

Outcomes of Diabetes Management by Pharmacists: The RxING Registry

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Introduction:

- Optimal community-based care for patients with diabetes remains an enigma
 - A recent Canadian study, DM-SCAN by Leiter and colleagues (1) evaluated over 5000 consecutive community-dwelling patients with diabetes recruited by their family physician. Only 13% of patients met the triple target of glycemic control, lipids and blood pressure.
 - Vaccinations are also underutilized in patients with diabetes, including influenza, shingles, and pneumococcus.
 - It has been reported that patients with diabetes are “immune-suppressed” and thus more prone to vaccine-preventable viral and bacterial infections such as influenza, pneumococcal infection and shingles and their serious complications (2-4). Despite these findings and the guidelines recommendations for vaccinating patients with diabetes against such conditions (5), immunization has not been integrated into the care of those patients and we estimate that the point prevalence of “triple immunization” is currently less than 10%.
- Pharmacists are highly accessible primary care professionals who have a strong interest in diabetes management
 - Indeed, the evidence for pharmacist care in diabetes is strong, with systematic reviews (6) indicating great improvement when a pharmacist provides direct care to patients with diabetes. More recently, our group published the RxING study (7), which demonstrated a reduction in HbA1c of 1.8% over only 6 months with an independent pharmacist prescribing intervention.
- What is needed now is to quantify the real world impact of pharmacist care of patients with diabetes in the form of a prospective registry and disseminate this information to inform best practice and policy change.

Objective: To evaluate the effect of pharmacist management on uncontrolled risk factors (poor glycemic control, uncontrolled blood pressure or cholesterol, or current smoking) in patients with diabetes..

Methods:

Design: Prospective registry, conducted by pharmacists in primary care networks and community pharmacies in Alberta.

Patients: Any patient with type 1 or type 2 diabetes who provides written informed consent to have their data collected. Patients must have at least one uncontrolled risk factor to be eligible (poor glycemic control, uncontrolled blood pressure or cholesterol, or current smoking).

Recruitment: Pharmacists will recruit patients both through physician referrals as well as using case finding methods such as searching for patients receiving metformin and through viewing laboratory tests such as HbA1c.

Procedures: All patients will receive a baseline assessment, which will include a thorough medication history, assessment for cardiovascular risk factors (lipid panel, blood pressure, smoking status) and glycemic control. Patient education and goal-setting will be performed.

Pharmacists will practice to their full scope, which may include making recommendations to the physician, prescribing, adapting prescriptions and assessing adherence.

Data will be collected via a secure web-based portal, which will be designed and maintained by EPICORE Centre.

Pharmacists may bill the provincial health plan for the assessment and follow-ups as per their usual practice.

Follow-up: Follow-ups will be conducted as per the pharmacists' usual practice. All follow-up visits will be collected in the study database.

Outcomes: The registry will report both aggregate (anonymous) and by individual provider (for their use only).

We will report on standard demographic parameters, including diabetes medication use (use of single and combination products), dosing, antihypertensive and lipid-lowering therapies. We will also assess medication adherence.

Clinical outcomes to be assessed will include measures of glycemic control, vaccinations (influenza, pneumococcal and shingles), blood pressure targets, lipid targets, smoking and hypoglycemic symptoms.

Humanistic outcomes to be assessed will include quality of life (DQOL, EQ5D) and patient satisfaction (Consultant Satisfaction Questionnaire).

Process outcomes will evaluate pharmacist interventions (medications used, number and nature of pharmacist interventions, follow-ups conducted, adherence counselling).

Important subgroups will include those receiving metformin alone, metformin and a second agent, insulin (alone and in combination with oral medications), those patients recruited by physician referral compared to those recruited by case-finding by the pharmacist, Type 1 vs. Type 2 diabetes management.

Feasibility: Diabetes is of great interest to pharmacists. In a previous survey conducted by our group, diabetes was the top condition of interest in the area of chronic disease management (Rosenthal M, et al, Can Pharm J 2010). Pharmacists will be interested in participating because of the reporting functions of the database. They can print individual patient summaries (to cut/paste into their clinic letters or other documentation requirements, including for billing the provincial health plan) and to generate a report showing their impact on diabetes patients (which helps to justify their positions).

What this study adds: At the local level, the generation of provider-specific reports will help pharmacists to show their impact on diabetes patients (important for justification of their position in primary care networks).

This registry may also encourage more pharmacists to get involved in diabetes care.

Our future plans include the development of a nationwide diabetes registry for pharmacists, in collaboration with Dr. Lori MacCallum of the Banting and Best Diabetes Centre and other key opinion leaders in pharmacy and diabetes.

References:

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