Exercises for Analysis Phase

Analysis, Part 1: What Clinical Practice Guideline are we implementing in a DSS and why?

Five Analysis Areas for PIs and Knowledge Modelers	**Questions**
(1) Clinical Significance	In what clinical area is a DSS most needed? What is your area of expertise and why is a DSS needed over other types of program intervention? How many patients would be impacted by the system? Will the DSS focus on diagnosis and/or management? Is there a real-world clinical need for a DSS at the VA? How often would the DSS be used by providers? Which providers might use the system?
(2) Guideline Examination	What VA guidelines are available? What year were they developed? Why is a model needed and not just simple rules? How comprehensive is the guideline? Does it integrate multiple guidelines outside the VA? What are those guidelines and how respected are they? What percent of the guideline is evidence based versus expert consensus? How much resource did the VA put into developing the guideline? Is there a strong need to use national guidelines outside the VA? Is it necessary to use more than one guideline and why? Is the medical condition one in which knowledge is advancing rapidly?
(3) Usage of the System	How many users are there? What level of training and experience to they have in management of the illness? What level of training and experience do they have with DSSs? How technologically literate are the users?
(4) Purpose of the System	What is the system designed to accomplish? Would the DSS focus on prevention, diagnosis, and/or treatment of a condition? Would the DSS need to be supplemented with other computerized tools?
(5) Context	What is the technical infrastructure at the setting where the guideline would be implemented? What kind of personal computer are the users using (work stations, PDAs, etc.)? What human, technical, and budgetary resources are available? What is the funding environment like? Who would need to "buy-in" to development of the DSS? Who would need to "buy-in" to the maintenance of the DSS?

http://www.oqp.med.va.gov/cpg/cpg.htm

Specifications for a DSS: Sample Table of Contents for
ATHENA: Opioid Therapy

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Analysis, Part 2: What are the specifications for the DSS?

Five Analysis Areas for Knowledge Modelers	**Questions**
(1) Purpose of the System	Will the DSS focus on prevention, diagnosis, assessment, and/or management? What are the specific objectives of the DSS?
(2) Outcome Measures	How will we know that we have improved physician behavior? How will we know that we have improved patient outcomes?
(3) Usage of the System	Who are the users? Where are their machines located? Define usage scenarios. Where would the best trigger for the DSS be? Understand current barriers to following guideline in current setting. Identify other attempts ongoing in terms of managing the condition.
(4) Define Data and Clinical Knowledge	Identify guideline sections to implement. What are the basic categories of the guidelines you will implement? What VA data is needed? What VA data is actually available? Do you need to collect additional data and why? What type of recommendations will be generated?
(5) VA Technology Environment	Data extraction, local versus national. Data write-back, local versus national. Interface to CPRS for trigger?

Group Exercise, Requirements for the ATP III

Mock VA Clinic Scenario:

Background:
NIH is currently promoting the primary prevention of coronary heart disease (CHD) as a way to reduce the burden of CHD through the implementation of the ATP III guideline. There is good evidence that treatment can substantially reduce the risk of CHD development and CHD morbidity and mortality.

Problem:
An assessment at the VA Health Care System identifies that 40% of outpatients with CHD do not have a lipid measurement and of those with above target lipids and CHD, 50% do not have a prescription for LDL-lowering drug therapy. 40% of patients admitted with CHD are discharged without LDL management strategy. The Board requests the clinical manager to identify barriers to following guidelines and develop programs to improve patient screening and therapy. Performance measures need to improve for both physician practice and patient outcomes as this is how quality enhancement is measured at the VA.

Setting:
The VA Health Care System provides primary care to 20,000 insured adults in eight locations in a 10,000 square mile area covering urban and rural settings. Providers in primary care clinics include physicians (50%), physician assistants (15%) and nurse practitioners (35%). The VA Health Care System uses an electronic medical record to document all practice and ordering of tests and medications. The data repository is centralized.

***Workflow*:**
The system is currently paperless. Patients are checked in by the nurse who is responsible for checking vitals, entering them into the electronic health record during the check-in. The nurse can order screening tests and other procedures when needed, but there is no guarantee that the most recent lab screens are available when the patient is seen by the clinician. The clinician uses the electronic health record during the visit. All orders (lab, pharmacy, consults, and exams) are entered in the computer during or immediately after the visit. Clinician documentation is entered in "progress note" during or after the visit. The clinics have protocols for primary prevention and follow-up of common chronic diseases when risk factors are present.

Purpose of the System:

Which Guideline:

What is the general purpose of the HBC ATP III CPG?:

What are the specific goals of the DSS? How would you prioritize the sections of the ATPIII Guideline? Which sections would you focus on first and why?:

Outcome Measures

How will provider behavior improvement be measured?

How will patient outcome improvement be measured?

Usage of the System:

What behaviors do you want to change? (hint, think about the outcomes you want to impact and whose behavior needs to change – the providers? the patients?)

Screening:
Management:

In what setting would the DSS be implemented? (e.g., inpatient, outpatient, geriatrics, laboratory, pharmacy, speciality clinics)

Screening:
Management:

Who are the possible user groups of the DSS? Who can act on the behaviors you want to change? (e.g., nurses, physician assistants, physicians, laboratory specialists, pharmacists):

Screening:
Management:

What kind of DSS could provide the most impact? A computerized pop-up DSS is an obvious choice, but what other types of applications might provide even more leverage? (e.g., email, pagers, clinical reminders, MyHealtheVet).

Screening:
Management:

Who are the patients who will benefit from the DSS?

Screening:
Management:

When will the DSS be triggered in the workflow?

Screening:
Management:

Define Data, Clinical Knowledge, and Recommendations:

What are the basic categories of guidelines (clinical knowledge) you will implement?

What patient data will you use to make recommendations?

Will you need to collect additional patient data and why?

What are the basic categories of recommendations made by your DSS?

VA Technology Environment:

What are the data extraction issues?

What are the CPRS trigger issues?

What are the data write-back issues?

Planning and Information Collection for Form Specifications:

What activities did you conduct to form your specifications for your DSS?

What additional assumptions did you make to form the specification document for your DSS?