Development of A Provider Feedback SSIS Dashboard Using SAS Analytic Modules for Transparent and Reusable Workflows on Veteran Affairs Health Care Data

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Objectives

• SQL Server Integration Services (SSIS) is a platform to help extract, transform and load data for analytic treatment and display in SQL Server Reporting Service (SSRS) and SharePoint, respectively. Microsoft, however, has limited analytic capabilities.

• We developed a Java tool to extend SSIS platform functions and provided SAS support in our SSIS dashboard package.

• Based on this tool, we now support reuse of existing SAS analytic modules into the SSIS platform.

• We present our SSIS workflow that leverages SAS analytics for VA operational decision support.

Methods

• The Veterans Affairs maintains a SAS GRID that supports parallel processing.

• A SSIS dashboard is designed to provide information on VA patients opioid use.

• Patient historical opioid use is estimated using the SAS Medication History Estimator (MHE) Module (Figure 1).

• A command tool “SASGridLauncher” is developed to remotely submit SAS tasks into the SAS Grid servers. The tool's commands are shown in (Figure 4).

• The tool is configured in SSIS (Figure 3) and can easily detect and flag errors during execution in SAS Grid.

• We tested the SAS launcher by exploring statistical associations between patient and provider gender (Figure 2).

Conclusions

• We demonstrate the ability to launch and use Transparent ReUsable Statistical Tools (TRUST) developed in SAS in our Microsoft SSIS generalized workflow.

• This generalized framework supports transparent and reproducible patient and provider process monitoring.

• Since the framework is generalized it supports rapid deployment of process monitoring in new domains.