SRIDEVI WILMORE

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Required Skills:

Java, Python, C# / .NET,Web (HTML / JS / CSS),SQL Server, Hadoop

Preferred Team Communications:

Conference Call, to be discussed

Data Sources:

To Be discussed.

Other Items:

Project has time zone flexibility. Mentors and students will determine a good time for virtual meeting

Team Info:

Needs a Developer, DBA, Analyst, Project Manager. Allows one team of 4-6 members.

FHIR-ENABLED CLINICAL DECISION SUPPORT TOOL FOR HEALTH CARE PROVIDERS

Technological advances including widespread electronic health record (EHR) adoption and the Fast Healthcare Interoperability Resources (FHIR) interoperability standard have created opportunities to integrate clinical decision support (CDS) tools into the provider workflow within EHR systems. This integration allows for increased accuracy and efficiency in clinical decision making. Health care providers have minimal time during an outpatient visit to manually review contraceptive use guidelines and provide accurate information to help a patient find a safe contraceptive method that suits their needs. Tasks that require manual search, review, and calculations can be automated via EHR data integration and clinical algorithms. Today, providers have access to a standalone contraceptive CDS mobile application to access evidence-based contraceptive guidelines; however, the lack of integration with EHR data poses limitations. The current system requires multiple provider tasks during a typical 15-minute outpatient visit. Providers have to review a woman's conditions in the EHR and with the patient and assess contraceptive options in the guideline application for each of the patient's conditions. Then they must synthesize contraceptive options for the patient, allowing them to balance multiple risks and benefits. When a patient chooses a method, the provider next needs to navigate to a different part of the application to find guidance for initiation of the method. The lack of efficiency and potential for human error is evident. An opportunity to advance this process is to develop a FHIR based CDS tool that can be integrated into the providers EHR workflow. Synthesis of a patient's conditions from EHR data and auto generation of a menu of safe contraceptive options including information on safe initiation would modernize the process.

PROJECT OBJECTIVES

Using FHIR, design a CDS tool that supports the use of the CDC contraceptive guidelines in clinical decision-making that can be integrated into the healthcare provider EHR workflow. The clinical population of focus is women seeking health services in a general primary care setting. Potential deliverables, dependent on the phase of the project and student interest, include: mapping of contraception-related data elements to FHIR resources; enhance a provider-friendly SMART on FHIR interface to synthesize patient-specific contraception-related EHR data; integrate an existing standalone contraception application into provider SMART on FHIR dashboard; develop a provider questionnaire using FHIR to capture risk data; via clinical algorithms, generate risk levels for each eligible contraceptive by patient; develop hyperlinks for contraceptives, conditions, etc. that direct the physician to topic-specific information in the contraceptive guidelines.

SUCCESSFUL PROJECT

To Be Discussed

Intellectual Property: None