086: EFFECTS OF ELECTRONICALLY-GENERATED REMINDERS FOR PATIENT INTERVAL REPORTS ON COMPLIANCE WITH CLINICAL PRACTICE GUIDELINES FOR DIABETES MANAGEMENT

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Objective:
To determine if a simple, low-cost, electronically-generated directive delivered to primary care physicians at a patient visit could increase compliance with clinical practice guidelines for three tests - glycosylated hemoglobin (HbA1c), low density lipoproteins (LDL) and urinary microalbumin (uAlbum) that have proven to be clinically important in diabetes management.

Methods:
The intervention involved placing up to three management directives into diabetic patient medical interval reports immediately prior to their office visits with primary care providers at randomly selected Marshfield Clinic regional centers. Interval reports are hard copy reports that provide brief list summaries of a patient's recent health events, recent diagnoses and health problems, immunization status, future appointments and scheduled laboratory tests.

A pre-test/post-test nested cohort design was used because patients were nested within assigned providers who were nested within care sites. Twenty-four Marshfield Clinic sites were assigned to intervention or control sites, with 9 rural and 3 urban sites randomized to each using a cluster randomization. The study included 9,389 adult diabetic patients and 192 primary care physicians, and spanned 24 months, including a 12-month intervention period beginning December 17, 2001 and a 12-month baseline from December 17, 2000 - December 16, 2001.

There were two principal outcome measures. One was whether a test was performed in the timeframe specified in its guideline. This outcome measure, which was estimated separately for each test, provided a measure of overall compliance for each test. The second measure was whether a test was performed in conjunction with the first primary care office visit after the recommended test interval had been exceeded.

"Compliance window" were developed for each study subject that were specific to a test's recommended testing interval and that accounted for patients' visit patterns. The window "opening" was defined as the date of the most recently administered test. The "close" was defined as the latest date that the test should have been administered according to guidelines. "Close" dates varied by test and were 365 days for both LDL and uAlbum. HbA1c testing intervals were established at 184 days, since it is recommended twice annually. Patients receiving tests within a compliance window were always in compliance. When a test was not rendered within the expected compliance window, the "close" date was extended to the date of the first primary care office visit following the guideline-based "close" date. A patient was considered in compliance if they received a required test within 7 days of this physician visit date; otherwise they were considered out of compliance for that test. Bi-variate and Poisson regression techniques were used to analyze study data.

Results:
Positive trends were observed in levels of overall patient test compliance across all three-target tests in both intervention and control sites. However, differential intervention effects were only apparent for uAlbum compliance where intervention site compliance increased by 58% vs 17% for controls ($p<.006$). There were systematic, although small, increases in the proportion of patients "always in compliance" for all three tests. However, these differences were not statistically significant across study groups. Model results indicated that intervention site patients were more likely to be in compliance for uAlbum tests (20 vs 16/100 control subjects, $p< .008$) and also more likely to receive a uAlbum test at a visit when they were provisionally out of compliance ((12/100 subjects vs.8/100 subjects, $p<.008$).

Conclusions:
The intervention was partially successful in increasing compliance with recommended clinical practice guidelines for diabetic patient testing; however, these effects were relatively small and were restricted to uAlbum tests. It appears that more proscriptive and/or more highly visible management directives may be needed to further increase compliance levels for these important tests.