

Better noncommunicable disease outcomes: challenges and opportunities for health systems

Country assessment HUNGARY



Zoltán Vokó
David Beran
Zsófia Pusztai

Hanne Bak Pedersen
Tamás Evetovits
Szabolcs Szigeti





**World Health
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**Hungary Country Assessment:
Focus on diabetes**

Zoltán Vokó

David Beran

Zsófia Pusztai

Hanne Bak Pedersen

Tamás Evetovits

Szabolcs Szigeti

Abstract

This report reviews health system challenges and opportunities in Hungary to scale up core services for the prevention, early diagnosis and management of diabetes. Diabetes is used in the report as a lens to assess the effectiveness of the health system in addressing the NCD burden. Although NCD mortality in general has been decreasing over the past twenty years, the prevalence of diabetes remains high and is growing. The report found good progress implementing innovative intersectoral nutrition policies including the Public Health Product Tax. At the same time, core individual services such as early detection and proactive management of diabetes and its complications require further efforts. The main barrier to better diabetes and NCD control in Hungary was found to be the lack of citizen empowerment; the population generally has a low level of health literacy and lacks the knowledge and skills to manage their own health. Other problems identified include a mismatch between the incentive system and the requirements for effective diabetes management, with current measures focusing on processes rather than outcomes. These challenges need to be addressed within a context of a shortage of human resources and a lack of standardized training in diabetes adapted to different cadres of health personnel. The report ends with six strategic recommendations to address these challenges.

Keywords

CHRONIC DISEASE
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Acronyms used in this report

CVD	cardiovascular disease
DRG	diagnosis-related group
EU	European Union
FINDRISC	Finnish Diabetes Risk Score
GP	general practitioner
HDA	Hungarian Diabetes Association
HPO	health promotion office
HUF	Hungarian forint
INN	international nonproprietary name
MHR	Ministry of Human Resources
NCD	noncommunicable disease
NETA	Public Health Product Tax
NHIF	National Health Insurance Fund
OECD	Organisation for Economic Co-operation and Development
PPP	purchasing power parity
SDR	standardized death rate
STG	standard treatment guidelines
WHO	World Health Organization



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Executive summary

The WHO Regional Office for Europe has initiated a work programme on health system strengthening to improve outcomes of noncommunicable diseases (NCDs). An assessment was carried out in Hungary from 17 to 21 June 2013, with a focus on diabetes. Noncommunicable disease management is included in the health policy strategic document of the current Government, the Semmelweis Plan, which indicates that the issue is on the public health agenda in Hungary. The results of the country assessment will feed into processes for defining national action plans on health system strengthening and NCDs.

The main barrier to NCD control in Hungary was found to be the lack of citizen empowerment; the population generally has a low level of health literacy and lacks the knowledge and skills to manage their own health. Other problems identified during the assessment included a mismatch between the incentive system and the requirements for effective diabetes management, with current measures focusing on processes rather than outcomes. These challenges need to be addressed within a context of a shortage of human resources and a lack of standardized training in diabetes adapted to different cadres of health personnel. Both the incentives and the human resource challenge have an impact on service delivery.

Although there is still a large gap between western European countries and Hungary in the health status of the population, the negative trends that prevailed in Hungary between 1970 and 1990 have been dramatically reversed in the past 20 years. These positive changes can be further expanded through the various innovations and good practices observed during the assessment. One of these innovations is the Public Health Product Tax, levied on products with a high salt or sugar content; this tax has had a positive impact on the consumption behaviour of individuals and has led to the reformulation of certain products. The establishment of health promotion offices will allow some of the challenges identified in the assessment to be addressed, especially patient education, finding new ways to encourage health behaviour change in relation to NCD risk factors, and improving adherence to therapy.

Another strength is the link between the Ministry of Human Resources and different ministerial research institutes and external organizations carrying out research. However, although considerable data are generated in Hungary, their actual use in policy decisions and programme development needs to be further strengthened.

The merger of several ministries under the Ministry of Human Resources is an innovation that as yet has not produced the impact that true intersectoral collaboration could bring for NCDs. This collaboration within the ministry could become part of a wider multistakeholder involvement, with clear links between the Ministry, academia, patient groups and professional organizations.

Key messages

Despite positive trends in health outcomes and a number of innovations, some cost-effective interventions and services are not delivered at full scale in Hungary. Core population interventions have expanded in recent years, but reducing rates of obesity through further changes in diet and physical activity remains on the agenda. Core individual services show an interesting pattern: the approach to disease management once diabetes has been identified is reasonable, but there is evidence of late detection and a lack of capacity at primary care level to detect and prevent complications, which leads to more specialist and hospital referrals than necessary. Patient-centred counselling on nutrition, physical activity, and glucose management for diabetes patients should be provided at primary health care level.

The assessment reviewed fifteen health system challenges and opportunities for scaling up core services. The top five areas for improvement were identified as follows.

- Citizen empowerment is weak.
 - The population lacks the knowledge and skills to control their own health.
 - There is an overall low level of health literacy.
 - Education and empowerment for patients is not systematically implemented.

- The quality of patient education materials is not assured, and may be affected by interest groups. It is unclear if the materials are actually used.
- There is a mismatch between the incentive system and the requirements for effective diabetes management.
 - There are no incentives for service providers to engage in health education.
 - Current indicators used to assess general practitioners focus on processes rather than outcomes, and contribute only to a small extent to their remuneration.
 - Supervision is lacking and should include medical practice as well as continuing professional development.
- The distribution and training of human resources throughout Hungary is a problem.
 - There is an overall shortage of health professionals.
 - Diabetes training is not standardized or accredited by the Ministry of Health or any other body.
 - There is a lack of training in practical and “soft” skills.
- For an effective model of service delivery to be developed for diabetes a number of aspects of the health system need to be changed.
 - There is an over-reliance on inpatient services.
 - There is a lack of capacity at primary health care level.
 - There is a need for an adapted incentive system and adherence to standard treatment guidelines, to help regulate how care is delivered.
 - The organisation of patient consultations needs to be developed (e.g. introduction of motivational interviews, problem-solving therapy, coaching, etc.)
 - GPs need to manage the individual, not the disease.
- Although adequate information solutions exist, they need to be better used.
 - Service delivery needs to be linked to the information systems and the incentive system in place in Hungary.
 - Data generated by the information systems needs to be used to monitor quality in general practice, at both the individual and the practice level.

Key recommendations

- Develop health literacy and patient education materials in a standardized and controlled manner and develop innovative approaches to behaviour change.
 - Introduce quality control for patient educational materials.
 - Integrate the new health promotion offices in the management of diabetes and develop their collaboration with primary care and diabetes centres.
 - Involve patients in setting targets for themselves.
- Define the role of each level of the health system in diabetes care.
 - Scale up systematic risk assessment and documentation for cardiovascular disease and diabetes.
 - Specify the specialist services that will be available at each level of the system.
 - Define the criteria governing patients’ access to specialized services.
 - Continue to strengthen primary care for management of all diseases.
 - Establish minimal requirements for diabetes detection and management at primary health care level, with a focus on early detection and registration of patients, in order to prevent complications through regular eye and foot examinations.
 - Improve standard treatment guidelines for patient management.
 - Provide training in medical and non-medical management of diabetes.
 - Redefine the role of other health professionals.
 - Expand the task profile of nurses, in particular in cardio-metabolic risk assessment and counselling for behaviour change.
 - Improve the integration of pharmacists in the health care system, with clear definition of roles and training requirements.

- Consider creating new specialities or specifications (e.g. podiatrist).
- Continue to invest in capacity development in public health.
- Strengthen incentives for health professionals other than general practitioners, in line with a general shift in the incentive scheme.
 - Consider incentives for prevention, early detection and successful lifestyle change.
 - Consider financial reward mechanisms for non-medical interventions in the management of NCDs, including diabetes.

Given the complexity and wide-ranging nature of the challenge of noncommunicable diseases, it would be useful to build on the opportunity of having the Secretaries of Health, Social Inclusion, Social, Family and Youth Affairs, Education, Sport and Higher Education under the Ministry of Human Resources to create an intersectorial group on noncommunicable diseases. Health aspects should be taken into account in all policies put forward by this Ministry.



Introduction and rationale

Like many countries, Hungary is facing the challenge of preventing and managing an increasing burden of NCDs. Although the health of the Hungarian population has improved considerably in recent years, the gap between Hungary and Western Europe has hardly decreased. NCDs are responsible for the vast majority of the overall disease burden. This challenge has been addressed through the inclusion of NCDs in the Hungarian National Health Plan, as well as a variety of initiatives to improve prevention and care for these conditions.

The Division of Health Systems and Public Health of the WHO Regional Office for Europe has initiated a three-year work programme on health system strengthening to improve NCD outcomes. Five countries participated in a first round of assessments: Hungary, Kyrgyzstan, the Republic of Moldova, Tajikistan and Turkey. These countries were chosen for their interesting policy lessons, prior or existing work on NCDs, the presence of implementing partners who were willing to collaborate, resources, and geographical representation of the Region. The five country assessments used a common approach, and were carried out by multidisciplinary assessment teams.

The study in Hungary was carried out in close partnership with the Ministry of Human Resources (MHR) and the WHO Regional and Country Offices from 17 to 21 June 2013. The team included experts in the areas of public health, epidemiology, financing, medicines, health systems and nutrition.

The country assessment had two objectives. First, it aimed to produce pragmatic, contextualized and implementable policy recommendations for health system strengthening, to allow faster improvements in key NCD outcomes. While this assessment focused on diabetes, the results are relevant to all NCDs, as diabetes can be considered a good “tracer” condition [27,28]. It is hoped that the assessment and the resulting policy recommendations will provide a platform for a comprehensive NCD action plan. Second, as part of the regional project, this assessment will contribute to sharing of knowledge and experiences among the countries of the region on common health system barriers to NCD control and promising approaches to overcome them.

The assessment is based on a structured assessment guide [1], tailored to the specific needs of the country. The guide was based on a background paper [2], which explored the role of health systems in tackling NCDs. The mission included presentations and small group discussions with stakeholders, providing an opportunity to share information, review data, identify successes and challenging areas, and build consensus around some of the key points in the assessment. Individual follow-up meetings were held, as well as field visits to primary health care centres, hospitals and other relevant institutions. Impressions formed were presented to key stakeholders and the Minister of State for Health at the end of the mission for further consensus-building.

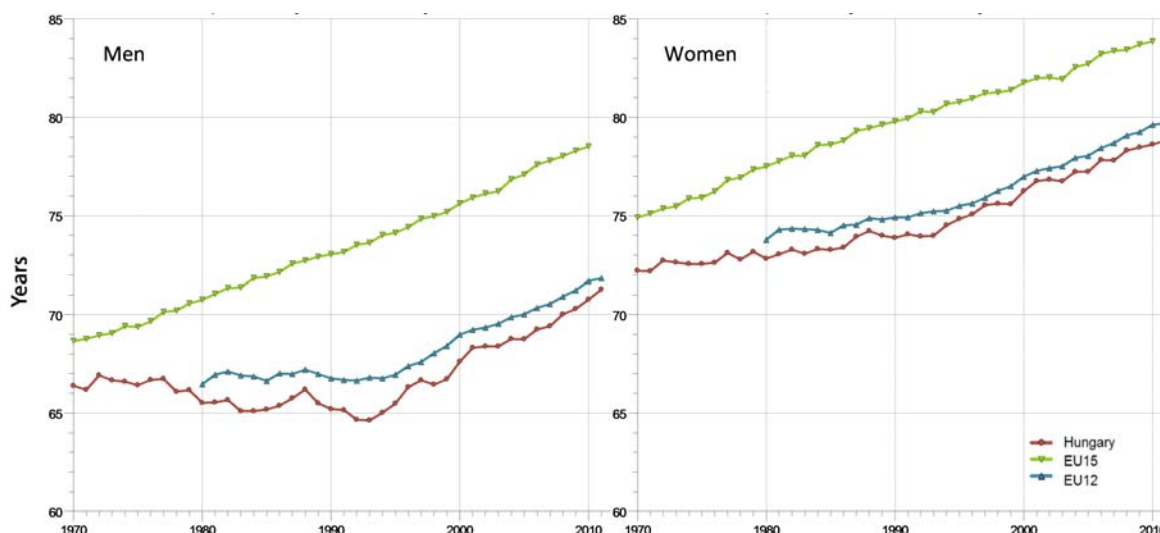
The report is presented in five sections. Section 1 provides background information on the NCD burden in Hungary, with a specific focus on diabetes. Section 2 assesses the coverage of the core population and individual services for NCDs. The health system features affecting NCD control are described in section 3, while section 4 describes innovations and good practices introduced in Hungary. Finally, policy recommendations are presented in section 5.



1 Noncommunicable disease outcomes with focus on diabetes

There is still a large gap between Hungary and western European countries in the health status of the population. Nevertheless, the negative trends in life expectancy seen after the 1970s have been dramatically reversed over the past 20 years (Figure 1).

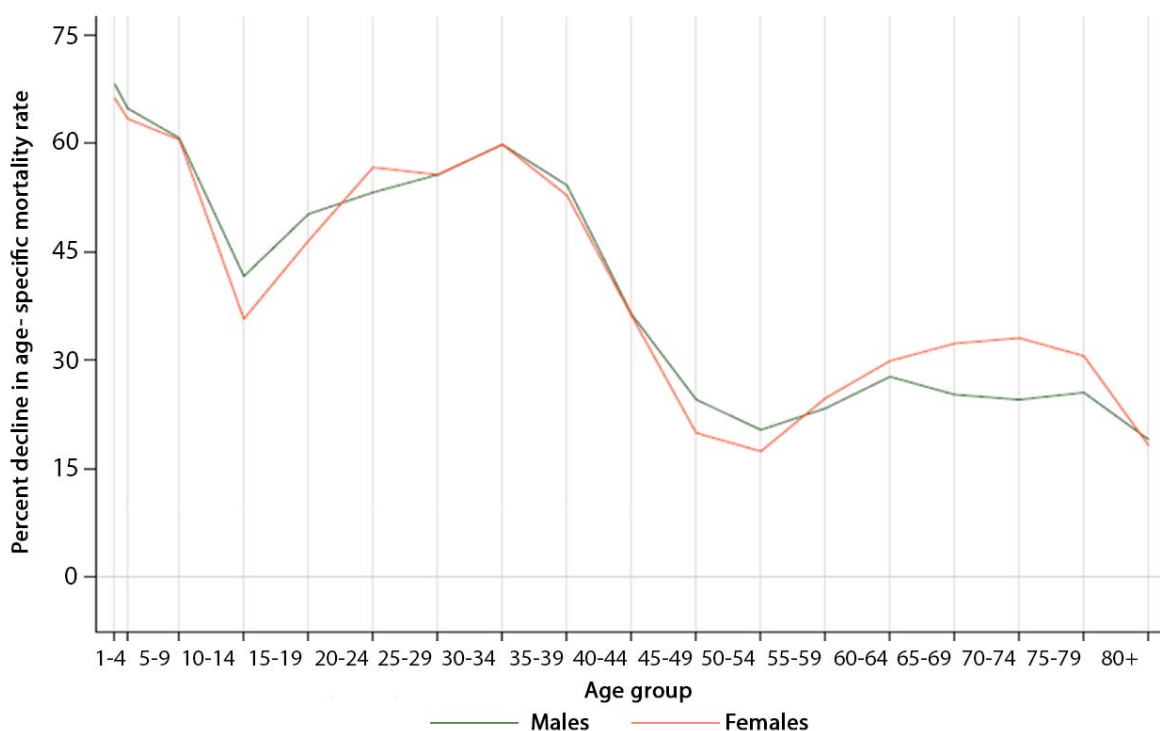
Figure 1. Life expectancy at birth, Hungary, EU15 and EU12^a



Source: WHO Health for All database.

The improvements affected all age groups (Figure 2) and, in the active population, were mainly due to a decrease in premature mortality from cardiovascular disease (CVD), chronic liver disease and external causes (Figure 3).

Figure 2. Percentage decline in age-specific mortality, Hungary, 1990–2010

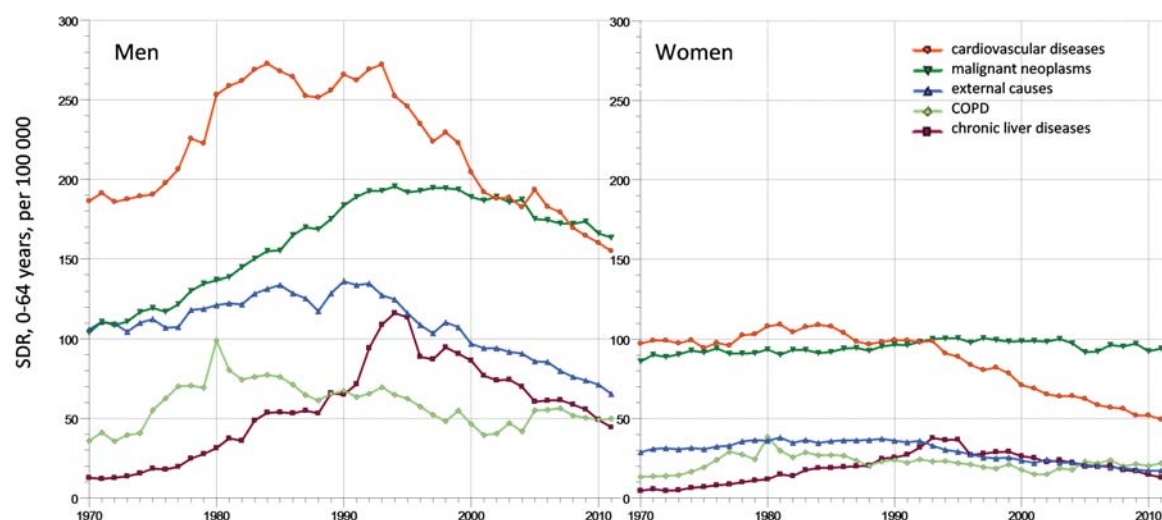


Source: http://www.healthdata.org/sites/default/files/files/country_profiles/GBD/ihme_gbd_country_report_hungary.pdf

^a See Annex 1 for an overview of the country groupings used in this report.

Standardized death rates (SDRs) for most NCDs have been decreasing in Hungary (Figure 3). Premature mortality due to NCDs in men is much higher than in women, but similar decreasing trends in SDRs can be seen in both sexes. The decline is particularly impressive for cardiovascular disease. If present trends continue, Hungary is well on its way to meet the “25 by 25 target” included in the WHO’s Global Action Plan for the prevention and control of NCDs [3]. Trends for cancer are of more concern, however, with virtually no improvement in cancer mortality rates for women over the past decade. Hungary is unlikely to meet the target of a 25% reduction in mortality by 2025 without significant extra effort and investment in cancer detection and care.

Figure 3. Trends in premature mortality of major NCDs in Hungary



Source: WHO Health for All database.

SDR: standardized death rate

COPD: chronic obstructive pulmonary disease

A recent cross-sectional study on a representative sample of the Hungarian adult population, in which fasting glucose was measured, found that the prevalence of diabetes in adults aged 20–69 years was 7.47% (men: 9.49%; women: 5.58%) [4]. The prevalence of diabetes in middle-aged men is around 8–10%, in middle-aged women, 7–9%. The figure rises to 20–25% in those aged over 65 years, according to health interview surveys and the biannual reports of general practitioners (GPs)(Table 1). The data show no change in prevalence in the past 10 years.

Table 1. Prevalence of diabetes mellitus in Hungary

	Prevalence of diabetes (%) (95% confidence interval)			
	OLEF2000	OLEF2003	ELEF2009	CSO2009
Men				
18–34 years	0.8 (0.4–1.6)	0.4 (0.1–1.5)	1.5 (0.6–2.4)	1.0*
35–64 years	7.7 (6.5–9.1)	8.4 (6.9–10.2)	9.3 (7.6–11.0)	10.4
≥ 65 years	13.6 (10.5–17.5)	20.4 (16.5–25.1)	20.0 (16.0–24.0)	24.9
Women				
18–34 years	0.8 (0.4–1.6)	1.9 (1.1–3.3)	0.6 (0.01–1.2)	0.8*
35–64 years	6.6 (5.6–7.9)	7.4 (6.1–8.9)	6.8 (5.4–8.3)	8.5
≥ 65 years	18.2 (15.7–21.0)	18.1 (15.0–21.7)	19.6 (16.4–22.8)	21.9

Source: OLEF2000: National Health Interview Survey 2000; OLEF2003: National Health Interview Survey 2003; ELEF2009: European Health Interview Survey 2009; CSO2009: biannual report of general practitioners.

*The age group was 19-34 years

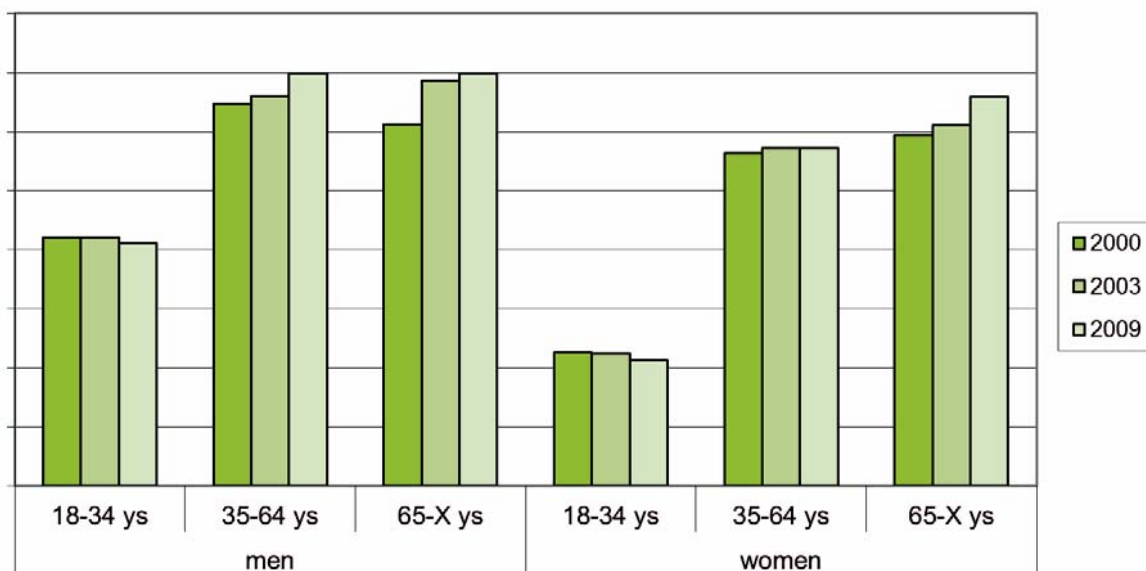
Data from the European Health Interview Survey indicate that there are some 665 000 patients over 19 years of age with diabetes. This is consistent with the data from the National Health Insurance Fund (NHIF) on 600 000 users of antidiabetic drugs (assuming that the number of drug users under 19 years is relatively small, and that a small proportion of diabetic patients are on non-pharmaceutical therapy).

Every year, 2500 amputations are performed and more than 900 cases of blindness occur as a result of diabetes [5, 6]. Some 30% of patients on dialysis have diabetes [7]. In comparison, about 20% of people starting dialysis in the United Kingdom have diabetes [8].

Diabetes frequently occurs together with obesity, hypertension and lipid metabolic disorders. The prevalence of metabolic syndrome and its components is very high in the Hungarian population. According to the harmonized criteria^b, 39% of men and 31% of women aged 20–69 years have metabolic syndrome [9], while 67% of men and 82% of women aged 35–54 years have central obesity, according to the criteria of the International Diabetes Federation (waist circumference ≥ 94 cm in men and ≥ 80 cm in women).

Data from health interview surveys confirm a high and increasing prevalence of obesity (Figure 4), which can be expected to lead to an increase in the burden of diabetes. Data from the Hungarian Diet and Nutritional Status Survey (OTAP2009), conducted in 2009 by the Institute for Food and Nutrition Science, indicate that nearly two-thirds of adults are overweight or obese [10]. Some 26.2% of men and 30.4% of women are obese, while the prevalence of extreme obesity (body mass index ≥ 40 kg/m²) is 3.1% in men and 2.6% in women. Central obesity (waist circumference > 102 cm in men and > 88 cm in women) is more prevalent among women than men (51.0% vs 33.2%), and the rate increases with age in both groups. Among those over 65 years, 55% of men and almost 80% of women are centrally obese. The data from this study were based on anthropometric measurements, weighted to be representative of the Hungarian population over 18 years [11].

Figure 4. Prevalence of overweight and obesity in Hungary



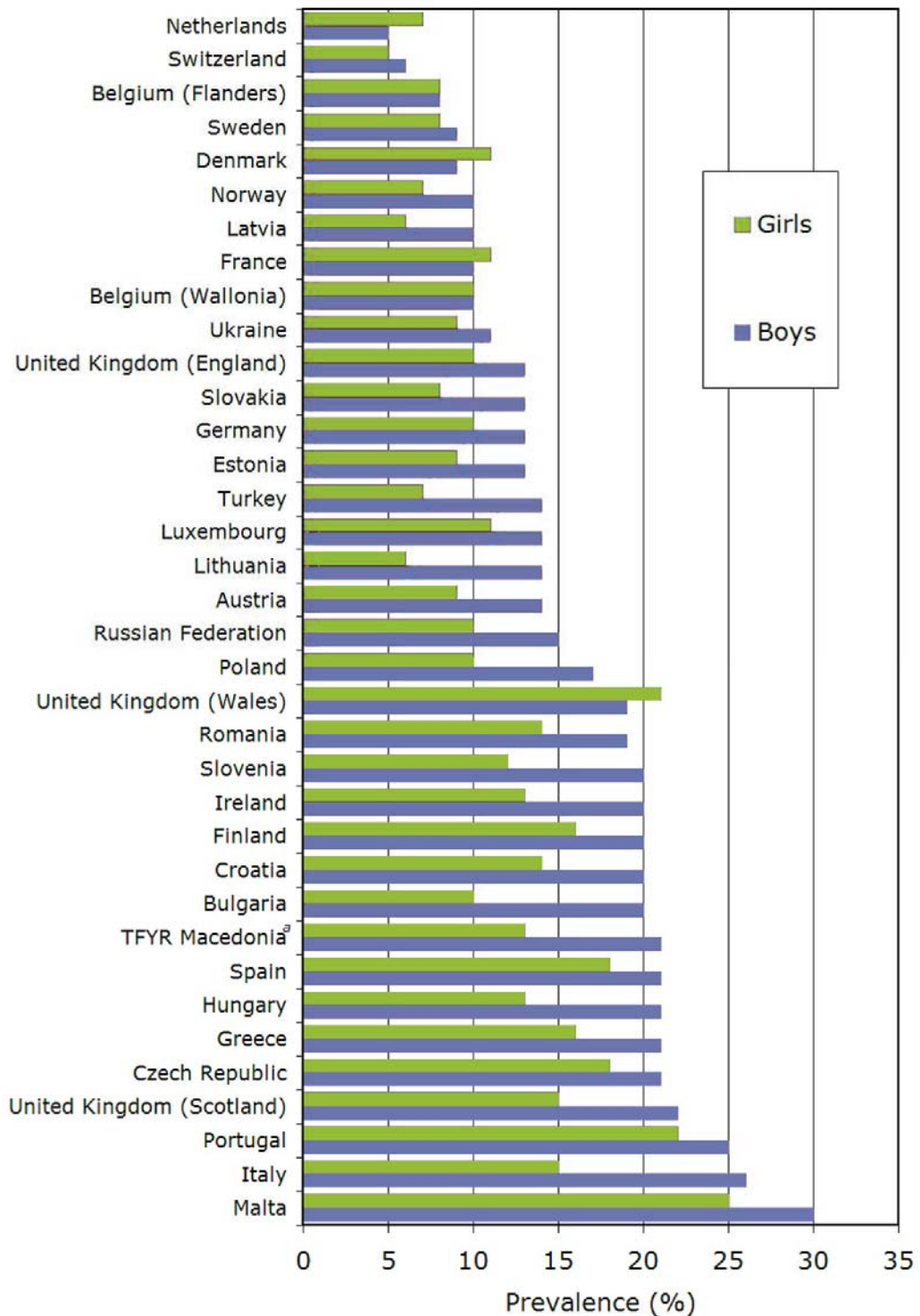
Source: Central Statistical Office, National Health Interview Surveys 2000 and 2003, European Health Interview Survey 2009.

In comparison with other European countries, Hungary ranks high in terms of prevalence of obesity and overweight in boys (Figure 5); it is one of only nine countries where more than 20%

^b Presence of three of the following five criteria: waist circumference ≥ 94 cm for Caucasian men and ≥ 80 cm for Caucasian women; triglyceride level ≥ 1.7 mmol/L, or specific treatment for this lipid abnormality; HDL cholesterol level < 1.0 mmol/L in males and < 1.3 mmol/L in females, or specific treatment for this lipid abnormality; systolic blood pressure ≥ 130 or diastolic blood pressure ≥ 85 mm Hg, or treatment of previously diagnosed hypertension; fasting plasma glucose level ≥ 5.6 mmol/L, or previously diagnosed type 2 diabetes.

of boys are overweight or obese. Among 13-year-old boys, the prevalence increased by almost 5 percentage points from 2001 to 2005. This underlines the fact that, unless effective primary prevention measures are implemented, the prevalence of diabetes will further increase [12].

Figure 5. Prevalence of overweight among 11-year-olds in 2005–06

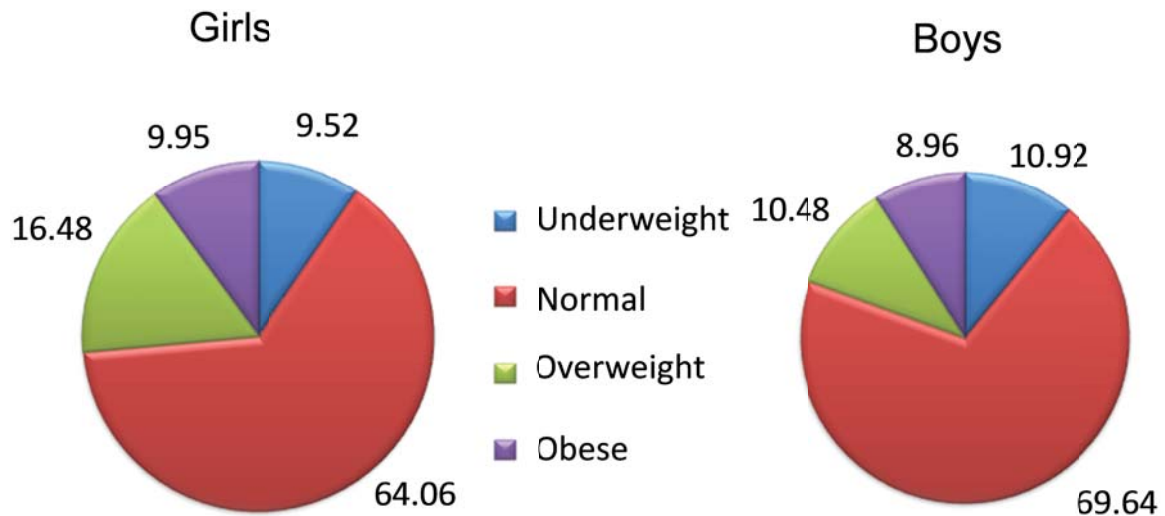


^a TFYR Macedonia = the former Yugoslav Republic of Macedonia.

Source: [12].

Besides overweight and obesity, underweight in children has also become a public health and social problem, further increasing the risk of future diabetes mellitus (Figure 6).

Figure 6. Prevalence (%) of underweight, overweight and obesity in children in Hungary according to the WHO Childhood Obesity Surveillance Initiative



Source: National Institute for Food and Nutrition Science.

Salt intake – a strong risk factor for hypertension – is very high in Hungary. In 2009, daily salt intake was 17.5 g for men and 12.1 g for women. Earlier data on salt intake come from the national dietary surveys of 1985–88, 1992–94 and 2003–2004, which showed a stable intake of 14–16 g per day. The levels are high in comparison with WHO guidance of 5.0 g per day and stronger interventions are needed. The intake by children is also very high: a survey in 2009 found that the average salt content of food served in kindergartens was 6.9 g per day [13].



2 Coverage of core interventions and services

This section explores the coverage of core population interventions (improvement of diet and physical activity) and individual services that are closely linked with preventing diabetes and improving diabetes outcomes (Table 2). Core services are evidence-based, high-impact, cost-effective, affordable services that can be implemented in a variety of health systems. The core services reviewed are closely linked to the Global and European Action Plans for the Prevention and Control of Noncommunicable Diseases 2013–2020 [3]. Each intervention and service was evaluated by the assessment team on a three-point scale as limited, moderate or extensive. Exact criteria for the scoring were developed by WHO and can be found in the Assessment Guide [1].

Table 2. Core population and individual services for diabetes prevention and control

Core population interventions for NCD control	Core individual services for diabetes
Interventions to improve diet and physical activity <ul style="list-style-type: none"> • Reduce salt intake and salt content in foods • Virtually eliminate trans-fatty acids from the diet • Reduce free sugar intake* • Increase intake of fruit and vegetables* • Reduce marketing pressure of food and non-alcoholic beverages to children* • Promote awareness about diet and activity 	Diabetes <ul style="list-style-type: none"> • Effective detection and general follow-up* • Patient education on nutrition, physical activity and glucose management • Hypertension management among diabetes patients • Prevent complications

* Intervention or service added to the list in the Global Action plan, to allow more comprehensive assessment.

2.1 Coverage of population-based interventions

Population-based interventions, including public health legislation (public health product tax, health promotion in elementary schools, daily physical education in schools), establishment of health promotion offices, and health promotion programmes, have been introduced on a large scale in recent years in Hungary. The scores for the population-based interventions are given in References.

A Public Health Product Tax (NETA) on food and beverages with a high sugar or salt content was introduced in 2011. As a result, 25–30% of the population consumed fewer products subject to NETA in 2012 than in 2011. Sales of products subject to NETA decreased by 27% and many products have been reformulated to decrease their sugar content.

A new legislation came into force in February 2014 to restrict trans-fatty acid content of industrially produced food to a maximum of 2 g per 100 g of fat.

Comprehensive health promotion is mandatory in elementary schools. As a result of intersectoral collaboration, detailed requirements for comprehensive school health promotion were included in new legislation on the operation of elementary education institutions [14]. The decree also established a quality assurance system for school health promotion programmes organised and performed within schools but not by the employees of the schools (e.g. a health promotion programme provided by an NGO).

In addition, Hungary has enacted legislation requiring one hour of physical education per day in elementary schools; implementation has started in a stepwise manner.

The estimated fruit and vegetable consumption in Hungary was 597 g per capita per day, which is 1.5 times higher, than the 400 g minimum intake recommended by a WHO/FAO expert consultation report on diet, nutrition and prevention of chronic diseases [15]. Marketing of foods

in institutions for children under the age of 14 years is forbidden. A code of ethics has been developed by the self-regulation marketing body. A proposal to limit the marketing of food and beverages to children was included in the National Food and Nutrition Plan 2010–2013, but this has not yet been endorsed by the Government. It is noteworthy that the number of television channels available in Hungary increased from 38 in 2006 to 538 in 2009, a change of 1316%, giving more opportunities for advertising to children.

EU structural funds have been used to support the development of services for prevention and health promotion. While these developments cannot reach the entire population, some of them have contributed to a large extent to the renewal of the prevention and health promotion services. An example is the establishment of 58 health promotion offices, which provide individual consultations, health education and health promotion programmes based on CVD risk assessment. These offices collaborate closely with primary and outpatient health service providers. In addition to doing risk assessment, counselling, and organizing health promotion programmes (e.g. diabetes clubs and physical activity programmes), they coordinate the work of local stakeholders in health promotion.

Within the framework of the development projects supported by EU structural funds, settlements, schools and workplaces can apply for funding for their health promotion programmes.

2.2 Coverage of individual services

The individual service coverage was assessed on the basis of site visits and review of documentation and data presented (e.g. from NHIF) during the mission. It would have been desirable to supplement the key informant interviews and site visits by a detailed analysis of patient records, but these were not available and time was too short. The observations below are therefore based on the consensus of the international and local experts, including family doctors. The conclusions are not final and warrant further investigation. The score card resulting from the discussions is given in Annex 3.

The main observations regarding the scale of coverage of individual services are as follows.

- Early detection of metabolic syndrome and diabetes appears to be a problem. Although legislation requires age-specific screening for unhealthy lifestyle and metabolic problems in primary care, in practice such screening is not performed systematically.
- Once diabetes has been detected, general follow-up is acceptable; patients have regular consultations to manage their condition.
- The blood pressure of hypertensive diabetic patients is poorly controlled. A survey among these patients showed that only 2.5% reached the target of 130/80 mmHg, and one-third reached 140/90 mmHg [16].
- The coverage of examinations to prevent complications of diabetes in primary care could be better. Data were available only for eye examinations. The team was informed that most general practitioners do not have the skills needed to screen for some complications (e.g. retinopathy, neuropathy), and that these investigations are therefore performed in specialist outpatient services, which reduces the participation rate and increases the cost.
- The coverage of patient education on nutrition, physical activity and glucose management is poor. Primary care is not patient-centred. The content and methods of patient education are not standardized, and modern methods of patient empowerment (including motivation interviews, coaching, peer-to-peer education, problem-solving therapy and use of information technology) are not used. This core individual service was assessed as the greatest challenge requiring investments and new approaches.

3 Health system challenges and opportunities to scale up core interventions and services

To deliver the core services outlined in section 2, the health system needs to perform three distinct tasks: (1) primary prevention, (2) secondary prevention and disease management, and (3) treatment of acute events. This section reviews the health system features that affect the performance of these tasks. While the study focuses on identifying the barriers that prevent delivery of core interventions and services at scale, enabling conditions and available structures are also described. The 15 health system features are shown in Figure 7.

Figure 7. Fifteen health system challenges and opportunities to improve NCD outcomes

Political commitment to NCDs	Explicit priority-setting approaches	Interagency cooperation	Population empowerment
Effective model of service delivery	Coordination across providers	Regionalization	Incentive systems
Integration of evidence into practice	Distribution and mix of human resources	Access to quality medicines	Effective management
Adequate information solutions	Managing change	Ensuring access and financial protection	

Source: Roberts MJ, Stevenson MA. Better Noncommunicable Disease Outcomes: Fifteen Challenges and Opportunities for Health Systems [2]

The following scale was used to assess health system features.

Minor challenge (0). This issue does not prevent delivery of core interventions and services or has been fully addressed.

Moderate challenge (1). This barrier has a moderate impact on the delivery of core interventions and services. The country has already found ways to overcome this barrier, or has solid plans to do so.

Major challenge (2). This barrier has a large negative impact on the delivery of core interventions and services. The country has been struggling to find the right ways to overcome it, or the chosen paths have not worked.

Major persistent challenge (3). This is a systematic problem that persistently affects the health system reform agenda; the country has not found a sustainable implementable solution or has failed numerous times to implement it.

Each member of the mission independently scored the 15 features mentioned above. An average was taken of all these scores, as given in Annex 4. The ranking of the health system challenges is shown in Table 3.

Table 3. Core population and individual services for diabetes prevention and control

Health system barrier	Rank
• Citizen empowerment	1
• Incentive systems • Distribution and mix of human resources	2
• Effective model of service delivery • Adequate information solutions	3
• Coordination across providers • Effective management	4
• Regionalization • Integration of evidence into practice	5
• Explicit priority-setting approaches	6
• Political commitment to NCDs • Interagency cooperation	7
• Access to quality medicines to manage chronic diseases	8
• Managing change • Ensuring access and financial protection	9

Although the financial burden was scored as one of the lowest health system barriers for individuals, it was noted that the health system faces high costs for the management of diabetes. The sections below examine these health system features in depth.

3.1 Political commitment to NCDs

Political commitment to NCDs is not viewed as a barrier in Hungary. Hungary's national public health programme was accepted as a decree of Parliament in 2003. The programme contained both a comprehensive strategy and an action plan, and set 10-year targets. Its renewal is on the political agenda, but the preparation of a new strategy requires public health capacity-building in the new legislative environment (see section 3.2).

Although the public health programme has not yet been renewed, the current government included a chapter on public health in its health reform programme, the Semmelweis plan. The associated action plan includes concrete actions in the area of prevention of NCDs (capacity-building in the public health service, improvement of the health literacy of the population by education and health communication, improvement of the community orientation of primary health care services, introduction of NETA, etc.). Many of these actions are now being implemented with the support of EU structural funds.

3.2 Explicit priority-setting approaches

Although the Semmelweis plan provides a good strategic framework for action, an established mechanism of priority-setting is lacking. In addition, there is no systematic means of translating public health priorities into service delivery or into purchasing decisions of the NHIF. Since the transformation of the Hungarian health system to a contract-based model in the mid-1990s, the NHIF has been purchasing services from providers and, at least in theory, could set priorities in its purchasing decisions. However, this does not take place for several reasons. One reason is that the mandate of the NHIF to practise selective contracting and shift the saved resources between the different services to improve performance is strictly restricted by the Government.

Given the lack of an appropriate mandate and skills in the NHIF for priority-setting through purchasing, the MHR is expected to steer purchasing and influence service delivery, through more explicit strategies and action plans. This could provide motivation for those seeking to

change the pattern of services in this field. However, the Ministry has not so far formulated a strategy or an action plan for diabetes. Nevertheless, there was a clear commitment during the review to consider the draft strategy plan prepared by the Hungarian Diabetes Association (HDA) in 2011, with the aim to link the proposal to the overall government health strategy set out in the Semmelweis plan [17]. The plan of the Association is a well structured document in many respects, with specific targets but without a baseline or a timeframe for achieving the targets. For instance, the plan indicates that the average level of glycated haemoglobin should be decreased by 0.5%, while blindness and other serious eye complications and the number of leg amputations should decrease by 50%. The possible impact and causality chain of the planned actions should be evaluated, especially the extent to which these targets are realistic. The information needed to monitor and evaluate performance is available, but the monitoring system is fragmented and needs improvement. Especially the NHIF and the National Institute for Quality and Organizational Development in Health Care and Medicines have excellent data collection systems, that could provide the foundation for evaluation of strategies and action plans if analytical capacities and reporting systems were strengthened.

A serious bottleneck in the governance of health policy for diabetes is the lack of an appropriate coordination mechanism for the policy initiatives of the various stakeholders. In particular, it is important to link the public health initiatives, such as healthy nutrition and physical activity, to health care delivery in a formal coordinating mechanism. The current organizational structure of the Ministry of Human Resources would make more effective coordination possible within the health secretariat and also with educational and sport policies (see also section 3.3).

3.3 Interagency cooperation

Sectoral segmentation has a long tradition in Hungarian society, from public administration to service delivery. In recognition of the intersectoral nature of public health, there used to be a public health intergovernmental committee, but it was abolished, largely because it was inefficient. Cooperation between governmental agencies in different sectors (such as health, social services, education and labour) is scarce and ad hoc, as is that between service providers.

The current government has merged health, social affairs, education, youth, sport and social inclusion in one ministry (the MHR). This provides a structural framework for closer cooperation between sectors. Some results of this development can already be observed, such as the strong representation of school health promotion in the new public education act, and the collaboration between the health and sport sectors in health promotion projects.

Despite the traditional fragmentation in the Hungarian public administration, interagency cooperation is viewed as a strength. The assessment team noted, for example, that pharmaceutical policies are jointly managed by the MHR and the NHIF. While the MHR is responsible for assigning, regulating and supervising personnel in the health system, the NHIF finances the services and monitors utilization patterns and contractual relationships. On the basis of their analysis, the NHIF proposes adjustments in pharmaceutical policies to the MHR. Similarly, collaboration between the MHR, the Ministry of National Economy, and governmental agencies, such as the National Institute for Food and Nutrition Science, and the National Institute of Health Development, led to the rapid development and acceptance of the Public Health Product Tax.

The interaction between central and local governments needs to be improved, as local governments are key stakeholders in implementing public health interventions. According to the act on local governments, providing primary health care services and promoting healthier lifestyles are among the compulsory tasks of local government. Nevertheless, the role of most local governments in preventing and managing NCDs does not extend beyond contracting general practitioners and providing infrastructure for the primary health services. Even if local health policy includes health-promoting activities, the resources and consequently the activities in this field are very limited.

3.4 Citizen empowerment

Although explicitly mentioned in policy documents and a key area where various agencies could collaborate, citizen empowerment is viewed as the greatest challenge in Hungary. The majority of the Hungarian population lacks the necessary knowledge and skills to control their own health. The general level of health literacy is low. Education and empowerment for patients with chronic diseases are not systematically implemented in the health care system. Various materials for patient education exist, for example those developed by the HDA [17]. However, important information about patient education materials is lacking, e.g. on whether and how they are used and whether they are adapted to the Hungarian context.

Adherence to therapy is one of the key issues in diabetes, as well as in other NCDs. Patient treatment should be individualized, taking into account patient motivation, risk of hypoglycaemia, the duration of disease, expected remaining lifespan, other illnesses, complications and resources. General practices have a traditional role in patient education. However, a lack of incentives, problems with the organization of service delivery and a lack of quality assurance of educational materials and techniques decreases the effectiveness of their activity (see section 2.2).

There are no incentives for service providers to deliver health education, even though it is an essential component of diabetes care. Patients need to be empowered with regards to both lifestyle changes and taking medicines. It seems that there is not sufficient time at physician level to support patients in reaching the goals set in their treatment plan.

Since educational materials are not regularly produced by public agencies, the pharmaceutical industry often sponsors the development of these materials by patient or professional associations. There is no system in place to approve such patient education materials.

A new health communication centre, financed from EU structural funds, is being established in one of the governmental agencies. The new centre will be the institutional basis for continuous health communication, including patient education. Another positive development is the establishment of health promotion offices (HPOs).

The new health promotion offices need to be integrated in the management of diabetes. Their collaboration with primary care and diabetes centres needs to be developed as does their role in patient education and empowerment (see also section 3.6).

3.5 Effective model of service delivery

The care of people with diabetes in Hungary remains specialist-focused, and much can be done to extend the involvement of primary care and to improve the quality of care. In 2012, there were more than 1.8 million outpatient cases in which diabetes was the main diagnosis. In another 1.6 million cases, diabetes was an additional diagnosis (Table 4). The latter figure should, however, be interpreted with caution, since the number of patients suggests that it is largely over-reported. Specialist-focused care and the less than optimal task profile of primary health care in managing diabetes and its complications are among the key reasons for the pattern of core service coverage identified in section 2.2, with late detection and insufficient attention to prevention of complications.

A study by Tabák et al. [19], comparing cohorts of people with type 1 diabetes in Hungary and the USA, found that in Hungary patients received more centralized, specialized care. These people had a lower glycosylated haemoglobin level and were more likely to perform blood glucose self-monitoring, receive intensive insulin treatment, and have hypoglycaemic emergencies than the US cohort. Overall hospitalization rates were similar, but the Hungarian cohort was less likely to have reported microvascular complications.

The Semmelweis plan, and the associated implementation resolution, include attention to developing a conceptual framework for organizing patient pathways. This issue is strongly related to NCD management, highlighting that the issue of NCD control is on the public health agenda in Hungary.

Table 4. Number of patients and cases with a diagnosis of diabetes using outpatient and inpatient services and home care, 2012

	Diabetes as main or additional diagnosis		Diabetes as main diagnosis	
	No. of patients	No. of consultations, hospital stays	No. of patients	No. of consultations, hospital stays
Acute inpatient care	166 074	423 641	28 875	44 717
Chronic inpatient care	44 595	53 364	4 761	5 368
Outpatient service	1 125 105	3 485 413	709 516	1 844 797
Computerized tomography or magnetic resonance imaging	645	674	645	674
Home care	4 991	148 604	80	1 762

Source: [17, 18]

Although primary health care has a role in diabetes care, there is an over-reliance on diabetes centres in the care of patients with type 2 diabetes. Diabetes centres are specialized centres where specially trained doctors and nurses work together with nutritionists and other colleagues as the first referral level for people with diabetes. These centres work in collaboration with primary health care, and manage patients requiring certain medicines or who cannot be managed at primary care level. In theory, patients should be referred back to primary care for follow-up, but many just go there for their prescriptions and continue to be followed at these centres.

An effective model of service delivery needs to include not only medical care but also citizen empowerment, as discussed in section 3.4. The experts viewed this health system feature as a major challenge and ranked it 3rd out of the 15 features. Hungary has a high rate of outpatient consultations with an average of 11.95 contacts per patient in 2009, which was third highest of the countries of central and south-east Europe [20]. This high level of outpatient contact does not translate into low use of inpatient services. GPs are the coordinators of care and the entry point to the health system, and need to view their role in terms of the overall system. How does GP practice affect use of medicines and resources and specialist capacity? There is a lack of capacity throughout the health system and decisions made at primary health care level affect specialist services in terms of patient load.

Type 1 diabetes is mainly managed in hospital settings [19]. Specific issues in the treatment of type 1 diabetes are the transition from paediatric to adult care and the management of psychosocial factors.

Hungary has successfully transformed its health system from an overly centralized and integrated health system to a purchaser-provider model with output-based payments from the NHIF [19]. As a result, structural and process elements of high quality diabetes care are in place, allowing good access and quality of services. However, in terms of content of care, the effectiveness of individual interactions between health professionals and patients requires more attention. For example, although patients are given their medical results (blood pressure, checking of feet, etc.) and prescriptions and told about next steps (next appointment, referral, etc.), it is unclear how effective the communication is, how far it is tailored to the individual, and whether the patient is empowered and engaged in the management of the disease.

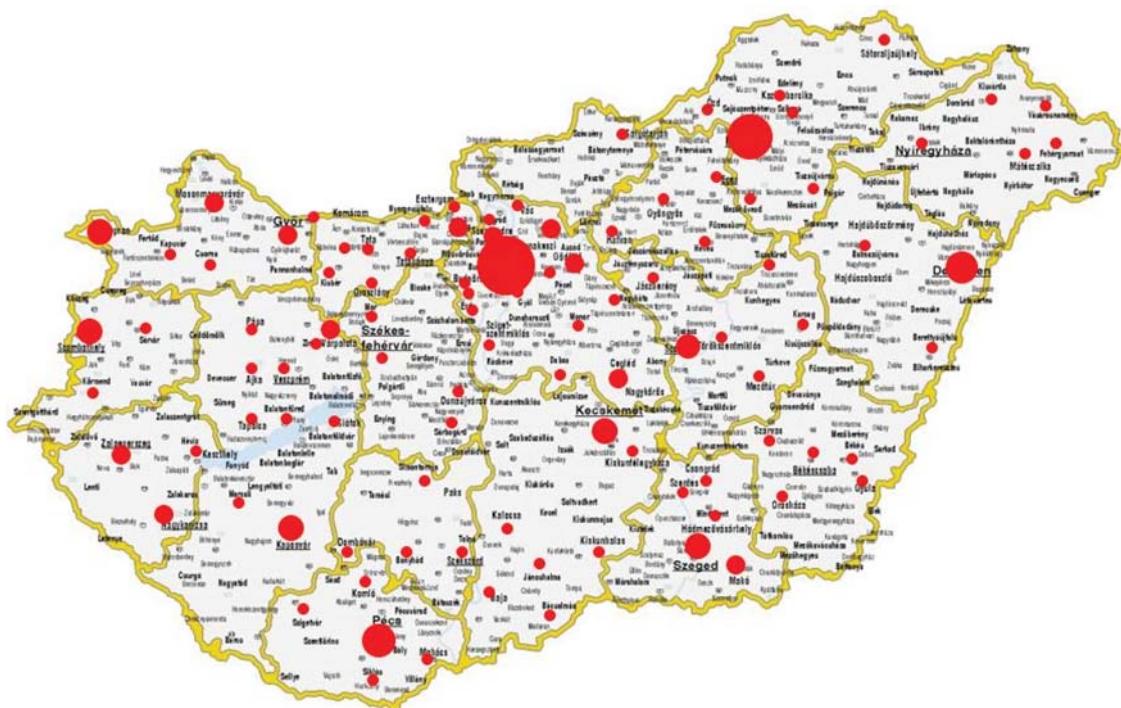
The key issue related to service delivery for prevention and management of NCDs is task sharing

and task shifting. In major cities there are special outpatient services to manage patients with diabetes, lipid problems or CVD. While they seem to provide better quality care for patients with chronic diseases than GPs, it is obvious that they cannot perform these tasks alone. The tasks should be shared between primary care and outpatient services. Task shifting within the primary care level is also an issue. Better involvement of community nurses, nurses and other primary health care professionals (e.g. dieticians and physiotherapists) could improve health education and counselling. This, however, will require a profound reform of the organization and financing of primary care, to ensure the necessary organizational framework with clear incentives and resources.

There are standard treatment guidelines (STGs) for management of NCDs in primary care. However, in practice it is not clear how tasks are divided between primary care and outpatient services. Incentive systems and clearer STGs will help improve this situation, together with better quality control and audits of both data and practice. This will also have an impact on costs [20]. Currently, the indicators used for diabetes control are whether glycated haemoglobin and lipids are measured, and if the patient has an eye test every year. The data presented show that these indicators are met in 73.0%, 58.0% and 37.5% of patients, respectively [21].

Equity is also an issue, because the accessibility of diabetes centres is very different in large cities than in the rest of the country (Figure 8). More effective involvement of primary health care services in the management of persons with diabetes could reduce inequity.

Figure 8. Location of diabetes centres in Hungary



The size of the red dot is proportional to the capacity of the centre.

Source: Barkai L. Prevention and care for diabetes in Hungary (presentation)

3.6 Coordination across providers

For effective management of diabetes, health services need to ensure coordination across providers. One area where there is a need for more coordination, for example, is gestational diabetes; links need to be developed between diabetes and gynaecological services, as well as information and data management systems for women during and after pregnancy and their children.

For specialist services that are part of routine diabetes care, such as screening for complications, there is a need for better organization, task shifting and task sharing to reduce both the waiting time and the burden on health professionals. Better coordination is also needed between primary health care, diabetes centres and hospitals in relation to referral of patients between the different services. Specialized tests, e.g. annual eye tests for people with diabetes, on which GPs are assessed, need to be organized in a manner that does not overburden higher levels of the health system.

The establishment of the HPOs is a promising development, but it is essential to develop the coordinating mechanism between them and primary care providers and outpatient services. In a broader context, better patient-focused management is needed. GPs are the key coordinators of the patient's pathway in the health service. Recent developments in the health care information technology (IT) system (see section 3.13) provide improved tools for managing patients. Organizational developments are also needed to reduce the separation and increase the collaboration between the different levels, in order to create a patient-centred continuum of care. There is a need to adapt consultations to the high burden of diabetes and other NCDs in the elderly. For example, statistics from one GP practice showed that 29.6% of people with diabetes were aged 64–74 years and 37.0% were over 75 years (I. Olah, personal communication, 2013). Because of this, there is a need to develop close links between social services, HPOs and patient clubs, not only to reduce the burden on GPs (in terms of patient education, for instance) but also to address some of the social challenges that individuals with diabetes may face. Such services may also be better suited to pass on health information and lifestyle guidance to individuals.

3.7 Regionalization

The overall health system, including GPs, diabetes centres and hospitals, is well structured and this feature is not considered a problem in Hungary. The diabetes centres have a close relationship with the HDA and receive accreditation from this organization [17]. Currently, there are 176 centres for adults and 28 for children. Local governments play a role in establishing and managing these centres.

The facilities and infrastructure, at least in Budapest, are of a good standard and provide accessible quality care. Referrals to the centres work well, but referrals back to the GPs seem to be more difficult: information is not always sent back to GPs and patients become used to more specialized care.

3.8 Integration of evidence into practice

Although integration of evidence into practice was not viewed as a major challenge, a few issues were noted that may undermine evidence-based medical practice for the average patient. Most importantly, the STG approved for diabetes does not seem to be used extensively in medical decision-making.^c

The STG should on the one hand assist the GP in his or her role as gatekeeper [20] and on the other ensure that those needing specialized care can access it. Although legislation requires age-specific screening for unhealthy lifestyle and metabolic problems in primary care, in practice such screening is not performed systematically. Existing screening tools are also not used to their full potential. These tools have been adapted from the Finnish Diabetes Risk Score (FINDRISC) and allow GPs to identify at-risk individuals and screen them for diabetes and address their risk factors at an early stage.

^c These STGs need to include:

- medical management (tests to be done during the consultation (blood pressure, weight, etc.) or
- as part of regular control (glycated haemoglobin, eye tests, etc.);
- patient education;
- prescription;
- clearly defined referral requirements;
- next steps, so the patient knows her or his pathway.

The national diabetes STG for GPs was developed by the College of General Practitioners in 2005; its validity was reconfirmed in 2008. The STG outlines a number of treatment choices, involving both lifestyle- and nutrition-related measures as well as medicines. According to the list of medicines included in the STG, GPs are able to prescribe sulfonureas, metformin, glitazones and alpha-glucosidase inhibitors. However, during interviews at primary health care level, the assessment team was informed that GPs can prescribe only metformin and sulfonureas. The GPs interviewed indicated that they were not using the STG. Physicians follow the instructions of the NHIF, and do not seem to be aware of the STG for GPs. At the secondary level, most treatment plans for new patients with type 2 diabetes are made in diabetic centres. A different STG has been developed for secondary level, but this was not available for review.

In addition, new results from health communication and behavioural sciences research are not reflected in practice, and evidence about non-medical interventions is not systematically reviewed in the Hungarian health system.

3.9 Access to quality medicines to manage chronic diseases

Access to quality medicines is not seen as a barrier in Hungary. The availability of medicines in the Hungarian market is generally good, although one can question their affordability to patients. During the visit, it was mentioned that 10–30% of patients with type 2 diabetes complain about the cost of their medicines.

Figure 9 shows retail sales of antidiabetic medications. Two-thirds of the cost of oral antidiabetics and almost the total cost of insulins are reimbursed. In 2012, some 600 000 people used antidiabetic medication, a quarter of them insulin or insulin analogues [22]. Although the total cost of antidiabetic medication is considerable (Figure 9), most of the health care costs of diabetic patients are for hospitalization, for complications and other medications (Figure 10) [16, 23]. As can be seen in Figure 10, health care costs increase dramatically when complications occur, and remain considerably higher even a year after the onset of the complication.

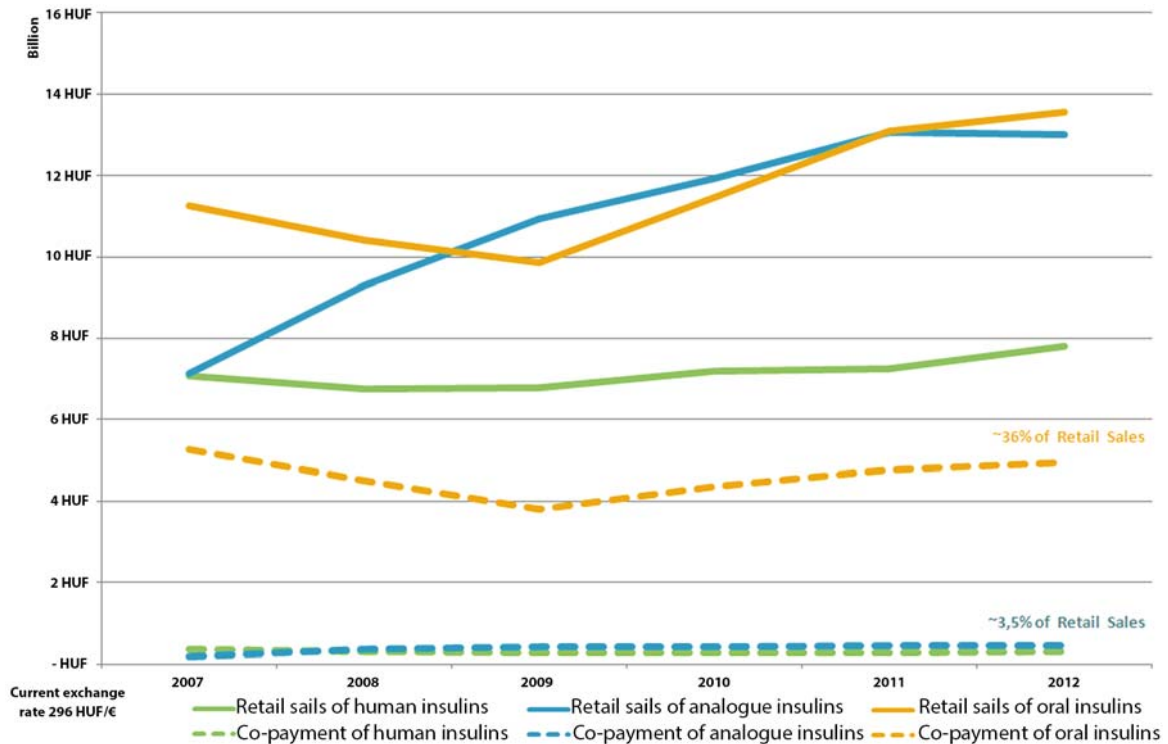
The Hungarian pharmaceutical sector has been liberalized over the past 20 or more years, to create a balance between regulation and the free market; several reform processes have shaped the sector. Expenditure on medicines in Hungary has traditionally been relatively high compared with other countries of the EU and the Organisation for Economic Co-operation and Development (OECD) (Annex 5), while total expenditure on health^d is moderate. Pharmaceutical expenditure as a percentage of total health expenditure increased from 28.1% in 2004 to 33.6% in 2010; since 2011, it has been decreasing. It is likely to level out, and potentially increase again, unless new measures are taken. Health technology assessment has been implemented and included in the reimbursement procedure for medicines and medical devices.

Reimbursement of outpatient drugs has been part of the Hungarian health system for many years, and varies between 50% and 100%. The criteria for inclusion in the reimbursement list are fully transparent and the decision-making process allows for broad consultation within the medical community. Nevertheless, the transparency of the decision making process on public reimbursement needs to be further improved. The current reimbursement covers a selection of NCD medicines with conditions for prescription by level.

The use of generic drugs is increasing in Hungary. The Hungarian market is traditionally a branded generic medicines market. International nonproprietary names (INNs) and prescribing are included in the curricula of all health professionals. Compulsory generic prescribing was introduced at the end of 2012 on an experimental basis (e.g. for statins). This should help increase the proportion of generic medicines dispensed and reduce costs for both patients and the public sector.

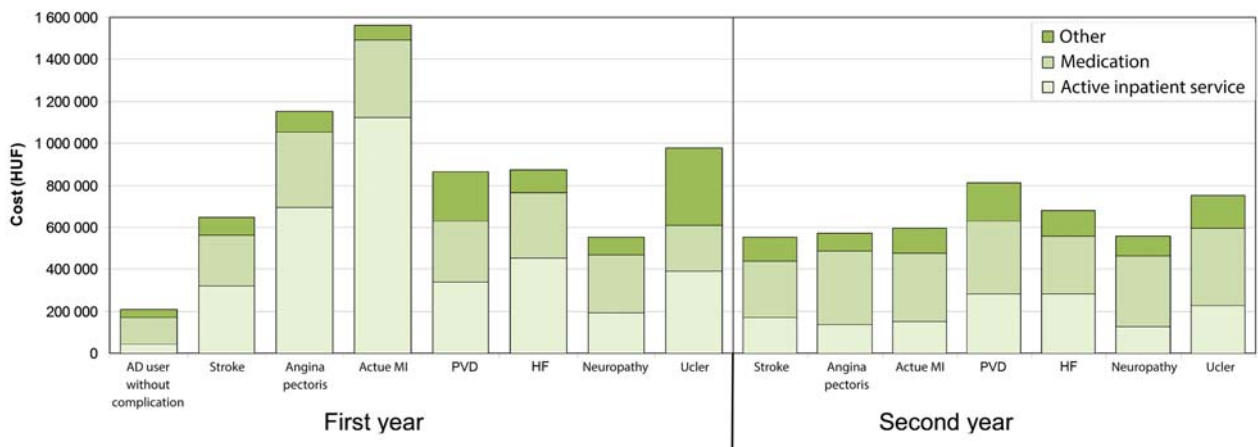
^d Within the EU, government health expenditure in 2011 ranged from less than 5% of gross domestic product (GDP) to about 8.5%; in Hungary it was 7.4% of GDP (<http://www.oecd-ilibrary.org/docserver/download/190800221e1t004.pdf?expires=1372066458&id=id&accname=guest&checksum=5BE7953D3F-F9388804770B4ED4DEBBDF>; accessed 24 June 2013).

Figure 9. Retail sales and co-payment for antidiabetic medication



Source: [22]

Figure 10. Average health care costs of people aged 40–59 years using oral antidiabetic medication, according to presence of complications



AD: antidiabetics, MI: myocardial infarction, PVD: peripheral vascular disease, HF: heart failure

Source: [24]

There seems to be an enthusiasm at both primary and secondary level to prescribe new antidiabetic medicines. During this assessment, it was suggested that prescribing should be liberalized, to allow GPs to prescribe more freely. There seem to be opportunities for further review, discussion and reformulation of national STGs for diabetes. In doing so, it will be important to keep in mind evidence of cost-effectiveness. It could be argued that newer therapies should be reserved for second-line use, but it is not entirely clear if this is the case in Hungary. “Newer” is not necessarily “better”. The evidence base for new diabetes medicines is not yet complete and long-term safety is unknown. In addition, the newer products are much more expensive. Hence, the cautious approach of NHIF should be supported and more focus given to communicating clearly to both consumers and health professionals the treatment choices and the evidence for NHIF decisions.

3.10 Incentive systems

The mix of incentive payments currently in place in Hungary encourages specialist and hospital-centred care, as highlighted in section 3.5, and is a key reason for the generally late detection of disease and low coverage of screening for metabolic problems, including diabetes. This feature was considered the second most important barrier, and is intimately linked with human resource problems. General practitioners are paid on a capitation basis, outpatient services by fee for service, and hospitals by the diagnosis-related group (DRG) mechanism. Although various caps and volume constraints are in place, this pattern does not provide incentives for primary care to deal with patients rather than referring them to specialists and hospitals. Furthermore, it provides strong incentives for specialists and hospitals to see more patients. The payment mechanism for primary health care includes quality-related rewards, but that for outpatient specialist and inpatient services does not include incentives for better care.

In primary health care, a pay-for-performance mechanism has recently been established on top of the capitation system. This can serve as a basis to improve the incentive system for primary care and encourage earlier detection and better disease management. The indicators related to diabetes management are regular testing of glycated haemoglobin and blood lipids, and eye screening. The standard for glycated haemoglobin testing, for example, is at least one test per year for all patients who redeemed at least four prescriptions for an antidiabetic medication in the previous 12 months. GPs receive points depending on the proportion of diabetic patients who fulfil this criterion. The remuneration depends on the total points received in relation to the total points collected by all GPs (as the total available budget is fixed).

While the introduction of the incentive system is a good first step, it could be further developed to encourage more effective detection and disease management. First, the indicators influence the remuneration of general practitioners only to a small extent, approximately 4% of practice revenues. Thus, the incentives are low-powered and have little effect on practice behaviour. Second, the indicators focus on management of already detected diabetes, and do not encourage earlier detection; they also do not encourage counselling and provision of support for behaviour change. These appear to be the most significant concerns related to core service coverage and are amenable to change with well-designed financial incentives.

The electronic reporting system used by all health care providers provides an opportunity to include not only process indicators (e.g. was glycated haemoglobin measured) but also outcome indicators (e.g. was the target value for glycated haemoglobin reached).

Experience with the new incentive system about patient compliance of insulin analogue use could provide a basis for the development of outcome based incentive systems. In the insulin analogue scheme, the patients' behaviour affects the extent to which their medicines are reimbursed; if two out of three glycated haemoglobin test results are above 8%, the patient is switched back to human insulin. Practically, the NHIF is willing to pay the incremental higher price of insulin analogue only if the patient complies with other aspects of therapy such as diet and exercise. Other options and techniques could be considered to create incentives for patients to comply not only in the use of medication but also in changing lifestyle.

Non-financial incentives are also important, and can be delivered through improved supervision of health professionals. Supervision should include continuing professional development as well as medical practice, with both elements linked to incentives rewarding good professional competencies and good quality care. An efficient incentive system could motivate service providers to provide definitive care at primary level.

3.11 Distribution and mix of human resources

Human resources and the incentive system were viewed as the most significant challenges after patient empowerment. It should be stressed that care for patients with diabetes is of high quality

and the dedication of Hungarian health professionals should be commended. Diabetes specialists not only deliver care, but also provide education to doctors and nurses. Human resources are also high on the political agenda within the MHR. At all levels of the health system, there seems to be an open-minded approach to change.

Any approach to improving the human resource situation in Hungary will need to take into account the current shortage in health personnel. Hungary has 296 physicians and 638 nurses per 100 000 population, compared with 346 and 836 per 100 000 population in the EU as a whole. There are currently 29 462 doctors active in Hungary, including 6456 GPs (of whom 1520 are paediatric GPs), and 44 059 nurses [25]. However, among 6670 GP practices, 214 have unfilled posts and 30% of GPs are above the standard retirement age.

The type and content of training in diabetes care will need to be defined, as well as the system of accreditation. The term “diabetologist” may need to be defined on the basis of the specific training; the current medical curriculum does not include this specialization. Currently, this specialization is managed by the HDA and training is open to internists, GPs and paediatricians [17]. To date, 460 doctors have followed this training [17]. Specialized training is also available for nurses through the HDA, and to date 581 nurses have followed this course [17]. The status of the training needs to be clarified, with clear criteria for accreditation based on both theoretical and practical aspects. The involvement of the Health Professional College and the HDA in the discussions will be essential.

Training in practical and “soft” skills, such as patient education and management of chronic conditions, is lacking. If the main barrier of low citizen empowerment is to be overcome, this element is essential. Two other issues need to be addressed: first, GPs are overburdened; and second, nurses play a very small role in diabetes care. A recent positive step was the renewal in 2012 of the content of specialized training for nurses in diabetes care, to foster skills in the areas of patient education, prevention of complications, modern methods for insulin delivery, and support for self-help groups and diabetes clubs.

Currently, 2342 dietitians work in Hungary following 4 years of university training. Additional human resources, especially nutritionists, could be trained in Hungary, but consideration needs to be given to how they can best be used and integrated in the health system. Other specialities, such as podiatry, do not exist in Hungary.

Health professionals trained in public health, including health promotion, are not closely involved in NCD prevention. The former county and local offices of the National Public Health Service have been integrated into the government offices of the public administration. They deal almost exclusively with health administration and health safety and do not focus on prevention of NCDs. Although there are BSc and MSc courses in public health at several universities, there are few opportunities for employment in the field. Public health nurses are part of the primary care service, but their responsibilities are almost exclusively for maternal and child care. Their involvement in cervical cancer screening was pilot-tested in recent years, and has now been extended in a project supported by the EU structural fund. These nurses could potentially be involved in NCD prevention. Similarly, nurses could more efficiently participate in prevention if the outdated system of service delivery were improved.

3.12 Effective management

Effective management is linked to the issues of human resources availability, training, task shifting and incentives. The role of the GP should be to manage the individual and not the disease, and specific training will be needed for this. Diabetes centres, outpatient departments in hospitals and specialists are needed for some aspects of diabetes care (e.g. eye tests). The GP needs to become the coordinator of care, and to provide patient education, in order to empower the individual to take a more active role in his or her care. STGs need to specify clearly when inpatient care is necessary, so as to avoid overuse of such services; the health financing system can also be used to help regulate this.

In addition, health professionals at central level need to be trained in specific aspects of diabetes, the use of medicines and their financial impact on the NHIF. Health promotion and disease prevention should also be addressed, so that personnel at all levels of the health system understand the challenges of NCDs, including diabetes.

3.13 Adequate information solutions

There is currently no link between service delivery, information systems and the incentive system in Hungary. The Hungarian health care system has one payer and unified electronic recording of health service utilisation, which in theory should allow modern information technology solutions to be used both to manage patients and for health services research. GPs were recently given access to the pathway data of their own patients, which may improve the quality of patient management. Modern information technology solutions could also be used for health education and to improve compliance.

The monitoring and evaluation component of the Hungarian pharmaceutical system is quite well developed; the system is being further developed, to include electronic prescriptions. While monitoring and reporting data are collected at central level by the NHIF, the analysis is not sufficiently used for decision-making. This is acknowledged at national level and the MHR, the NHIF and the WHO regional and country offices are working together to analyse this area. A publication is expected in 2014. It will be important to consult with all stakeholders in the process of continuous updating of pharmaceutical sector policies, in order to ensure a balance between accessibility and cost-effectiveness.

Well developed information systems provide GPs with the data they need on a variety of indicators for their patients, but are not used to monitor quality on an individual or practice level. The information is used only for reporting to the NHIF. As highlighted in the Semmelweis plan, large quantities of valuable data are generated by the health system, but are not used to their full potential. Improvements could be made at facility and patient level in the use and analysis of data. There is also a great interest in data collection and analysis at central level; for example, there are very good data and analysis on consumption of medicines.

3.14 Managing change

There is a consensus about the importance of preventing NCDs and about the need of new solutions among politicians, health professionals and the public, and this feature was ranked as one of the least important challenges. The system of service delivery needs to be changed to provide improved access to health promotion services, so that this political commitment can be translated into action.

3.15 Ensuring access and financial protection

Most elements of diabetes care are provided for free, and financial issues are not considered a barrier to NCD care in Hungary. Laboratory examinations for lipids and glycated haemoglobin are freely available to all diabetic patients four times per year. Retinopathy screening and annual controls for diabetes patients are fully reimbursed. The price of a glucometer varies, but is currently 6000–7000 forints. The medical device area should be monitored to ensure that affordable and effective monitoring equipment is available, that regulation of medical device advertising is carefully considered, and that access is clinically appropriate and does not risk inadvertently promoting inappropriate use, especially by people with type 2 diabetes.

However, access to non-medical interventions for patients with NCD is very limited.

4 Innovations and good practices

The following elements identified during the visit were viewed as innovations worth highlighting. NETA introduced in Hungary in 2011 is a good measure that few countries have been able to replicate, although many aspire to do so. NETA was introduced as an instrument both of nutritional policy – to promote healthy consumption – and of fiscal policy – to raise revenues for public health. NETA is applied to prepackaged products with a high sugar or salt content (Table 5).

Table 5. Products subject to NETA

Range of product	Tax rate		
	01.09.2011	01.01.2012	01.01.2013
Soft drink (HUF/l)	5	7	7
Soft drink concentrates, in form of concentrate and syrup (HUF/l)	-	200	200
Energy drinks (1mg metil-xantin/100ml or containing more than 100mg taurinper 100ml (HUF/l)	250	250	250
Energy drinks (containing more than 15mg metil-xantin100ml (HUF/l)	-	-	40
Pre-packaged sugar sweetened products (HUF/kg)	100	130	130
Sugar sweetened cocoa powder (HUF/kg)	-	70	70
Salted snacks (HUF/kg)	200	250	250
Condiments (HUF/kg)	200	250	250
Flavoured beer (HUF/l)	-	20	20
Alcopops (HUF/l)	-	20	20
Jam (HUF/kg)	-	500	500

Source: [26]

Preliminary results of an impact assessment of the policy show that it has had the desired effect on the attitude and behaviour of the population. It has provided the expected revenues for the health sector and has stimulated the industry to reformulate unhealthy products. A population survey found that 25–35% of the population consumed fewer products subject to NETA than one year earlier. The main reason for the reduced consumption was the price increase, while the second reason was improved awareness of the unhealthy nature of the products. A survey of manufacturers found that 40% had changed the formula of their products to reduce salt or sugar content. Manufacturers of energy drinks had reformulated some of their products to avoid the taxation, but the legislation was amended to cover the new formulations, which did not result in healthier products. According to the survey, sales of products subject to NETA fell by 27%, and the average price increased by 29%.

The introduction of the NETA showed the strong political commitment to NCD prevention in Hungary. A working group with representatives from the Ministry of Human Resources and the Ministry of National Economy drafted the concept and content of the legislation, and consulted with other governmental institutions. Although the revenue is not earmarked, in the first year it was spent on mitigating the human resource crisis in the health care system.

Another innovative development is the establishment of health promotion offices in outpatient health centres. In the developmental phase, 58 such offices were established, supported by the EU structural fund; after the developmental phase, they will be financed by the NHIF. The offices provide individual consultations, health education and health promotion programmes based on CVD risk assessment. They also serve as coordinators of stakeholders involved in local health programmes, collaborating closely with primary care and outpatient service providers. They can be important actors in primary prevention and screening for diabetes, and also participants in the management of diabetic patients. Each office has at least two staff members, who may be physicians, nurses, public health nurses, public health specialists, dieticians, psychologists or mental health specialists. The work of the offices is coordinated and monitored by the National Institute for Health Development. Minimum standards for the offices, including staff, infrastructure, operation and monitoring, were set in the application to the EU fund.

Another innovation aimed at addressing the influence of the pharmaceutical industry on prescribing practices was the introduction of a fee for medical representatives of pharmaceutical companies who visit health providers to market their products. Pharmaceutical companies have to pay 10 million HUF tax per year for each medical representative. This both affects the influence of the representatives, since it reduces the return on investment, and provides an additional source of revenue for health care.

The joining of a number of ministries under the MHR is an innovation that as yet has not produced the impact that true intersectoral collaboration could bring for NCDs. One of the positive results of the closer collaboration is the legislation on school health promotion, which was a collaborative effort of the secretariats for health and education. This collaboration within the ministry could become part of a wider multistakeholder involvement, with clear links between the MHR, academia, patient organizations and professional organizations. At the same time, the issue of potential conflicts of interest for each nongovernmental stakeholder needs to be clearly stated.



5 Policy recommendations

This section focuses on a number of policy recommendations that can contribute to the further development of policies, programmes and interventions for NCD control in Hungary. They can also be used as a basis for further dialogue between the different stakeholders involved in NCDs in Hungary and WHO. The policy recommendations are based on the assessment in this report and the discussions at the final workshop with key stakeholders, and are summarized in Table 6, together with the most important challenges identified by the team.

Recommendation 1. Address citizen empowerment

- 1.1. Develop health literacy and patient education materials, as well as ways of delivering health education and integrating this in the interaction between the health care provider and the patient.
- 1.2. Ensure quality control of the materials, to avoid undue influence from the pharmaceutical industry.
- 1.3. The HPOs can play a role in this, including involving patients in setting their own individualized targets.

Recommendation 2. Improve the distribution and mix of human resources

- 2.1. Involve health professionals other than doctors, e.g. nurses and community nurses, in the management of different aspects of diabetes care, especially patient education, in order to reduce the burden on GPs.
- 2.2. Define clear roles for these health professionals and organize training.
- 2.3. Consider shifting some tasks, e.g. to pharmacies. This will require a further integration of pharmacists into the health care system and an expansion of pharmaceutical care (generic substitution, prescription medicines review, health education campaigns, etc.). This process has already begun and should be monitored carefully with the purpose of expanding activities, if relevant.
- 2.4. Include both medical and non-medical aspects in training in diabetes management. Promote the notion of the GP as case-manager, acting as a guide for the patient through the health system.
- 2.5. Specify the specialist services that should be available at each level of the system and the criteria for access of patients.
- 2.6. Consider new training specifications and new specialities, as well as further capacity development in public health. For example, nurses could be trained in podiatry. Use task shifting and financial incentives, and integrate services at different levels of the health system.
- 2.7. Explore the possibility of mobile screening, for example for eyes.
- 2.8. Involve the HDA in helping train human resources in rural and deprived areas.

Recommendation 3. Develop the incentive system

- 3.1. Develop incentives that focus on outcomes, not just on processes. Include incentives for patient education, prevention, early detection and lifestyle change.
- 3.2. Introduce incentives for health professionals other than GPs, in coordination with efforts to promote task shifting and address human resource shortages in some parts of Hungary (see recommendation 2).
- 3.3. Give increased emphasis to non-medical interventions for the management of NCDs and diabetes.

Recommendation 4. Ensure an effective model of service delivery

- 4.1. Establish minimal requirements for diabetes management in primary health care, including STGs for patient management (medicines, required laboratory tests, referral pathways, etc.) and training.
- 4.2. Define the role of each level of the health system for diabetes care, including in risk-based screening.

- 4.3. Ensure that services are equitably distributed. Develop data systems to map services to ensure appropriate coverage and allocation of resources.

Recommendation 5. Reduce the financial burden on the health system

- 5.1. Develop clear STGs for use of new, more expensive medicines; support these with appropriate regulation and coverage by the NHIF. Base the STGs on evidence generated from both international and national studies.
- 5.2. Strengthen capacity for value assessment, including health technology assessments.
- 5.3. Ensure that health professionals understand and are fully committed to STGs and new practices. Give careful consideration to any feedback received. Health professionals can override and or ignore the system if they do not understand it and find it useful.
- 5.4. Monitor developments in other countries, such as Australia, which are reviewing diabetes medicines, and evaluate usefulness for decision-making in Hungary.

Recommendation 6. Respond to the complexity and wide-ranging nature of diabetes control

- 6.1. Build on the opportunity of having the Secretaries of Health, Social Inclusion, Social, Family and Youth Affairs, Education, Sport and Higher Education under the MHR to create an intersectorial group on NCDs.
- 6.2. Ensure that health aspects are taken into account in all policies put forward by this Ministry.



Table 6. Synthesis of main barriers and recommendations

Health system challenge and opportunity	Identified challenge	Recommendation
Citizen empowerment	<ul style="list-style-type: none"> – Low level of health literacy – Education and empowerment for patients with chronic diseases is not systematically implemented – No incentives for service providers to give health education – No approval system for patient education materials 	<ul style="list-style-type: none"> – Develop adapted and quality assured patient education materials – Include patient education in medical practice and consultation; ensure appropriate delivery of education in line with patient needs: <ul style="list-style-type: none"> • include this element in the role of HPOs • involve patients in developing the materials • link patient education with the incentive scheme
Distribution and mix of human resources	<ul style="list-style-type: none"> – Shortage of and challenges with regards to human resources – Increasing prevalence of diabetes and other NCDs – Ageing population – Burden on GPs because of high patient numbers – Training in practical and “soft” skills, such as patient education and management of chronic conditions is lacking – Health professionals trained in public health including health promotion are hardly involved in NCD prevention 	<ul style="list-style-type: none"> – Develop skills and means to involve other health professionals, especially in patient education; this will require specific training – Identify tasks that may be performed by other health professionals, e.g. community nurses or pharmacists – If necessary develop new specialities with appropriate training, e.g. podiatry – Increase capacity development in public health for managers and civil servants in the area of NCDs
Incentive system	<ul style="list-style-type: none"> – Incentive scheme does not promote improved diabetes management 	<ul style="list-style-type: none"> – Develop incentives based on outcomes, not only processes – Find ways of incentivising other health professionals
Effective model of service delivery		<ul style="list-style-type: none"> – Define the role of each level of the health system for diabetes care, including the specialist services that will be available and the criteria for access of patients – Make changes in the delivery of care, e.g. consider mobile screening – Include CVD risk assessment in consultations, including risk-based screening for diabetes – Identify ways to increase equity in the distribution of diabetes services; develop data systems to map services – Define minimal requirements for diabetes management in primary health care, including STGs. – Provide training in medical management, soft skills and the role of the GP as case-manager
Other	High financial burden on health system	<ul style="list-style-type: none"> – Strengthen capacity for value assessment, including health technology assessments – Obtain commitment of health professionals to STGs. – Monitor developments in other countries
	Complexity and wide-ranging nature of diabetes	<ul style="list-style-type: none"> – Create an intersectorial group on NCDs within MHR

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Annex 1. Country subgroups

The country subgroups mentioned in this guide reflect those defined in the Health for All database, as outlined below.

- EU-15: the 15 Member States that belonged to the European Union (EU) before 1 May 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom.
- EU-12: the 12 new Member States that joined the EU in May 2004 or in January 2007: Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia.
- CIS (Commonwealth of Independent States until 2006): Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, the Republic of Moldova, the Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.



Annex 2. Score card for population-based interventions in Hungary

Intervention	Country score
Improve diet and physical activity	<ul style="list-style-type: none"> • Limited for adults • Moderate for children
Reduce salt intake and salt content in foods	<ul style="list-style-type: none"> • Limited to moderate
Virtually eliminate <i>trans</i> -fatty acids from the diet	<ul style="list-style-type: none"> • Moderate
Reduce free sugar intake	<ul style="list-style-type: none"> • Extensive
Increase intake of fruit and vegetables	<ul style="list-style-type: none"> • Moderate
Reduce marketing pressure of food and non-alcoholic beverages to children	<ul style="list-style-type: none"> • Limited to moderate
Promote awareness about diet and activity	<ul style="list-style-type: none"> • Limited for adults • Moderate for children



Annex 3. Score card for individual services

Service	Country score
Effective detection and general follow-up (criterion not in Global Action Plan)	• Limited to moderate
Patient education on nutrition and physical activity and glucose management	• Limited to moderate
Hypertension management among diabetes patients	• Limited
Preventing complications	• Moderate

Annex 4. Scoring of health system challenges diabetes control

Scoring of challenges 1. Minor 2. Moderate 3. Major 4. Major persistent	1. Commitment	2. Priority-setting	3. Interagency cooperation	4. Citizen empowerment	5. Model of service delivery	6. Coordination across providers	7. Regionalization
Effective detection and general follow-up (criterion not in Global Action Plan)	1	1	1	3	2	2	2
Patient education on nutrition and physical activity and glucose management	3	1	1	3	3	2	2
Hypertension management among diabetes patients	1	2	2	3	2	2	2
Preventing complications	1	1	2	3	2	2	2
Total	6	5	6	12	9	8	8



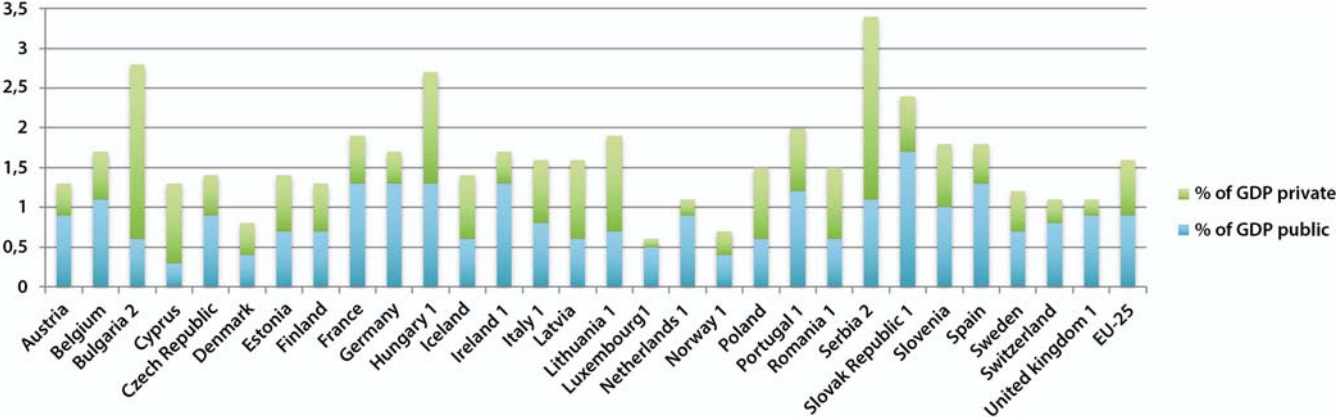
in relation to individual services for

8. integration of evidence -based medicine	9. Access to quality medicines	10. Incentives	11. Human resources	12. Management	13. Information solutions	14. Managing change	15. Financial protection	Total
1	0	3	2	2	1	1	1	23
2	0	3	3	3	3	2	0	31
2	2	2	2	2	3	0	1	28
2	2	2	3	2	2	0	1	27
7	4	10	10	9	9	3	3	

Annex 5. Expenditure on pharmaceuticals per capita

Data from the OECD for the year 2010 show that a significant proportion of health spending goes on outpatient prescribed and over-the-counter pharmaceuticals (US\$ 538.4 of US\$ 1601 per person (at purchasing power parity (PPP)); about 33%). The total per capita public spending on pharmaceuticals is slightly below the OECD average of US\$ 586 (also at PPP). However, out-of-pocket spending on pharmaceuticals in Hungary is high compared with that in other EU Member States (60% in Hungary compared with an average of 16.6% in the OECD). Private out-of-pocket payment on health in Hungary is approximately 26%.

Table 5. Expenditure on pharmaceuticals as a share of GDP, 2010



¹ Includes medical non-durables.

² Total medical goods.

Source: Eurostat (http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/General_government_expenditure_on_social_protection_and_health#Health_and_social_protection; accessed 24 June 2013)



The WHO Regional
Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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World Health Organization Regional Office for Europe

UN City, Marmorvej 51, DK-2100 Copenhagen Ø, Denmark
Tel.: +45 45 33 70 00 Fax: +45 45 33 70 01 E-mail: contact@euro.who.int
Web site: www.euro.who.int