TRADELINE
Academic Medical and Health Science Centers 2013

10-year Master Plan Case Study:
Full implementation delivers a modern Academic Healthcare Campus

FORUM SESSION N
October 22nd, 2013 - 1:45 – 2:40
TRADELINE
Academic Medical and Health Science Centers 2013

10-year Master Plan Case Study:
Full implementation delivers a modern Academic Healthcare Campus

PRESENTERS:

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10-year Master Plan Case Study: Full implementation delivers a modern Academic Healthcare Campus

PRESENTATION OUTLINE

1. PLANNING ISSUES
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY
3. A CLOSER LOOK: THE PSH CHILDRENS HOSPITAL
4. PLANNING STRATEGIES
   Q & A
10-year Master Plan Case Study:  
Full implementation delivers a modern Academic Healthcare Campus
1. PLANNING ISSUES

A COMMON THREAD
1. PLANNING ISSUES

ROLE OF LANDSCAPE
1. PLANNING ISSUES

ROLE OF LANDSCAPE
1. PLANNING ISSUES

CONNECTIVITY VS CONTIGUITY
1. PLANNING ISSUES

COMPLEXITY AND CLARITY
1. PLANNING ISSUES

DENSITY WITH POROSITY
1. PLANNING ISSUES

IDENTITY VS UNIFORMITY
1. PLANNING ISSUES

IDENTITY VS UNIFORMITY
1. PLANNING ISSUES

INSTITUTIONAL IDENTITY
1. PLANNING ISSUES

GESTURAL PLANNING

(REAL OR GIMMICK?)
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   Q & A
HISTORY

- 1963 - $50 million donation from the Hershey Trust to PSU to build medical school and HMC
- 1966 - Groundbreaking
- 1967 - 1st class enrolled
- 1970 - October - 1st patient admitted
- 1970 - Dr. Nicholas Nelson hired - 1st pediatrician
- 1971 - Pediatric floor opens
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

ORIGINAL PLAN
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

FRONT DOOR ON CRESCENT

1972
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

EAST EXPANSION 1980’s
CAMPUS MASTER PLAN 2002: THE CLINICAL QUADRANGLE
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

INITIAL PLANNING STUDIES

STRAIGHT YARD

ANGLED YARD

COURTYARD

BOOMERANG
PARTI SKETCH
## COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
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<tr>
<td>Cancer Institute</td>
<td>182,000 SF</td>
</tr>
<tr>
<td>Children’s Hospital</td>
<td>252,000 SF</td>
</tr>
<tr>
<td>Heart Institute</td>
<td>100,000 SF</td>
</tr>
<tr>
<td>Oncology Treatment</td>
<td>8,300 SF</td>
</tr>
<tr>
<td>ED Expansion</td>
<td>30,000 SF</td>
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<tr>
<td>Parking Garage</td>
<td>2,000 cars</td>
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2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

MASTER PLAN SUMMARY: EXISTING
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

MASTER PLAN SUMMARY: PHASE 1
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

MASTER PLAN SUMMARY: PHASE 2
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

MASTER PLAN SUMMARY: EXPANSION
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

PROGRAMS
- Cancer Institute
- Children’s Hospital
- New Entry Lobby
- Emergency Department
- Radiology
- Surgery
- Heart Institute

[Map of the Clinical Quadrangle at Penn State Hershey with highlighted programs.]
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY
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2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

CAMPUS UTILITIES
- Re-routing and Relocations
- Expansion of Chiller Plant
- Oxygen Loop
- Emergency Generation

14 ACRES
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

OPERATIONAL ISSUES
- Admissions/Registration
- Consolidate Cancer Groups
- Expand Children’s Hospital
- Balance of OR’s
- Offices – Space Policy
- Conference Rooms
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

LOGISTICS ISSUES
- Traffic Flow and Safety
- Emergency Access
- Patient transport
- Animal Transport
- Materials Management
- Equipment Access
- Food Services
- Pneumatic Tube
- Infection Control
- Heliport
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

LEVEL ONE

1. HOSPITAL MAIN ENTRANCE
2. CHILDREN'S HOSPITAL ENTRANCE
3. CANCER INSTITUTE ENTRANCE
4. PHARMACY
5. CANCER INSTITUTE CLINICS
6. INFUSION BAYS
7. EMERGENCY DEPARTMENT ENTRANCE
8. CONNECTOR TO CRESCENT
9. CANCER INSTITUTE HEALING GARDEN
10. HOSPITAL COURTYARD
11. EXISTING HOSPITAL
12. MEDITATION ROOM
13. CAFÉ
14. SECRET GARDEN
15. CHILDREN'S HOSPITAL HEM-ONC INFUSION

CANCER INSTITUTE

CHILDREN'S HOSPITAL
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

PHASE 1
CANCER INSTITUTE
MAIN LOBBY
PARKING GARAGE
EMERGENCY
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

PHASE 1
CANCER INSTITUTE
PHASE 1
CANCER INSTITUTE
2. THE CLINICAL QUADRANGLE AT PENN STATE

PHASE 1
CANCER INSTITUTE
As seen from the main vehicular approach, the north elevation of the Cancer Institute is the front façade of the medical center. Framing the new Emergency Department, it is highlighted by a twisted column that supports the floating office wing above.
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

PHASE 1:
CONSTANT COMPLETION (vs GRADUAL IMPLEMENTATION)
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

PHASE 1
MAIN LOBBY
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

PHASE 1
MAIN LOBBY
2. THE CLINICAL QUADRANGLE AT PENN STATE HERSHEY

PHASE 1
PARKING GARAGE
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3. THE PSH CHILDREN’S HOSPITAL

PHASE 1

MAIN LOBBY  CANCER INSTITUTE  EMERGENCY ACCESS  EXISTING CRESCENT
3. THE PSH CHILDREN’S HOSPITAL

PHASE 2
providing for the establishment and maintenance of a State institution for the care and treatment of indigent children and those afflicted with surgical tuberculosis and allied conditions...
Elizabethtown Hospital

Opening Day:  March 21, 1930
  • First patient:  TB of the hip
  • Census:  24 pts
  • Avge. LOS:  18 months

February 15, 1960
  • Census:  160 pts
  • Capacity 200 pts
  • Employees:  225
  • Avge. LOS:  225 days
3. THE PSH CHILDREN’S HOSPITAL
BACKGROUND
Transition of Elizabethtown Hospital to PSHCH

1978  Census only 40 – and declining
1982  State turns over to HMC
1989  Name change to University Rehabilitation Center
1990  Commonwealth builds HMC south addition
1991  Rehab moves to HMC campus
2007  Plans in development for new Rehab facility with Select Medical
3. THE PSH CHILDREN’S HOSPITAL

BACKGROUND

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Dean George Harrell
3. THE PSH CHILDREN’S HOSPITAL
BACKGROUND

Growth of Services: OUR REACH
3. THE PSH CHILDREN’S HOSPITAL

BACKGROUND

Increased Geographical Regionalization
3. THE PSH CHILDREN’S HOSPITAL

BACKGROUND

Growth of Services: OUTPATIENT VISITS

![Graph showing growth of outpatient visits from 1996 to 2012.]
3. THE PSH CHILDREN’S HOSPITAL
BACKGROUND

Growth of Services: INPATIENT ADMISSIONS
3. THE PSH CHILDREN’S HOSPITAL

BACKGROUND

1972
3. THE PSH CHILDREN’S HOSPITAL
BACKGROUND

NOW
3. THE PSH CHILDREN’S HOSPITAL BACKGROUND

Last MASTER PLAN Buildings

- Hershey Outpatient Surgery Center
- East Campus – Bone and Joint Institute, Neurosciences
- Cancer Institute
- Parking Garage
- Support Services Building
- CHILDREN’S HOSPITAL
3. THE PSH CHILDREN’S HOSPITAL
BACKGROUND

Why a new CHILDREN’S HOSPITAL?

- Previously was 7th floor of main hospital building
- Built on old model of shared rooms (belief of the time: kids could then play together) without patient and family amenities in mind.
- Needed a facility that provided appropriate space at today’s standards with family-centered care in mind
- All private rooms, space for two family members to remain bedside, child life in each unit, child-friendly ORs and recovery space
- Connections to our history were still important
The Institute of the Innocents of UNICEF is decorated with the work of the Renaissance artist Andrea della Robbia.
3. THE PSH CHILDREN’S HOSPITAL
BACKGROUND
3. THE PSH CHILDREN’S HOSPITAL
PROCESS AND IMPLEMENTATION

EXPANDED RECOGNITION: US NEWS IN 5 SPECIALTY AREAS

We now have a facility to provide an environment for care which matches the level of our care!
Hospital Within A Hospital

- Define by CHA
- A Leaning hospital – a free-standing building that does not have its own governance structure and ‘leans’ on the broader facility for certain support services.
- Shared governance with main hospital
- Unified campus budget with MG, Hospital, College of Medicine
- Importance of our ability to rely on shared services – efficiencies and savings
3. THE PSH CHILDREN’S HOSPITAL
PROCESS AND IMPLEMENTATION

Programming Data

- Space planning for children’s
- Demographics and population studies.
- Needs assessment
- Funding strategy
Pharmacy Growth

- More than doubled in size to ~14,000 sq ft
- Broader support to campus
- New tube system
3. THE PSH CHILDREN’S HOSPITAL
PROCESS AND IMPLEMENTATION

Blood Bank Growth

- Increased space
- Better processing and services.
Surgical Services

- 6 new ORs and 2 procedure rooms in CH.
- Original programming had shell space but we argued for the 2 procedure rooms as growth over time indicated (only had 1 GI doc at time of programming – now have 6)
- Connection to Main OR surgical services – transport of patients for pediatric experience – flow to CH patient rooms no matter where case is performed.
3. THE PSH CHILDREN’S HOSPITAL
PROCESS AND IMPLEMENTATION

New Services And Connections

- G level – pathway for services and materials – access connections
- New SSB – tunnel and CH receiving dock
- 1st and 2nd floor connections
3. THE PSH CHILDREN’S HOSPITAL
PROCESS AND IMPLEMENTATION

Role Of CH On Campus

- New flagship building
- Allowed HMC as a whole to set a plan in motion for universal services to be new baseline to work from and upgrade towards (IPTV, pneumatic tube system, etc)
3. THE PSH CHILDREN’S HOSPITAL

EAST END: WATERFALL
3. THE PSH CHILDREN’S HOSPITAL
3. THE PSH CHILDREN’S HOSPITAL

FRONT WALK
3. THE PSH CHILDREN’S HOSPITAL
We set the theme as a guiding principle by which to make/measure our decisions.

We engaged our:

- Family advisory council
- Advisory council of teens— ‘bring the outside, inside’
- Faculty and Staff
- Administration
- Multi-disciplinary unit based teams (secretary, nurse, housekeeper, etc) – each had a worthwhile viewpoint we had to meld together and we had to merge the creative with the practical
- Facilities (watch out for maintenance nightmares)
3. THE PSH CHILDREN’S HOSPITAL

PROCESS and TOOLS

• We built mock ups of a three-room corridor with all final finishes which allowed details to be reviewed more closely

• We allowed everyone to go through and comment and we made many changes based on those reviews

• The result is a facility that everyone feels connected to because they had a say in its design.

• We used 3D modeling to acclimate staff to the new space before it was completed.
3. THE PSH CHILDREN’S HOSPITAL

POST-GO-LIVE

- Has been well received by the community, our families and patients, and our own faculty and staff.
- Patient Satisfaction has greatly increased – overall, not just specifically to ‘room’ questions. “Halo effect”?
- Nature wall is engaging and ‘viewed’ heavily by not only patients but even more so by adult family members and visitors
- Positive comments on the open and airy feeling of the space. LOTS of natural light making it bright and inviting
3. THE PSH CHILDREN’S HOSPITAL

POST-GO-LIVE

- Children ask to come to the hospital to play —

  *sometimes don’t want to be discharged.*
We now have a facility to provide an environment for care which matches the level of our care!
3. THE PSH CHILDREN’S HOSPITAL

A GARDEN HOSPITAL

- Cancer Institute Healing Garden
- Hospital Garden
- Meditation Room
- Children’s Hospital Garden
- Children’s Hospital Roof Garden
3. THE PSH CHILDREN’S HOSPITAL

A GARDEN HOSPITAL
3. THE PSH CHILDREN’S HOSPITAL

A GARDEN HOSPITAL: HEALING GARDEN
3. THE PSH CHILDREN’S HOSPITAL

A GARDEN HOSPITAL: HOSPITAL COURTYARD
3. THE PSH CHILDREN’S HOSPITAL

A GARDEN HOSPITAL: CHILDRENS PLAYGROUND
3. THE PSH CHILDREN’S HOSPITAL

A GARDEN HOSPITAL: ROOFTOP TERRACE
3. THE PSH CHILDREN’S HOSPITAL

A GARDEN HOSPITAL: CHILDREN’S SCULPTURE

“THE PROMISE”, BY ALBERT PALEY
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LESSONS LEARNED

Can this be replicated?
ONE PROJECT

Maintain a consistent management team
Clear institutional vision
Continuous design leadership from planning to execution
Consistent Oversight: the Owner’s committee structure
TRANSFORMATION THROUGH DESIGN

Fundamental Decisions
Maintaining support through a long implementation period
“Constant Completion” vs. Gradual Implementation

Fundamental Decisions

The Big Idea
Q&A