Visualizing patterns of asthma medication prescribing in the Military Health System using EventFlow

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Research Question

Are LABAs being misprescribed in the MHS?

- Appropriate LABA Prescribing- Ordered Patterns
  - LABA only in conjunction with ICS = LABA/ICS
  - Step-up or step down therapy
    - SABA step-up to ICS step-up to LABA/ICS
    - LABA/ICS step down to ICS and/or SABA

Acronym Alert
ICS: Inhaled Corticosteroid
LABA: Long-acting Beta Agonist
MHS: Military Health System
SABA: Short-acting Beta-Agonist
9.5 million people have access to benefits

MHS Population

- Active duty, guard, reserves (25%)
- Family member of active duty, guard, reserves (34%)
- Family member of retired or survivor (19%)
- Retired from active duty, guard, reserves (22%)
SOURCES

- ADMIN CLAIMS
- PHARMACY RECORDS
- ELIGIBILITY/ENROLLMENT
- EHR
- 110 HOSTS

REPOSITORY

MHS Data Repository

DATA MART

PHARMACOVIGILANCE DEFENSE APPLICATION SYSTEM (PVDAS)

PII preprocessor

Acronym Alert
EHR: Electronic Health Record
PII: Personally Identifiable Information
Methods

Jan 2006-Jan 2011

174,238 Asthma patients with a new LABA Rx

Random selection

100 patients

Extract asthma medications surrounding LABA Rx

Categorize into groups and process file for EventFlow

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EventFlow: Ordered Patterns Are Combined
All Asthma Drugs
Align on First LABA-ICS
View LABA and ICS Only
LABA and ICS in Those Who Started With LABA Alone
EventFlow Summary

- Simple data structure
- Intuitive display
- Alignment tool was very powerful-quickly and easily identified possible patterns of suboptimal LABA prescribing
- Scaling up to larger samples is critical
The Army’s Home for Health…

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