Incorporating Evidence at the Point of Care

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Incorporating Evidence at the Point of Care

Primary Objectives:

- Identifying the benefits
- Creating an action plan

First Some Basics: Definitions, Rationale and Prerequisites

- Nursing Informatics
  - Link research resources & findings to nursing practice (Saba)
  - To support patients, nurses and other providers in their decision making (ANA)
- Clinical Decision Support
  - … helps health professionals make **clinical decisions to enhance patient care**
  - Ranges from simple facts to relationships and best practice
  - Provides clinical knowledge **intelligently filtered or presented at appropriate times, to enhance patient care** (HIMSS)
  - Requires best-practice knowledge that is reliable, locally relevant, patient-oriented and practice-focused **(Entwistle, Kepner)**
- Evidence
  - **Present in both of the above definitions**

Why?

Primary Motivators:

- To ensure consistent, quality care
- To maintain efficiency in doing so

- IOM Stats and Berens (Chicago Tribune) still haunt us…
  - **400,000 preventable ADEs**
  - **26% ADEs during med admin**
  - **"Nurses Kill….."**
- **Evidence that new technologies can help**
  - "New technologies have the potential to create a better work environment for inpatient nurses by improving the efficiency, safety and quality of care"
  - "…adds significant value to the way nurses coordinate and provide care"
  - "…create a better work environment for inpatient nurses and raise their job satisfaction while also contributing to improvements in care"

Equipped for Efficiency: Improving Nursing Care through Technology (California Healthcare Foundation 12/08)

What do nurses get out of it?

- Nurses collect data
  - Thousands of discrete data points per shift
    - Nursing documentation – 25 – 50% if a nurse's time
      - 30 to 60 minutes of paperwork per hour of care
        - » American Hospital Association
      - 13- 28% of nursing time and contributes to overtime
        - » IOM, Keeping Patient's Safe - Transforming the Work Environment of Nurses
      - Nurses routinely spend 15-25% of their workday documenting patient care
        - » *Report of the Maryland Nursing Documentation Work Group May 2007*
- What do they get in return?
- What if we present them with best practice information at the time of documentation?
- Decisions can be made prior to action being taken –
  - Result = Perfect Care

Who Supports Best Practice?

- Leapfrog Group
  - Evidence-based hospital referral
  - Best practice
  - Reducing per unit cost
- JCAHO
  - The organization collects data to monitor its performance
- IOM – Crossing the quality chasm
  - Evidence based decision making
- Magnet Program

Support for Best Practice

•Magnet Program

- •Provides vehicle for disseminating successful practice and strategies among nursing systems
- •Appraisal of qualitative and quantitative factors in nursing
- •Recognizing quality patient care and nursing excellence
- •Review of practice and associated patient outcomes

Support for Best Practice

- **Bates Study - Ten Commandments**

J Am Med Inform Assoc. 2003 Nov–Dec; 10(6): 523–530.
doi: 10.1197/jamia.M1370.PMCID: PMC264429

1. Speed is everything
2. Anticipate needs and deliver in real time
3. Fit into the user's workflow
4. Little things can make a big difference
5. Recognize that physicians will strongly resist stopping
6. Changing direction is easier than stopping
7. Simple interventions work best
8. Ask for additional information only when you really need it
9. Monitor impact, get feedback and respond
10. Manage and maintain your knowledge-based systems

How? The action plan

- Start with the basics
  - – Automate feeder applications
  - – Standardize data collection
  - – Create an environment for point of care documentation

How? The action plan :Start with the basics

- Automate feeder applications
  - – Data needed for clinical decision support
    - Lab and Pharmacy
    - Patient care documentation
    - Medication administration
      - – Bedside medication verification is one component of clinical decision support
    - Monitor Interfaces

How? The action plan :Start with the basics

- Standardize data collection
  - – Symantec interoperability
  - – Interdisciplinary nomenclature
  - – Concurrent evaluation of patient's progress
  - – Retrospective evaluation of outcomes

How? The action plan: Start with the basics

- Create an environment for point of care documentation
  - – Transitional steps with process analysis
    - Flow sheets at the bedside
    - Med Admin Records brought into patient room
    - Bedside medication verification
  - – Patient education
    - Patient satisfaction surveys
  - – Wireless environment
  - – Device selection

How? The action plan: Next Steps

- Nurses spend approximately 30 percent of their time looking for critical patient care information
- Make clinical decision support information available
  - At the point of care
    - Anywhere else is too late….
    - "just in time information"
  - Avoid the "wrist slap" (you shouldn't have done that)
  - Provide actionable information

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How? The action plan: The "rights"

- Good information management ensures access to:
  - The right information
  - At the right time
  - To the people who need it

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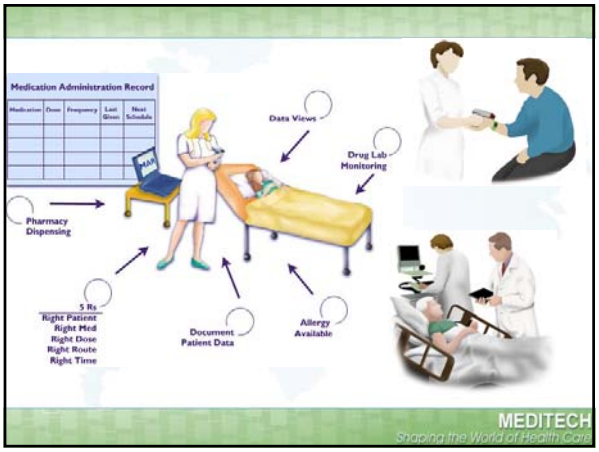

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What: Access to information at the point of care

- Referential
  - Link to information
    - "infobuttons"
  - Review on own "pull"
  - Inquiries
  - Clinical guidelines, standards of practice, policy and procedure manuals, research findings, drug databases

- Imbedded/Integrated
  - "Push" data/information to user
  - Discrete data specific to task at hand
  - Just in time
    - Before action instead of after
  - Reminders and alerts

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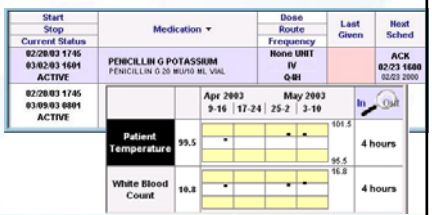
Common "push data"

- Lab results
  - Discrete data



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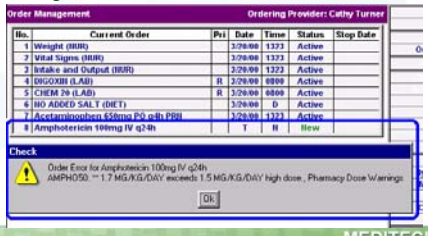
Medication alerts/warnings

- Allergies
- Interactions
- Contraindications
- Duplicate therapy
- Dose range checking

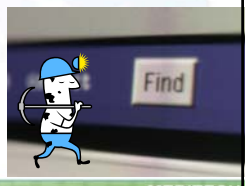


How much is too much or too little?

- Too many alerts:
  - result in ignoring the alert
  - Disrupt workflow
- Too few
  - miss opportunities for patient safety

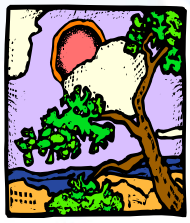
Where to find evidence?

- Own data mining/best practice
  - Clinical data repository
- Outside sources
  - Content/EBP vendors



Vendor Landscape

- Dept HHS/Clinical Practice Guidelines
- AHRQ - National Guideline Clearinghouse
- Znyx
- EBSCO
- Clineguide
- Wolterskluwer Health
  - SkolarMD, Medispan
  - Facts and Comparison
- UptoDate
- Micromedex
- Nursingknowledge.org
- CPM Resource Center
- ANA



How to Choose?

- Composition of Advisory Board
- Resources and Body of Evidence Used
- Ability to Incorporate into Software
- Update Methodology
- Tracking/Reporting
- Existing Vendor Relationship

How to Choose?

- Composition of Advisory Board
  - Consultant to Board vs Board Member
  - Credentials
  - Current Practioner or Time Since
- Resources and Body of Evidence Used
  - Sources referenced
  - Number of times outcome cited
  - Translation to activity

How to Choose?

- Ability to Incorporate into Software
- Update Methodology
  - Frequency
  - Method of delivery
  - Addendum vs Replace
- Tracking/Reporting
  - Compliance
  - Variance from best practice
    - Data Warehouse reporting
    - Where, Why, Who
      - Physician, nurse, etc

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Methodology: Incorporating into software

- Interface with content vendor
- Import from content vendor
- Script into system
- Manual entry

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Incorporating evidence at the point of care

- Methodology
  - Passive information
    - Push vs pull
  - Passive alert
    - Push vs list mechanism
- Specific insertion into software functionality
  - Careplanning
    - Suggested by Assessment findings
  - Assessments
    - Documentation and Observations
      - Change in observations and recorded data
  - Actions
    - Medication Administration
    - Transfusion Administration

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Where to incorporate evidence

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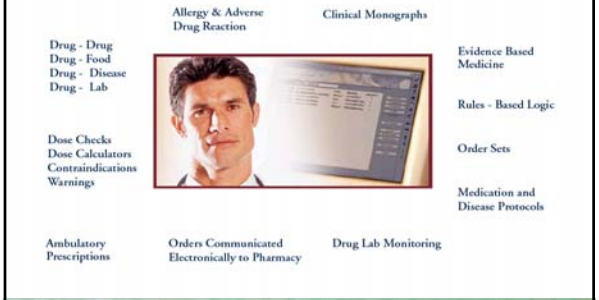
Computerized Physician Order Entry



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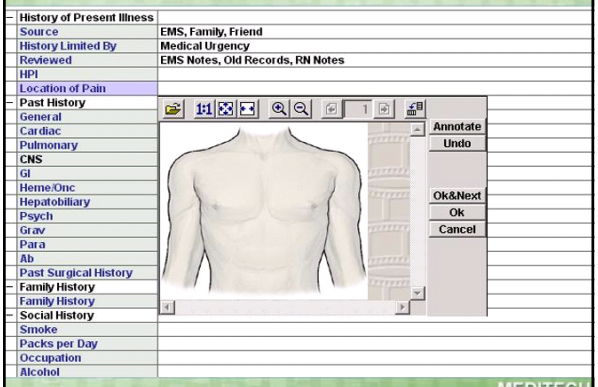

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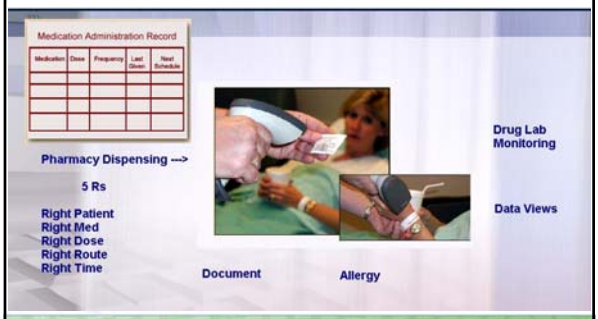
Bedside Medication Verification



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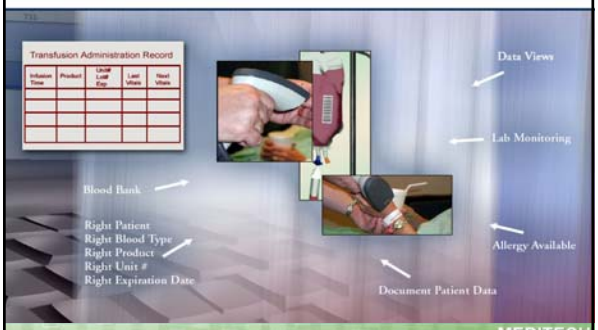
On-line Transfusion Administration Record



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Point-of-Care Documentation

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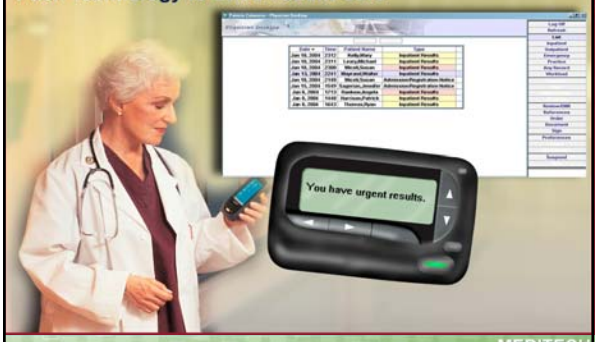
Push Technology to Drive Patient Care



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Evidence that evidence works

- Outcome Measures
  - Comparative outcomes to own population
  - National standard comparisons
- Benefits realization
  - Care requirements are met
  - Optimized outcomes are realized

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How to acquire the benchmark data?

- "better data processing"
- "massive investment in health-information technology" to track how health care dollars are spent"
- Part of stimulus package
  - Will use info to determine which treatments get the best outcomes
    - "effectiveness studies"
- May soon be a federal requirement – but this should sound familiar:

They would show subscribers how their money was being spent, what amount of good was really being done with it or whether the money was not doing mischief rather than good.

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Research on Best Practice

- Information seeking
  - PDA study
    - University of Ontario Institute of Technology
  - Information seeking behavior study
    - Provikoff,etal
    - Increased nursing satisfaction with increased availability of resources

University of Ontario INSTITUTE OF TECHNOLOGY

THE STATE UNIVERSITY OF NEW JERSEY RUTGERS College of Nursing Center for Professional Development

23rd Annual International Nursing Computer and Technology Conference

PDAs in Practice

- Study by Durham College/University of Ontario Institute of Technology Collaborative Nursing Program
- Provided three resources on PDAs
  - PDQ Nursing procedures manual
  - Nursing Drug Handbook
  - Lab Values

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PDAs in Practice

- Findings revealed
  - Near miss med errors reported
- Students reported
  - Assistance with critical thinking
  - Learned to think on their own
  - Used PDA to assist in Patient Education
  - Improved confidence levels

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Push vs pull

"75% of interventions succeeded when the decision support was provided to clinicians automatically, whereas none succeeded when clinicians were required to seek out the advice…"

Kawamoto K, et al. BMJ 2005;330:1065

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Clinical Information Technologies &Inpatient Outcomes

- Amarasingham, et al
- Cross sectional study of Texas urban hospitals (41)
- Evaluated level of automation against reduced mortality, complications, costs and LOS
- Higher scores in decision support usage
  - 16% decrease in complications
  - .91Lower costs
- Higher scores on test results, order entry and decision support usage
  - fewer complications, lower mortality rates and lower costs

– 2009 American Medical Association
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