

Improving Outcomes Through Clinical Decision Support

The HIMSS Decision Support Implementers' Workbook Project

Goals

- Assist healthcare organizations in using decision support technologies to improve clinical outcomes
 - Provides a systematic approach and tools
 - assess institutional drivers and infrastructure,
 - select clinical topics,
 - identify workflow stages and interventions; and
 - implement and evaluate these interventions.
- Help vendors and **information standards developers** to optimize their contributions to improving clinical outcomes.

The Workgroup

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The Presentation

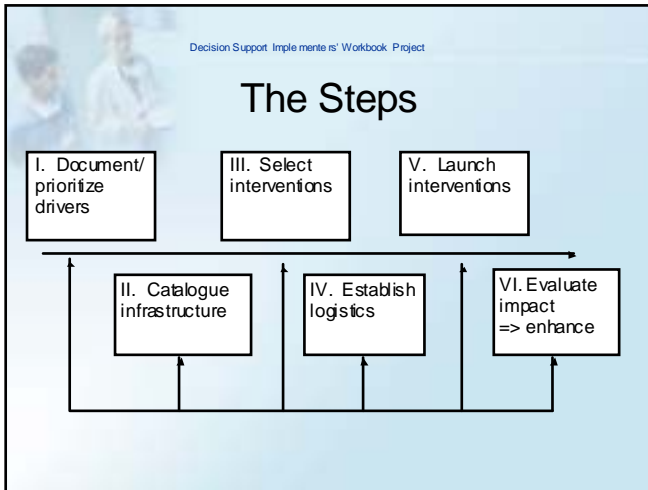
- Project and workbook overview
- The meat: workbook details
- The real world: case example
- Learning from each other
Especially YOU!

The History

- Understand opportunities for decision support
 - Perspectives: content vendor, HCO, standards, safety
 - No articulation available
- Guide HCOs on decision support implementation
 - Common goal: quality/safe/cost-effective care
 - No comprehensive resource available
- Integrate with HIMSS Patient Safety Task Force
 - Fit with HIMSS direction
 - Decision support is Safety Toolkit component

The Workbook

- Why? Improve healthcare process/outcomes via DS
- Who? YOU! (Decision support implementers, initially w/DS)
- What? Tasks, discussion, worksheets, samples, readings
- When? End of 2003 or Early 2004.
- Where? Web/free (?print)
- How? Synthesize/share experiences and needs (Help Wanted!)



Decision Support Implementers' Workbook Project

The Goal

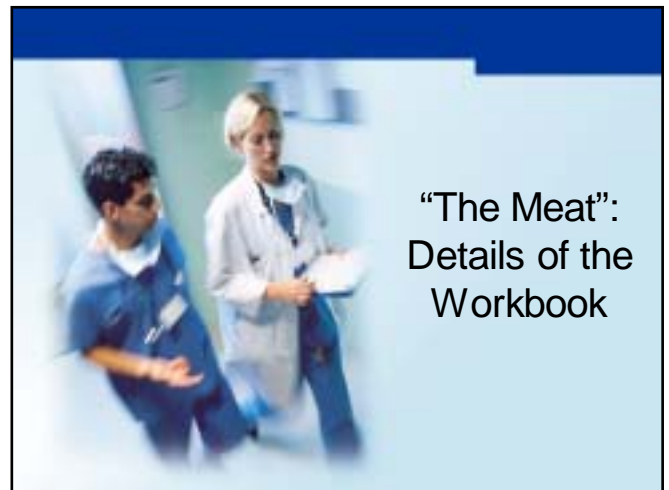
Value Score = Max (P+O+C+N+G)/DC, where

- P= impact on individual patients' care (e.g. quality, safety, cost)
- O= organizational impact (e.g. regulatory compliance, resource use)
- C= clinician impact (e.g. enhanced workflow)
- N= number of patients positively affected
- G= gap between ideal and actual behavior pertinent to the intervention
- D= difficulty associated with implementing intervention
- C= cost of intervention

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The Worksheets - Institutional decision support drivers & focus areas

Focus Area/Driver	Mgt. priority (1=no interest, 5=essential); comments	Clinical priority (1=no interest, 5=essential)	Strength of current institutional inits. (1=no activity, 5=robust efforts)
Facilitate specific disease management initiatives	4	3	1
Improve overall care safety/effectiveness, e.g. approp. use of drugs and tests	5	5	3
Optimize cost-effectiveness of care, e.g. use of drugs and tests			
Enhance patient education/empowerment			
Meet regulatory/accreditation requirements			
Foster compliance with clinical guidelines			
Address clinicians' information needs			
Other key and specific objectives (list)			



- Decision Support Implementers' Workbook Project
- ## Cyclic Steps for Instituting Decision Support
- Identify rationale for decision support
 - Identify what (systems) you have
 - Select a set of interventions
 - Establish logistics for interventions
 - Roll out interventions
 - Evaluate effect and feedback

- Decision Support Implementers' Workbook Project
- ## Identify Rationale for Decision Support
- What are management goals?
 - Reduce LOS, reduce errors, reduce expenditures, improve medication use, etc
 - Prioritize these goals
 - What (manual) efforts are now in place?
 - Validate this with all stakeholders

Identify What Systems You Have

- Catalog all information systems and their data
- Identify what kind of decision support IS can provide (or you can build)
- How can multiple systems be synthesized to support goals?

Select a Set of Interventions

- Merge management goals with available interventions
- Consider what can be done now (at what cost) and what can be built
- Consider potential benefits

Establish Logistics for Interventions

- What information?, when delivered?, who is recipient?, where is clinician?, how to deliver?
- Establish feedback mechanisms
- Identify evaluation parameters
- Finalize content of interventions

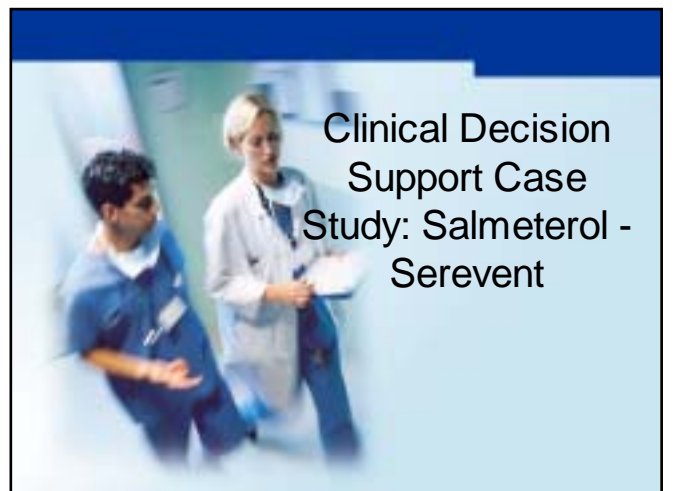
Roll Out Interventions

- Test & validate content before roll-out
- Develop roll-out plan and schedule
- Establish mechanism for feedback to content and manner of interventions
- Cultivate clinician-champions

Evaluate Effect and Feed Back

- Assess utilization of interventions
- Gather user responses to interventions
- Assess process and clinical outcomes in terms of previously identified outcome variables
- Feed back into process (choice of goals, choice of mechanisms, logistics)

Clinical Decision Support Case Study: Salmeterol - Serevent



Salmeterol -- Serevent

- Used to treat wheezing, shortness of breath, and troubled breathing caused by asthma and COPD
- Used to prevent breathing difficulties (bronchospasm) during exercise.
- Relaxes and opens air passages in the lungs, making it easier to breathe.

Why Salmeterol?

- Salmeterol Multi-center Asthma Research Trial (SMART) - 1996
- End of 2002, an interim analysis of 25,858 patients was conducted
- No significant differences in primary endpoint
- Afro-Americans had statistically significant greater number of primary events and asthma-related events, including deaths!
- In Afro-Americans, only 38% were using inhaled corticosteroid therapy

Do we have a problem?

- Search clinical data warehouse to find all patients who were dispensed Salmeterol in last 6 months but who do not have an inhaled steroid
- Found 2100 patients on Salmeterol, 300 who met criteria (14%).
- Study reported over 50% of patients in this category

What can we do to remedy situation?

- Two separate problems:
 - Current patients taking Salmeterol
 - Future patients who will be prescribed Salmeterol

What can we do for current patients?

- Outreach via letters / auto-telephone call to patients from physicians
 - Follow-up person-person call by pharmacists
- Alert to clinicians when electronic chart is opened that situation exists.
 - Document Asthma vs. COPD
- Alert to pharmacist when Salmeterol refill is requested.

What can we do about the future?

- Corollary order for inhaled steroid when Salmeterol is ordered.
- Alert when orders are signed that inhaled steroid not present.
- Create prescribing panel - order set
- Letter to clinicians to educate them about the new guideline
- Link to guideline on the website.

Utility Estimates of Alternatives

- Must do outreach to get patients in
- At dispense time by pharmacists
- Corollary orders
- Safety net at end of order entry
- Prescribing panel
- Clinician education and access to guidelines

Evaluation of Interventions

- Monitor number of patients in alert condition on monthly basis.
- Measure % of corollary orders accepted.
- Measure # of alerts after orders signed.
- Count number of calls pharmacists have to make.

Thank You

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