

Design for Mental and Behavioral Health

SA 509

Saturday, June 23, 2018, 4:00 PM-5:00 PM

1 learning unit

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Acknowledgements/Credits

- Research was supported by the Academy of Architecture for Health Foundation

Speakers List

- Mardelle Shepley, FAIA, Professor/Chair, Cornell University
- Angela Watson, Principal, Shepley Bulfinch
- Francis Pitts, Principal, architecture+

Course / Learning Objectives

- Participants will become aware of the status of research on mental and behavioral health facilities.
- Participants will be provided access to recent data evaluating the importance and presence of specific environmental features in mental and behavioral health facilities.
- Participants will become acquainted with a tool for evaluating mental and behavioral health facilities.
- Participants will become aware of the most pressing issues in mental and behavioral health design.

Introduction

- Increased demand for mental health services.
- Little research about facility design in MBH settings
- Research informed design strategies open doors to dialogue and research



Introduction

- Purpose of study:
 1. identify **design features** that critically impact staff and patients in MBH environments
 2. develop a **tool** that will evaluate MBH facilities.

Research Team

Research Co-PIs:

- Architecture+
- Shepley Bulfinch



Research Team

- Student research assistants
 - Bachelors student
 - 3 Masters students



Introduction: Phase 1

- 300+ article **literature review** (2013) was supplemented by a follow-up review of 100+ publications
- Results of review: **17 topics** covering staff/patient needs.

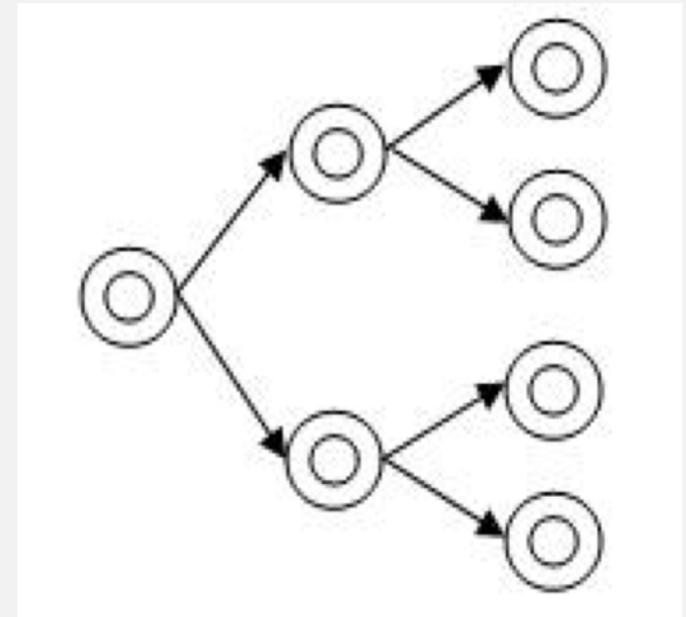


Methods Phase 1 - Interviews

1. Interview and focus group method
2. Objective: **How important were the topics and were they inclusive?**
3. Interviewees identified via snowball sampling

Methods Phase 1 - Interviews

4. Process initiated with 4 experts
 - a. 20+/- years of experience as clinicians, design researchers or design practitioners
 - b. published or produced MBH projects
5. After 4 iterations, representatives from each discipline identified
6. PI contacted the potential interviewees by email and phone

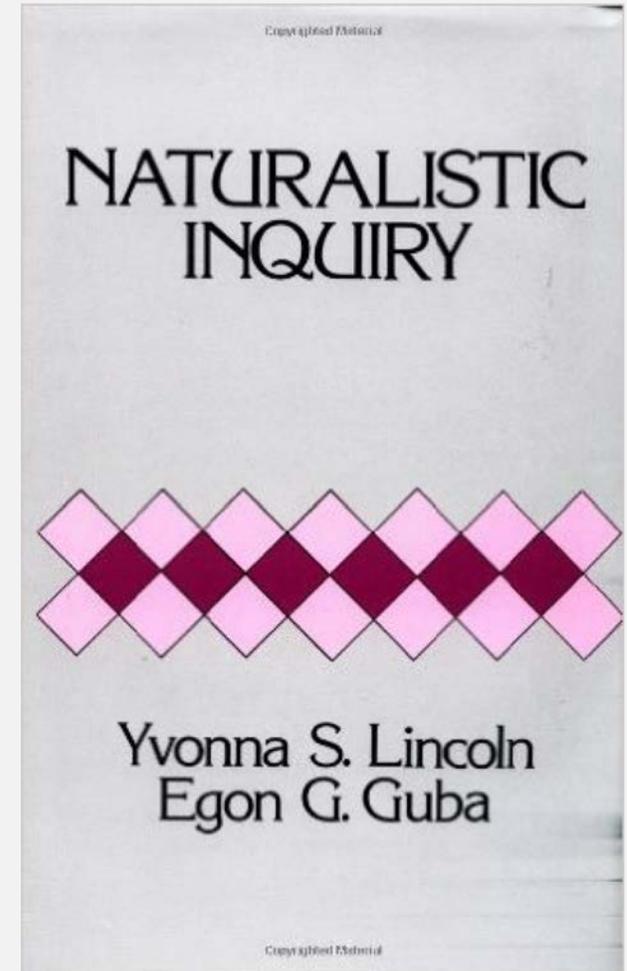


Methods Phase 1 - Interviews

- Group included 22 potential subjects from North America and Australia
- 19 responded and agreed to participate
 - 7 clinicians,
 - 4 academics/researchers,
 - 5 architects/designers,
 - 1 researcher/practitioner and
 - 2 administrators.

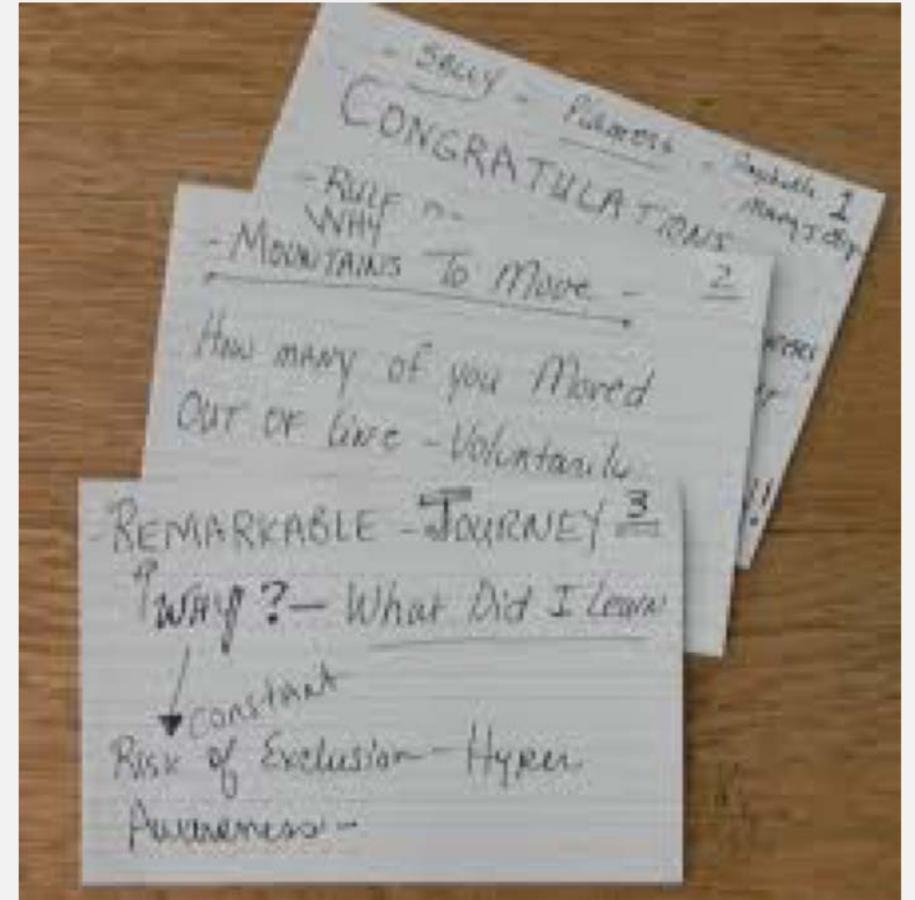
Methods Phase 1 - Interviews

- Interviews lasted 25-40 minutes
- Transcriptions analyzed using grounded theory method described by Lincoln and Guba (1985)



Methods Phase 1

- 761 notecards generated
- Cards are sorted into common topic categories
- Second reviewer sorts cards independently to confirm consistency of the categorization



Inclusion criteria

Quality of
Methods

Relationship to
Topic

Frequency of
Citation

Identified topics

1. Deinstitutionalized
2. Orderly and organized
3. Well-maintained
4. Strong/attractive furnishings
5. Access to nature
6. Maximum daylight
7. Staff safety/security
8. Staff respite
9. Private/low density rooms
10. Social interaction/community
11. Mix of seating
12. Autonomy & spontaneity
13. Staff patient interaction
14. Nurse station observation
15. Indoor outdoor therapy
16. Smoking rooms
17. Suicide resistant FFE

Interview content

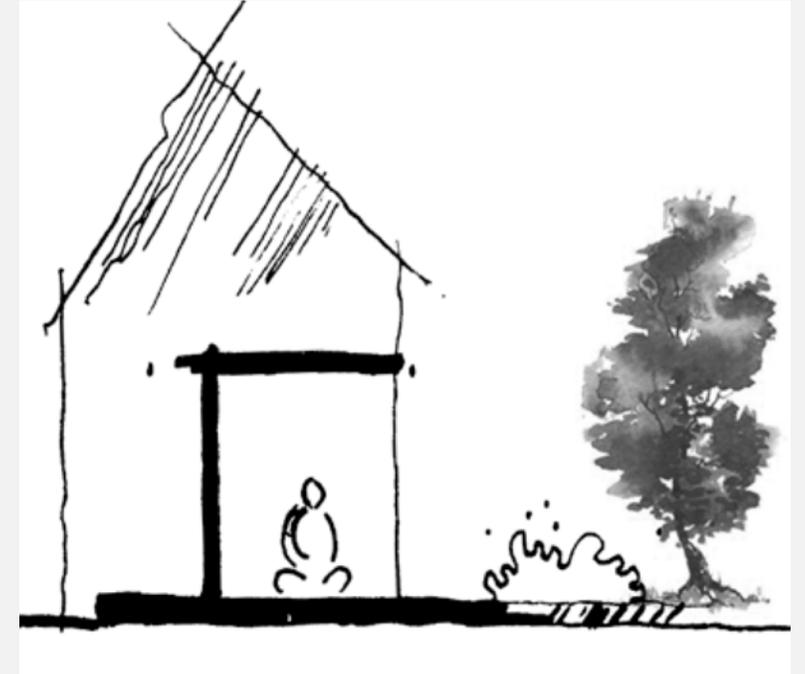
Appropriate for Study

Exploration of Issues

Shared Definition

Results: 1. Deinstitutionalization

- Every interviewee considered this a **critical** aspect of an MBH setting.
- However, **definition of “homelike” unclear**
 - Not everyone embraces the traditional vision of home; to some the notion may be disturbing
 - The essence of ‘home’ has more to do with feeling welcome and secure.



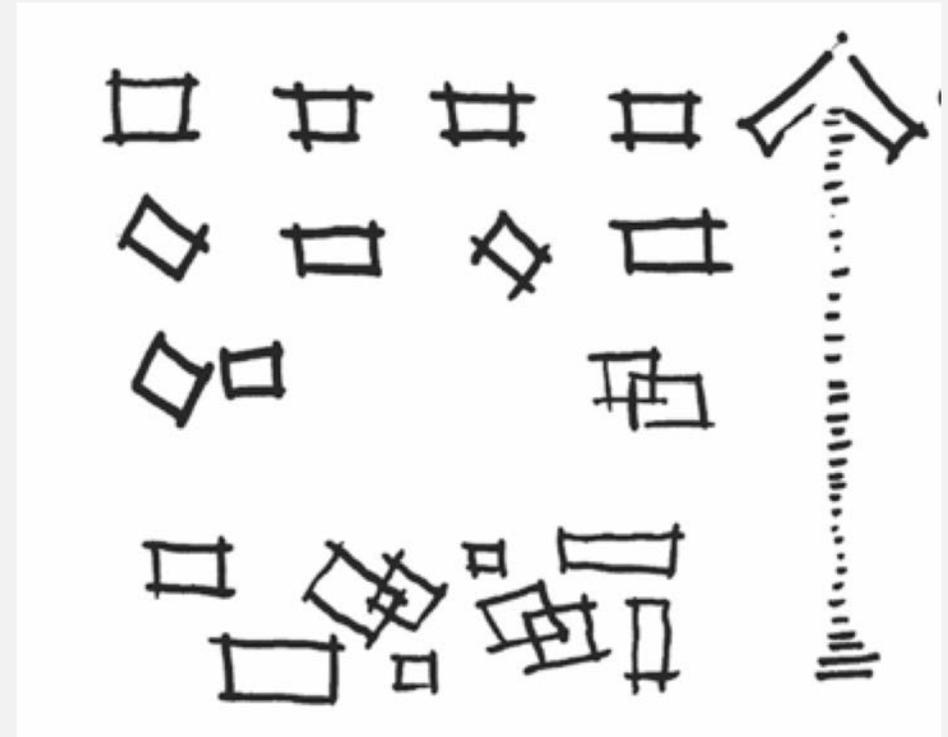
Results: Deinstitutionalization

A Veterans Administration staff member stated:

- *You're dealing with a population that is probably 25% literally homeless, and at least another 25% are sort of homeless, like they're living in somebody's garage or their relative's basement or some place that would hardly seem like home [to many of us].*

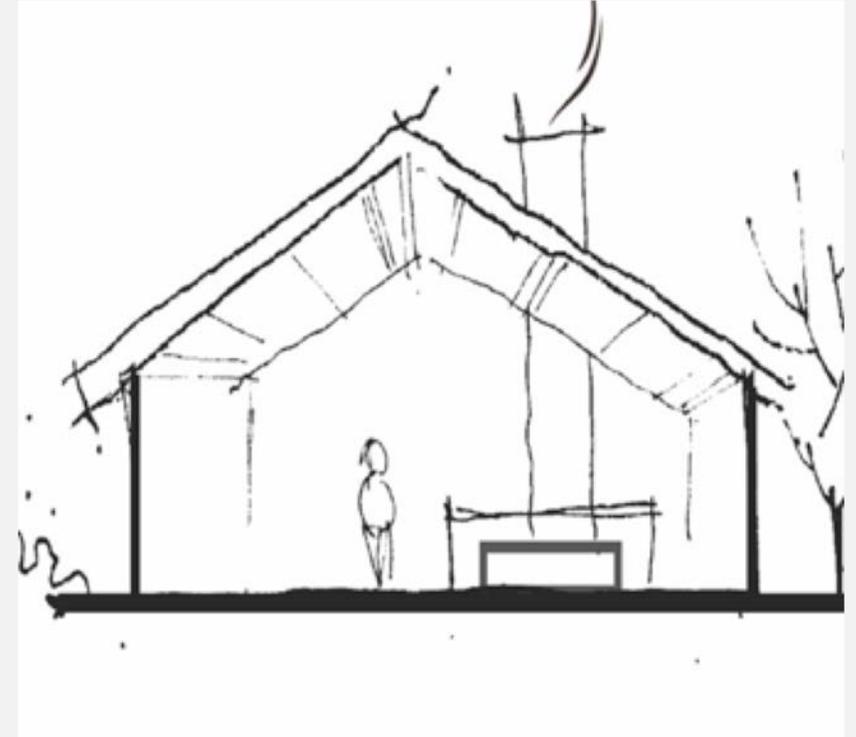
Results: 2. Orderly & Organized

- Most interviewees expressed **concern over the term “orderly and organized”**
- Does not account for the comfortable “complexity” of activities in a psychiatric facility



Results: 3. Well-maintained Environment

- Nearly every interviewee **strongly supported a well-maintained environment**
- High-quality environments convey a sense of respect for patients.
- Relationship between well-maintained environments and the incidence of property destruction



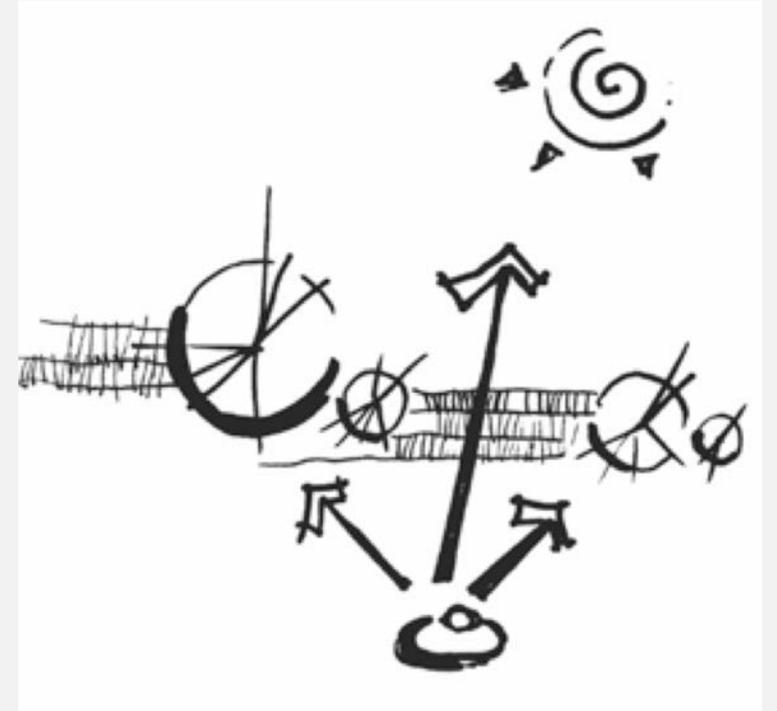
Results: 4. Damage-resistant & Attractive Furnishings

- Most interviewees believed **damage-resistant furnishings are critical**
- But difficult to find durable, non-institutional, reasonably priced furniture



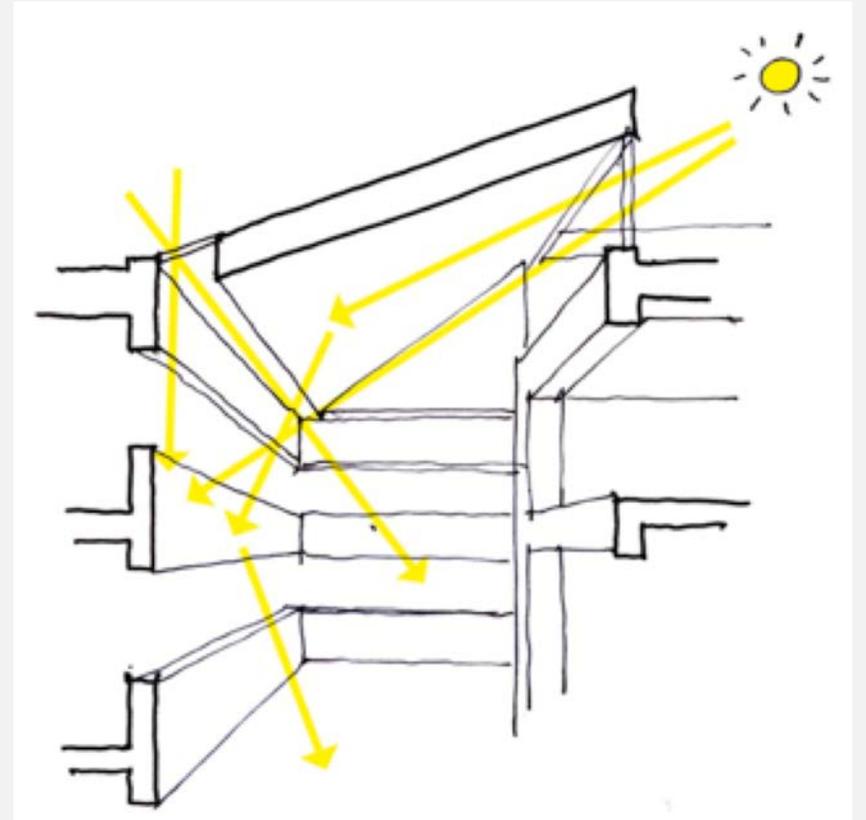
Results: 5. Access To Nature

- All but one interviewee believed **visual and physical access to nature was critical.**
- One interviewee remarked that nature is important in ways “we may not even completely understand.”
- Another called access to nature “the next great frontier” in the design of mental health facilities.



Results: 6. Maximum Daylight

- Agreement that provision of **extensive daylight is critical**.
- But “nobody is quite sure how to do it”
- Electrical lighting inadequate substitute.



Results: 7. Staff Safety/Security

- Most interviewees felt that promoting **staff safety is a priority** and could be improved.



Results: 8. Staff Respite

- Most interviewees believed spaces for **staff respite is an important issue**
- No consensus as to the exact nature and location of staff respite amenities



Krueger Family Healing Garden; photo::
Therapeutic Landscapes Healing Network

Results: 9. Low Density Bedrooms & Baths

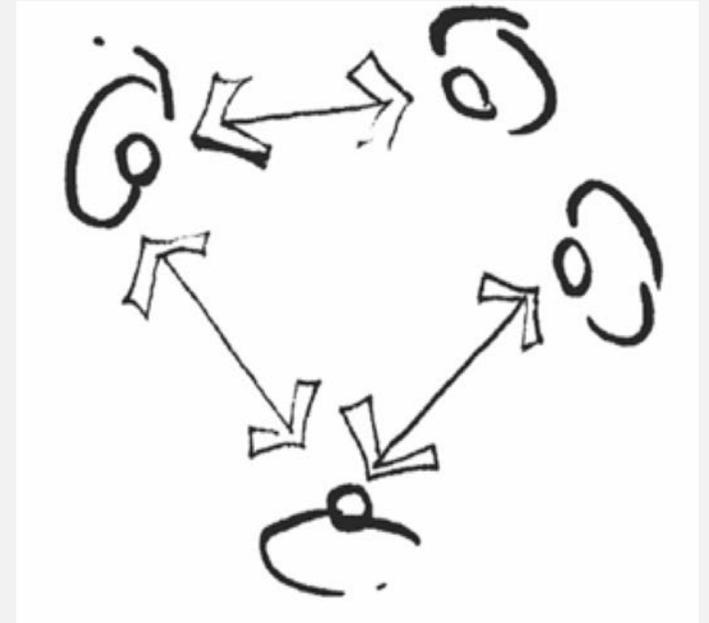
- Agreement that **research is needed**
- **Private and/or semiprivate rooms preferred.**
- Private rooms recognized as increasing construction costs and inhibiting supervision
- Private bedrooms/bathrooms linked to patient diagnosis and acuity.



Vermont Psychiatric Hospital;
architecture+

Results: 10/13. Patient/Staff Interaction/Observation

- Most experts thought **private areas for staff-patient interaction are essential**
- A recurring concern regarding interaction was the need for **spaces that facilitate variety of social activities.**



Results: 11. Mix of Seating

- Nearly all interviewees felt that **mix of seating arrangements important** to facility activities
- Need variety of seating arrangements in support of both one-on-one interactions or group therapy



Seattle Children's; architecture+

Results: 12. Autonomy & Spontaneity

- **The importance of spaces conducive to autonomous and spontaneous behavior** commonly acknowledged.
- **Importance of environmental amenities** such as computers or video games, and spaces such as kitchens.



Results: 14. Nurse Station Configuration

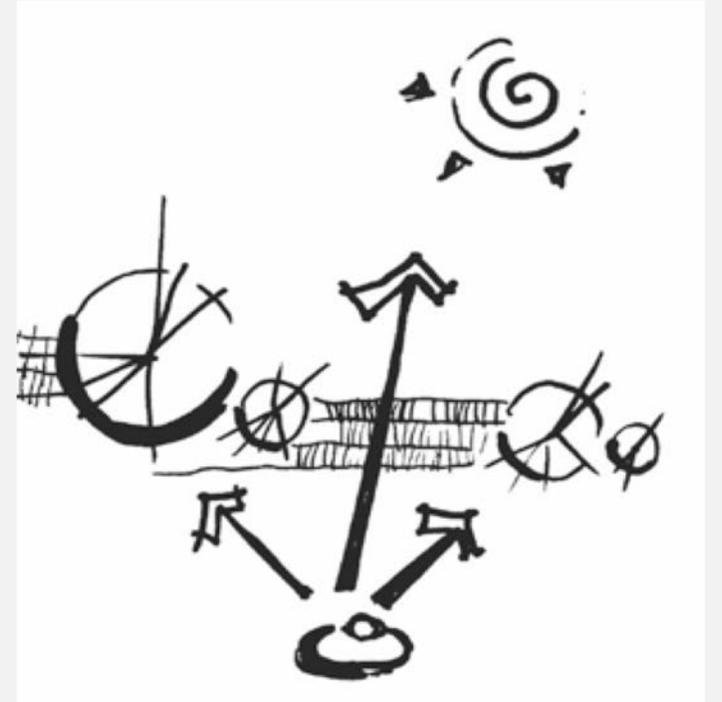
- **Nurse station design of great interest** to all but one interviewee
- The debate between open and closed stations focuses on balancing needs for patient supervision and staff safety.



Bryce Hospital; architecture+

Results: 15. Indoor/Outdoor Therapy

- All interviewees affirmed the **importance of outdoor and indoor therapeutic spaces**
- Examples of amenities that could be offered include supervised indoor swing, ping-pong table, or stationary bicycle.



Results: 16. Smoking Rooms

- Several interviewees stated accommodating **smoking is not an important topic**
- Nicotine substitutes are often provided and smoking is not allowed.
- A majority of interviewees disagreed.



Results: 17. Suicide Resistant Furnishings

- Most participants felt the development of suicide-resistant equipment was critical, evolving.
- Few thought that it has already been thoroughly explored.
- Additional dialogue required in spite of availability of current guidelines



Rank Your Top Three

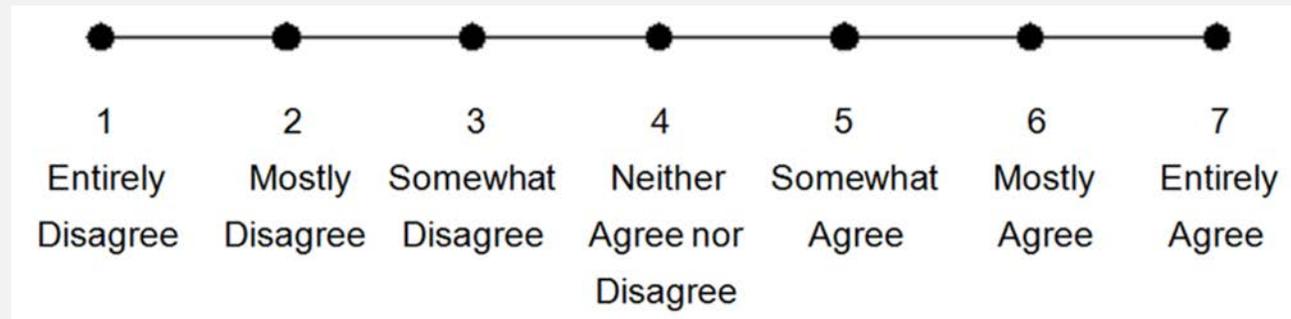
- We have provided a list of potential goals for mental and behavioral health facilities.
- Please circle rank the top three you believe to be most critical.
- Please leave your responses in the front of the room when you leave.

Topics Generated From Literature Review	% Interviewees Supporting Lit Review Topic for Survey
Deinstitutionalized	100% (16/16)
Orderly/organized	87.5% (14/16)
Well-maintained	87.5% (14/16)
Damage resistant furniture	87.5% (14/16)
Visual/physical nature access	93.8% (15/16)
Maximum daylight	100% (17/17)
Staff safety/security	70.6% (12/17)
Staff support/respice	76.5% (13/17)
Private/low density rooms	100% (17/17)
Social interaction/community	82.3% (14/17)
Mix of seating	94.1% (16/17)
Autonomy & spontaneity	88.2% (15/17)
Patient-staff interaction	94.1% (16/17)
Nurse station observation	94.1% (16/17)
Indoor & outdoor therapy	100% (17/17)
Smoking rooms	64.7% (11/17)
Suicide resistant furnishings	76.5% (13/17)

Topics Generated from Literature Review	Interview/Focus Group Additional Survey Topics	Combined Content for Design Goals & Future Survey
Deinstitutionalized		Deinstitutionalized
Orderly/organized		Orderly/organized
	Attractive/aesthetic	Attractive/aesthetic
Well-maintained		Well-maintained
Damage resistant furniture		Damage resistant furniture
	Quality landscaping	Quality landscaping
Visual/phys nature access		Visual/phys nature access
	Attractive/comfort furniture	Attractive/comfort furniture
	Good electric lighting	Good electric lighting
Maximum daylight		Maximum daylight
	Noise control	Noise control
Staff safety/security		Staff safety/security
Staff support/respite		Staff support/respite
	Impact of experience	Impact of experience
	Private bathrooms	Private bathrooms
Private/low density rooms		Private/low density rooms
Social interact/community		Social interact/community
Mix of seating		Mix of seating
Autonomy & spontaneity		Autonomy & spontaneity
Patient-staff interaction		Patient-staff interaction
	Positive Distraction	Positive Distraction
	Staff respite	Staff respite
Nurse station observation		Nurse station observation
Indoor & outdoor therapy		Indoor & outdoor therapy
Smoking rooms		Smoking rooms
Suicide resistant furnishing		Suicide resistant furnishing
	Impact of LOS	Impact of LOS
	Impact of unit size	Impact of unit size

Phase 2: Psychiatric Staff Environmental Design Survey (PSED)

- 17 demographic, 63 Likert-style, 11 ranking, and two open-ended questions; built in Qualtrics
- 7-point scale “not important at all” to “extremely important; and “very ineffective” to “very effective.”
- 20 minutes to complete.
- 134 respondents



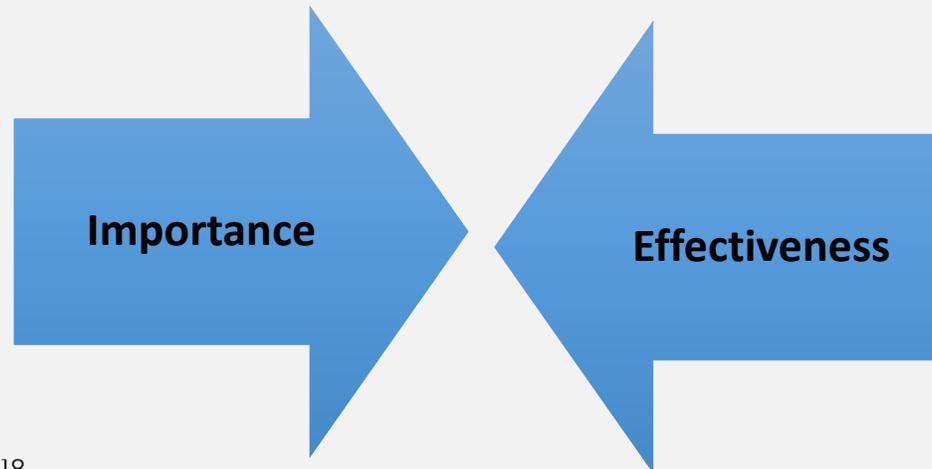
Phase 2: Method

- Psychiatric nurse organizations distributed the survey via an online blog or membership letter,
- One facility distributed the survey directly to staff via email.
- Gift cards used as incentive to enhance subject response.



Variables and data analysis

- Studied **importance and effectiveness** of environmental interventions identified in Phase 1 and the relationship between the two.
- Additionally, strategies such as **private bedrooms and bathroom and open versus closed nursing stations** were explored.



Variables Explored

- **Environmental qualities** defined as overarching conceptual design goals (i.e., well-maintained).
- **Environmental features** are defined as specific physical interventions (i.e., noise control, daylight).
- **Environmental characteristics** are aspects of environment that contribute to the effectiveness of qualities.



Study 2 Hypothesis One Results

Psychiatric Staff Environmental Design (PSED) Research Tool

- The **usefulness** of the PSED tool was corroborated.
- More facility information and the **clustering of topics** needed.
- Provides **baseline** to compare with patient responses.

Study 2 Hypothesis Two Results

Importance versus effectiveness

- **Significant difference** between the perceived importance of desirable features and the degree to which these features were present (effective).
- Disconnect could have **negative consequences** on staff retention.



Importance of environmental qualities & features: **all settings**

Quality:	<i>M</i>	<i>SD</i>	Orderly	Homelike	Aesthetic	Outdoors	Maintain
Maintained	6.26	.690	.05	ns	ns	ns	--
Outdoors	6.01	.796	ns	ns	ns	--	
Aesthetic	5.92	.947	ns	ns	--		
Homelike	5.88	1.025	ns	--			
Orderly	5.80	.957	--				

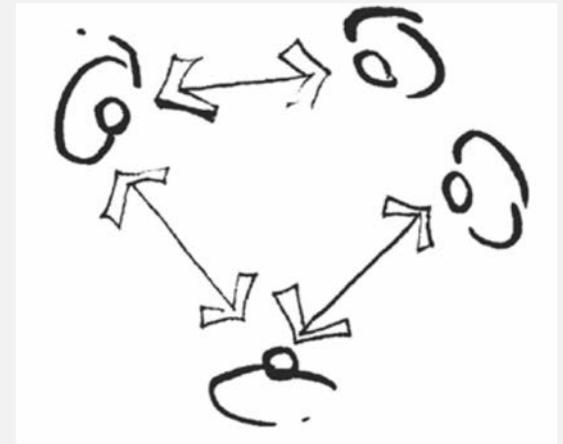
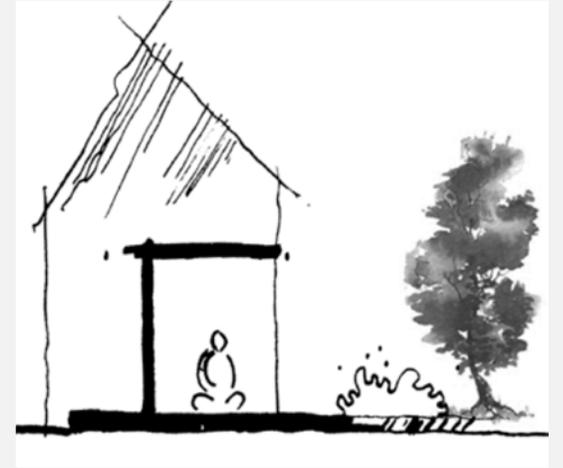
Maintenance most important quality

Staff safety most important feature

Feature:	<i>M</i>	<i>SD</i>	Attr furnit	Staff resp	Resis furnit	Elec light	Conf furnit	Daylight	Noise cntrl	Staff safety
Staff safety	6.60	.842	.001	.001	.001	.001	.001	ns	ns	--
Noise control	6.38	.742	.001	.05	.05	ns	ns	ns	--	
Daylighting	6.33	.746	.001	ns	ns	ns	ns	--		
Comfort furniture	6.11	.781	.05	ns	ns	ns	--			
Electric light	6.09	.740	.05	ns	ns	--				
Resistant furniture	5.90	1.146	.05	ns	--					
Staff respite	5.87	1.334	.05	--						
Attract furniture	5.53	1.004	--							

Controversial Design Issues

- No clear recommendation regarding private vs. shared rooms.
- Support provided for **open stations**



Future Research

1. Outcomes associated with **private versus shared bedrooms**
2. Frequency of incidents associated with **open versus closed nurse stations** is essential
3. Impact of **noise and lighting**
4. Impact of **access to nature**
5. Provision of **staff respite areas**.

Currently working with the Star system in CA and Cayluga Medical Center to distribute to staff AND patients.

Practitioner Reflections

- Angela Watson, Shepley Bulfinch
- Frank Pitts, architecture +

Thank you!