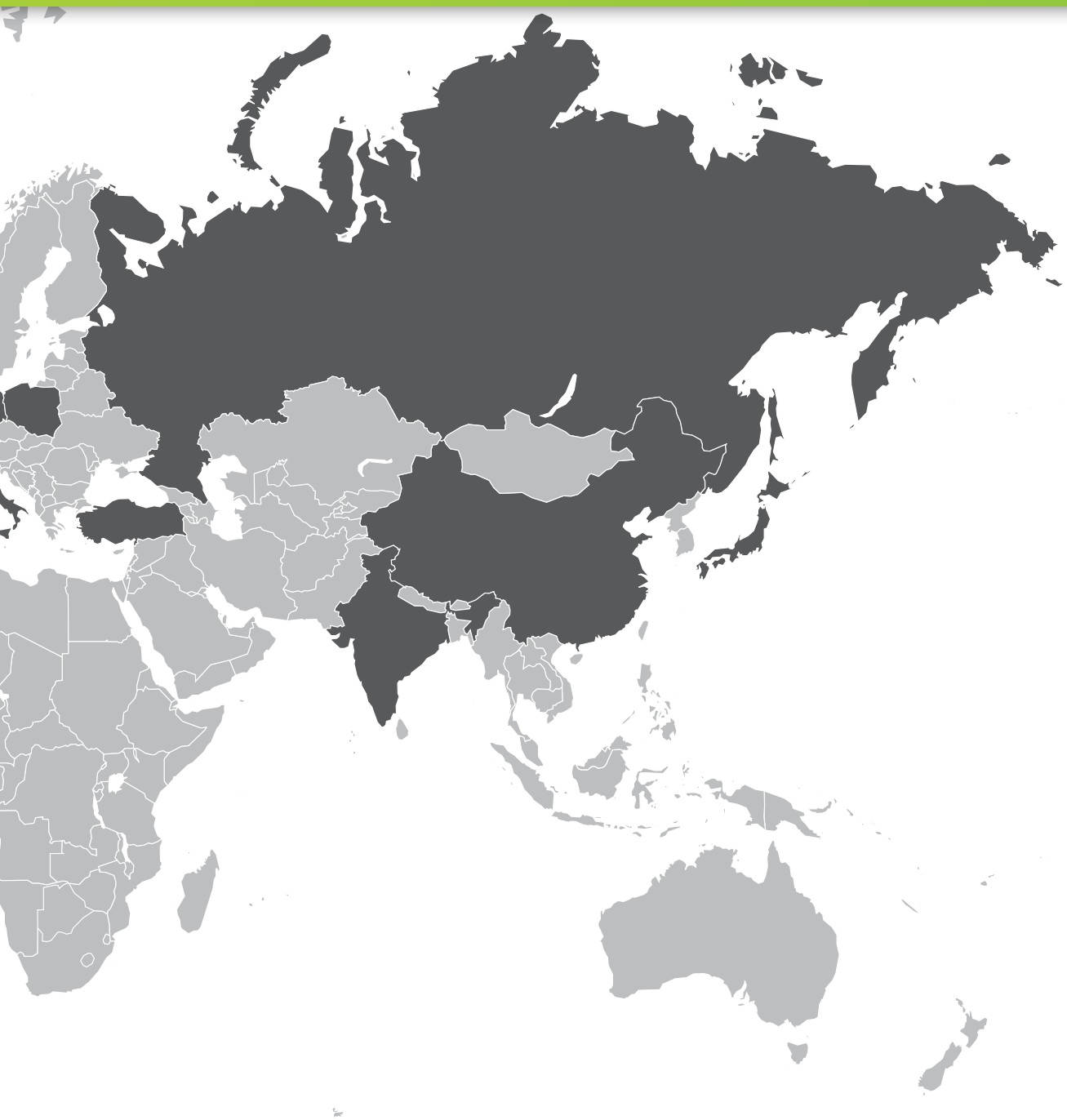
DAWN2 study results:

The DAWN2™ study involved three separate quantitative surveys: one for people with diabetes, one for family members and one for healthcare professionals totalling 15,438 participants from 17 countries. Data was systematically coded in cooperation with collaborators in each of the DAWN2 countries. In an effort to review key insights and future objectives from a set of very diverse regions, abbreviated reports from the following nine participating DAWN2 study countries are provided: Algeria, Canada, China, Denmark, India, Italy, Mexico, Russia, and Spain.

a sample of country reports



DAWN2: results from Algeria

Reducing the burden of care with multi-sector collaboration

Rachid Malek

Diabetes in Algeria represents a new challenge and a severe burden on people with diabetes and their families.

The DAWN2 study investigated psychosocial aspects of living with diabetes, revealing a very high level of distress related to the condition shared by people living with diabetes and their families. For the majority of participants surveyed in DAWN2, diabetes is a burden. For two thirds of people living with diabetes and their families, the primary focus of diabetes is considered glycaemic control, which often minimizes psychological aspects connected to the burden of living with the condition.

Diabetes social discrimination is found in every fourth case of diabetes in Algeria, as confirmed by relatives of people living with diabetes, placing Algeria among the worst for discrimination in the 17 countries included in DAWN2. In terms of healthcare perception, doctors appear to be more concerned about psychosocial aspects than paramedics, who are often called upon to help people with diabetes in emergency situations. Two-thirds of the people with diabetes in Algeria say they have family support and generally understand the management of diabetes.[1,2]

Only 47% of people with diabetes in Algeria reported having participated in a programme of therapeutic education or diabetes self-management education. More than three-quarters of the interviewed professionals are aware of the issues related to low-level participation of diabetes self-management education, and risks associated with hypoglycaemia are the main concern for healthcare professionals.[3]

Within the framework of a national programme, a multidisciplinary approach to diabetes care has been developed by the Algerian Ministry of Health. Collaboration between the healthcare sector and the government includes initiatives to improve diabetes education for healthcare professionals and to help integrate the national diabetes associations' commitment to combat discrimination. Algerian society in general and people with diabetes in particular must get rid of the taboos and myths related to diabetes, which create barriers to effective diabetes self-management.

Coordinated by the health authorities and in collaboration with the healthcare professionals, patient associations and the pharmaceutical industry, several actions aimed at multidisciplinary care and education for people with diabetes have been taken including diabetes foot care, holidays for children with diabetes, and managing challenges associated with Ramadan. Training provided by the French-speaking diabetology society to Algerian paramedics is a pioneering initiative for the country. Through the media, more active communication with the public about diabetes is critical for awareness and progress.

KEY CHALLENGES IN ALGERIA

The DAWN2 findings in Algeria pointed out:

- The urgent need for a more structured and systematic approach to patient education in Algeria.
- The importance of a multidisciplinary approach to diabetes management that fully takes into account psychosocial needs of people living with diabetes and their families, and that fully integrates paramedics and psychologists into the healthcare team.

Objectives for activities:

- To establish training and official certification for diabetes educators in Algeria and agree on national guidelines and methodology for patient education in Algeria.
- To agree on national guidelines for improved multidisciplinary management of diabetes.

DAWN2: results from Canada

Study findings will play a pivotal role for diabetes care in Canada

Michael Vallis

Canada achieves several important aspects of effective diabetes management, but falls short when addressing psychosocial needs.

The international benchmarking data from DAWN2 suggest that diabetes healthcare in Canada excels in several aspects of management. Compared to data collected in other DAWN2 countries, Canadian participants with diabetes and family members report less diabetes distress and worry over hypoglycaemia. Also, DAWN2 results indicate that these Canadian study respondents are more likely to engage in diabetes education leading to the assumption that Canadian healthcare providers place great emphasis on the need to improve self-management and healthy eating.

Canada did not participate in the first DAWN study. Therefore, DAWN2 performs a dual role for the region. Critically important are the data indicating how common diabetes distress is, relative to likely depression, and how this will influence future diabetes care practice. Canadian *Clinical Practice Guidelines* have recommended screening for depression since 2002, but recognising how the burden of diabetes is associated with distress adds a new dimension that will challenge current practice. Currently, Canadian healthcare doesn't offer universal access to psychological services and although Canadians can access psychological services through the public health system, access to these services is rarely a part of standard practice for diabetes care programmes. Results of the DAWN2 study may help integrate psychological specialists, administrators and policy-makers to bridge this divide. Importantly, the voice of the individual living with diabetes is not often included in deliberations about such integration and DAWN2 can help reverse this.

Currently, Canadian healthcare doesn't offer universal access to psychological services.

The DAWN2 study may help healthcare professionals see the need to better address relationships: one example reflecting the burden a family feels when diabetes is present in the home is how family members may try to be supportive but individuals with diabetes tend not to reach out. Additionally, healthcare providers often believe they are addressing psychosocial issues in their work but individuals with diabetes may not feel that this is the case. The DAWN2 results will help progress initiatives to develop a more functional diabetes community.

The future for the diabetes community in Canada is hopeful in that we have recognized the importance of effective diabetes management. DAWN2 is pivotal in that it will help us correct the past tendency to be silent on the psychosocial aspects of diabetes management.

KEY CHALLENGES IN CANADA

The DAWN2 findings in Canada pointed out:

- Distress related to diabetes is serious and can be alleviated when supportive measures are put into place.
- Psychological services are rarely part of standard practice for diabetes care programmes.

Objectives for activities:

- Prioritizing integration of diabetes medical care and psychosocial services with the help of policy-makers, administrators and psychologist specialists.
- Listening to the voice of the individual living with diabetes in deliberations about such integration thus correcting the past tendency to be silent on the psychosocial aspects of diabetes management.

DAWN2: results from China

Changing diabetes in China with education

Xiaohui Guo

China confronts a strong unmet need for diabetes education by standardising training and care guidelines.

The number of people with diabetes in China has increased considerably in the past decade reaching 92.3 million adults (8.8% of the population) in 2012.[4] Recent projections suggest that up to 113.9 million Chinese adults now live with diabetes (11.6%) and 493.4 million with prediabetes.[5] The DAWN2 study revealed that, for those respondents from China, 48% of people with diabetes and 74% of family members never attended any diabetes education programme, highlighting a strong unmet need for diabetes education. Only 53% of healthcare professional respondents in China agreed that all of their diabetes patients were offered structured diabetes education, indicating a shortage of available educational resources.

The Study Group of Diabetes Education and Management, supported by the Chinese Diabetes Society (CDS), was established in 2007 to confront the intensive need in China. More than 400 professional diabetes educators have been certified by CDS in the past 6 years, compared to the previous record of 50 trained diabetes educators in 2007. Nevertheless, this number still could not satisfy the huge demand for education in China. In the past six years, the Study Group has been dedicated to:

- Standardizing diabetes education content by establishing several guidelines: for example, *Guidelines for Diabetes Care and Education in China*, *Guidelines for Insulin Education and Management*, and *Exercise Guidelines for Management of Diabetes*.[6,7,8]
- Prompt dual-certification for qualified diabetes education, thereby certificating the diabetes educator and, thereafter, hospital education programmes provided by the Certified Diabetes Educator.

DAWN2 study in China revealed that 48% of people with diabetes and 74% of family members never attended any diabetes education programme.

The work of the Study Group is currently focusing on the standardization of diabetes education materials and novel education formats for social media in order to achieve better support and more effective education for people with diabetes and their family members. In addition, a randomized controlled trial, led by the Study Group, is underway to provide solid evidence and possible directions for future improvements. In conclusion, the Study Group of Diabetes Education and Management is performing a series of initiatives, and leading diabetes education into a new era in China to meet the massive requirements and provide better support for people with diabetes.

KEY CHALLENGES IN CHINA

The DAWN2 findings in China pointed out:

- Nearly half of people living with diabetes and three-quarters of family members have not attended diabetes educational programmes.
- There is an inadequate number of trained diabetes educators to satisfy demand and a shortage of educational resources for patients and healthcare professionals.

Objectives for activities:

- Implementation of standardized diabetes education guidelines.
- Enhancement of certified diabetes education and hospital education programmes.

DAWN2: results from Denmark

The psychological impact of living with diabetes

Allan Jones

In Denmark, half of people with diabetes reported a daily strain on their mental and physical energy. People with diabetes who depend on insulin therapy for treatment reported a lower quality of life than people with diabetes who are not insulin users.

Results from the DAWN2 study in Denmark highlight some challenges in the care and management of people with diabetes and their families. People with diabetes who depend on insulin therapy for treatment reported a lower quality of life than people who are not insulin users. Half of all people in Denmark with diabetes reported that living with diabetes was a daily strain on their mental and physical energy while just under half of all people with diabetes (49%) reported that their diabetes impaired their physical health. While the burden of living with diabetes has challenging aspects for all people with diabetes, DAWN2 study results suggest that the psychological impact of living with type 1 diabetes may be greater. People with type 1 diabetes reported lower levels of well-being than people with type 2 diabetes (type 2 diabetes, non-insulin users); were more depressed than people with type 2 diabetes (type 2 diabetes, diet only); reported a larger impact on life from living with type 1 diabetes; and were more worried about the risk of hypoglycaemic events compared to people with type 2 diabetes.[1]

Problems with interpersonal relationships that affect social support can be a source of distress for people with diabetes and can impair the ability to manage diabetes effectively.[9,10] Up to a quarter of family members who participated in DAWN2 reported that living with diabetes has a negative impact on their relationship with the person with diabetes. However, 60% of family member participants reported no impact of living with diabetes, with the remaining participants reporting a positive impact of living with diabetes.[2]

Since the first DAWN study, increased attention on diabetes care has contributed to advances in healthcare provision. There is still, however, a need for systematic and frequent monitoring of psychosocial barriers to achieve effective diabetes management at the primary care level, as well as client-centred psychosocial care provision that will incorporate support networks, outreach and e-health programmes to improve reach and accessibility. Denmark has already implemented plans and actions at the local level that attempt to address the issues raised above. The hope for the diabetes community is that the knowledge gained from DAWN2, will help to inform shared models of best practice on a national and international level with the purpose of removing psychosocial barriers in the management of diabetes.

KEY CHALLENGES IN DENMARK

The DAWN2 findings in Denmark pointed out:

- People who require insulin therapy report lower levels of psychological well-being and quality of life than people with diabetes who do not use insulin.
- People with type 1 diabetes report more psychological distress than people with type 2 diabetes.
- More than half of the family members of people with diabetes report no impact of the condition on their lives.

Objectives for activities:

- To better monitor psychosocial barriers to improve effective diabetes management in primary care.
- To improve provision of psychological support in managing diabetes, with increased emphasis on people with type 1 diabetes.
- To develop support networks and e-health opportunities that increase the reach and accessibility of healthcare provision.

DAWN2: results from India

Person-centred partnerships and empowerment are key for progress

Sanjay Kalra

India's healthcare practices related to fundamental diabetes care lag behind other DAWN2 countries.

The DAWN2 study sheds some light on India's progress in its quest to be known as the diabetes care capital of the world. The respondents from India report high scores of person-centred care, and also strong support from family, community and healthcare teams. This is consonant with the country's deep-rooted socio-cultural ethos. Yet, much more needs to be done.

Healthy self-management needs to be reinforced in India, which, in this study, ranked poorly in self-monitoring, adherence, and foot care. Healthcare practices related to measurement of long-term blood glucose control and foot examination lag behind other DAWN2 countries. Indian respondents reported low participation in educational programmes, and even lower numbers who find participation useful. Also reported are the negative impact of diabetes and experiences of societal discrimination relatively more often than in other DAWN2 countries. According to the results of the study, areas that require addressing include primary prevention, earlier diagnosis and treatment of diabetes, and concerns about the risk of hypoglycaemia. Also reported are the need for more diabetes educators and nurses, access to psychologists and psychiatrists, and better communication within the healthcare team.

According to the results of the study, areas that require addressing include primary prevention, earlier diagnosis and treatment of diabetes, and concerns about the risk of hypoglycaemia.

The enthusiasm of healthcare professionals towards training, however, is reason enough to smile. In order to achieve meaningful improvement, this is what is needed most: a communicative team of professionals, working in person-centred partnership with people who are empowered to manage life with diabetes in their community, constantly trying to improve the quality of their work.

Recently, India has seen successful models of multi-stakeholder involvement (see Box). Direction is provided by national guidelines,[11] and programmes on Non-communicable Disease control. The Changing Diabetes® Barometer,[12] an example of public-private partnership, and the National Diabetes Educator Programme,[13] help build capacity, and are supplemented by local initiatives such as the lay diabetes educator project in Gwalior.[14]

The DAWN2 results should stimulate introspection, as well as action, across India, and help improve the quality of diabetes care.

THE 'SEVEN SISTER STAKEHOLDERS' IN DIABETES CARE

- Persons with diabetes
- People who matter (family, friends, colleagues)
- Public (community)
- Physicians and paramedical professionals
- Priests and preachers (religious leaders)
- Policy-makers and planners (government, private health systems)
- Payers (insurance, reimbursers)

DAWN2: results from Italy

Psychosocial care needs to be a priority

Marco Comaschi

Low degree of care integration in Italy provides basis for severe or moderate distress in connection with diabetes.

In 1987, the Italian Parliament released a law about diabetes (L. 115/87)[15] that ruled in favour of the rights in relation to treatment, care and social needs in work and at school for people with diabetes. The Italian National Health Service, or Servizio Sanitario Nazionale, is organized in a federal way, and the institutions of the 21 Italian regions are uniquely responsible for delivering care. As a result, large heterogeneity is present in the different regions, although minimal levels of medical assistance are guaranteed in every region. The Diabetes Outpatient Clinics network, comprised of more than 600 clinics country-wide with dedicated teams for people with diabetes, cares for approximately 50% of all people living with diabetes – equal to more than 3 million citizens or 5% of the Italian population. The other 50% is cared for by general practitioners in a scarcely integrated way.

With the endorsement of the Italian Ministry of Health, Italy performed its first DAWN study in 2005-2006. For DAWN2, Italy participated contemporaneously with 16 other countries and the results for Italy, in comparison particularly with the other DAWN2 European countries, show a greater trend to depression for people with diabetes and family members, associated with low participation in diabetes educational activities and low post-graduate training of Health Care Operators (HCOs) in communication and psychological interventions. About 40% of people with diabetes in Italy make reference to 'poor' or 'not good' for well-being caused by emotional problems, and more than one-fifth are prone to depression with more than half also identifying severe or moderate distress in connection with their diabetes. HCOs give different answers about many items of the survey, showing a low degree of integration.

The DAWN project in Italy is contributing to the Italian National Health Service's progress to achieve better health and quality of life outcomes in diabetes, made possible through an on-going dialogue and collaboration with institutions and key stakeholders. Recent progress has led to many activities and to the preparation of key documents and reports: the Ministry of Health released in February 2013 a new National Plan for Diabetes,[16] inspired by the Chronic Care Model, and essentially based on integrated care between primary and secondary care and on the involvement of the associations of people with diabetes as the principal stakeholder.

KEY CHALLENGES IN ITALY

The DAWN2 findings in Italy pointed out:

- The great need for information and education of people with diabetes, and of their families, is not met by the health system.
- Poor communication among healthcare professionals exists in different settings.[17]

Objectives for activities:

- Promotion of the nation-wide adoption of a patient-centric care model.
- Crucial to the implementation of the project is the involvement of institutions and key stakeholders, through an on-going dialogue and collaboration.

DAWN2: results from Mexico

Poor access to education

Miguel Escalante Pulido and Ivone Ataí Coronado Cordero

Many barriers exist in Mexico that negatively impact effective management of diabetes, and poor access to diabetes education is a principal cause.

Mexico ranks sixth in the world in terms of the number of people with diabetes. Approximately 11 million people in Mexico are estimated to have diabetes, and the prevalence has more than doubled from 6.7% in 1993 to 15.6% in 2012.[4] According to the results of the DAWN2 study, only 20% of people with diabetes in Mexico have access to proper diabetes information and education.[1]

Diabetes is one of the leading causes of death in Mexico with approximately 80,000 lives lost per year.[18] The DAWN2 study suggests that many barriers exist in Mexico that negatively impact on the effective management of diabetes, including poor access to diabetes education. People with diabetes and their families require access to information because it empowers them to make healthy lifestyle choices and engage in appropriate levels of physical activity, proper nutrition and avoidance of alcohol and smoking. Mexico's national policies do not support the special needs of people living with diabetes, and DAWN2 interview data suggests that less than 20% of people with diabetes receive information and education to fit their needs.[1] The DAWN2 results also indicate that, in order to improve the state of diabetes care in Mexico, it will be necessary to develop a National Diabetes Education Programme to provide training for diabetes educators, doctors, nurses and psychologists.

The results of the DAWN2 study in Mexico help emphasize the need to improve current diabetes care and address existing problems such as the limitations of current resources, unacceptable management of hyperglycaemia and inadequate training of healthcare team members. Achieving these goals will require collaborative efforts by policy-makers, international organizations, healthcare providers, those setting medical school curricula, people who live with diabetes and society as a whole. Furthermore, access to diabetes specialist care is limited in Mexico, and often provided many years after diagnosis and after complications have arisen. It may be necessary for the Mexican authorities to re-evaluate the primary healthcare infrastructure, utilize a comprehensive multidisciplinary team approach and establish policies to ensure the efficient use of every diabetes treatment resource.

In order to support healthcare professionals involved in the integrated management of diabetes, some Mexican clinics with the highest and most poorly controlled diabetes population have initiated a pilot multidisciplinary education programme provided to every professional in charge of the care of people with diabetes and their family members, with implementation of seven self-care behaviours and principles of psychosocial management.[19] After six months of participation in the programme, people with diabetes and their families experienced an increase in general knowledge of diabetes and treatment practices with fewer myths and fears about insulin therapy and improved dietary habits. Implementation of this strategy will optimize future use of human and economic resources, improving the quality of life of people with diabetes in Mexico.

KEY CHALLENGES IN MEXICO

The DAWN2 findings in Mexico pointed out:

- Access to diabetes education is very poor.
- Less than 20% of people with diabetes receive adequate information and education.

Objectives for activities:

- Re-evaluation of primary healthcare structure to establish multidisciplinary approach to diabetes care.

DAWN2: results from Russia

Shortage of training for diabetes education leads to increased fears

Marina Shipulina

Only a minority of people with diabetes attend diabetes education in Russia and a fear of insulin therapy increases the risk of complications for people with type 2 diabetes.

One of the most serious issues identified by the DAWN2 study results from Russia is the low level of participation by people with diabetes and their families in 'diabetes school' or education programmes for diabetes self-management. Only 37% of people with diabetes in the study reported participation in educational training. Overall this figure varied between 23% for Indian and 83% for Canadan respondents. Among family members of people with diabetes only 12% reported attending diabetes training. Overall, this varied between 12% in the Russian Federation and 40% in Denmark.[1] Low attendance in Russia is primarily connected to a shortage of such 'schools'. Consider Dr. Elliott Joslin who set up the first 'diabetes school' in the 1920's and implemented the idea that people with diabetes require strict discipline and active participation in self-management. Joslin believed 'a shortage of training is as dangerous as a shortage of insulin'.

Another significant problem connected to diabetes education in Russia is doctor and patient fears related to intensive diabetes treatment especially when the time has come to begin insulin therapy for people with type 2 diabetes. The fear associated with insulin therapy greatly increases risk and development of serious diabetes complications. In Russia, diabetes organisations conduct active diabetes informational programmes, often led by people who have successfully mastered insulin therapy.

Results of the DAWN2 study will help reinforce priorities for best diabetes care practice and invigorate initiatives to establish greater resources across Russia. Key stakeholders for resolving the lack of resources or participation in Russia are, above all, leaders of federal and regional healthcare bodies. To confront this issue, Russian diabetes organisations publicly advocate the need for better diabetes support and education on behalf of people with diabetes and their families. In addition, virtually all diabetes organisations in Russia have long since been systematically working as public 'diabetes schools' for people with diabetes and their family members.

One of the latest examples of successful collaboration between the diabetes community and top-level officials for improving diabetes began in 2012. Public hearings were held on diabetes topics in 42 of Russia's regional Parliaments where they discussed a National Resolution including specific recommendations for stepping up the fight against diabetes. At the culmination of this large scale initiative, the Public Chamber of the Russian Federation held hearings on recommendations for diabetes education among other issues with the participation of government officials, the science and medical communities, the pharmaceutical industry, the media and public organizations and submitted generalized national recommendations to the Prime Minister of the Russian Federation, Mr Medvedev.

KEY CHALLENGES IN RUSSIA

The DAWN2 findings in Russia pointed out:[3]

- Almost half of healthcare professionals have attended post-graduate training in the medical management of diabetes.
- Only 11% of healthcare professionals have attended training in the psychological management of diabetes.
- 37% of people with diabetes have received education and diabetes self-management support.
- Only 12% of family members of people with diabetes have had any education or training.

DAWN2: results from Spain

Improving diabetes care training for healthcare professionals

Edelmiro Menéndez Torre

Inadequate diabetes education prevents effective training and support for diabetes self-management in Spain.

The DAWN2 study revealed several key issues for people with diabetes in Spain. A large number of people with diabetes recognize that managing the condition has a negative impact on their physical and emotional health. Healthcare professionals reported insufficient diabetes training to help patients live a better quality of life.

People with diabetes often acknowledge how living with the condition negatively impacts their life and well-being, especially limiting their leisure activities and to a lesser extent their work, studies or personal relationships. They understand the importance of prioritising good glycaemic control, but there is often a conflict because the greatest concern for many people living with diabetes and their families is the risk of hypoglycaemia, especially during the night.[1,2]

Active self-management is essential for people with diabetes to achieve glycaemic control, associated with a better quality of life. Results of DAWN2 for Spain indicate that a significant proportion of healthcare professionals believe there is an inadequate number of qualified diabetes educators or specialized diabetes nurses to carry out effective training and support for diabetes self-management.[3] Although perceived as very useful, diabetes educational interventions are not available for a significant percentage of people with diabetes; less than one third of people with diabetes in Spain had the opportunity to visit a diabetes educator in 2012.[1] DAWN2 also identified a need to improve communication between diabetes healthcare professionals and their patients.[3]

Although perceived as very useful, diabetes educational interventions are not available for a significant percentage of people with diabetes.

DAWN2 study results have helped identify fundamental measures needed to achieve better access to diabetes education in Spain. A wide range of stakeholders from local health authorities to the Ministry of Health are needed to establish training programmes for healthcare professionals who care for people with diabetes. It will also be imperative to have specific plans to enhance diabetes education in the specialised and primary care settings. While formalised patient education is essential for diabetes self-management, it must also include emotional and psychosocial support, two key aspects of care.

KEY CHALLENGES IN SPAIN

The DAWN2 findings in Spain pointed out:

- Only one-third of people with diabetes have the opportunity to consult a diabetes educator.
- Healthcare professionals believe enhanced training resources are needed to provide broader diabetes self-management education and better outcomes.

Objectives for activities:

- To establish a process whereby diabetes self-management education is available to more people diagnosed with diabetes.
- To improve communication skills among healthcare professionals.

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