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Demonstrating Cloud-based Clinical Decision Support at Scale: The Clinical Decision Support Consortium

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The Clinical Decision Support (CDS) Consortium's goal is to assess, define, demonstrate, and evaluate best practices for knowledge management (KM) and CDS in healthcare information technology at scale – across multiple ambulatory care settings and EHR technology platforms. Toward this end, the CDS Consortium team developed: 1) a novel four layer scheme for knowledge representation; 2) accompanying authoring tools; 3) a KM portal and repository for aggregating and accessing knowledge artifacts; and 4) web-based services for CDS that provide inference and actionable recommendations based upon a highly specified, standards-based and secure transaction; and 5) a dashboard to assess the efficacy of CDS. In this demonstration, all of these technology components will be described and briefly demonstrated as they are used in Partners Healthcare Systems' Longitudinal Medical Record, and the Regenstrief Institute Gopher order entry system used at Wishard Health Services. Lessons learned from each technology development project, as well as the integration and development effort across projects, will be highlighted. Future research and development directions will be briefly described.

Portable Health Clinic Packages for Base of Pyramid

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In a developing county, its health/medical infrastructure has many problems. It is difficult for people in Base of Pyramid (BoP) especially lived in rural area to access a medical service. In this study, we propose a package for Portable Health Clinic (PHC) which provides telemedicine service for people in BoP. The package consists of major diagnostic tools and a tablet PC, and gathers measurements using medical Body Area Network (BAN) wirelessly and automatically. It can categorize patients into four groups depending on the priority of their treatment like a triage, and also sent these results to a doctor in a remote healthcare call center via mobile network. The package provides immediate consultation with the doctor over the Skype and doctor gives patients a prescription over the network. The package is easy to carry, easy to use, battery-driven and flexible against poor mobile network, and works even in a rural area. We are introducing the PHC packages in a health checkup program whose target is 15,000 subjects in Bangladesh, one of the BoP countries.