

Health Records, Systems Interoperability and Beyond

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For Reform and Transformation to Occur

- **Strong Leadership Required** – To clearly define and sell the vision; thrive instead of survive
- **Remove Barriers** – Both technical and cultural through a well thought out strategy and advanced implementation plan
- **Strategic Insertion (vs. Intrusion)** – Leverage technology and key SMEs to make operational and process innovations and improvements, not just replace existing methods



Reform and Transformation Can Happen

UPMC views IT as the backbone of a fully integrated, self-regulating health care system

- **Continued Growth and Evolution** – IT has adapted and expanded to match a decade of unprecedented growth
 - **Strategic Planning and Implementation** – All IT activity is driven by a well thought out strategy and advanced implementation plan
 - **Industry Partnerships** – UPMC seeks out unique relationships and invests significantly in research and development
 - **Government Collaborations** – UPMC collaborates with national and international governments
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UPMC Background



- **\$7.8 billion** in assets
- **\$7.1 billion** in revenue
- **20** hospitals operating **over 4,200** beds
- More than **400** service locations
- **50,000** employees
- **182,000** admissions per year
- **1.3 million** members covered by UPMC Health Plan products

UPMC Advanced Clinical Systems



UPMC and IBM

- \$402 million, eight-year agreement to transform IT infrastructure to a virtualized on demand environment
- Cut operating costs with improved efficiency
- Virtualized systems infrastructure
- Standardized tools for management
- Three-year cycle for technology refresh
- ITIL-based re-engineering of technology management processes
- Conversion of application systems to standard platform
- Enhanced disaster recovery capability
- Co-development of IT products



“It remains IDC’s opinion that this landmark joint venture between UPMC and IBM has established UPMC as a leader in the strategic use of IT, not only amongst healthcare organizations, but also across all industry sectors”

UPMC: Starting and Planned Environments

Application:
Integrate

- Cerner
- Epic
- PeopleSoft
- MediPac

PeopleSoft

Epic

- Interoperability
- SmartRoom
- Ctr. for Connected Med.
- AIX built in DR and Testing

Servers:
Virtualize & Automate

- 3 Mainframes
- 162 Unix Servers
- 5 versions of Unix
- 624 Wintel Servers

- 1 Mainframe
- 61 Unix Servers
- 1 version of Unix
- 244 Wintel Servers
- Capacity Upgrade on Demand

Storage:
Virtualize & Automate

- Direct Attached Storage
- 3 Storage Area Network Providers
- Disparate Management Tools

- No Direct Attached Storage
- Single Enterprise SAN
- Centralized Management

Systems Management
Automate

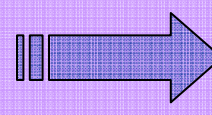
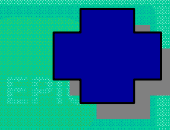
- Multiple Management Tools
- No Enterprise Console
- Minimal Automation
- Siloed Systems Mgmt Processes

- ITIL-based Mgmt Processes
- Enterprise Console
- Autonomic Mgmt Tools
- Enterprise Security

Technology
Refresh

- Technology coming to end of life
- Unable to exploit new capabilities
- Multiple standards
- Complex rollout and management

- Leverage price/performance improvements
- Exploit emerging capabilities
- Establish refresh schedule



UPMC Transformation Financial Impact

Savings on Purchases

- On equipment, software and services:
 - Purchased original equipment
 - Purchased original software (unplanned)
 - Scheduled to be purchased in years 4-8 within original scope of the contract
 - Scheduled to be purchased in years 4-8 outside of original scope of the contract (unplanned growth)

Expense Avoidance

- Avoidance of cost associated with business as usual:
 - Avoidance of cost of Unix provisioning
 - Avoidance of cost of Wintel provisioning
- Savings on ratios
- Use of lower cost, higher capacity, enterprise-level storage systems
- Space savings; mitigation of construction costs
- Productivity gains ; avoidance of additional staffing

Cumulative Cost Savings to Date:

\$80.1 million

UPMC: The Future and What's Next (IT Infrastructure is Not Enough!)

UPMC's IT transformation of infrastructure with IBM has set the stage for new areas of development and industry leading solutions:

- **Interoperability** – Ensures the right information at the right time in the right place to enable the best clinical decisions and outcomes. Allows for Electronic Health Records to be shared regionally.
 - **SmartRoom™** – Application of IT to the patient's room to provide the most current information to doctors, nurses, dieticians, patients, and their families.
 - **Center for Connected Medicine** – Collaboration of industry leaders in health care, IT, communications, and applications solutions to provide answers for all facets of the complex requirements for health care.
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Interoperability: Clinical Impact

- A patient presented to a UPMC ED with abdominal pain
- A history of aortic aneurysm was discovered using dbMotion
- Generic work up of abdominal pain was abandoned and CT scan revealed acute dissection with the likelihood of a rupture
- Operating team mobilized
- Patient transferred to tertiary care
- Appropriate therapy initiated during prevented further delay of surgery



Clinical Impact is Business Impact: Measurements at UPMC

Efficiency Difference Using Interoperability Platform	Before	After
Time Seeking Information	1 - 41 mins	1-5 mins
Time Waiting for Information	5 mins - 20 hrs	5 secs - 12 hrs
Percentage of Patients Not Ready for OR	30%	15%

82% reduction of time spent

50% improvement in patient readiness

SmartRoom™

- SmartRoom™ sits at the intersection of technology and workflow improving quality of care, staff workflow, and the overall patient experience
- UPMC and IBM will bring their combined experience and strength to accelerate the development of the project and create a scalable, viable commercial product
- SmartRoom™ puts a face on the clinical systems allowing simple access to clinical information and features that engage the patient and their families in the care process



Center for Connected Medicine

The Center for Connected Medicine presents a real-world vision for reforming health care by integrating technology throughout the continuum of care

- **Founding Partners:** UPMC, IBM, Alcatel Lucent, and Cerner
- **Strategic Partners:** RIM, dbMotion, Polycom and more are planned
- **The Center for Connected Medicine will enable visitors to:**
 - Observe state-of-the-art, integrated IT infrastructure and software applications
 - Participate in a new continuum-of-care model; improves patient outcomes and reduces costs
 - Discover pioneering strategies for attacking the skyrocketing costs associated with health care



When health care is connected, the patient becomes the real focus and the center of care. The applications, technologies, and processes developed by the Center's partners will give health care systems, doctors, nurses, caregivers, families and patients the tools they need for providing the best health care.

Questions?

whşhnnãu!
Turkish

Σε ευχαριστώ
Greek

GRACIAS!
Spanish

Merci!
French

Thank You!

Хвала
Serbian

Obrigado
Portuguese

لك

Arabic
