Building a Diabetes Registry from the Veterans Health Administration's Computerized Patient Record System

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BACKGROUND:
Little information is available describing how to implement a disease registry from an electronic patient record system. The aim of this report is to describe the technology, methods, and utility of a diabetes registry populated by the Veterans Health Information Systems Architecture (VistA), which underlies the computerized patient record system of the Veterans Health Administration (VHA) in Veteran Affairs Integrated Service Network 10 (VISN 10).

METHODS:
VISN 10 data from VistA were mapped to a relational SQL-based data system using KB_SQL software. Operational definitions for diabetes, active clinical management, and responsible providers were used to create views of patient-level data in the diabetes registry. Query Analyzer was used to access the data views directly. Semicustomizable reports were created by linking the diabetes registry to a Web page using Microsoft asp.net2. A retrospective observational study design was used to analyze trends in the process of care and outcomes.

RESULTS:
Since October 2001, 81,227 patients with diabetes have enrolled in VISN 10: approximately 42,000 are currently under active management by VISN 10 providers. By tracking primary care visits, we assigned 91% to a clinic group responsible for diabetes care. In the Cleveland Veterans Affairs Medical Center (VAMC), the frequency of mean annual hemoglobin A1c levels ¡Ý9% has declined significantly over 5 years. Almost 4000 patients have been seen in diabetes intervention programs in the Cleveland VAMC over the past 4 years.

CONCLUSIONS:
A diabetes registry can be populated from the database underlying the VHA electronic patient record database system and linked to Web-based and ad hoc queries useful for quality improvement.