Synoptic Reporting (SR)

Date: June 3, 2009

By: David Rampaul, MHI Student
For: Alex Mair, Regional Director of Architecture
Ron Parker, Group Director, Products SPS

What is Synoptic Reporting?

- At the most basic level, SR is about using established checklists
- Having the ability to record directly
- Using structured, coded data entry templates
- A form of report standardization

Data Mining

According to SQLServer.com, DM involves:

- “Sorting through data to identify patterns and establish relationships”

Parameters include:

- Association
- Sequence or path events
- Classification
- Clustering
- Forecasting - - > Predictive Analytics - - > HSU

http://searchsqlserver.techtarget.com/sDefinition/0,,sid87_gci211901,00.html

Benefits of SR:

- Prevents Secondary Data Mining
- “Allows for structured data capture”
- “Analysis of individual data elements for a variety of clinical and research purposes”
- Potential to save time (quick, fast, concise)
- Increases the usefulness of data and how complete and accurate that data is

http://www.mtuitive.com/documents/Synoptic%20Reporting%20and%20Structured%20Data%20Capt

Challenges with SR:

- The majority of reporting is largely narrative text
  - unstructured
  - not codified
  - free text (dictation)

- There are unlimited vocabularies

- There are unlimited responses

- How do we cater to specific persons?
  - Complicated individuals
  - Complicated populations

The Big Challenge

Interpretation

Health Care Providers

User Adoption

Time

Data Entry

Reassurance

Care Setting

What is the role of the Physician?

You might be thinking:

- Patient Safety → NO
- Patient Feelings → NO
- Government → NO
- Incentives → NO

THESE ARE NOT PRIMARY CONCERNS

So, what is a concern?

TIME

We need to offer them time

Ultimately, all physicians care about is how quickly they can get the patient out of their office

AND, how they can do this safely and quickly!!!

Who should enter the data?

- Physicians?
- Nurses?
- Triage Nurses?
- Ward Clerks?
- Data Entry Specialists?
- Patients?

The Pie in the Sky Concept

Although it might seem reasonable to expect that physicians and other health care providers enter the data, this idea is really ‘pie in the sky’

BUT WHY??

Now vs. Later

With the goal of saving time in mind, it is difficult to look at anything beyond what is immediately relevant and critical at the point of service

For example, it is a challenge going back in time, regarding a patient history. At the point of care, certain things are specifically requested, while other items are ignored.

Again, this goes back to saving time, catering to immediate patient needs, and getting in as many patients as possible quickly and safely.

Case In Point

- A Doctor Checklist
  - Only the critical, immediately relevant items are checked off, and the rest is ignored
  - Why bother to check off other items? It only wastes time!

- Example: Twisted Ankle
  - Injury will be checked off, but why bother checking off fever, influenza symptoms, or previous vaccinations?
  - However, this now becomes a problem for secondary uses of data such as public surveillance and population health

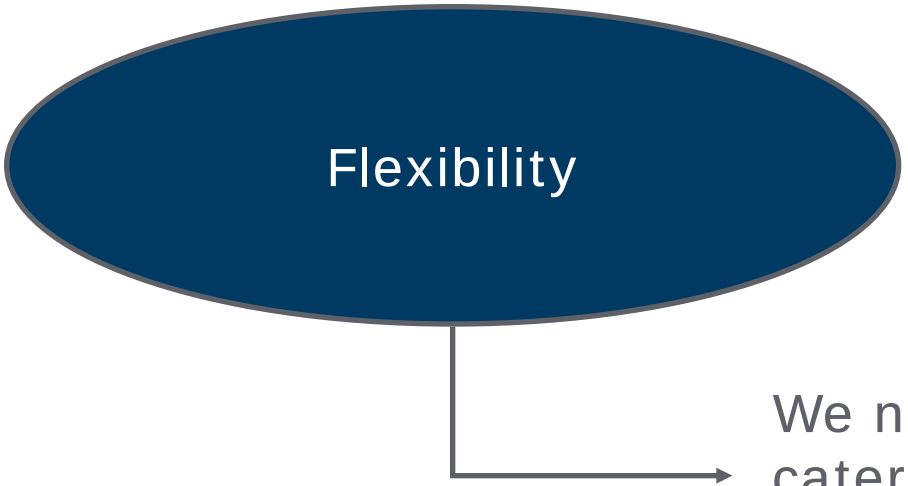
SR – More Problematic Considerations

- Which item to ask for
- What to ask for
- What to ask for later on is unclear
- The type of surveillance executed in later phases may be difficult to comprehend if information or data is not initially captured

Therefore, it is hard to predict parameters. What this leads to is health care becoming selective versus synoptic

AND THIS IS EXACTLY WHAT HEALTH CARE HOPES TO AVOID

What We Want



We need flexibility in order to cater to those complicated individuals and complicated populations. Often, we are biased to what is immediately necessary, thereby making the secondary uses of data limited.

What We Need

- ** The Big One – reliability of the index

- How fine grain
- How valid
- How reliable is it (how do you ask)
- What is the perspective of the user

The Approach

- Phrasing Questions in the right way
- Make the right person fill out the information
- Get the right person to fill in the data

Examples:

- Does this child have an infection? √
  - (EASY, single observation)
- Does this child have a fever? √
  - (EASY, single observation)

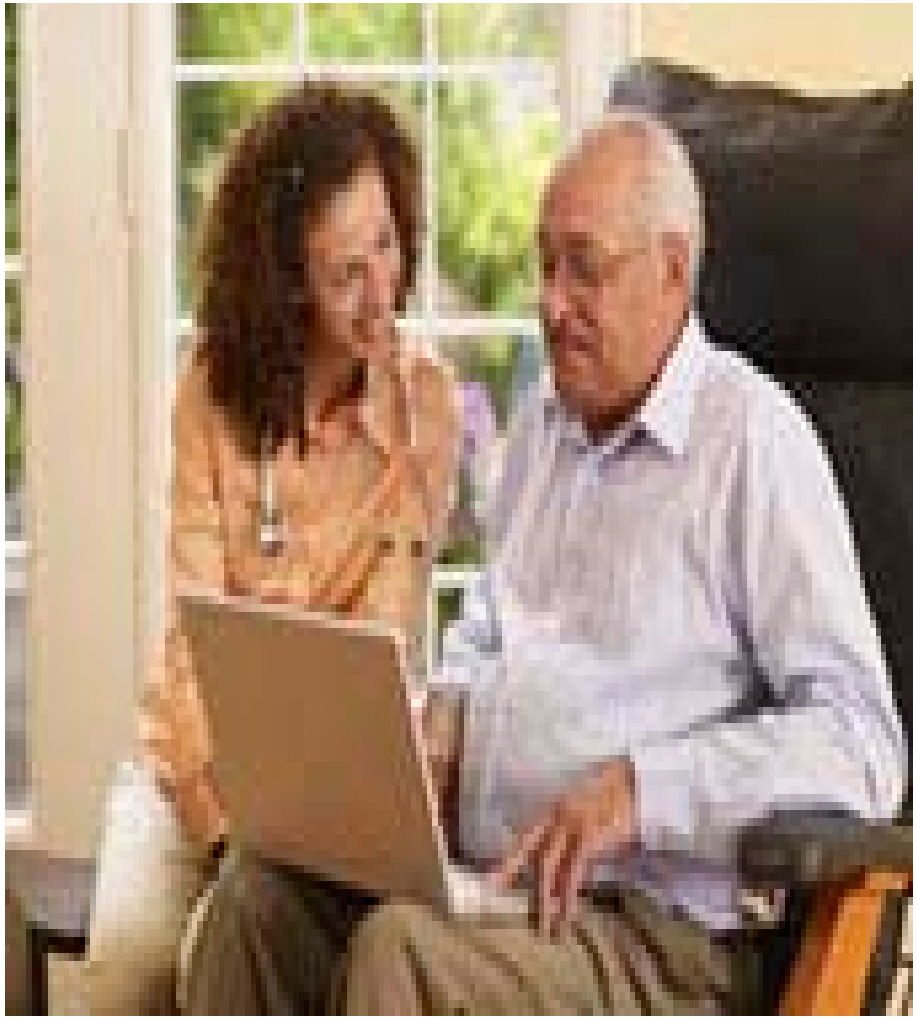
- Which infection?
  - (PROBLEMATIC – needs physician interpretation) X

- Does this child have a cold?
  - (PROBLEMATIC – needs physician interpretation) X

What Type of Indicators To Include?

- Let's say for example we want to use diagnosis as an indicator
  - This is a terrible indicator ---> WHY?
- There is a huge rate of change and low inter-rater reliability
- So, we need to know the specific group and that group's specific uses
  - Participation rates would be useful to know
  - Data completion rates would be useful to know
  - **Utilization rates would be the big final
- Therefore, is the data being utilized and is that utilization resulting in change
- Only then, can we derive indicators from this

The Goal



We need to stress the value of the patient entering the data

- This information is very useful to the patient
- The patient is the right person to execute such a task
- On most counts, they are happy to do so and it has worked out well
- Using the patient is ideal since they are a good source and often, there is very little interpretation

Value for the Patient

Motivated to do so

Why don't you enter your own data?

Information has value for them

They have the time

Long Waiting Room Times

Include them as part of the health care process

Include them as part of the health care team

Value for the Physician

- SR incorporates Clinical Practice Guidelines (CPGs)
- More than that, a structured template could allow for the generation of reports and valued information that is useful to the physician

Example: A Customized Data Patient Sheet

- This would be marvellous!
- Knowing what elements to include
- This could save the physician time by allowing the patient to read over their own customized patient data sheet, thereby leading to less time with the physician (more time, less talk)
- ** This same idea could be used for referral letters

Key Points

- Make the right person fill out the information
- SR has value for enhancing data sets
- SR is an excellent tool, but should not replace other surveillance mechanisms
- Predictive analytics may vary

Example: Data for the patient with a sprained ankle (injury), will be significantly different than that for a patient with severe asthma

**Therefore, you may know population percentages for injury, however, this cannot be extended to patient populations with flu or respiratory diseases

Innovations in SR

- Drop down lists, menus, radio buttons, and click screens would facilitate physician data entry
- *Touch screens would be the new trend for templates
- *No longer CPGs, but real-time descriptions of your own patient experience
- *Cool ideas – immediate feedback

Problem: Physicians don't have enough RAM to hold everything in their head, and all data pieces and data elements are specific. As previously mentioned, this is especially true for complicated individuals and complicated populations

Use-Case Scenario For Innovation

Imagine a three year old female. She comes in with a fever, and you quickly click that in. As you do this, a little balloon pops up and says, “you have seen 350 cases like this, and of them, half went home and half went to the ICU”. You start to key in data for the heart rate, and you get another balloon saying, “forty to fifty people were sent for chest x-ray and then to ICU”.

Further Suggestions

- Real-time, immediate feedback such as that illustrated in the use-case would be absolutely beneficial
- In terms of data points, reassurance for the physician is a primary component
- Depending on the representation of the local data set (for example, a year's worth of data in your own synoptic reporting), things can be automatically queried and fast
- This would add value to assessing risk in certain patient populations and analyzing recommendations and courses of action by attending physicians