Integrated care for diabetes patients in Poland

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Introduction: Diabetes is acknowledged to be one of the major cardiovascular risk factors, which are the most prevalent cause of death in Poland [1]. As a substudy of implementing integrated care for cardiovascular patients, an integrated care project for diabetic patients was developed.

Short description of practice change implemented: In Poland ambulatory healthcare is diffuse, paper-based and limited by lack of information flow. We implemented a program of complex care for patients with diabetes - the program was similar to the cardiovascular diseases one. Standardized care provided by multidisciplinary team, prophylactic, screening and educational programs, implementation of electronic health records and information system for assessments and prediction of resource utilization, simplification of information flow, patient online registration and scheduling coordination were the key new elements of the program in comparison to the previous care.

Objectives: to evaluate the impact of an integrated, multidisciplinary diabetic care program on clinical outcomes (glycated hemoglobin (HbA1c), blood pressure, BMI) among patients with poorly controlled diabetes mellitus with or without comorbidity attending a large primary care center.

Methods: We conducted an uncontrolled quasi-experimental intervention study with pre-post assessment among patients with poorly controlled diabetes mellitus and/or comorbidities requiring more intensive care as assessed by a diabetologist. The intervention – integrated care program - consisted of intensified patient-specific multidisciplinary care. The team included case coordinator, family physician, nurse, dietitian, diabetic educator (health educator). Outcomes measured were HbA1c, blood pressure (BP), BMI. Pre-intervention data were assessed by retrospective reviewing of patient charts for at least 2 visits before starting the integrated care program. Post-intervention data were assessed prospectively, following the patients for at least 2 visits after joining the integrated care program.
Targeted population and stakeholders: Patients above 18 years old with poor controlled diabetes mellitus and/or comorbidities requiring more intensive care as assessed by a diabetologist, belonging to IC organization - Medical and Diagnostic Centre in Siedlce, Poland. Ca. 68000 patients in mazowieckie and lubelskie voivodeships belong to Medical and Diagnostic Centre in Siedlce, Poland. The detailed diagnoses according to ICD system included were a subject of contract with Polish National Health Fund.

**Timeline:** Implementation: 2011-ongoing.

**Outcomes:** 592 new patients (average age 53.76 years, 52.7% women) were included in the program of integrated care. Diabetes complications such as neuropathy, polyneuropathy, microangiopathy, macroangiopathy, nephropathy, retinopathy, diabetic foot syndrome, coronary artery disease, were present in 243 patients. 64% of patients were treated with insulin. Mean duration of patient’s participation in the program was 18.44 months (2-46; median 22). The mean (median) number of visits during the intervention was 13.63 (8), with a wide range of 2 to 48 visits. Mean HbA1C at the starting and last available visit was 7.852 (4.633-14.247; median 7.594) and 7.429 (min 5.082; max 11.044; median 6.859), respectively. Mean BMI at the starting and last available visit was 30.167 (17.4-54.9, median 29.7) and 30.168 (17.8-54.0, median 30.0), respectively. Mean blood pressure at the starting and last available visit was 137.9/79.7 (median 132/80) and 136.2/76.7 (median 138/76.5), respectively.

**Conclusions:** Our integrated care program had a positive impact on glycemic control (reductions of mean HbA1C from 7.852 to 7.429). The study showed also that integrated care can optimize the distribution of care of diabetic patients between specialists and primary care team without loss of diabetes control.

**References:**

**Keywords:** diabetes; electronic information system; Poland