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EU Conference on Prevention of Type 2 Diabetes

Conference Report



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Foreword

The dramatic increase in new cases of diabetes, particularly Type 2 diabetes, has developed into one of the major medical and health-policy problems of today. In order to underline the significance of this disease at EU level, I have decided to highlight diabetes as one of the two main health topics during the Austrian EU Presidency in 2006 and to invite experts from more than 30 European countries to Vienna to exchange views and discuss seminal strategies for the future of diabetes prevention and management.

Proposals for solutions and joint strategies were drawn up within the framework of an expert meeting of representatives from politics/administration, patients' organisations, the medical and the nursing professions as well as representatives of the relevant EU institutions and international organisations.

The results of the discussions are compiled in this conference report which comprises the main findings and recommendations. I am very pleased and encouraged by the outcomes of this conference and think that they are an important step forward in tackling diabetes at EU level. Thus, it will be my pleasure to present the results of this conference as the **"Vienna Declaration"** to my colleagues at the informal conference of Health Ministers in April and at the formal Council in June 2006.

Maria Rauch-Kallat
Federal Minister for Health and Women

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Abbreviations

BMGF	Austrian Federal Ministry of Health and Women
DG SANCO	Health and Consumer Protection Directorate-General
EASD	European Association for the Study of Diabetes
EC	European Commission
EP	European Parliament
EU	European Union
FEND	Federation of European Nurses in Diabetes
IDF Europe	International Diabetes Federation Europe
ÖBIG	Austrian Health Institute
ÖDG	Austrian Diabetes Association
PCD Europe	Primary Care Diabetes Europe
WGKK	Vienna District Health Insurance Fund
WHO	World Health Organization

1 Introduction

Due to their negative impact on the quality of life for patients and also on the socio-economic situation, Type 2 diabetes and its complications are a major public health concern. More than 25 million people in the EU are affected by diabetes. An additional 60 million are at risk of developing pre-diabetes. It is estimated that five to ten percent of the overall expenditures of the health care system are spent on complications resulting from diabetes: heart attacks, kidney failure, amputations and blindness. On the other hand a number of studies have demonstrated that targeted prevention and treatment programmes can reduce the risk of contracting diabetes as well as related complications to a relevant degree.

There is a clear consensus at EU level that Type 2 diabetes is a serious chronic disease affecting more and more people earlier and earlier in their lives. Numerous approaches to prevent and treat diabetes already exist in the various European countries. Nevertheless, EU-wide strategies are still lacking and the exchange of expertise has to be intensified. Of special importance are the development of common structures and framework programmes, primary prevention initiatives, interventions to avoid costly complications of diabetes that significantly reduce the patients' quality of life and special programmes for socially deprived groups, as in these areas grave deficits have been identified.

In order to draw up recommendations and joint strategies, a conference on prevention of Type 2 diabetes was organised by the Austrian Health Institute (ÖBIG) on behalf of the Austrian Federal Ministry of Health and Women and the European Commission (EC), Health and Consumer Protection Directorate-General (DG SANCO) on 15-16 February 2006 in Vienna. More than 180 experts participated in this expert meeting and agreed on recommendations in four focal areas: 1) Prevention of cardiovascular disease in diabetes, 2) Disease management – reducing diabetic complications, 3) Early prevention of Type 2 Diabetes and 4) Social, societal and gender aspect of Type 2 Diabetes.

The conclusions of the discussions are compiled in this conference report and will be brought to the attention of Health Ministers at the informal conference of health ministers in April 2006 as well as at the formal Council in June 2006 by the Austrian Federal Ministry of Health and Women.

Many people have been involved in this project. We would like to thank all our partners and the speakers at the conference for the good cooperation and the great support they gave us. We also thank all the conference participants for coming to Vienna and sharing their expertise with us. Our special thanks go to Eva-Maria Baumer, John Bowis MEP, Dr. Peter Brosch, Professor Jacqueline Dekker, Dr. Anne Dornhorst, Dr. Jill Farrington, Anne-Marie Felton, Louise Fox, Dr. Monika Grüßer, Aziza Haas, Dr. Michael Hall, Sarah Hills, Mag. Christoph Hörhan, Michael Hübel, Dr. Eugene Hughes, Dr. Viktor Jörgens, Wilfried Kamphausen, Dr. Doris Langeder, Professor Monika Lechleitner, Professor Peter Kopelman, Dr. Brigitte Magistris, Dr. Tony O'Sullivan, Karen Page, Mag. Florian Pressl, Klaus Ranger, Professor Anita Rieder, Prim. Dr. Michael Roden, Sari Rodriguez, Dr. Gojka Roglic, Professor Lars Rydén, Hon.-Prof. Dr. Robert Schlögel, Dr. Peter Schwarz, Mag. Claudia Sedlmeier, Professor Jan Skrha, Professor Ulf Smith, Professor Eberhard Standl, Professor Jaakko Tuomilehto, Stefanie Veith and Josepha Wonner.

2 Background of the Austrian diabetes initiative

Due to the dramatic increase of the incidence and prevalence of Type 2 diabetes in Austria the Federal Ministry of Health and Women (BMGF) has initiated several targeted measures:

- The **Austrian Diabetes Report** ("Österreichischer Diabetesbericht") 2004 was compiled by a group of diabetes and public health experts under the direction of Univ.-Prof. Dr. Anita Rieder. It was the first time that a comprehensive report on all diabetes-related epidemiological data available in Austria was drawn up and it shows that there are presently more than 300 000 diabetics receiving medicinal and dietetic treatment, whereas the share of unreported cases is up to 50 percent. Although diabetes mortality has been falling continually since 1991 due to improved early detection and treatment methods, there has been no significant reduction in cardiovascular disease, the most common cause of death for diabetics. Similarly to the Europe-wide perspective, the WHO also forecasts a gender-specific increase in diabetes cases for Austria. According to the WHO forecast, the number of female diabetics will increase by 28 percent between 2000 and 2025, and the number of male diabetics will even rise by 49 percent.
- Another landmark for the Austrian diabetes policy was the development of the **Austrian Diabetes Plan** in 2005. During the annual meeting of the ÖDG in December 2004, the president of the ÖDG Prim. Dr. Michael Roden invited to a round table with the participation of the Federal Minister for Health and Women to discuss the medical and socio-economic challenge resulting from the increasing number of individuals with high risk of or overt diabetes mellitus in Austria. The main topics needing action were identified to be patient management, data collection and epidemiology, prevention and care for special groups, and finally, research in the field of diabetes. In the follow-up of this discussion four working groups were defined and experts in the various fields were invited by the Federal Ministry of Health and Women (BMGF) to analyse the current status and available data, identify specific shortcomings and propose goals and corresponding solutions. This process resulted in the compilation of the Austrian Diabetes Plan which was presented to the public in September 2005.
- The Austrian Health Institute (ÖBIG) was commissioned with a **survey** on measures to prevent and manage diabetes in Austria and Europe ("**Diabetes mellitus - a challenge for health policy**"). It describes the current situation concerning national action plans, guidelines, primary prevention measures, early detection, education and disease management programmes as well as specific interventions for vulnerable groups in the various European countries. The analysis of deficits and the description of particularly interesting models in this field can serve as a basis for future measures in this field.
- In order to underline the significance of this disease at EU level, the BMGF has chosen diabetes as one of two main health topics during the Austrian EU Presidency in 2006 and commissioned the Austrian Health Institute (ÖBIG) with the organisation of an **EU Conference on Prevention of Type 2 Diabetes**. The project was submitted to the European Commission and is co-funded by the EC within the programme of community action in the field of public health (2003-2008).

3 Principals, partners and participants

The conference "Prevention of Type 2 Diabetes" was organised by the Austrian Health Institute (ÖBIG) on behalf of the Austrian Federal Ministry of Health and Women and the European Commission, Health and Consumer Protection Directorate-General (DG SANCO) together with renowned international organisations specialising in diabetes:

- the European Association for the Study of Diabetes (EASD)
- the Federation of European Nurses in Diabetes (FEND)
- the International Diabetes Federation (IDF) Europe and
- Primary Care Diabetes Europe (PCDE).

Austrian project partners were:

- the Austrian Diabetes Association (ÖDG) and
- the Vienna District Health Insurance Fund (WGKK).

The EASD was prepared to take over the role of an associated partner which includes content-related support and a financial involvement in the project. We would especially like to thank the EASD for co-funding the travel expenses and for organising the webcast during the conference. The other partners were collaborating partners and provided substantial content-related support for which we would also like to cordially thank them.

Further information on the conference organisation partners can be found in annex 8. The conference webcast can be accessed at the website:

<http://www.eu-diabetesconference-vienna.org>

More than 180 experts from 34 countries including all EU member states and candidate countries as well as Switzerland, Russia, Ukraine, Israel and the USA followed the invitation to Vienna. The national delegations of the EU member states and candidate countries were nominated by the national health ministries. The national authorities were asked to include different professional groups in their national delegation:

- representatives of the national authority in charge of diabetes
- renowned physicians in the field of diabetes
- renowned representatives of other medical professions in the field of diabetes (nurses, educators, nutritionists etc), as well as
- representatives of the national diabetes association(s) or patient groups.

Additionally the partner organisations invited their board members to participate in the conference. A list of all conference participants is included in annex 7.

4 Conference design

The conference took place on 15-16 February 2006 in the ballroom of the Federal Ministry of Health and Women (plenary sessions) and at the Hotel Hilton Vienna (working groups). The first plenary session included:

- the welcome address of Maria Rauch-Kallat, Federal Minister for Health and Women
- the welcome address of Markos Kyprianou, EU Commissioner for Health and Consumer Protection (presented by Michael Hübel, Head of Unit "Health Determinants"),
- a presentation of the ÖBIG survey "Diabetes mellitus - a challenge for health policy" by Dr. Michaela Moritz,
- a presentation of the Austrian Diabetes Plan by Prim. Dr. Michael Roden, and
- a presentation of epidemiological data on diabetes by Professor Ulf Smith (EASD).

The welcome addresses as well as the abstracts and presentations of the speakers of this session are included in annexes 2 and 3 of this report.

After the first plenary session the conference participants were invited to join one of four parallel working groups:

1. Prevention of cardiovascular disease in diabetes
2. Disease Management - reducing diabetic complications
3. Early prevention of Type 2 diabetes
4. Social, societal and gender aspects of Type 2 diabetes

In each working group a keynote speaker had prepared a position paper and gave a short presentation at the beginning of the working group session:

- Working group 1: Professor Lars Rydén
- Working group 2: Dr. Peter Schwarz
- Working group 3: Professor Jacqueline Dekker
- Working group 4: Dr. Anne Dornhorst

The position papers and the presentations of the keynote speakers are included in annex 4 of this report.

The discussion in the working groups was moderated by two chairpersons and documented by two rapporteurs in each group:

- Working group 1:
 - Chairpersons: Professor Michael Roden and Professor Ulf Smith
 - Rapporteurs: Professor Peter Kopelman and Professor Jan Skrha
- Working group 2:
 - Chairpersons: Dr. Michael Hall and Professor Monika Lechleitner
 - Rapporteurs: Eva-Maria Baumer and Dr. Eugene Hughes
- Working group 3:
 - Chairpersons: Wilfried Kamphausen and Professor Jaakko Tuomilehto
 - Rapporteurs: Professor Anita Rieder and Sari Rodriguez

- Working group 4:
 - Chairpersons: Anne-Maria Felton and Dr. Doris Langeder
 - Rapporteurs: Sarah Hills and Dr. Tony O’Sullivan

Between 20 and 60 experts participated in each working group. Recommendations were brought forward consensually and were presented by one of the rapporteurs in the second plenary session. The recommendations of the working groups are summarised in chapter 5. The presentations by the rapporteurs are included in annex 5 of this report.

The second plenary session consisted of:

- the presentations by the rapporteurs of the four working groups,
- speeches by representatives of the EP, the EC and the WHO:
 - John Bowis (EP)
 - Jill Farrington (WHO)
 - Michael Hübel (EC)
- the closing speech by the Federal Minister for Health and Women, Maria Rauch-Kallat.

The speakers of the EP, the EC and the WHO were asked to describe their own activities in the field of diabetes prevention and to summarise the results of the working groups from their points of view as well as provide an estimation of how the results of the working groups will influence them.

The Federal Minister for Health and Women, Maria Rauch-Kallat, thanked the experts for all their work and suggested that their recommendations be put forward to the informal conference of health ministers and to the formal Council as **the Vienna Declaration**. The Minister further announced that she will propose that the written declaration on diabetes mellitus, which has been submitted to the EU Parliament, ought to be supported and signed by all member states.

The speeches (as available) are included in annex 6. The written declaration on diabetes mellitus as submitted to the EP is included in annex 9.

The two plenary sessions were chaired by Dr. Gojka Roglic from the Department of Chronic Diseases and Health Promotion at the World Health Organization in Geneva, Switzerland, and by the Hon.-Prof. Dr. Robert Schlögel from the BMGF.

The complete conference programme can be found in annex 1.

5 Recommendations of the four working groups

5.1 Recommendations of Working Group 1: Prevention of cardiovascular disease in diabetes

Cardiovascular disease is the largest cause of death within the EU. Diabetes is a major contributor to cardiovascular disease already for people under 65 years. More than 40 percent of deaths in diabetes result from cardiovascular disease. This is also due to the fact that Type 2 diabetes and its complications are often diagnosed too late – it is estimated that approximately 50 percent of Type 2 diabetes are as yet undiagnosed.

The clustering of diabetes with other risk factors (dyslipidemia, high blood glucose, high blood pressure, physical inactivity, overweight/obesity and smoking) further increases the risk for cardiovascular complications. For the next ten to fifteen years, this constellation is a ticking time bomb. The evidence is compelling, but effective action is still not being taken. It is time to act!

The fact that diabetes and cardiovascular disease often coexist and mutually influence each other is frequently unrecognised. Patients with either diabetes or cardiovascular disease are not regularly screened for the other disease, and diabetic patients may not be aware of the impact of cardiovascular disease and are thus not actively engaged in lifestyle changes, and do not adhere to therapy, either. Collaboration between general practitioners, diabetologists, cardiologists and other health care providers is inadequate. Many evidence based treatment modalities are therefore underused and treatment targets are not reached. Furthermore, research funding is limited both in basic and in clinical research.

On the other hand it is well known that improved management including early diagnosis, education and intervention can substantially reduce the impact of cardiovascular disease in diabetes. Risk factor control is critical for the avoidance of complications, and active involvement of patients and health care professionals at all levels is the basis of success. Patients with diabetes should be screened for cardiovascular disease and patients with cardiovascular disease should be screened for diabetes. Every patient should have access to risk assessment, and a risk score that is feasible in clinical practice should be used. Appropriate knowledge and skills of people who have diabetes and health care providers are essential to ensure good quality of care.

To improve the management in this field, concerted action at different levels is required:

Professional level

- Standards for care of diabetes patients with cardiovascular disease need to be developed, implemented and monitored. This process should be assisted with practical guidelines.
- Patients at high risk should be identified as soon as possible so that active treatment including lifestyle modification can be initiated at an early stage.

- Patients need to be involved actively in the management of their care.
- Health care professionals need to be engaged in this process and adequately trained.
- The creation of a network of care across health care providers should be promoted.

National level

- The economic impact of cardiovascular disease and diabetes on the active population needs to be recognised.
- Sufficient funding must be provided, particularly for
 - empowerment of patients to ensure that they receive appropriate education and risk-reduction treatment
 - appropriate training of health care providers
 - research at the national level.
- Standards of care provided for patients with diabetes and cardiovascular disease should be monitored according to available guidelines.
- Cross-governmental initiatives to improve lifestyle, including nutrition, physical activity, environment and education should be implemented.

European level

- EU-wide standards of care should be set and reflected by national guidelines with consistent targets to reduce morbidity and mortality.
- Equitable access to care should be ensured across the EU.
- The immediate and long-term impact of the implementation of programmes of care should be monitored.
- The initiatives of national governments, industry, NGOs and health care professionals to provide opportunities for healthy living should be optimised.
- Research in the field of diabetes and its complications should be funded from Framework Programmes.

Finally the experts have defined the following priorities:

- The combined impact of diabetes and cardiovascular disease on the individual patient, health services and economy needs to be recognised and addressed.
- Equitable access to appropriate management and care of diabetes, cardiovascular disease and associated risk factors must be provided to all patients.
- The implementation of available European management guidelines for diabetes and cardiovascular disease needs to be supported at the national level.
- Immediate and long term outcomes following the implementation of improved programmes of care need to be monitored.
- Funding of European research in diabetes and its complications needs to be enhanced.

5.2 Recommendations of Working Group 2:

Disease Management - reducing diabetic complications

The prevalence of Type 2 diabetes is increasing dramatically in Europe. Worldwide, as many people die of diabetes as of AIDS. The quality of life and life expectancy is reduced by associated complications (cardiovascular disease, blindness, kidney disease, amputation). The diagnosis is often made on the basis of these complications. This is five to nine years too late! Personal and economic costs of ineffective management are also increasing dramatically.

Currently only 11 out of 25 member states have national diabetes plans. There are different approaches to disease management. Patient focussed care is important but rarely available, and socio-economic differences produce disadvantaged groups. National and regional programmes need to be further evaluated, but frequently there is neither a sufficient definition nor a health-economy evaluation of the programmes. Care pathways are rarely defined, and excessive bureaucracy is often burdensome and a barrier to good care.

Action is needed now to develop targeted disease management programmes for diabetes mellitus Type 2!

Prevention and early detection as integral parts of disease management

- Early diagnosis offers the chance of early intervention. There is a need for strategies to identify people at risk before the onset of diabetes.
- Prevention should be an integral part of disease management, and people at risk should receive appropriate intervention through motivation.
- Both a high risk strategy and a population based strategy are required.

Further elements of disease management programmes

- Disease management needs practice-oriented guidelines, a shared care system, simple documentation (e.g., waist circumference, blood pressure, HbA1c, lipids) and quality management.
- It is important to disseminate best practice by networking. Evaluation and quality control are essential parts of every strategy.
- Regional schemes should involve shared care, multidisciplinary teams (general practitioners, endocrinologists/diabetologists and other medical disciplines such as ophthalmologists, educators, nurses, dieticians, psychologists as well as patients), practical guidelines, reduced bureaucracy, incentives based on process indicators and application to disease management programmes in general, if possible.
- The question of confidentiality has to be answered at a national level (e.g. signing in of patients).
- There is a need to develop new techniques for patient centred education and empowerment as well as for adequate education programmes for health care professionals.
- With respect to prevention and reduction of late complications, national diabetes registers need to be established.

Disease management can lead both to greater equality regarding the access to care and to an improvement of the quality of care. To establish the necessary framework conditions action is needed - both at the national and at EU level:

EU diabetes strategy

At EU level there is a need for an EU diabetes strategy to include

- an EU Council Recommendation on diabetes prevention, early detection and management
- a permanent EU Forum for exchange of best practice and
- a collection of comparative data on common measurement criteria.

National plans and programmes

At the national level diabetes plans and diabetes management programmes need to be developed and implemented.

Disease management programmes should include

- diabetes prevention management
- multidisciplinary and multisectoral cooperation
- ongoing education programmes for patients and all health care professionals
- practice based guidelines with incentives for delivery and
- quality of care with continuous quality control and evaluation.

Research

Diabetes research in basic and clinical sciences and humanities of care needs to be supported at the national and at EU level with increased funding. This research should include components of a multi-interventional approach and studies on the effectiveness of educational programmes.

5.3 Recommendations of Working Group 3: Early Prevention of Type 2 Diabetes

Early detection and identification of people at high risk and the prevention of the manifestation of Type 2 diabetes and its complications are essential ways to reduce the burden of diabetes in the member states of the European Union.

It is important to differentiate between three different types of diabetes prevention according to target groups and objectives of the intervention:

1. Prevention of Type 2 diabetes at general population level, focusing on social norms that favour healthy lifestyles, the promotion of healthy lifestyles, and on the creation of environments which make healthy choices easy.
2. Prevention of diabetes in high risk individuals in order to prevent or delay the onset of diabetes.
3. Early detection of hitherto undiagnosed diabetes in order to prevent complications.

These three levels are equally important, yet they require different strategies and tools, and for each approach different multiple stakeholders need to be involved. Many initiatives in the population strategy of prevention may need coordinated action by other sectors outside but in cooperation with the health sector. For all three types of prevention, socio-economically deprived groups, persons with lower education and minority groups need particular attention, acknowledging the fact that they are more often affected by Type 2 diabetes and with a view to bridging inequalities in health.

Currently only 11 out of the 25 member states have reported that they have or will provide a national framework or plan for diabetes prevention and care. These plans vary, in particular regarding prevention. The main gaps to be addressed are: lack or non-comparability of available data, lack of research on (effectiveness of) prevention of Type 2 diabetes, deficits in the necessary infrastructure of preventive services required and in the implementation of actions in other policy areas outside the health sector that would support and facilitate diabetes prevention in other policy areas outside the health sector.

The following steps are recommended to facilitate better results concerning the early prevention of Type 2 diabetes in the future:

Monitoring the burden of Type 2 diabetes

In order to have a sound basis for policy planning and evaluation, the occurrence of Type 2 diabetes and its known risk factors needs to be systematically monitored and reported both in the member states and at EU level using comparative data. This requires that appropriate structures at the national level are established.

Population-based strategies for the prevention of Type 2 diabetes

Concerning the prevention of Type 2 diabetes at the level of the general population, a number of recommendations need to be taken into account:

- The EU and its member states need to raise public awareness of the negative effects of Type 2 diabetes on health and socio-economic issues in all countries, encourage and involve communities in preventive interventions as well as empower people and stimulate advocacy.

- The EU should facilitate the exchange of experiences and the identification of models of best practice for preventive actions.
- The Member States need to develop and implement comprehensive and coherent prevention programmes and to evaluate their effectiveness and socio-economic consequences.
- Specific approaches for children, including the involvement of parents and the relevant social settings (family, day care, schools) need to be implemented. These should comprise measures aimed at reducing the potential for exploiting and manipulating children and parents through misleading advertising and marketing.
- Healthy diets and physical activity need to be promoted as socially accepted and strongly preferred objectives to be shared across society.
- Environments which facilitate healthy living conditions need to be created by making use of various policy means (like city planning, taxation, legislation) in order to avoid an “obesogenic” environment.
- Both at national and at EU level, relevant policies outside the health sector (e.g., agriculture, education, transport, food policy and urban planning) should be systematically assessed for their health consequences, with a particular view to their consequences for preventive efforts, followed by concrete actions towards promoting of healthy living conditions and lifestyles.
- Specific approaches favouring socially deprived groups, ethnic minorities, elderly and disabled as well as women in their reproductive years (risk of gestational diabetes), need to be developed and implemented.
- The activities in the field of the prevention of Type 2 diabetes should be linked with ongoing EU initiatives in similar fields (e. g., European Network on Nutrition and Physical Activity, European Platform on Diet and Physical Activity). It should also be noted that the prevention of Type 2 diabetes also means prevention of cardiovascular disease.

High-risk strategy for the prevention of Type 2 diabetes

- With regard to high-risk groups, the EU should facilitate the exchange of experience and the identification of models of best practice with the aim to develop targeted and systematic awareness programmes as well as early detection programmes for high risk populations to be implemented at the national level.
- Detection programmes should be accompanied by appropriate preventive interventions in the form of structured and integrated health care programmes based on the evidence available from interventions that have proven feasible and effective.
- This process should result in the development of European guidelines on high-risk strategies for the prevention of Type 2 diabetes. Once such guidelines are completed, it is necessary to have a systematic implementation plan for the guidelines at national level.

Research on diabetes prevention

Additional research on diabetes prevention is required both in the member states and at EU level. The EU should facilitate and support research on all aspects of diabetes prevention with increased funding. This research should include the identification of risk factors, behavioural and societal aspects, health services research, and research on the effectiveness of prevention programmes.

5.4 Recommendations of Working Group 4:

Social, societal and gender aspects of Type 2 diabetes

The prevalence and incidence of Type 2 diabetes are increasing dramatically. Numbers are rising at an earlier age among all ethnic groups but the rise is highest among ethnic minority groups. The access of socially deprived groups to the health system and especially to prevention remains a challenge. The knowledge about prevention, diagnosis and complications of Type 2 diabetes is lowest among people with a low socio-economic status and especially among women. Language and cultural barriers exist particularly with regard to immigrants and require direct targeting. Direct targeting of risk groups has an added value, since other health issues can be addressed at the same time.

Type 2 diabetes and the severity of related complications are also associated with social deprivation. Discrimination of people with diabetes persists in the fields of insurance, school and even health care. Workplace bans still exist for specific types of employment, even in state-run employment. The exclusion of persons with diabetes from the armed forces has shown to be unnecessary. It should be taken into account that addressing issues of discrimination makes prevention and detection easier.

As the prevalence of Type 2 diabetes increases in younger people, women are affected during their reproductive lives. Pregnancy in women with Type 2 diabetes was uncommon in Europe 20 years ago, but that has changed. Pregnancy in women with Type 2 diabetes is associated with a 3 to 5-fold risk of intrauterine and neonatal death and major congenital malformations. In addition, maternal diabetes is a major contributor to adolescent Type 2 diabetes in high-risk populations and later development of obesity, metabolic syndrome and Type 2 diabetes. On the other hand, it is known that the risk for mother and child can be reduced by good maternal diabetes control.

An important consequence of Type 2 diabetes occurring at a younger age is the earlier onset of diabetic complications, especially premature cardiovascular disease. The morbidity and mortality from cardiovascular disease associated with Type 2 diabetes is two to three times higher in women than in men. Compared to men, women with Type 2 diabetes are less likely to receive pharmaceutical management for primary or secondary cardiovascular prevention or to be examined for cardiovascular disease.

The following steps need to be taken to better address social, societal and gender discrimination in Type 2 diabetes in the future:

Professional awareness

- Structured diabetes management in women with Type 2 diabetes in pregnancy is required in order to improve pregnancy outcomes and to reduce the risk of obesity and Type 2 diabetes in future generations. Pre-conception counselling must be available to women in their reproductive years.
- With regard to women's increased risk of cardiovascular complications, early identification is a key aspect as it enables lifestyle and pharmacological intervention for the prevention of cardiovascular disease.

Public awareness

- The awareness of the adverse effects of Type 2 diabetes on the pregnancy outcome and on cardiovascular disease in women has to be increased at all levels of society.
- The severity of diabetes and its complications should be highlighted to the general public and particularly to young women in the years before conception.

Data standards for diabetes

- In order to improve the information on diabetes required for appropriate responses, the EU must apply and monitor data standards for diabetes.
- At the level of the member states, data collection on the prevalence of Type 2 diabetes should take geographical prevalence and incidence into account.

National diabetes plans

- Coordinated national diabetes plans are essential in all member states in order to respond adequately to diabetes.
- The plans should include early detection and prevention programmes.
- Special attention should be given to lifestyle interventions since they have proved to be effective.
- The timely implementation of co-ordinated national diabetes plans has to be a priority at the national level.

Research

- The funding of diabetes research within the EU Framework Programmes should be increased, emphasising issues of cost and effectiveness.
- In addition, increased use should be made of the results of existing EU-funded research cohorts.
- In general, the results of EU funded research should be made easily accessible to the public, relevant health professionals and the national authorities of the member states.

Collection and dissemination of knowledge

- The EU should encourage member states to collect data routinely and support annual audits and conferences which will allow timely comparison of health care approaches, improve cost effectiveness and appropriate interventions. Efforts in this field would also support the claim of equal access to health care for all individuals.
- What is also needed is a cross-European audit and data collection focusing on the incidence and prevalence of Type 2 diabetes in women as well as on pregnancies in Type 2 diabetic women. Such an audit could be carried out by using the confidential enquiry method in the CEMACH report as an example of best practice in data gathering (CEMACH = Confidential Enquiry into Maternal and Child Health).

Pregnancy and diabetes

- A random capillary glucose test should be part of routine medical care early in pregnancy – or even better during pre-conception counselling - in order to detect pre-existing Type 2 diabetes. This would help to identify and treat Type 2 diabetes earlier and to prevent obesity and Type 2 diabetes in children.
- In addition, it is necessary to test appropriately for gestational diabetes and to establish a follow-up for gestational diabetes patients.

Social deprivation

- The EU must urge member states to take concrete steps to improve access to care among socially disadvantaged groups.
- Particular attention should be paid to ethnic minorities with the view of early identification of people at risk as well as health equality.

Discrimination

- The EU Directives on discrimination must be fully implemented with regard to changing circumstances and management of diabetes.
- In addition, the EU should clarify and revise the driver licensing directives discriminating people with diabetes.

EU Council Recommendation

An EU Council Recommendation on diabetes is urgently needed. It should

- include European Data Standards for diabetes,
- target specifically socially deprived groups and women in child-bearing years
- and tackle discrimination actively.

5.5 Summary

Each of the working groups agreed on a set of recommendations described in this chapter. There are various overlaps between the results of the groups which have not been removed as they underline the importance of specific recommendations. In our concluding remarks we would like to highlight some aspects again as they do not only refer to a specific topic, but have a wider scope:

1. It is important to differentiate between different types of prevention of diabetes and its complications according to the target groups and the objectives of the intervention:
 - Prevention of Type 2 diabetes at general population level, focusing on the promotion of healthy lifestyles and on the creation of environments that make healthy choices easy and socially preferred
 - Identification of individuals at high risk of developing Type 2 diabetes and implementation of evidence-based measures in order to prevent or delay the onset of diabetes
 - Early detection of as yet undiagnosed Type 2 diabetes in order to ensure timely, professional care and self-care to control and to reduce/prevent complications
 - Provision of comprehensive, high quality, multidisciplinary, multifactorial and multisectoral diabetes care programmes in order to reduce/prevent complications in persons with diagnosed Type 2 diabetes and ensure good quality of life, equal opportunities and access to care for people with diabetes.

With regard to reducing diabetes morbidity and mortality these aspects are equally important and need to be addressed simultaneously and systematically.

2. Socio-economically disadvantaged groups, persons with lower education and minority groups, including women in their reproductive years, need particular attention, acknowledging the fact that they are more often affected by Type 2 diabetes and with regard to bridging inequalities in health.
3. The combined impact of diabetes and its complications on the individual patient, health services and the economy needs to be recognised and addressed. The EU and the member states need to raise public and professional awareness of the negative effects of Type 2 diabetes. Targeted and systematic awareness programmes need to be developed.
4. There is a need for an EU strategy including an EU Council Recommendation on diabetes prevention, early detection and management and a permanent EU forum for the exchange and dissemination of best practice by networking.
5. In order to have a sound basis for policy planning and evaluation, the occurrence of Type 2 diabetes and its risk factors as well as the immediate and long term outcomes of improved programmes of care need to be systematically monitored and reported both in the member states and at EU level using a valid methodology and comparative data.
6. Standards of prevention and care need to be developed at EU level to be reflected by national guidelines. Patient care needs to be monitored according to these guidelines.
7. The timely implementation of the national diabetes plans should be a priority. These plans should include prevention and early detection programmes. Special focus should be given to lifestyle interventions since they have shown to be effective and, if broadly implemented, can have a health impact on future generations.

8. There is a need to develop new techniques for client centred education and empowerment as well as for appropriate training of health care professionals. The effectiveness of educational programmes should be subjected to research.
9. Effective diabetes prevention requires multidisciplinary cooperation. The collaboration between general practitioners, diabetologists, diabetes specialist nurses, nutrition experts, exercise experts and other health care providers needs to be improved.
10. There is also a need for multisectoral cooperation as the creation of healthy environments requires action in different policy fields. Both at national and at EU level, relevant policies outside the health sector should be systematically assessed for their health consequences, with a particular view to their consequences for preventive efforts.
11. Additional research on diabetes is required both in the member states and at EU level. The EU and the member states should facilitate and support research in basic, clinical and social sciences and humanities on all aspects of prevention of diabetes and its complications with increased funding. The results of EU funded research should be made easily accessible to the public, relevant health professionals and the national authorities of the member states.