

Developing and implementing linked electronic medical record and administrative data in primary care practice for diabetes in Alberta

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Introduction

Use of administrative health data and primary care electronic medical record data are both ubiquitous in Alberta, but linkage between them at patient level and implementation of the linked data into primary care practice are rare. This demonstration project sought to achieve this for a sample of patients with diabetes.

Objectives and Approach

Academic family physicians in the Department of Family Medicine at the University of Calgary who participate in the Canadian Primary Care Sentinel Surveillance Network (CPCSSN) identified diabetes-related variables, either in their EMRs or in administrative data, that they wished to obtain in a linked dataset. Secure data linkage was obtained through Alberta Health Services (the provincial health authority) following transmission of patient mapping files direct from the clinics. The de-identified, linked, patient data was then transferred to CPCSSN-Alberta data managers for processing and displayed to users through an interactive Diabetes Dashboard.

Results

2598 patients with diabetes were identified using a validated CPCSSN case definition from 47 family physicians in three clinics. CPCSSN EMR data included primary care encounters, date of diagnosis, deprivation index, BMI, blood pressure, comorbidity, diabetes medications prescribed, risk factors, etc. Administrative data included laboratory results (HbA1c, fasting blood glucose, cholesterol, triglycerides, creatinine), medication dispensed, emergency room visits, inpatient admissions and costs. Integrated, interactive provider reports were created and sent to participating physicians. The reports presented the information about diabetes patients at individual provider level, bench-marked at clinic, primary care network and provincial levels. Follow-up with providers led to further dashboard development. We propose to scale up implemen-

tation of the integrated diabetes database and dashboard to include all 23,000 CPCSSN-identified diabetes patients in Alberta.

Conclusion/Implications

Integration of EMR and administrative data and its application to clinical care, panel management, and quality improvement in primary care, as well as to surveillance and research, was feasible and acceptable to the family physicians participating in this project.

