



TOP DESIGN STRATEGIES

OVERVIEW

Design to mitigate self-harm and harm against others for people with behavioral health symptoms range from large-scale decisions (e.g., site design) to more detailed decisions (e.g., door hinges). However, even small details can affect the layout, so it is helpful to be aware of all considerations in the early stages of the project.

It is also important to understand where one decision may be a tradeoff with another, such as bathroom privacy and visibility. Note that safety is not necessarily improved by a “score” derived from the use of a particular number of features.

The Safety Toolbox is made available through a partnership with:



Reducing Injury and Harm in Behavioral & Mental Health Settings Design Strategies

The following design solutions are a brief summary of the content found in [Reducing Injury and Harm: An Issue Brief on Safety for Behavioral & Mental Health](#). They are organized by building design category.

Site Optimization

- Ensure that exterior areas accessible to the unit or patients are well-lit.
- Secure the outdoor perimeter in a manner appropriate for the population served, and consider exterior fences and walls designed to mitigate elopement.
- Select and design exterior landscaping to mitigate the risk of elopement through access to roofs, fences, or walls.
- Design exterior landscaping to allow visibility and surveillance by staff where patients have outdoor access to detect and mitigate patient self-harm and elopement.
- Select non-toxic exterior (and interior) landscaping to preclude the use of landscaping features (e.g., branches) as weapons.
- Provide visual and/or physical access to nature for patients, where possible, as appropriate for the population.

Building Envelope/Structure

- Limit opening sizes of operable windows to mitigate jumping risk (i.e., 4”).
- Specify security glazing to address the risks associated with the room type (e.g., seclusion room, patient room, activity room, group room, corridor). (This consideration is also relevant under room layout for interior windows.)



Building Layout

- Locate security in close proximity to behavioral health units to facilitate quick response times.
- Secure or design to mitigate jumping in any areas where the risk of jumping may be an issue (e.g., roof, balcony, porch, window).
- Include secure psychiatric/behavioral health units for those at risk of self-harm.

Unit Layout

- Balance safety and security of inpatient unit design between the need for a therapeutic environment and patient/staff safety.
- Include spaces with opportunities for both reflection and social interaction on the unit to provide patients a choice of stimulation or privacy.
- Control unit doors for entry and exit where warranted by the patient population (e.g., sally port, locked with viewing panel).
- Design layout to eliminate blind spots and areas where staff can become isolated and overcome.
- Design layout to maximize visibility and accessibility to all patient-occupied areas, including treatment spaces (e.g., exam rooms).
- Where the layout cannot be changed, reduce hazards by other means (e.g., corner mirrors or cameras).
- Provide nurse stations/team care areas with open access to communication while providing safety for staff.
- Provide separate secure rooms for patients at risk for suicide, self-harm, or harm against others in both inpatient units (as warranted) and the ED (e.g., psychiatric, criminal patients).
- Provide visual access for staff to all areas of secure holding (including cameras or mirrors for blind spots) to mitigate self-harm and detect elopement.
- Include secure storage for environmental service items.
- Provide ceilings high enough to mitigate the risk of access to ceiling fixtures. (This consideration is also relevant under building envelope/structure, as it may affect floor-to-floor heights.)





Room Layout

- Provide space immediately outside any seclusion room for the response team to manage a patient needing seclusion.
- Provide any seclusion room with the space needed for additional staff when required to contain a patient (i.e., no less than 7 feet wide and no more than 11 feet long).
- Design patient rooms with no more than two beds.
- If doors to patient rooms and/or patient toilet rooms are lockable, provide locks designed to allow emergency access.
- Specify that support rooms opening into patient-accessible corridors are lockable (e.g., utility, environmental services, administration).
- Design door swings to prevent a patient from barricading a room from the inside.
- Design patient toilet room doors in patient rooms to reduce hanging points.
- Eliminate doors entirely if adequate patient privacy can be maintained.

Interior Design/Finishes

- Design ceilings with monolithic surfaces to restrict ceiling space access in high-risk areas.
- Select door handles and other hardware (closers, hinges) to reduce possible anchor points for hanging.
- Eliminate doors with hold-open devices and self-closers that could be used as an anchor point for hanging.
- Consider materials to reduce noise and all forms of self-harm (e.g., breakability, breathability, toxicity, flame retardance).
- Incorporate room details designed to eliminate sharp edges and include rounded outside corners.
- Select mirrors made of non-breakable material.
- Specify bathroom hardware and accessories to reduce risk of self-harm (anchor points) and harm to others (fixture parts becoming weapons).
- Select “no gap” grab bars to eliminate suspension points for hanging.



- For patient-accessible storage, provide fixed, non-adjustable shelves or hooks that support no more than 4 pounds (and do not have rods or hangers).
- Affix wall and floor finishes, ceilings, molding, and other interior details to limit spaces where contraband items can be hidden.
- Install artwork in a manner that does not create potential hazards to patients (e.g., non-breakable frame/covering, secured with tamper-resistant fasteners).

Furnishings

- Design/select furnishings and/or furniture (by physical attachment or weight) to mitigate self-harm (barricade, suicide) and harm to others (projectiles, entrapment). (This consideration is also relevant under site optimization for exterior furniture.)

Plumbing

- Select flush-mount plumbing fixtures (e.g., shower heads) where possible to minimize risk of use as ligature points.
- Design plumbing with concealed pipes to minimize potential ligature points.
- Secure sprinkler heads from tampering (flush or a breakaway design that does not activate the head).

Mechanical (HVAC)/Electrical

- Select tamper-resistant light fixtures and other appurtenances.
- Eliminate or control electrical outlets to mitigate self-harm. Incorporate all HVAC components (e.g., air grilles, thermostats, under-window heating and cooling units) to reduce ligature attachments and possible patient tampering that could lead to hanging or harm to self or others.

Technology Integration

- Provide communication systems or panic (duress) alarms to mitigate risk of harm to staff and incorporate video surveillance systems.
- Ensure all telephones accessible to patients are specified with either safety cords or cordless/"hands-free" equipment.



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The Center for Health Design advances best practices and empowers healthcare leaders with quality research that demonstrates the value of design to improve health outcomes, patient experience of care, and provider/staff satisfaction and performance.

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Additional Resources

OSHA. Guidelines for Preventing Workplace Violence for Health Care & Social Service Workers:

<http://www.osha.gov/Publications/OSHA3148/osha3148.html>

Shepley, M., & Pasha, S. (2013). Design Research and Behavioral Health Facilities (Literature Review): The Center for Health Design:

https://www.healthdesign.org/sites/default/files/chd428_researchreport_behavioralhealth_1013-final_0.pdf

Hunt, J., & Sine, D. (2015). Common Mistakes in Designing Psychiatric Hospitals: An Update:

http://www.fgiguideguidelines.org/pdfs/FGI_CommonMistakesPsychiatricHospitals_1505.pdf

Hunt, J., & Sine, D. (2015). Design Guide for the Built Environment of Behavioral Health Facilities:

http://www.fgiguideguidelines.org/pdfs/DesignGuideBH_7.0_1505_rev.pdf

Additional resources not focused on design:

National Institute for Mental Health: <https://www.nimh.nih.gov>

U.S. Department of Veteran's Affairs Mental Health:

<http://www.mentalhealth.va.gov>

This summary was created as a supplement to the Safety Risk Assessment (SRA) toolkit and other SRA-related Issue Briefs, Backgrounders, and Top Design Strategies. This toolkit is not intended to be a guarantee of a safe environment; the environment is one part of a safety solution that includes operational policies, procedures, and behavior of people. It is intended for use with the collaborative input of project- and facility-based expertise.