AAJ CONFERENCE 2018

ENLIGHTENED JUSTICE: ADVANCING TREATMENT

Jersey City, NJ

Design of Mental & Behavioral Health Facilities

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Course Description

Very little research is available on the design of mental and behavioral health (MBH) facilities. Research on this topic would be particularly useful in behavior health components of justice facilities. The presenters will describe recent research on the impact of the physical environment on staff, patients and families in psychiatric environments. The presentation will focus on a recent study involving interviews, focus groups, and surveys distributed to psychiatric staff and patients. Design guidelines and research results regarding a variety of topics including deinstitutionalization, access to nature and nursing stations will be shared.

Learning Objectives

Participants will…

- become aware of the research on mental and behavioral (MBH) facilities in both inpatient and outpatient settings.

- gain access to recent data evaluating the importance and presence of specific environmental features in MBH facilities.

- become acquainted with a pre-tested survey tool for evaluating MBH facilities.

- learn about the most pressing issues in MBH design, and use this information to set priorities where construction budgets are very limited.

Introduction

Mental health in the world:

- More than 300 million people worldwide suffer from depression (the leading cause of disability)

In the US:

- In 2016, 18% of adults experienced mental illness in a year

In US prisons (from Redemsky, 2018):

- As many as 50% suffer from at least one psychiatric disorder (does not include dementia, traumatic brain injury)
- 55% of male inmates have symptoms of mental health disorders
- 73% female inmates have symptoms of mental health disorders (compared w/12% female non-inmates)

Introduction

Statistics from literature review, *Providing Healthcare in the Prison Environment* (Redemsky, 2018):

- 95% of inmates will be released back to the community
- 70% recidivism rate
- Inmates diagnosed with any mental health disorder 70% more likely to re-offend

Prisons as mental health providers

- US justice system is the largest mental health provider in the country:
- Los Angeles County Jail, Chicago Cook County Jail, and NY Rikers Island house more people with mental illness than any of the nation's psychiatric hospitals

Introduction

The Environment of Care:

- Environments designed for punishment, not treatment
- *"Prisons were never intended to be care centers for the mentally ill; however, that is one of their primary functions today"* (Abramsky, 2003)
- Mentally ill traditionally housed in segregated units, even though isolation can cause psychiatric problems (Abramsky, 2003)

How are prisoners being treated for MBH issues?

- Telemedicine (28 states)
- Pharmaceuticals (?)
- No treatment (?)
- Physical environment (?)

Introduction

- Overall increased demand for mental health services

- Little research about facility design in MBH settings

- Research-informed / evidence-based design strategies open doors to dialogue and research

Purpose of Study

1. Identify **design features** that critically impact staff and patients in MBH environments.

2. Develop a **tool** to evaluate MBH facilities.

Research Team

- Cornell University, Dept. of Design & Environmental Analysis Architecture+
- Shepley Bulfinch

Research Team

Student research assistants
- – 2 Bachelors students
- – 3 Masters students
- – 1 Phd student

Literature Review

- 300+ article **literature review** (2013) was supplemented by a follow-up review of 100+ publications and a book

- Results of review: **17 topics** covering staff & patient needs.


DESIGN FOR MENTAL AND BEHAVIORAL HEALTH

Mardelle McCuskey Shepley and Samira Pasha
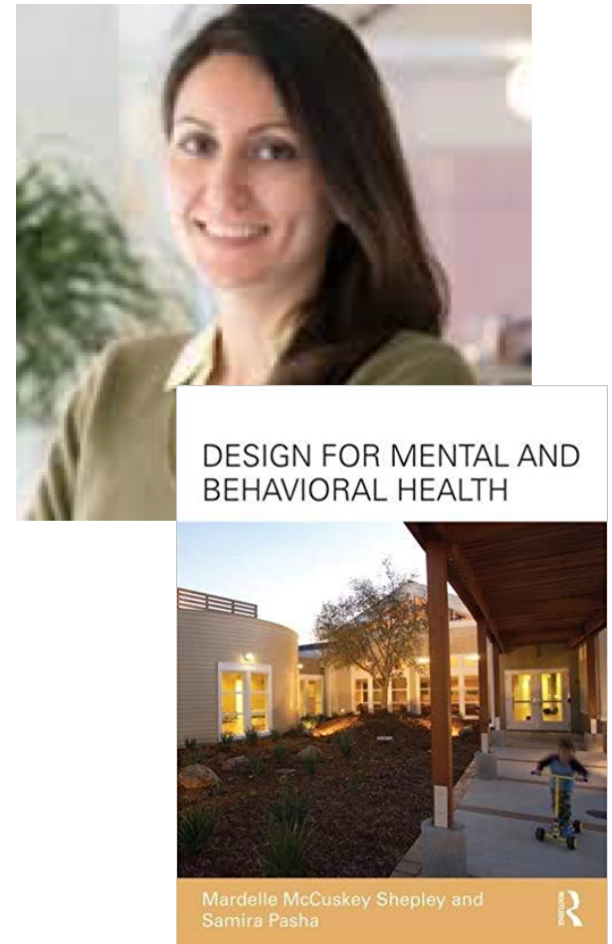
Methods Phase 1: Interviews

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 potential interviewees by email/phone
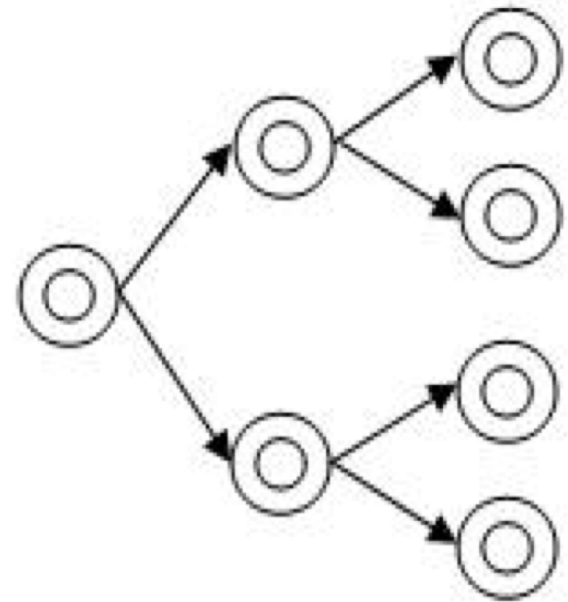
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Methods Phase 1: Interviews

- Group included 22 potential subjects from North America and Australia

- 19 responded and agreed to participate
  - 7 clinicians
  - 4 academics/researchers
  - 5 architects/designers
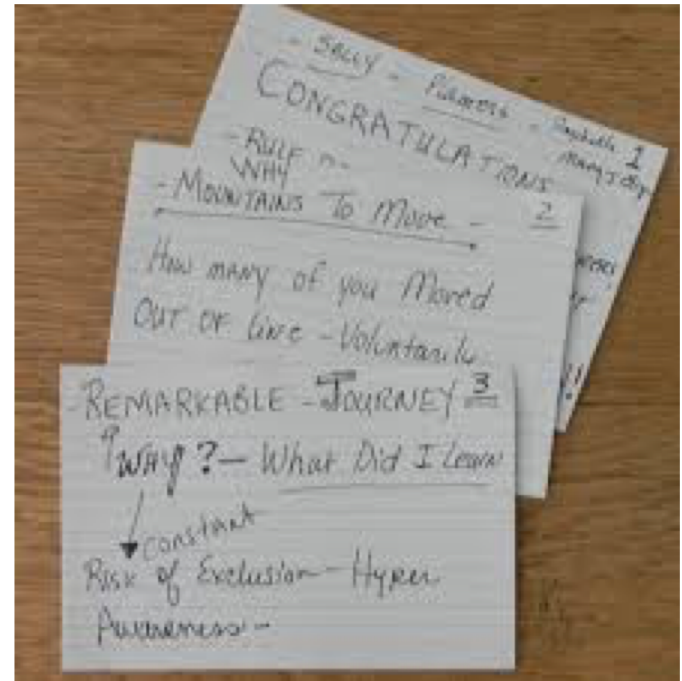 - 1 researcher/practitioner
  - 2 administrators
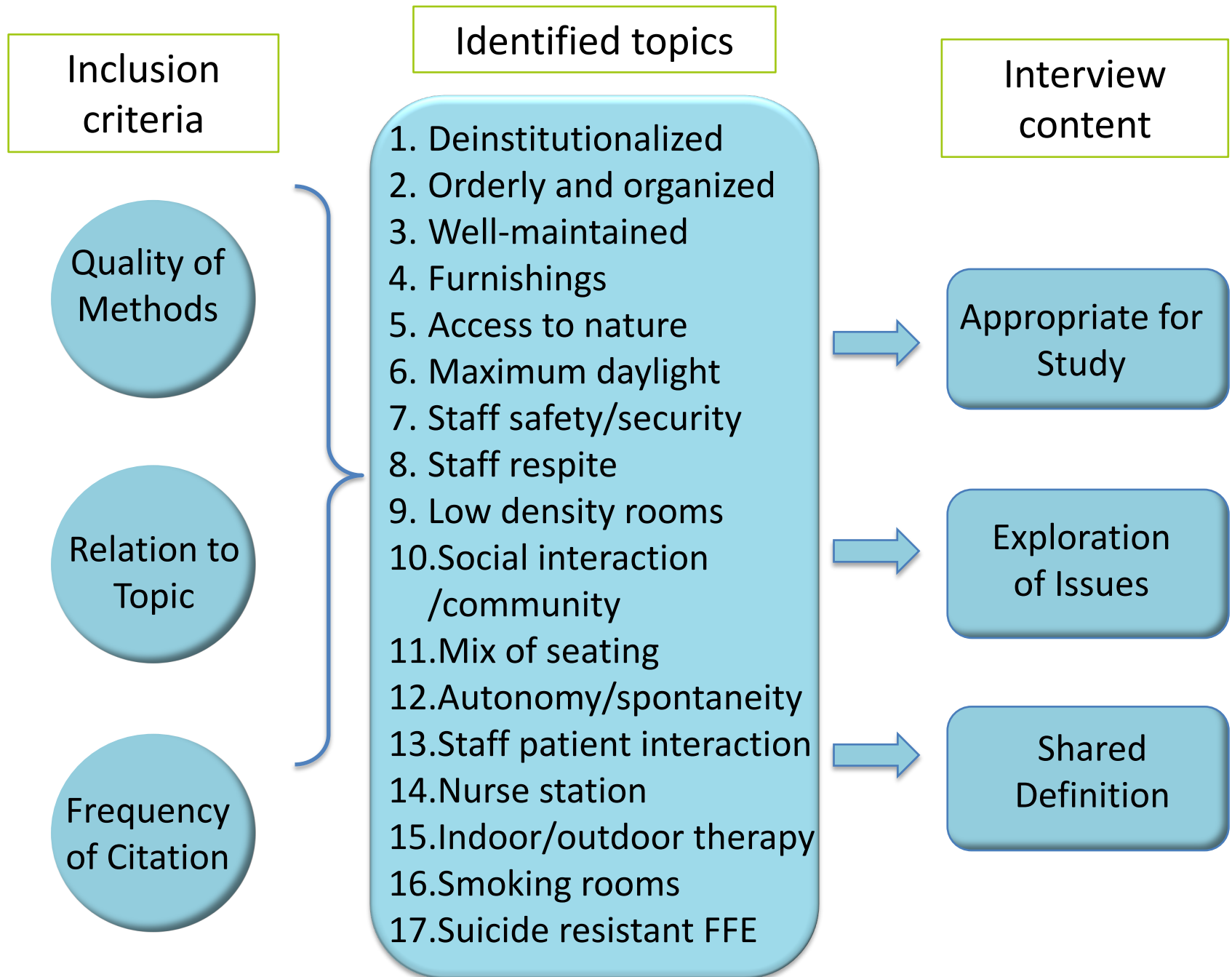
Methods Phase 1: Interviews

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

NATURALISTIC INQUIRY

Yvonna S. Lincoln
Egon G. Guba
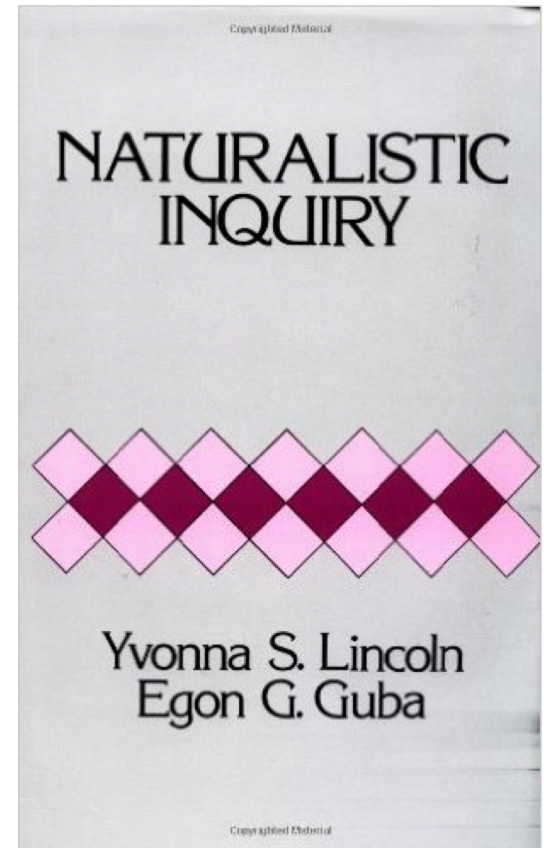
Methods Phase 1: Interviews

- 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
- Relation to Topic
- Frequency of Citation

Identified topics

1. Deinstitutionalized
2. Orderly and organized
3. Well-maintained
4. Furnishings
5. Access to nature
6. Maximum daylight
7. Staff safety/security
8. Staff respite
9. Low density rooms
10. Social interaction /community
11. Mix of seating
12. Autonomy/spontaneity
13. Staff patient interaction
14. Nurse station
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 deinstitutionalization / "homelike" a **critical** aspect of 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
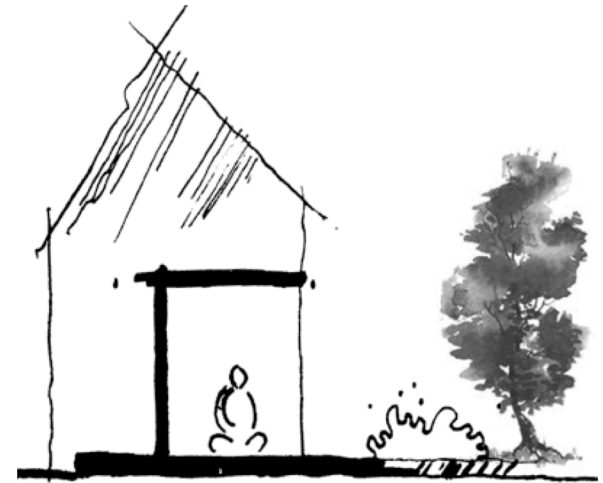
Results 1: Deinstitutionalization

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
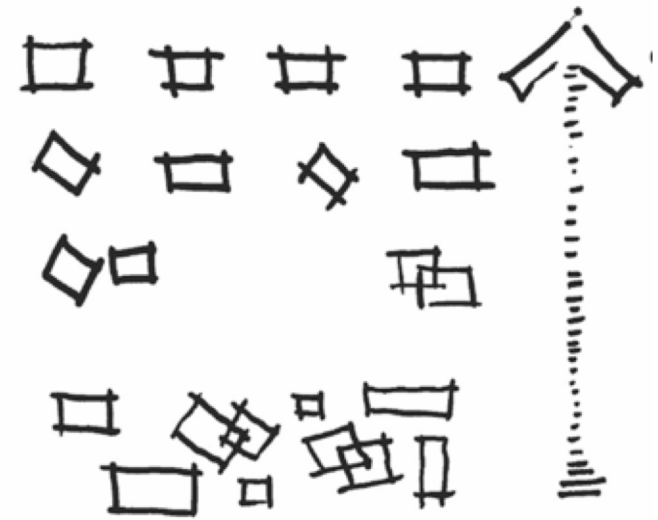
Results 3: Well-maintained

- 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
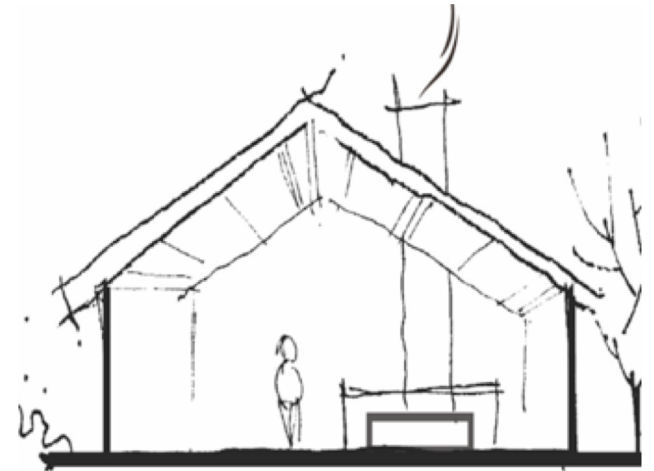
Results 4: Damage-resistant & Attractive Furnishings

- 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
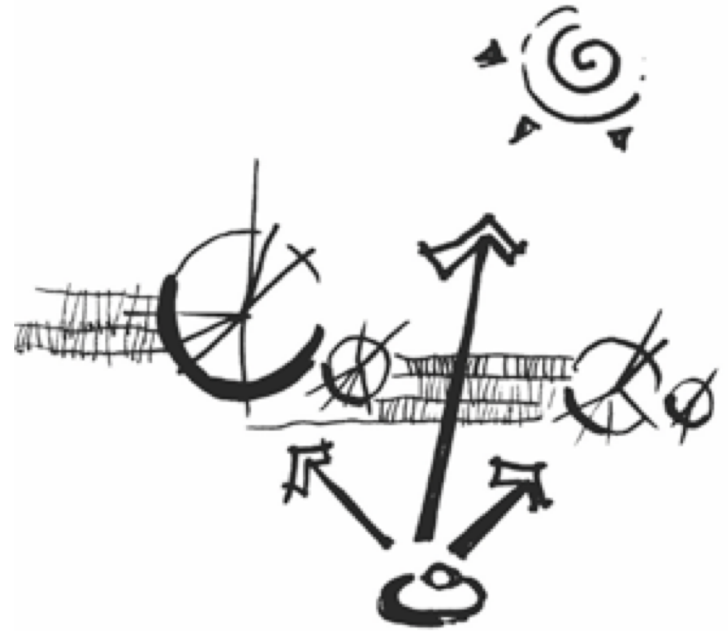
Results 6: Maximum Daylight

- Agreement that provision of **extensive daylight is critical**

- But "nobody is quite sure how to do it"

- Electrical lighting is an inadequate substitute.
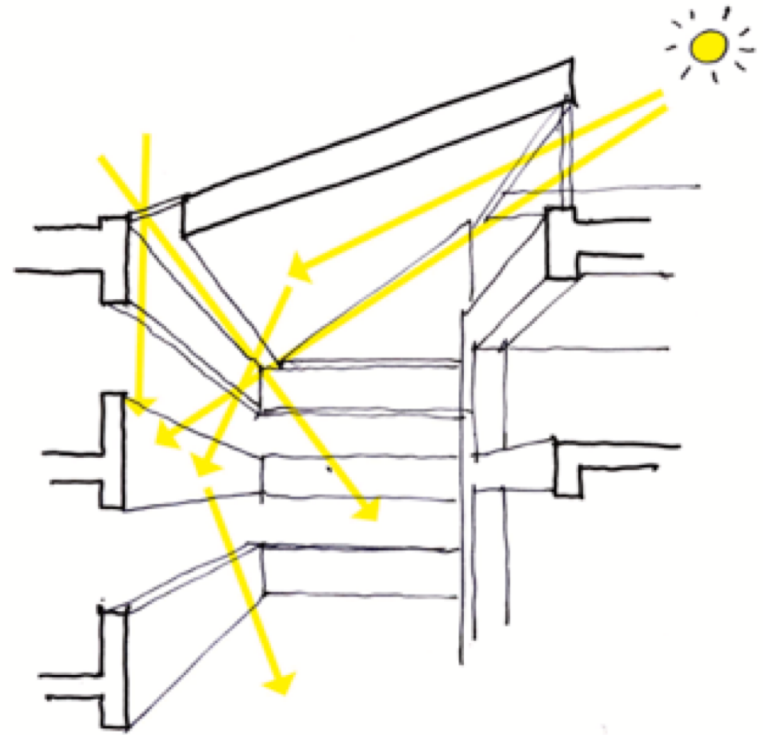
Results 7: Staff Safety/Security

- 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 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+

- Most experts thought **private areas for staff-patient interaction are essential**

- A recurring concern was the need for **spaces that facilitate a variety of social activities**
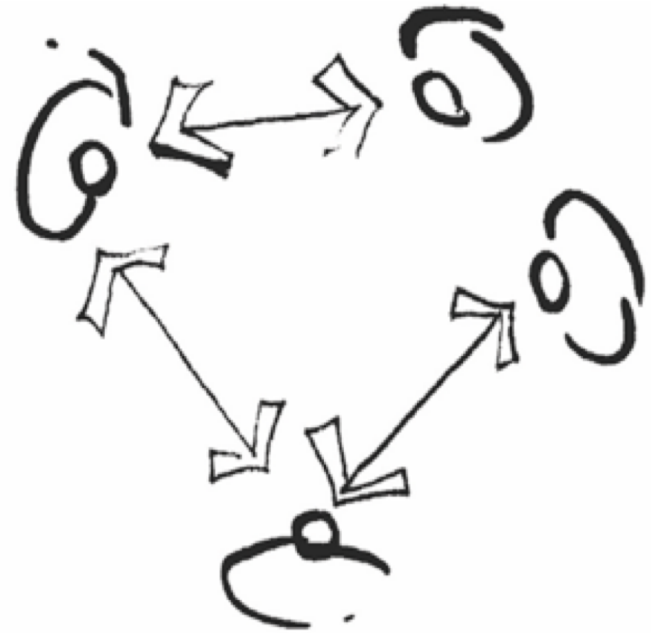
Results 11: Mix of Seating

- Nearly all interviewees felt that **mix of seating arrangements are important** to facilitate activities
- Need variety of seating arrangements to support 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

- **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
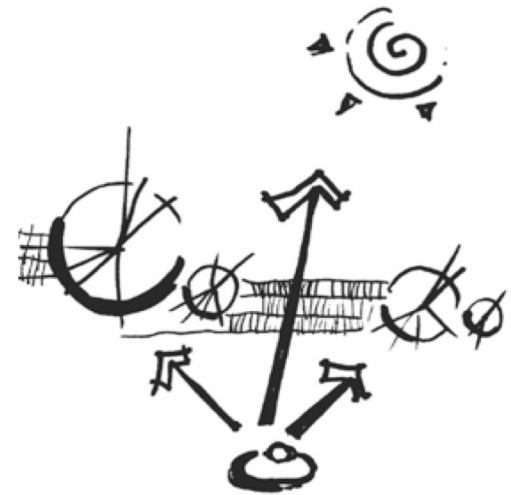
Results 16: Smoking Room

- Several interviewees stated **accommodating smoking is not an important topic**

- Nicotine substitutes are often provided and smoking is not allowed

- A minority of interviewees disagreed

Results 17: Suicide Resistance

- 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
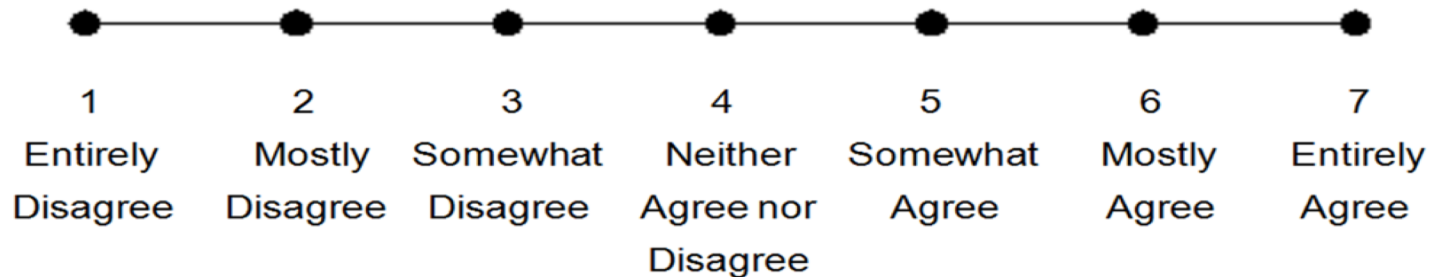
Topics Generated From Literature Review	% Interviewees Supporting Lit Review Topic for Survey
Deinstitutionalized	100% (16/16)
Orderly/organized	87.5% (14/16)
Well-maintained	87.5% (14/16)
Damage resistant furniture	87.5% (14/16)
Visual/physical nature access	93.8% (15/16)
Maximum daylight	100% (17/17)
Staff safety/security	70.6% (12/17)
Staff support/respite	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)

Topics from Literature Review	Interview/Focus Topics	Combined Content
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

1	2	3	4	5	6	7
Entirely Disagree	Mostly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Mostly Agree	Entirely Agree

# 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
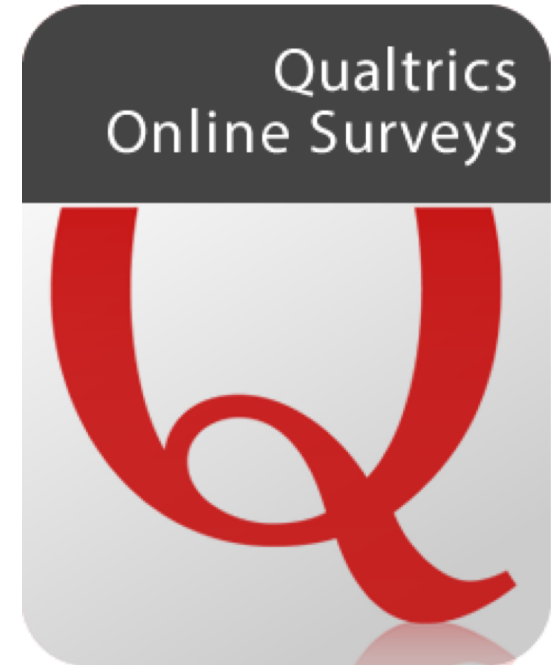
Phase 2: Variables

- Studied *importance* **and** *effectiveness* of environmental interventions identified in Phase 1, and the relationship between the two

- Additionally, strategies such as **private bedrooms and bathrooms and open vs closed nurse stations** were explored

Important

Effective
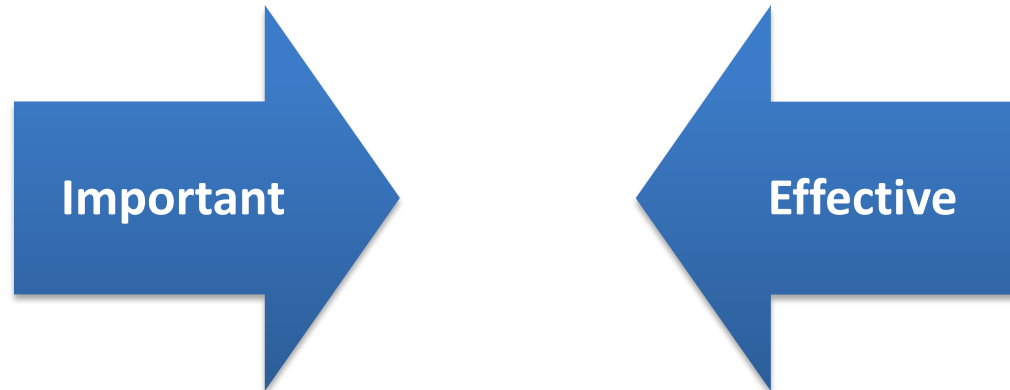
Phase 2: Variables

- **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 the environment that contribute to the effectiveness of qualities.

FEEDBACK

Phase 2: Hypothesis One Results

Psychiatric Staff Environmental Design (PSED) Research Tool

- The **useful**ness of the PSED tool was corroborated

- More facility information and the **clustering of topics** needed

- Provides **baseline** to compare with patient responses

Phase 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

Phase 2: Hypothesis Two Results

Importance of environmental qualities & features: all settings

Quality:	M	SD	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:	M	SD	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	--							

Phase 3: Revised PSED/PPED

- **Psychiatric Staff Environmental Design** (PSED) Tool and **Psychiatric Patient Environmental Design** (PPED) Tool

- Staff and Patient / Client feedback on importance and effectiveness of environmental qualities and features

Phase 3: Methods

- 2 healthcare organizations (CA and NY)
- 4 facilities (3 in CA, 1 in NY)
- PSED administered online via Qualtrics at all 4 facilities
- PPED administered on paper in 3 CA facilities

Phase 3: Results

- 58 PPED (client) surveys
- 157 PSED (staff) surveys
- Differences between *importance* and *effectiveness* among patients and staff
- Differences *between patients and staff*
- Any other summarizing remarks? Qualitative?

Relevance to Justice Facilities

What of this research can be applied to prison environments?

- Access to natural light, nature
- Safe environment (damage-resistant, anti-ligature, etc.)
- Importance of non-isolation
- Importance of social interaction (?)
- If not control, then *sense of control?*

Phase 3: Future Research

1. Outcomes associated with **private vs shared bedrooms**
2. Frequency of incidents associated with **open vs closed nurse stations** is essential
3. Impact of **noise and lighting**
4. Impact of **access to nature**
5. Provision of **staff respite areas**
6. **Physical environment of MBH care in prisons:** What do we know? What do we *need to* know?

Questions? Thoughts?

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