

# Dissemination

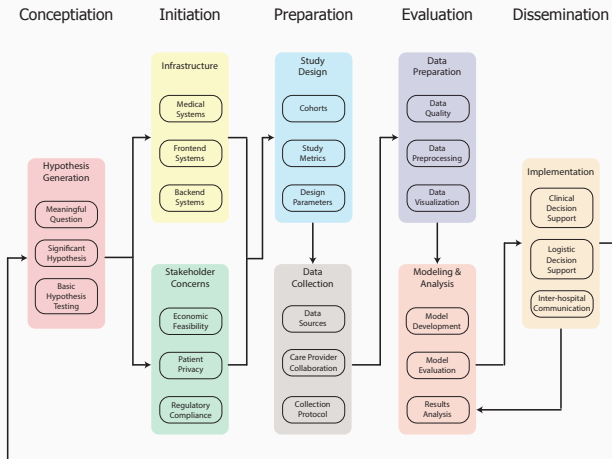
## Building a Decision Support System

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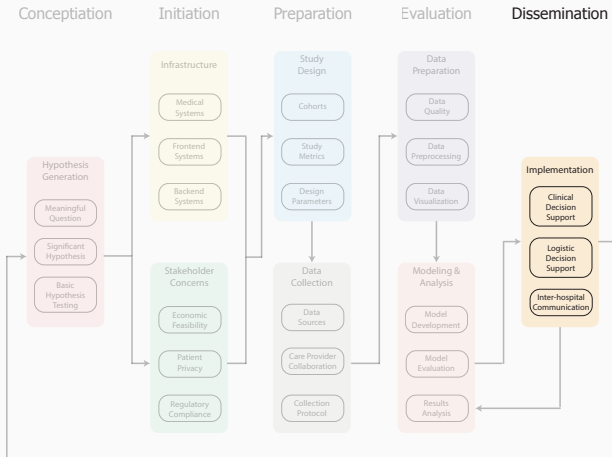
Michael Snow, M.D. Ph.D. and Glen Ferguson, Ph.D.

Center for Health Data Innovations

# Bioinformatics Pipeline



# Dissemination



# Clinical Decision Support Systems

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# What is Clinical Decision Support?

Definitions?

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- A health information technology designed provide assistance in making medical decisions
- Linking health observations with health knowledge to influence health choices by providers
- A process for ensuring that health-related decisions and actions are informed by pertinent information and clinical knowledge to enhance health and health care delivery

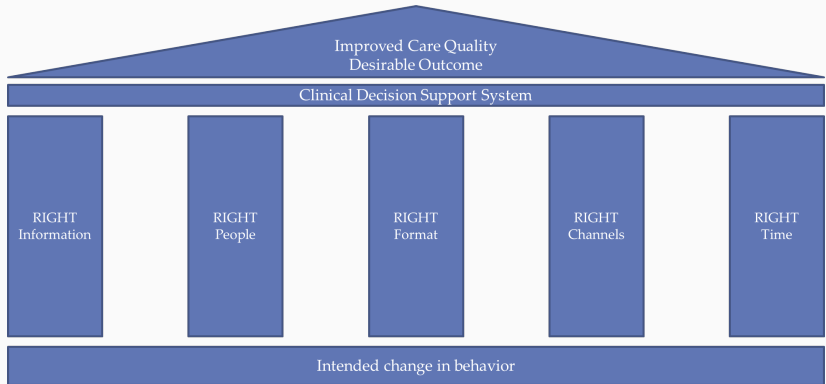


## Five Rights of CDS Framework?

What are the important factors to consider when implemented *any* CDS system.

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# Best Practice Advisories

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## A CDS Example

Best Practice Alerts (BPAs) are messages to health care providers concerning a patient status or condition.

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# A CDS Example

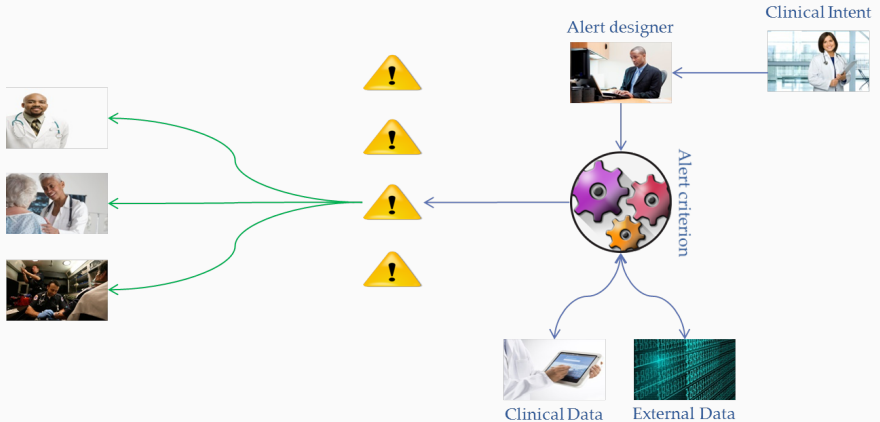
Best Practice Alerts (BPAs) are messages to health care providers concerning a patient status or condition.

- Delivered through an EMR
- Built based on clinical intent
- Often require a response from the provider
- Contain criteria for trigger actions and filters for display



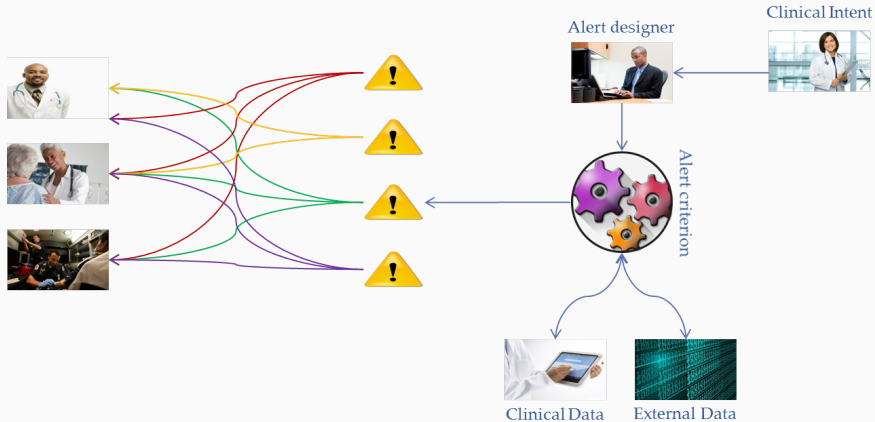
# Understanding how BPAs Currently Work

## Current BPA Framework



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Problems with the current framework

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- Right people?
- Right format?
- Right channels?
- Right time?



# Anatomy of a BPA

## Response

Provider response or interaction as a result of invoking the alert

## Content

Instructions, smart data elements, actions, etc. indicating or guiding best practices

## Recipients

Providers types who receive the alert

## Location

The facility, department and specialty where the alert is received

## Filtering rules

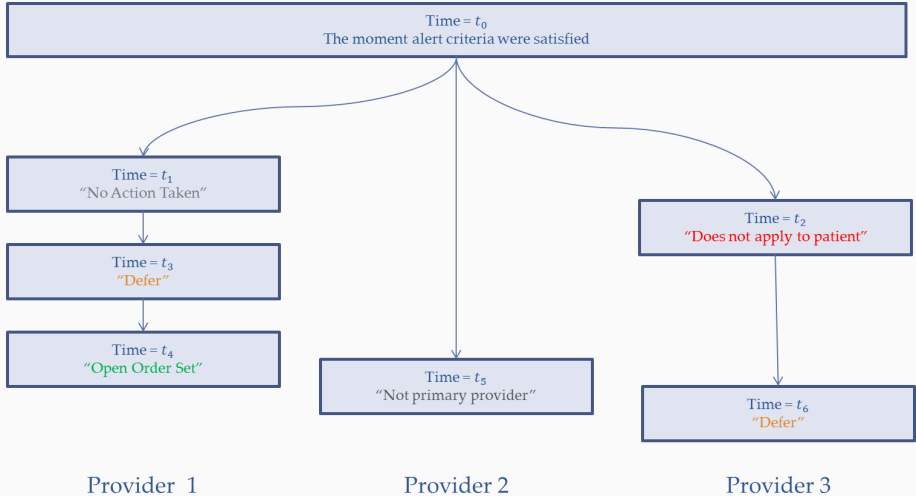
Specific user action triggering the display of the alert

## Alert trigger criterion

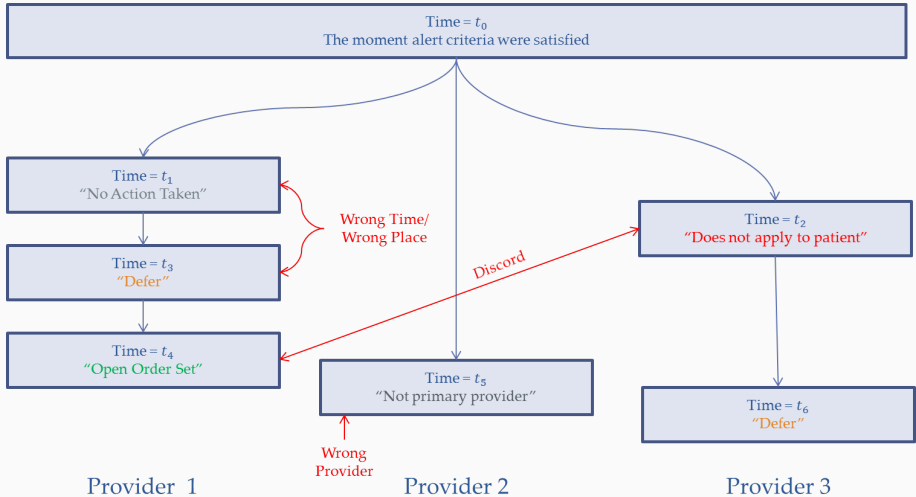
The criteria to trigger the alert for a patient during an encounter

## Alert Instance

# BPA Life-cycle



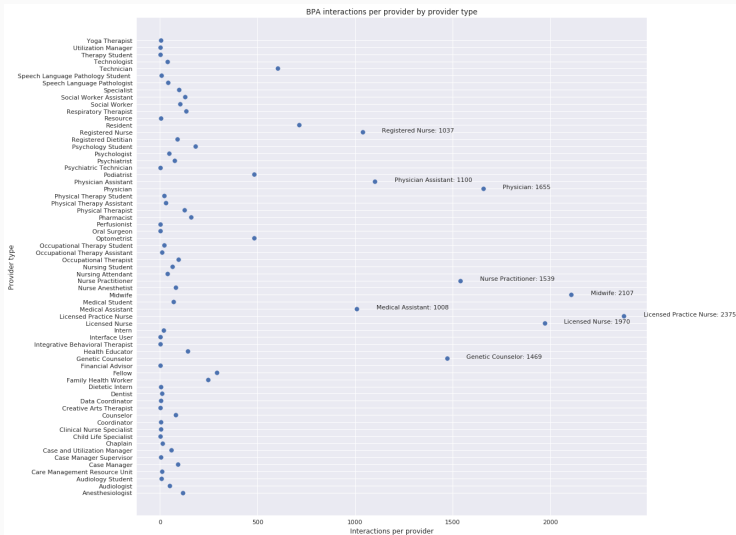
# BPA Life-cycle



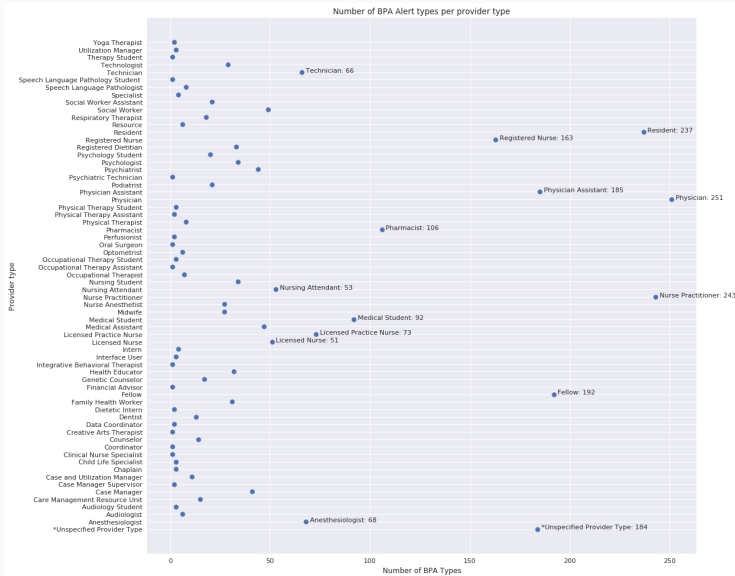
# **Evaluating Best Practice Advisories**

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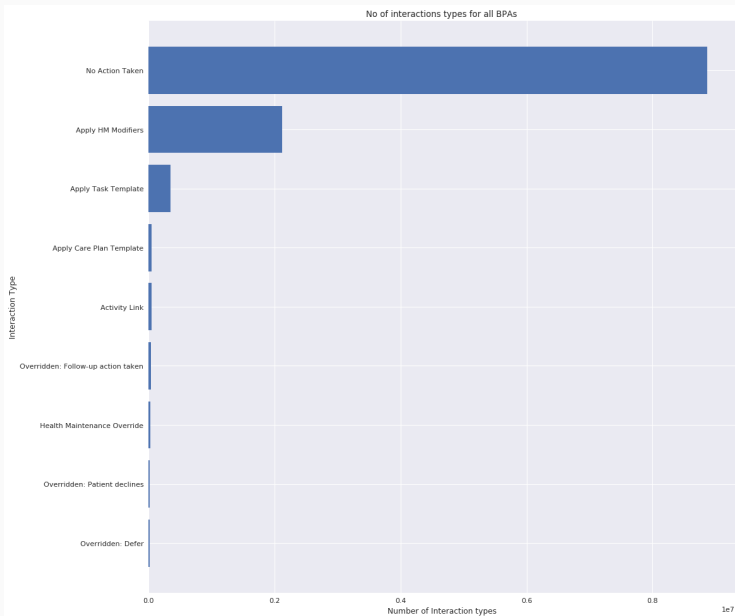
# Average BPA Interactions per Provider



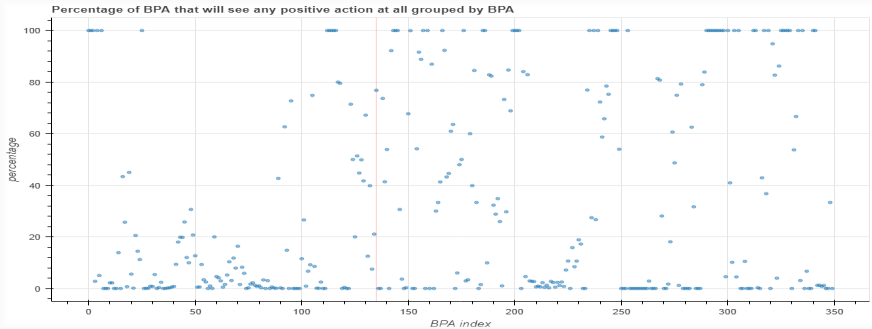
# BPA types per Provider



# Responses to BPAs

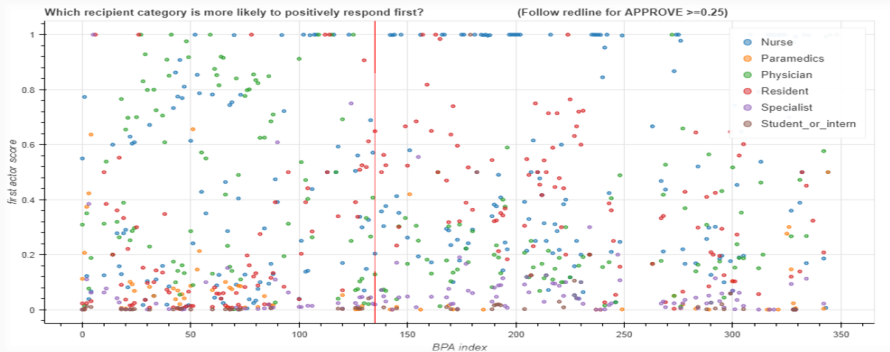


# Responses to BPAs





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## BPA name: BASE EPILEPSY AND SEIZURE [1296]

Time period for collected data	01/01/2017 – 08/31/2017 (8 months)
Unique patients (identified by MRN)	2,056
Unique encounters (identified by CSN)	12,037
Locations receiving this BPA	39
Unique interaction by a provider	29,445
“No Action Taken”	29,293 (99.48%)
“Overridden: Does not meet criteria”	140 (0.48%)
“Overridden: Patient refused ”	12 (0.04%)
Acted Upon	0%
Location with zero positive interaction	18 (46.15%)

# Improving Best Practice Advisories

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Solutions to problems in the current framework

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- Right information?
- Right people?
- Right format?
- Right channels?
- Right time?

## Right information

- Method
- Testing
- Data needs
- System maintenance

## Right People

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## Right Format

- Method
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