

Academy of Architecture for Health On-line Professional Development

Trends in Medical Planning, Part 2: The Influence of the Threads on Ward Design Masters Studio Series

8, May 2018

2:00 pm – 3:00 pm ET

1:00 pm – 2:00 pm CT

12:00 am – 1:00 pm MT

11:00 am – 12:00 pm PT

Presenter

Hugh J. Campbell, AIA

HOK

Moderator

Yvonne Nagy, AIA, LEED AP

HOK

Academy of Architecture for Health On-line Professional Development

Trends in Medical Planning

Part 2: The Influence of the Threads on Ward Design

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Masters Studio Series

The Academy's multi-channel on-line approach provides emerging professionals, journeymen, and master professionals with convenient and economical opportunities to develop their chosen area of interest.

Masters Studio Series sessions are tailored to provide healthcare design professionals with sufficient exposure to jump-start interest in wanting to learn more.

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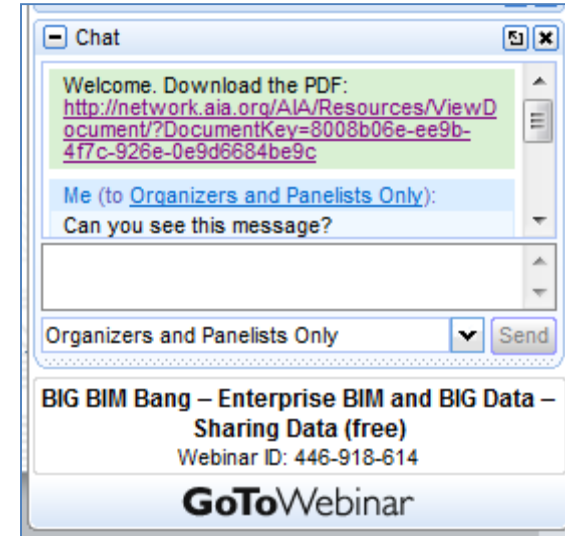
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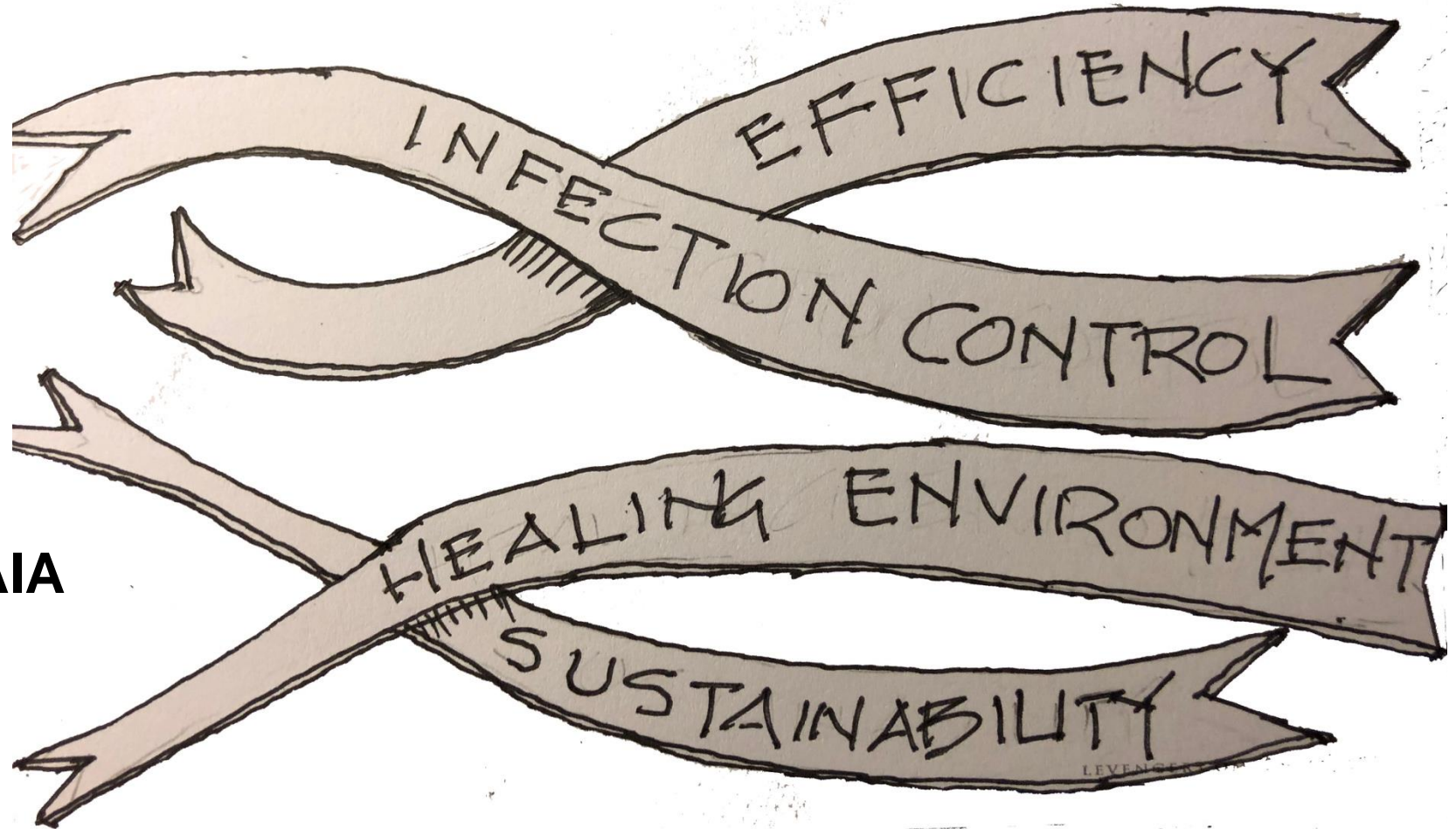


Trends in Medical Planning: The Influence of the Trends on Ward Design

Presenter



Hugh J. Campbell, AIA
HOK Architects



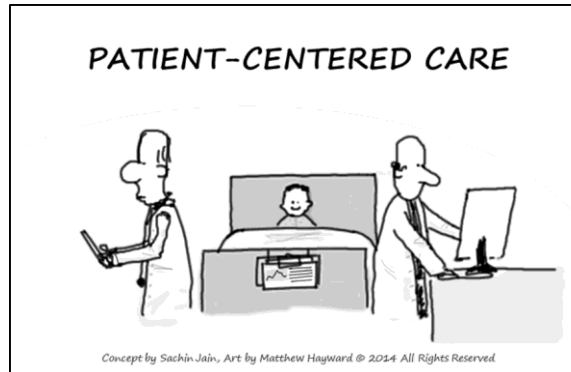
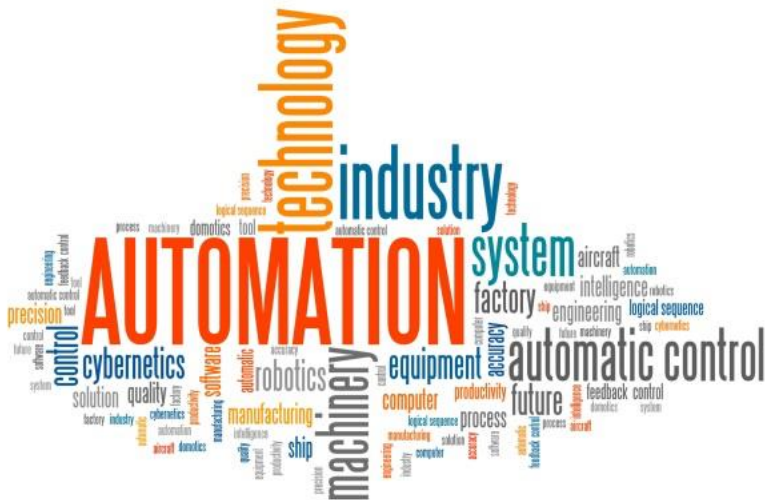
Introduction: Learning Objectives

- Understand how the major trends impacted the planning of inpatient units throughout the last century ?
- Understand how the iconic inpatient units have driven change across the practice of medical planning?
- Review how have the seminal changes in inpatient design held up over time?
- Predict where inpatient unit design is likely to head in the next decade as the trends continue to evolve?

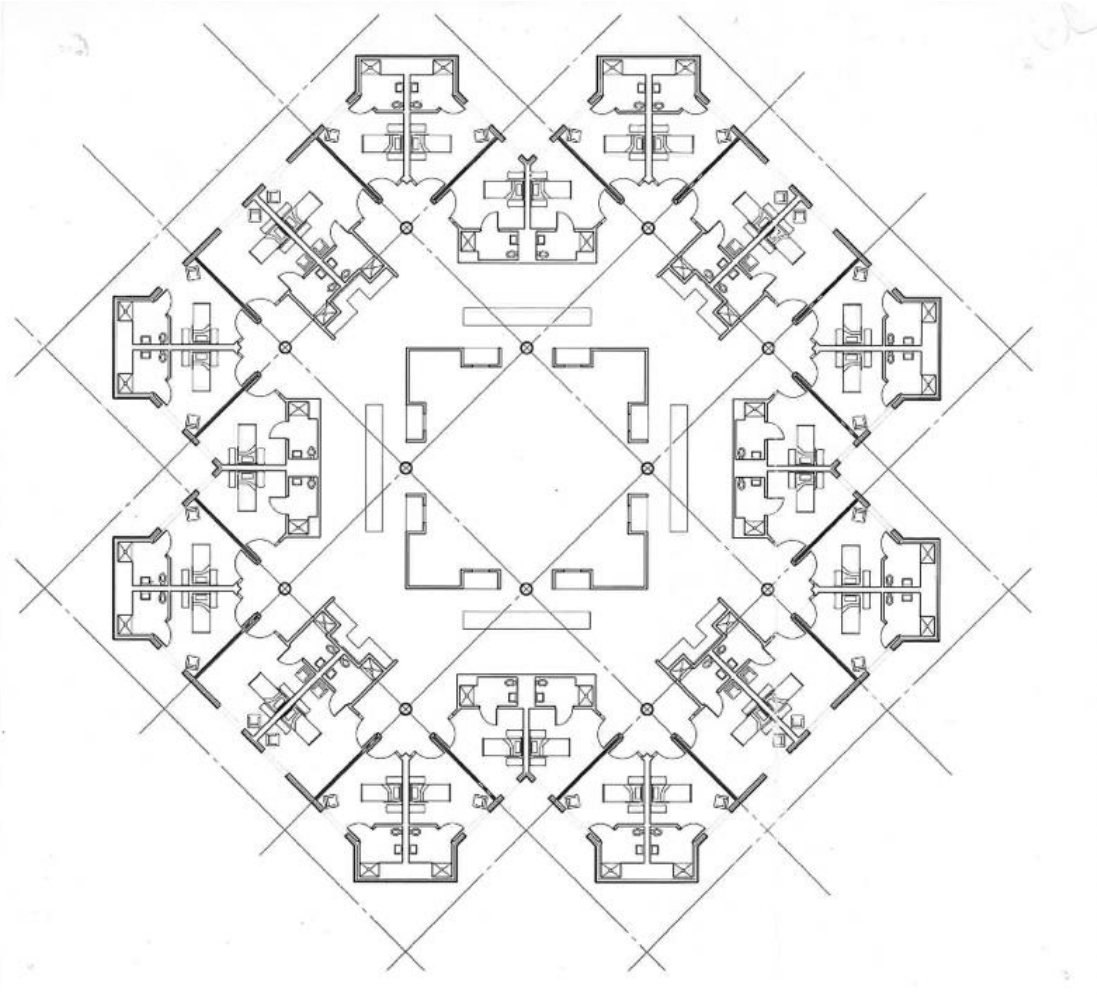
Introduction: Why This Topic



- What impact did the threads have on unit planning over the years?
- How will the trends drive planning in the next decade?



Introduction: Most Influential Trends



- Infection Control
- Efficiency
- Sustainability
- Healing Environment

TOP 10 LIST

“The hospital is a human invention and as such can be reinvented at any time”

Leland Kaiser, PHD

Top 10 List

1. **Johns Hopkins Hospital**
2. **New York Hospital**
3. **Neergaard Hospital**
4. **Northwest Hospital**
5. **St. Joseph Hospital**
6. **St. Mark's Hospital**
7. **McMasters MC**
8. **Dartmouth Hitchcock MC**
9. **Griffin Hospital**
10. **Good Samaritan Hospital**

Old School Pavilion Hospital

Vertical Pavilion Hospital

All Private Room Hospital

Logistical Hospital

Opticon Hospital

Triangular Hospital

Interstitial Hospital

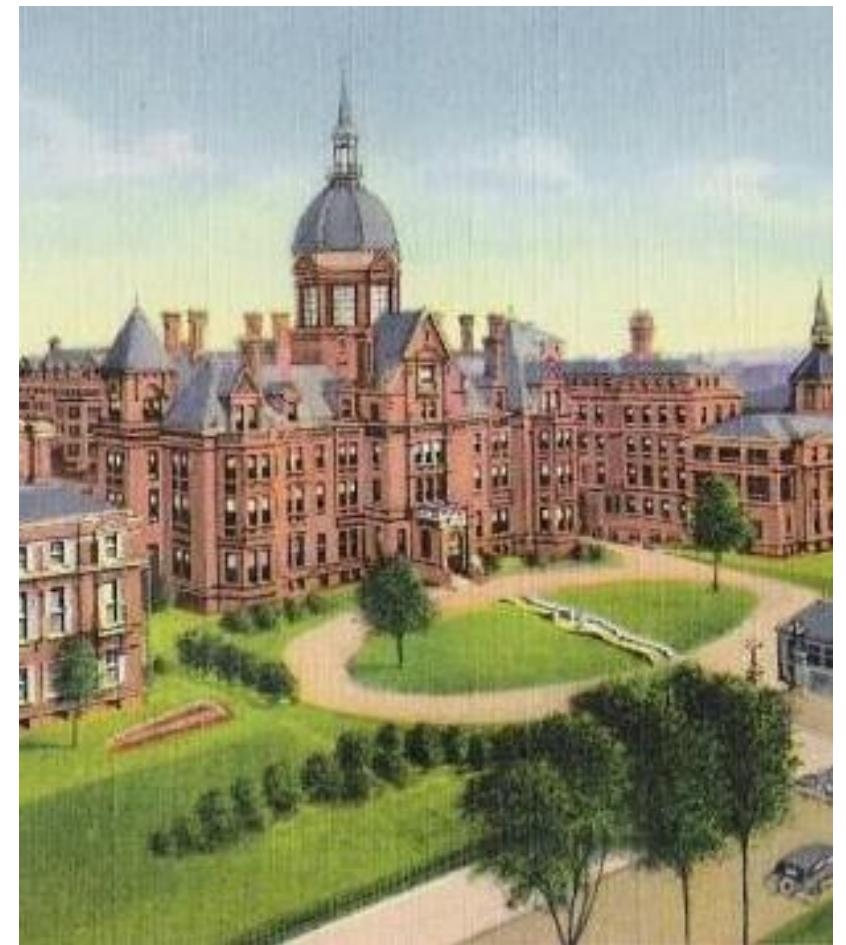
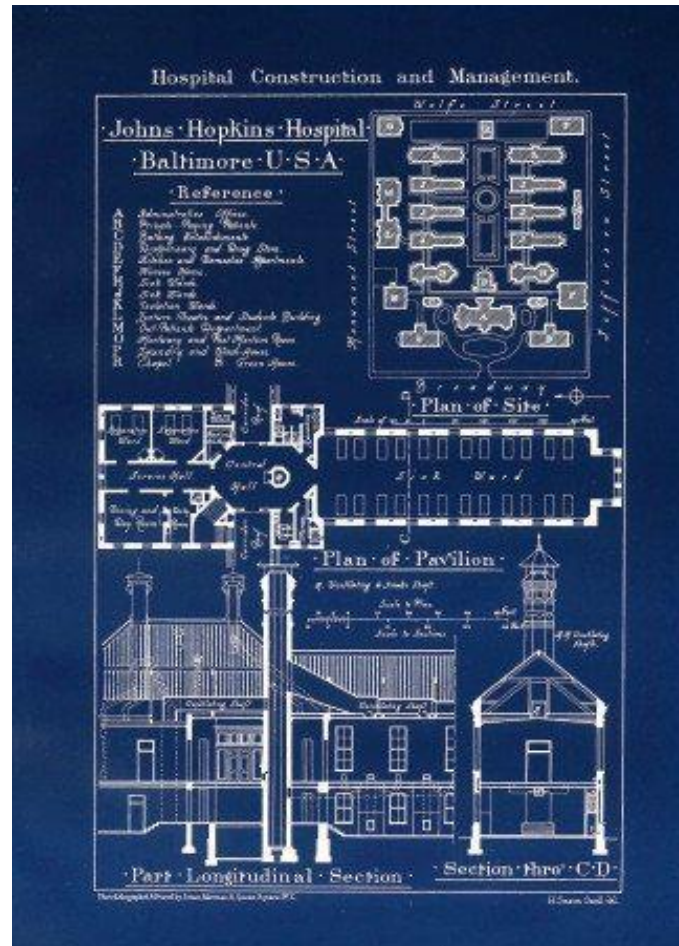
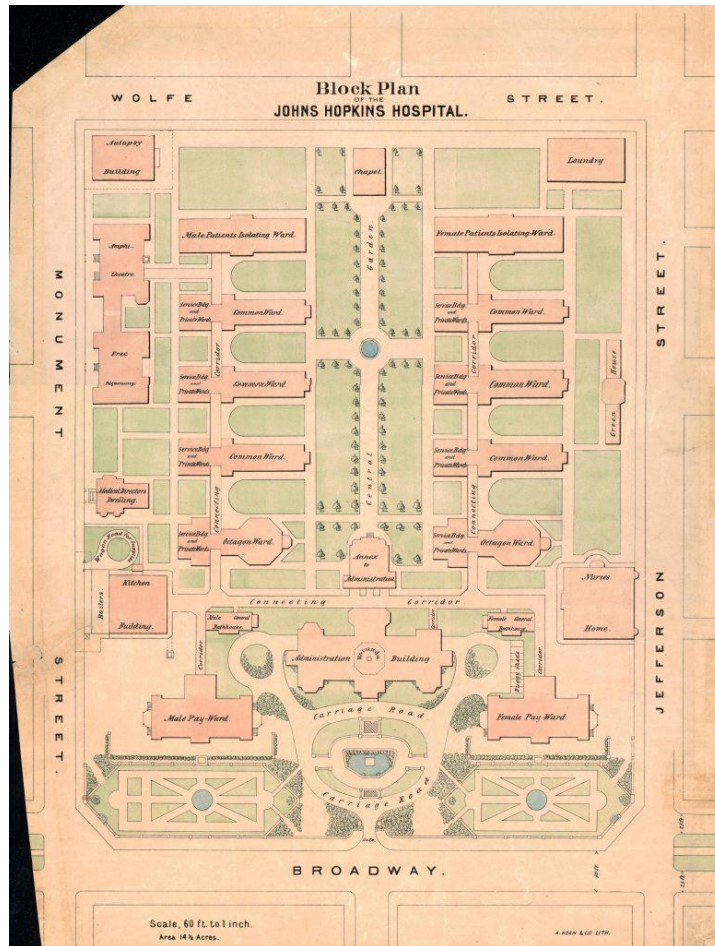
Mega Hospital

Planetree Hospital

Cluster Hospital

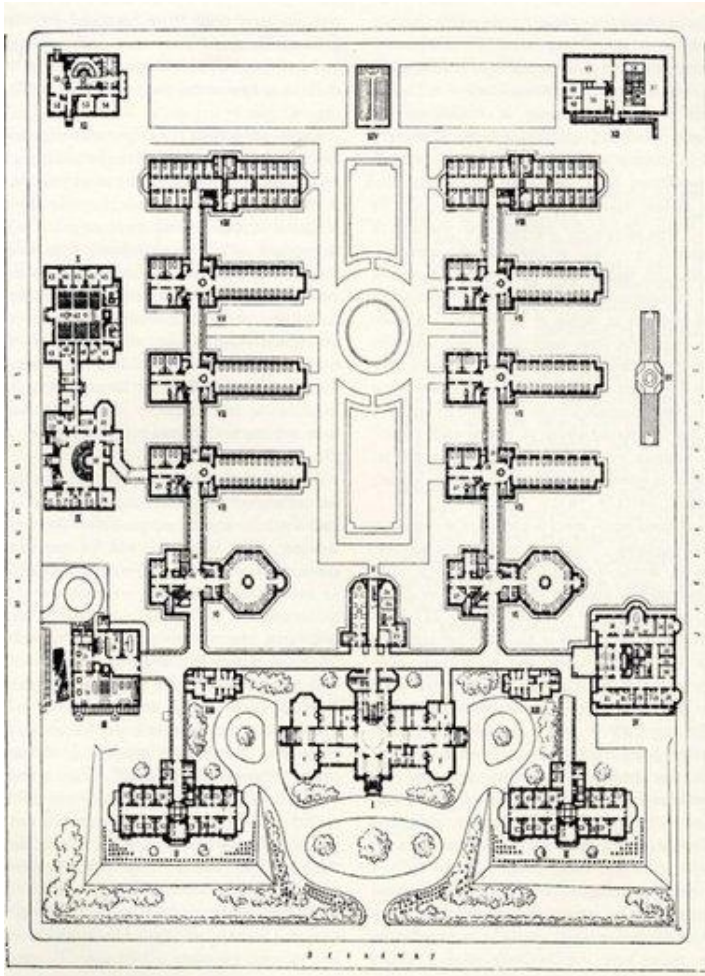
No. 1: Johns Hopkins Hospital

Bethesda, MD (1874) John Shaw Billings



No. 1: Johns Hopkins Hospital

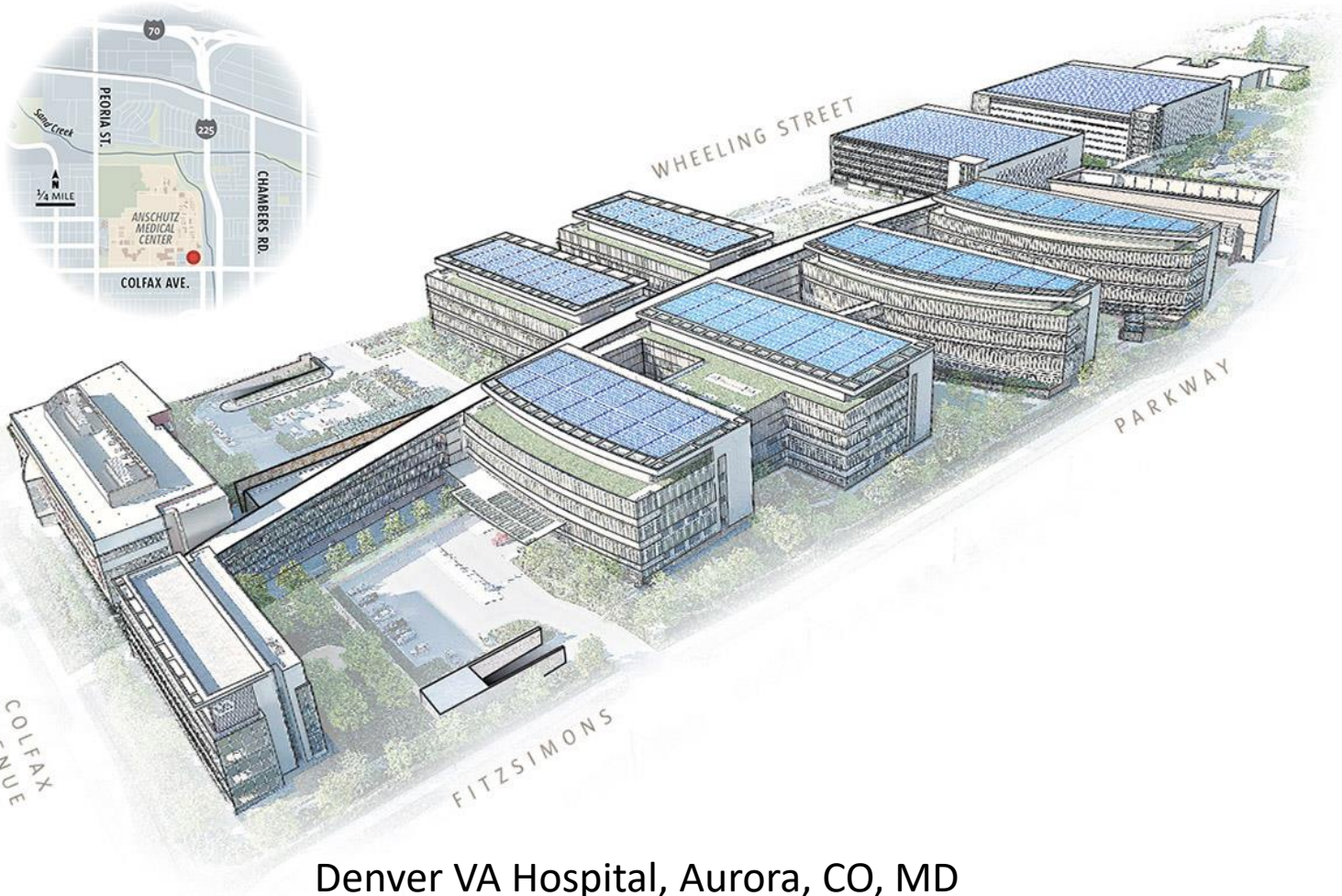
Bethesda, MD (1874) John Shaw Billings



- **OLD SCHOOL PAVILION HOSPITAL**
- International Competition to Design this Major Teaching Hospital.
- Design Based on the Nineteenth Century “Nightingale” Ward Concept.
- Improved old Ideas with New Technologies and Strategies

No. 1: Johns Hopkins Hospital

Bethesda, MD (1874) John Shaw Billings



Denver VA Hospital, Aurora, CO, MD



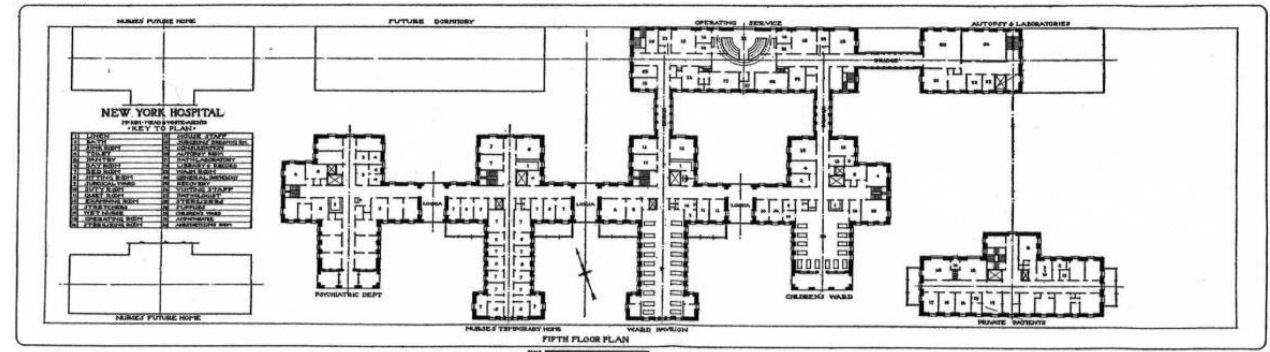
Centro Hospitalario - Serena Del Mar, Columbia



NIH Building 10, Bethesda, MD

No. 2: New York Hospital

New York, NY (1912)



FLOOR PLANS OF PROPOSED NEW YORK HOSPITAL BUILDINGS

No. 2: New York Hospital

New York, NY (1912)

- **STACKED PAVILLION HOSPITAL**
- More Hospitals are Located in Major Urban Centers Where Land Costs are Excessive.
- Building Technology Made Taller Hospitals Possible (Elevators, Mechanical Ventilation, Telephone Systems)
- Began as Stacked Nightingale Wards but Evolved into Semi-Private and Private Rooms. The Most Common Plan for Much of the 20th Century

No. 2: New York Hospital

New York, NY (1912)



Rush Medical Center, Chicago, IL



Presbyterian Hospital, New York, NY

No. 3: Neergaard Hospital Concepts

(1934) Charles Neergaard



No. 3: Neergaard Hospital Concepts

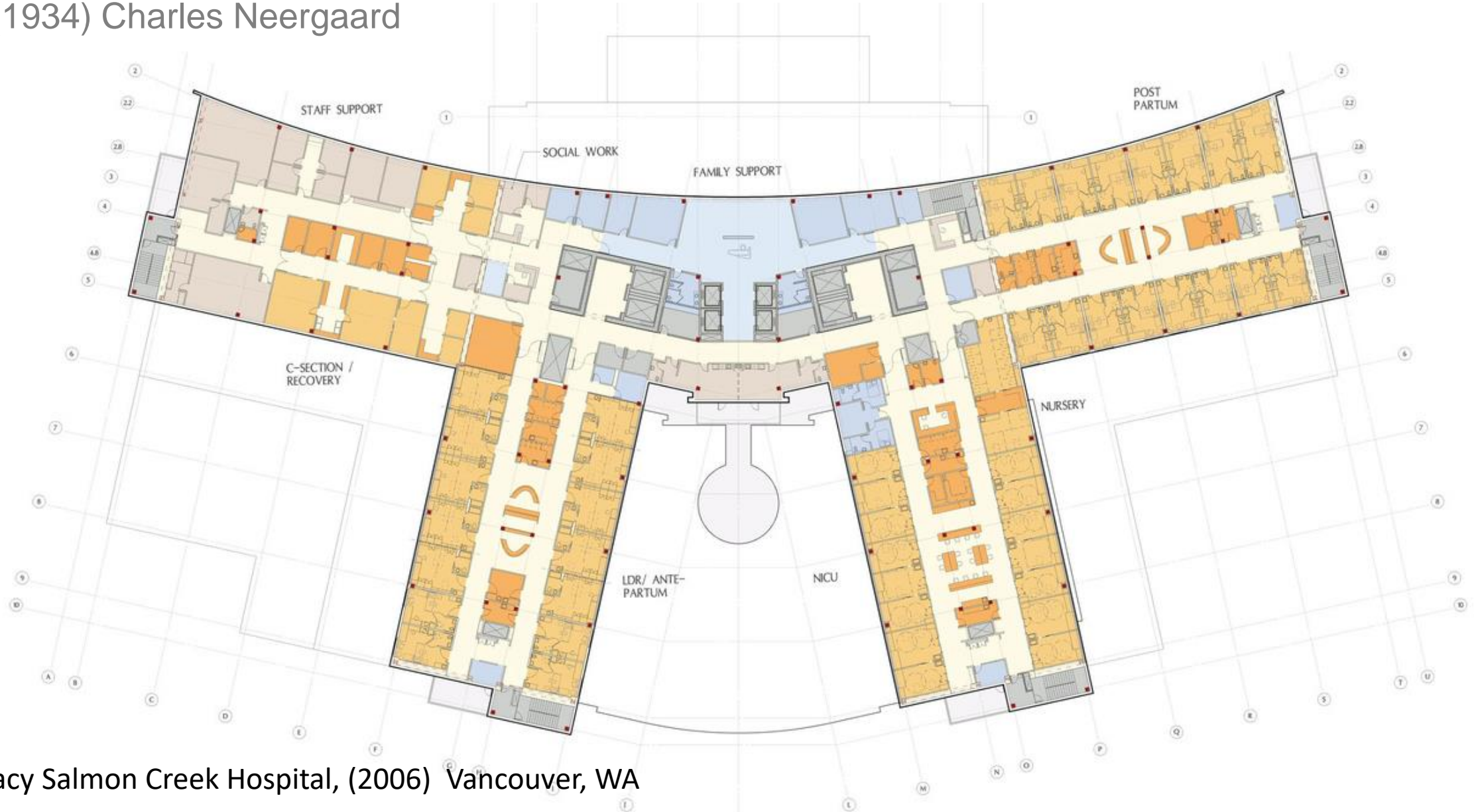
(1934) Charles Neergaard



- **ALL SINGLE ROOM HOSPITAL**
- Not an Architect, Engineer or Hospital Administrator.
- Thought Like a Real Estate Leader
- All Private Rooms
- Double Corridor/Racetrack Plan
- Decentralized Nursing Concept
- Minimize Natural Lighting and Ventilation

No. 3: Neergaard Hospital Concepts

(1934) Charles Neergaard



Legacy Salmon Creek Hospital, (2006) Vancouver, WA

No. 4: Northwest Hospital

Baltimore, MD (1964) Gordon Friezen



No. 4: Northwest Hospital

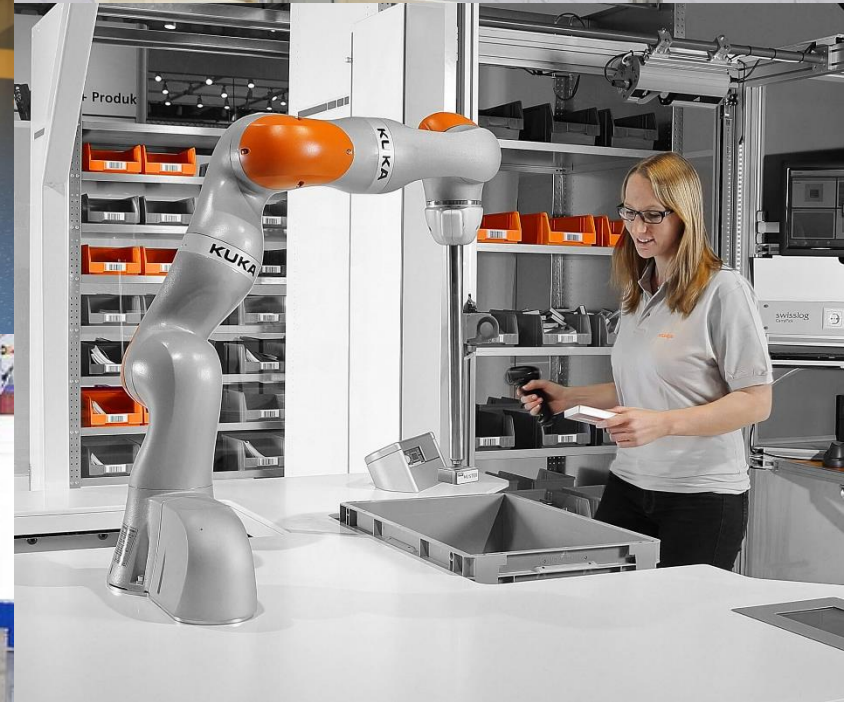
Baltimore, MD (1964) Gordon Friezen



- **THE LOGISTICAL HOSPITAL**
- Gordon Friezen's First New, Freestanding Hospital.
- Includes his Primary Concepts in Hospital Efficiency and Logistics/Operational Improvement.
- Employed a Decentralized Nursing Model.
- Includes Supplies at the Patient Bedside in "Nurse Servers".

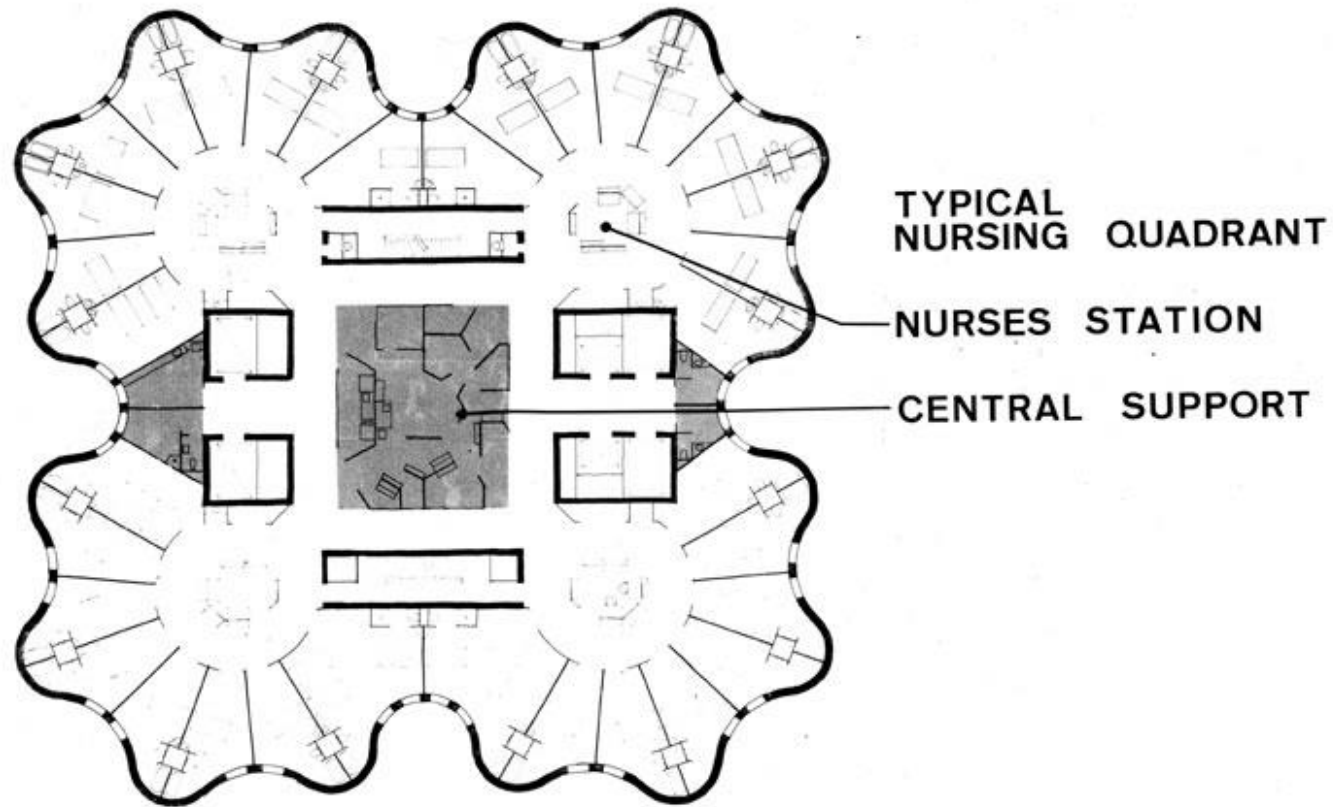
No. 4: Northwest Hospital

Baltimore, MD (1964) Gordon Friezen



No. 5: St. Joseph Hospital

Tacoma, WA (1969) Bertrand Goldberg



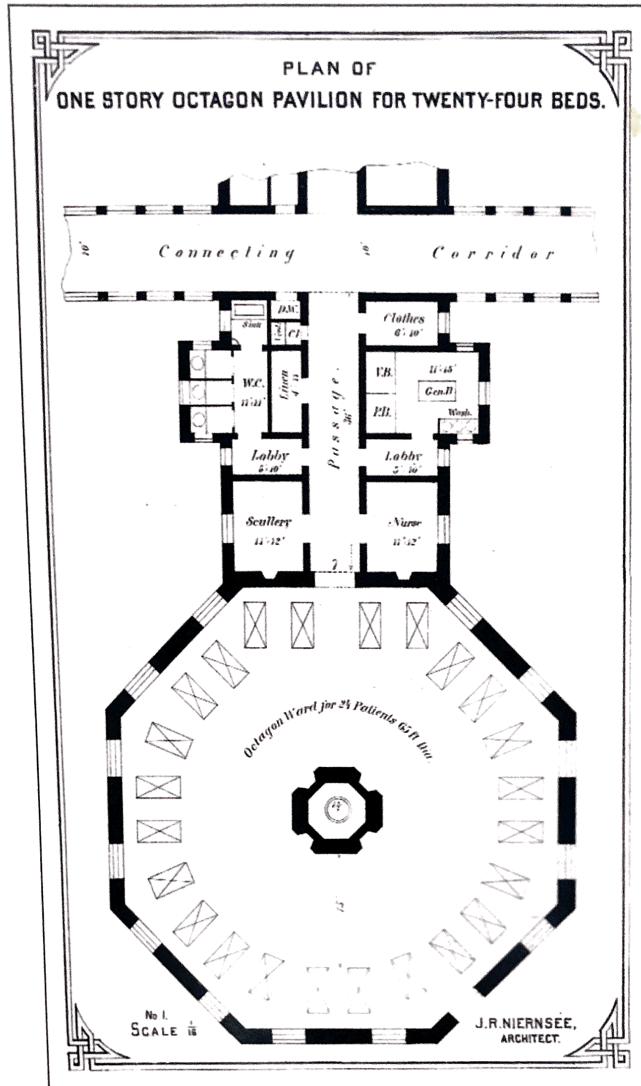
TYPICAL BED TOWER FLOOR PLAN

0 5 10 20 30 40 50



No. 5: St. Joseph Hospital

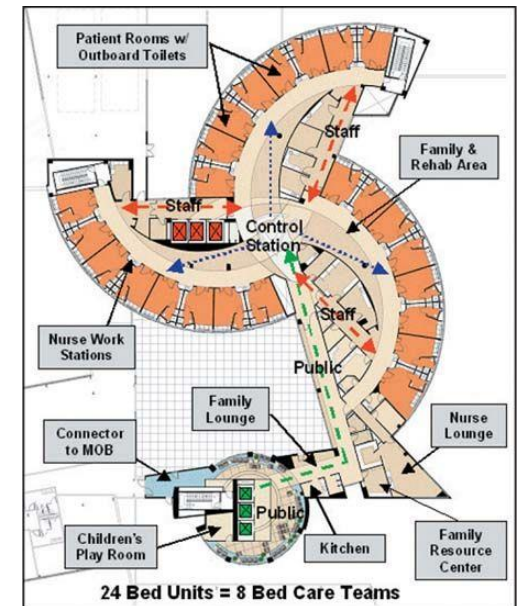
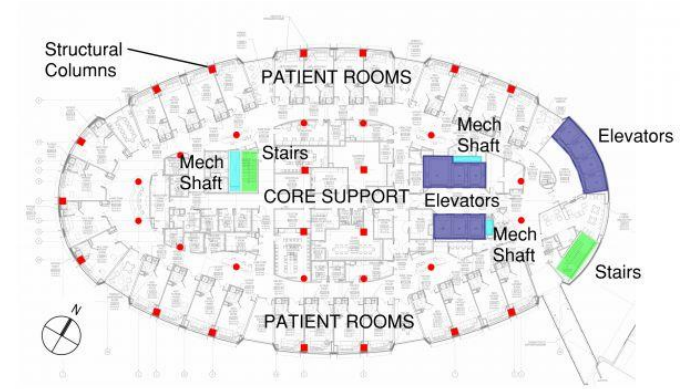
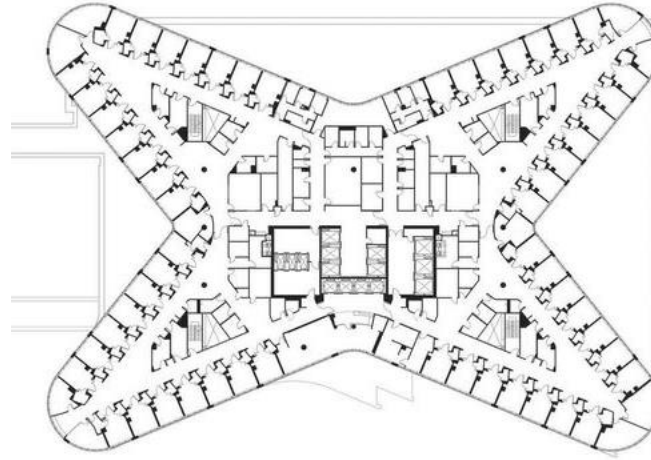
Tacoma, WA (1969) Bertrand Goldberg



- **OPTICON HOSPITAL**
- How do the major trends in planning influence the design of inpatient units?
- What are the trends that will drive planning in the next decade?

No. 5: St. Joseph Hospital

Tacoma, WA (1969) Bertrand Goldberg



No. 6: St. Mark's Hospital

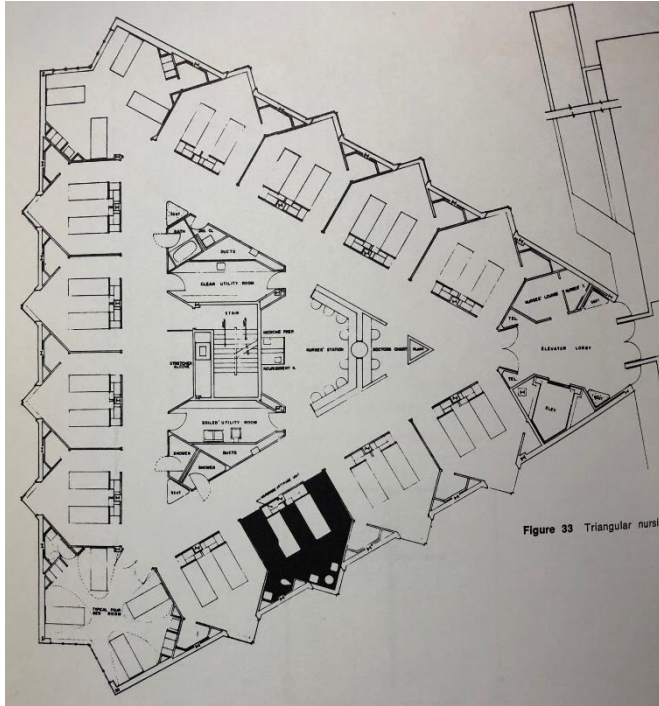
Salt Lake City, UT (1974) KMD Architects



Mr. Diaz led innovative planning and design in 1969 with the first triangular nursing unit and ability to replace bed towers sequentially at St. Mark's Hospital, Salt Lake City, UT, and with an expandable prototype for horizontal campuses at St. Vincent Medical Center, Santa Fe, NM, 1974.

No. 6: St. Mark's Hospital

Salt Lake City, UT (1974) KMD Architects



- **THE TRIANGULAR HOSPITAL**
- Focus on Nursing/Staffing Efficiency.
- Focus on Land Use Efficiency
- Primarily Private Rooms
- Best with a Horizontal Relationship to D&T.

No. 6: St. Mark's Hospital

Salt Lake City, UT (1974) KMD Architects



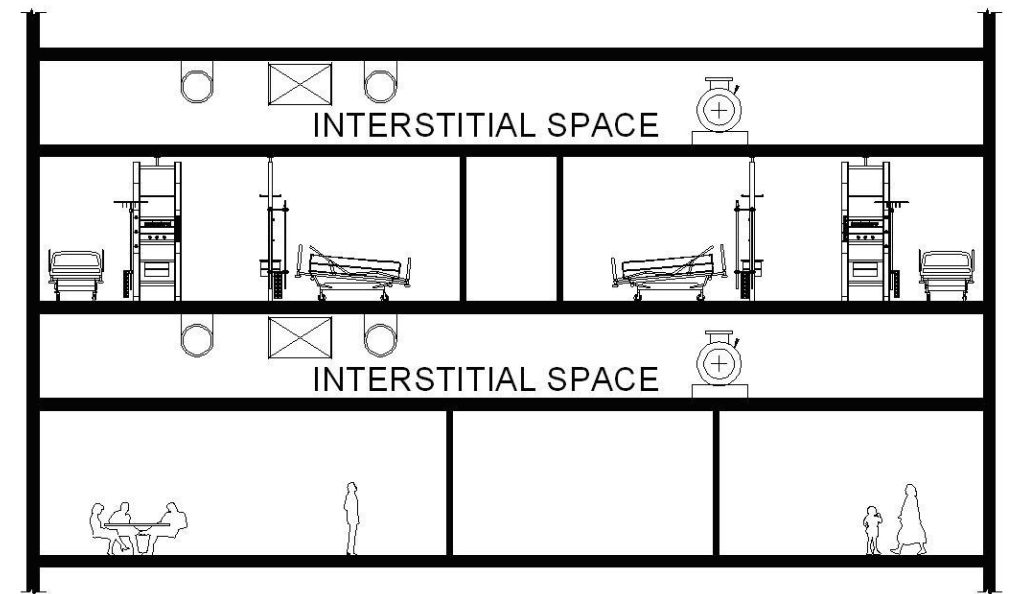
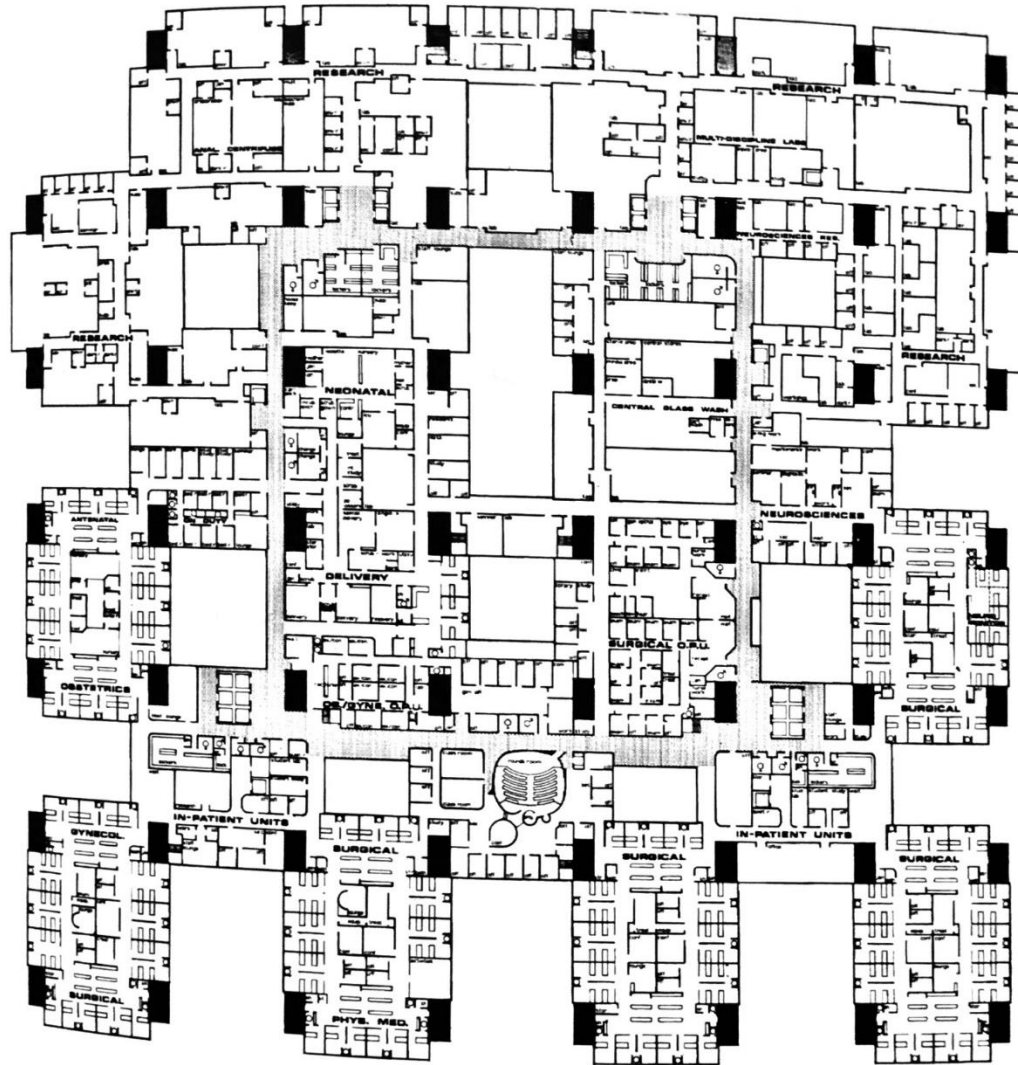
Kaiser Template Hospital



Doernbecher Children's Hospital, Portland, OR

No. 7: McMaster MC

Hamilton, ON (1974) Eb Zeidler



No. 7: McMaster MC

Hamilton, ON (1974) Eb Zeidler



- **THE INTERSTITIAL HOSPITAL**
- Maximized Large Facility Plans.
- Planned for Long Term Flexibility.
- Interstitial MEP Spaces
- Large Volume of Soft Space
- Long Structural Spans (50-80 foot spans)

No. 7: McMaster MC

Hamilton, ON (1974) Eb Zeidler



Woodhull MC, (1982) Brooklyn, NY



NIH, Bethesda, MD

No. 8: Dartmouth Hitchcock MC

Lebanon, NH (1991) Shepley Bullfinch



 **Dartmouth-Hitchcock**
MEDICAL CENTER

No. 8: Dartmouth Hitchcock MC

Lebanon, NH (1991) Shepley Bullfinch



- **THE MEGA HOSPITAL**
- Increasing Patient Demand with Changes to Medicare, Medicaid & Private Insurance.
- Maximize the Number of Inpatient Beds
- Bring together Inpatient, Outpatient and Diagnostic Services in a “One Stop Shopping” Environment.
- Introduce the Idea of the “Medical Mall”
- Create Large Atrium Entry Lobbies

No. 9: Dartmouth Hitchcock MC

Lebanon, NH (1991) Shepley Bullfinch



SickKids Hospital, Ontario



Colorado Children's Hospital, Aurora, CO



NIH, Bethesda, MD

No. 9: Griffin Hospital

Derby, CT (1992) SLAM Collaborative



No. 9: Griffin Hospital

Derby, CT (1992) SLAM Collaborative

Planetree Components of Person-Centered Care	
Component I. Structures & Functions Necessary for Implementation, Development & Maintenance of Resident-Centered Concepts & Practices	Component V. Nutrition Program
Component II. Human Interactions / Independence Dignity & Choice	Component VI. Healing Environment: Architecture & Design
Component III. Resident Choice & Responsibility	Component VII. Arts Program / Meaningful Activities / Entertainment
Component IV. Family Involvement	Component VIII. Spirituality & Diversity
	Component IX. Integrative Therapies / Paths to Well-Being
	Component X. Healthy Communities / Enhancement of Life's Journey
Component XI. Measurement	

- **THE PLANETREE HOSPITAL**
- Refocus on Healing Environment and Patient Focused Care.
- Focus on Family Support Services and Education.
- Focus on Staff Amenities.
- External Visitor Corridor (“Kaiser Corridor”), Patient /Family Library, Daylight, Views of Nature

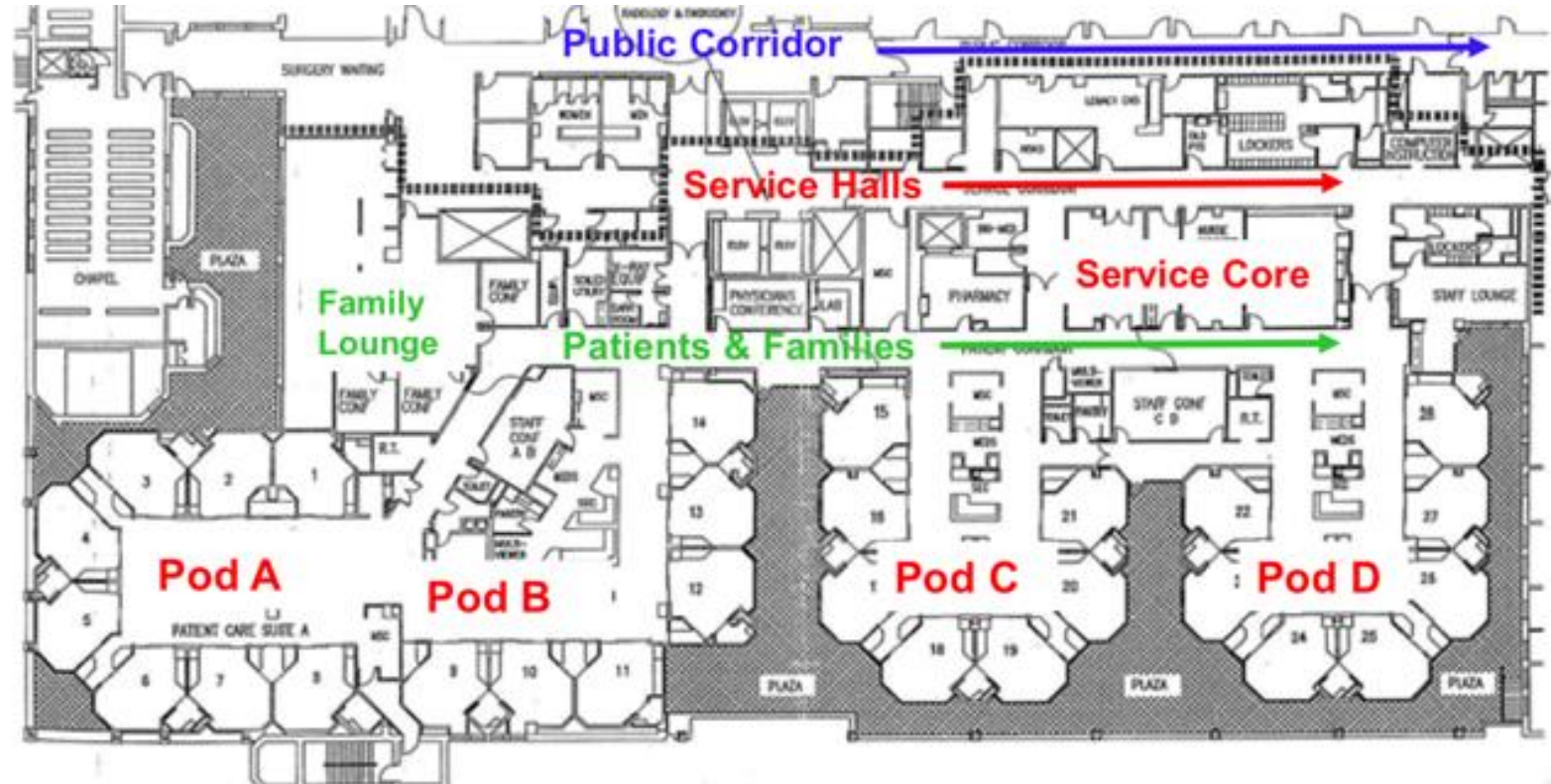
No. 9: Griffin Hospital

Derby, CT (1992) SLAM Collaborative



No. 10: Good Samaritan Hospital – Kern ICU

Portland, OR (1994) Tom Sagerser



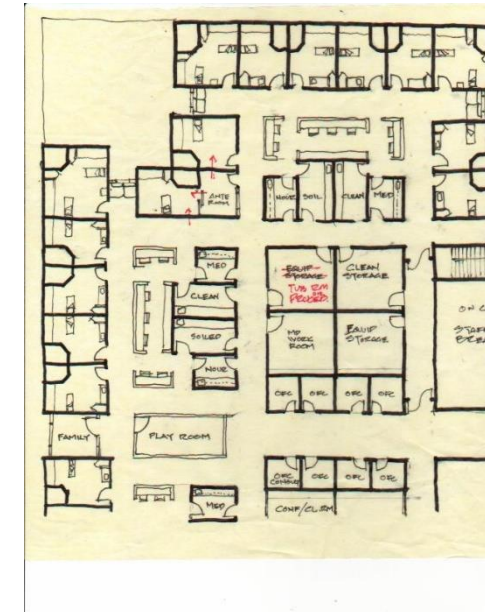
No. 10: Good Samaritan Hospital – Kern ICU

Portland, OR (1994) Tom Sagerser



- **CLUSTER HOSPITAL**
- Patients grouped into clusters or neighborhoods.
- Directly connected ICU patients to nature outside their windows.
- Beautiful space that never quite worked from a nursing standpoint.

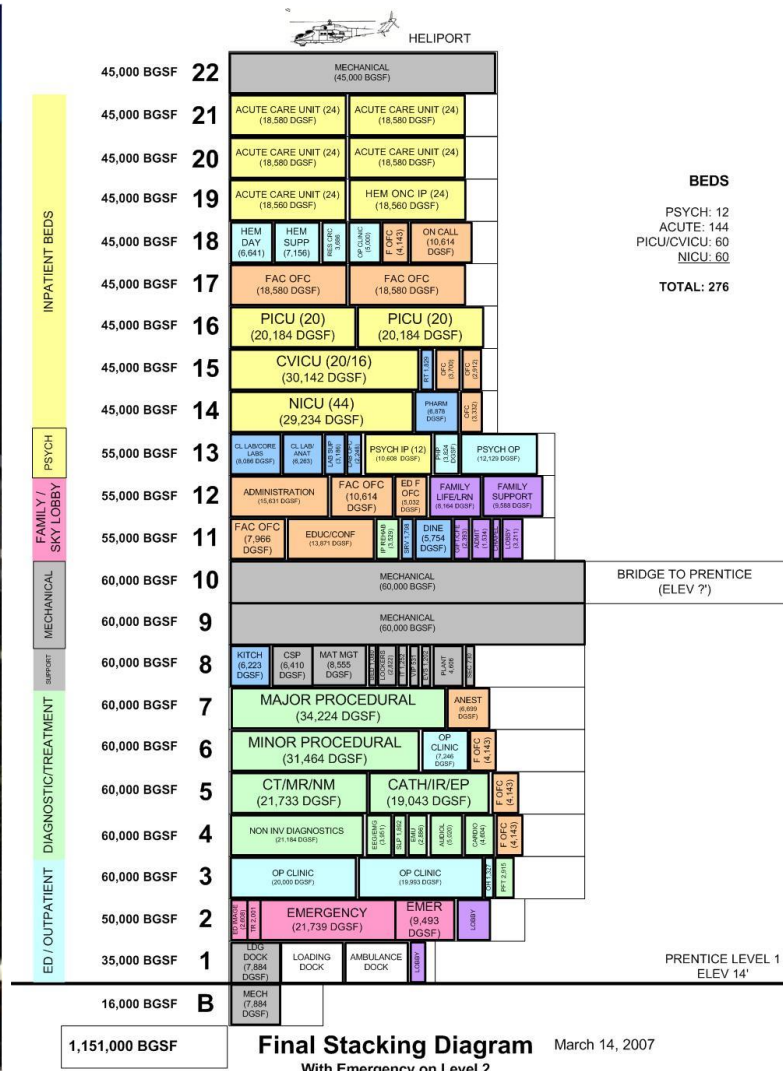
Portland, OR (1994) Tom Sagerser



WHAT'S NEXT



What Changes Are Next?



What Changes are Next?



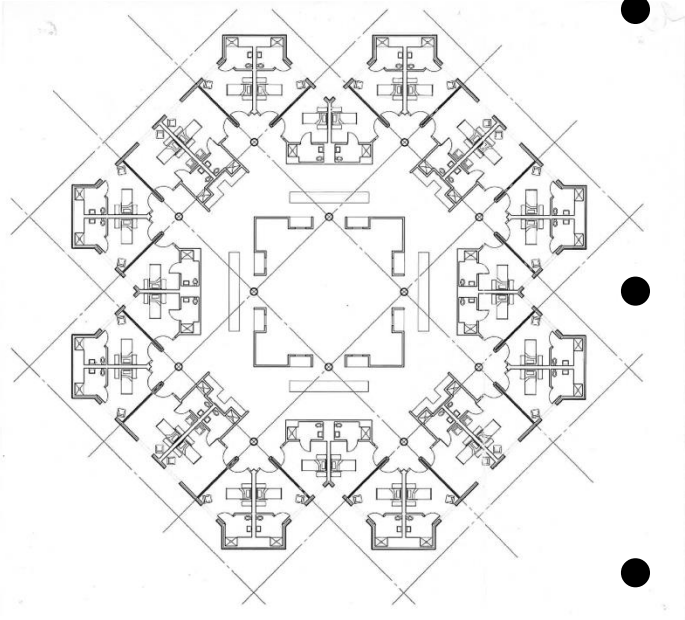
- **WHAT IS NEXT???**
- Same Handed Rooms.
- Rightsizing Inpatient Care Spaces.
- Updated Nursing/Operational Models.
- New Advanced/Automated Logistics.
- New Clinical & Diagnostic Technologies.
- Higher Acuity Patient Focus.
- Continued Limits on Capital Funds.

What Changes are Next?



- **ANY NEW IDEAS?**
- If you have truly new models for inpatient units, please let me know about them...
- Hugh J. Campbell, AIA
- Hugh.campbell@hok.com

SUMMARY: Webinar Part 2, May 8, 2018



- Evolution of the Patient Ward
- Impact of Trends on Plans
- Where will Trends Lead Us Next?

Time for Questions and Comments



Moderator

Yvonne Nagy, AIA, LEED AP

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8/14	HC 101	The Functional Program

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