Standards-Based Sharable Active Guideline Environment (SAGE):
A Project to Develop a Universal Framework for Encoding and Disseminating Electronic Clinical Practice Guidelines

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ABSTRACT
A collaborative project has been initiated to develop a standards-based, comprehensive technology infrastructure that will enable encoding and dissemination of interoperable, electronic clinical practice guidelines (CPG's). Three key deliverables of this large scale ($18M), 3-year project include: An interoperable guideline model, a guideline authoring/encoding workbench, and a guideline deployment system. Our approach will be to employ and extend existing informatics standards, and to collaborate closely with standards development organizations. The project methodology will build on earlier efforts in this field, and will be driven by requirements specific to supporting active deployment of guideline content within clinical information system (CIS) workflow.

Clinical Practice Guidelines
CPG's have important potential in a new paradigm of clinical practice known as evidence-based medicine, which integrates best research evidence with clinical expertise and patient values. Despite a substantial level of interest, CPG's have yet to realize their potential to improve patient safety, improve quality, and reduce costs because they have failed to influence clinician behavior significantly[1]. Reviews of the effectiveness of various methods of dissemination of guidelines show that computer-based, patient-specific CPG content integrated into the clinician's workflow achieves the strongest impact[2] .

Description of the SAGE Project
The goal of the SAGE project is to develop infrastructure and software technologies with which health care experts can author and encode CPG's in a standard electronic format, and multiple health care organizations can subsequently deploy those CPG's within any standards-conforming CIS.

The SAGE infrastructure will support guidelines ranging from the simple to complex across a breadth of clinical domains, and will surface guideline content via CIS workflow. To achieve this goal, the SAGE project has three main deliverables: (1) An Interoperable Guideline Model - a standard, computable format for representing CPG content (including logic, goals, rationale, references, etc); (2) An Interoperable Guideline Workbench - a software tool for authoring, editing, encoding, and maintaining guidelines in the format of the guideline model; (3) Interoperable Guideline Deployment Software, which will enable multiple commercial clinical information systems to import and execute interoperable guidelines.

REFERENCES

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