

Nebraska Society of Healthcare Engineers Annual Fall Meeting

Thoughts Shared With YOU From A
Year of **Transition & Change** (NSHE, ASHE, ICAHN, Planetree,
CMS, Consumers, Providers and Third Party Payors)



Well Done!



NHA 91st Annual Convention



NHA Nebraska
Hospital
Association



Oct. 24 - 26, 2018 | La Vista, NE

Thank You For Being Involved With Healthcare!

(Rural, CAH, FM, Engineer, Architect, Administration)



Your Presenter Today - Introductions

Jim Easter,

Principal and Founder

Easter Healthcare Consulting (Ehc)

Several PDC Events...ASHE and AIA Academy

Member and Sponsor

Gratitude and Thanks

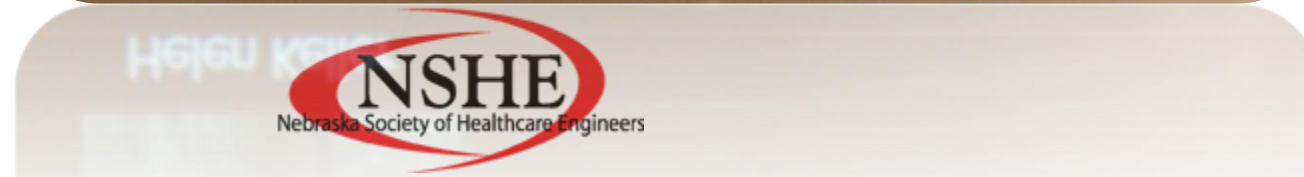
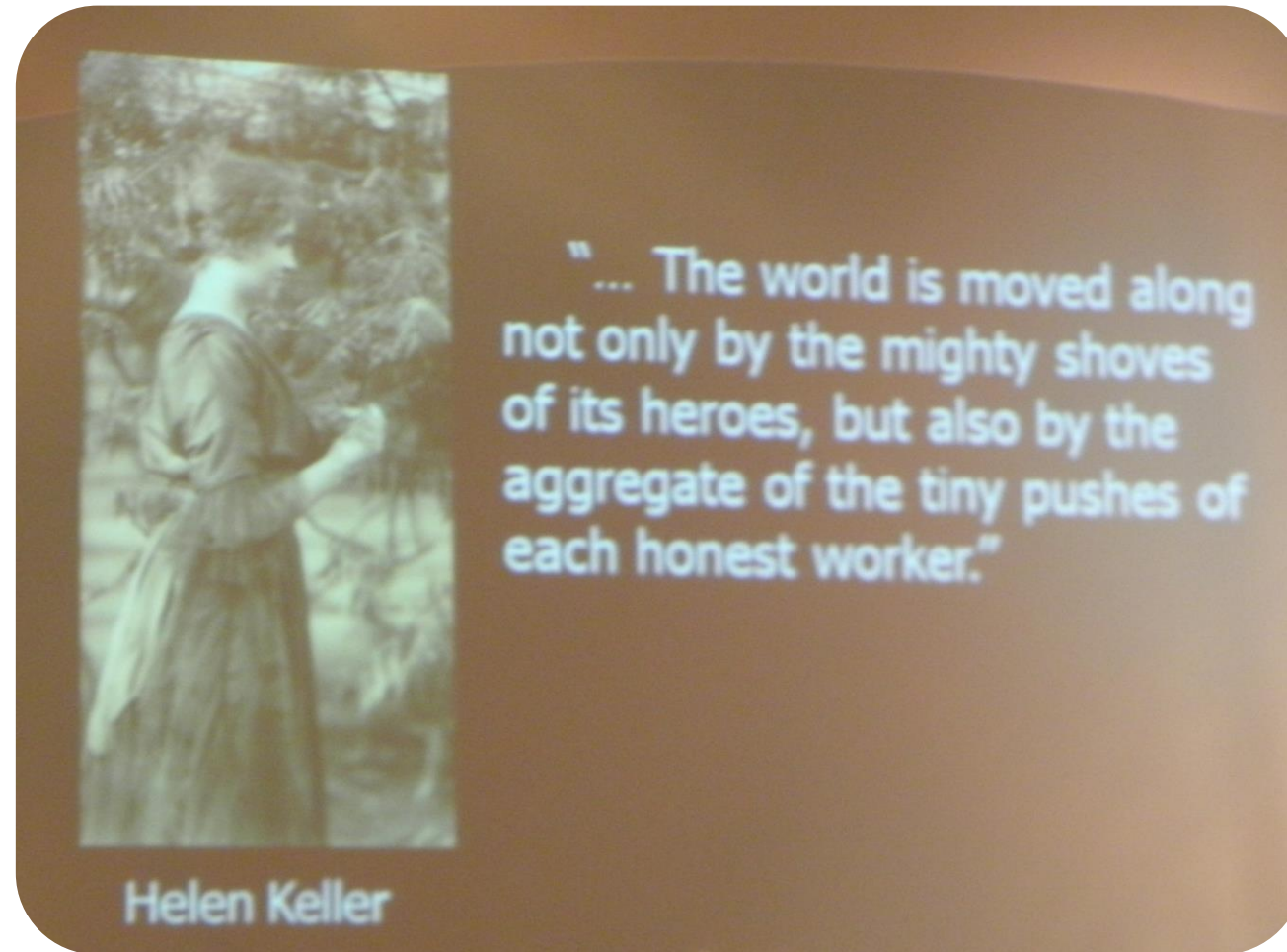
Skanda Skandaverl

Catholic Health Initiatives

Patrick Leahy & Volunteers

CMBA Architects

Thank You!



“CHANGE and TRANSFORMATION of Care and Caring With Architects & Engineers on the TEAM”

The **status of the current large and smaller hospitals will change** with the diverse characteristics of the populations being served.

What are the **planning questions** that must be answered and how do the healthcare providers within a community connect effectively?

What are the expectations from the providers relating to **tertiary care partnerships** and the other pre and post providers within the region?



People



Users



Patients and
Family



Consumers

Life Factors & Circumstances

Values Vision
Leadership
CHANGE
Management Strategy
Talents

Learning Objectives Today

1. Understanding **Population Health** In Today's Environment. CMS Implications from a Personal Crystal Ball. Yes, **TRANSFORMATION**; How, Why, Where and When?
2. Comparing the **Planning Aspects** Impacting Access, Cost & Quality.
3. Mergers, Acquisitions, **Innovations**, and Closures.
4. Some **Creative CAH Options** Impacting Care Sites and Communities
5. How Are Providers Adjusting to **Changes from an A/E/C/\$** Perspective (The Facility Engineer Is The Future of Capital Cost Management and VISION for CARE).
6. What **Facility and Engineering Trends** Might We Anticipate for The Future.



1 Understanding **Population Health** In Today's Environment.

What Are A Few of the Healthcare Problems in America:

- Access to Capital Dollars
- Leadership Turnover
- Recruitment of Qualified Professionals and Primary Care MD/DO's
- Retention of Qualified Professionals Due to Time, Energy and Comprehensive Demands, Beyond Those in the City or Rural County:
 - Nurses Work All Stages of Surgery (Prep, OR, Post OP, Recovery and Nursing)
 - Nurses Work All Stages of Obstetrics (Pre/Post, Nursing and Nursery)
 - Physicians Round and Often Are on Call Every Weekend (Employment of MD's Varies)
 - Younger Physicians Feel Exposed Without Specialty Back Up and Team Support
- Assets Often Lack Character and the Image/Design is Weak:
 - Older Buildings...Often Grandfathered (Unmanageable Expense W/Excess Capacity)
 - County and Tax Base No Longer Supportive
 - Administrative Leadership and Executive Support Often Hard to Recruit/Retain
 - No Longer can Afford TJC or Performance Improvement of Wise Consultation



1 Understanding **Population Health** In Today's Environment.

Setting the Scene for our U.S. Health Care Industry:

Consolidation through **acquisition or network affiliation** is in our future

(Baylor, Memorial Hermann, Tower/Reading, CHN, Mercy Bon Secours)

5000+ hospitals



400 Health Systems



50 Health Systems

Nationally Hospitals (AHA – source)

- 59% Cutting Administrative Costs
- 53% Reducing Staff
- 27% Reducing Services
- 12% Divesting Assets
- 8% Considering Mergers

Morgan Stanley Health Care Report:

- 62% Hospital CEOs see cost controls and Patient Engagement as #1 Priorities vs. Revenue Generation
- 20% Hospitals operating in an unhealthy way
- 10% U.S. Hospitals at risk of closing
- Asset Management a Growing Concern (80%)

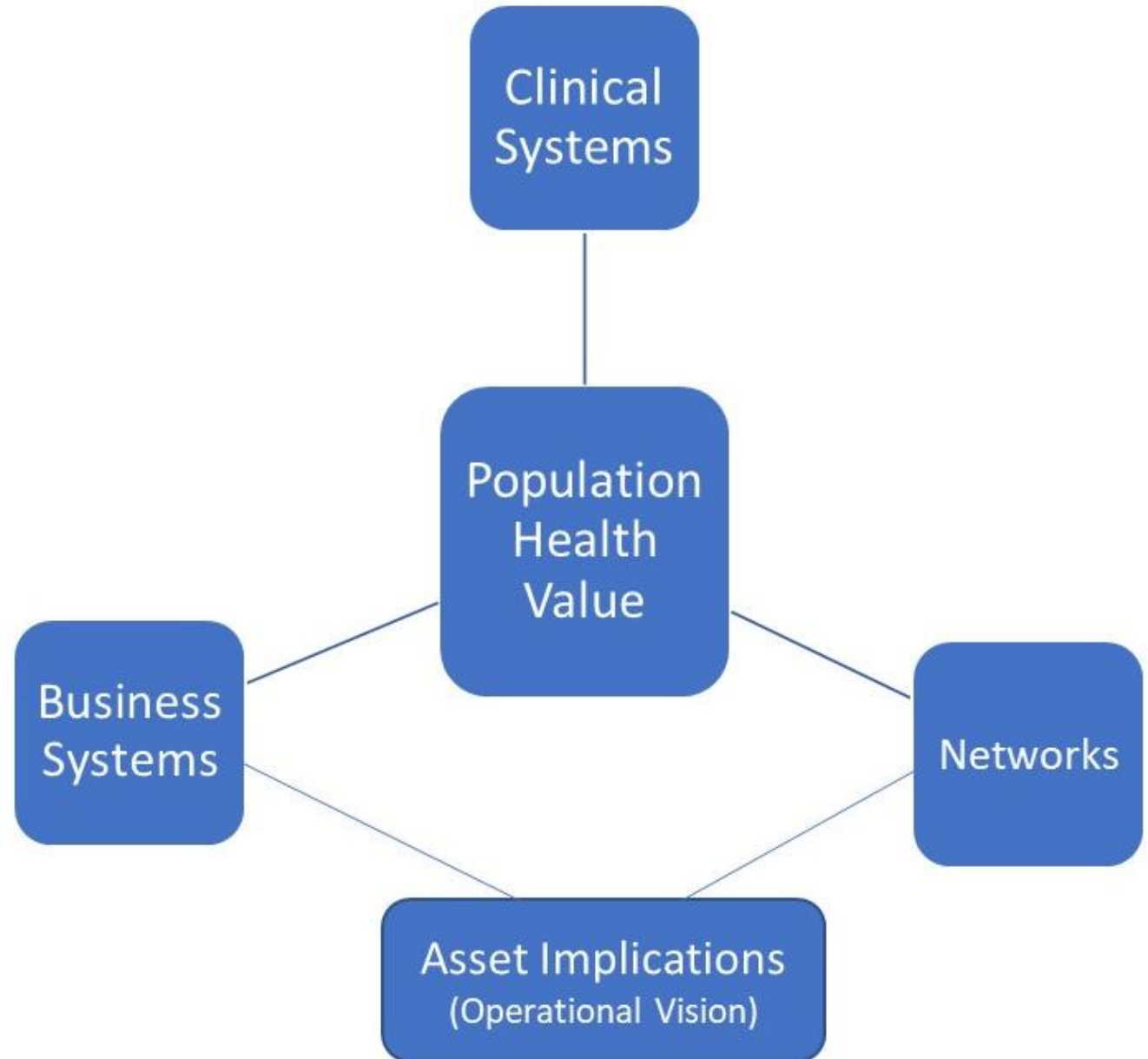
1 Understanding Population Health In Today's Environment.

Goal - Achieve Triple Aim

- Improve Quality
- Reduce Cost
- Improve Patient Experience

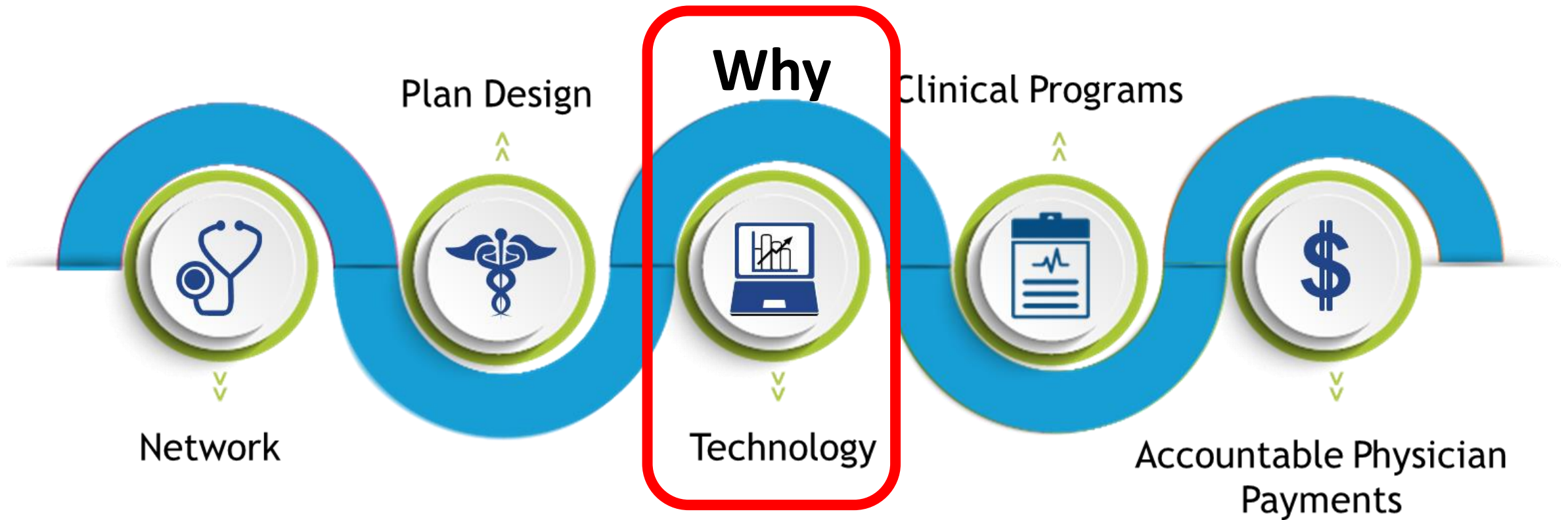
Some of the Challenges:

- Affordable Care Act – understanding and implementing it, politics
- Reimbursement models
- Creation of independent Clinically Integrated Networks (CINs)
- Medicaid Expansion (or not)
- Patient Access and Convenience
- Fee-for-Service transition to Value-Based-Care model



1 Understanding **Population Health** In Today's Environment.

Consider Solutions for Employers especially Self-Funded ones:



1 Understanding **Population Health** In Today's Environment.

Models of Care influence our **Built Environment + Systems**

Axios Center – Orlando, FL (Direct Primary Care model, **Developer** Led)



2 Comparing the **Planning Aspects** Impacting Access, Cost and, yes, **Quality Outcomes**.

Master Planning On All Sites...CAH Or Others Involves:

1. Situation Assessment
2. Leadership Orientation and Introduction
3. Fact Gathering on Assets, Volumes, Demographics, Work Loads
4. Interviews With Directors and Supporting Staff
5. Assembly of Technical Information (**A/E/C/S/Technological**)
6. Conversion of Work Loads to KPU's to Space Needs
7. Concept and Design Assessment and Staff Input W/Process Emphasis
8. Agree on Concept, Budget, Schedule and Phase Findings
9. Staff, Physician, Board and Community Feedback
10. Simulation, Graphic Interface, Mock Up's and Approvals to Proceed (BIM)

2 Comparing the **Planning Aspects** Impacting Access, Cost and, yes, **Quality Outcomes**.

Yes, **Vision, Mission, Values** and **Goals**.

Yes, **Strategic** and **Financial Assets** and **Projections**.

Yes, The Consultant Must Be Capable of Helping With the Proforma/ROI/Added Value/Real Need.

Yes, The CAH Leadership Must Understand the **Key Performance Attributes** and Fiscal Considerations:

- ✓ Size, Scope and Cost Based on **NEEDS**.
- ✓ Assessment of ROI for Each Service Considered in the MP Based **REVENUE and Value-Added**.
- ✓ Clear Understanding and Definition of **STRATEGIC** Alignment.
- ✓ Clear Understanding of **COMPLIANCE ISSUES** and Urgency/Risk.
- ✓ Assessment of Phasing, Staging and Avoidance of **OPERATIONAL** Disruption.
- ✓ Assessment of Performance and **PROCESS** Improvement:
 - Safer, More Efficient and Functionally Enhanced Spaces
 - Patient, Staff and Physician Value-Added Features
 - Image, Design, Aseptic and Operational Enhancement
 - Innovative and Technologically Enhanced
 - Compliant With Codes, Guidelines, Standards and Regulatory Expectations

2

s, Cost
Engagement.



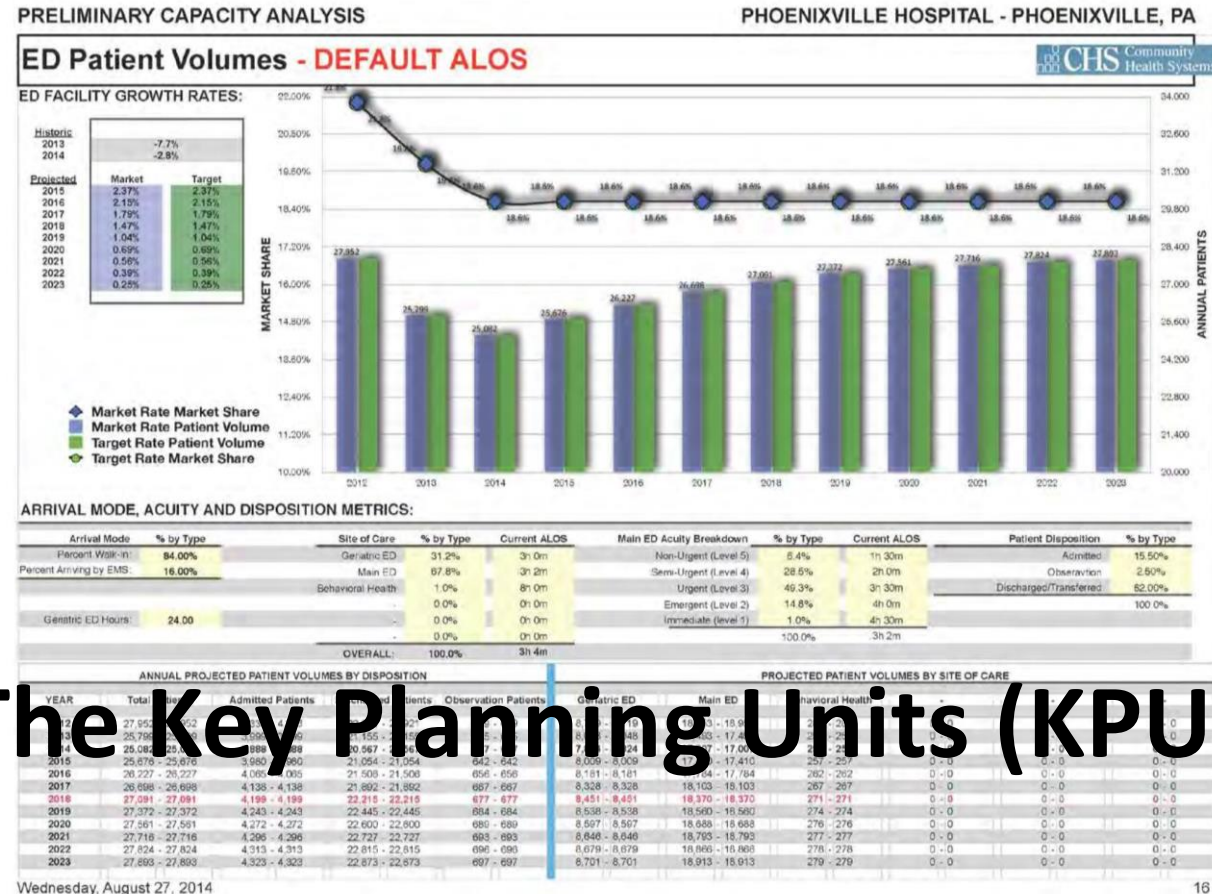
Thanks Mark!



Thanks Mark!



2 Comparing the Planning Aspects Impacting Access, Cost and, yes, Quality Outcomes. The KPU's Show Accurate Need



The Key Planning Units (KPU)

1 ED CAPACITY ANALYSIS

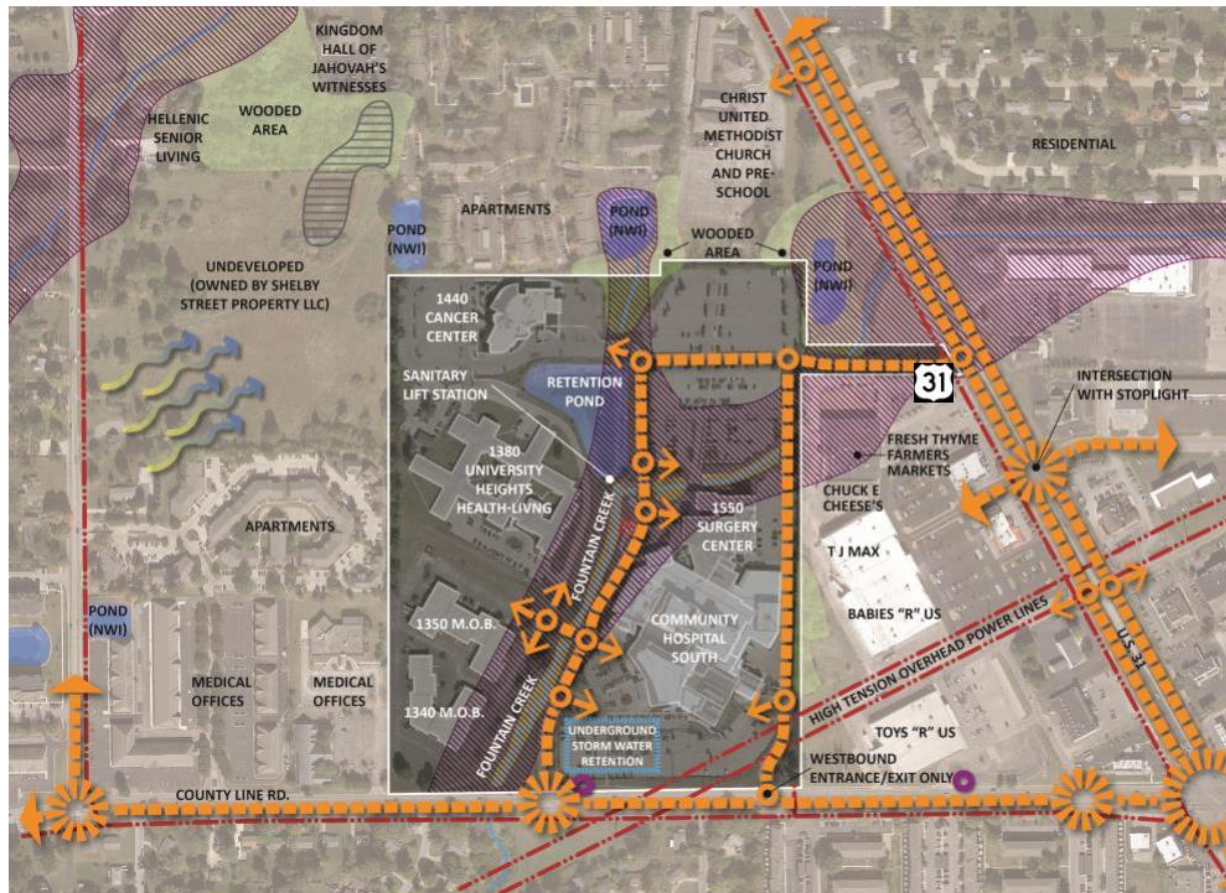
HFR DESIGN

As-Is Facts

Capacity and Work Load Volumes

Existing Space and New Space Needed

2 Comparing the Planning Aspects Impacting Access, Cost and, yes, Quality Outcomes. Views From 30,000 Feet.



Land Use
Circulation
Access
Parking
Site Flow
Impact Factors



3 Mergers, Acquisitions, **Innovations**, and Closures.

The Wellstar and Kennestone Case Study (An Urban and Suburban Model and Vision Management)



Site



Benchmarks



Nursing



Process Change

Program

Research

Testing Fit

1 Understanding **Population Health** In Today's Environment.

- Models of Care influence our Built Environment

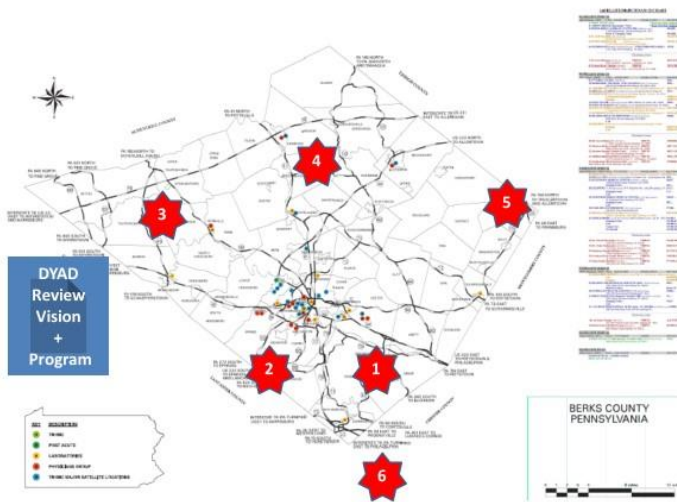
Wellstar - Kennestone, Ackworth, GA (Health park Community model, Provider Led)



Small, Medium and Large Prototypes + Physicians + Case Studies & Location

3 Mergers, Acquisitions, **Innovations**, and Closures.

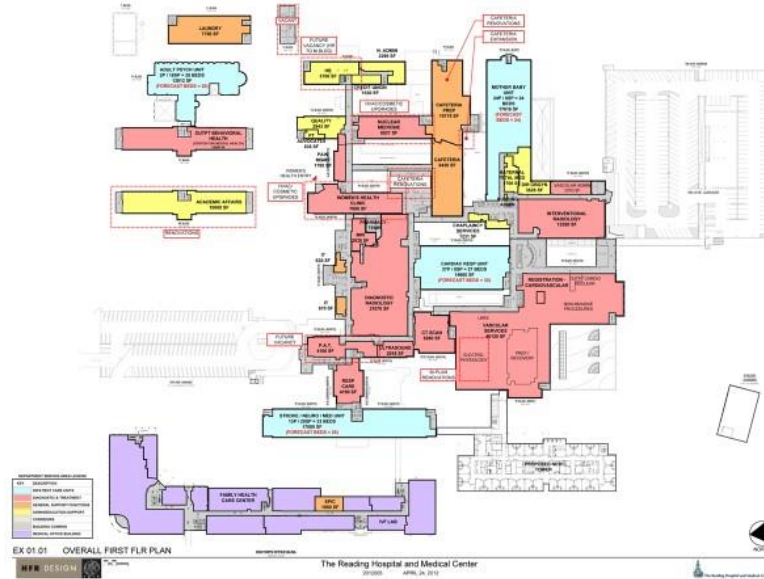
Reading and Tower Health Model (Protecting Market Share and Serving Our Population)



The Vision



The Region



The Tertiary Hub



The Reading Hospital
and Medical Center



7 February 2012

A New Specialty Surgical Tower

3 Mergers, Acquisitions, **Innovations**, and Closures.

Emerus, Complete Care, Kaiser, Vanderbilt

Innovative Design and How This Happens

People, Process and Politics

(Form Follows Function, Follows Funding)



Types of Freestanding Emergency Departments

Hospital Outpatient Department (HOPD)

- Provider based facility with license tied to a hospital
- Bill under the hospital's tax ID
 - Off-campus but located within a 35-mile radius of hospital
- Qualify for site-neutral exception under Medicare



4 Creative CAH Options, Impacting Care Sites and Communities

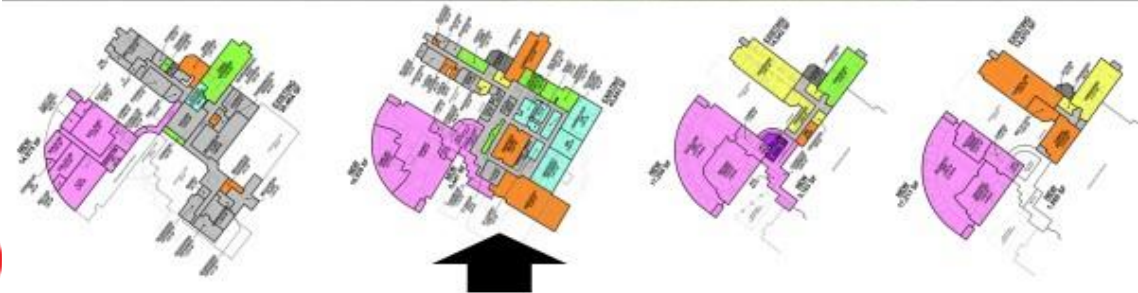
We Wish We Had Become A CAH Illustration (Lessons Learned and MP + SP + FCA Report)

FCA Process

- Finalize objectives of the assessment
- Send out pre-site visit questionnaire
- Review plans & documents
- Conduct staff interviews
- Tour buildings
- Perform analysis of data
- Generate draft FCA report
- **Realign FCA report to final FMP**



Our Vision For The Future



5 How Are Providers Adjusting to Changes from an A/E/C/\$ Why Research?

in the care delivery business the areas of governance, accountability, operational planning and process development.

A Changing Evolution of Planning and Design

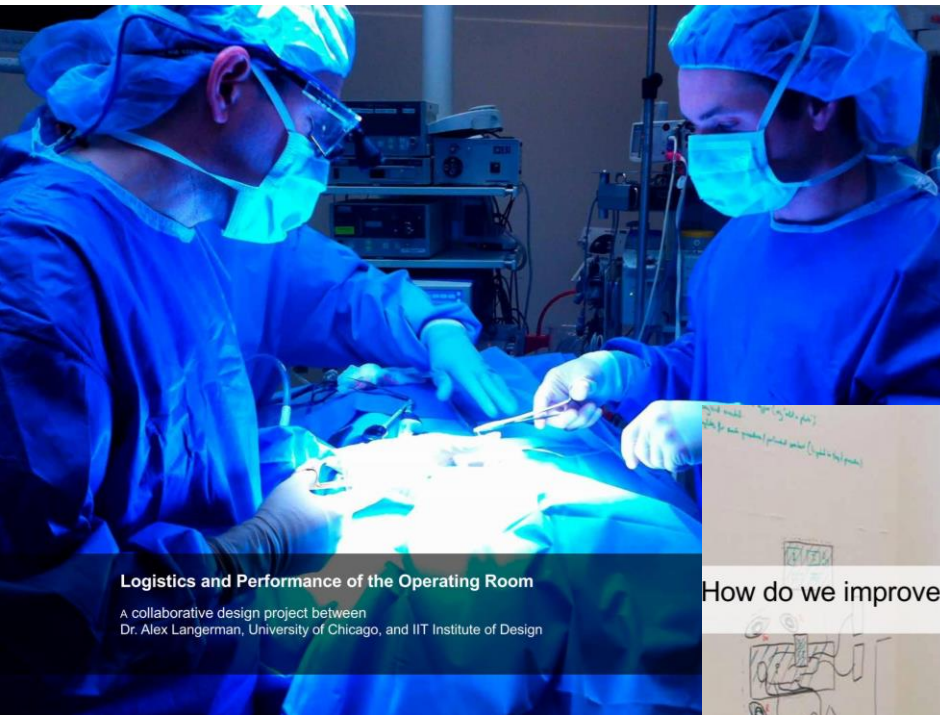


The FUTURE of HEALTHCARE will be impacted by CHANGE that believes; "form follows function, Follows funding, follows measureable process improvement."

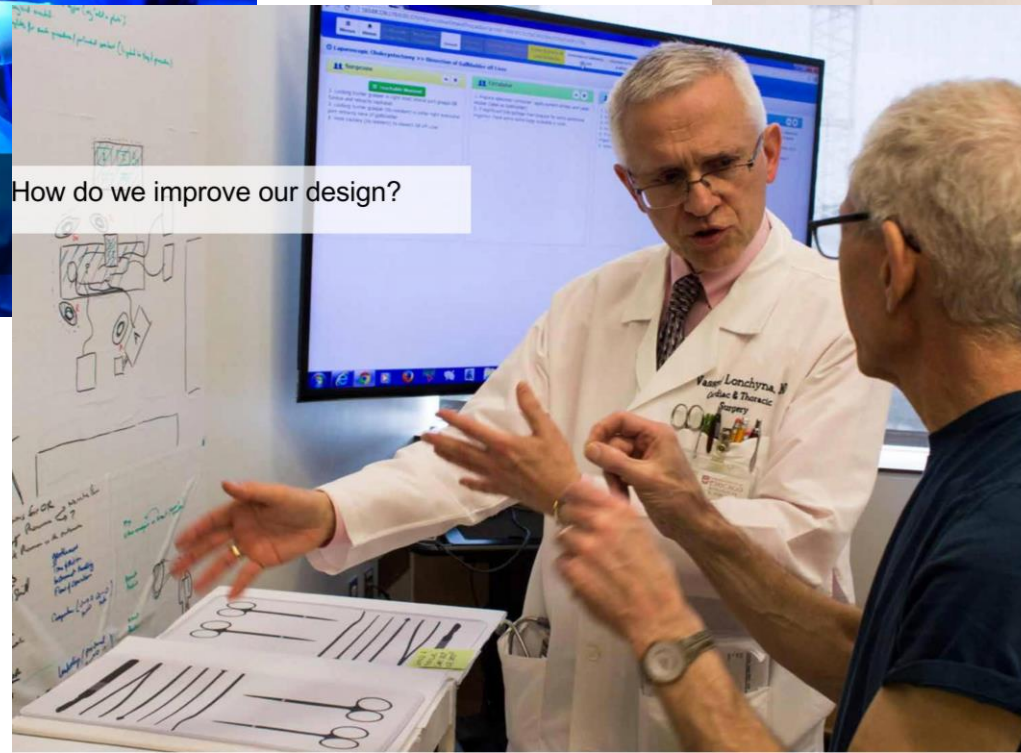
The Consumer Expectations

The CONSUMER/Client expects a timely and accurate answer. In the planning and design of capital assets, this response requires some homework by the CONSULTANT (at a reasonable cost to the Client). This is a two-way street that is led by the consultant and requires an understanding of this multi-faceted challenge ahead. First, the understanding of the problem solving process requires asking the correct questions, understanding the situation and the most reasonable expectations of the Client (often expectations are not achievable). Second, the

5 How Are Providers Adjusting to **Changes from an A/E/C/\$** Perspective (CQI and Process Change With Clinicians Involved)?



Dr. Alex Langerman,
Head & Neck Surgeon



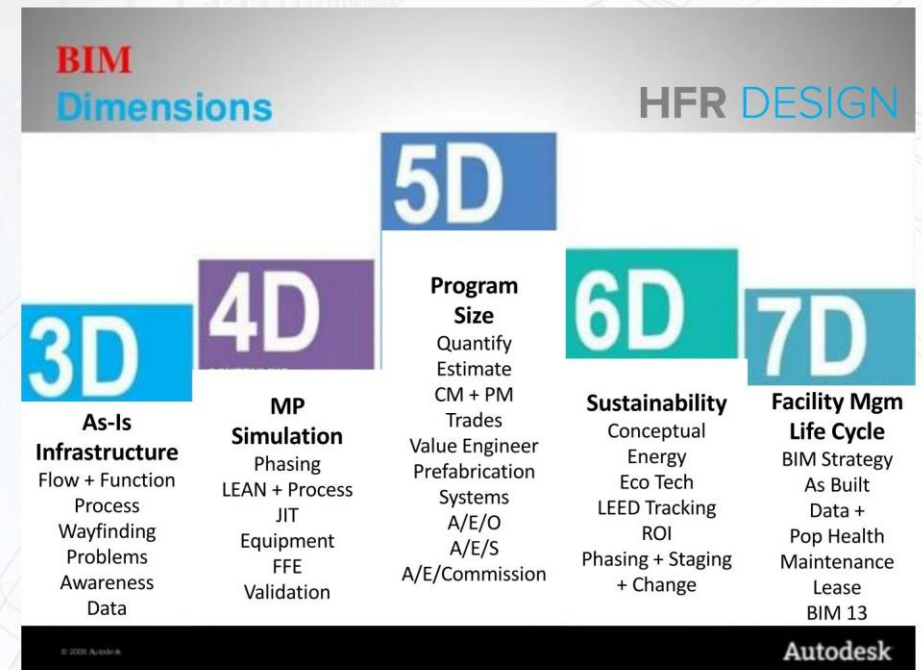
5 How Are Providers Adjusting to Changes from an A/E/C/\$ Perspective (Funding and ROI)?

- When Does The Funding Process Start?
- How Do We Prepare for Funding?
- How Do We Find the Money?
- Lessons We Have Learned.
- Remember Deferred Maintenance.



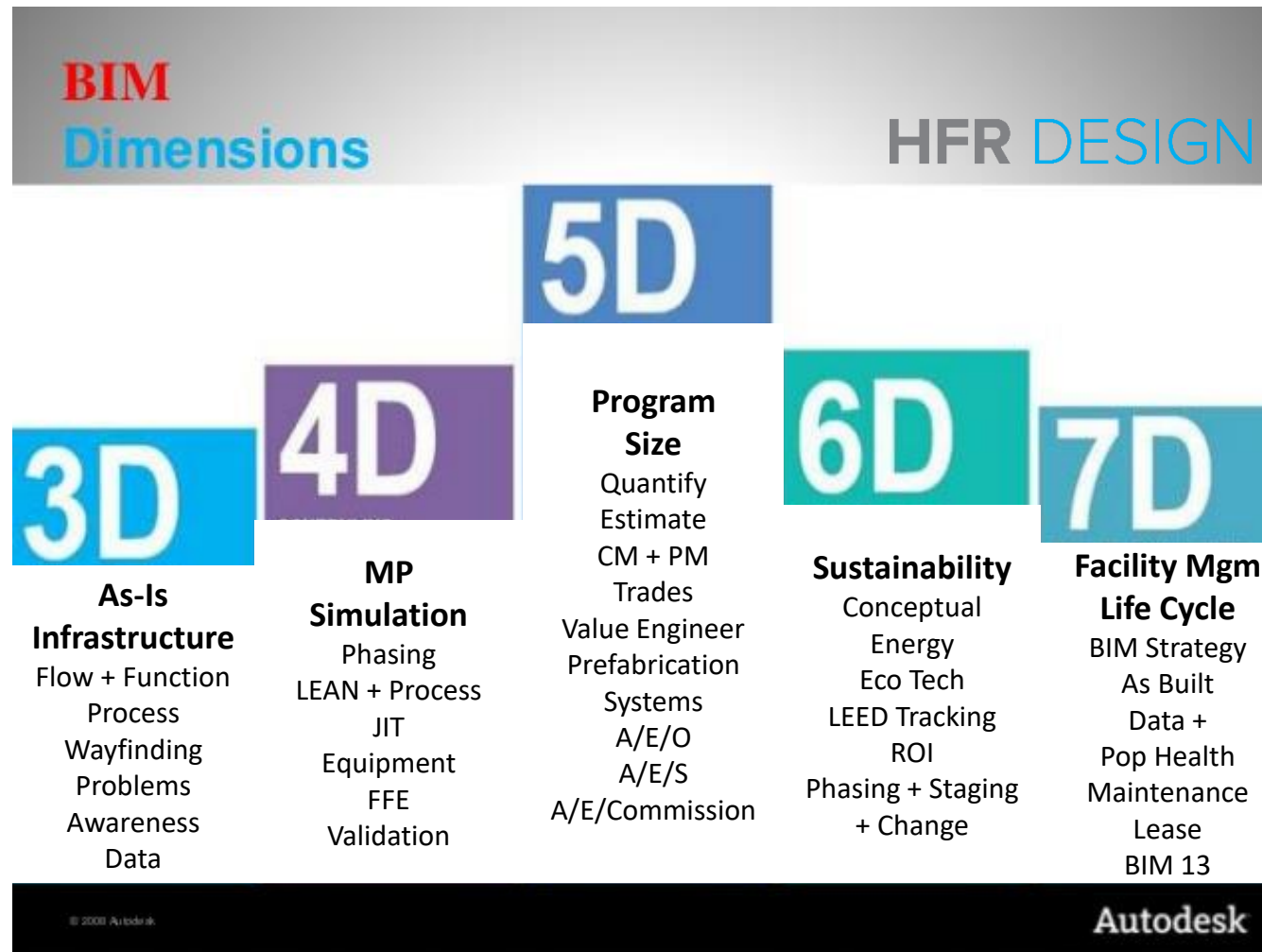
**Evolving From
Region to Reality**

Building Information Management Building Integration Modeling (BIM)



Building Information Management

Building Integration Modeling (BIM)



5 How Are Providers Adjusting to **Changes from an A/E/C/\$** Perspective (A Integrated Facility Management Program)?

Service Entry and Dock Considerations



**Deferred Maintenance and Systems Upgrades
Are A Priority Concern.
Good Job Todd and Team!
(FM Support Required!)**

Engineering Analysis

By

SSR and Staff
(Input by Todd)

In the '68 portion of the building the electrical distribution equipment is in very poor fair condition. There are exceptions where renovation has occurred, but most of the panelboards are obsolete Federal Pacific panels. There are a number of fused and/or split bus panels. These panels are beyond their normal expected lifespan. Replacement parts are no longer readily available for the old panels.



In older portions of the building, the existing electrical closet doors are small, and generally cramped. There are some working clearance issues, some of which are rather severe. There are a number of electrical panels located in corridor walls. This is not allowed by current guidelines. When renovating, these panels will have to be moved out of the corridors. In general the existing panels and electric closets will not support renovation.

Numerous **Engineering Issues** to be confirmed asap:

- ✓ Highest Risk Areas
- ✓ Sustainable
- ✓ Life/Safety
- ✓ Code
- ✓ FGI Guidelines
- ✓ Budget Factors
- ✓ Deferred Maintenance
- ✓ Phasing and Staging of Areas For OB/LDR/Nursery/Surgery

5 How Are Providers Adjusting to Changes from an A/E/C/\$

Features and Key Attributes

- Manage Work Orders
- New Request Alerts
- Embedded/Baked in Exhibits (photos, data sheets, etc.)
- Minimum Training for Staff and Leadership
- Uniform Space Naming/Numbering and Locator Mapping
- Preventive Maintenance Scheduling and Real Time Validation of Status
- Clearly Defined QUALITY METRICS and OUTCOMES measured routinely
- Cross Comparisons Between Sites and Buildings for Benchmarking
- Cross Comparisons For Cost/ROI and Operational Factors Relating to Utilization and Savings

As mentioned, the primary **GOAL OF THIS PROCESS and SYSTEM DESIGN** is to **leverage facility information and accurate data**, through the life cycle of the facility/buildings and owned property to provide a safe, healthy, effectively managed and efficient environment. We have been impressed with healthcare systems that request users define their space planning goals, outline specific ROI facets of the changes and provide to Leadership very precise information on **GOALS, CONCEPTS, BUDGETARY EXPECTATIONS and TECHNOLOGICAL attributes**. This type of pre-design preparation can lead to a very reliable CAPITAL REQUEST backed up with detailed IFM information as described herein. Without this level of “early preparation” information, projects lose moment and often are eliminated from the budget approval listing.

Key Spatial Management Data

(Programs to capture and maintain information of all buildings and sites owned by the healthcare system)

- **Space Inventory** - Portfolio of Owned and Leased Buildings and Tenant Spaces
- **Space Assignments** - Business Practice and Standardization
- **Space Tabulations** - Standard Practice and User Classification
- **Space Requisition** - Tabulation in Spread Sheet format for Linkages to BIM (3D) Modeling
- **Space Data Management** – Review, Updates and Approvals
- **Space Optimization and Process Change** - Efficient and Cost Effective Use (Waste Reduction)
- **Space Cost/Revenue Audits** - Costs Associated With Use/Rentals and Leases
- **Space Compliance** - CMS/AHJ/TJC and FGI Guidelines
- **Space Accessibility** - Consulting Partners Project by Project:
 - Site
 - Building
 - Users
 - Floor Plans
 - Data Comparisons
 - Benchmarks
 - Inventory
 - Asset Improvements
 - Asset Re-Alignment and Relocation
 - Asset Budgeting and Phasing (Quick Changes)

5 How Are Providers Adjusting to **Changes from an A/E/C/\$** Perspective (A Integrated Facility Management Program)?

Module 1 – Space Data Management - BIM 3D

- Space Use Categories
- Departmental Zoning
- Tenant Use Zoning
- Occupied and Unoccupied Zoning
- As Is Plans and Conditions

Module 2 – HVAC Systems/Equipment Management - BIM 4D

- Major Equipment
- Medical Gas Zones
- Major Mechanical Equipment and Power Plant Linkages
- Management Protocols and Policies

5 How Are Providers Adjusting to Changes from an A/E/C/\$

Module 3 – Life/Safety Systems - BIM 4D

- Fire Sprinkler Zones and Aligned Policies
- Smoke Zones and Compartmentalization
- Fire Compartmentation Zones
- Building Construction Classification Zones
- USP and CMS Compliance Factors and Zones of Risk

Module 4 – Interior Design Systems - BIM 4D

- Ceiling Finish Types/Systems and Heights
- Floor and Wall Finish Types
- Interior Finish Chronology Zones (Time Frames and Upgrade Status)
- Signage and Wayfinding Interface and Chronology

Module 5 – Medical Equipment - BIM 4D

- Major Fixed Medical Equipment
- Major/Minor Moveable Equipment

Module 6 – IT/Data Systems and Telephone - BIM 4D

- Desktop Computers
- Servers
- Phone System (With Vendor)
- Telecom (With Vendor)

5 How Are Providers Adjusting to Changes from an A/E/C/\$

Module 7 – Low Voltage Systems – BIM 4D

- Nurse Call
- Paging and Intercom
- Dispensing and Pharmaceutical

Module 8 – Furnishings/Furniture and Misc Built In Items – BIM 4D

- Furniture, Moveable
- Furniture, Fixed and/or Casework
- Built In and Inpatient Room Applications and Details

Module 9 – Environmental/Security and Safety – BIM 5D

- Air Pressure Zoning
- Off Stage and On Stage Zoning
- Public/Patient Care and Staff Zoning
- Access and Designated Flow Zoning
- Patient Handling and Movement System Plan (PHAMA)

Module 10 – Master Facility Planning (MP) - BIM 5D

- Existing Master Zoning of Assets
- Phasing Zoning by Floor and Building
- Renovation Zoning
- New Construction Zoning
- Demolition and/or Phased Zoning
- Construction Cost Classification Zoning
- Proposed Departmental Zoning and Phased Changes/Retrofits and Re-Purposing
- Proposed Space Categories by Zone
- Building Chronology Zoning

5 How Are Providers Adjusting to Changes from an A/E/C/\$

Module 11 – Data Mining and Assembly of Relevant Metrics - BIM 5D

- HCAAP Scores
- Patient Safety
- Risk Management
- Operational Efficiency
- Customer Satisfaction
- Complaint Management
- Maintenance Optimization and Waste Reduction
- Predictive and Preventative Maintenance and Management

Module 12 – Real Estate/Property Management - BIM 5D

- Project Management
- Contracting
- Space Quality Management – Amenities and Deficiencies
- Space Optimization and Common/Shared Services
- Trend Analysis

Module 13 – Site Optimization - BIM 5D

- Parking and Site Ownership
- Access/Egress (Fire and Ambulance, Service and General Public/Visitors)
- Expansion and Construction Phasing
- Height and Zoning by AHJ and Community Ordinances
- Setbacks/Easements/Storm Retention and Detention
- Energy and Landscape Standards
- Signage and Wayfinding

6 What **Trends** Might We Anticipate for The Future?

- Bigger Than Architecture.
- Innovation Plus Relocation and Transformation.
- Vision, Art and Planetree....Work Well Together
- Hire Smart, Mentor Carefully, Automate.
- Manage the Process, Create A System.
- High Expectations, Involve Senior Leadership
- Show Value.

6 What Trends Might We Anticipate for The Future?



Secretary Azar Praises Unprecedented FDA Enforcement Actions Against Retailers and Manufacturers over Youth E-Cig Sales

On Wednesday, HHS Secretary Alex Azar issued the below statement regarding the FDA's largest coordinated enforcement effort in agency history. FDA issued more than 1,300 warning letters and civil money penalty complaints to retailers who illegally sold e-cigarettes to minors.

"No child should be using any tobacco or nicotine-containing product. We commend the FDA for the critical, immediate and historic action to address the sale and marketing of these products to kids, while it examines additional aggressive steps to stem the troubling trend of their use among youth."

To read more about FDA's actions, please visit:

<https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/UCM620184.htm>

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ACHE



The American
Hospital Association
(State Associations)



Hi Jim,

This week Rural Health Leadership Radio welcomes back Brock Slabach, Senior Vice-President of Member Services for the National Rural Health Association. Brock is leading the national discussion on quality improvement and alternative payment models in rural health. Brock was recognized for his work in rural health when the National Rural Health Resource Center presented him with the Calico Leadership award last year.

"Workforce, vulnerable populations and chronic poverty; we are focusing on all of these topics at the NRHA Rural Health Clinic & Critical Access Hospital Conference later this month."

With over 28 years of experience in the administration of rural hospitals, Brock is definitely an expert and experienced rural health leader. From 1987 through 2007, he was the administrator of the Field Memorial Community Hospital in Centreville, MS.

Brock earned his Bachelor of Science degree from Oklahoma Baptist University and his Master of Public Health in Health Administration from the University of Oklahoma.

For more information on the National Rural Health Association's Rural Health Clinic and Critical Access Hospital Conference in Kansas City, September 25-28, 2018. click on this link: <https://www.ruralhealthweb.org/events/event-details?eventId=24>

I hope you enjoy this episode of Rural Health Leadership Radio!

Thank you for listening!

Visit www.rhlradio.com to tune in to today's episode.

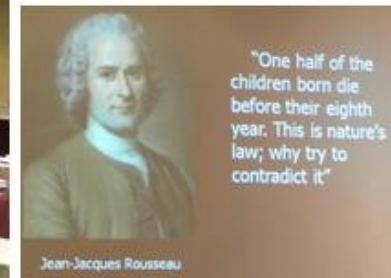
About Rural Health Leadership Radio

Over the last ten years, nearly 100 rural hospitals have closed their doors. Roughly one in three rural hospitals have been identified as "at risk." **If there was ever a need for strong leadership, that time is now.** RHLR is a 501(c)3 non-profit and our mission is to improve the world by engaging rural health leaders in conversations, learning and research. Our **podcast provides a forum to have conversations and learning** with rural health leaders to discuss and share ideas about what is working, what is not working, lessons learned, success stories, strategies, things to avoid and anything else you want to talk and hear about. RHLR podcast provides a forum that is absolutely free to anyone who wants to tune in and listen. The only investment is your time, and our goal is to make sure you receive a huge return on your investment. **For more information, visit rhllradio.com or e-mail bill@billauxier.com.**



Questions, Comments & Feedback

Thank You.



"We Celebrate Your Good Work Over These Years Of Change!"