National Diabetes Program (NDP)
Slovakia
National diabetes program

Developed by Slovak Diabetes Society and submitted to the Minister of Health of Slovak Republic, Government of Slovak Republic, diabetes patient interest associations, health insurance companies, healthcare surveillance authority and to the media for the purpose of its implementation in practice, in an effort to encourage the political will necessary to address the issues of diabetes as one of the priorities of healthcare.

Introduction

SDS is presenting this document due to the fact that diabetes is one of the most frequent, medically serious and economically demanding chronic diseases. This disease significantly reduces the life expectancy, deteriorates the quality of life as well as patient’s social and economic opportunities. Diabetes is the main cause of blindness, kidney failure requiring dialysis, amputations of lower limbs and increases the risk of cardiovascular morbidity and mortality four-fold. Diabetes treatment costs in the EU countries amount on the average to 10% of total healthcare costs (EUR 2100/ patient/ year).

The World Economic Forum in its recent report Global risks 2010 included diabetes, together with cardiovascular diseases, cancer and respiratory diseases, among the most imminent hazards on the world economic agenda that require an active approach. Infrastructure necessary to address the problem requires the participation of several sectors. Better health of the population should be in the interest of the state, government, insurance companies, patient interest and professional medical organizations. It is necessary to involve not only the healthcare department but other departments as well (education, agriculture, culture, environment, regional development, finance, legislation, etc.). International cooperation will be required as well, especially at the information exchange level.
Development of national diabetes programs is one of the requirements of the EU on the member states. OECD, in cooperation with EASD, IDF, Danish Diabetes Association and other organizations, with support of Denmark as the presiding country of EU in the first half of 2012, initiated by "EP Resolution P7-TA-PROV(2012) 0082 24.3.2012", organized a global European meeting "European Diabetes Leadership Forum" on 25. - 26. 4. 2012 at Copenhagen, in order to develop the main strategies of the “fight” against diabetes, that were subsequently incorporated in the report from the meeting – the "Copenhagen Road Map", challenging individual EU member states to develop their own national diabetes programs, focusing on:

- Prevention, in order to reduce the incidence of diabetes.
- Early diagnosis and early treatment of diabetes to delay and alleviate the development of complications related to diabetes.
- Better quality of care and economic efficiency through:
  a) implementation of EBM guidelines,
  b) implementation of cost-effective strategies,
  c) availability of effective and safe treatment to a wide range of patients,
  d) better coordination of care,
  e) introduction of quality of care indicators
- Data collection and analysis through the creation of national registers of diabetes

The program of the Slovak National Diabetes Program (NDP) coincides with the EU challenge. At present there are ongoing preparation works and negotiations associated with the launch of the program (creating of professional database of information, fundraising and acquiring collaborating partners, an effort to achieve and maintain the political will to address diabetes as a one of the healthcare priorities).
SDS National Diabetes program and its main objectives:

A) Slow down the incidence of diabetes mellitus in Slovakia (measurable parameter)
B) Delay the onset of complications associated with diabetes (measurable parameter)
C) Standardize the diagnostic - therapeutic approaches at the quality corresponding to current medical knowledge taking into consideration the factors and economic possibilities in the particular country (measurable parameter)
D) Improve results in the treatment of diabetic foot, diabetic retinopathy and diabetic nephropathy (measurable parameters)
E) Establish a national diabetes register (provide for monitoring of diabetes condition: epidemiological indicators, development of complications, results and efficacy of treatment, results and efficacy of the implementation of the NDP platform for strategic decisions).
F) More efficient use of the funding for diabetes treatment (improvement of cost-effectiveness).

Re A) Slowing down the incidence of diabetes (PREVENTION).
The incidence of diabetes mellitus is increasing worldwide. Currently, 10% of the EU population is suffering from the disease, expecting an increase to 16.6% in 2030. In Slovakia we register about 400 000 patients with diabetes, corresponding to > 7% of the population, while additional 20-30% of patients (on top of the known number of diabetic patients) can be assumed to have a latent form or pre-diabetic risk syndromes. With the present development trend, by 2030 the proportion of patients can be reasonably expected to increase to 15% of the Slovak population. It is therefore paramount to slow down the incidence of the disease.

Tool: SDS believes that the optimal tool to reduce the incidence is the implementation of Preventive strategies.

Prevention of type 2 diabetes. Diabetes – especially its most frequent form – type 2 diabetes, is a preventable disease. There is a lot of evidence available and clinical studies that demonstrate the fact that it is possible to prevent the
transition from the high-risk pre-diabetic state (glucose tolerance disorder, fasting hyperglycemia, metabolic syndrome) to clinical diabetes in up to 50% of cases with appropriate interventions, with effect duration of at least 5-7 years. The basic form of prevention is the improvement of lifestyle (regular physical activity, rational, energy balanced nutrition, where nutrition is provided through so-called healthy food) and reduction of body weight (in case of overweightness or obesity).

SDS suggests three forms of prevention and suitable activities to achieve this objective:

- **General population prevention** (nationwide education on healthy lifestyle, including support for healthy environment and information enabling healthy choices). *This strategy is further discussed in A1.*

- **Prevention in high-risk individuals** in order to prevent or delay the onset of diabetes (*This strategy is further discussed in B*).

- Earliest possible **detection of undiagnosed** but already present diabetes in order to prevent the development of complications (*This strategy is further discussed in B*).

**A1. Nation-wide education action plan:** short, concise and striking presentations on TV, radio, billboards, “facebook”, etc., rising interest in the issues of the disease, its consequences and reasons to improve the lifestyle, recognize risk factors of disease development and actively search for these factors. Activation shots will also point out to other media (print, internet), enabling the acquisition of more detailed information (specifically data on rational nutrition, options of physical activities, etc.). Such media channels will include print media with specialized content (such as Diabetic journal) and independent internet portal professionally sponsored by SDS. Risk questionnaires will be published in print media (international Finnish questionnaire “FINDRISC”). The campaign will be organized in collaboration with professional media agencies. The promotion will last one to two months with subsequent three-month break, and will be repeated 2-3x per year, every two years, over a period of 6 years. Every year the campaign will be evaluated for efficiency and adjusted as necessary.

**Expected support by the government**
Multi-departmental approach.
- **Ministry of Health**: expected is mainly moral and political support, adoption of the program and cooperation during its coordination. Financial co-funding of the campaign is welcome but not a requirement.

- **Ministry of Agriculture**: food labeling, ingredients, energy content, information for diabetics, labeling of foods as healthy/unhealthy source of nutrients, strict monitoring of the quality of food in shops, etc.

- **Ministry of Education**: integration of lifestyle education in the mandatory education plan, elimination of unhealthy food advertisements, ads for cigarettes, alcohol from school premises, removal of high-energy soda drinks from schools, elimination of the unhealthy food from cafeterias and vending stalls, support for physical education, regular physical activity, installation of healthy lifestyle promotional materials etc.).

- **Ministry of Transport, Regional Development and Ministry of Environment**: implementation of the principles of healthy lifestyle to urban planning. Active surveillance over compliance with hygienic regulations and standards (noise, dust, smoke pollution, smoking in public) for healthier environment guaranteed by constitution.

- **Parliament, Ministry of Justice, Ministry of Finance, Government**: legislative input supporting the above activities, increase of the incise tax on unhealthy food, restricted advertisement for fast-food, high energy soda drinks, high saturated fat foods, tobacco, alcohol, etc.), for example in broadcasting only after 10:00 p.m., with mandatory notice on health risks.

- **Ministry of Culture**: free presentations in public media, for the purpose of nation-wide education on healthy lifestyle.

- **Insurance companies**: active support of prevention programs aimed at the clients (bonus, malus, requirement for active approach to illness, e.g. by mandatory involvement in diabetic associations, use of the services of professional educators, etc.). Financial co-funding of the media campaign is welcome.

- **Diabetic patient associations**: active cooperation in education and activities locally, leading the members towards personal involvement and self-management of the disease, justification of the need for co-payments for treatment, etc.

**Re B) Delay of the onset of diabetes complications (EARLY DIAGNOSIS, EARLY INTENSIVE TREATMENT).** Diabetes related complications are the main cause of increased morbidity and mortality of diabetes patients. Onset of diabetes is often innocuous and at the time of diagnosis the disease may have been present for a long time. Very often developed complications are discovered at
the time of diagnosis. IN such cases the efficacy of the treatment is significantly reduced – with associated economic consequences. There is a lot of evidence (EBM) that through correct management of the treatment it is possible to slow down the development of complications and also to delay the onset of complications. As the development of complications can be prevented but not avoided (once developed or once the risk factors have been established) it is necessary to make an early diagnosis and intensive glycemic control should be implemented especially in the early stages, i.e. especially in the first 10-15 years. Once again, there is a body of evidence (EBM) that demonstrated that early intensive treatment in the initial 10-15 years of the disease brings a major benefit in the reduction, delayed onset and slowing down of the development of complications, by more than 40% and this effect continues at a later time (including possible delay in control deterioration). On contrary – if insufficient glycemic control in the early years has led to complications or if risk factors have already developed – later intensive glycemic control loses its efficacy and economic benefit.

**Solution tools and strategies:** According to SDS the most suitable strategy for reduction and delay of the onset of diabetic complications involves early diagnosis and early intensive treatment and change of thinking in the drug policy with respect to the availability of modern drugs.

**Early diagnosis**
- **Active screening in high-risk individuals** in order to prevent diabetes, delay its onset, make an early diagnosis in order to prevent the development of complications (active screening of risk groups according to standard recommendations, involvement of GPs). As this screening is included in expert guidelines, there is no added economic burden.

- Earliest possible **discovery of undiagnosed** already present diabetes in order to prevent the development of complications. No additional economic burden is expected.

- Regular **preventive population screening** (according to standard recommendations and EBM rules and cost-efficiency). This should be paid not only by the insurance company but also by the potential patient. Later (if the disease develops) the active approach by the patient should be rewarded through bonus and vice versa.

**Early intensive treatment**
Better quality of care (implementation of EBM guidelines, cost-effective strategies, making available of effective and safe treatment to patients, better coordination of care, introduction of indicators of the quality of care). Implementation of EBM guidelines in Slovakia is based on international standards of the European diabetes research association (EASA) and American Diabetes Association, developed on the basis of the state-of-the-art scientific knowledge and cost-efficiency evidence. Their implementation thus assumes a certain degree of economic benefit.

Cost-efficient strategy. Unifying the views of experts and insurance companies (this issue is further discussed in section C).

Change of “thinking” in drug policy. Many indication restrictions for glycemic control drugs include as one of the indication conditions a poor health condition of the patient. However, according to the current level of knowledge, in such patients the drug is losing its economic benefit, because it cannot contribute to the improvement of the condition compared to standard drug and strict glycemic control is no longer required. However, the drug may significantly contribute to improved prognosis of the patient in the initial stages of the disease as it delays the onset of complications. Implementation and indication restrictions of modern effective drugs should thus not be subject to the condition of poor health of the patient.

Re C) Standardization of diagnostic and treatment procedures with quality corresponding to the current level of knowledge, taking into consideration the economic resources of the country.

There is permanent tension between physicians and insurance review specialists. There are no clear rules or any uniformity of procedures. There is often difference in interpretation of the applicability of interventions or indication restrictions between specialists and review physicians, there may even be differences between review procedures in regional offices of the same insurance company. These and other factors give rise to misunderstandings with subsequent impact on the quality of the provided care. The objective of the SDS is to introduce clear concept, transparency, correctness and consensus to these relations within the entire territory of Slovakia. We believe that the solution is based on the development of a consensus document “Diagnostic and treatment standards in diabetes treatment”, that should address the relations between out-patient specialists providing care to diabetics and review physicians and insurance companies. The document should unify and standardize the frequency and mandatory
interventions in out-patient care, thus preventing differences in the quality of the provided health care independent of any particular insurance company. At the same time this should unify and standardize the reporting of interventions and determine the scope of mandatory payments for individual types of out-patient investigations by insurance companies. This document should also unify the interpretation of often ambiguous wording of indication restrictions. The document should be integrated into contracts between doctors and insurance companies or at least referenced in these contracts. The document must be binding upon both parties.

**Expected efficiency:** High. Expecting better organization and better utilization of resources without the need for more funding.  
**Action plan:** The document has been prepared by SDS for negotiation.  
**Requirements for MHSR (Ministry of Health of the Slovak Republic):** support for and adoption of the idea and its implementation, requiring active approach by insurance companies.  
**Requirements on insurance companies:** Active cooperation on the development of the documents and approval of the final version.

**Re D) Improvement of the results in management of diabetic foot, diabetic retinopathy and diabetic nephropathy.**

The result of the management of diabetic foot (incidence of diabetic foot, number of amputations), diabetic retinopathy (proportion of patients with DR and blindness) and diabetic nephropathy (proportion of patients with renal insufficiency, requiring dialysis treatment) are the basic parameters for evaluation of diabetes patient management in international studies (**such as Euro Consumer Index**).

**Diabetic foot care project.** The objective of the SDS is to develop a project for diabetic foot care, similar to the Czech Republic and other countries. The project requires development of three diabetic foot centers (Lubochňa/Martin, Bratislava, Košice), consulting surgeries and certified education for out-patient diabetes nurses focusing on podiatry.

**Diabetic retinopathy.** The project is based on cooperation between SDS and ophthalmology society at the level of screening and timely adequate treatment of diabetic retinopathy and macular edema. The subject matter of the project is the establishment of so-called reading centers. The first reading center is presently being established at NEDU Lubochňa.
**Diabetic nephropathy.** Project based on the cooperation between SDS and nephrology society in development of standard joint recommended procedures in order to ensure prevention, timely detection and treatment of these patients and definition of target clinical and laboratory parameters that need to be monitored in order to slow down (stop) the progression of diabetic nephropathy.

*Additional finding requirements:* None

*Expected efficacy:* High. Better management results are expected.

*Action plan:* Individual projects are being developed

*Requirements on MHSR:* support for and adoption of the idea. Approval of individual centers, modification of the laws to enable certified study of podiatry similar to the Czech Republic and other EU countries.

*Requirements on insurance companies:* Mild increase of budget for funding of diabetic foot centers and reading centers.

**Re E) National register of diabetics in Slovakia**

The register is a project required by the EU. It is a source of important information, data and arguments (epidemiology data - development, population trends, dynamics of development of observed parameters, evaluation of the effect of treatments, comparison of the quality of care in individual countries, quality indicators, data validation, identification of errors and drawbacks, effects on organization of care and of course realistic presentation of Slovakia abroad).

SDS considers the creation of the register to be mandatory as the data from NCZI is insufficient. We cannot answer several basic queries (proportion of individual types of diabetes, age of the patients, duration of diabetes, HbA1c, blood pressure, lipids, BMI, WHR, MDRD, UACR and other parameters that are among the basic parameters being monitored (mortality – main causes, average life expectancy and its development, efficacy of treatment (cost/benefit) etc.

*Action plan:* Register is ready for use (from SDS viewpoint).

*Requirements on MHSR:* support for and adoption of the idea and activities providing for its fulfillment (e.g. implementation of mandatory contributions)).