

Programme for Co-morbidities to Diabetes – Multidisciplinary Team Conferences

Multidisciplinary team conferences - consisting of health professionals from different specialities - have gained wide international recognition. From 2020-2023 it is proposed to test multidisciplinary team conferences in the five Danish Steno Diabetes Centers to give diabetes patients with co-morbidities the best and most qualified assessment and coordinated treatment for their disorders. The multidisciplinary team is composed of different health professionals e.g. endocrinologist, cardiologists, pulmonologists and clinical pharmacologists. In some cases, also an orthopaedic surgeon or rheumatologist will participate. The programme also includes research related to diabetes patients with comorbidities. In 2020 multidisciplinary team conferences for patients with diabetes and co-morbidities will be established in two of the Steno Diabetes Centers. In 2021-2022 it will be expanded to the remaining Danish Steno Diabetes Centers.

Starting Point and Objective

A patient with diabetes and co-morbidity should receive specialised treatment for both diabetes and co-morbidities. Clinical care will typically take place in different locations and under the guidance of different specialists. Therefore, the patient can experience lack in coordination between professionals and the person with diabetes can experience an incoherent patient pathway. The Novo Nordisk Foundation wishes to help ensure a patient centred and a coherent pathway for patients with diabetes and co-morbidities.

Co-morbidities are more prevalent for patients with diabetes than in the general population. A patient with diabetes and co-morbidity faces increased morbidity and thereby impaired quality of life and longevity. The Novo Nordisk Foundation wishes to contribute to enhanced quality of life and longevity of people with diabetes and co-morbidities.

Multidisciplinary Teams in Steno Diabetes Centers

A solution to this is to establish multidisciplinary team conferences, which have gained wide international recognition and are included as standard in cancer treatment in several countries around the world. In general, multidisciplinary team conferences are believed to have improved clinical decision-making, decision-making outcomes, patient experience and work environment for physicians.

The target is to improve quality of care for diabetic patients with co-morbidities (mainly cardiovascular, pulmonary and rheumatological) aiming at a reduction in current excess morbidity and mortality for these patients. The idea of multidisciplinary team conferences is to ensure better coordination between the health professionals with expertise in the patient's co-morbidity and the goal is to create coherent pathways for the patients covering the patient's multi-morbidity at one location.

The programme covers the implementation of multidisciplinary team conferences between physicians from the Steno Diabetes Center and health physicians with expertise in the patient's co-morbidities, i.e. cardiologists and pulmonologists from departments within the hospital. The programme also covers clinical research related to the multidisciplinary team conferences.

Scope of the Multidisciplinary Team Conferences

The main aim is to ensure that diabetic patients with co-morbidities to diabetes receive the best diagnostics, treatment and experience a coherent patient pathway.

The purpose of establishing *Programme for Co-morbidities to Diabetes – Multidisciplinary Team Conferences* is to ensure:

- A better coordinated care for diabetic patients with co-morbidities.
- A better coordination of medication for diabetic patients with co-morbidities.
- Development of competences for health professionals across specialties e.g. improving knowledge across specialties/diseases and treatment regimens. Further, development of competences within the individual specialties, e.g. training from experienced physician to junior physicians.

Patients, Target Groups and Recruitment

Basically, the main target group is the diabetic patients who are already being treated in the hospital for diabetes and/or co-morbidities. Both patients with Type 1- and Type 2 diabetes are relevant to the multidisciplinary team.

The following prioritization of patient groups is proposed (1. and 2. will initially be implemented and the 3. later).

1. **Steno Diabetes Center:** Diabetic patients already receiving treatment at the Steno Diabetes Center and have a co-morbidity disorder.
2. **Another department at host hospital:** Patient with a chronic disease receiving treatment at department in the host hospital and who also has diagnosed diabetes.
3. **Steno Partner Hospital:** Patient recruitment from a Steno Partner hospital who seeks an assessment of a patient by a multidisciplinary team.

Once a physician in the Steno Diabetes Center or from a collaborating department identifies a patient as suitable for a multidisciplinary team conference assessment, the referral is sent to the Multidisciplinary Team Coordinator at the Steno Diabetes Center and the patient will be discussed at the multidisciplinary team conference.

Meetings, Participants and Roles in the Multidisciplinary Team

The multidisciplinary team conference is held as a physical meeting, when patients are already receiving treatment at the Steno Diabetes Center or at another department at the host hospital. The multidisciplinary team conference is expected to become more virtual if, at some point, the conference opens for patients undergoing part of their treatment outside the host hospital.

The following health professionals participate in the multidisciplinary team conference:

- Endocrinologists
- Cardiologists
- Pulmonologists
- Clinical pharmacologists
- Rheumatologists/Orthopaedic Surgeon

To ensure continuity of the multidisciplinary team conferences, a specialist physician from each of the participating departments will always attend the conferences. In addition, there will be a junior physician from each department responsible for preparing and presenting the patients from his/her own department who will be discussed at the multidisciplinary team conference. The junior physician is also responsible to report the conclusions in the electronic patient record. In some cases, the patient will be present to the multidisciplinary team conferences. However, this will depend on the specific case.

Research

The purpose of this element is to create clinical research at international level for the benefit of people with diabetes and co-morbidities. The research projects will be initiated by researchers specialised in the co-morbidities ensuring that the broad scope of the clinical collaboration is also identified in research and development. The research topics must be related to co-morbidities in diabetes and the multidisciplinary team conference. Cross-collaborating grants to research will be provided and administered by Patient Care.

Governance and Finance

Patient Care is overall managing the grant *Programme for Co-morbidities to diabetes - Multidisciplinary Team Conferences* and will coordinate with the steering committee. The director of the Steno Diabetes Center is overall responsible for the multidisciplinary team associated to the center.

National Steering Committee

The main purpose of the steering committee is to coordinate the initiative across the Steno Diabetes Centers. That is to ensure the overall progress, track, monitor and evaluate the projects, collaboration and knowledge sharing across the project. The Steering Committee is also responsible for follow up actions to improve the multidisciplinary team. The Steering Committee meets twice a year, beginning 2020. Members of the Steering Committee include directors of the Steno Diabetes Center, who have initiated the planning of the multidisciplinary team conferences, as well as the Head of Patient Care, Novo Nordisk Foundation. Patient Care is chairing and managing the meetings.

Agreement and Responsibility in a Steno Diabetes Center

The cooperation with the regions will be established through a supplementary agreement between the regions and the Novo Nordisk Foundation to the five agreements on establishing the Steno Diabetes Centers. After the agreement is signed the Board of the Steno Diabetes Center will delegate the task to the Director, who is responsible for implementing and operating the initiative.

The director of the Steno Diabetes Center will be overall responsible for the operation of the multidisciplinary team conferences incl. agreements with the collaborating departments. The Steno Diabetes Center will have a coordinating role and Multidisciplinary Team Coordinators will be employed in the Diabetes Center to ensure a smooth organization for all participating health professionals. The Steno Diabetes Center also has the task of management and coordination, monitoring and evaluating of the development project of a multidisciplinary team.

The director of the Steno Diabetes Center appoints an endocrinologist as Multidisciplinary Team Leader and the responsible for coordinating and chairing the multidisciplinary team conference. This person must be employed at the Steno Diabetes Center. The director of the Steno Diabetes Center also appoints a person as Multidisciplinary Team Coordinator, who is responsible for all coordination in relation to the multidisciplinary team conference ie. booking participants, sharing information and data, supporting the Multidisciplinary Team Leader at the conference as well as documenting conclusions/writing minutes from the conference.

The organization of multidisciplinary team conferences must be initiated as 3 years development projects where a Project Manager from the Steno Diabetes Center is responsible for the planning and implementation of the initiative. The Project Manager is responsible for ongoing evaluation. After the 1st year, an organizational evaluation will be conducted, which can provide input to both improvements at the

Steno Diabetes Center, but also to the other Steno Diabetes Centers. After 2nd and 3rd year there will also be an evaluation in relation to the effect on quality of treatment, patient satisfaction and finances to decide whether the initiative should be adjusted, stopped or recommended as part of the standard treatment. The initiative will also follow the procedure for evaluation described in the playbook for each Steno Diabetes Center to establish the Steno Diabetes Centres.

Risks

Ownership and engagement from the Steno Diabetes Centers are expected because the initiative will engage other departments of the host hospital. The biggest challenge in obtaining success of the multidisciplinary team is the motivation of the engagement from the health professionals (cardiologists, pulmonologists etc.) and their departments. To ensure ownership and commitment, the Steno Diabetes Center must have an engaging approach where problems are solved smoothly.

The success of multidisciplinary team initiative depends on the resources available and prioritized. Further, that the conference participants are prepared, the Multidisciplinary Team Leader is a good leader of the meetings, engaging a constructive dialog, and the Multidisciplinary Team conferences are performed in a professional learning environment. All the above is essential for the success of the multidisciplinary team conferences.

However, a key success criterion for the multidisciplinary team is that the initiative does not result in more outpatient visits at the hospital.

Costs and Budget

The establishment of multidisciplinary teams in the Steno Diabetes Centers will be gradual. Initially, multidisciplinary teams will be launched at Steno Diabetes Center Odense and Steno Diabetes Center Aarhus. They have been selected as the relevant collaborating departments and specialist are at the same address as the Steno Diabetes Centers.

Multidisciplinary Team is planned in Q1-Q2 2020 in Steno Diabetes Center Aarhus and Steno Diabetes Center Odense and the first patients are expected to be discussed in multidisciplinary team conferences before the summer 2020. In 2021, a multidisciplinary team will start in Steno Diabetes Center Nordjylland with the same planning process in Q1-Q2, with the first patients before the summer. In 2022, Steno Diabetes Center Copenhagen and Steno Diabetes Center Sjælland follow the same principle. For the Steno Diabetes Center Sjælland a more virtual approach will be needed, as the health professionals will physically be in multiple locations.

Annually each Steno Diabetes Center will be allocated DKK 4 million to organize and operate the multidisciplinary team conferences for patients with diabetes and conduct research in relation to co-morbidities. This covers operating expenses of all the affiliates of the multidisciplinary team ie. project manager, coordinator, clinical pharmacologist as well as specialist physicians from cardiology, lung medicine, rheumatology, orthopaedic surgery and endocrinology. It also covers clinical research related to the multidisciplinary team conferences.

The Steno Diabetes Centers are provided with finances to the tasks within the overall management, coordination and evaluation of the initiative. The cooperating departments are provided with finances to ensure that the necessary resources can be prioritized for preparation, participation and follow-up from the multidisciplinary team conferences, but also some research activities. The Steno Diabetes Center is responsible for the detailed planning and the distributing of the finances to the departments involved.

In the first year where planning takes place in Q1-Q2, DKK 3 million is allocated to each Steno Diabetes Center. The budget also covers research activities and DKK 5 million will cover research activities across the Steno Diabetes Centers in relation to co-morbidities.

The annual budget 2020-2023 is shown below with a total budget of DKK 60 million for the period of 2020-2023.

Year	Annual budget million DKK	Comments
2020	6	SDCA+SDCO starts up
2021	11	SDCN starts up
2022	18	SDCC+SDCS starts up
2023	20	
Research across SDCs	5	Pay out expected from 2021
TOTAL	60	