UC Health: Better Together
Information Technology &
Leveraging Scale for Value (LSfV)

A Presentation to HIMSS So Cal
December 1, 2015
UC Health By The Numbers

6  Medical schools
$1.8B  NIH funding
4th  Largest healthcare delivery system in California
5  Nationally-ranked medical centers
12  Hospitals with >3,600 beds
165,000  Inpatient visits per year
4.5M  Outpatient visits per year
5,000  Faculty physicians
$9.7B  Total operating revenue (FY2015)
UC Health IT By The Numbers

5 IT organizations
2 Electronic health records
   Epic—4 sites, Allscripts—1 site
42,000 Health system employees supported
>1700 IT employees
~$450M IT annual spend
LSfV: Context

UC Health exists in a transformational era

- Declining rates of reimbursement
- Government and social pressure to address the cost of healthcare
- Regulatory obligations regarding quality, outcomes and use of technology
- Changing delivery models
- Extraordinary competitive pressures from non-profit and for-profit organizations
- Escalating patient and customer experience expectations
- Programs like the Center for Health Quality and Innovation (CHQI) are indications of internal transformation
LSfV: Commitment from IT

UC Health IT team is committed to support this transformational era

• Deliver the transformational technologies required to compete / excel
• Expand data and analytic tools to drive a new era of care, discovery and education
• Engage and enable the digitization of every segment of our operations
• Provide quality services at large scale and high value
• Improve the cost structure of IT to deliver more business value at lower unit costs
UC Health IT Vision

Make decisions jointly to improve alignment and leverage
  • System selections, technology architectures, vendor partnerships

Increase consolidation of common IT infrastructure services
  • Data centers, computing, storage, operations

Employ delivery models driven by business strategy and the IT marketplace, while moderating organizational risk
  • Insourced, outsourced, centralized at UC, shared across UC

Support UC Health system-wide thinking
  • Examples: EHR, Radiology, Supply Chain, Rev. Cycle, Info. Security
  • Big Data, Population Health, Clinical Integration Network

Support both local and UC Health objectives
## Increasing Collaboration

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<thead>
<tr>
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<tbody>
<tr>
<td>✓ Establish a Collaborative Framework</td>
<td>✓ Implement Initial Opportunities</td>
<td>• Begin Implementing Bend-the-Curve Opportunities</td>
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<td>✓ Organization and Reporting</td>
<td>✓ Share and Leverage Best Practices</td>
<td>• Collaborative Strategic Planning</td>
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<td>✓ Data Transparency and Comparison</td>
<td>✓ Define Shared and Federated Services</td>
<td>• Build Shared and Federated Services</td>
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<td>✓ Opportunity Identification and Prioritization</td>
<td>✓ Pilot to Address Common Needs</td>
<td>• Increase People, Process and Technology Alignment</td>
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<td>✓ Report Out</td>
<td>✓ Strengthen Information Security Capabilities</td>
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**Q1 FY15 – Q2 FY15**

**Q3 FY15 – Q2 FY16**

**Q3 FY16 – Onward**
Bending the IT Expense Curve

IT LSfV initiatives progress along one of two pathways:

1. Early efforts are intended to lower-the-curve for fast value generation. Most of these efforts are advanced in partnership with Supply Chain, and result in higher discounts on purchased goods.

2. Beginning in mid-FY16, bend-the-curve efforts begin to slow expense growth over the longer-term by redefining IT service delivery models and sourcing.

In many cases, it is useful to normalize IT expenses to total operating expense. IT spending will then appear as a much flatter curve.
Active Value Opportunities

Implementation Complexity

Organizational Change Required

Lower: IT Driven

Higher: Business Driven

UC Population Health
Community EHR Hosting
Epic at Irvine
Single Enterprise Imaging Solution
Shared Data Center
EHR Hardware Consolidation
Co-sourcing IT Operations
Information Security

BI Knowledge Sharing
Data Warehouse
Radiology Decision Support
Analytics Tools
Commodity IT Buying
Analytics Tools & Licenses

UC HEALTH
Three FY16 Imperatives

1. **Optimize IT Procurement/Big Buys**
   - Successfully complete FY16 negotiations
   - Plan FY17 opportunities

2. **Secure UC Health Information and Infrastructure**
   - Select a common Security Operations Center provider
   - Establish aligned information security plans and standards
   - Establish consistent compliance scorekeeping

3. **Co-source a Shared Data Center**
   - Establish technical standards and governance models
   - Implement and operate the shared data center, with at least three UC Health tenants operational
Now, Bending the Curve Together

Examples

1. Data Centers
   • First Major Sourcing Strategy
   • Significant Value over 5 Years
   • All UC Health Organizations Participating, Expanding Beyond
   • Leading effort to combining infrastructure services

2. Secure Text
3. Radiology Decision Support
4. Enterprise Imaging Solution
5. Information Security/Security Operations Center
UC Health Data Centers: *Execution in Process*

UC Davis

UC Health North

CENIC

UC Health South

UC Health San Diego

UC Health
Re-Envisioning the IT Function

- Our strategy is to create the UC Health IT function through incremental changes:
  - Establish core infrastructure standards, service delivery models
  - Share technology components: computing, storage and network
  - Build system-wide partnerships with key stakeholders
  - Align applications as opportunities for common decisions arise
  - Evolve UC Health IT governance and operational capabilities

Provide the Information Technology environment needed for UC Health to execute on system-wide strategies.
Onward and Upward

- Current Business Value Initiatives that Sharpen our Advantages
  - EHR Advantage
  - Business Advantage
  - Analytics Advantage
UC Health: EHR Advantage

- Workgroup formed
  - All five UC Health campuses participate
  - Physician and Nurse leadership

- Group defined potential projects / targets for EHR improvement
  - Narrowed to five topics, each will be managed by a UC Health Campus

- Current Projects
  - UCD – Clinician Efficiency Metrics
  - UCI – Scope of Practice Definition (Standardization)
  - UCSF – Common / Optimum Order Sets, Epic Design and Usability
  - UCSD – Integrating ‘Choosing Wisely’ Knowledge
  - UCLA – Best Practice Documentation
UC Health: *Business Advantage*

Increasingly, IT Value comes from the right level of Business Engagement

- Keep a Focus on Business Priorities, Target Investment at Crucial Opportunities
- Engage Leadership in IT Planning and Approval Processes
- Oversee Sourcing, Shared/Federated Services Decisions
- Delivering ROI on invested money into the IT collaborative efforts
- Align with Evolving Organizational Governance Models to Support UC Health System Thinking
UC Health: *Analytics Advantage*

- **Big Data**
  - UC Health shared data warehouse
- **Population Health**
  - UC Health shared population management tools and staff
- **Community Engagement**
  - Clinically integrated networks focused on quality improvement
- **Value-Based Care Advantage**
**UC can be a transformational catalyst to the entire healthcare ecosystem**

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### UC Big Health Data Governance

#### UC Big Health Data Platform

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<th>Platforms</th>
<th>Use Cases</th>
<th>Outputs/Visualizations</th>
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<td>Phenotypic (Epic)</td>
<td><strong>Operational</strong></td>
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<td>Financial / Claims</td>
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<td>Clinical Research Datasets</td>
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<td>Patient Engagement</td>
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### Technology Foundation

- Metadata Mgmt
- Master Data Mgmt
- Terminology Mgmt
- KB/Ontology Mgmt
- Natural Language Processing
- Analytic Tools
- Big Data Technologies
- Geospatial Processing
- Machine Learning
Creating a knowledge network…

Adapted from “Convergence: Facilitating Transdisciplinary Integration of Life Sciences, Physical Sciences, Engineering, and Beyond,” National Research Council.
Patient Evaluation for Heart Disease
- Patient and family history
- EHR Risk Calculator

**Recommendation:** Start statin medication

Precision Medicine Evaluation Tool
- Patient phenotype/genotype $\rightarrow$ 14M UC Health records $\rightarrow$ recalculate patient’s risk score

Better Population Health

**Precision recommendation:**
- No medication, mitigating likely complications
- Patient to continue with healthy lifestyle
Questions?