Children's Hospital of Michigan A New Way of Doing Business:

Combining Empathy with Integrated Facility Design

Luanne Thomas Ewald, FACHE CEO, Children's Hospital of Michigan







Objectives

- Understand the role of empathy in the business setting
- Understand the role of the community in development
- Understand need for cultural transformation in healthcare
- Share learning from Integrated facility Design (IFD) and lean processes
- Understand need for operational efficiencies in healthcare settings





Children's Hospital of Michigan









- Established 133 years ago
- Michigan's first and oldest hospital entirely for kids
- Opened Troy: Feb. 1, 2016
- Opened Tower: June 8, 2017
- Completion of new hospital:
 October 31, 2018





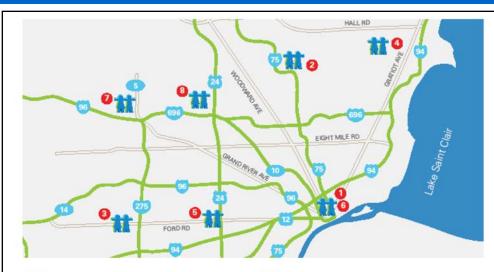








Locations



- Children's Hospital of Michigan 3901 Beaubien Blvd. Detroit, MI 48201
- Children's Hospital of Michigan Troy 350 W. Big Beaver Road Troy, MI 48084
- 3 Children's Hospital of Michigan Specialty Center – Canton 45250 Cherry Hill Road Canton, MI 48187
- Children's Hospital of Michigan Stilson Specialty Center – Clinton Township 42700 Garfield Road Clinton Township, MI 48038

- 5 Children's Hospital of Michigan Specialty Center – Dearborn 25325 Ford Road Dearborn, MI 48127
- 6 Children's Hospital of Michigan Specialty Center – Detroit 3950 Beaubien Detroit, MI 48201
- Novi Rehabilitation Center 42005 W. 12 Mile Road Novi, MI 48377
- 8 Children's Hospital of Michigan Alex J. Etkin Specialty Center – Southfield 29120 Franklin Road Southfield, MI 48034





Serving Children from Near and Far



- Destination for Pediatric Specialty Care
- More than 250
 International Patient
 Encounters Annually from
 22 Countries
 - More than 500 Encounters
 Annually from 39 States
 Outside of Michigan
 - See Children from 73/83
 Michigan Counties





Children's Hospital of Michigan

Most Advanced Care

- PANDA One
- Level IV NICU
- Level 1 Pediatric Trauma Center
- Pediatric Burn Center
- Heart, Kidney, Liver & Bone Marrow
 Transplants
- Michigan's Poison Control Center

Nationally Recognized

- U.S. News & World Report Best
 Children's Hospital Rankings
- Parent Magazine: Best Emergency & Preemie Care
- Top 25 NIH Pediatric Research Funding











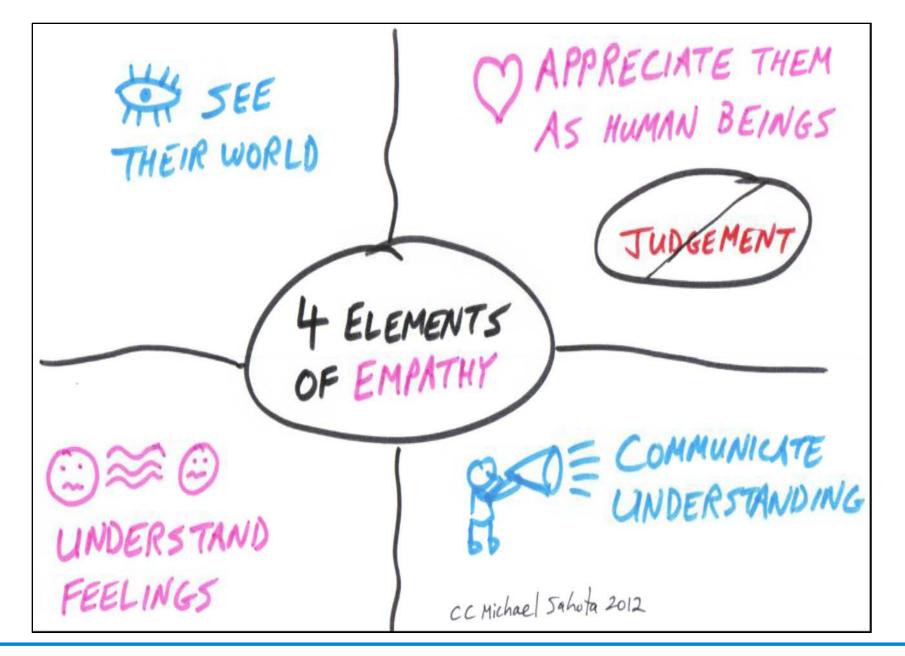


Leading with Empathy



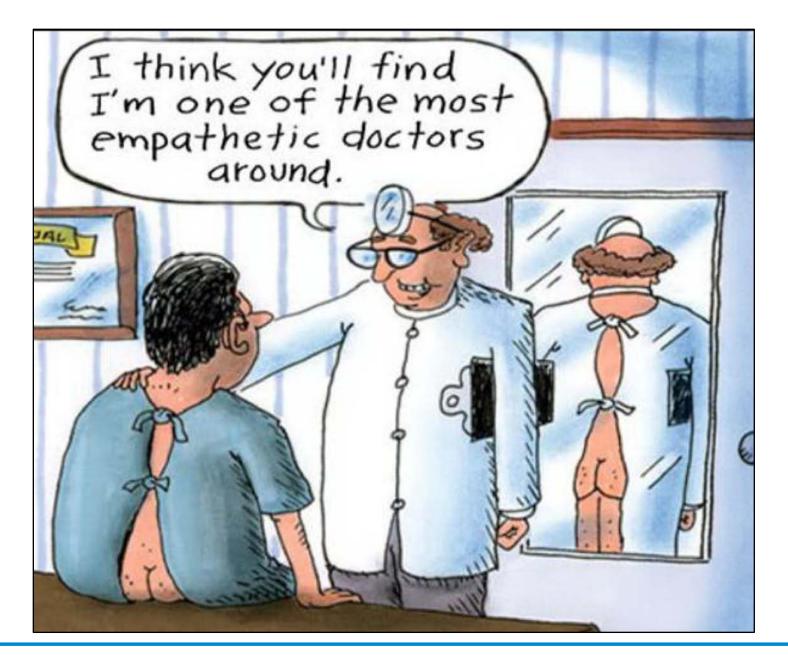


















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"What critical workplace skills will be needed in the next five to ten years?"





Answers Did NOT Include

- Business Acumen
- Business Analysis
- P & L Management

Answers DID include

- Relationship building & empathy
- Ability to work well on a team
- Creativity
- Brainstorming









https://youtu.be/cDDWvj_q-o8







https://www.youtube.com/watch?v=1Evwgu369Jw&app=desktop#







Design Thinking

Children's Hospital of Michigan Troy - before



"don't embrace the status quo"





Design Thinking

I met:

Peter, age 12, who has had over 100 surgeries at Children's Hospital

Surprisingly I learned:

that the lack of color within a facility caused anxiety for him

It would be a game changer:

to create a hospital that was welcoming to children and minimized their anxiety



"find new ways to see"





Design Thinking

Children's Hospital of Michigan Troy - after



"Innovate around the core"

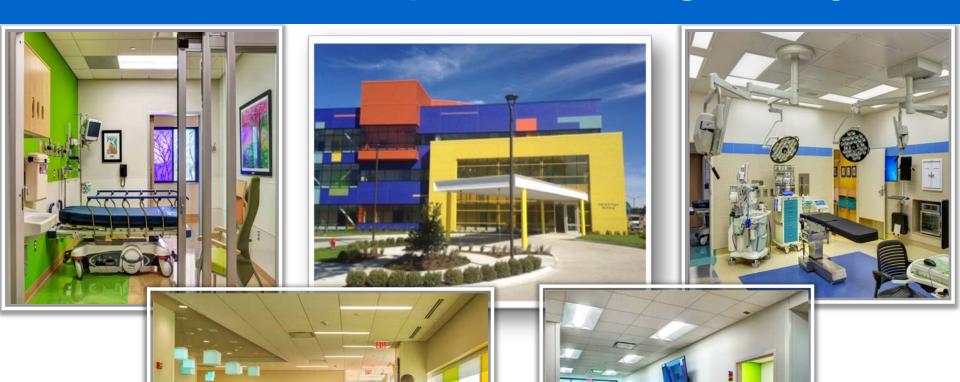








Children's Hospital Of Michigan Troy













"Innovate around the core"

How It Began



Video: https://vimeo.com/179448124





Ground Breaking – 9.18.14











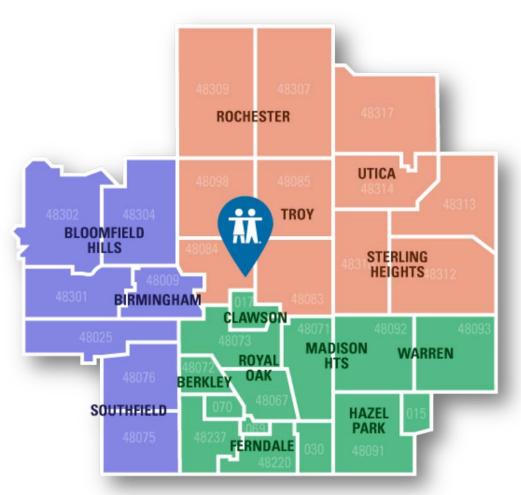
Joe Mulany, CEQ, Detroit Medical Center (DMC)

FAMILY REMARKS
The Winters Family SPECIAL ANNOUNCEMENT

Erica Coraco, Children's Hospital of Michigan Board Onair OAKLAND COUNTY WELCOME
L Brooks Patterner, Oldsand County Execut GROUND BREAKING CEREMONY



10-Mile Radius Swrounding Children's Hospital of Michigan - Troy



	Pagion #	Number of Physicians		
Region #		Family Practice	Pediatricians	
1	Region 1	170	93	
2	Region 2	7	49	
3	Region 3	105	41	

18	School Districts
87,000	Households with Kids
150,693	Kids Under 17
\$78,000	Median household income
67%	Some College Education or More

Communities with the Most Kids

- Sterling Heights/Utica
- Rochester/Troy
- Royal Oak
- Warren





Troy Creative























Consumer Targeted Activities & Community Outreach



	Date	Event	Area
1	5/3/2015	Williams Syndrome Walk	Royal Oak
2	5/17/2015	Birmingham Hometown Parade	Birmingham
3	5/29-5/31	Detroit Belle Isle Grand Prix	Detroit
4	5/31-10/18	Birmingham Farmer's Market	Birmingham
5	6/8/2015	Boys & Girls Club Troy Womens Golf Classic	Troy
6	6/17/2015- 6/2016	Troy Soccer Club Partnership Begins	Troy
7	6/19, 7/17, 8/7	Birmingham Summer Movie Nights Booth Park	Birmingham
8	6/20/2015 ongoing	Royal Oak Farmer's Market	Royal Oak
9	6/22/2015	Detroit Fireworks	Detroit
10	7/11/2015	Yoga at the Zoo	Royal Oak
11	7/14 - 7/15	Troy Superintendent/ Troy Administration Meeting at CHM	СНМ
12	7/18-7/24	Somerset Back to School Celebration	Troy
13	7/25/15	Birmingham Day on the Town	Birmingham
14	8/10-8/15	Woodward Dream Cruise	Birmingham/Royal Oak
15	9/4-9/7	Arts, Beats and Eats	Royal Oak
16	9/11-9/13	Rochester Arts and Apples	Rochester
17	9/17-9/20	Troy Family Daze	Troy
18	9/27/15	Brooksie Way Kids Race	Rochester
19	10/4/15	MetroParent Education Expo, Cranbrook	Bloomfield Hills
20	10/17-10/31	Zoo Boo	Royal Oak
21	11/26/15	America's Thanksgiving Day Parade	Detroit
22	12/6/2015	Rochester Christmas Parade	Rochester
23	12/15	Birmingham Winter Market	Birmingham
24	12/15	Rochester Lights Fest	Rochester





Birmingham Movie Nights











Community Support

The Somerset Collection's North Grand Court was transformed into a life-size "Candy Collection" game offering guests a sweet adventure to welcome and support the opening of the new Children's Hospital of Michigan - Troy. Guests were given a preview of the new hospital with a replica of the Children's Hospital of Michigan - Troy built with over 7,000 Legos.







Street Team

The Children's Rock Out Street Team entertained kids/families during Birmingham's *Day on the Town*. Thousands of people were in attendance and many commented on the building's bright colors and shared their excitement on the fast approaching grand opening.









Troy Soccer Club Exclusive Health Care Sponsor – 600 Kids









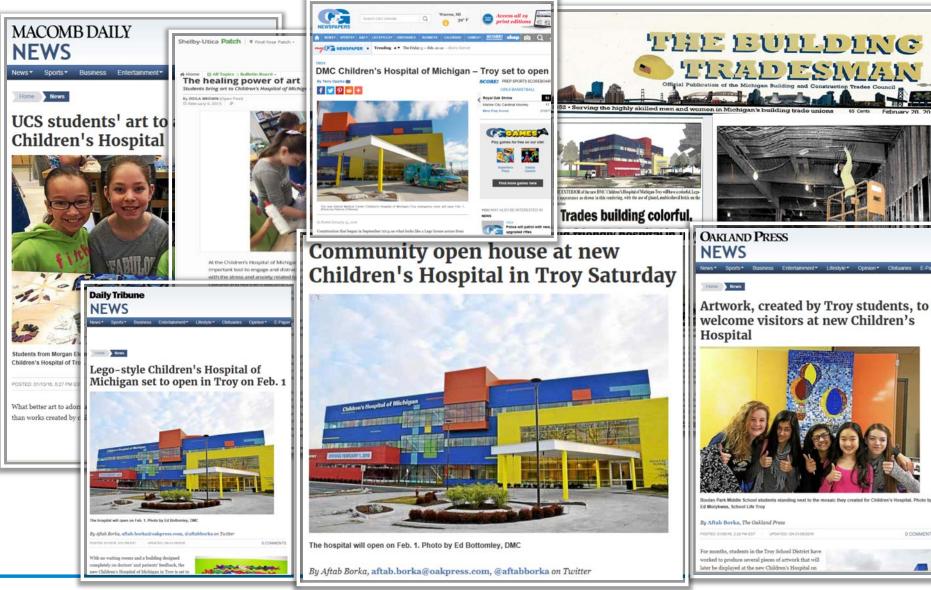








Creating Buzz















FOX 2 Detroit



- Feature Story Aired at 6pm on FOX 2 Detroit January 23, 2016
- Reporter Jay Towers covered one of many Community Open Houses that showcased the interior of the building along with student art pieces.





Social Media Reach: Posted 25 CHM Troy-messages across five social media platforms: Facebook, Twitter, Instagram, Vimeo and Linked-In which engaged 70,000 people who viewed, downloaded, commented and/or shared these messages with others.

First Quarter Social Media Post Activity on Facebook, Vimeo, Instagram and Twitter					
Social Account	Reach	Message	Posts		
Vimeo	4,557	VIDEO: Coming Soon, Children's Hospital of Michigan - Troy, David K. Page Building https://vimeo.com/106000857?ref=tw-share	Jan-April		
Instagram	1,928	The DMC Children's Hospital of Michigan - Troy, David K. Page Coming 2015 #ChildrensDMC #LEGO #Troy #OaklandCounty#Hospital	Jan		
Twitter - childrensdmc	8,221	VIDEO: Coming Soon, Children's Hospital of Michigan - Troy, David K. Page Building https://vimeo.com/106000857?ref=tw-share	April		
Twitter - dmc_heals	10,550	VIDEO: Coming Soon, Children's Hospital of Michigan - Troy, David K. Page Building https://vimeo.com/106000857?ref=tw-share	April		
Twitter - dmc_heals	10,550	VIDEO: Coming Soon, Children's Hospital of Michigan - Troy, David K. Page Building https://vimeo.com/106000857?ref=tw-share	Jan-March		
Twitter - childrensdmc	8,221	VIDEO: Coming Soon, Children's Hospital of Michigan - Troy, David K. Page Building https://vimeo.com/106000857?ref=tw-share	Jan-March		
Facebook ChildrensDMC	3,210	Spring has sprung in Troy! The bright colored bricks can now be seen on the Children's Hospital of Michigan - Troy, David K. Page Building, slated to open later this year.	April		
Facebook ChildrensDMC	3,626	Even on the coldest day of the year the work still continues at the future site of the Children's Hospital of Michigan - Troy, David K. Page Building, slated to open late 2015.	February		
Facebook ChildrensDMC	1,320	Students bring the healing power of art to the new Children's Hospital of Michigan – Troy, David K. Page Building	February		
Facebook ChildrensDMC	Students at Oakview Middle School in Lake Orion kicked-off a very special art project that will be showcased inside the Children's Hospital of Michigan - Troy, David K. Page Building, slated to open by late 2015.		January		
Facebook DMCHeals	3,754	Children's Hospital of Michigan's Art Advisor Grace Serra talks to WDIV Local 4 / ClickOnDetroit about mosaic art students at Shelby Junior High School are doing for the new Troy facility, opening at the end of the year!			
Twitter - childrensdmc	8,221	Spring has sprung in Troy! The bright colored bricks can now be seen on the Children's Hospital of Michigan - Troy, David K. Page Building, slated to open later this year.			
LinkedIn	1,654	We will be building a new, state-of-the-art, Specialty Center in Troy! Check it out!	Jan-April		
TOTAL	70,082				





Troy Outcomes

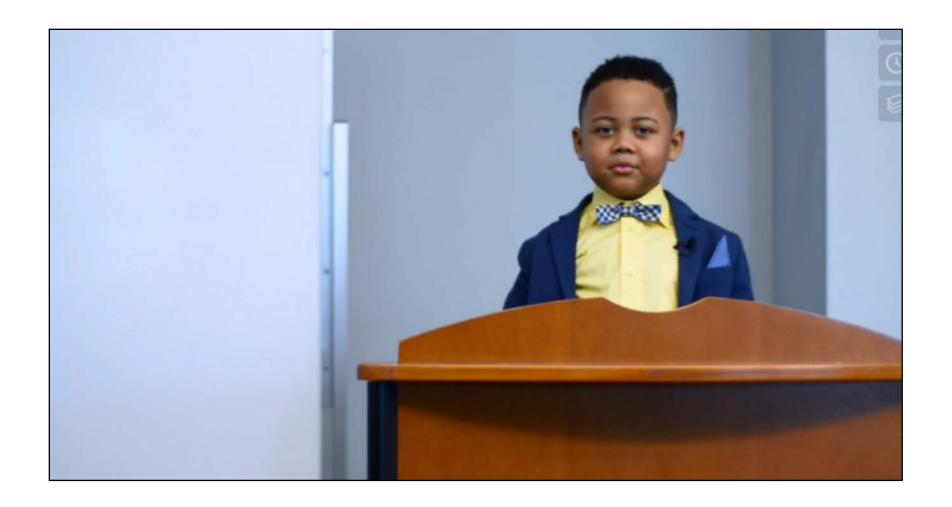


Children's Hospital of Michigan – Troy's Performance	Year 1: Feb 16-Jan 17	Year 2: Feb 17-Jan 18	Year 3: Feb 18-Jan 19
Emergency Department Visits	11,721	13,985	14,317
Surgery Cases	905	1,199	1,466
Outpatient Clinic Visits	4,284	12,522	13,565





Update from Charles



Key Elements for Successful Healthcare

- Provide patients and families with best known options to improve health
- Delivery clinical quality
- Provide patients and families an exceptional service experience

Advanced lean in Healthcare: Albanese, Aarby & Platchek 2014





Children's Hospital of Michigan Responded

- Challenges viewed as opportunities
- "Go see what good looks like"
 - Study trips





Why a Lean Operating System?

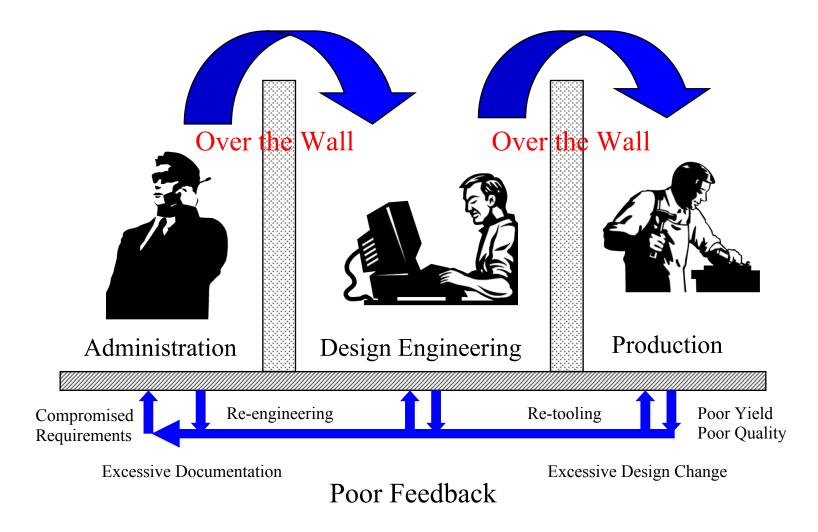
- Day to day issues take up time and resources- fire fighting
- Inability to focus on growth, engagement, research, joint ventures, education etc.
- Stabile operating system needs to support managements long term and short term goals
- Need to support patient needs and improve their experience
- Need to support and improve the workplace experience

Advanced lean in Healthcare: Albanese, Aarby & Platchek 2014





Traditional Build Process-Division of Specialists







Case for IFD

- For 100 years we have built buildings the same way
 - Silos: Architect, Engineers
 - Finger pointing when things went wrong
- New Way
 - Collaboration: Various groups of people designing the building; Front line staff - Nurses, Clerks, Patient Care Associates, and Doctors
 - Architects and general contractors in background assisting as needed
 - Patients and families are also part of the design process
- All based on "The Patient" and how they move through and experience a "no wait" environment.







Case for IFD

- Build a facility that meets customer demand
- Occupies a smaller footprint
- Uses fewer RFI's post construction
- Reduce cost
- Long term plans need to address 3 key factors:
 - Methods: LDM, Standard work, Level loading
 - Mindset: Continuous improvement
 - Management System: Strategy Deployment, Visual controls operational stability

Advanced lean in Healthcare: Albanese, Aarby & Platchek 2014





Signs of IFD

Governance

Charter/resource allocation/commitment

Conceptual

- Education/paper dolls/flows of healthcare
- Building conceptually designed

Schematic

- Life size mock up/flow
- Troy: 3 week long events/Tower: 5 week long events

Detail

- Life size mock up/room specifics
- Troy: 3 week long events/Tower: 5 week long events

Matching Capacity to Demand

Level loading schedules: week long event

Daily Management System

- Standard work/leader standard work
- Confirmation of standard work
- Hourly rounding





Involvement and Commitment

Medical

- Allergy
- Cardiology
- **Diabetes**
- **Emergency Services**
- **Endocrine**
- Genetics/Metabolics
- Hematology/Oncologyincluding infusions
- Neonatal Intensive care-Includes PANDA
- Nephrology
- Neurology
- Radiology
- RIM- PT/OT/Speech
- Pediatric Intensive care
- Pediatrics overall
- PM&R
- Pulmonary
- Rheumatology

Surgical

- Anesthesia
- Cardiovascular
- General Surgery
- GI
- Neurosurgery
- Ophthalmology
- **Orthopedics**
- Otolaryngology
- **Urology**













Guiding Principals

- Start with the customer
- Too much space is an enemy
- Design based on flow optimization, not department optimization
- Use load leveling to reduce space requirements
- Reduce lead times to decrease space requirements
- Build tents, not castles avoid monuments
- Create line of sight
- The source of teamwork is a common future: Engage everyone in Integrated Design Events
- Add natural light
- Design for acoustical environment
- Flexible and Shared use of Space
- Perception & Reality of a "Safe Environment"
- Create on staging and off staging flows
- Bring resources to the patient





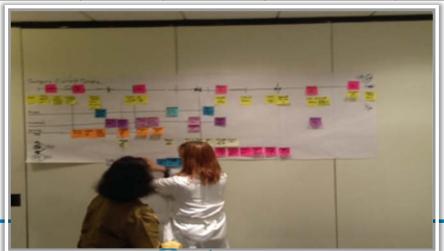
Patient/Family is Our Customer

SURGERY DEPARTMENT CURRENT STATE

Patient	Intake	Wait	Pre-Op	Transfer to OR	OR	Transfer to PACU I	PACU I	Transfer to PACU II	PACU II	Discharge	Lead time
	CT: 20 minutes	CT:30 minutes	CT: 40 minutes	CT: 5 min	CT: 80 minutes	CT: 10 minutes	CT: 64 minutes	CT: 10 minutes	CT: 60 min	CT: 10 min.	324 minutes

SURGERY DEPARTMENT FUTURE STATE

Detient	Intake	Pause	Pre-Op & Induction	OR	Transfer to PACU I	PACU I	Discharge	Lead time
Patient	CT: 5 minutes	CT:30 minutes	CT: 25minutes	CT: 50 minutes	CT: 5 minutes	CT: 25 - 90 minutes	CT: 5 minutes	165 minutes



Lead Time: 324 min. to 165 min. # Steps in process: 10 to 7



8 Flows of Healthcare Design Test

- Patient
- Family
- Staff
- Medication
- Equipment
- Supplies
- Communication
- Continuous improvement







Mapping and Flows















Building Takes Shape



Stacking the building



3rd floor conceptual design





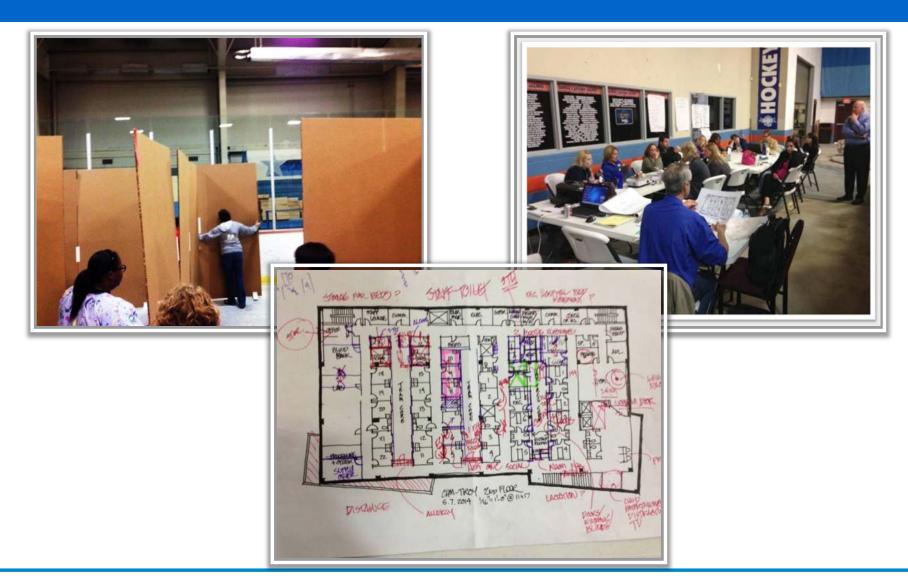
Schematic Event







Test. Move. Test.







Tours with Families and Staff





















It's All About the Detail

LOBBY/REGISTRATION					
LIKES	PLEASE CONSIDER				
Play area	Interactive board games				
Tours	Involving child life in interior design				
Plugs	Pods of chairs for families				
Glass/natural light	Keys for locker cabinets- survey says				
Lockers	Family bathroom				
Hidden drinking fountain	Lower desk to be more open				
Water feature if get	Shorten privacy walls				
	Process for step parents to see patient				
	Tables by chairs for belongings				
	Chair groupings				
INDUCTION					
Natural light in hallway	Sky light				
Like TV	Add music to TV stations				
Like chairs	Keep IV pump with child thru process				
Family friendly design	Child friendly decor				
Team design	Chairs				





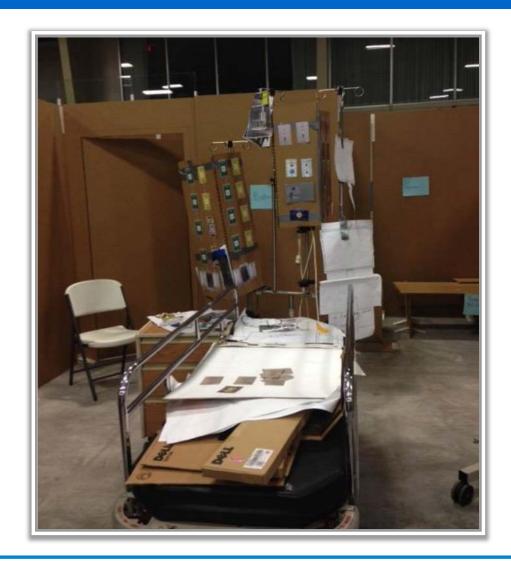








Detail Mock Ups

















Detail Mock Ups







Lean & Integrated Facility Design Results

Results:

- Reduced OR Lead-Time by 51%
- Reduced Clinic Lead-Time by 40%
- RFI's during construction decreased by 30%
- Designed two buildings (Ambulatory Specialty Center/Critical Care Tower) in less than 6 months
- Reduced ER room requirements by 13% from business plan
- 14% Reduction in Ambulatory building requirements from business plan
- Waiting Rooms- small Pause areas





Vision of Level Loaded Schedule

- A level loaded schedule:
 - Smooth's out the daily demand for the Clinic resources
 - Provides dimensions and a blend of categories based on:

Specialty

Appointment type

Provider

Room in Room out time

Volume

- Eliminates waste
- Incorporating level loading and flow improves patient and staff experience
- Appointments are arranged to best meet Takt time and reduce variation at the pace of registration or recovery room
- The thresholds and boundaries that are identified will be upheld to maintain a leveled schedule
- A system that provides safe, efficient care for add-ons (same day no delay)
- A system that incorporates no shows, cancellation rates





Benefits

- Better communication/teamwork
- Steady pace
- Efficient workflow
- Reduced space requirements
- Less frustration and pressure for staff
- Identifies quality problems upstream
- Assist in improving current specialty center
- Improved patient, family, physician and staff satisfaction





Lessons Learned

- Go and see what good looks like
- Communicate more than you think you should!
- Solidify commitments
 - Help ancillary staff see the importance of participating in events
- Hospital representatives from design to be part of construction meetings right from the start
- Relationship building with construction team
 - Value of clinical input
- Trust the process and design
- Expect the unexpected







Questions? Thank You



