

“I Do My Best To Listen to Patients”: Qualitative Insights Into DAWN2 (Diabetes Psychosocial Care From the Perspective of Health Care Professionals in the Second Diabetes Attitudes, Wishes and Needs Study)

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ABSTRACT

Purpose: The aim of this study was to describe the perspectives of diabetes care professionals regarding the roles and responsibilities of people with diabetes (PWD), health care professionals (HCPs), and the larger society to improve the provision of person-centered diabetes care.

Methods: The survey contained open-ended items about challenges of, successes of, and wishes for improvements in treating adults with diabetes. All responses were systematically coded using a schema developed and validated through multinational collaboration.

Findings: Participants were 4785 diabetes care professionals (physicians, nurses, and dietitians) from 17 countries. The data contained 2 distinct themes. One theme reflected the fact that the roles and responsibilities of HCPs are transitioning from those of one who “tells” to one who “listens” to PWD. Some ways that HCPs can “listen” to PWD and family members is to involve them in goals and to encourage self-management for the improvement of treatment. The second theme identified barriers to successful diabetes care, which include a lack of time and collaboration from HCPs, a lack of availability of resources for treatment, and a lack of psychosocial support.

Implications: The views of diabetes care professionals are in transition from a conventional hierarchic approach to a PCC approach. Further adoption of this approach would be facilitated by additional psychosocial training and educational/psychological resources, increased teamwork, and societal changes that would make it easier for people to live successfully with diabetes. (*Clin Ther.* 2015;37:1986–1998) © 2015 The Authors. Published by Elsevier HS Journals, Inc.

Key words: diabetes, education, health care professionals, motivation, patient-centered, person-centered, psychosocial, qualitative, self-management, survey.

INTRODUCTION

Because diabetes is a rapidly growing health problem, there is an urgent need for understanding the

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psychosocial challenges of delivering optimal person-centered care (PCC) in daily practice.¹ The Declaration on Patient-Centered Health Care (<http://iapo.org.uk/patient-centred-healthcare>) suggests that the health care system should be designed to address the health care needs and preferences of all patients (including people with diabetes [PWD]), so that their health care is appropriate and cost-effective. According to the International Alliance of Patients' Organizations (<http://iapo.org.uk>, 2007), by promoting PWD responsibility and optimal usage of services, PCC leads to improved health outcomes and quality of life (QoL) and optimal value for health care investment.

The original 2001 DAWN (Diabetes Attitudes, Wishes and Needs), a survey of diabetes care professionals from 13 countries, was designed to address psychosocial factors of improved health outcomes and QoL for PWD. Most diabetes care providers reported that PWD experienced psychological problems (including depression, anxiety, and stress) and that these problems affected PWD adherence to diabetes regimens.² Health care professional (HCP) respondents felt more able to identify and evaluate psychological needs than to meet those needs, and less than half indicated that they were able to do both.³ The investigators concluded that all PWD are entitled to be treated by HCPs who are sensitive to psychosocial needs, and that providers should receive the training necessary to attain appropriate levels of expertise.⁴ The second DAWN study (DAWN2),⁵ a global partnership for the advancement of PCC for PWD, extended the findings of the original DAWN study. DAWN2 identified the specific psychosocial needs of PWD, assessed whether self-management remained inadequate, and revealed what was being, or should be, done by diabetes care providers to support PWD efforts in managing diabetes.

The key quantitative findings of DAWN2 included that 61% to 93% of HCPs believed that PWD needed to improve their self-management activities.⁶ HCPs also indicated that it would be helpful if PWD communicated how providers could best support them (85%), prepared questions before consultations (84%), participated in community activities to improve self-care (84%), and found information on self-management themselves (71%). HCPs indicated that major improvements were needed in psychological support for PWD and in communication between

team members and PWD. Diabetes education for HCPs, particularly around psychosocial issues and effective communication, could strengthen HCPs' understanding of, and capacity to provide, appropriate PCC and support; in turn, this support could empower PWD and their family caregivers in their diabetes management.⁶⁻¹² This support, along with self-management education, have been reported to make a difference in diabetes self-care; adherence; and improved clinical, psychosocial, and QoL outcomes.^{11,13-16} Several studies have reported that the majority of HCPs want more education and training regarding the psychosocial aspects of diabetes and self-management.¹⁷⁻²¹ These studies suggest that professionals desire to deliver PCC, to be more effective in collaborating and communicating with PWD and other providers, and to be more supportive of PWD being empowered to be actively involved in decisions regarding their care and support.

Although quantitative data from the entire DAWN2 study (including PWD, family members, and HCPs) have been published,⁶ the scope of this paper was to describe the open-ended responses from the HCPs' survey. DAWN2 provides the largest collection of open-ended responses from diabetes care providers to date. Our research questions were: (1) To what degree, and in what ways, are HCPs implementing a PCC approach to diabetes management?; and (2) What is helping/hindering this implementation? The aims of this paper were to: (1) describe the conceptual coding framework from the analysis of HCPs' responses about the challenges they faced, the needs for improvement, and the successes experienced; (2) provide a detailed analysis of the perceived needs of PWDs as identified by HCPs; and (3) identify the barriers to and strategies for improving health and QoL outcomes from the perspective of HCPs.

MATERIALS AND METHODS

Surveying Participants

The full methodology of DAWN2 and the HCP survey have been described in detail elsewhere.^{5,6} The open-ended items of the survey were: (1) Describe the challenge(s) that, if solved, would make the biggest difference in the quality of care you provide for PWD; (2) Describe what you have incorporated into your practice that have been the most successful in helping PWDs achieve better clinical outcomes; and (3) Share your wishes for improvement in support from the

health care system or community for PWD. An independent research company de-identified the comments in the each respondent's native language, and professionals translated the text responses into English. English transcripts were the basis for coding responses with qualitative software (NVivo version 10, QSR International, Melbourne, Australia). In each country, the study was conducted in accordance with the relevant ethical requirements, following regional/national/local guidelines relating to the conduct of noninterventional studies and used guidelines of the International Chamber of Commerce/European Society for Opinion and Marketing Research, the Council of American Survey Research Organizations and Good Pharmacoepidemiology Practices as minimum standards.

Coding Structure and Analysis

In line with reporting of other qualitative results from DAWN2²² using the PCC theoretical model,^{23,24} the data were organized broadly into 3 primary categories: (1) challenges; (2) successes with managing diabetes in PWDs; and (3) wishes for improvement. An additional category was established for responses that were not understandable or were too vague to code. We used an *emergent coding strategy*, in which categories were established after an initial examination of 20% of the data in each country by the lead author (H.L.S.) to develop a coding scheme (Figure 1). To establish cross-cultural validity of the codes, a

collaborator from each country reviewed the coding scheme in each respondent's native language and in English and met with 2 of the authors (H.L.S. and C. B.M.-J.) to provide feedback and input. In a team-based approach,²⁵ the initial 20% of responses were independently coded by 2 research assistants until "substantial" agreement was reached²⁶ ($\kappa = 0.75$) before final coding. The coding continued until complete, with adjudication by H.L.S. In line with thematic analysis, we selected vivid, compelling extract examples and related the themes back to the research questions and literature.

Supplemental tables (in the online version at <http://dx.doi.org/10.1016/j.clinthera.2015.06.010>) are included to provide transparency in reporting, as well as a context for other responses that were received in addition to psychosocial responses (eg, challenges in the health care system delivery or diabetes prevention and treatment). It presents the conceptual map of the analysis (ie, the organization of the qualitative coding structure [the major codes, primary and secondary; number of instances the codes appeared in the text; and an illustrative comment]). Comments in the supplementary tables were chosen not to represent particular respondent subgroups but to illustrate the wide range of countries and types of HCPs represented. The analysis sought to identify commonalities that existed within the entire sample rather than investigating differences between subgroups (eg, type of diabetes, sex, country). The coding categories were

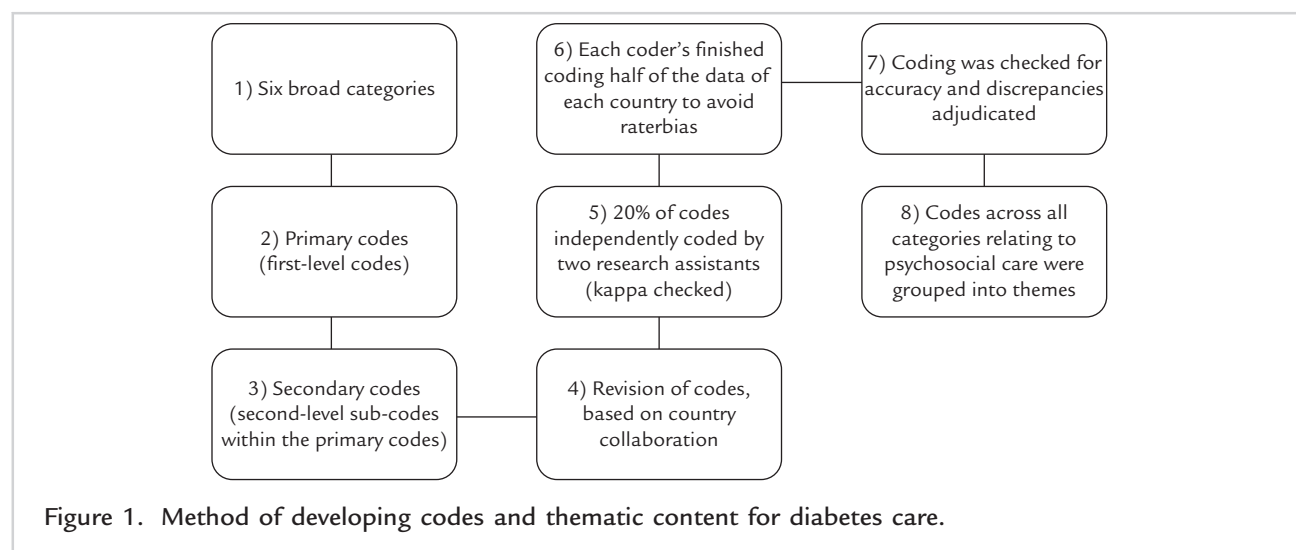


Figure 1. Method of developing codes and thematic content for diabetes care.

Table I. Selected characteristics of health care professionals caring for PWD.

Characteristic	PCPs/GPs (n = 2066)	Specialists (n = 1350)	Nurses (n = 827)	Dietitians (n = 542)	All Respondents (n = 4785)
HCP characteristics					
Sex, no. (%)					
Men	1449 (70.1)	858 (63.6)	113 (13.7)	85 (15.7)	2505 (52.4)
women	617 (29.9)	492 (36.4)	714 (86.3)	457 (84.3)	2280 (47.6)
Age, median (IQR), y	48 (38–55)	45 (38–53)	42 (34–50)	37 (30–47)	45 (36–53)
Practice duration, median (IQR), y	18 (9–25)	15 (8–23)	11 (6–19)	9 (5–17)	15 (8–23)
Team practice, no. (%)	1429 (69.2)	1169 (86.6)	769 (93.0)	415 (76.6)	1003 (79.0)
DM-patient volume, median (IQR), no./mo	50 (30–100)	150 (85–250)	64 (40–100)	20 (10–50)	65 (30–140)
DM-patient population characteristics, median (IQR), %					
DM type					
1	5 (3–15)	10 (5–20)	15 (5–30)	10 (2–20)	10 (5–20)
2	90 (85–96)	90 (75–95)	80 (70–93)	90 (80–98)	90 (80–95)
Private insurance	10 (5–50)	15 (5–50)	20 (5–70)	20 (5–60)	15 (5–55)
Difficulty reading instructions	10 (5–30)	14 (5–30)	20 (10–45)	10 (5–30)	15 (5–30)

DM = diabetes mellitus; GPs = general practitioners; HCP = health care practitioner; IQR = interquartile range; PCPs = primary care practitioners.

Adapted with permission from Holt et al.⁶ Countries surveyed: Algeria, Canada, China, Denmark, France, Germany, India, Italy, Japan, Mexico, the Netherlands, Poland, Russia, Spain, Turkey, United Kingdom, and United States.

collected into organizing themes that are the basis for the analysis reported here.

RESULTS

Respondents of the survey were 4785 HCPs (2066 general practitioners, 1350 diabetes specialists, 827 nurses, and 542 dietitians), with ~280 HCPs from each country (Table I). The data were classified into 28 primary and 119 secondary codes created in a data dictionary. Of these, 10 primary and 60 secondary codes were related to the psychosocial aspects of care. The most frequently occurring primary and secondary codes were categorized into 2 themes: (1) HCPs' and PWDs' roles and responsibilities; and (2) barriers to successful diabetes care.

Table II provides an overview of the relevant codes and the frequency with which they occurred in the HCPs' responses. The codes that support the 2 themes are presented in italics in the paragraphs that follow.

Figure 2 presents an interpretation of the findings from the qualitative data and a depiction of situational actions that could be taken by the HCP.

Theme 1: HCPs' Roles and Responsibilities Are Transitioning From Those of One Who "Tells" to One Who "Listens" to PWDs

The conventional approach to diabetes self-management is that the HCP gives the PWD recommendations for treatment, and it is hoped that the PWD complies. The HCPs' responses reflected that this attitude of "compliance," or "telling the PWD what to do," still exists; however, there was a subtle shift in mindset toward a PWD taking responsibility for him- or herself and the HCP listening to the needs of the PWD.

Conventional Approach to "Telling"

The conventional HCP approach of "telling" and then hoping the PWD complies was evident; for

Table II. Primary and secondary codes related to psychosocial issues in diabetes care.

Primary Code/Subtheme/Secondary Code	Category	No. of Coding References
1. PWD and HCP roles and responsibilities		
1.1. Traditional approach of “telling”		
11. Difficult to help PWD engage in weight loss	Challenge	197
12. General lifestyle changes	Challenge	116
16. Lack of PWD education	Challenge	160
46. PWD would exercise	Wish	97
47. PWD would follow a healthy diet	Wish	82
61. PWD would take responsibility	Wish	72
62. More ways to motivate PWD	Wish	53
1.2. Emerging approach of “listening to the PWD and family”		
90. Personalized/person-centered meal plans	Success	330
91. Personalized/person-centered exercise plans	Success	207
93. Involving person with diabetes and/or family member in goals	Success	153
103. Listening to PWD	Success	164
104. General psychological support	Success	112
105. Encouraging PWD and family members to self-manage	Success	107
106. Provide motivation	Success	67
2. Barriers to successful diabetes care		
2.1. Lack of time or support to understand concerns		
18. Lack of time or support for PWD	Challenge	114
2.2. Lack of collaboration among HCPs		
34. Lack of team-based care or communication*	Challenge	63
51. More health care team support and collaboration	Wish	197
2.3. Lack of access to resources		
1. Medication, test strips and diabetes supplies	Challenge	268
2.4. Lack of psychosocial support and training		
3. Access to psychological support or mental health services	Challenge	36
57. Psychological issues of PWD*	Challenge	35
2.5. Social support available to PWD		
30. Overcome PWD’s and society’s fear of insulin*	Challenge	51
45. Programs for exercise and nutrition	Wish	184

HCP = health care professional; PWD = people with diabetes.

*This is a primary code with no secondary codes to report.

example, one HCP stated, “Sometimes we encounter a very significant problem when the patients don’t take our instructions seriously, and that is the cause of many patients who have relapsed.” Under the code *general lifestyle changes*, HCPs said that PWDs would not cooperate or follow HCPs’ advice, and that it was difficult for providers to encourage PWDs when PWDs

did not follow dietary plans, for example. HCPs wanted PWDs to improve diabetes outcomes by losing weight, stopping drinking to excess, and smoking cessation. Other HCPs expressed frustration with specific diabetes self-management practices, such as “getting patients to test glucose levels regularly.” Many also said that the PWDs did not take medication properly or “honestly.”

The person with diabetes:	Doesn't seem motivated to change	Motivated to change
Knows what to do	Psychosocial issues (needs psychosocial support)	Social support (needs encouragement)
Doesn't know what to do	Listen to experiences(needs understanding)	Person with diabetes education (needs knowledge)
Doesn't know how to do it	Problem solving (identify physical or psychosocial barriers)	Practical application (needs on-going behavioral support)

Figure 2. Quadrants of relationship between knowledge and motivation in people with diabetes.

HCPs indicated that they found it difficult to help PWDs engage in weight loss, particularly for them to follow a healthy diet and exercise for improved glycemic control. Providers perceived that “the greatest challenge is weight—to lose weight and maintain the loss of weight.” The challenge was to help PWDs “see the connection between longstanding lifestyle decisions (poor diet, little exercise, weight gain) and the progression of diabetes.” Embedded within the desire for PWDs to make lifestyle changes and to achieve weight loss was the wish that PWDs would understand the importance of these changes in relation to other treatments and overall diabetes management; for example, “My PWD don’t understand that next to pharmacological care, a healthy lifestyle with a good diet and constant physical activity is fundamental.”

HCPs regarded the lack of PWD diabetes education and knowledge to be a barrier. The biggest problem, they said, was “the lack of patient education, which has a negative impact on the improvement of their status.” In particular, they noted that PWDs were not sufficiently educated about new diabetes medications, the risks of hypoglycemia, or the seriousness of diabetes and its complications. One HCP said, “If he doesn’t responsibly take care of himself, the complications will be fatal.” There was an expressed need for ensuring that PWD understood the consequences of not controlling their diabetes. In general, HCPs did not believe that PWD were compliant with diabetes self-management.

However, a subtle shift in language has turned patient compliance to a need for PWD to take responsibility for diabetes management. Some HCPs said that PWD needed a “willingness to become more disciplined in self-care (vs the assumption that health care will fix me when I need it).” Based on our data,

the HCP mindset generally may be shifting from “How can I get them to do what I want?” to “How can I help to motivate them to do what they need to do?” One physician commented that PWD need to change the image of what diabetes means, take the disease personally, and realize personal treatment goals.

Both conventional “telling” and emerging “listening” patterns occurred when HCPs indicated that they wanted more ways to motivate PWD to better manage diabetes, such as “introduce a method for taking care of oneself that is motivating.” The premise was conventional because many HCPs were still driving the conversation of having PWD follow recommendations for treatment, but the shift was that they wanted to find ways for PWD to be self-motivated to perform the recommendations. Several expressed an interest in talking with PWD about losing weight as a tool for motivation in managing diabetes, whereas others generally stated that they wanted to know how to motivate and encourage PWD to “do better.” HCPs wished “to effectively motivate lifestyle changes for our PWD both short and long term” and to improve their diabetes management and outcomes. The responsibility seemed to be shifting from the HCPs’ being involved in the PWD care to the PWD “fully recognizing the dangers of diabetes, and proactively treat it and do follow-ups on their own initiatives.”

Emerging Approach of “Listening” to the PWD and Family

As noted by the quote in the title of this article, the HCPs believed that listening to PWD is a key strategy in diabetes self-management. They reported the importance of listening to the needs of PWD, by “allowing myself time to listen and really question,

so that people have the option to talk and understand connections.” Establishing a connection included avoiding “acting judgmental during a consultation” and “having respect for the patient’s lifestyle habits.” An example from an HCP was, “Certainly helping people affected with diabetes to become aware of and accept their disease ... [is] so beyond therapeutic education; treating the psychological aspect is fundamental.” It was about “treating the patient as a whole, and not just managing their diabetes.”

Giving support to PWDs by establishing patient-centered meal plans and exercise (eg, providing individualized nutritional advice, having the PWD pay attention to diet, and encouraging physical activity) was a frequently stated strategy. Examples included, “I comment on the laboratory results with the patient [as a] way of encouraging them to monitor themselves and comply with the diet and lifestyle plans,” and, “I try to introduce dietary therapy and lifestyle management based on the patient’s everyday life, rather than a uniform treatment.” Improving diet included providing a “nutritional system that leads to a good diet and avoiding bad habits” and “setting up healthy recipes for the patient.” General strategies to enhance physical activity were to encourage participation in outdoor activities, to give a “prominent position” to exercise, and to become involved in physical training or group exercise. Some commented that PWDs required additional care and “special approaches” when exercise advice that is appropriate to the person is given. One example of tailoring these programs was, “I coordinate with a personal physical trainer to suggest the most suitable exercises for each one of these patients and the exercise becomes fun and relaxing so that it doesn’t become monotone and the patient doesn’t abandon it. I even interview the patients to know their favorite activities and put together a training routine based on that.”

One specialist recommended that his patients carry a pedometer to make it possible to assess their daily level of physical activity, reporting on the number of calories exerted, fat burned, and distance covered in a given day. Another HCP commented on the social benefits of exercise and mentioned starting a “physical activity group in my hospital, which encourages patients to do physical activity while having fun.”

HCPs indicated that they “listened” to PWDs and family members by involving the PWDs and family members in goals and encouraging both to self-manage

to improve treatment. Professionals expressed this as “having them [family members] participate in treatment, [and] discussing what they [PWDs] can change to improve the care of their disease.” Involving the family could be an encouragement to the PWD regarding self-management, as stated by one provider: “Generally, when I come upon a PWD who does not like to follow the instructions, I try to teach the treatment plan to one of his family members, which enables greater solidarity with him and helps him, too.”

Psychological encouragement to self-manage included providing motivation and general psychological support, which were expressed as “good care and moral support,” encouragement and concern, handling the “emotional side of the patient,” reassurance, “creating a dialog,” and “psychological upliftment.” Examples were “concern for the patient could have a better comforting effect than medicine” and “treating the patient as a person; understanding the many facets of their personal life.”

To increase motivation, HCPs noted the “use of motivational interviewing to bring about cognitive behavioral change.” Many commented on the importance of providing PWDs with hope regarding successful diabetes management, as expressed by this HCP: “ALWAYS give hope with open and honest dialog telling patients it’s a chronic disease which is progressive but CAN be effectively managed with our current knowledge and treatment.”

Theme 2: Barriers to Successful Diabetes Care Include a Lack of Time and Collaboration From HCPs, a Lack of Availability of Resources for Treatment, and a Lack of Psychosocial Support

The responses from HCPs reflected the complexity of diabetes management. HCPs were aware that personal responsibility for diabetes self-management is affected by the patient–provider relationship. Many felt challenged with facilitating personal responsibility for PWDs and “getting the patients to take care of their care themselves” or knowing that “often PWD disappear and you have to call of them back to help them self-manage their disease.” Barriers to providing adequate psychosocial attention to PWDs included a lack of: (1) HCP time or support to understand concerns; (2) collaboration among HCPs; (3) access to resources; (4) access to psychological support and mental health services; and (5) social support available to PWDs.

Lack of Time or Support To Understand Concerns

A commonly cited barrier was a lack of time or support for PWDs in order to understand their concerns and to take an individually tailored approach. One professional said, “It takes more than 15 minutes to fully understand a patient,” and another commented, “I would like to have more time for my patients. We often have too little time to follow-up, and not enough time to listen to, and treat, the patient.” One respondent indicated that it is important to “ask them how I can help them and make them feel that they are important to me.” Some HCPs said that follow-up visits with diabetes specialists did not sufficiently allow PWD to ask questions because of time limitations. Providers were aware that limited time impaired the ability to be empathic and to “make time to think about things from the patient’s perspective.” Other HCPs felt that any benefit that PWD acquired from an appointment was lost before the next appointment because the time that elapsed was “too long between control visits due to (the need for cost) savings—too little time for the patients when they come.”

Lack of Collaboration Among HCPs

Respondents indicated that a lack of collaboration and limited teamwork prevented diabetes care from being delivered in an organized way. Many commented on the lack of communication among specialists and “all involved” and suggested including the family care practitioner and specialists in conversations. Valuing each team member’s contribution and achieving coordinated (multidisciplinary) diabetes care were expressed as needs for improvement. Some general practitioners noted that they lacked meaningful relationships with endocrinologists, nephrologists, ophthalmologists, and cardiologists. Dietitians shared a concern that they were not being utilized as part of the diabetes team. A physician said that a team was lacking that was “continually available for the needs of PWD, who could coordinate all of the aspects of the disease in a well-organized way and respect the timeframes for complication screenings.” Some respondents indicated a need for more support from the health care team to improve the coordination of how PWD receive psychological support and to reduce “wait times” to see mental health providers. Some general practitioners used follow-up by a nurse specializing in diabetes care to help to overcome this

barrier. One physician reported success in running a multidisciplinary family practice, which included medical doctors, registered nurses, certified diabetes educators, nurse–practitioners, pharmacists, and in-practice access to counseling. Forming diabetes treatment teams and regularly discussing treatment plans were perceived to assist in improving diabetes management.

Lack of Access to Resources

HCPs in some countries reported a lack of availability of medication, test strips, and diabetes supplies for PWD, including periodic shortages of insulin and oral tablets. Many HCPs reported that the cost or coverage of medications is prohibitive and that PWD are not able to “afford food, insulin or blood sugar testing supplies because they have no insurance. They have no job.” The drug expense could be a burden in PWD who have comorbidities, causing PWD to “shrink back” and reuse syringes or needles or to cut down on the dose of oral medication to control costs. HCPs were concerned that the newer drugs on the market are too expensive and, therefore, not covered by the health insurance system. One physician stated, “We need cost-effective medicines because we have many poor patients who cannot afford medicines, and diabetes medicines need to be taken lifelong—so they stop taking medicines so their condition becomes worse.”

HCPs were concerned that blood glucose strips are not covered adequately and that other supplies such as pens, sensors, and pumps are reimbursed in “bits and pieces.” Because of the cost issue, HCPs said, PWD might avoid treatment or laboratory visits, so HCPs could not assess glycosylated hemoglobin and lipid concentrations or liver and kidney function.

Lack of Psychosocial Support for PWDs and Training for HCPs

Inadequate access to psychological support or mental health services was also indicated as a barrier to effective diabetes care. One HCP stated, “[What is] lacking most in my department is access to psychological support,” and, “the major problem is to get help from a psychologist/psychiatrist.” Access to quality care for the psychological issues of PWD was lacking. In the quantitative data, only 19.6% of HCPs in DAWN2 had received training in managing the psychological aspects of diabetes, and 59.1% wanted

more training in this area.⁶ Another HCP said that “the psychological questions are a challenge for me that I am not up to facing right now” and that “concern for the patient’s psychological health is insufficient, and treatment methods are too complex.” HCPs recognized a lack of training in how to care for PWD, both physically and psychologically, as stated by these providers: “We need more training, especially on the psychological aspect,” and “We need training courses for dealing with all of the mental disease (depression, panic attacks, dementia, etc.).”

HCPs indicated that opportunities for continuous training on advances in diabetes management were necessary for good care. Specifically, most HCPs believed that there was a lack of trained nurse-educators, diabetes specialists, and diabetes specialist nurses. HCPs also experienced economic crises that caused cuts in resources for diabetes training and treatment; for example, “The diabetes centers have reduced quality, training and organization. We family doctors are involved with projects like integrated diabetes management, but lack meeting places for education regarding prevention, physical activity, psychological counseling for PWD.”

Lack of Social Supports Available to PWD

HCPs wanted to see social resources made available to PWD that would facilitate behavior changes regarding healthy eating and activity. They recognized that habits were “hard to break, but I try to emphasize the benefits to the patient of changing their eating habits.” Some HCPs noted the challenges in not only gaining attention for nutritional support but also advocating for inexpensive and convenient programs for exercise and nutrition for PWD in the community. One HCP stated, “By creating places for activity and sports for diabetes, subsidized by the government, we can encourage and facilitate participation in physical activities.” If exercise were more convenient, HCPs believed, it would be easier to support PWD in combatting sedentary behaviors.

Another barrier to better diabetes management is access to inexpensive healthy foods (eg, proteins, fruits, vegetables) and “fighting against junk food.” “Fast food” rich in fats and processed sugars is available at any time of the day, and a professional commented on its proliferation: “It’s well known that since its [junk food’s] arrival in the 1950s, there has been an

indiscriminate consumption of junk food and drinks, which even today is seen as the principle part of our citizens’ nutrition, at least of the urban population.”

One HCP noted that candy bars and fast-food items had infiltrated establishments such as electronics and home-improvement stores, and that “this country needs more support for mental health and depression [for PWD], not gas stations that sell candy.”

HCPs expressed a societal need for overcoming PWD and society’s fears of insulin, such as the fears of being dependent on insulin and the need for injections. One respondent indicated that there is a challenge associated with “people not knowing about insulin and all of the fables surrounding it believed by people.” This lack of awareness, and misunderstanding, of diabetes and its management were seen as particular concerns for the PWD who used insulin. HCPs described their efforts in assisting those newly diagnosed to overcome their fears of insulin and having to inject, or “getting people to accept adding insulin” to their diabetes treatment plan if they had been on oral treatments that are no longer providing effective glycemic control. HCPs indicated that society in general must become more accepting of PWD using insulin to manage their diabetes, and work at “eliminating prejudices toward people who self-administer shots.”

DISCUSSION

The DAWN2 study has identified positive trends in the management of diabetes. The subtle changes noted in phraseology and practice, from conventional “telling” to person-centered “listening,” provide reason for optimism. However, multiple barriers to adequate psychosocial care for diabetes self-management still exist.⁶ HCPs recognized the complex challenges that PWD face in taking responsibility for their health. They articulated a need for personalized psychosocial support for PWD and described the challenges involved, as well as possible strategies to overcome them. However, HCPs indicated that diabetes self-management from a PCC approach is more complicated than “the patient is compliant” and that “the physician needs to motivate” the PWD.

The need for moving beyond compliance is illustrated by 2 primary perspectives articulated throughout the responses: (1) “My patient doesn’t know enough about diabetes”; and (2) “My patient isn’t motivated.” The word “comply” or “compliance”

was used 177 times in the dataset, not including variations such as “doesn’t listen to me” or “doesn’t follow the rules.” This perspective on compliance has the potential to be judgmental; for legitimate reasons (eg, lack of knowledge, competing priorities), a PWD may be not seeking recommendations. A lack of compliance might be positively affected by psychosocial support, societal encouragement, understanding, and/or knowledge. Although all 4 of these areas are important to optimal diabetes management, not all will apply in any given situation. Therefore, an HCP action plan might include screening for needs in each of these 4 areas and work with the person with diabetes to address individual situations.

To assist PWD in changing their behavior or “being motivated,” several factors in this article relate to the literature on motivating the patient. First, person-centered attention to diabetes management requires HCPs to shift from the role of an authority figure who knows and tells PWD what they should do, to the role of a listener and collaborator. This shift can be challenging to make because HCPs may not be well-trained in listening skills^{13,15,27,28} and/or because PWD may be unaware that they have the rights to ask questions and to have a voice in their medical care,^{12,15} much less the opportunity to teach their HCPs about living with diabetes. There are various ways that PWDs can receive assistance from HCPs in improving diabetes self-management. For example, if the person has adequate information to change but does not appear to be motivated or want to change, psychosocial support may be suggested. Motivational interviewing, stress management, and cognitive-behavioral therapy are evidence-based strategies that may effect behavior change.^{29–31} If there is a lack of information about an area of diabetes, then PWD education may be recommended or offered.

HCPs indicated that they provide support via several strategies: (1) listening to the needs of PWD and developing individualized treatment plans; (2) involving the family; and (3) encouraging and motivating the PWD. However, a lack of accessibility/availability to psychosocial treatment and support, and even medications, is a barrier.

The data reported here add to our knowledge about the known dimensions of PCC, particularly the needs for having respect for a PWD’s values, preferences, and expressed needs, and for providing emotional support to alleviate fear and anxiety.^{32,33}

The results of the present study also expand on the quantitative results from DAWN2, which revealed that major improvement was needed in health care provision, particularly providing resources for psychological support and care, and in training HCPs in the management of the psychological aspects of diabetes.⁶ The current report highlights how HCPs could improve the psychosocial care and support they provide for PWD,³⁴ particularly by listening to a PWD’s experiences/needs and developing individualized treatment plans, involving the family,³⁵ and encouraging and motivating PWD.³⁶ To acknowledge and value each PWD’s own way of perceiving and experiencing what is happening to him/her is an important aim of PCC.²⁴

Although HCPs reported that listening to PWD is an important aspect of improved clinical outcomes, they also believed that PWDs should take a greater role in caring for their own health. PCC assumes that PWD are capable of making decisions about their diabetes self-management, and that their autonomy and perceived competence to make these decisions should be respected.^{37,38} Over three fourths of professionals reported active involvement of the PWD to be helpful but reported that PWD need to do more in improving self-management, especially taking responsibility for managing their condition and finding information on self-management themselves.⁶

The findings from this study provide unique insight into the views of HCPs, as well as support and detail findings from the original DAWN study. Its claims are strengthened by a large sample size that was multinational, participant heterogeneity, and a rigorous coding process. Limitations noted, however, are that the coding was conducted on English translations rather than on native-language text, and that systematic comparisons of data from different subgroups (eg, specialty, practice setting, country) were not completed for the analyses in this article.

CONCLUSIONS

The DAWN2 findings, coupled with the reality of an increasing prevalence of diabetes and the multinational lack of resources for psychosocial support and care, call for a PCC approach. Psychosocial issues need to be managed within collaborative teams that include PWD and their family members. HCPs realized a need for creating time to listen to the experiences of PWDs. Despite a lack of access to

psychosocial services, HCPs wished to encourage and assist PWD and their families in receiving the psychosocial care and support needed for day-to-day diabetes self-management. Diabetes self-management is moving from physician-established regimens that PWD are expected to follow, to a culture in which listening to the PWD informs diabetes treatment and recommendations. However, some PWD do not know how to motivate themselves to learn more about their condition and its management or how to ask their HCPs for motivational support. To compound the issue, many HCPs have neither the training nor the tools to stimulate and support motivation. PWDs have learned from experiences beyond textbook information, and listening to PWD is a first step in understanding what we, as HCPs, do not know. Learning from PWD is an opportunity yet to be realized in the current health care system. Future research should determine the best strategies for ensuring that a PWD's experiences are heard and addressed within the time constraints of a health care appointment. We need to teach students the new paradigm that knowledge about diabetes is not enough to be an effective HCP; it requires critical thinking about the challenges faced by PWD and their loved ones.

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Drs. Stuckey, Mullan-Jensen, and Peyrot and Ms. Reading planned the structure and content of the article and prepared the initial draft. Dr. Kalra and Ms. Reading contributed to the discussion. Drs. Stuckey and Mullan-Jensen and Ms. Reading prepared the supplemental tables. All authors approved the manuscript plan, reviewed and edited versions of the manuscript, and approved the final draft.

CONFLICTS OF INTEREST

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SUPPLEMENTAL MATERIAL

Supplemental tables accompanying this article can be found in the online version at <http://dx.doi.org/10.1016/j.clinthera.2014.03.014>.

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SUPPLEMENTARY MATERIALS

Table S1. All health care professional codes for xxx: Challenges for health care professionals.

Primary Code Secondary Code	Illustrative Comment
Access to affordable self-management supplies and services	
Medication, test strips and diabetes supplies (n = 268)	“The biggest challenge I face is that the treatment efficacy of diabetes drugs used long-term and their prices don’t correspond.”—Dietitian, age 42 y, China
Doctors, dietitians and diabetes specialists (n = 106)	“Scarceness of funds dedicated to diabetes, with a decrease in dedicated personnel and worsening of the quality of assistance for the patient with diabetes mellitus. Little commitment of family doctors in managing this disease.”—Specialist, age 46 y, Italy
Access to psychological support or mental health services (n = 36)	“From my point of view, the major problem is to get help from a psychologist/psychiatrist by a person with diabetes.”—Dietitian, age 29 y, Poland
Lack of skilled health care professionals to handle medication therapy (n = 11)	“Lack of postgraduate training for diabetes specialist nurses.”—Nurse, age 39 y, UK
Unable to prescribe medications (n = 8)	“Ability to prescribe medication that is the most appropriate for the patient as opposed to those that they can afford to buy or those that are subsidized.”—Specialist, age 27 y, Russia
Access to technological advancements	
New medications (n = 17)	“Access to new therapies, new medications.”—Specialist, age 31 y, Mexico
Noninvasive device for blood sugar and insulin (n = 4)	“Pain when measuring blood sugar.”—Specialist, age 44 y, Japan
Insulin pumps and CGMs (n = 2)	“If we could equip certain of our patients, especially the young ones, with insulin pumps, so that they can live without taking medications or injections.”—GP, age 32 y, Algeria
Challenge in lowering HbA _{1c} and related outcomes (n = 27)	“Controlling high blood sugar is difficult, large fluctuations in blood sugar.”—GP, age 35 y, China
Challenges in helping people with diabetes manage that ARE generally under people with diabetes control	
Difficult to help people with diabetes take responsibility for health or diabetes (n = 355)	“Getting patients to take ownership of their disease.”—GP, age 47 y, Canada
Difficult to help people with diabetes engage in weight loss (n = 197)	“For patients to lose control over their weight. The end is that physical activity will lessen, and related weight gain, and an increase in associated health

(continued)

Table S1. (continued).

Primary Code Secondary Code	Illustrative Comment
General lifestyle changes (n = 116)	issues, and this vicious circle which leads to lost patients.”—GP, age 41 y, Turkey “I experience that many patients have trouble with lifestyle changes and taking care of diabetes. Most can’t feel that they are ill and believe, therefore, that the holy grave is well defended.”—Nurse, age 38 y, Denmark
Difficult to help people with diabetes choose foods (n = 111)	“Helping people in their food habits and maintaining their daily calorie charts so that higher calorie intake is prevented.”—Specialist, age 58 y, India
Taking medication appropriately (n = 101)	“A lot of patients can’t take medicines on schedule and often forget the times to take medicines.”—GP, age 43 y, China
Difficult to have people with diabetes break unhealthy habits (n = 32)	“The greatest challenge is breaking routines with more exercise and weight loss, healthy food, and getting people to reduce alcohol.”—Nurse, age 58 y, Denmark
Challenges in helping people with diabetes manage that ARE NOT generally under people with diabetes control	
Lack of patient education (n = 160)	“The biggest problem is the lack of patient education, which has a negative impact on the improvement of their status.”—GP, age 42 y, Algeria
Awareness of diabetes and complications (n = 130)	“Lack of knowledge about severity and consequences of diabetes among patients.”—Nurse, age 21 y, Russia
Lack of time or support for people with diabetes (n = 114)	“Due to the heavy patient load the ability to devote only very little time to each patient.”—GP, age 42 y, Turkey
Prevention of diabetes (n = 76)	“There are very few educational programs aimed at prevention of diabetes.”—GP, age 53 y, Russia
Early diagnosis (n = 44)	“Early diagnosis and treatment of diabetes.”—Specialist, age 35 y, UK
Financial and policy challenges in medical system (n = 45)	“A lot of diabetes patients would benefit from receiving professional nutrition support. However, the compensation system in the Netherlands is very poor in this aspect, not much can be done with this. I think that the Netherlands has a conservative policy. There is a lot of resistance to using modern medications. The compensation system is also something less than desirable.”—Specialist, age 54 y, the Netherlands

(continued)

Table S1. (continued).

Primary Code Secondary Code	Illustrative Comment
Lack of resources to allow for tracking HbA _{1c} and blood glucose (n = 29)	“Lack of tools to monitor blood glucose level (glucometers and test strips), irregular supply of medical drugs in pharmacies.”—GP, age 54 y, Russia
Health system is not doing enough (n = 31)	“Support from health care system or community participation for chronic disease is very poor.”—Specialist, age 32 y, India
Hypoglycemia (n = 18)	“Risks of hypoglycemia.”—GP, age 50 y, Mexico
Access to self-management and prevention tools (n = 13)	“Accessibility of tools to aid in prevention of diabetes.”—GP, age 41 y, Canada
Challenge for health care professional to help people with diabetes manage complications (n = 41)	“Often when patients are finally referred to me the “damage is done“ so to speak.”—Dietitian, age 36 y, US
Lack of regular blood sugar monitoring of people with diabetes (n = 8)	“The biggest challenge is getting people to test their blood sugar. The process of sticking one’s finger even after all of these years is the hardest.”—Dietitian, age 30 y, US
Challenge for health care professional to help people with diabetes manage multiple chronic diseases (n = 10)	“The vulnerable diabetics, who suffer from several chronic illnesses and who, due to physical and psychological causes, don’t have the energy to meet therapists and specialists at hospitals.”—Nurse, age 48 y, Denmark
Language or cultural barriers (n = 25)	“Prevention and care for adults that do not speak English is not always available.”—Dietitian, age 44 y, Canada
Overcome patient’s and society’s fear of insulin (n = 51)	“People not knowing about insulin and all the fables surrounding it believed by people.”—Nurse, age 47 y, Netherlands
Poor nutrition in society	
Not enough exercise (n = 26)	“The biggest challenge is the exploding increase in weight of the population combined with less and less exercising.”—Specialist, age 61 y, Germany
Poor restaurant and fast food item choices (n = 19)	“Too many bad food choices in stores.”—Nurse, age 48 y, US
Lack of access to healthy food (n = 9)	“Access to inexpensive healthy foods ie, proteins fruits vegetables.”—Dietitian, age 34 y, Canada
Lack of team-based care or communication (n = 63)	“Lack of a team that is continually available for the needs of patients with diabetes, that could coordinate all the aspects of the disease in a well-organized way and respect the timeframes for complication screenings.”—Specialist, age 52 y, Italy
Psychological issues of people with diabetes (n = 57)	“Handling the psychological side of my patients.”—GP, age 31 y, France

GP = general practitioner; HbA_{1c} = glycosylated hemoglobin.

Table SII. All health care professional codes for xxx: health care professionals' wishes for improvement.

Primary Code Secondary Code	Illustrative Comment
Advances in research and technology Medication advances (n = 90) General advances and new treatments (n = 41) Technological advances (n = 33)	"Newer drugs with less side effects."—GP, age 30 y, India "Adjusting treatments according to the patient and disease profile."—Specialist, age 35 y, Algeria "Database for tracking patient outcomes. Fully integrated electronic medical record for easy access to patient information by all members of the team."—Nurse, age 52 y, US
Cure or complete recovery (n = 7)	"Diabetes will be cured or prevented."—Nurse, age 54 y, US
Prevention of diabetes Public awareness and education of diabetes and complications (n = 269)	"The community needs to distribute more diabetes publicity information to the people to increase everyone's awareness of diabetes."—Nurse, age 31 y, China
Strategies to reduce obesity (n = 96)	"Better accessibility to health foods, with penalty, including economic penalty, to those foods that damage the control of diabetes or its development."—GP, age 40 y, Spain
Prevention in general (n = 90)	"Prevention of chronic illness would be the best, as it would save society a lot of money."—Nurse, age 40 y, Denmark
Funding for prevention of diabetes (n = 17)	"My wish would be for each individual to benefit from a free dietetic assessment (for prevention) ."—Dietitian, age 31 y, France
Inform young people about diabetes (n = 56)	"By proliferating healthy nutrition sources to the society's young generation and changing Turkish society's nutritional and exercise habits, the issue of diabetes could to a large extent be rendered less serious."—Specialist, age 43 y, Turkey
To have people with diabetes lose and maintain weight Programs for exercise and nutrition (n = 184)	"Dedicated programs for overall well-being of PWD – comprehensive diet exercise and behavioral programs exclusive to PWD."—GP, age 32 y, Canada
People with diabetes would exercise (n = 97)	"Easy and effective method of losing weight and keeping the weight down. Exercise as prescription?"—GPs, age 50 y, Denmark
People with diabetes would follow a healthy diet (n = 82)	"Involving the patient and the role they play in the treatment of their illness, the importance of the diet rules."—Specialist, age 38 y, France
Effective ways to lose weight in general (n = 24)	"An effective way for patients to lose weight."—GP, age 57 y, Netherlands
Health care professional and system strategies for patient-centered management More patient education in general (n = 389)	"Being able to receive diabetes education anywhere. Also, creating that kind of system."—Nurse, age 34 y, Japan

(continued)

Table SII. (continued).

Primary Code Secondary Code	Illustrative Comment
Better health care quality or education in general (n = 168)	“All health care should receive standard/evidence based on up-to-date education/information so the people with diabetes can receive standard education/information no matter where in the country/world you are living.”—Nurse, age 60 y, UK
More health care team support and collaboration (n = 197)	“Be able to guarantee access to quality integral medical attention for 100% of the population at risk for diabetes and those that suffer from it, with multidisciplinary medical teams, nurse, nutritionist, psychologist, social worker, physical adviser.”—Specialist, age 29 y, Mexico
More time with people with diabetes (n = 128)	“Extending the time I can devote to patients during one visit.”—Nurse, age 41 y, Poland
More diabetes clinics (n = 24)	“I would like the government to create new centers dedicated to diabetes for good patient care.”—Specialist, age 32 y, Algeria
More available health care professionals (n = 111)	“More health care providers for patients with diabetes.”—Specialist, age 43 y, US
Group education classes (n = 79)	“I would like for there to be places where all diabetics can see each other and receive essential education in the area of their disease, and to show diabetic people who successfully manage their disease as examples to draw the attention of others and be influenced by them.”—Nurse, age 37 y, Algeria
More specialists (endocrinologists) (n = 70)	“Improve accessibility of specialists.”—GP, age 47 y, Poland
Frequent follow-up with physician or diabetes educator (n = 57)	“Do follow-up visits with the patients anytime [to] understand their conditions.”—Nurse, age 25 y, China
More regular follow-up with specialists (n = 6)	“Encourage them to meet specialists on a regular basis (a dietitian, a diabetologist, an endocrinologist, a personal trainer, a physical therapist).”—Dietitian, age 27 y, Poland
Diabetes medical assistance for elderly people with diabetes (n = 4)	“Support for patients who need insulin and self-administer as they get older and senility possibly occurs.”—Nurse, age 50 y, Japan
Social responsibility for patient-centered management	
Psychological support (n = 164)	“The account of a psychologist, since there are personal and behavioral problems for which we don't have the ability to take action.”—Nurse, age 23 y, Spain
People with diabetes would take responsibility (n = 72)	“More ownership of the diagnosis by the patients - the patients becoming empowered to manage their own chronic disease rather than relying on health care providers and drug companies.”—GP, age 27 y, UK
More ways to motivate patients (n = 53)	“Wish there was an effective way to encourage people to adopt healthy diet and lifestyle.”—GP, age 52 y, Canada

(continued)

Table SII. (continued).

Primary Code Secondary Code	Illustrative Comment
Better nutrition in society (n = 48)	"It's basically about supporting a change of lifestyle in the entire society, so that each diabetes patient isn't alone with the necessary changes in lifestyle."—GP, age 43 y, Denmark
People with diabetes compliance (n = 28)	"That they know the complications and therefore control their disease."—Specialist, age 41 y, Mexico
Better choices at restaurants (n = 17)	"I think it would be nice if there were restaurants that were easy for diabetes patients to eat at and where they could easily administer insulin shots."—Dietitian, age 33 y, Japan
Adjust work schedule to help diabetes (n = 20)	"I think it would be good if hours at the workplace could be adjusted. Maintain consistent meal times."—Dietitian, age 32 y, Japan
Better control over prescriptions and tests (n = 13)	"The possibility of being able to prescribe drugs currently covered by therapy plans."—GP, age 56 y, Italy
More family or community support (n = 15)	"Diabetes is also greatly affected by community systems and the family environment. A solution in the medical field would not be enough to solve things. There are issues that need to be solved by taking care of things both medically and in other areas as well."—Specialist, age 49 y, Japan
Increased credibility of doctors or medical information (n = 6)	"Increased credibility of medical information. Statutory measures to filter false advertising in the area of food and treatment."—Dietitian, age 52 y, Russia
People with diabetes pay attention to the body (n = 5)	"Patients having self-awareness. Understanding your own body well."—Dietitian, age 36 y, Japan
Better blood sugar control (n = 37)	"Strengthen the monitoring of diabetes patients' blood sugar at normal times."—Specialist, age 35 y, China
Unique wishes for improvement (n = 76)	"Let's not forget the most important part, the creation of an industrial infrastructure in our country that offers our fellow citizens secure jobs with decent salaries that allow them to live decent and adequate lives, including of course, their nutritional state."—GP, age 63 y, Mexico
Financial wishes and improvements	
Funding for medical treatments and health care professionals (n = 184)	"If the government were able to consider giving a lot of discounts to patients on the aspect of treatment costs, patients would more proactively cooperate with health care workers. This is very necessary for treatment to reach the standards."—GP, age 51 y, China
Funding for insulin, supplies and medications (n = 295)	"All type 1 patients should have their diabetes supplies and medications paid for if they cannot afford them. All patients with type 2 who do not have drug plans should at least have their test strips paid for. Testing often helps them make changes necessary to live healthier."—Nurse, age 51 y, Canada

(continued)

Table SII. (continued).

Primary Code	
Secondary Code	Illustrative Comment
Better access to health care professionals, dietitians and treatments (n = 81)	“Better, more accessible health care for all.”—GP, age 39 y, US
Improved training for health care professional to treat diabetes (n = 107)	“If we, the diabetes health care professionals, were more trained, we could offer better orientation to the patient, but above all be able to give them the necessary tools to continue with a good quality of life alone.”—Dietitian, age 32 y, Mexico

GP = general practitioner.

Table SIII. All health care professional codes for xxx: Successes of health care professionals.

Primary Code Secondary Code	Illustrative Comment
Control or management of HbA _{1c} A _{1c} management in general (n = 72)	“GPs are inclined to treat HbA _{1c} rather than patients but in reality HbA _{1c} is part of the problem so first and foremost educating the patients about the HbA _{1c} and handing control down to them so that after every bloods they can see the reduction or otherwise themselves.”—GP, age 41 y, UK
Flow charts and other tools to track HbA _{1c} (n = 62)	“Definitely making a diabetes ‘flow sheet’ that I keep at the front of my diabetics’ files. This has a quick glance synopsis of recent blood work, ophtho visits, feet assessments, weight etc. It was an initiative put forth by our provincial government and it has certainly resulted in me doing a better job looking after my diabetic patients.”—Specialist, age 47 y, Canada
Regular follow-up every 3 months for HbA _{1c} (n = 58)	“Continual control of HbA _{1c} (every 3rd month) gives a good basis for a discussion on how diabetes should be regulated.”—Nurse, age 40 y, Denmark
Medical practice changes Team approach to diabetes (n = 200)	“Permanent professional team (dietitian + doctor + nurse), that holds the thread in treatment of each patient and is the permanent contact with the patient.”—Specialist, age 49 y, Denmark
Structured appointments and consultations (n = 42)	“Structured diabetic consultation hours led by a diabetic nurse.”—GP, age 51 y, Netherlands
Support from the community (n = 12)	“In our community we hold so-called community evenings during which diabetes is talked about in a casual manner. This produces both good conversations and sometimes also the request for ‘more’, which enables referral to the nurse practitioner or diabetic clinic.”—GP, age 56 y, Netherlands
Support by e-mail, internet or phone for people with diabetes (n = 14)	“My patients can access me on my cell phone any time; I also use e-mail to talk with and monitor my patients.”—Specialist, age 37 y, Russia
Added specialty clinic such as ophthalmology, podiatry (n = 15)	“Ensuring that diabetes patients by all means undergo check-ups by ophthalmologists, neurologists and cardiologists at regular intervals.”—Nurse, age 34 y, Turkey
Able to check blood sugar upon request (n = 8)	“Regular blood sugar checks by aides, aides making house visits to establish blood sugar diurnal profile.”—GP, age 41 y, Germany
Out of clinic activities with people with diabetes and health care professional (n = 6)	“Direct experience in doing physical activity with the patient to be able to better understand their needs. We have created a ‘diabetes running’ group to make everyone aware of getting physical exercise.”—Nurse, age 40 y, Italy

(continued)

Table SIII. (continued).

Primary Code Secondary Code	Illustrative Comment
Outpatient appointments (n = 6)	“To meet the patient where the patient is. To get into the unique way that the patient lives so as to help the patient to involve diabetes as a part, and not a burden.”— Specialist, age 55 y, Denmark
General feedback about how we are doing (n = 7)	“Ask the patient themselves – do they feel they are having enough support in all areas from their health professionals? If not, refer in the right direction to fill the gaps.”—Nurse, age 49 y, UK
Not accepting patients who are unmotivated to change (n = 3)	“Improve patient access and outcomes by selectively removing patients from clinical practice who refuse or will not participate in clinical management of their disease.”— Specialist, age 39 y, US
Personalized/person-centered overall treatment plan for people with diabetes Personalized/person-centered meal plans (n = 330)	“Create completely personalized eating plans, in agreement with the needs, likes, preferences and schedules of each patient, explaining the reason for each strategy for care and self-care of the patients.”—Dietitian, age 26 y, Mexico
Personalized/person-centered exercise plans (n = 207)	“I coordinate with a personal physical trainer to indicate the most suitable exercises for each one of these patients and the exercise becomes fun and relaxing so that it doesn't become monotone and the patient doesn't abandon it. I even interview the patients to know their favorite activities and put together a training routine based on that.”— Dietitian, age 24 y, Mexico
Personalized/person-centered treatment in general (n = 62)	“Individual care plan ensures that patient is motivated and in control of own regimen.”—Nurse, age 37 y, Netherlands
Involving people with diabetes and/or family member in goals (n = 153)	“Generally, when I come upon a diabetic patient who does not like to follow the instructions, I try to teach the treatment plan to one of his family members, which enables greater solidarity with him and helps him too.”— GP, age 32 y, Algeria
Encourage weight loss and maintenance (n = 98)	“Weighing at each consultation, abdominal measurement at each consultation, with detailed diet if the lab tests are not as good.”—GP, age 31 y, France
Encourage blood sugar testing (n = 85)	“Promoting self-monitoring of blood sugar.”—GP, age 56 y, India
Behavior interventions for lifestyle changes (n = 71)	“I try to introduce dietary therapy and lifestyle management based on the patient's everyday life. In other words, rather than a uniform treatment, I focus on dietary therapy, exercise, lifestyle management, and medicine that is suitable for individual patients.”—Specialist, age 47 y, Japan

(continued)

Table SIII. (continued).

Primary Code Secondary Code	Illustrative Comment
Food diaries and tracking systems (n = 24)	"I make patients bring their diabetes notebook every time and get them to become aware of the good and bad areas."—GP, age 52 y, Japan
Use of internet, phone, and technology (n = 55)	"Use of information technology to monitor my PWD population and make sure they reach goals/targets."—GP, age 34 y, Canada
Person with diabetes has follow-ups and regular care (n = 130)	"The patients report any problems they have as they are encouraged on the follow-ups. At the moment, we prepare a survey that will allow the patients to discuss their problems."—GP, age 40 y, Poland
Health care professional is available (n = 34)	"Be available for my patients. Always ask them how I can help them and make them feel that they are important to me."—Nurse, age 55 y, Canada
Encouraging person with diabetes to follow doctor's orders (n = 20)	"Prevention and close motivation so that a life with diabetes can be well lived if you have control of it and exactly follow the orders from the doctor and other health care personnel."—GP, age 23 y, Mexico
Stories of other people with diabetes (n = 12)	"Talking with them about the truth and showing them the reality of diabetes complications including showing them pictures (although it sounds ugly) so that they are afraid of what could happen, therefore opening their eyes! Many people don't understand the risks until the situation gets worse."—GP, age 28 y, Mexico
Psychological encouragement	
Listen to people with diabetes (n = 164)	"Participative listening, without value judgments."—Nurse, age 40 y, France
General psychological support (n = 112)	"Monitoring the patient at the psychological level in collaboration with other doctors in the specialty, which has really borne fruit."—GP, age 33 y, Algeria
Encouraging people with diabetes and family members to self-manage (n = 107)	"Motivate them and the family for better management of patients on the whole."—GP, age 36 y, India
Provide motivation (n = 67)	"Motivational meetings with the determination of projects associated with objectives."—Specialist, age 47 y, France
Give people with diabetes hope that they can manage diabetes (n = 47)	"Explaining to my patients that the diagnosis of diabetes doesn't mean a death sentence, but rather it requires greater attention to lifestyle."—GP, age 25 y, Mexico
Accept and/or show empathy toward people with diabetes (n = 38)	"I think that besides therapy, it is necessary to establish empathy with the patient."—Dietitian, age 23 y, Turkey
Giving praise for accomplishments (n = 47)	"Give as much praise as possible to patients who are making efforts and try to raise their motivation."—Specialist, age 37 y, Japan

(continued)

Table SIII. (continued).

Primary Code Secondary Code	Illustrative Comment
Refer to psychologist or social worker (n = 13)	“Given that there is always need for psychological support, I have seen that it is very beneficial to meet at least once with a psychiatrist, in this regard.”—GP, age 31 y, Turkey
Encourage relaxation or stress management (n = 7)	“I employ stress management techniques and try to reduce their worries using positive thinking.”—Specialist, age 63 y, Japan
For weight loss (n = 3)	“The most important is the weight of the patient which is a psychological problem as some families are all fat as a food is a love sign.”—GP, age 68 y, Canada
Focus on prevention	
Strategies to prevent diabetes and its complications (n = 82)	“Wound management, treating diabetic foot syndrome.”—Nurse, age 28 y, Germany
Screening tests for those at risk (n = 38)	“Municipal screening programs for latent diabetes open for all who wish to participate.”—Nurse, age 30 y, Russia
Earlier diagnosis of diabetes (n = 14)	“Trying to diagnose patients’ pre-diabetes earlier, diagnosing metabolic syndrome earlier.”—GP, age 61 y, US
Patient education is a success	
Having diabetes education in general (n = 429)	“Cooperating with diabetes knowledge health education.”—Dietitian, age 31 y, China
Group education (n = 100)	“Creating patient groups in multiple regions to share their opinions and their ways of learning how to manage their disease.”—Nurse, age 31 y, Algeria
Having a diabetes or nurse educator (n = 82)	“Having a trained nurse diabetic educator has been awesome for our practice. She teaches the patient how to check their sugar, how to inject insulin, and she reviews their diet with them.”—GP, age 51 y, US
Patient understands and does lifestyle changes (n = 35)	“The strategy of minimizing and repeating the message. Information on the objectives and the results obtained.”—GP, age 57 y, France
Free diabetes management clinics (n = 8)	“I hold free diabetes check-up camps at my clinic.”—GP, age 51 y, India
Health care professional finds success in personal practices of medicine	
Opportunities to improve health care professional knowledge (n = 40)	“It is very important for the doctors to participate in regular in-service training on diabetes, since in this field both in terms of treatment and prevention, there are many rapid changes and innovations.”—GP, age 49 y, Turkey
Provide high quality service (n = 28)	“We strive to provide best possible quality of services.”—Specialist, age 51 y, Poland
Setting an example for people with diabetes (n = 8)	“I push patients to manage their diabetes by giving the example of other patients who have already succeeded in managing their disease well.”—Nurse, age 39 y, Algeria

(continued)

Table SIII. (continued).

Primary Code Secondary Code	Illustrative Comment
Medication successes	
Insulin initiation (n = 60)	“Those patients who are uncontrolled on OHA but are reluctant to initiate insulin are advised to give a trial of 1 week of insulin. Most of the patients feel better within 1 week and are ready to continue insulin thereafter.”—GP, age 57 y, India
Technological or medical advances (n = 57)	“The computerized card with data regarding diabetes and cardiovascular risk and adding alarms regarding criticality of the treatment and managing the disease.”—GP, age 53 y, Italy
Adherence to medication (n = 25)	“Compliance with diabetes medications.”—Nurse, age 57 y, US
Adjustment of medication (n = 50)	“Rapid adjustment of medication until targets are reached.”—Specialist, age 40 y, Canada
Funds to provide optimal medication (n = 23)	“Adequate treatment and medication according to their needs and financial possibilities or availability in the hospital.”—GP, age 53 y, Mexico

GP = general practitioner; HbA_{1c} = glycosylated hemoglobin.