QuickSilver Clinical Tracker – a Risk-Management Approach

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Abstract
While many guidelines strive to automate the high-granular clinical thought process, the resulting risk stratification is often a low-granular management class (i.e. low, medium or high risk). Furthermore, the "low hanging fruit" of guidelines is not in decision support, rather in the subsequent action tracking. Therefore, we believe that only a small amount of data is required to produce significant reminders. In our approach, the clinician risk-stratifies the patient and enters the guideline at the management level. We do not attempt to replicate the clinical thought process; rather we ask the question, "Now that you have decided, how can we help track your decisions?" A risk-management approach encapsulates salient guideline features and provides a framework for basic decision support and data tracking.

Background
Computer reminder systems are effective in primary, secondary and tertiary preventive medicine: immunization administration,[1] cancer screening,[2] and chronic disease management,[3] respectively. Demands on clinicians interacting with complex guidelines, namely providing decision data not accessible from the EMR, limits adoption of such systems. While clinicians are reluctant to use ancillary features requiring extra time, they rely on the brief reminders.[4]

Model Design
Each disease tracker contains multiple risk-management groups with representations of the most salient risk factors and associated management options. If the risk factors are available from the EMR, they are used to rank trackers and subsequent risk-management groups in order of likely importance. In a sparsely populated EMR, risk factors can be deduced from other active trackers. In an example of colorectal cancer screening, if the clinician stratifies the patient into the low risk group, numerous recognized protocol choices are displayed: (sigmoidoscopy q5y AND fecal occult blood test q1y) OR (colonoscopy q10y) OR (barium enema q5-10y), etc. Patient preference guides the protocol selection. Like a problem list, resulting actions may serve as simple reminders, or when coupled to CPOE, order, track and report results. Once instantiated, the tracker maintains the management preference and the patient state. Changes in the disease state are represented by appropriate clinician modification of the risk-management group.

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