Report of the fourth meeting of the WHO Technical Advisory Group on Diabetes

hybrid meeting
30 November–1 December 2022
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## Abbreviations/acronyms

<table>
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<tr>
<th>Acronym</th>
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<tr>
<td>EMRO</td>
<td>WHO Regional Office for the Eastern Mediterranean</td>
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<td>HbA1c</td>
<td>glycated haemoglobin A1c</td>
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<td>MDD</td>
<td>WHO Medical Diagnostics and In Vitro Diagnostics</td>
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<td>MeDevIS</td>
<td>WHO Priority Medical Devices Information System</td>
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<td>MedMon</td>
<td>WHO Essential Medicines and Health Products Price and Availability Monitoring Mobile Application</td>
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<td>NCD</td>
<td>noncommunicable disease</td>
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<tr>
<td>NCM</td>
<td>WHO Noncommunicable Diseases Management Unit</td>
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<tr>
<td>TAG-BI</td>
<td>WHO Technical Advisory Group on Behavioural Insights and Science for Health</td>
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<tr>
<td>TAG-D</td>
<td>WHO Technical Advisory Group on Diabetes</td>
</tr>
<tr>
<td>TAG-NCD-RI</td>
<td>WHO Technical Advisory Group of Experts on NCD-related Research and Innovation</td>
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<td>TPE</td>
<td>therapeutic patient education</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Overview

The World Health Organization (WHO) convened the fourth meeting of the WHO Technical Advisory Group on Diabetes (TAG-D) on 30 November and 1 December 2022. The remit of TAG-D is: to identify and describe challenges to WHO work on diabetes; to advise on strategic directions to be prioritized; to advise WHO on developing global strategic documents; and to propose other strategic interventions and activities for WHO to implement. Eleven of 12 current members of TAG-D attended the hybrid meeting, including the newest TAG-D member, Dr Simeon Pierre Choukem.1 WHO personnel from regional offices were also invited to attend as part of the WHO TAG-D secretariat. Dr Amanda Adler, the standing chair, chaired the meeting. Dr David Beran acted as rapporteur, and TAG-D secretariat members provided technical support.

The agenda and list of attendees can be found in Annex 1 and 2 respectively.

All participants provided declarations of interests (DOIs); all DOIs were reviewed by WHO. Four TAG-D members declared interests that triggered further review. For three of these members, WHO considered the declared interests minimal and unlikely to affect the experts’ judgement. One member’s declared interest in a specific subject matter resulted in restricting the member’s participation.

Summary of discussions

TAG-D discussed five main topic areas: the Global Diabetes Compact (1); prioritizing research gaps for diabetes; medical devices for noncommunicable diseases; integration of behavioural sciences into diabetes work; and therapeutic patient education (TPE) for diabetes.

Session 1: WHO Global Diabetes Compact

The TAG-D secretariat presented recent developments within the workstreams of the Global Diabetes Compact. The Global Diabetes Compact is a WHO-led initiative to reduce the risk of diabetes and ensure that all people diagnosed with diabetes have access to equitable, comprehensive, affordable and high-quality treatment and care.

Workstream 1: Access to essential medicines and associated health technologies

The Global Diabetes Compact has seen growing momentum for workstream 1. WHO’s Department of Noncommunicable Diseases, in collaboration with the Division of Medicines and Health Products, is working across WHO programmes and with partners to support countries in mobilizing resources and accelerating structural transformations that together will support the scale-up of essential diabetes medicines and associated health technologies. As a critical component of WHO’s work to strengthen the global diabetes response, WHO convened the Third Private Sector Dialogue

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1 Dr Simeon Pierre Choukem is Professor of Internal Medicine and Endocrinology and Dean of the Faculty of Medicine and Pharmaceutical Sciences, University of Dschang (FMPS-UDs), Cameroon
on Diabetes on 2 November 2022. The dialogue encouraged the private sector to implement and be accountable for its commitments and contributions. These entities include the pharmaceutical and health technologies industries in support of WHO’s activities to improve access to diabetes medicines and associated technologies. Many of the manufacturers who participated came forward with commitments and contributions to the requested WHO asks (2).

Additionally, in September 2022, the first four human insulins were prequalified by WHO (fast-acting human insulin and intermediate-acting human insulin), produced by one of the largest insulin manufacturers (3). The prequalification process for each product stream consists of a transparent, scientifically sound assessment, which may include dossier review, product testing, performance evaluation, and inspection of manufacturing sites by contract research organizations. These newly prequalified products can be stored at temperatures up to 30˚C for four weeks before opening.

Work is also ongoing to support the prequalification of blood glucose meters and point-of-care devices that measure glycated haemoglobin A1c (HbA1c), to develop an NCD medicines forecasting and quantification tool, and to implement WHO’s Essential Medicines and Health Products Price and Availability Monitoring Mobile Application (MedMon) survey to evaluate insulin affordability and availability. Lastly, WHO is developing a new pathway for human insulin, similar to the active pharmaceutical ingredient master file (APIMF) pathway that will facilitate expanding production sites to improve access in low- and middle-income countries.

Workstream 2: Technical products

The TAG-D secretariat presented an update on the development of technical products, such as the monitoring framework for diabetes, work on insulin thermostability, and operational handbooks on diabetes and tuberculosis. TAG-D members were encouraged to provide feedback, identify gaps and offer suggestions to strengthen ongoing and future technical work.

Workstream 3: Prevention, health promotion and health literacy

The TAG-D secretariat informed TAG-D that critical work in prevention, health promotion and health literacy is currently being undertaken by WHO colleagues, such as the Obesity and Physical Activity teams. The NCD department has also aligned with a new WHO Behavioural Insights and Science for Better Health unit, whose technical advisory group was requested to focus on NCDs by its secretariat. Additionally, results from the WHO language and diabetes survey were published in the International Diabetes Federation’s open-access journal *Diabetes Research and Clinical Practice* and released on World Diabetes Day (4). The Global Diabetes Compact aims to further develop its work for workstream 3 in 2023.

Workstream 4: Country support

WHO has made important strides in workstream 4 that will continue to build momentum in 2023. There is interest from potential funders to support country work and buy-in from selected countries.
Workstream 5: Research and innovation

WHO is working on the prioritized research agenda to improve diabetes prevention and management in low- and middle-income countries. More information and feedback on this work was provided in Session 2 of the TAG-D meeting. Additionally, the WHO Technical Advisory Group of Experts on NCD-related Research and Innovation (TAG-NCD-RI) has convened. Their focus will initially be on implementation research to accelerate progress in NCD management.

Workstream 6: Governance, strategy and partnership

The TAG-D secretariat provided an update on the third Global Diabetes Compact Forum, held on 31 October and 1 November 2022, as well as the success of World Diabetes Day 2022. The secretariat emphasized the importance of TAG-D in advancing workstream 6.

The session closed with a discussion on the need to elevate diabetes as a priority for major international funders. The TAG-D secretariat shared that a new WHO framework for collaborative action on tuberculosis and comorbidities was launched in November, identifying diabetes as one of the top five health-related risk factors driving the tuberculosis epidemic globally (5). This is an important step in demonstrating to major funders the close relationship between diabetes and a high-priority disease. The TAG-D secretariat also emphasized that work needs to continue at the country, regional and global levels to secure greater political will and financial resources for diabetes. This requires collective efforts by the WHO secretariat, TAG-D members and others in the global health community.

Session 2: Prioritized research agenda for diabetes

In this session, Dr Gojka Roglic, Medical Officer at WHO, and Dr David Beran, Assistant Professor at Geneva University Hospitals and the University of Geneva, updated TAG-D on the development of a research agenda for diabetes in support of workstream 5 of the Global Diabetes Compact: research and innovation. The project is supported by the University of Sydney, University of Geneva, and Geneva Science Policy Interface.

The project team disseminated a survey to a variety of stakeholders, including health care providers, people living with diabetes, funding bodies and policy-makers, requesting the submission of research priorities for diabetes prevention and care through 2030. The project team supplemented the survey with relevant research questions from the literature over the past 10 years. Project collaborators organized the compiled questions into research categories and subcategories, which were discussed with TAG-D in a previous meeting (6). The project team will include questions in the final research agenda based on a scoring system followed by an expert group consultation.

TAG-D members were invited to provide feedback on the scoring system, which consisted of five elements: significance, answerability, feasibility, impact and equity. There was a specific request for comments on a possible minimum threshold for each criterion. Several TAG-D members noted that while a simple score may be sufficient for certain criteria, others, such as equity, would be better discussed. When considering feasibility, TAG-D members noted that scorers should evaluate whether the research question is feasible at all, not necessarily whether it can be carried out in
more than one country. TAG-D members were encouraged to continue considering the scoring criteria and provide additional feedback offline.

Dr Beran informed TAG-D of ongoing key informant interviews across all six WHO regions to understand the research-policy gap for diabetes. Interviewees include policy-makers within Ministries of Health or other areas of government, research funders and other key opinion leaders in the field of global health. Preliminary results suggest policy-makers may have low knowledge of diabetes and experience barriers to accessing relevant and timely research. As the project is ongoing, TAG-D members were invited to share suggestions for additional interviewees offline.

**Session 3: Medical devices for diabetes**

The WHO Medical Diagnostics and In Vitro Diagnostics (MDD) team presented WHO's work on medical devices for diabetes. As part of the session, Ms Adriana Velazquez Berumen, Team Lead, Dr Daniela Rodriguez, Consultant, and Mr Francesco Ribolzi, Consultant, provided TAG-D with an overview of:

- *The WHO list of priority medical devices for the management of cardiovascular diseases and diabetes* (7). The priority list, published in 2021, includes devices for diagnostics, monitoring, treatment, rehabilitation, and end-of-life care for people living with diabetes. The list is organized by clinical intervention, type of diabetes-related condition (e.g. hypoglycaemic emergency) and level of care at which the intervention is delivered.

- *WHO’s priority medical devices information system (MeDevIS)* (8). In addition to a publication, the priority list of medical devices for diabetes has been included in MeDevIS, a repository for WHO medical device information across diseases and conditions. MeDevIS provides access to technical specifications, regulatory classifications, nomenclature, training materials and WHO guidance and guidelines for recommended devices.

- *Technical specifications for procurement of blood glucose meters* were approved by WHO in 2022. These are minimum and optimal specifications to assist policy-makers, health care providers, regulatory agencies, international agencies and others in procuring high-quality blood glucose meters for use in health facilities and as self-monitoring devices. The MDD team acknowledged the approval as an important step towards increased access to safe and good-quality medical devices while work on WHO prequalification of blood glucose meters, a costly and long process, is ongoing.

- *New scoping review on pricing, availability and access to blood glucose meters and related technologies*. A scoping review was conducted as a first step in evaluating the pricing, availability and access to blood glucose meters and related technologies requested by Member States. Preliminary results of the review suggest that the cost of blood glucose meters and associated supplies can be higher than the cost of insulin in many countries. Several other barriers at the international, national and patient levels impact the affordability, quality and accessibility of devices and technologies, suggesting the need for more and continued work in this area of diabetes management. The MedMon survey, which usually assesses cost of medicines, now includes a module on medical devices for diabetes management which will be disseminated to supplement the scoping review along with a rapid baseline assessment.
• Activities encouraging innovations. To support low- and middle-income countries in the use and availability of medical devices, MDD developed and released a compendium of innovative health technologies for low-resource settings (9). The MDD team will post a specific call for innovative technologies for NCDs in 2023. The MDD team is also supporting work by FINDdx to identify innovative, non-invasive glucometers that may benefit low-resource settings.

The MDD team and TAG-D will continue exploring opportunities to collaborate. TAG-D members offered to help disseminate WHO resources on medical devices among their networks as well as to share the upcoming call for innovative NCD technologies with relevant colleagues. MDD also requested TAG-D’s feedback on the MedMon survey and rapid baseline assessment and participation in the review of applications to the NCD innovations call in 2023.

Session 4: Behavioural sciences for better health

Ms Elena Altieri, Unit Head, and Dr Ross Gordon, Professor at Queensland University of Technology in Brisbane, Australia, presented the ongoing work of the WHO unit responsible for the Behavioural Sciences for Better Health Initiative (10) and the potential to integrate behavioural sciences into diabetes work.

Background

Behavioural science involves applying behavioural insights – that is, lessons learned from how people behave in response to internal or external events. Behavioural science draws insights from multiple disciplines, including psychology, sociology, anthropology, communications, marketing, economics, systems thinking and design thinking. Behavioural science can help inform decision-making by individuals, politicians, policy-makers, community leaders and organizations.

Within WHO, the Behavioural Insights unit provides support for using behavioural and social sciences to develop policy, programmes, research, communication and advocacy, and capacity building and training. The team uses a data- and evidence-driven approach to identify problem behaviour(s), diagnose contextual barriers and drivers, design and implement an intervention, and develop an evaluation plan tailored to the diverse needs of different programmes and clients.

Examples of successful work by the team includes among many others:

• Developing a policy brief on how to promote healthy eating in schools (11). The policy brief was then translated into a research protocol conducted during the 2022 Fifa World Cup to identify best practices and recommendations for healthy mega sporting events.

• Consulting with the WHO Antimicrobial Resistance One Health team (12) to ensure integration of behavioural insights into their global research agenda.

• Developing a COVID-19 data collection tool for the WHO Regional Office for Africa and pilot testing in Zambia and Nigeria (13).

• Testing various messages to the public for the government of Malaysia in the transition from the COVID-19 pandemic to an endemic.

• Developing a policy brief in collaboration with the WHO Immunization Team on behavioural considerations for acceptance and uptake of COVID-19 vaccines (14).
In 2020, WHO formed a Technical Advisory Group for Behavioural Insights and Sciences for Better Health (TAG-BI), representing experts from 16 countries and at least 10 different disciplines. One of the first products was a technical note synthesizing behavioural frameworks and theories to guide practitioners and researchers in adopting a behavioural science perspective (15).

**Diabetes and behavioural sciences**

Dr Gordon, a member of the TAG-BI, discussed the importance of integrating behavioural sciences into work addressing diabetes. Given that behaviours of various actors (people with diabetes, health care providers, pharmaceutical and device companies etc.) are essential to helping people manage their diabetes, the use of behavioural principles and theories may be valuable in developing effective health systems that achieve positive health outcomes for people with diabetes. The TAG-D secretariat and TAG-D were invited to consider and offer ideas for collaboration that would encourage consistently and systematically integrating behavioural sciences into diabetes policy, strategy, programme development and research. Potential opportunities include developing technical documents, starting a workshop series, or engaging in a special session with TAG-BI.

**Discussion**

During the discussion, Ms Altieri and Dr Gordon addressed several key questions from TAG-D members. A summary of questions and responses is provided in the table below.

Table 1. Overview of questions and responses during session 4 of the fourth TAG-D meeting

<table>
<thead>
<tr>
<th>Question by TAG-D member</th>
<th>Response</th>
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<tr>
<td>Why is it important to involve a behavioural scientist in work on diabetes?</td>
<td>Behavioural scientists identify problem behaviour(s), ascertain behavioural insights, and apply insights to interventions. They can help public health practitioners ensure they are asking the right questions and translating those questions into behaviourally informed policies or interventions. There is also complexity and nuance to understanding behaviour by location, culture, target population and type of behaviours sought, among others. For example, effective COVID-19 responses were developed with the expertise of behavioural scientists. The success of wearing masks, vaccine uptake and hand hygiene in mitigating the severity of COVID-19 depended on the behaviours of different communities and populations, determined by their capabilities, motivations and opportunities.</td>
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<tr>
<td>What is an example of what a government might do to address the burden of diabetes using behavioural sciences?</td>
<td>Many governments around the world have already set up behavioural insights units and are working to address numerous social and public health problems – this would be great to replicate more broadly. Tobacco control is a great example of using various behavioural science tools over a concerted period of time to create behaviour change. Responses to COVID-19 around the world also involved behaviour change (e.g. use of masks and hand sanitizers) and were examples of rapid use of behavioural tools to mitigate a public health crisis.</td>
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<tr>
<td>Question by TAG-D member</td>
<td>Response</td>
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<tr>
<td>What are best practices or lessons learned about educating families about a diabetes diagnosis?</td>
<td>Behaviour comes down to the individual, school, community, etc. and cannot necessarily be addressed at the global, regional or national levels. The behavioural approach is contextually driven. Prior to thinking about interventions, the Behavioural Insights team encourage allocating time and resources to understanding the context-specific problem, the behaviours involved in it and their specific barriers and drivers. This may involve observational or qualitative studies to gather behavioural insights in what the team calls the “diagnostic phase”.</td>
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<td>What are recommendations on using fear tactics to encourage positive behaviours to help people manage their diabetes?</td>
<td>Fear tactics are likely not effective in encouraging positive behaviour change. Anecdotes shared by TAG-D members have suggested that positive messaging and support is more likely to motivate positive change. In any case, approaches and tactics must be adapted to the local context and tested with the target population.</td>
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<tr>
<td>Although some people want to make behavioural changes, they may not have the resources to do so. How can we account for that?</td>
<td>Social determinants of health and behavioural sciences coexist. More synergy is needed so that work being done upstream and downstream can be complementary. In alignment with the behavioural approach, it is also always important to contextualize a problem and understand where the barriers and drivers exist in the environments around people to make the changes needed.</td>
</tr>
<tr>
<td>Based on examples in the presentation, TAG-BI appears to work closely with WHO to develop concrete outputs. Can you tell us more about this function?</td>
<td>The Behaviour Insights team at WHO (secretariat of TAG-BI) receives requests for support weekly. When a WHO unit/department/etc. reaches out, the team sets up a consultation to understand the topic, needs and priorities. Not all consultations lead to a concrete product, and different products can involve different steps/processes. In some cases, the project may not be the right fit for the Behavioural Insights team, or the proposed approach might not interest the technical unit. Once the team decides which projects to prioritize, they may decide to pull in the TAG-BI.</td>
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**Session 5: Therapeutic patient education for diabetes**

Dr Zoltan Patakay, Professor at the University of Geneva, provided TAG-D with an overview of work on therapeutic patient education (TPE) for diabetes. Dr Patakay presented a recently published systematic review and meta-analysis (16) evaluating the effectiveness of TPE programmes in improving health outcomes for diabetes as well as actors and pedagogical approaches involved in different programmes. Key takeaways include the following:

- TPE can significantly improve HbA1c in people living with diabetes.
- Programmes are most effective when carried out by a multidisciplinary team combining group and individual approaches.
- Didactic and interactive approaches, such as simulation of management techniques and role play, are more effective at engaging people with diabetes than technology alone.
- There are often five categories of content and skills gained from TPE programmes: disease management, lifestyle changes, cognitive and behavioural coping, disease processes and interpersonal skills.
• Patient education is a process, so qualitative and process evaluations of future programmes may be valuable to assess the effectiveness of different approaches.

Following Dr Patakay, Ms Eiman Hag, Consultant for the Noncommunicable Diseases Management Unit (NCM) in the WHO Regional Office for the Eastern Mediterranean (EMRO), presented EMRO’s ongoing TPE activities.

The burden of diabetes in EMRO has reached epidemic levels, with a prevalence of 55+ million people reported in 2019, and numbers expected to reach 108+ million by 2045 without urgent action (17). The challenges to addressing the high burden of diabetes are heightened in emergency settings, which exist in half of EMRO Member States. To support Member States, EMRO is implementing its regional framework for action on diabetes prevention and control (18), which includes developing and adapting a technical product on TPE for NCDs. Several factors hinder implementing and scaling up TPE in the region, including the readiness of the health system, lack of a standard toolkit or guidance, limited capacity, and lack of clarity around the roles and responsibilities of health care workers in conducting TPE programmes.

To develop the technical product, NCM has held a meeting consulting with stakeholders to discuss existing evidence for TPE and plans for developing a standard TPE programme. NCM has convened an EMRO TPE Technical Advisory Group to inform the work and support a landscape analysis of TPE in EMRO. Once developed, this standardized programme can be adapted to various locations.

From TAG-D and TAG-D secretariat, Ms Hag requested future guidance on components of standard TPE, training materials and resources to accelerate integrating TPE into different care models.

Observations by TAG-D on therapeutic patient education:

- Multidisciplinary teams should be developed and accessible at all levels of the health system, particularly in low-resource settings, where they are often largely only accessible at the tertiary-care level.
- False messaging across social media platforms is a barrier to good diabetes care. This perpetuates misconceptions about diabetes and its management. Behavioural principles and frameworks may be valuable if applied to activities or strategies designed to refute or counter the effects of false messaging.
- Technology can be leveraged to make accurate messaging more accessible for people living with diabetes.
- Innovative ways of delivering patient education are important to consider in low-resource settings where individuals and families struggle to meet basic needs.
- Setting up processes to regulate structured education programmes will be important, although challenging, to improving quality of diabetes care.
Closing remarks

The rapporteur, Dr David Beran, summarized the two days of the fourth TAG-D meeting, supplemented by reflections on future considerations for TAG-D. Dr Beran encouraged TAG-D to consider the possibility of playing a more active role in supporting technical outputs by the WHO Secretariat, similar to the role played by TAG-BI. He highlighted opportunities to integrate behavioural science into WHO’s work on diabetes, including the global diabetes coverage targets and ongoing updates to TPE guidelines.

The chair, Dr Amanda Adler, closed the meeting by emphasizing the vital role of TAG-D in achieving the global coverage targets for diabetes.

Next steps

TAG-D will revisit plans to write a position paper on the global diabetes coverage targets in 2023. The next TAG-D meeting will take place in Spring 2023, date to be announced.
References


## Annex 1. Meeting agenda

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<tr>
<th>Day 1</th>
<th>Session</th>
<th>Speakers</th>
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<td><strong>Opening Session</strong></td>
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<tr>
<td>13:00–13:10</td>
<td>Welcome and presentation of agenda</td>
<td>Dr Bente Mikkelsen, Director, Noncommunicable Diseases, WHO</td>
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<td>13:10–13:15</td>
<td>Housekeeping &amp; meeting rules</td>
<td>Dr Amanda Adler, Chair TAG-D</td>
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<td><strong>WHO Global Diabetes Compact</strong></td>
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<tr>
<td>13:15–13:30</td>
<td>Updates on the WHO Global Diabetes Compact workstreams</td>
<td>Dr Bente Mikkelsen</td>
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<td>13:30–14:00</td>
<td>Discussion Are there new initiatives/work that can be leveraged to advance the Global Diabetes Compact workstreams? If so, how?</td>
<td>TAG-D members, moderated by Dr Amanda Adler</td>
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<tr>
<td><strong>Prioritized research agenda for diabetes</strong></td>
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<td>14:00–14:15</td>
<td>Status of project on prioritization of research gaps for diabetes</td>
<td>Dr Gojka Roglic, Medical Officer, Noncommunicable Diseases, WHO Dr David Beran, Assistant Professor, University of Geneva</td>
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<td>14:15–15:00</td>
<td>Feedback from TAG-D group</td>
<td>TAG-D members, moderated by Dr Amanda Adler</td>
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<td>15:00–15:15</td>
<td>Break</td>
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<tr>
<td><strong>Medical devices for diabetes</strong></td>
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<td>15:15–15:30</td>
<td>Description of ongoing work on medical devices for noncommunicable diseases, including diabetes</td>
<td>Medical Devices and In Vitro Diagnostics team Ms Adriana Berumen, Team Lead Dr Daniela Rodriguez, Consultant Mr Francesco Ribolzi, Consultant</td>
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<td>15:30–16:15</td>
<td>Discussion What are the challenges associated with devices beyond those associated with pharmacological treatments?</td>
<td>TAG-D members, moderated by Dr Amanda Adler</td>
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<td>What are continued needs and priorities for diabetes?</td>
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<td>How can the Global Diabetes Compact workstreams support these priorities?</td>
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<td>What are the needs of the WHO medical device group and how can TAG-D support these needs?</td>
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<td>How can the TAG-D support other ongoing work on medical devices for NCDs?</td>
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<td>16:15–16:30</td>
<td>Summary of Day 1 and close</td>
<td>Dr Amanda Adler</td>
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<tr>
<td>Time</td>
<td>Session</td>
<td>Speaker</td>
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<tr>
<td>13:00-13:10</td>
<td>Welcome and recap from Day 1</td>
<td>Dr Amanda Adler</td>
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</table>
| 13:10-13:25| Behavioural insights and sciences for better health                     | Ms Elena Altieri, Unit Head, Behavioural Sciences for Better Health, WHO  
Dr Ross Gordon, Queensland University of Technology in Brisbane, Australia |
| 13:25-14:25| Discussion                                                              | TAG-D members, moderated by Dr Amanda Adler                                                                                           |
| 14:25-14:40| Break                                                                  |                                                                                                                                       |
| 14:40-14:50| Therapeutic patient education for diabetes                             | Dr Zoltan Pataky, Director WHO Collaborating Centre for Reference and Research in the Field of Education and Long-Term Follow-up Strategies for Chronic Diseases, University Hospitals of Geneva |
| 14:50-15:00| Presentation of ongoing regional activities on TPE                     | Ms Eiman Hag, Consultant Noncommunicable Diseases Management Unit (NCM)  
WHO Regional Office for the Eastern Mediterranean (EMRO)                       |
| 15:00-16:00| Discussion                                                              | TAG-D members, moderated by Dr Amanda Adler                                                                                           |
| 16:00-16:15| Summary of Day 2                                                       | Dr David Beran                                                                                                                         |
| 16:15-16:30| Next steps and closure                                                  | Dr Amanda Adler, Dr David Beran, Dr Bianca Hemmingsen, Medical Officer, Noncommunicable Diseases, WHO                                    |
Annex 2. Meeting participants

TAG-D members

Dr Amanda Adler
Professor of Diabetic Medicine and Health Policy
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Dr Fatima Al Slail
Director of the Diabetes Prevention and Control Programme and Director of Cardiovascular Prevention and Control Programme
Ministry of Health
Saudi Arabia

Dr David Beran
Assistant Professor
Faculty of Medicine, Department of Community Medicine, Primary Care and Emergency Medicine
University of Geneva
Switzerland

Dr Stephen Colagiuri
Professor of Metabolic Health
University of Sydney
Australia

Dr Simeon Pierre Choukem
Professor of Internal Medicine and Endocrinology
Dean of the Faculty of Medicine and Pharmaceutical Sciences
University of Dschang
Cameroon

Dr Adel Abdel Aziz El-Sayed
Professor Emeritus of Internal Medicine and Diabetes
Sohag University
Egypt

Dr Apoorva Gomber
Student enrolled in the Master of Public Health Program,
Department of Global Health and Population
Harvard T.H. Chan School of Public Health
India

Dr Jennifer Manne-Goehler
Faculty member
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