


Cost of Doing Business and IT Prioritization: CIO's Perspective

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Our Mission


The Children's Hospital of Philadelphia (CHOP), the oldest hospital in the United States dedicated exclusively to pediatrics, strives to be the world leader in the advancement of health care for children by integrating excellent patient care, innovative research, and quality professional education into all of its programs



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CHOP

- Health system consisting of the main hospital and a comprehensive network of care in PA and NJ
- Regional, national and international referral center
- 530 inpatient beds (203 intensive care beds)
- 30 primary care sites, 10 specialty care sites, affiliations with 12 community hospitals
- >1.2 M outpatient visits
- ~11,000 employees
- >1,200 licensed medical practitioners
- 450 research investigators
- \$2B expansion plan for the next 6 years



BEST CHILDREN'S HOSPITALS
US NEWS & WORLD REPORT
HONOR ROLL
2014-15

2013 Parents
10 BEST
CHILDREN'S
HOSPITALS

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The CEO's Vision (Steve Altschuler, MD)

- Almost a decade ago, we envisioned a future in which the electronic health information of our patients would exist on a common platform between our caregivers to improve quality and safety
- We will improve the health of children using information to transform pediatric healthcare, accelerate learning and create new scientific knowledge

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My Journey to CIO

- 1984: MD/PhD from the University of Paris
- 1984-1990: Trained in Clinical Pathology at Washington University in St. Louis and Barnes Hospital. Research in Biochemistry
- 1990: Joined the University of Pennsylvania School of Medicine
- 2001-2008: Chair of Pathology and Laboratory Medicine and pathologist-in-chief at CHOP
- 2008-present: CHOP CIO
 - Align IS with Hospital strategy and goals



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CHOP IT

- 500 FTE
- 2 remote data centers
- >400 applications
- Epic is our EHR
- Continuous implementation mode
- \$50M in annual capital projects
- >\$80M in annual operating budget
- Last 6 years, CHOP IT has undergone a major transformation to align with the CHOP clinical, research and business needs



**Teamwork, Accountability,
Transparency & Patient Safety**

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CHOP's Environment


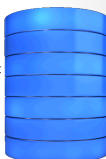
- Turbulence and Uncertainty
- Regional-National-International Growth
- Customer Engagement
- Competitive Advantage
- Care Delivery and Business Transformation
- Technology Innovation
- Cost Reduction



IT Strategy

2014
2017

1. IT infrastructure positions CHOP to be successful in a turbulent and uncertain healthcare environment
2. Patient-centered, evidence-based care using the integrated electronic health record is coordinated to support quality and improve patient outcomes
3. Customer-focused service using state-of-the-art IT tools results in patient, family, and referring provider loyalty
4. Innovative use of consumer technology integrates wellness behavior into patients' daily activities
5. Implementation of key IT automation results in clinical and operational efficiency to streamline workflows and lower the cost of providing care
6. Researchers have access to data and technology that allows them to advance knowledge of pediatric medicine

Confidential

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GOVERNANCE





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Accountability

- **Executive Committee of the Board of Trustees**
- **Audit and Compliance Committee of the Board**
- CIO reports to COO
- **Enterprise Steering Committee:**
 - President & COO (chair)
 - C-suite Executive Leadership (CAO, CFO, CIO, CMO, CNO, CSO)
 - Physician Executive Leadership (President of CHOPPA, Chair of Medical Staff IS Committee, Chair of Pediatrics)
- **EHR Governance Committee:**
 - CMIO + 3 Medical Directors for Epic
 - Director of Nursing informatics
 - Clinical Champions (Surgery, ED)
 - AVP for Clinical Applications
 - IS Directors

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Decision Making

- Clinical Projects are first reviewed by an EHR Governance Committee with input from a Clinical Informatics Council
- Enterprise Steering Committee defines and ranks CHOP business drivers that derive from CHOP's Strategic Plan
- All IT projects are approved by the Enterprise Steering Committee
- Each IT project is scored against the CHOP business drivers to determine relative strategic value

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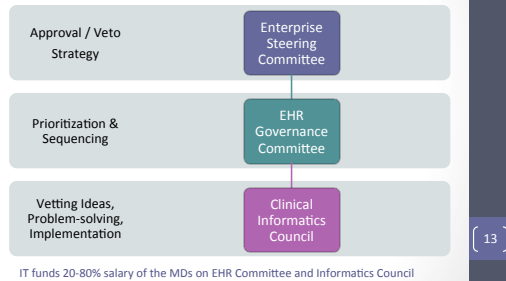
Prioritized CHOP Business Drivers

Business Drivers Ranked by Enterprise Steering Committee

1. Improve Patient Safety
2. Improve Patient Outcomes through Scientific Discovery and Medical Innovation
3. Grow High Acuity Care Cases
4. Improve Operational Efficiencies
5. Maintain Infrastructure
6. Maintain Local Market Share
7. Improve Compliance
8. Increase Satisfaction and Awareness
9. Enhance Pediatric Education
10. Become Employer of Choice

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EHR Governance Structure



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EHR Governance

- Meets **every other week**
- Primary goal is **prioritization**
- Historically we've struggled with this
 - Too many lists! (some as long as 400 items)
 - No ability to track the work
 - No heuristic for ranking requests
 - No way to say "No"
 - No awareness of tradeoffs (doing A means not doing B)

From Bimal Desai, CHOP CMIO

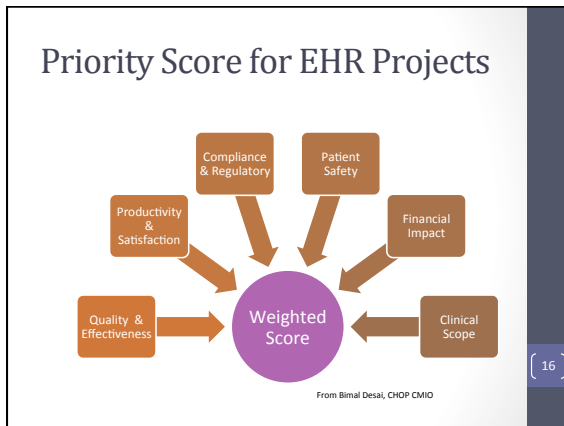
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EHR Governance

- Process
 - What we don't look at
 - Break Fixes
 - Enhancements (<80 hrs)
 - These are taken care of as part of Epic operations
 - What we do look at
 - All projects (>= 80 hours)
 - Both OPEX and CAPEX projects
- Tools
 - Clinical Scoring Tool (adapted from Stanford U.)
 - Input from EHR Operations and Implementation
 - By design, clinical score is independent of the IS capacity

From Bimal Desai, CHOP CMIO

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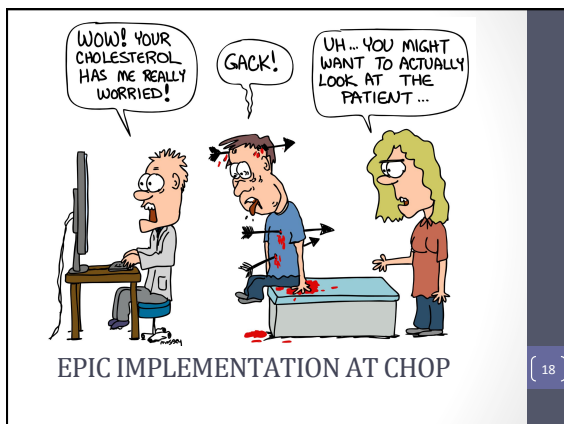


The Tool

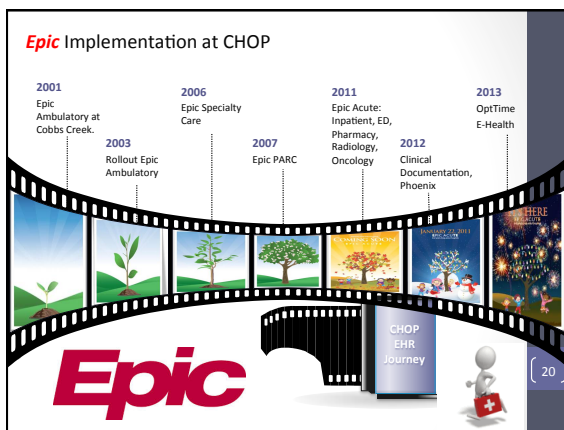
EHR Governance Prioritization

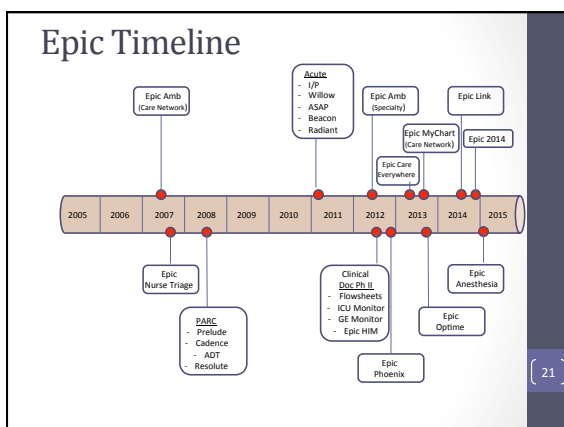
Clinical Issue	Proposal	Completed	Quality & Effectiveness	Productivity & Satisfaction	Compliance	Patient Safety	Financial	Clinical Scope	IS Effect	Needs ESC?
74%	Individual Education, Organization & Readiness	1. Develop a plan for individual education, organization & readiness. 2. Implement the plan. 3. Monitor progress. 4. Report progress.	1. Engage key stakeholders. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	No
65%	Running Worklist	1. Develop a plan for running worklist. 2. Implement the plan. 3. Monitor progress. 4. Report progress.	1. Engage key stakeholders. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	No
56%	Global Lab/Imaging Order Workflows	1. Develop a plan for global lab/imaging order workflows. 2. Implement the plan. 3. Monitor progress. 4. Report progress.	1. Engage key stakeholders. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	Yes
56%	Ambulatory Service Pathways	1. Develop a plan for ambulatory service pathways. 2. Implement the plan. 3. Monitor progress. 4. Report progress.	1. Engage key stakeholders. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	Yes
55%	Ambulatory MRI	1. Develop a plan for ambulatory MRI. 2. Implement the plan. 3. Monitor progress. 4. Report progress.	1. Engage key stakeholders. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	Medium Project (200-1000 hrs)
50%	Reporting Workbench	1. Develop a plan for reporting workbench. 2. Implement the plan. 3. Monitor progress. 4. Report progress.	1. Engage key stakeholders. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	1. Prepare for implementation. 2. Develop a plan. 3. Implement the plan. 4. Monitor progress. 5. Report progress.	No

From Bimal Desai, CHOP CMIO









Epic is Used by most of CHOP

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Examples of Project Costs

Life Image <ul style="list-style-type: none"> CD ingestion and sharing tool for Radiology 1,122 hours \$341,904 	Virtual Desktop Environment <ul style="list-style-type: none"> Implement a virtual desktop for providers accessible from any device 23,939 hours \$2,394,853
Allocade <ul style="list-style-type: none"> Improve scheduling workflows in Radiology 2,047 hours \$326,607 	OpTime <ul style="list-style-type: none"> Implement Epic OR scheduling and documentation 34,240 hours \$5,663,623

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Examples of Project Costs

Care Everywhere <ul style="list-style-type: none"> Share patient information with other hospitals 4,113 hours \$730,816 	Ambulatory Optimization <ul style="list-style-type: none"> Numerous enhancements and quick fixes to enhance Epic 5,000 hours \$375,000
Clinical Documentation <ul style="list-style-type: none"> Implement clinical documentation (notes, flowsheet, ICU monitors) in the inpatient setting 28,172 hours \$8,188,606 	Faxing of Discharge Summaries <ul style="list-style-type: none"> Automatic faxing of inpatient discharge summaries to referring MD 80 hours \$6,000

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