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## Virtual Health Check in Evaluating the Adherence to Clinical Guidelines

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**Background:** Guideline producers should be interested in how their recommendations are followed in clinical practice. Objective and practical tools to analyze this are needed.

**Purpose:** The aim of this study was to test, whether the virtual health check (VHC) as part of the decision support ([www.ebmeds.org](http://www.ebmeds.org)) integrated with an electronic health record (EHR) can be utilized in evaluating the adherence to diabetes-related clinical recommendations.

**Methods:** The EHR data from one Finnish primary care health centre with a population of 16.000 were analyzed against 100 various decision support rules, out of which 15 were associated with diabetes. A quality measurement (QM) index (the proportion of patients treated according to the recommendation out of all clinically relevant patients) was calculated for each recommendation. Thus, a QM of 1.0 meant that every relevant patient was treated in accordance with the recommendation, whereas a QM of 0.0 indicated that no patient was treated as recommended.

**Results:** The virtual health check technology allowed the analysis to be carried on during one night, thus not disturbing the clinical practice, neither requiring extra input by physicians or nurses. Altogether 12/15 (80%) decision support rules were relevant for at least 50 patients in the population. The QM varied from 0.12 (screening for diabetic nephropathy in type 2 diabetes) to 1.0 (ACE inhibitor or sartan for diabetic patients with microalbuminuria; LDL-cholesterol check for patients with type 2 diabetes; Glucose test for patients with hypertension, dyslipidemia, or cardiovascular disease).

**Discussion:** VHC is a promising tool for measuring the adherence to clinical guidelines. Some of the lowest QM's in this study can be explained by missing data in the EHR. We are currently running an RCT to follow up the VHC results, when physicians and nurses are either getting relevant decision support reminders or not getting them.