diabetes Prevention Recognition Program; GDM, gestational diabetes mellitus; MIN, minimum.

[a]As of January 1, 2015.

[b]Adhered to guidance from the CDC DPRP standards that were in effect September 2, 2011, to December 31, 2014.

[c]http://www.cdc.gov/diabetes/prevention/recognition/standards.htm.

[d]http://www.cdc.gov/diabetes/prevention/recognition/curriculum.htm.

[e]http://www.diabetesprevention.pitt.edu/index.php/for-the-public/for-health-providers/group-lifestyle-balance-curriculum/.

[f]http://nlb.hncpartners.org/.

National DPP was demonstrated to be sufficient to elicit statistically significant reduction in risk of diabetes.[11]

It has been said that development of the polio vaccine was insufficient to control polio because there needed to be a mechanism to deliver it to all parts of the United States.[22] Similarly, while long-term behavioral intervention may be effective at decreasing the risk of developing diabetes, it is not sufficient to thwart the incidence of diabetes. In addition to the AADE DPP model, there are other in-person delivery entities for the National DPP that have proven successful, as assessed by the CDC's DPRP standards. This article is not to discount other delivery models but simply to showcase the AADE DPP model's demonstration of the role that existing and future DSME programs can play in the field of diabetes prevention. Through this work, the AADE DPP, which is part of the Department of Science and Practice at AADE, has also been investigating the cost-effectiveness of the AADE DPP model. It is compiling a manuscript for future submission regarding the cost-effectiveness of the AADE DPP model, and results are promising at this point.

The diabetes educators employed in certified DSME programs are diverse, as the specialty is composed of nurses, dietitians, pharmacists, and other health care professionals with a unifying commitment to helping people succeed with the requisite varied self-care activities to forestall complications of diabetes and thus maximize quality of life. In addition, national surveys of diabetes educators conducted in 2012 and 2015[23,24] found that the majority reported providing education to people with prediabetes. It seems logical to tap into the knowledge, commitment, and interest of diabetes educators in nationally certified DSME programs to deliver and/or oversee the delivery of the National DPP. The recent data demonstrating efficacy of remote delivery of CDC-recognized DPPs either by DVD[25] or via an online social network[26,27] suggest yet another option for people. However, a proportion of individuals will view normalization of glycemia and the looming risks associated with diabetes as something that they are more comfortable addressing in association with health care professionals. The choice of whether to engage in an evidence-based CDC-recognized DPP remotely, at another CDC recognized in-person provider in the community, or in concert with one's health care system is an example of warranted variation—that is, variation of a health care service that is explained by variation in illness or patient preference.[28]

Managing the quality of life and economic ramifications of diabetes requires identification of those at risk and access to evidence-based programs to enable people to make the lifestyle changes needed to reduce their risk. Expansion of the target population for which the US Preventative Services Task Force recommends for screening has been an important first step. Increasing access to the National DPP—through an array of networks, including the AADE DPP model via nationally certified DSME programs—will help to ensure that people are able to engage in an effective approach to reducing their risk of diabetes.

Conclusion

The results presented in this report demonstrate the value of the AADE DPP model of CDC-recognized DPP delivery by nationally certified DSME programs as assessed by the CDC's DPRP recognition standards over the course of 36 months. The national registry of recognized DPPs lists contact information for all CDC-recognized organizations that deliver evidence-based, CDC-approved DPPs in communities across the United States. All of these programs have agreed to use a CDC-approved curriculum that meets the duration, intensity, and reporting requirements described in the DPRP standards. Full recognition means that a program has demonstrated effectiveness by achieving all of the performance criteria detailed in the DPRP standards.[29] As of the date of this submission (July 2016), there are 60 fully recognized DPRP programs on CDC's website. Out of all of the fully recognized programs, about half (50%) are delivered by nationally certified DSME programs, which fit the AADE DPP model. Out of all of the fully recognized programs implemented by DSME programs, about half of these (16) are among the AADE DPP Sites mentioned in this publication, making up about 25% of all fully recognized programs. The authors of this report see these statistics as a strength not only in AADE DPP Sites but also in the AADE DPP delivery model as a whole.

Implications and Relevance for Diabetes Educators

Diabetes educators are a diverse group of health care professionals with in-depth knowledge of not only the pathophysiology of diabetes but patient communication, counseling, and motivation.[30] Employment in health care and social assistance ranks third behind state/local government and professional/business services.[31] AADE's model of engaging diabetes educators through nationally certified DSME programs and using this network as the

hub through which to deliver the National DPP engages health care providers with a passion for the activity in locations across the nation where they can serve substantial numbers of individuals at risk for diabetes.

References

1. Centers for Disease Control and Prevention. *National Diabetes Statistics Report: Estimates of Diabetes and Its Burden in the United States, 2014*. Atlanta, GA: US Department of Health and Human Services; 2014.
2. US Preventative Services Task Force. Diabetes mellitus (type 2) in adults: screening. http://www.uspreventiveservicestaskforce.org/Page/Topic/recommendation-summary/diabetes-mellitus-type-2-in-adults-screening?ds=1&s=. Published 2008. Accessed January 22, 2016.
3. Siu AL. Screening for abnormal blood glucose and type 2 diabetes mellitus: US preventive services task force recommendation statement. *Ann Intern Med*. 2015;163(11):861-868.
4. US Preventative Services Task Force. Grade definitions after July 2012. http://www.uspreventiveservicestaskforce.org/Page/Name/grade-definitions. Published 2012. Accessed January 22, 2016.
5. Hivert MF, Christophi CA, Franks PW, et al. Lifestyle and metformin ameliorate insulin sensitivity independently of the genetic burden of established insulin resistance variants in diabetes prevention program participants. *Diabetes*. 2016;65(2):520-526.
6. Aroda VR, Christophi CA, Edelstein SL, et al. The effect of lifestyle intervention and metformin on preventing or delaying diabetes among women with and without gestational diabetes: the Diabetes Prevention Program outcomes study 10-year follow-up. *J Clin Endocrinol Metab*. 2015;100(4):1646-1653.
7. Diabetes Prevention Program Research Group. Long-term effects of lifestyle intervention or metformin on diabetes development and microvascular complications over 15-year follow-up: the Diabetes Prevention Program Outcomes Study. *Lancet Diabetes Endocrinol*. 2015;3(11):866-875.
8. Buchanan TA, Xiang AH, Peters RK, et al. Preservation of pancreatic beta-cell function and prevention of type 2 diabetes by pharmacological treatment of insulin resistance in high-risk hispanic women. *Diabetes*. 2002;51(9):2796-2803.
9. Chiasson JL, Josse RG, Gomis R, Hanefeld M, Karasik A, Laakso M. Acarbose for prevention of type 2 diabetes mellitus: the STOP-NIDDM randomised trial. *Lancet*. 2002;359(9323):2072-2077.
10. Knowler WC, Barrett-Connor E, Fowler SE, et al. Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med*. 2002;346(6):393-403.
11. Knowler WC, Fowler SE, Hamman RF, et al. 10-Year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcomes Study. *Lancet*. 2009;374(9702):1677-1686.
12. Pan XR, Li GW, Hu YH, et al. Effects of diet and exercise in preventing NIDDM in people with impaired glucose tolerance: the Da Qing IGT and Diabetes Study. *Diabetes Care*. 1997;20(4):537-544.
13. Paulweber B, Valensi P, Lindstrom J, et al. A European evidence-based guideline for the prevention of type 2 diabetes. *Horm Metab Res*. 2010;42(suppl 1):S3-S36.
14. Ramachandran A, Snehalatha C, Mary S, Mukesh B, Bhaskar AD, Vijay V. The Indian Diabetes Prevention Programme shows that lifestyle modification and metformin prevent type 2 diabetes in Asian Indian subjects with impaired glucose tolerance (IDPP-1). *Diabetologia*. 2006;49(2):289-297.
15. Swinburn BA, Metcalf PA, Ley SJ. Long-term (5-year) effects of a reduced-fat diet intervention in individuals with glucose intolerance. *Diabetes Care*. 2001;24(4):619-624.
16. Florez H, Pan Q, Ackermann RT, et al. Impact of lifestyle intervention and metformin on health-related quality of life: the diabetes prevention program randomized trial. *J Gen Intern Med*. 2012;27(12):1594-1601.
17. Ackermann RT, Finch EA, Brizendine E, Zhou H, Marrero DG. Translating the Diabetes Prevention Program into the community: the DEPLOY Pilot Study. *Am J Prev Med*. 2008;35(4):357-363.
18. Albright AL, Gregg EW. Preventing type 2 diabetes in communities across the US: the National Diabetes Prevention Program. *Am J Prev Med*. 2013;44(4)(suppl 4):S346-S351.
19. Haas L, Maryniuk M, Beck J, et al. National standards for diabetes self-management education and support. *Diabetes Care*. 2012;35(11):2393-2401.
20. Geiss LS, James C, Gregg EW, Albright A, Williamson DF, Cowie CC. Diabetes risk reduction behaviors among US adults with prediabetes. *Am J Prev Med*. 2010;38(4):403-409.
21. Sarlio-Lahteenkorva S, Rissanen A, Kaprio J. A descriptive study of weight loss maintenance: 6 and 15 year follow-up of initially overweight adults. *Int J Obes Relat Metab Disord*. 2000;24(1):116-125.
22. Hussein T, Kerrissey M. Using national networks to tackle chronic disease. http://www.ssireview.org/articles/entry/using_national_networks_to_tackle_chronic_disease. Published 2013. Accessed January 28, 2016.
23. Sherr D, Lipman RD. The diabetes educator and the diabetes self-management education engagement: the 2015 National Practice Survey. *Diabetes Educ*. 2015;41(5):616-624.
24. Martin AL, Warren JP, Lipman RD. The landscape for diabetes education: results of the 2012 AADE National Diabetes Education Practice Survey. *Diabetes Educ*. 2013;39(5):614-622.
25. Ma J, Yank V, Xiao L, et al. Translating the Diabetes Prevention Program lifestyle intervention for weight loss into primary care: a randomized trial. *JAMA Intern Med*. 2013;173(2):113-121.
26. Sepah SC, Jiang L, Peters AL. Translating the Diabetes Prevention Program into an online social network: validation against CDC standards. *Diabetes Educ*. 2014;40(4):435-443.
27. Moin T, Ertl K, Schneider J, et al. Women veterans' experience with a web-based diabetes prevention program: a qualitative study to inform future practice. *J Med Internet Res*. 2015;17(5):e127.
28. Wennberg JE. *Tracking Medicine*. Oxford, UK: Oxford University Press; 2010.
29. Centers for Disease Control and Prevention. National Diabetes Prevention Program. https://nccd.cdc.gov/DDT_DPRP/Registry.aspx. Accessed August 1, 2016.
30. Burke SD, Sherr D, Lipman RD. Partnering with diabetes educators to improve patient outcomes. *Diabetes Metab Syndr Obes*. 2014;7:45-53.
31. Henderson R. Industry employment and output projection to 2022. http://www.bls.gov/opub/mlr/2013/article/industry-employment-and-output-projections-to-2022.htm. Published 2013. Accessed January 28, 2016.