Impact of IT in the Healthcare sector

Macro trends and forces that will shape the Healthcare Industry in the next decade

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Objectives:

(1) Set a framework to identify and evaluate areas of opportunity in IT/healthcare

(2) Understand the human factor: we tend to underestimate the challenge of getting people to use the technology
“YOU ARE HERE”
The healthcare value chain as a roadmap for IT initiatives

PAYERS
- Individuals
- Employers
- Employer coalitions
- Government

INTERMEDIARIES
- Insurance companies
- HMOs (health maintenance organizations)

PROVIDERS
- Physicians
- Nurses
- Hospitals
- Pharmacies
- Labs
- IDNs (integrated delivery networks)

PURCHASERS
- GPOs (group purchasing organizations)
- Wholesalers
- Distributors

PRODUCERS
- Drug manufact.
- Device manufact.
- Biotech manufact.

The healthcare value chain vs. the complexity of organizational change (some examples)

INFORMATION
- Information to patients
- Measuring tools

MARKET INTELLIGENCE
- Market intelligence

MEDICAL CONTINUING EDUCATION
- Medical continuing education
- Decision Making soft.

PROCESSES
- Online payment
- Online referrals
- EMRs
- E-order entry systems
- "Paperless hospitals"

PROVIDERS
- Payments to physicians
- B2B marketplaces
- E-procurement
- E-logistics
- Telemedicine

PURCHASERS
- Research and development operations

PRODUCERS
- E-detailing
- Disease Management Programs
- Health personal management (at home)
Paperless hospitals: Why?
The question behind the question

“We had to take expenses out of the equation, and the easiest way was to get rid of all people moving paper around”
Anonymous General Manager

• In 2005, 12 paperless hospitals in the US: Healthsouth building a 125m$ “all digital” hospital
• Need to rethink physical structures:
  - Easy access to computers
  - Wireless
  - Reduce staff

IS “IT” RESHAPING THE VALUE CHAIN AND THE VALUE PROPOSITION?

• Healthcare industry is undergoing a critical re-evaluation of its business model
• It is necessary to understand how IT affects the basic “value proposition” that the industry offers to its customers
• The notion of what constitutes value from the perspective of the customer may be changing: The knowledge component is more and more important today, and building intelligence into any service can enrich the value proposition
HOW?

(1) By reducing friction in transactions:
Have you ever tried to obtain a referral from one MD to another? Barriers, documents loss, ensemble information from various locations...

(2) By reducing the asymmetry of the information
Eradication of the “local standards of care”

(3) By collapsing the value chain?
On disintermediation and subtle forms of disintermediation. Can the physician be disintermediated?

(4) By extracting the knowledge component
The concept of ATMs in healthcare. Self-service information

(5) By creating new players? Infomediaries?

INFORMATIONAL IMPACT

(1) On physicians:
Medical continuing education (CME) initiatives are an excellent example on how physicians are using IT.
INFORMATIONAL IMPACT

The future of MCE?

INFORMATIONAL IMPACT

(2) On patients:

The “I am sorry doctor, but again, I disagree with you” syndrome, or how today’s patients are completely different from XXth century patients.
E-DETAILING

Impact of information on pharma companies

Sales reps won’t be replaced by technology, but their efforts will be complemented by e-detailing. E-detailing will change the sales model:

• Revenue per rep has been falling year after year
• Time to see the physician going down
• Tough regulations concerning the limits to presents
• # of new drugs per year has skyrocketed

Rationale for e-detailing?

1. Traditional sales activity is reaching a saturation point
2. Demonstrable ROI: less sales forces, more profits
3. MDs welcome this approach, gives them convenience

WIIIFM (“What is in it for me?”)

Physicians

• Control over when and where
• Incentives offered by pharma companies
• More information available

Pharma

• New sales opportunities
• Better understanding of the physician, and better service
• Cheaper, flexible costing
• Great tool for measurement (tracking activity, feedback per location, per sales rep, per physician, per hospital...)
PROCESSES IMPACT

EMRs are large scale, high payback projects, requiring vision and clinician buy-in.

It is difficult to get to the right upper quadrant in the PAIN vs. GAIN matrix, but if we wait long enough, costs go down and quality goes up.
SERVICES IMPACT

Disease Management Programs are being fueled by IT

Direct and Indirect proven outcomes (measurable):

- In Belgium and Netherlands, decrease of 33% of complications in Diabetes
- In asthma patients, less emergencies visits, and therefore less costs for the system and more quality of life.

Telemedicine will complement traditional healthcare, never substitute it
<table>
<thead>
<tr>
<th>Table 1: Examples of UMTS/wireless applications for medical professionals</th>
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</thead>
<tbody>
<tr>
<td><strong>Wireless disease-management programs</strong></td>
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<tr>
<td><strong>Control of therapeutic fulfillment</strong></td>
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<tr>
<td><strong>Scientific investigation protocols</strong></td>
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<tr>
<td><strong>Management of consultations, visits, payments</strong></td>
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<tr>
<td><strong>Electronic prescriptions</strong></td>
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<tr>
<td><strong>Emergency medicine</strong></td>
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<tr>
<td><strong>Mobile medical record</strong></td>
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<tr>
<td><strong>Mobilecast® events</strong></td>
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<tr>
<td><strong>Access to medical, clinical or pharmacological guides</strong></td>
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<tr>
<td><strong>Updated news</strong></td>
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Implementation barriers

Cultural:
- MDs fear
- Poor communication
- Slow movers when changing

Organizational:
- Protect the status quo
- No innovation infrastructure
- No benchmarks

Technological:
- Latency
- Legacy
- Security
- Complexity of data

Financial:
- Low operating margins
- User and purchaser are usually different

Market:
- Fragmentation of end user
- Overwhelming amount of e-health products

Regulatory:
- Lack of standards
- Privacy regulations
- Laws
HEALTH / IT SCENARIO TODAY

Climate for a change

Growing demand and limited supply

Rising costs

Customer dissatisfaction

Message for health providers and payors:

Your customers are UNHAPPY

Opportunities for IT to reshape these problems

HEALTH / IT OPPORTUNITIES

What’s hot?

• Education
• Health promotion
• Disease Management Programs
• Telemedicine
• Knowledge mgmt.
• CME
• Clinical trials
• Research
• Patient mgmt.
• E-procurement
• E-prescribing
• EMRs
• HR mgmt.

PATIENTS

GOVERNMENTS

PHYSICIANS

INSURANCE

HOSPITALS

PHARMA

• Process re-engineering
• Measure tools
• Intel tools
• Incentives to invest in IT

• Providers mgmt.
• Process automatization
• Disease mgmt.

• E-detailing
• E-procurement
• Sales mgmt.
• Clinical trials
ACTION STEPS

• Doing nothing?

Pressure to maintain status quo may be stronger than to implement disruptive and very costly solutions in some institutions, but this is ruining the system.

• Anticipate healthcare demand driven needs

• Evidence based MANAGEMENT: use IT to measure things and to manage rationally.

• Governments: Develop incentives to invest in IT, and drive standards setting.