Conflicting and Competing Message

Viewpoints

Electronic Magnetic Compatibility (Interference)

Supporting Clinicians Through Automation
Concerns on the Minds of Healthcare Professionals

- Wireless Network Hacking
- Confidentiality of Patient Data on Lost or Stolen Devices
- Small Form Factor
- Communication of Order Information in a Timely Manner
- Real Time vs. Synchronized Access
- How Many Devices Can We Support?
- Will We Require Usage?
- Incentives to Encourage Physicians Utilization
- Coordination Between Facility, Office and Home Systems
- Battery Life
- ROI

~ No Mention of INTERFERENCE ~
Vision

To provide **access** to current and historical **clinical data** at any point along the **continuum of care**.

Develop an **electronic record** with supporting data repositories that can be used to **benefit** individual **patients** while collecting the necessary data to achieve **best practice** models, enhance **health outcomes**, and **reduce cost of delivery**.
Simpler Times

- Patient Accounting/ADT
- Order Communications
- Departmental Systems
Today’s Complex Environment

- Enterprise MPI
- ADT/Patient Accounting
- Order Communications
- Advanced Clinical
- Clinical and Financial Repositories
- Electronic Medical Records
- Practice Management
- Rules Engines
- Databases
- Contract Management
- Managed Care
- Departmental Systems
The Clinical Strategy Model

- Business Intelligence
- Operational Process
- Patient Process
- Supporting People
- Individual

Source NCI
The Clinical Strategy Model

Knowledge Base
- Order Entry
- Scheduling
- Charging

Rules Engine
- Patient Intake
  - Physician
  - Patient
  - Family

Data Synchronization Engine
- Resource Availability
- Treatment Evaluations
- Throughput/Utilization
- Intake/Discharge
- Performance Improvement

Individual Support
- Supporting People
- Patient Process
- Operational Process
- Business Intelligence

The Quammen Group
Industry – Complicating Factors

- Evolving Delivery Models
- Profit vs. Non-Profit
- Cost Justification (ROI)
- Data Ownership
- Security
- Disaster Recovery
- Paperless Environment
Technical – Complicating Factors

- Operating Systems
- Platforms
- PC/Peripheral Devices
- Databases
- Integration
- Infrastructure
- Intranet, Internet

Newest Complicating Factor

- Convergence of BioMed and IT
Clinical Decision Making

Before

- RN remembers to call, then calls, calls..
- Dr. comes to hospital
- Dr. walks to floor
- Dr. attempts to find chart
- Dr. rounds
- Dr. makes appropriate clinical decisions
Clinical Decision Making

**After**

- RN electronically alerted to issue
- Automatic page sent to Dr.
- Dr. reviews information on-line from home
- Dr.’s PDA updated upon entering hospital
- Dr. reviews information while rounding
- Dr. orders on-line, at bedside through wireless network
- Dr. alerted to allergies, etc.
Improving Clinician Decision Making

- Decision making in real time, in multiple places:
  - Timely information
  - What the Doctor wants when they want it
  - More information
- Providing secured information in more places:
  - In the office, at home, on PDAs
- Providing support / assistance in decision making
### Medical Administration Record

#### Before

<table>
<thead>
<tr>
<th>Medical Record Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Name: J. Doe</td>
</tr>
<tr>
<td>Date: 03/04</td>
</tr>
<tr>
<td>Time: 12:00 PM</td>
</tr>
</tbody>
</table>

#### After

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dosage</th>
<th>Route</th>
<th>Start Time</th>
<th>End Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novolin U-100</td>
<td>1200 DUs</td>
<td>IV</td>
<td>03/04 12:00 PM</td>
<td></td>
</tr>
<tr>
<td>Acetazolamide</td>
<td>300 mg</td>
<td>IV</td>
<td>03/04 12:00 PM</td>
<td></td>
</tr>
</tbody>
</table>

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*Note: The table above is an example and may not reflect the actual contents of the document.*
Clinician’s Access to Paper Record

- Attending Physician
- Nursing
- Consulting Physician(s)
- Respiratory Care
- Case Management
- Nutritional Services
- Risk Management
- IV Team
- Patient Financial Services
- Infection Control
- Wound Management
- Pastoral Care
- Clinical Process Improvement
- Cardiology
- PT/OT/Speech
- Others

**BARRIERS**
- Record must be on unit
- All clinicians and support personnel must walk to location of chart
- One person can access the chart at a time
- Legibility of chart input
- Timely filing of data results into chart
- Finding clipboard for most current information
- MAR at different location
- Redundant information
Clinician’s Access to Online Record

- Attending Physician
- Nursing
- Consulting Physician(s)
- Respiratory Care
- Case Management
- Nutritional Services
- Risk Management
- IV Team
- Patient Financial Services
- Infection Control
- Wound Management
- Pastoral Care
- Clinical Process Improvement
- Cardiology
- PT/OT/Speech
- Others

ELECTRONIC PATIENT DATA

BARRIERS:
- System availability
- User acceptance
Wireless Challenges

- Clinical Focus
- Delivery of Quality Care
- Collaboration
- Team Work
- Transportation
- Environmental Engineer
- Plan of Care
- MIS
- Technology Group
- Regulatory Agencies
- Human Resources
- MAR/IVAR
- Assessments
- Help Desk
- Finance
- PFS
- Orders
- Collaborative Practice
- Materials Management
- Documentation
- Clinical Interventions
- Results
Living in a Wireless World

Does Your Vision...

- **Link** wireless technologies to goals and objectives?
- Consider industry **initiatives** and trends?
- Set **direction** and standards?
- Provide a **framework** for technology expansion?
- Address the changing **workforce** requirements?
- Address emerging **consumerism** in healthcare?
Living in a Wireless World

“Start small. Learn. Measure the risks. Ensure there’s a business benefit. Then go.”

Conclusions

- **Heighten** Awareness of EMC (Research, Promotion)
- **Provide** Concrete, Actionable Data (Standards)
- **Unite** IT and Bio-Medical Disciplines Around This Topic
- **Educate**, Educate, Educate