

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

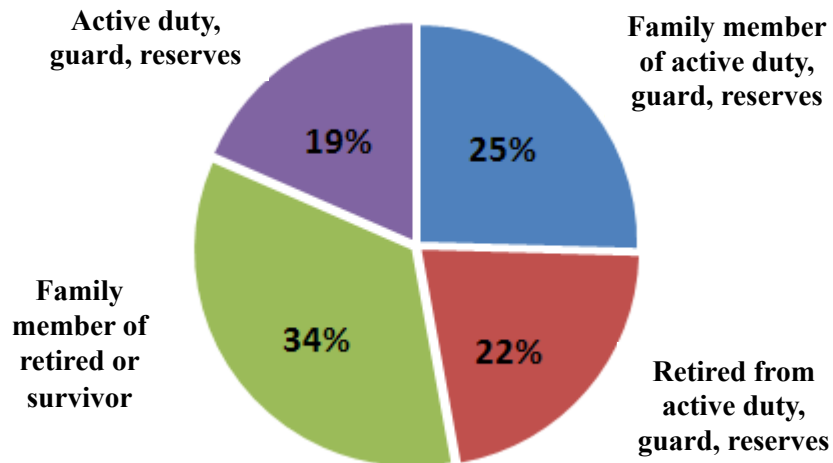
SABA: Short-acting Beta-Agonist



MHS Population

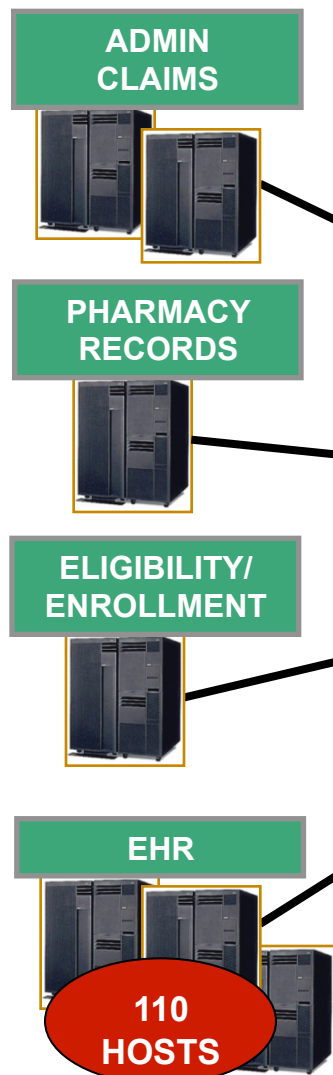


*9.5 million
people have
access to
benefits*

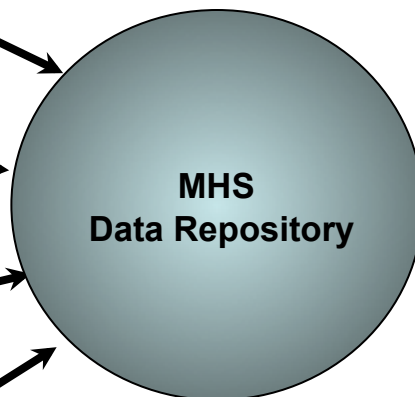


Data Source

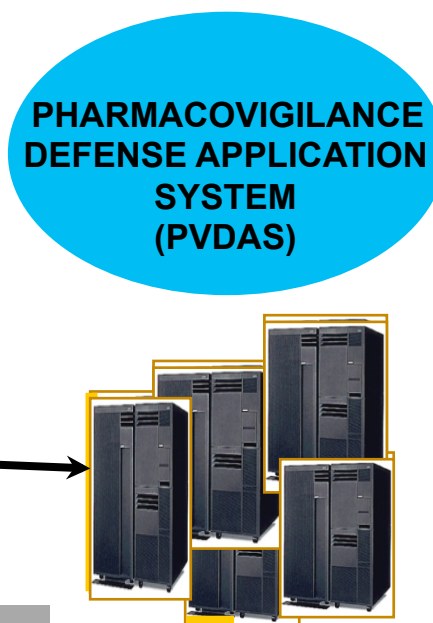
SOURCES



REPOSITORY



DATA MART



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

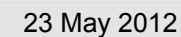
100
patients

Extract asthma
medications
surrounding LABA Rx

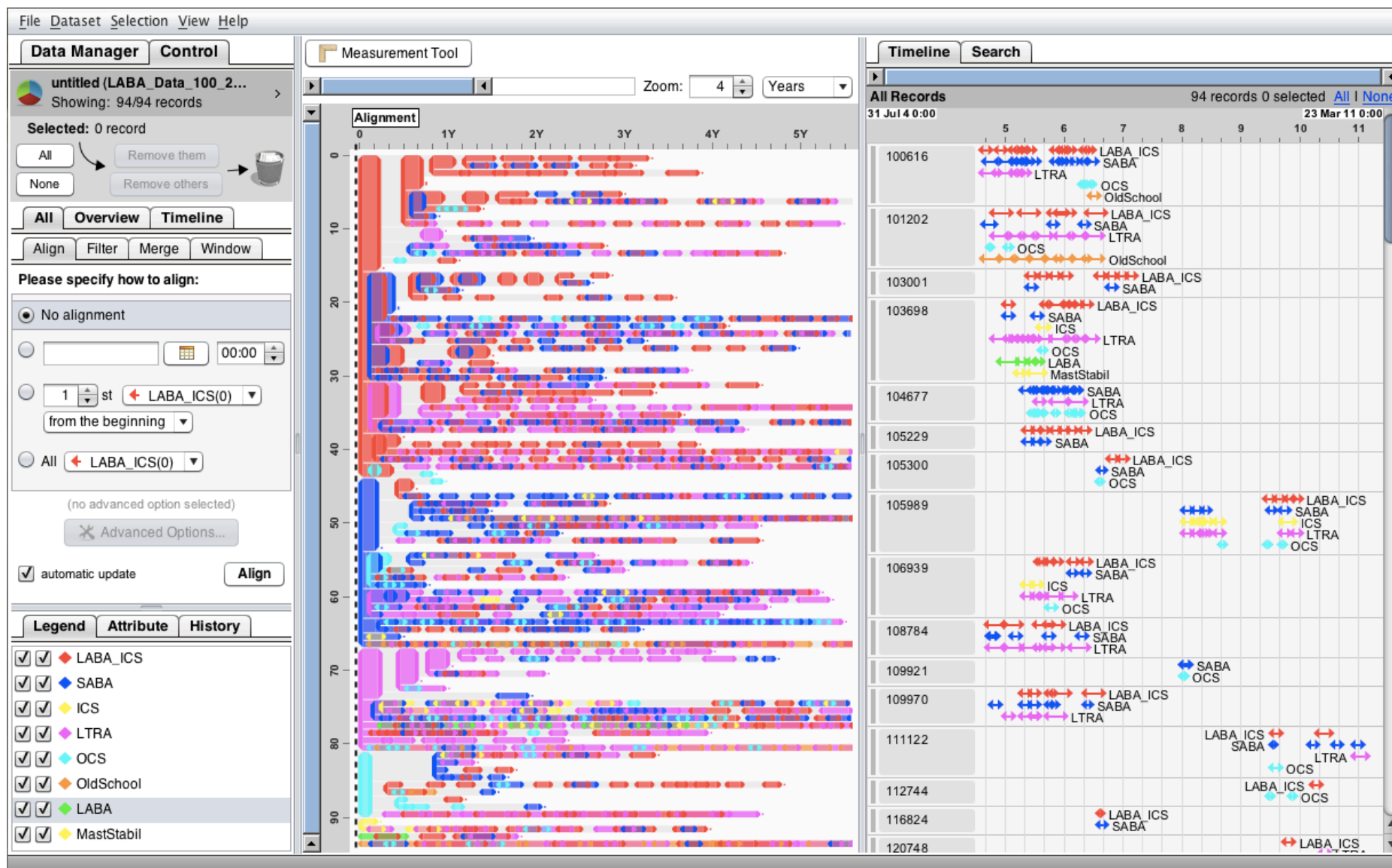
Categorize into
groups and process
file for EventFlow

ID	Group	Start	End
1333	LABA_ICS	2006-01-13	2006-02-11
1333	LABA_ICS	2006-02-05	2006-03-05
1333	LABA_ICS	2006-03-03	2006-04-01
1333	SABA	2006-03-03	2006-04-01
1333	ICS	2006-04-01	2006-04-30
1333	ICS	2006-05-01	2006-05-30
1718	SABA	2008-06-23	2008-07-22
1718	ICS	2009-02-10	2009-03-10
1718	LABA_ICS	2009-02-24	2009-03-24

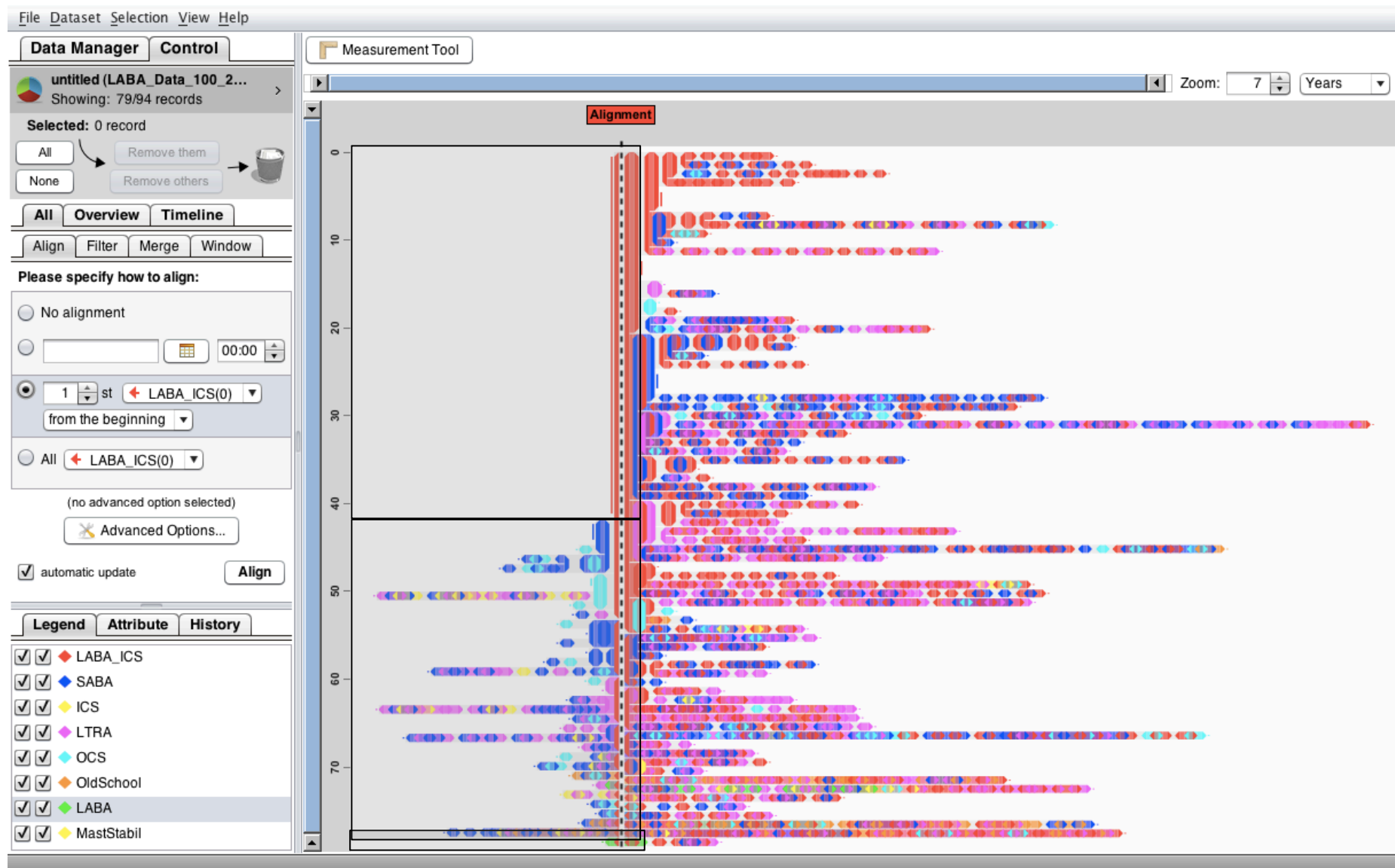




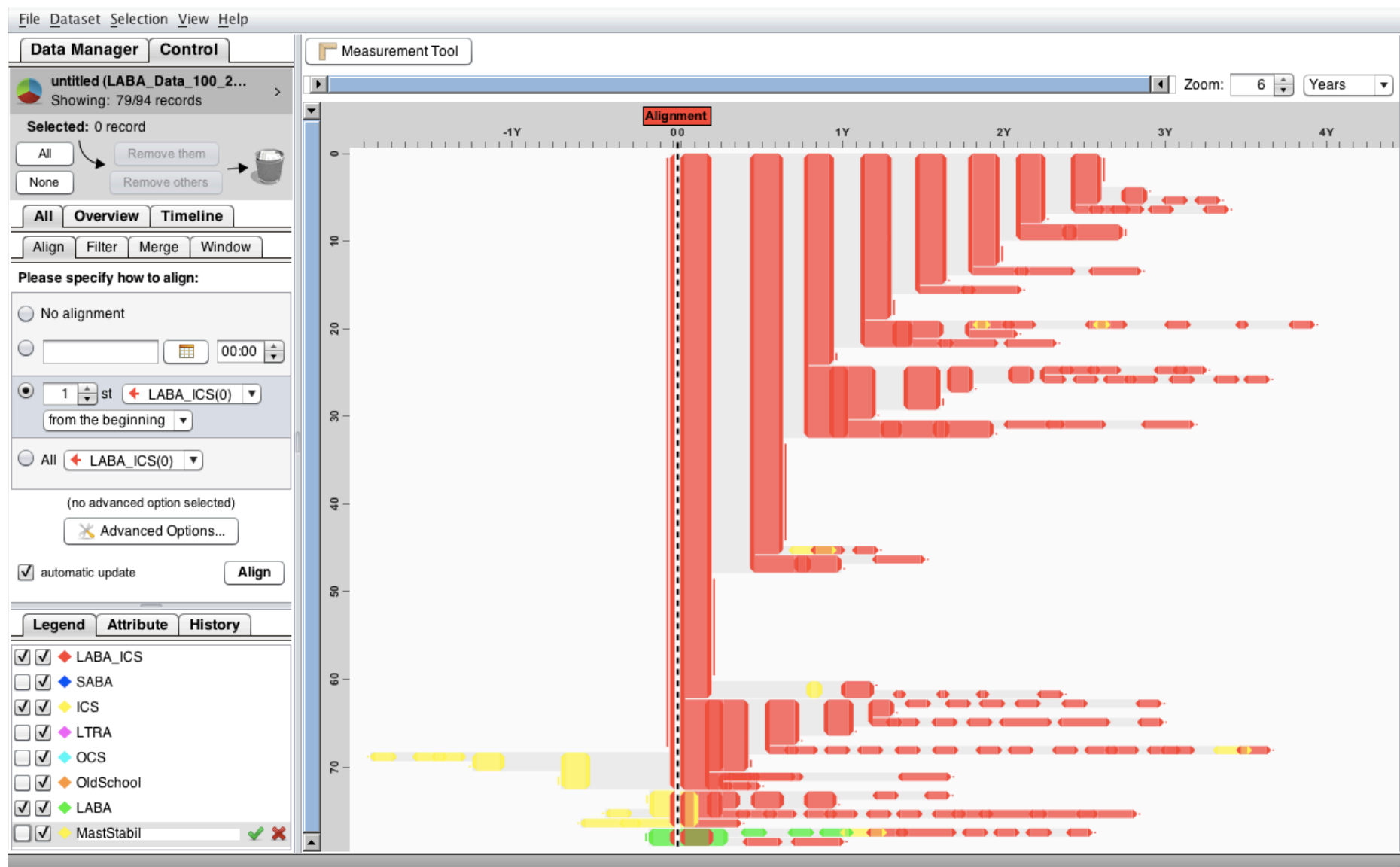
All Asthma Drugs



Align on First LABA-ICS

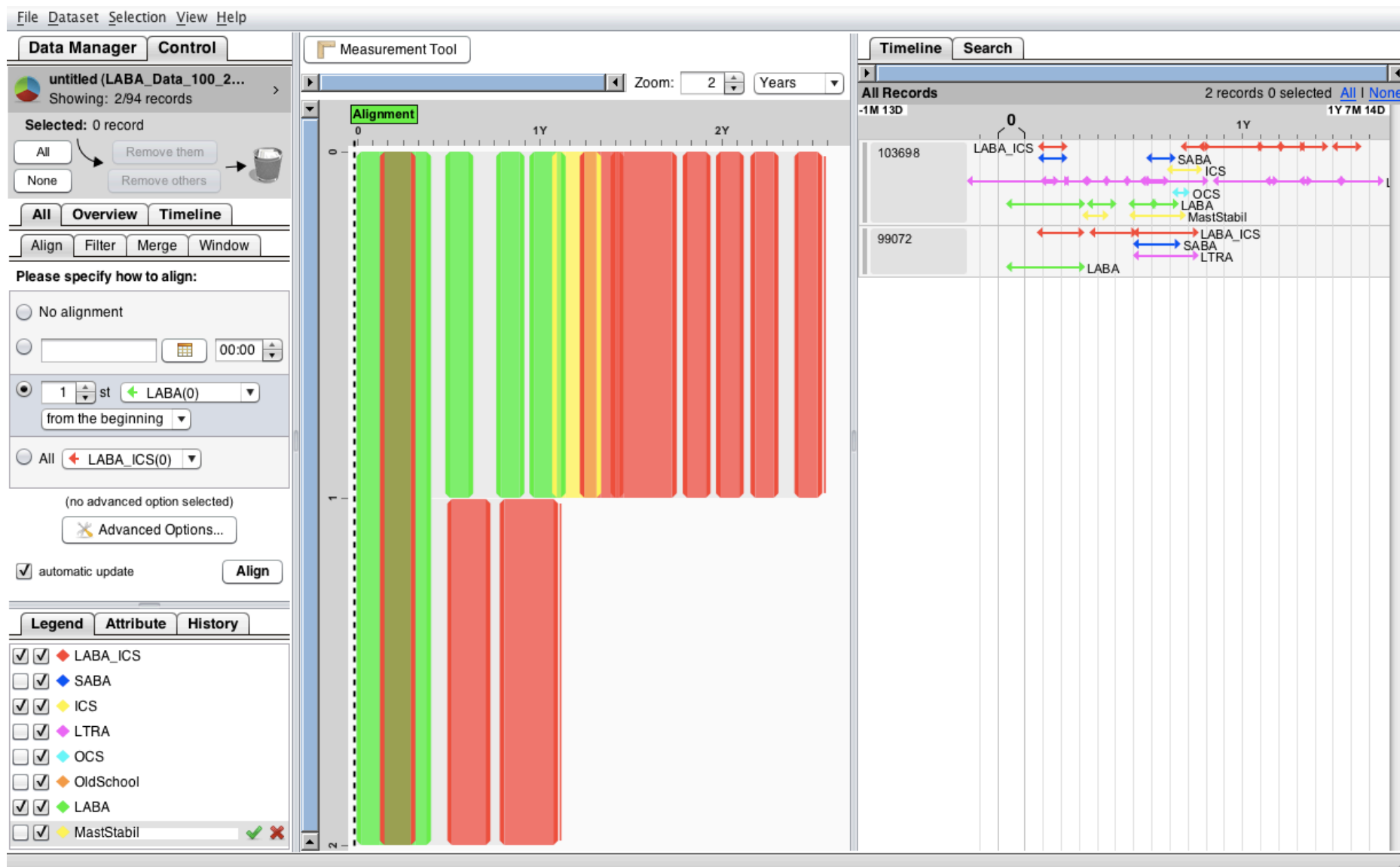


View LABA and ICS Only





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



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