HEALTHCARE IT EXECUTIVE PANEL DISCUSSION

August 26th

10:45 – 12:15

Moderated by

Noah Brown, Vice President,

CAPSTONE PARTNERS LLC

The Panelists

2003

Panelists:

2003

- **Chris Haudenchild, CEO, CliniComp Int'l**
- **Donald W. Rucker, M.D., VP, CMO**
  Siemens Medical Solutions USA
- **Barry P. Chaiken, MD**
  Vice President, Medical Affairs
- **Joseph Bormel, QuadraMed Corporation**
- **David Schlotterbeck, President and CEO**
  ALARIS Medical Systems
- **Richard Pope, MD**
  Senior Medical Scientist, MEDITECH

Chris Haudenschild

2003

- *President and Chief Executive Officer of CliniComp Intl., Inc.*
- 30 years in the medical electronics field.
- BS in Physics from San Diego State University and a MS in Physics from UCLA
- In 1983, founded CliniComp Intl. in order to optimize medical information systems and improve the efficiency and quality of clinical charting in hospitals.
- To date, CliniComp Intl. has realized the largest installation of clinical information systems in the world

David Schlotterbeck

2003

- David L. Schlotterbeck is a member of the Board of Directors, and is the President and Chief Executive Officer of ALARIS Medical Systems, Inc.
- He was elected to this position in November, 1999.
- Mr. Schlotterbeck joined ALARIS Medical Systems, Inc. in April, 1999, as President and Chief Operating Officer.

Barry P. Chaiken, MD, MPH
Vice President, Medical Affairs

2003

- McKesson Corporation
  - Clinical thought leadership
  - Strategic development
  - Focused on patient safety issues
- Quarterly quality and technology column
  - Journal for Healthcare Quality
- SVP, Medical Affairs – ABQAURP
- Harvard School of Public Health – MPH
- General Preventive Medicine and Public Health

Don Rucker, VP and CMO Siemens Medical Solutions USA

2003

- Don Rucker, is the VP and CMO of Siemens Medical Solutions USA
- Dr. Rucker is a graduate of Harvard College and the University of Pennsylvania School of Medicine with Board Certifications in Internal Medicine and Emergency Medicine.
- He holds a Masters in Medical Computer Science and an MBA, both from Stanford.
- Dr. Rucker came to Siemens from Beth Israel Deaconess Medical Center in Boston where he served as the first full-time Emergency Department attending and from Datamedic Corporation where he co-developed the first Microsoft Windows based electronic medical record.
- He is also an attending physician practicing emergency medicine in the University of Pennsylvania Health System.

Joseph Bormel, QuadraMed Corporation

2003

- Vice President for Patient Care Product Management
- Medical training in Internal Medicine, Rheumatology, Informatics and Public Health (MD, MPH, BC credentials)
- Practice experience in each of above as well as Managed Care, Medical Management, and Physician Executive roles
- Ten years HIS industry experience, including peer-to-peer relationship development in sales, product development and implementation

Richard Pope, MD
Senior Medical Scientist, MEDITECH

2003

- In 1983, he joined MEDITECH and has been the architech of MEDITECH's applications to assist clinical practice, including Patient Care Inquiry.
- Sr. Medical Scientist, directing their Physicians Informatics Program and chairs MEDITECH's Physician Advisory Committee and is editor of their Physicians Web Site.
- Trained in both medicine and computer science and has designed clinical information systems for more than 20 years.
- He received both his MD degree and Master of Science (Computer Science) from the University of Wisconsin, Madison.
- Internist at Beth Israel Hospital for 5 years

CEO Panel Questions - # 1

2003

- Can each of the panelist give us a brief description of how your firm is trying to meet the challenges by the CPOE and Patient Safety marketplace?

CliniComp - Clinician Workflow

2003

PRIORITIES

Decision Support

- **CPOE, Complex Patient Assessment (e.g. SOFA)**

Physician Documentation

- **CPOE, H&P, Progress Notes, Consults, Procedures, Discharge Summary**

Nursing Documentation

- **VS, IO, e-MAR, Respiratory, Notes, Labs**

CliniComp - Clinician Workflow

2003

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MD++

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MD++

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Bar Coding

Strategies to Prevent Errors

2003

- Minimize likelihood of creating errors
- Enhance communication
- Create multiple checks
- Identify unstable situations
- Monitor changes
- Make errors apparent when they do exist and allow quick recovery

Our Strategies to Increase Safety 2003

- Simplified Access
- Comprehensive Information
- “Just in Time” Knowledge
- Notifications
- Consolidation of Information
- Coordination
- Focus on Outcomes
- Patient Involvement

QuadraMed Approach

2003

- Platform the integrates the CPR functions (Gartner)
- The Users' experience re-visited
- Technologies and Standards of the 21st Century
  - Information Structure
  - User Interface more anticipatory and Google-esque
  - Built for Knowledge Management
- Content: self-serve build, auto-identified, service approaches

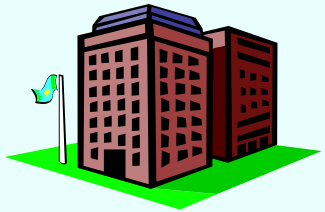
Gartner's Defining the CPR

2003

Community Hospital

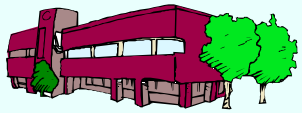
Tertiary Hospital

Physician's Office

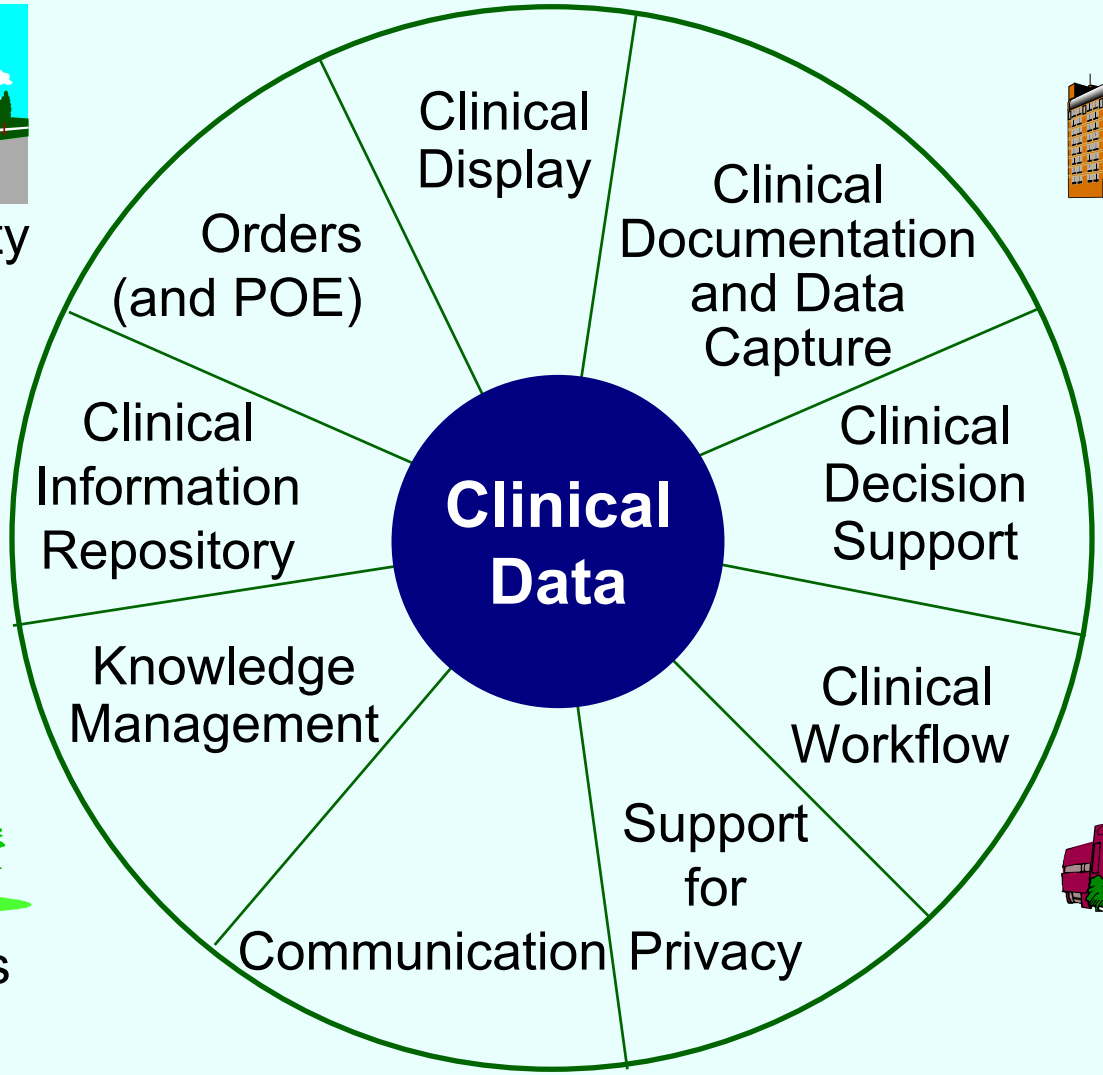


Long-Term Care/Rehab.

Patient's Home

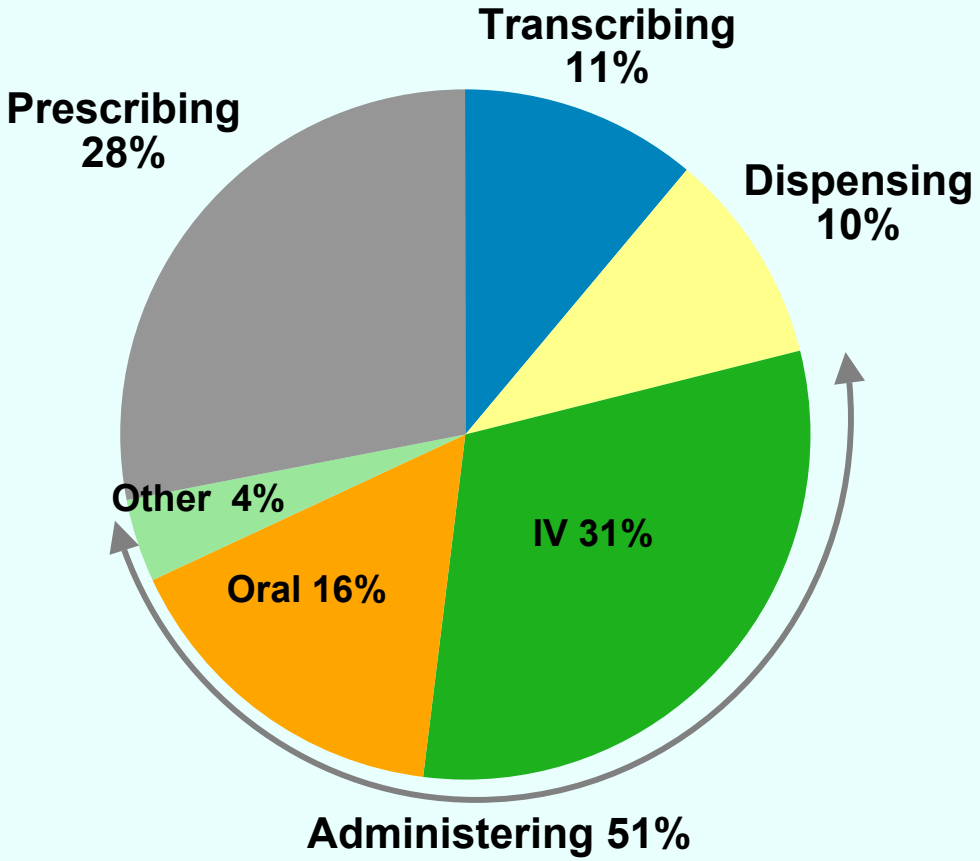


Local Clinic



Where is the Risk of Harm?

2003



IV errors represent 60% of administration errors

Safety You Can Measure

2003

- Data from 7 hospitals
- Covering 39,000+ patient days
- Analyzed referencing NCC MERP and internal method for severity of harm
- Normalized to show a 350-bed hospital over 3 months of time

Guardrails® Alert (11/21/2001)
4:38 AM insulin, regular (100u / 100mL)
Programmed Dose = 7 unit/kg/hr
Dose Above Maximum Limit:
Maximum Limit = 0.1 unit/kg/hr
Soft Guardrails® Warning:
Response = No (Do Not Proceed)

Subsequent Programming
4:39 AM insulin, regular (100u / 100mL)
Dose = 0.10 unit/kg/hr
Rate = 6.8mL/hr

Central issue # 2

2003

- What do you believe is the central issue in improving patient safety and healthcare delivery?

QuadraMed

2003

- Anticipate each user's needs and each patient's needs is a developing critical competency;
- Transcends providing information access
- Transcends alerting, process-specific decision support and expert systems, EBM, technology specifics and other constraints.
- Requires a sophisticated technology for authoring, managing preferences, and dealing with certainty and social agreement.

Causes of Errors

2003

- Error results from physiological and psychological limitations of humans
- Errors seldom result from a single cause; rather result from a concentration of contributing factors (checks and balances are bypassed).

Helmreich RL. On error management: lessons from aviation. BMJ 2000; 320: 781-785

Question # 3:

2003

- What are the major deficiencies in current CPR systems that need to be corrected to achieve better error reduction?

Major Deficiencies of Current CPRs

2003

- The time to install and implement these complex systems create higher costs and project risks than most organizations would prefer.

- The advanced decision support required to achieve better error reduction requires more computational power than most 20th century architectures can deliver while maintaining think-speed response times.

- 20th century systems evolved information models to address application-specific needs, rather than delivering the Reference Information Modeling necessary to support cross-silo reasoning required for comprehensive patient safety functionality.

Question # 4

2003

- "How is physician adoption addressed in the design of CPOE tools?
  - Please speak about both cultural and technical factors.

#5 . Questions

2003

- **Do you think a core CIS documentation system is needed to insure the effective installation of CPOE?**

- Chris Haudenchild, CliniComp Int'l

Clinician Workflow

2003

PRIORITIES

Decision Support

- **CPOE, Complex Patient Assessment (e.g. SOFA)**

MD++

Physician Documentation

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Bar Coding

6 CEO Panel Questions

2003

- What do you perceive are the current barrier to adaptation?

Barriers to adopting CPOE

2003

- Investment expense at a time when HCOs face enormous financial pressures
- Visionaries and getting the IOM message
- MD acceptance: Cultural and political factors
- Planning the transition: Timing vs. the big bang
  - Handling the challenge of HCO having partial CPOE and simultaneous paper

7 - Engaging physicians

2003

"What's in it for physicians?"

- Key features that positively impact physician workflow and efficiency:
  - Remote access
  - Instant access to data
  - Order sets
  - Electronic signatures
  - Wireless mobile devices

#8 . CEO Panel Questions

2003

- **Why is physician acceptance such a challenge, and what can be done to ensure successful adoption?**

Physician Acceptance Issues

2003

- Order writing is a high-volume *inner loop* activity -- even a little slowdown is intolerable
- “Writing orders” is at the core of physician status and autonomy
- These two impacts trigger *emotional* responses -- and emotion trumps logic any day

Speed to Impact

2003




	Prescribing	Transcribing	Dispensing & Distributing		Administering & Monitoring	
Technology Solutions	**CPOE**	**P.I.S.**	**Cabinets**	**Robots**	**Bar Code Systems**	**"Smart" Medley™ System**
Cost of Acquisition	**$7.9M**	**$0.5-1M**	**$0.5-3M**	**$1-3M**	**$0.5-2M**	**$2-3M**
Time to Implement	**18-36 months**	**6-12 months**	**4-6 months**	**6-12 months**	**6+ months**	**90 days**

"Smart" Medication Delivery Systems at Point-of-Care: Immediate and Cost Effective

Source: Health Care Advisory Board, "Reducing Adverse Drug Events", 2000
Costs, Benefits, and Challenges of CPOE, First Consulting Group, Jan 2003

Supporting Cultural Change

2003

Make IT a Clinical Initiative

- Define Strategic Needs
- Support Thought Process
- Streamline Workflow
- Enhance Communications
- Demonstrate Results

#9 CEO Panel Questions

2003

- Are there some CPOE design principles that can be outlined?

User-Centered Design

2003

- Data display
  - Should look like a clinician - in the user's specialty - might have designed it
  - Must be tailorable, but not require engineers to change software code
- Data entry
  - Driven by clinician mindflow, not back-end needs
  - Use common clinical terms, not reference terminology
  - Minimize clicks and banish typing
- Accommodate real-world workflows
  - Linear and orderly - sometimes
  - Interrupted and resumed - frequently
  - Multiple parallel processes, instantaneous switching

Leading “Smart” Technology

2003

- Flexible configuration: Modules can be added or removed as needed
- Asset management: When channels are not in use they can be removed and returned to inventory
- Ease of transport: One power cord, battery, and user interface for four devices
- Integrates bedside devices with common user interface and alert system

#11 - Question:

2003

- What types of medical errors will be most readily solved using automation and which types of medical errors are least likely to be solved using automation?

What types of medical errors will be solved by automation and which wont?

2003

- Errors caused by human failings of memory, illegibility, ambiguity of look-alike, sound-alike drugs, and quantitatively assessed process checks like dose-range checking will be improved by automation.

- Errors rooted in uncertainty, lack of social agreement, complexity, fatigue, and distraction will see less improvements.

- And, of course, there is a danger of introducing new errors, such as over-confidence and false reliance of automated processes.

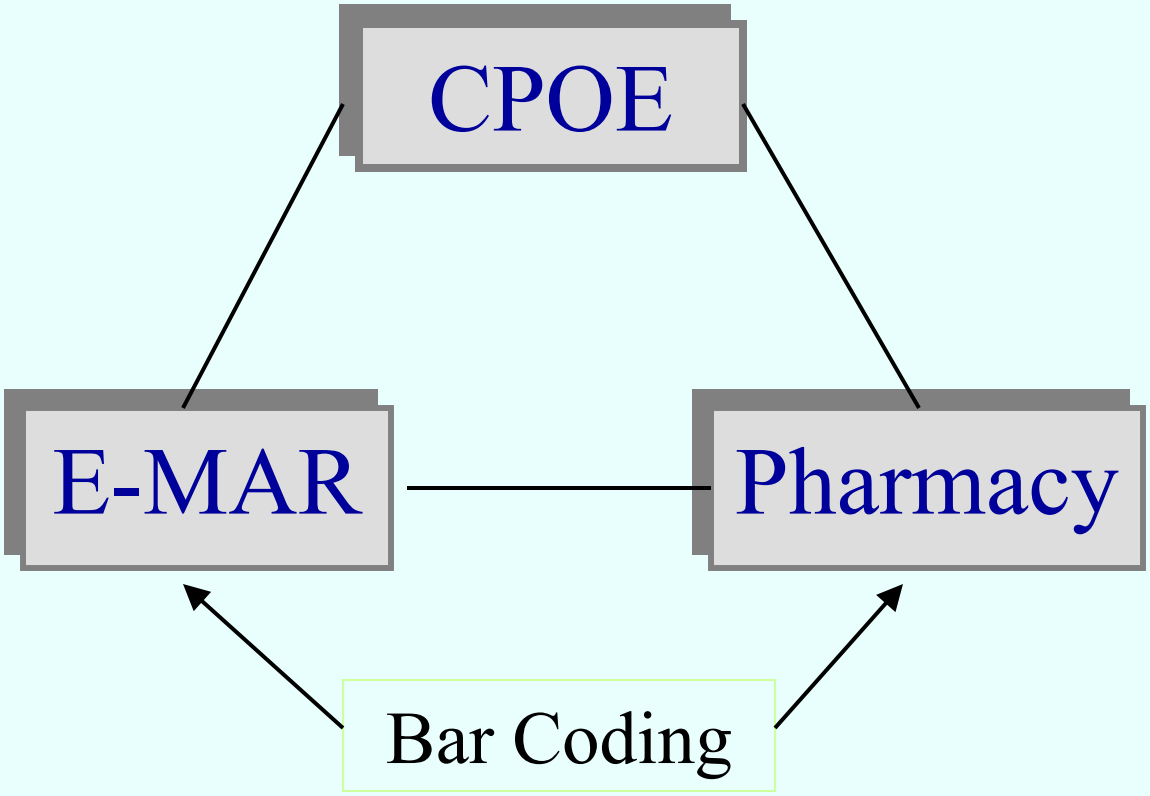
12. Questions

2003

- Perspectives on standards development and knowledge sharing by information technology vendors

Integration

2003



Perspectives on standards development and knowledge sharing by IT vendors

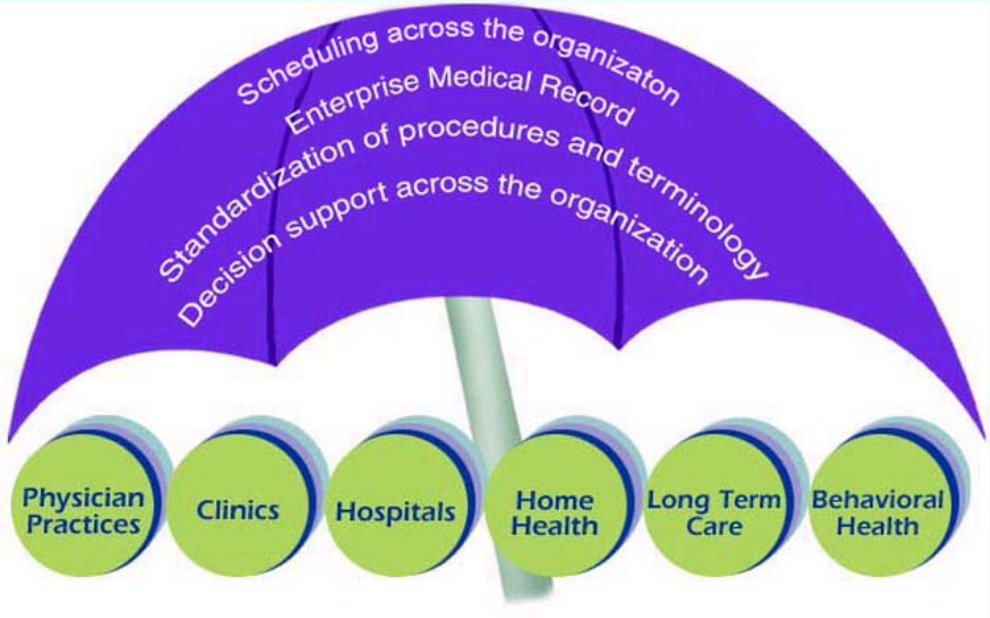
2003

- Promising:
  - HL-7 Reference Information Modeling, Reference Terminologies, and Messaging (CDA, EDI, etc)
  - Virtual integration using web-enabled services
- Over-rated:
  - Pre-packaged, contextually relevant knowledge-packets that drop in across vendors (without first establishing the promising technologies above) and are freely available from public domain sources that are professionally maintained
- Recommended investment:
  - An underlying architecture that meets the above ‘promising’ issues
  - Products and tools that exploit the HL-7 standards to enable clients to strategically embed knowledge today to achieve near horizon objectives for patient safety, quality and performance improvement.

Key Technical Building Blocks

2003

- Integration of databases and applications
- A common patient database across the enterprise
- Standardized nomenclature and conventions



Now we would like to take questions from the audience.