

# Electronic Records / Clinical Information Systems (CIS) and Global Markets

**November 2014**



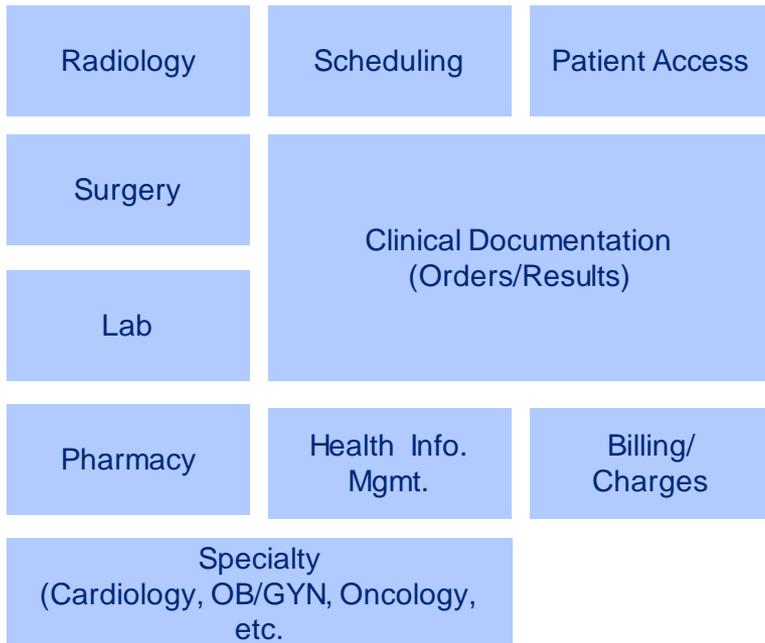
# What is a Clinical Information System (CIS)?

A Clinical Information System supports the integrated delivery and documentation of healthcare services provided across the patient lifecycle.



## In Hospital

A CIS is typically comprised of an electronic “chart” that stores clinician documentation and acute care information captured by integrated departmental modules.



## Outside Hospital



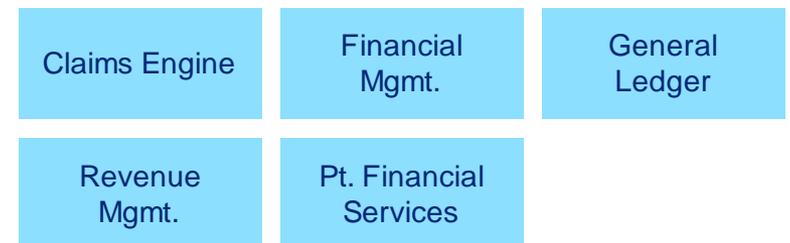
Many CIS solutions integrate to ambulatory care records, and, increasingly, can manage data flow to health information exchange networks and mobile monitoring solutions.



## Business Office



Charges produced through clinical services are integrated to the organization’s financial management systems.



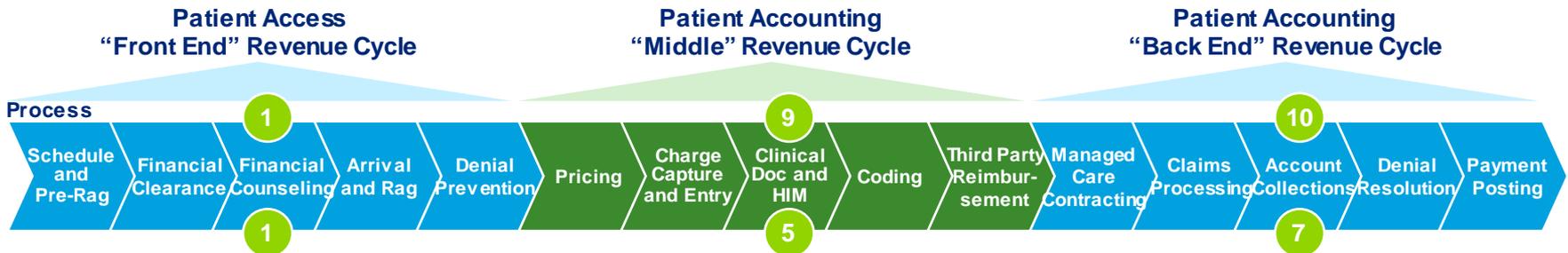
# Major Processes in Acute and Ambulatory Care

Clinically, acute care is more complicated than ambulatory care. The revenue cycle remains similarly complex in both settings. International clients will often not require the functionality of the revenue cycle in the back-end processing

## Phases of Acute (Inpatient) Care



## Phases of Revenue Cycle (Inpatient or Outpatient)



## Phases of Ambulatory (Outpatient) Care



# Why CIS: Market Drivers apply to Global Markets

Goals/Drivers	Current Situation	New Frontier
<b>Enhance Clinical Quality and Patient Safety</b>	<ul style="list-style-type: none"> <li>▪ Limited use of Enterprise Health Systems</li> <li>▪ Patients concerned about confidentiality and price</li> <li>▪ Incidents of preventable deaths</li> </ul>	<ul style="list-style-type: none"> <li>▪ Requiring the use of clinical information systems</li> <li>▪ Implementing cohesive legislation</li> <li>▪ Developing preventable measures to fatal mistakes</li> </ul>
<b>Improve Operational Performance / Decision Making</b>	<ul style="list-style-type: none"> <li>▪ Paper documentation methods</li> <li>▪ No uniform system of reporting</li> <li>▪ Minimal universal safety check techniques</li> </ul>	<ul style="list-style-type: none"> <li>▪ Electronic medical records</li> <li>▪ Handheld devices for collecting and reviewing data</li> <li>▪ Decision tools and support programs</li> </ul>
<b>Provide for Interoperability Data</b>	<ul style="list-style-type: none"> <li>▪ Weak communication among health clinicians</li> <li>▪ Data misinterpretations across providers</li> <li>▪ No uniform way of storing health records</li> </ul>	<ul style="list-style-type: none"> <li>▪ Standardization of medical terminology</li> <li>▪ Clinical data repositories</li> <li>▪ Uniform methods of managing IT</li> </ul>
<b>Retain &amp; Attract Clinical Personnel</b>	<ul style="list-style-type: none"> <li>▪ Providers developing favorable/unfavorable reputations</li> <li>▪ There is a “war” on attracting and retaining the best resources</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reward programs for quality providers</li> <li>▪ A “tool” to help win the war for talent</li> </ul>
<b>Sharing Patient Data Across County Health Systems</b>	<ul style="list-style-type: none"> <li>▪ Few healthcare organizations have the ability to share patient data across health system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Healthcare organizations are participating in Health Information Exchanges (HIEs) to share patient data between health systems</li> </ul>

# Key Trends in the CIS Global Market

**1**

**More sophisticated systems**

**2**

**Replacement of Legacy Systems**

**3**

**Content /Workflow Tools**

**4**

**System Flexibility**

**5**

**Data Share**

**6**

**Turn-key Installs**

**7**

**Value-based delivery**

**8**

**Community Model of  
“Interoperability”**

**9**

**Bundling/Focus on Specialties  
Modules**

**10**

**Ambulatory Strategy**

**11**

**Device Integration**

**12**

**Reporting / Predictive Analytics**

**13**

**M&A Activity**

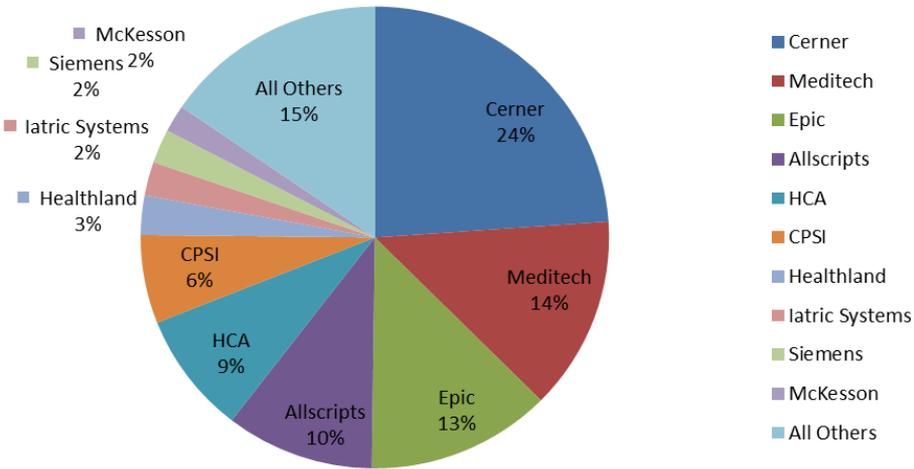
**14**

**Regulatory Requirements**

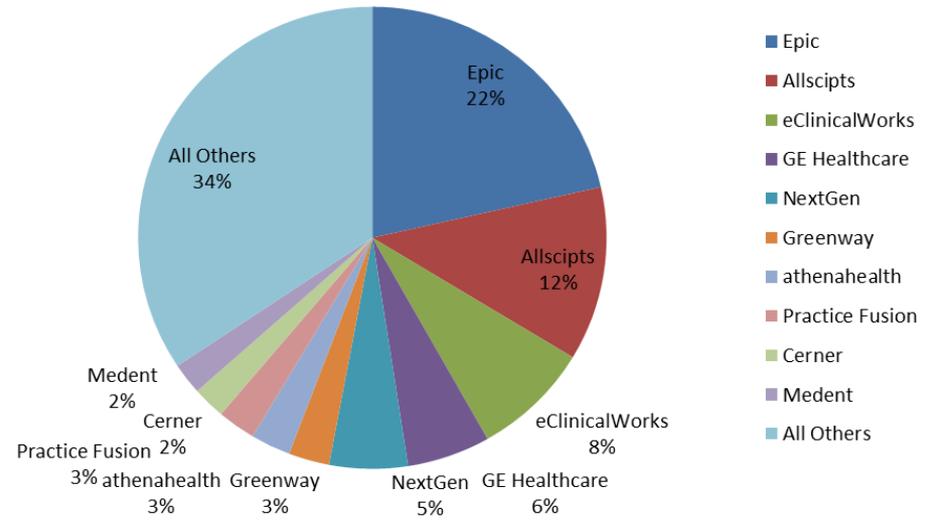
# Key Vendors in the US Market moving to Global

## CIS Vendor Market Share

### Inpatient Vendors



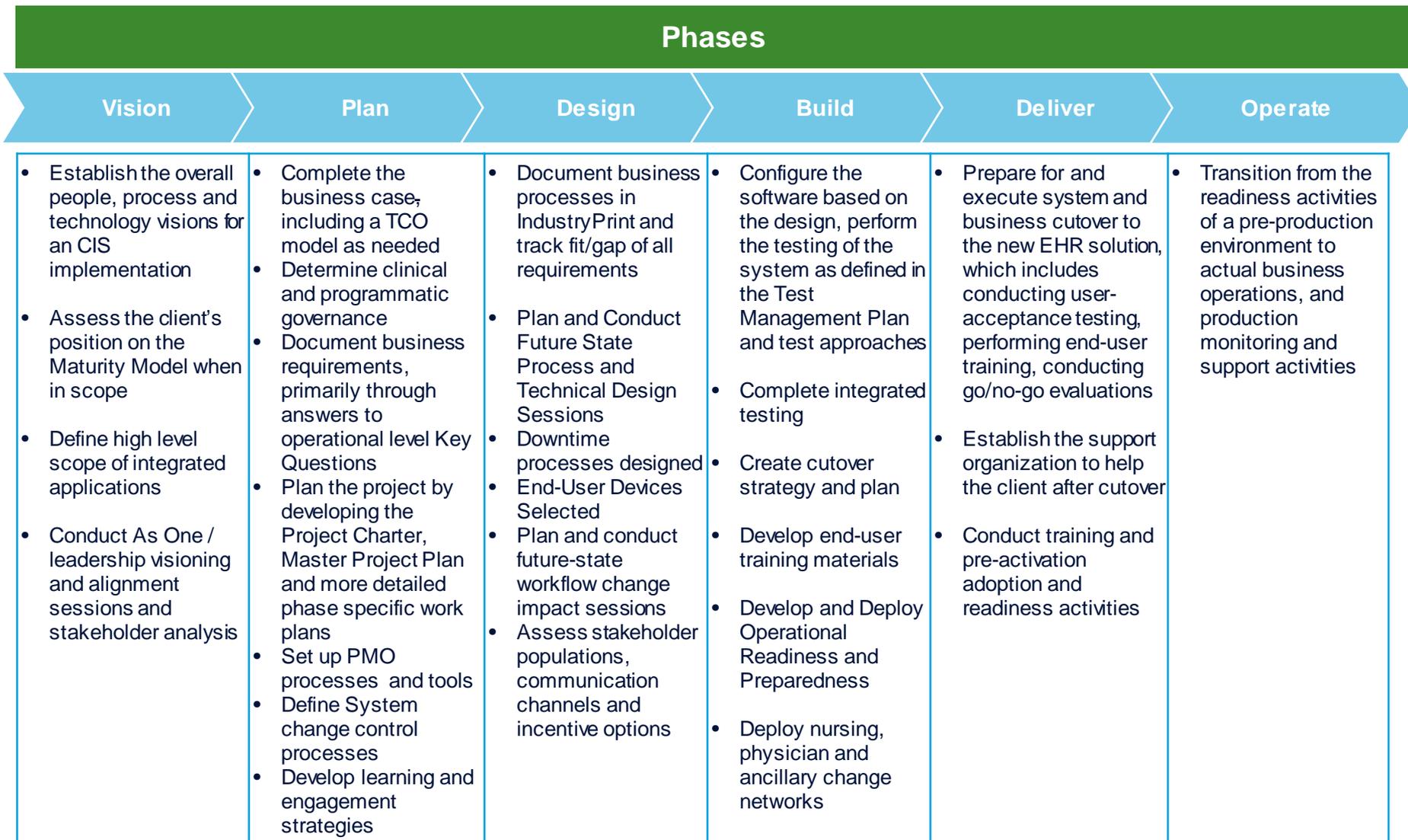
### Ambulatory Vendors



## Ranked Top 10 Across Inpatient & Ambulatory Services:



# Typical Phases of an CIS Implementation are consistent across countries



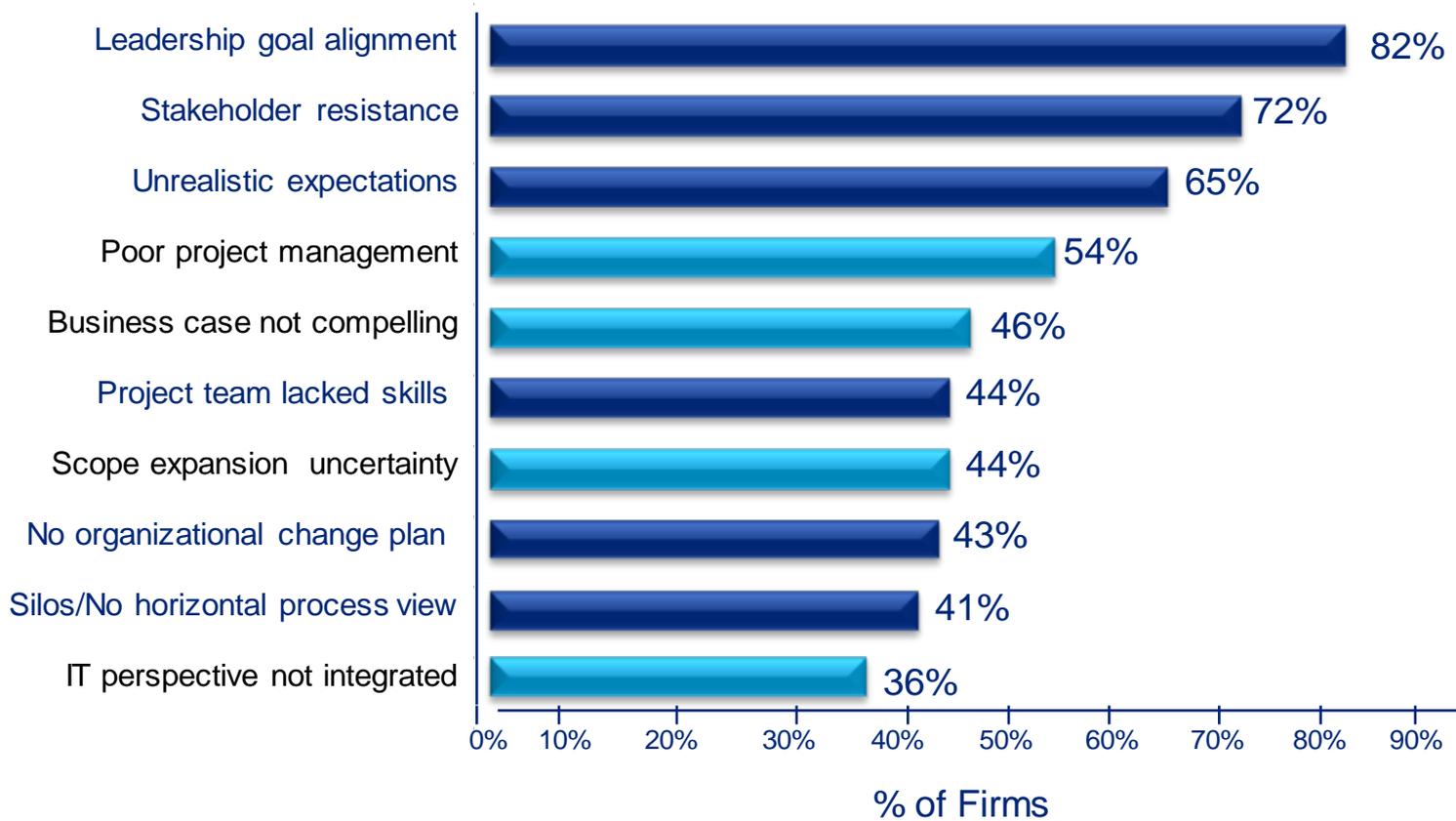
**Project Management, Quality Management and Value are phase independent.**

# Global considerations

- **Differences between developed, developing, and third world countries**
  - Standard protocols for evidence-based medicine will differ
  - Access to expensive equipment and pharmaceuticals will be different
- **Financial component of CIS will differ considerably country to country**
- **Vendors will drive process change**
  - Vendors will change their software to accommodate local country-specific processes in some cases
- **Knowledge workers from US are needed in other countries**
- **EMR vendors concerned about Intellectual Property, other county-specific dynamics**
- **Significant government funding brings some challenges**
- **Lack of healthcare IT standards**
  - Some standards are being adopted (HL7)
- **Cost of CIS systems will become more affordable within countries**

# Challenges of IT Implementations within Healthcare across countries

Lessons Learned – The Challenge of IT Implementations within a Health Care Setting



*Change Leadership issues are noted in blue*  
Source: Deloitte CIO Survey