The Special Isolation Unit
A pediatric initiative aimed at preparing for highly contagious diseases
Presentation Overview

• Texas Children’s Hospital and West Campus
• Introduction to the Special Isolation Unit and high-level timeline
• Building the Special Isolation Unit
• How we completed the project in 11 months
Houston is a hub for healthcare

- 130 hospitals
- 113 ambulatory surgery centers
- 717,101 inpatient discharges
- 20,575 hospital beds
- 3 medical schools and 17 nursing schools
- 2 pharmacy schools
- ~15,000 practicing physicians
- Home to the Texas Medical Center – the largest medical complex in the world
- 160,000 people visiting the TMC every day

Of the 130 hospitals…

Sources: Greater Houston Partnership, Texas Health Care Information Collection (THCIC) Public Use Data File, TMC Website
Texas Children’s Hospital is the largest freestanding children and women’s hospital

- ~650 licensed beds
- 261,568 unique patients served, representing:
  - All 50 states
  - 60 countries around the world
- Ranked #4 children’s hospital of 184 surveyed nationally by U.S. News & World Report
- Magnet designation for Nursing Excellence
- 5,588 births

### Operating Statistics (FY 2015, annualized)

<table>
<thead>
<tr>
<th></th>
<th>Medical Center</th>
<th>West Campus</th>
<th>Pavilion for Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admissions</td>
<td>18,000</td>
<td>2,000</td>
<td>11,000</td>
<td>31,000</td>
</tr>
<tr>
<td>Outpatient Visits</td>
<td>340,000</td>
<td>82,000</td>
<td>161,000</td>
<td>583,000</td>
</tr>
<tr>
<td>Surgeries</td>
<td>21,000</td>
<td>5,000</td>
<td>2,000</td>
<td>28,000</td>
</tr>
<tr>
<td>EC Visits</td>
<td>83,000</td>
<td>46,000</td>
<td>-</td>
<td>129,000</td>
</tr>
</tbody>
</table>

*Includes TCP encounters

Texas Children’s Hospital is a comprehensive system

We are a vast, comprehensive enterprise, with 70+ patient care locations and a network of partnerships that treat women and children across the care continuum.

- **Inpatient**
  - Medical Center, West Campus, Pavilion for Women, The Woodlands (Coming soon)

- **Transport**
  - Providing maternal, pedi & NICU transport

- **Community Partnerships**
  - e.g., St. Joseph’s, CHI, Methodist

- **Subspecialty Care**
  - e.g., Health Centers, CCC, MFM

- **Home Health**
  - (Coming soon)

- **Primary Care**
  - e.g., TCP, Urgent Care, The Centers, OB/GYN Clinics

- **Research Infrastructure**
  - Bringing innovative solutions to the bedside

- **Epic**

- **eHealth**
  - Geographic reach and monitoring

- **Health Plan**
  - Access and coverage
West Campus is the pediatric healthcare home to hundreds of families in West Houston

- We offer expert pediatric outpatient services, inpatient care, surgical services and a fully dedicated pediatric emergency center

- Home to over 870 employees

- In FY15, West Campus provided
  - 62,446 Outpatient Subspecialty visits
  - 49,412 Radiology procedures
  - 44,099 Emergency visits
  - 5,925 Surgical Cases
The Special Isolation Unit is an indispensable resource to our community, Texas and the nation

The decision to build a special isolation unit came last year after an unprecedented Ebola outbreak, resulting in the realization that we must be prepared to handle emerging infections as an institution.

- The unit is located on the 5th floor of the Texas Children’s Hospital West Campus
- The eight-bed unit is designed for children with highly contagious infectious diseases
- The unit is the only one of its kind in the Southwest and among a few in the United States designated just for children
We needed to innovate rapidly and efficiently
The state-of-the-art unit is fully equipped to care for any infant or child with a serious communicable disease

The unit includes

- Biosafety Level 3 Lab - which allows for safe, on-site rapid identification of both usual and unusual pathogens
- Anteroom and Patient Room
- Nurses Substation with Observation Window
- Autoclaves
- Shower/Staff Locker Room
The unit has a highly specialized Special Response Team

- At least six members of the team, called the Special Response Team, will be assigned to each child, and one of them will act as a family liaison. The team was selected and trained over a five-month period.

- Employee safety is critical and emphasis was placed on Personal Protective Equipment (PPE)

- Numerous extensive simulations were held to understand operations and patient care

- Quarterly training are conducted to ensure activation readiness
Our success in rapidly building the SIU can be attributed to 3 key elements

1. Learning from simulations and site visits

2. Developing a dedicated comprehensive team with the common goal of opening the SIU timely without compromising safety and quality

3. Engaging in frequent and timely communication
   • Understanding the unit’s needs
   • Creating project schedules and project plans
   • Holding each other accountable
Learnings from simulations and site visits have informed the design of The Special Isolation Unit.
Specialized features were incorporated to the SIU rooms after site visits and extensive simulations

Unique features include:

- Children being treated will be able to use tablet computers to talk with their families via video chat
- Negative pressure rooms and isolated air handling
- High-protocol workflows designed around a “clean-to-dirty” workflow
- Observation windows into patient rooms to limit staff exposure
- Specialized technology and communication devices to communicate as a team
- Staff locker room where caretakers will show before leaving the unit after each shift
- Child life play room for patient siblings and young visitors
West Campus 5th Floor Facility Overview
We were fortunate to leverage existing shell space on the 5th floor for expansion.
The design requirements for a Special Isolation Unit were well thought to ensure patient and employee safety

Containment Strategies

- Red/Yellow/Green; Hot/Warm/Cold
- Containment at the room, not the unit
- Corridors “cold” so parents and others can be on the unit
- Showers centrally located when leaving the unit in “special isolation”
We were fortunate to leverage a dedicated team committed to completing all steps timely

- **Design Consultants**
  - Familiar with existing facility
  - Able to meet deadlines
  - Willingness to research new program requirements
  - Able to have staff available on-site for design and construction

- **General Contractor**
  - Familiar with existing facility
  - Ability to secure subcontractors early
  - Willingness to work with “just in time documents”
  - Good relations with regulatory officials

- **Project Delivery Team**
  - Specific individuals identified to represent the various areas and drive new program developments related to the special isolation requirements
A project of this capacity takes 20 months to complete...we had 11 months

<table>
<thead>
<tr>
<th>STEP 1</th>
<th>STEP 2</th>
<th>STEP 3</th>
<th>STEP 4</th>
<th>STEP 5</th>
<th>STEP 6</th>
<th>STEP 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Design</td>
<td>Funding</td>
<td>Design</td>
<td>Bid / Purchase</td>
<td>Construction</td>
<td>Occupancy</td>
<td>Close-Out</td>
</tr>
<tr>
<td>Scope Definition</td>
<td>Identify Funding Source</td>
<td>Schematic Design</td>
<td>Construction Bidding / Negotiation</td>
<td>Work Plan &amp; Schedule</td>
<td>Move Logistics</td>
<td>User / Stakeholder</td>
</tr>
<tr>
<td>Space Assignment</td>
<td>Budget Approval</td>
<td>Design Development</td>
<td>Value Engineering</td>
<td>Permits</td>
<td>System / Space</td>
<td>Outstanding Issues</td>
</tr>
<tr>
<td>Conceptual Planning</td>
<td></td>
<td>Construction Documents</td>
<td>Contract Approvals</td>
<td>Project Area</td>
<td>Decommissioning</td>
<td>Decommission</td>
</tr>
<tr>
<td>Logistics &amp; Timetable</td>
<td></td>
<td>Decommissioning</td>
<td>Infection Control</td>
<td>Abatement</td>
<td>Training</td>
<td>Vacated Space</td>
</tr>
<tr>
<td>Budget Development</td>
<td></td>
<td>Space Planning</td>
<td>Demolition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scope Approval</td>
<td></td>
<td>Constructability Feedback</td>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cost Estimates</td>
<td>Cabling / Network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Value Engineering</td>
<td>Punch Lists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Regulatory Approvals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>November 2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 month 3 months 6 months 1 month 3 months
Communication was essential to ensure the project progressed timely and accurately

- Weekly design meetings
- Project management documentation
- Rapid communication and coordination after mock up’s and simulations
“Today, Texas Children's Hospital is fully prepared to care for children with highly contagious diseases. I am honored to say that when problems threaten our community and our children, Texas Children's *always* leads strong. We do not shy away from those who need us most.”

-Chanda Cashen Chacon, West Campus President
Thank you