Cutting Edge Technology in Healthcare

Duncan James
Group President
McKesson Information Solutions

Agenda

- Healthcare Overview
- Improving Quality and Cost
- Barriers to Change
Healthcare is the Nation’s Largest Industry

Breakdown of the 2001 GDP

- Healthcare (~15%): $1,400
- National Defense: $366
- Education: $700
- Other: $6,749

Spending Exceeds Other Nations Impacts Ability to Compete Globally

% of GDP: 1998

Source: Organization for Economic Co-operation and Development
Headlines Highlight Problems

- Medical Errors May Cost Up to 98,000 Lives A Year
- $200 - 250 Billion in US Healthcare Costs Due To "Unmanaged Variation"
- Data Missing in 81% of Clinical Encounters
- 250K 'Scripts Written Each Year, Result in AES'
- Preventable AEs Cost $2B Annually in In-Patient Setting Alone

Quality and Patient Safety Now Major Issue

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Lives Lost per Year</th>
<th>Number of encounters for each fatality</th>
</tr>
</thead>
<tbody>
<tr>
<td>DANGEROUS ( &gt;1/1000 )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain Climbing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bungee Jumping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REGULATED ( &lt;1/100K )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Driving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chartered Flights</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Manufacturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ULTRA-SAFE ( &lt;1/100K )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Airlines</td>
<td></td>
<td></td>
</tr>
<tr>
<td>European Railroads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear Power</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: both dimensions are logarithmic scales
Agenda

- Healthcare Overview
- Improving Quality and Cost
- Barriers to Change

McKesson
Leader in Healthcare Technology

- $40+ billion revenues, Fortune 50
  - Information Technology
  - Distribution
  - Supply Chain Management
- Broaderest customer base in healthcare
- 25,000+ employees solely dedicated to healthcare
Healthcare Quality and Cost Problem

Three Primary Contributors:

- Information Access
- Variability of Care Delivered
- Medication Management Process

Information Access

Patient information is paper-based

Whoever has the patient’s chart has all the information

Fragmented care delivery system

Hospital  MD Office  Long Term Care
Information Access
Causes of Poor Treatment Decisions

- Lack of Drug Knowledge (36%)
- Lack of Patient Information (33%)
- Rule Violation (11%)
- Slips and Memory Lapses (19%)

Information Access
Anytime, Anywhere Access

- Physician Portal -

- Hospital
- Office
- Home
- On the Move
Variability of Care

Today’s Problems:

- 80% of healthcare dollar determined by care providers at the point of care
- 22,000 new journal articles each year
- 30+ new prescription drugs each year
- Variations cost $250 billion a year

Variability of Care
Traditional Ordering Process

Evidence Based Guidelines

Relevant Patient Information

Clinical Content

Places Orders
Real-time clinical decision support

- Integrated information
- Heads up display
- Just in time advisor

Clinical content

- 933 order sets
- 6,250 clinical orderables
- Multiple disciplines – OB, Oncology, etc
Vanderbilt University Medical Center
Physician Order Entry Results

- 10,000 orders generated per day, 70% by physicians
- 500+ warnings or advices per day
- $5.0 million annual reduction in pharmacy costs, excluding the value of ADE prevention
- $1.1 million annual reduction in x-rays

Medication Management Process

Today’s Problems:
- Overwhelming Cost to Human Live – 7,000 Deaths per Year
- Numbers of Serious ADE’s Underestimated
- Annually $2 Billion for Preventable ADE’s

Medication Management Process
Errors at Every Step

- Prescribing: Computerized Physician Order Entry, Clinical Screening
- Transcribing: Electronic Order Transmission, Eliminate Paper and Data Re-entry
- Dispensing: Bar Coding, Robotics, Centralized and Decentralized Dispensing
- Administering: Bar Coding Point of Care Check "5" Rights
- Monitoring: Clinical Alerts, Lifetime Record

Agenda

- Healthcare Overview
- Improving Quality and Cost
- Barriers to Change
Barriers to Change

- Physicians slow to adopt new technology
- Capital Constraints
- Culture shift - Hospitals spend <3% of operating budgets on IT
- Difficult to prove ROI

Summary

- Healthcare industry large, growing
- Cost impacting competitiveness
- Information technology key enabler for quality and cost improvements