Bridging the Paper Chasm in Healthcare Communications
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"Ascom strives to close the digital information gap allowing for the best possible decisions -
anytime and anywhere."
Agenda

• The healthcare challenge – hurdles and opportunity of digitalization

• Digitalizing Workflow and Workforce Orchestration - Examples

• Summary of Findings and Experiences
Learning Objectives

• Describe and understand the drivers for more clinical-based inputs around hospital technology decisions and implementations

• Illustrate how, via an integrated workflow intelligence approach, companies can reduce pain points throughout the organization by connecting the right person to the right information, at the right time.

• Discuss real-life example of how technology solutions and software architecture capabilities combine for customized integration and mobilization solutions for efficient workflows and measurable process improvements.
Today’s healthcare environment

Demand and supply in Healthcare

$$(\text{price/cost})$$

HC volume

demand

.supply
Affordability challenges

- Aging Populations
- Scientific Progress
- Slowing GDP growth

\[
\text{HC volume} \quad \rightarrow \\
\text{\$ (price/cost)} \quad \leftarrow
\]

\[
| \quad | \\
\]
Either ... or??

Contract volumes

or

Increase % of GDP

$\frac{\text{price}}{\text{cost}}$

HC volume

Increase % of GDP
The 3rd way: Process Technology

- Every other industry in the past generation has dramatically benefited from digitalization through
  - Process efficiency – speed through standardization
  - Increase in quality – reduction of adverse events
  - Early warning through reporting – sooner is always cheaper!
Why is digitalization hard in healthcare?

Because…. it’s ad hoc

... and it’s mobile

Source: Institute for Healthcare Optimization, Newton, MA (E.L.); and the Institute of Medicine of the National Academies, Washington, DC (H.V.F.).
So... what does it mean?

• We need to bridge the paper chasm and reach the workflow at the Point of Care!
To build the bridge, we need three criteria

Mobile means: everywhere, anytime!

Ad Hoc means: Communication (synchronous and asynchronous)

And…
Workflows are provider (i.e. nurse) centric
(and not patient centric like medical information)
Our Vision

- Bring the ROI of IT investments to bear by bridging the chasm
- Use documentation (i.e. data) to manage risk (and lower insurance fees), not just reimbursement
- Drive compliance in the workflow
- Connect the dots!
- Strive to close the digital information gap allowing for the best possible decisions - anytime and anywhere.
Integrate the POC workflow

Medical Device Gateway
- Bi-directional device connectivity
- Vitals and alarms
- Medical device settings

ICU & OR
- Decision support, information aggregation

Device Mgmt
- Dispatch
- ACD / Skill-based routing of tasks
- KPI tracking
- Coordinate robot devices

Nurse Call
- Smart room technology interacting with mobile devices
- Alarms
- Presence information

Mobile
- Information within clinical context
- Alarms
- Responses Documentation

Tasks Documentation

Data
- Tasks data
- Data

EMR and other systems

Integrate the POC workflow
When integrating the POC –

Workflow integration and workforce orchestration are without limitation

How do I quickly assemble a response team?

How do I quickly locate an on-call surgeon?

How do I keep all stakeholders informed of plan changes?

How can I delegate non-clinical tasks to non-clinical staff?
Examples: make it real!

- New Infection prevention workflow
- Sepsis Alert Workflow
Reducing Hospital-acquired Infections (HAI)

Before touching patient
1

Before clean/aseptic procedure
2

After touching a patient
4

After touching patient surroundings
5

After body fluid exposure risk
3

"Hospital-acquired infections affect 5 to 10 percent of hospitalized patients in the U.S. per year. Approximately 1.7 million […] occur in U.S. hospitals each year, resulting in 99,000 deaths and an estimated $20 billion in healthcare costs"*

Gram-negative infections are estimated to account for two-thirds of the 25,000 deaths each year in the surveyed hospitals

*Source: “Preventing Healthcare-Associated Infections”, Centers for Disease Control and Prevention
Hand Hygiene Workflow Solution

- Continuously track and log when the staff wash their hands
- Upon entering the room, remind staff to wash their hands/use gloves
- Upon exiting the room, remind staff to wash their hands/dispose of gloves
- Make use of connected dispensers for increased accuracy
Sepsis Alert Workflow

Doctor
- Potential Sepsis Outreach Alerted
- Sepsis Referral
- Ascom Ward - Bed 3
- OK

Bed Manager
- Potential Sepsis
- Potential Sepsis patient Ascom Ward - Bed 3
- ICU bed may be required
- Accept

Outreach
- Potential Sepsis
- Sepsis Referral
- Ascom Ward - Bed 3
- Accept

Nurse
- Outreach On Way
- A member of the Outreach team are on their way
- OK
Case study, Humber River Hospital, Toronto, Canada
Humber River Hospital in Ontario, Canada

Leaders envisioned the smart hospital of the future – lean, green and digital.

- Opportunity to consolidate 3 older facilities into one, state-of-the-art campus
- As part of their digitization journey, Humber partnered with Ascom to deploy the Power of One
  - Mobility
  - Middleware
  - Integration with beside devices
Humber River Solution at a Glance

• Ascom Myco™ smart devices
• Unite middleware with Analyze & Assign
• Integrations to:
  – MediTech for critical labs
  – Thoughtwire Android Application
  – GE Patient Monitoring
• Ascom Telligence nurse call
Humber River Implementation Results

Grand opening on October 18, 2015

• Patient satisfaction and care increased substantially with rollout of new technology and processes that support improved work flows at the point of care:
  – Critical lab notifications pushed to the Ascom Myco™ shown to help reduce cardiac arrest
  – Noise on patient wards down dramatically
  – By optimizing the nursing workflow using the Myco, reduced steps Humber nurses take each shift from 11.5 km a day to 9.5 km
  – Employee morale improvements lead to higher job satisfaction, lower staff turnover
Peter Bak, CIO, Humber River Hospital
The Doing: Key Project Learnings

- Workflow digitalization needs **top level sponsorship**
- Involve **end-users** – let them have a say!
- **Over-communicate** to users what’s coming – and what not
- Change needs **change management**
- **Overinvest** in infrastructure and bandwidth – you’ll always find more use cases
- Don’t reinvent new **standards** – improve what exists
- Don’t let perfection get in the way of **good**!
In Summary: How to free up the potential of HIT?

• Combine patient centric architectures for medical decision making with provider centric architectures for workflow organization and workforce orchestration
• Systematically reflect the need for communication in an ad hoc environment
• Differentiate between need for synchronous and asynchronous communication
• Make documentation real-time to support medical decision making
• Provide digital access in a mobile environment
• Combine all potential access points at the POC in order to integrate workflows
• Use the most simple option
• It’s not just software! It’s hardware too… and content, content, content
• Close information gaps in mobile, ad hoc environments!
Questions? Let’s discuss!

• Let’s hear your thoughts, questions or issues facing your organization.

• Feel free to reach out directly to me later:
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• Kindly complete the online session evaluation.

• Thanks for attending.