

GUIDELINES FOR THE BUILT ENVIRONMENT OF BEHAVIORAL HEALTH FACILITIES

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ELEMENTS OF PERFORMANCE:

“The organization conducts proactive risk assessments that evaluate the potential adverse impact of buildings, grounds, equipment, occupants, and internal physical systems on the safety and health of patients, staff, and other people coming to the organization’s facilities.”

“The organization uses the risks identified to select and implement procedures and controls to achieve the lowest potential for adverse impact on the safety and health of patients, staff, and other people coming to the organization’s facilities.”

-- Joint Commission on Accreditation of Healthcare Organizations

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INTRODUCTION

This document is intended to address the built environment of the general adult inpatient behavioral healthcare unit. Additional considerations that are *not* addressed here are required for child and adolescent patients, patients with medical care needs, geriatric patients, and some diagnoses such as substance abuse and eating disorders.

This document is not a replacement for regulatory requirements, but rather augments them to detail practical means of protecting patients and staff.

NOTE:

Product information included in this document is intended for illustration of one specific item that is deemed appropriate for use in this type of facility. Comparable products by other manufacturers meeting the same design criteria may be substituted after careful comparison.

A WORD FROM THE AUTHORS

Having spent our careers working to improve patient safety, we welcome the opportunity to share our experiences with you.

What we have learned is that, while a safe environment is critical, no environment of care can be totally safe and free of risk. No built environment – no matter how well designed and constructed – can be relied upon as an absolute preventative measure. Staff awareness of their environment, the latent risks of that environment, and the behavioral characteristics and needs of the patients served in that environment are absolute necessities. We also know that different organizations and different patient populations will require greater or lesser tolerance for risk; an environment for one patient population will not be appropriate for another. Each organization should continually visit and revisit their tolerance for risk and changes in the dynamics of the patient population served.

The resources and vendors included here are based exclusively on our personal experiences in building, surveying, and operating behavioral health facilities. We have highlighted products that we have found to be both safe and to be readily maintained in the behavioral healthcare environment. However, inclusion or exclusion of a product does not indicate endorsement or disapproval. There may be equivalent products available, and all facilities should continuously look to the marketplace to find products that are safer or more cost-effective.

We hope that this document will provide a starting point in your search for resources that can enhance the safety of behavioral healthcare patients.

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A WORD FROM NAPHS

THE VALUE OF FOCUSING ON THE BEHAVIORAL HEALTH ENVIRONMENT

The National Association of Psychiatric Health Systems (NAPHS) is proud to partner with authors David Sine and Jim Hunt to bring you this unique and valuable resource.

Whether you are involved in designing a new building, renovating space, or maintaining an existing behavioral healthcare program, this document is designed to help you think through the many aspects of the environment that can have a significant impact on patient safety.

In behavioral health care, this is particularly important as many patients are admitted because they are at risk of harming themselves or others. In every aspect of building design and maintenance, it is essential to make determinations about the built environment based on the potential risk to the specific patient populations you serve. This requires a continuous process of review and evaluation. This document is unique in that it gives you a concrete starting point for your internal discussions.

There are no hard and fast answers, and there may on occasion be conflicting state or federal requirements that you will need to discuss with your own attorneys. Some questions to consider:

- Could a patient be hurt by this aspect of the environment? Could he/she use it to harm someone else?
- Can staff easily navigate the environment to get to patients in need of assistance?
- Is it possible to maintain patient privacy in this environment?
- Does the environment convey a hopeful, helpful atmosphere that will contribute to recovery?

NAPHS does not endorse or recommend any specific product, nor does exclusion of a product indicate disapproval. However, we believe that it is important to share ideas that can help you in the process of continuously enhancing patient safety and improving patient care.

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GENERAL COMMENTS

1. Space Planning Considerations:

- A. **Behavioral health units and facilities should be designed to appear comfortable, attractive, and as residential in character as possible.** Every effort should be made to avoid an institutional look while still meeting the vast array of applicable codes and regulations and meeting the needs for patient and staff safety.
- B. **Nurse stations should provide the least possible barrier between staff and patients.** HIPPA information privacy regulations make an “open” design increasingly challenging. Patient records must be protected from view of other patients, visitors, and unauthorized staff. Care must also be taken to shield computer monitors and to provide areas for clinical staff to discuss patients without being overheard by other patients or visitors. Provision should be made to accommodate storage of charts and patients’ valuables in appropriately secure areas.
- C. **Gathering areas for patients near the nurse station are encouraged because patients often congregate near there to socialize.** It is far better to plan for this in the original design and to accommodate this behavior. This area should encourage comfortable seating and places for conversation, card or board games and other quiet activities that will not be distractions for staff working in the nursing station. Television sets, CD players, etc. should not be included at these locations.
- D. **Chart rooms and other staff areas should be located so that staff members may have conversations regarding patients and other clinical matters without being overheard by patients or visitors.**
- E. **Medication rooms should be sized to accommodate the number of staff that will be necessary at peak times as well as planned for future (if not current) computer systems.** HVAC systems should have sufficient capacity to accommodate the cooling load of the refrigerator, computer, and the number of people who may be in the room at peak times. The medication room should also have a hand-washing sink. The room should be sized to accommodate storage of the medication cart when not in use without restricting use of the space by staff. (See “*Guidelines for Design and Construction of Hospital and Health Care Facilities; 7.2.B13*)
- F. **When possible, locate service areas such as trash rooms and clean and soiled utility rooms so that they are accessible both from the unit and from a service corridor.** This eliminates the need for environmental staff servicing these rooms to enter the treatment areas of the unit and possibly disturb patient activities. All doors to these rooms must be kept locked at all times.
- G. **Nurse call systems are not required** in behavioral health units.

- H. When possible, **locate breakers to disable patient room electrical outlets** so the breakers can be controlled without entering the patient areas.
- I. **All electrical circuits having receptacles near sources of water** (such as sinks, lavatories, and toilets) **must be protected by Ground Fault Interrupters (GFI).**
- J. When possible, **locate serviceable parts of patient room HVAC systems where they can be serviced without entering the patient rooms.**
- K. **Housekeeping rooms should be large enough to store carts when not in use.** Carts should be lockable. All cleaning materials must be locked inside at all times when the carts are in patient areas or corridors and not attended by staff.
- L. **Smoking areas should be outdoors whenever possible.** These can be in the form of screened-in porches using heavy stainless steel screen fabric similar to that specified in Section 3.H.i. below. If they must be indoors, smoking rooms should have their own heating and air conditioning system sized to exhaust a high ratio of air changes per hour, and the room should always be at negative pressure relative to the rest of the unit. Furniture should be without upholstery. Provision should be made for staff observation without entering the room, and no waste baskets are allowed in these areas.
- M. **At the time of this writing, the applicable standards** [*Guideline for Design and Construction of Hospital and Health Care Facilities*, published by the American Institute of Architects, 2001 edition] **require 100 net usable square feet per private patient room and 80 net usable square feet per patient in semi-private rooms.** All requirements of the *Guidelines...*, *NFPA 101 Life Safety Code (2000 edition)*, Joint Commission for Accreditation of Healthcare Organizations Standards, as well as state and local regulations and building codes must be incorporated into the planning.

2. Safety:

Concern for the safety of patients and staff due to the design of the built environment are not the same in all parts of a behavioral health unit or facility. The level of precautions necessary depends on the staff's knowledge of the patient and the amount of supervision the patient will have while using that part of the facility. The level of concern falls roughly into five categories (with 5 being the highest level of concern):

Level 1. Staff and service areas where patients are not allowed.

Level 2. Corridors, counseling rooms, interview rooms and smoking rooms— where patients are highly supervised and not left alone for periods of time.

Level 3. Lounges and activity rooms – where patients may spend time with minimal supervision.

Level 4. Patient rooms (semi-private and private) and patient toilets— where patients spend a great deal of time alone with minimal or no supervision.

Level 5. Admissions rooms, examination rooms, and seclusion rooms-- where staff interact with newly admitted patients that present potential unknown risks and/or where patients may be in a highly agitated condition. (See Section 6)

3. Outdoor Areas:

Outdoor areas (weather-enclosed courtyards, fenced areas adjacent to the treatment unit, or simply an open campus) are considered to be of great therapeutic benefit. In all cases, careful consideration should be given to exterior landscaping and furniture in the vicinity of patient use buildings. Trees should be located away from buildings to prevent access to building roofs. Fences can also permit, if not encourage, unauthorized access to windows, to roofs, or over walls. Shrubbery should be non-toxic and low-growing. Avoid planting shrubbery close together as it can create visual barriers that patients or unauthorized visitors may hide behind. Landscape or decorative rocks that can be thrown and injure staff or other patients should not be used.

All site furniture should be anchored firmly in place to prevent its being moved to create barricades or stacked to allow climbing over fences, into windows, or onto buildings.

Buildings, walls, or fences that will establish clear boundaries and impede elopement to a degree appropriate to the patient population being served should enclose outdoor recreation areas for patients requiring close observation.

All areas surrounding patient use buildings and areas where staff will be walking or escorting patients at night should be well lighted. Care should be taken that exterior lights do not shine directly into patient room windows. Parking areas for staff and visitors should

be well lighted and reviewed regularly for design features that encourage personal and property security.

All manhole covers, access panels, and area drain grates should be anchored firmly in place to prevent them being removed and used as weapons or allowing patients to enter the underground piping.

NOTE: Product information included in this document is intended for illustration of one specific item that is deemed appropriate for use in this type of facility. Comparable products by other manufacturers meeting the same design criteria may be substituted after careful comparison.

CONSTRUCTION AND MATERIALS CONSIDERATIONS

Each of these levels of concern require increasing attention to the built environment to reduce the potential of the patients being afforded a means of doing harm to themselves or others. These levels are cumulative, and all steps taken for lower levels are also required for a higher level. For example: all steps recommended for Levels 1, 2, and 3 are also recommended for Level 4.

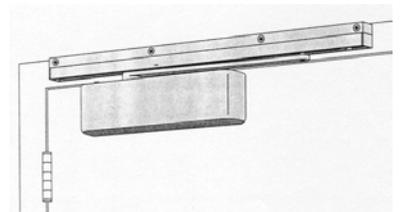
Level 1. Staff and Service Areas – Compliance with all applicable codes and regulations.

Level 2. Corridors, Counseling, and Interview Rooms - Minimize blind spots in corridors where patients can not be observed from nurse’s station.

- A. **Floors** – Carpet or vinyl tile meeting class A rating. Avoid patterns and color combinations that may appear to “animate” into objects that could contribute to visual misperception by patients.
- B. **Walls** – Lightweight concrete block or abrasion resistant gypsum board¹ [*Georgia Pacific DensArmor Plus Gypsum* or *National Gypsum Hi-Abuse Brand Wallboard*] on metal studs – painted finish is preferred because of easy reparability and relative low cost of renewing or changing colors to keep up with current trends. This helps with minimizing the institutional qualities of the space and aids in providing as residential or home-like ambiance as possible while meeting the institutional requirements.
- C. **Ceiling** – May be lay-in acoustic tile if needed for accessibility to equipment.
- D. **Glass** –All glass should be tempered including exterior windows. If wire glass is required by code, install ¼” polycarbonate type glazing² [*GE brand “Lexan” MR10 Sheet with Margard II UV and Abrasion-Resistant Coating*] on side(s) to which patient has access if allowed by authority having jurisdiction. If replacing existing glass is cost prohibitive, application of a security laminate³⁷ [*ACE Security Laminates; 200 Series*] to existing glass may be an alternative. All mirrors and fire cabinet windows should be made of ¼” polycarbonate².

E. **Hardware**

- i. **Hinges** – non-rising-pin type with “hospital tip”³ [*Stanley brand five Knuckle Full Mortise Hinges FBB179 or FBB191 with Hospital Tips*]
- ii. **Closers** – use parallel arm security rated units⁴ [*LCN 4510T Series Security Track Closer*] mount on corridor side of door away from rooms where patients will be alone or in groups.

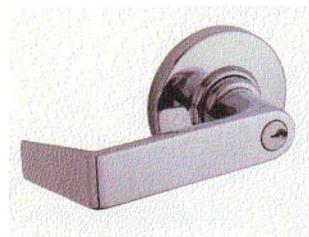


iii. **Arm pulls**– mount upside down to reduce opportunities for hanging

iv. **Push/pull latches**⁵ – [*Glynn-Johnson; HL6 Push/Pull Latch*] may be used for patient room/corridor doors and other locations. When installed with handles pointing down as shown, these may provide less risk than standard knobs or levers. To accomplish locking of doors, a separate dead-latch⁶ [*Schlage; B250PD Nightlatch*] with key operation on corridor side and a thumb-turn on room side. This thumb-turn must be modified so that it will unlock the door, but not lock the door. This is to prevent patients from going into a room and locking themselves in the room.



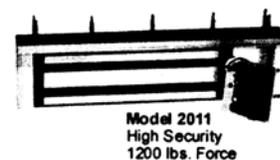
v. **Knobs and levers** –This type of hardware should be very carefully evaluated for risk to the the specific patient population(s) to be served. All doors from corridors must have a lockset or deadbolt of type appropriate to space being served (see following sections). Counseling rooms and interview rooms should have a D70PD “classroom” type lockset⁷ [*Schlage; D Series Commercial Locksets*] which requires a key to lock or unlock the outer lever, but the inside lever is always free.



vi. **Entrance doors** – Provide intercom (or telephone) and/or pushbutton type lock⁸ [*ILCO Unican Corp. Mechanical Pushbutton Locks, 1000 Series*] at all doors that allow access to the unit by staff and/or visitors. The integrity of the pushbutton code must be carefully protected.

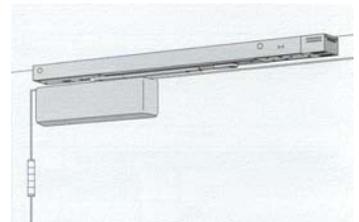


vii. **All exit doors** (including stairway doors) may be locked at all times. Exit doors may be locked with magnetic locks⁹ [*Dynalock Corp. series 2011 Full Size Series*] that are connected to fire alarm system to release (may be time delayed) when alarm is activated where deemed appropriate for patient population. This requirement should be verified with authority



having jurisdiction at location of unit. When extraordinary circumstances exist, a vertical magnetic-jam strip with at least two magnetic-hold devices (1100 lb holding force) should be installed. To provide additional strength, the door may also be equipped with a continuous heavy-duty door hinge (i.e. roton hinge).

- viii. **All doors** on the unit that are required by applicable codes and regulations to have a closer, but need to be open to provide observation of patients by staff shall be provided with approved device. If the door has a standard closer, provide an accessory magnetic hold-open device¹⁰ [LCN SEM7800 Series]. If a new closer is being provided, it is recommended to use a closer with a built-in closing device¹¹ [LCN Fire/Life Safety Series Sentronic closer] that will allow the door to close automatically when fire alarm is activated.



- ix. **All fire alarm pull stations and all fire extinguisher cabinets should be locked.** All staff on duty must carry keys for these at all times. Key should be provided with a red plastic ring or other means of providing quick identification.

- F. **Light fixtures** – If located at a height or location that is not easily accessible to patients, these may be normal fixtures and lamps as long as staff observation from nursing station is good. Where they are within easy reach of patients, they must be tamper-resistant type or have lenses and covers firmly secured with tamper-resistant screws¹² [McMaster-Carr; One-Way Screws]. No glass components should be used in any fixture. Use of table or desk lamps is strongly discouraged, but if used must be firmly attached to the surface on which they sit. Incandescent light bulbs accessible to patients must always be “shatter-resistant” type¹³ [GE Cov-R-Guard; Shatter Resistant; Teflon Coated]. Fluorescent tubes should never be accessible to patients.

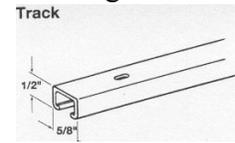


- G. **Fire sprinklers – institutional heads¹⁴** [Reliable Automatic Sprinkler Company, Inc.; Model ZX-QR-INST] which will break-away under 50-pound load dropped from one inch.



H. **Window covering hardware** – All curtain tracks¹⁵ [*Kirsch Series 9046 track w/92122 Slides and 92111 sew on pleats*] must be flush mounted tight to the ceiling or soffit and must have no cords or chains.

Velcro can also be used in lieu of curtain tracks. Mini-blinds should never be used.



I. **Miscellaneous** –

- i. No plastic trash can liners should be allowed in any space accessible to the patient. Breathable paper liners⁴⁴ [*Wisconsin Converting; Sani Liner*] should be provided.
- ii. Telephones located in corridors or common spaces should be wall mounted, have a shielded cord of minimal length, and be equipped with an on/off switch that can be controlled by staff.

J. **Furniture** –

- i. Should be easily cleaned, and should be very sturdy and as heavy as possible to minimize likelihood of patients throwing chairs, tables, etc.
- ii. Provide lockable storage cabinets and drawers and the means to lock phones and computers away from patients.
- iii. All upholstery and foam used in furniture should have flame spread ratings that comply with the requirements of NFPA 101 Section 10.3.

K. **All pictures and art work** mounted on walls should have polycarbonate² type glazing and the frames should be screwed to the walls with tamper-resistant screws¹².

Level 3. Lounges and Activity Rooms

A. **Floors** - Use tile where wet or potentially messy activities will be conducted. Carpet should have solution-dyed yarn with non-moisture absorbing backing¹⁶ [*Lees Tenure Broadloom; Product Number L3106*].

B. **Walls** - Same as for corridors in #2 above.

C. **Ceiling** – Prefer non-accessible solid gypsum board ceiling. If more sound attenuation is desired, apply 1'x1' acoustic tile to the gypsum board with adhesive.

D. **Glass** - Same as for corridors in #2 above.

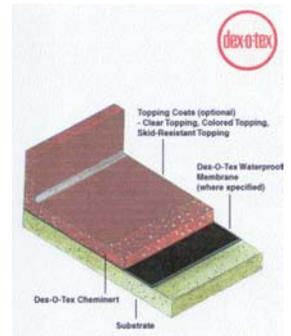
- E. **Hardware** - Same as for counseling and interview rooms in #2 above.
- F. **Light fixtures** - Same as for corridors in #2 above.
- G. **Fire sprinklers** – Institutional type – Same as for corridors in #2 above.
- H. **HVAC grilles and equipment** – Only grilles with small perforations¹⁷ [*Carnes; Stamped, Perforated Diffuser; see catalog D-22*] shall be used in new construction.
 - i. If other types exist and must remain, cover with heavy gauge stainless steel screen fabric¹⁸ [*McMaster-Carr; Type 304 Stainless Steel, Standard Grade Woven Wire Cloth*]
 - ii. If individual fan/coil type units exist and must remain, secure all access panels, grilles and controls with tamper-resistant screws¹².
- I. **Window covering hardware** – Same as for counseling and interview rooms in #2 above.
- J. **Furniture** – All furniture requirements listed for counseling and interview rooms in Level #2 above apply to this level also.
- K. **Kitchen appliances**
 - i. All cooking appliances (ranges, microwaves, coffee makers, etc.) should have key operated lock-out switches¹⁹ [*Hubbell Locking Type Switch #5Z724*] to disable the appliance.
 - ii. All garbage disposal units should have a key operated lock-out switch¹⁹ to disable the device.
 - iii. GFI-protected receptacles must be provided near all sources of water including sinks.
- L. **Miscellaneous**
 - i. All electrical device (switches, outlets, etc.) cover plates must be attached with tamper-resistant screws¹². Electrical cover plates for switches and receptacles should be made of polycarbonate materials and secured with tamper-resistant screws.
 - ii. All Miscellaneous requirements listed for counseling and interview rooms in Level #2 above apply to this level also.
 - iii. **Television** – TV sets should *not* be mounted on walls using brackets because of the risk presented to patients. All cords and



cables should be as short as possible. Consider built-in TV or media centers. Consider installing an isolation switch that staff can control that will secure the power to the TV set.

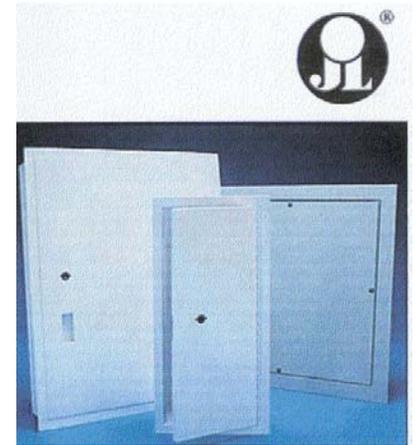
Level 4a. Patient Rooms

- A. **Floors** – Same as lounges and activity rooms in #3 above. If some of patient population have problem with urinating on the floor, provide some rooms with seamless epoxy flooring²⁰ [*Dex-O-Tex Cheminert “K” Flooring*] with integral cove base or sheet vinyl flooring with integral cove base.



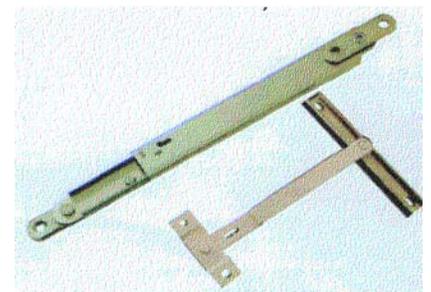
- B. **Walls** – Impact resistant gypsum board²¹ [*National Gypsum Hi-Impact Brand Fire Shield Wallboard*] on metal studs – paint finish preferred.

- C. **Ceiling** - Non-accessible solid gypsum board ceiling - paint. Provide key lockable access panels²² [*J. L. Industries, Inc. Standard SP Security Panel with mortise prep.*] at all locations where access is required.



D. Glass

- i. **Exterior windows** – 1” insulated glass panels with both layers ¼” tempered glass. Comply with all applicable codes and regulations for operable sash. Fixed windows or units equipped with sash control devices²³ [*Truth Hardware; Limit Device*] that limit amount of opening and can be released using a key to full opening for evacuation purposes are preferred. If replacing the windows presents a prohibitive cost in remodeling work, provision of a security screen with a very sturdy steel frame designed to resist deflection with multiple key locks and equipped with heavy gage stainless steel screen fabric may be acceptable.



- ii. **Mirrors** – **polycarbonate**² or polished metal type only. Both of these provide some distortion but provide a higher level of safety than any form of glass. If polished metal mirrors are used, great care must be taken with their attachment so the patient cannot remove them and have a weapon to use on themselves or others.

- iii. View windows to corridors in doors or sidelights – Use polycarbonate² (if possible) if wire glass is required by codes, request permission from the authority having jurisdiction to install a layer of polycarbonate² on each side of the wire glass. (Wire glass can be broken and yield shards of glass that can be used as weapons.)

E. **Hardware** – Same as for counseling and interview rooms in #2 above.

F. **Light fixtures** – Same as in #2 above except that all light fixture lenses should be secured with tamper-resistant screws¹² to prevent lens from being removed and fixture being opened to prevent the patient from having access to the bulb. No glass components should be used in any fixture, and lamps are discouraged (or should be anchored in place).

G. **Fire sprinklers** – Institutional type – Same as for corridors in #2 above.

H. **HVAC grilles and equipment** –

- i. Same as for lounges and activity rooms in #3 above.
- ii. In new construction or major remodeling, locate individual room HVAC equipment (such as fan/coil units) adjacent to corridor or in other location (such as an interstitial space) where they can be serviced without entering the patient’s room.

I. **Window covering hardware** – Same as for counseling and interview rooms in #2 above.

J. **Furniture** -

- i. **Furniture** – Sturdy wood furniture²⁴ [*Hill-Rom, Harbor Glen*

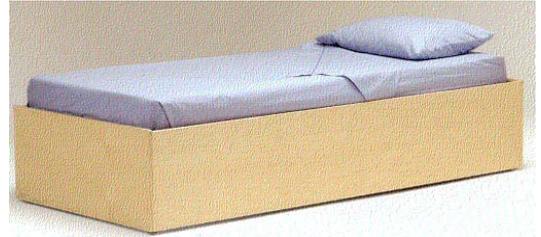


Series] should be bolted to the floor or walls whenever possible. Care must be taken to assure that the furniture will withstand abuse, will not provide opportunities for hiding contraband, and will resist being dissembled to provide the patients with weapons. Cube-style storage may be appropriate for some patient

populations. Ideally only the desk chair shall be moveable. Doors and drawers should be lockable, as appropriate, with a key lock. All upholstery and foam used in furniture and mattresses should have flame spread ratings that comply with the requirements of NFPA 101 Life Safety Code, Section 10.3.

ii. **Bed –**

- a. Non-adjustable beds without wire springs are preferred. The necessity and frequency of the use of restraints should be considered when selecting beds.



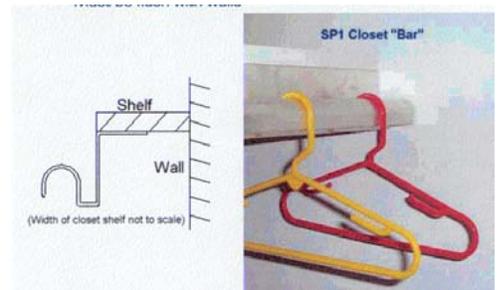
- b. If medical necessity is present, manual hospital beds²⁵ [*Hill-Rom, Resident Upgradeable LTC Bed*] are preferred.



If existing electric beds are to be used because of budget constraints, provide key lockout switches on beds so that only staff can operate the beds. All electrical cords should be secured and shortened.

- c. If electrically operable beds are needed to reduce risk of staff injuries (especially on geriatric units), use only beds that require a constant pressure on a switch located on the bed rail (not a remote control device or paddle that can be placed on the floor). Key lock-out switch preferred¹⁷.

- iii. **Wardrobe/closet -** The “clothes pole” must not allow something to be tied around it. This is accomplished by using a “J” shaped configuration²⁶ [*Odd Ball Industries; SP1 Closet “Bar”*].



K. Miscellaneous –

- i. Strongly recommend that **door to corridor** swing into corridor to prevent patients from barricading themselves in room.
- ii. **Pull cords** on nurse call and/or emergency call switches (where required or provided) shall be no longer than 12” and as lightweight as possible.
- iii. All Miscellaneous requirements listed for lounges and activity rooms in Level #4 above apply to this level also.
- iv. In new construction, or major remodeling, provide **dedicated circuit for all electrical outlets in each patient room and bath**. This will allow power to the outlets in a specific room to be turned off if necessary for patient’s safety.
- v. **Coat hangers** – Wire coat hangers should be prohibited. Plastic hangers generally present less risk.
- vi. **Curtain cubicle tracks** that include runners should be prohibited because of the risk to patients.
- vii. **Telephone** – If desired, cordless phones may be provided to allow the patient to check out a phone for private conversations when appropriate. Phones should not be left in patient rooms permanently because they can be used as weapons.
- viii. **Television sets** - Should not be provided in patient rooms to encourage patients to use activity areas with other patients and provide easier supervision. If they are provided, limit the length of cord and cable to the absolute minimum. TV sets should not be mounted on wall brackets because of the risk to patients. Same as lounges and activity rooms in #3 above.
- ix. **Medical gas outlets** – These are not normally required for behavioral health units. If there is medical necessity or the outlets are a pre-existing condition in remodeling projects, they should be covered with panels attached with tamper-resistant screws¹². These should be removed only for medical necessity of the current patient and replaced when that patient is discharged or moved. Special care must be taken in semi-private rooms to assure that access to the medical gasses does not present a safety risk to the other patient.
- x. **Trash cans and liners** – Trash cans and liners requirements listed for counseling and interview rooms in Level #2 above apply to this

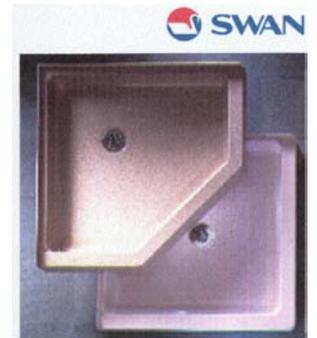
level also. In choosing trash cans and liners, the potential for patient risk should always be assessed. Plastic liners should be prohibited because of their potential risk. A substitute liner made of paper⁴⁴ may be used.

- xi. “**Baseboards**” of any kind that are applied to the surface of the wall (vinyl, rubber, wood, etc.) intended to cover the joint between the wall and floor are strongly discouraged. They become prime targets for patient tampering and can be used to conceal contraband. Seamless epoxy flooring with an integral cove base is an exception to this, as long as there is no metal edge strip on the top of the base.

Level 4b. Patient Toilets

A. **Floors** – Use one of the following depending on the acuity of patient population:

- i. Seamless epoxy flooring²⁰ with integral cove base including shower. Do not use metal strip at top of base as this can be removed by patients and used as a weapon.
- ii. Sheet vinyl flooring²⁷ [*Armstrong World Industries, Inc. Commercial Flooring, vinyl, homogeneous*] with integral cove base in room and ceramic tile floor in shower.
- iii. Vinyl tile (12”x12”) floor²⁸ [*Armstrong World Industries, Inc. Commercial Flooring, vinyl composition tile*] with top-set base and pre-cast artificial stone shower floor²⁹ [*The Swan Corporation, Swanstone Solid Surface Shower Floors*] (Fiberglass shower stalls and floors are generally not durable enough.)



B. **Walls** - Use one of the following depending on acuity of patient population and budget.

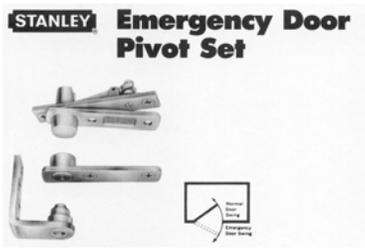
- i. Avonite³⁰ [*Avonite Solid Surface Wall Panels*]
- ii. Ceramic tile
- iii. Gypsum board with epoxy paint and ceramic tile in shower

C. **Ceiling** – Gypsum board with epoxy paint

D. **Glass** – Mirrors, same as patient rooms in #4 above.



E. **Hardware -**

- i. Same as for counseling and interview rooms in #2 above. If using the Schlage D series locksets⁷, use D44S Hospital privacy set as well as the Schlage Nightlatch⁶ so patient can be locked out of room.
- ii. Door frame should have no stop.
- iii. Provide emergency door stop³¹ [Stanley; *ES-1 Emergency door Stop*] to allow door to be opened out in the event that a patient collapses or barricades himself or herself in the room (only necessary if door normally swings into toilet room). 
- iv. Double Lipped Strike³² [Stanley; *DLS-2*] in conjunction with iii above. 
- v. Hinges shall be double-acting pivot hinges³³ [Stanley; *DAP-3 Center Hung Door Pivot Set*] in conjunction with iii above.

F. **Light fixtures** – Same as patient rooms in #4 above except that fixtures inside showers shall be water resistant type. No glass components should be used in any fixture.

G. **Fire sprinklers – institutional type** – Same as for corridors in #2 above.

H. **HVAC grilles and equipment** – Same as activity rooms and lounges in #3 above.

I. **Miscellaneous**

- i. **Medicine cabinets** – should not be provided because of difficulty in observing potentially dangerous items that may be placed in them.
- ii. Evaluate the risk of using **robe hooks**. If you require them, they should be the break-away type³⁴ [Odd Ball Industries; *SP6 Clothes/Towel Hook*] 
- iii. **Towel bars** should not be used. Provide break-away hooks³⁴ for towels.
- iv. **Grab bars** for toilets and showers should be

removable and installed only when patient has medical necessity. Grab bars should be removed when the patient with medical necessity is discharged or moved to another room. Special care should be taken in semi-private rooms to assure that access to the grab bars does not present a safety risk to the other patient.

- v. **Shower curtain rods** should be same as curtain rods.¹⁵
- vi. **Shower curtain material** should be made of cloth treated with waterproofing. No plastic shower curtains should be allowed due to risk to patients.
- vii. **Pull cords** on nurse call switches (where required or provided) should be no longer than 12” and as lightweight as possible.
- viii. All **lavatory waste and supply piping** must be enclosed and should not accessible to patients.
- ix. **Soap dishes** should not have handles.
- x. **Flush valves** should be mounted no more than 6” above top of fixture.
- xi. Single lever mixing valves for **shower controls** are preferred.
- xii. Provide **thermostatically limited hot water**.
- xiii. **Shower heads** should be institutional type ³⁵ [Odd Ball Industries; SP7 Shower Head with Quick Disconnect Hand Held Shower].
- xiv. Provide ground fault interrupter (GFI) type electrical circuit breakers for all receptacles near sources of water such as lavatories, toilets, and showers.
- xv. “**Baseboards**” same as patient rooms in #4 above, except that coved ceramic tile base is acceptable.



Level 5a. Admissions (especially emergency admissions which frequently occur at night and on weekends). A separate room that has direct access from both outside and inside the unit should be considered for this purpose. This allows for the patient to be brought directly into the admissions area without entering the unit directly. At admission, unit staff members know very little about the new patient and his or her trigger points. A separate room avoids disrupting either the unit or the patient, due to the agitation of either. This room should be pleasant and welcoming, but should be minimally furnished with a

minimum of loose pieces of furniture and large enough to allow for several staff to physically manage the patient if necessary. If possible, the admitting staff member should not be in the room alone with the patient. After the admitting process is complete the patient can be taken directly onto the unit through the door provided.

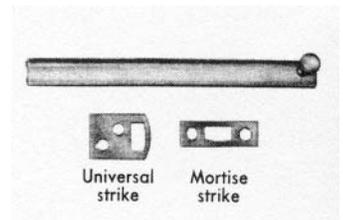
- A. **Floors** - Same as activity rooms and lounges in #3 above.
- B. **Walls** - Same as patient rooms in #4 above.
- C. **Ceiling** - Same as patient rooms in #4 above.
- D. **Glass** –
 - i. Same as corridors in #2 above.
 - ii. Provide small (12”x12” or 4”x24”) view window in door to patient unit.
- E. **Hardware** - Same as corridor in #2 above. Use a D66PD “storeroom” type lockset⁷ which requires a key to lock or unlock both levers.
- F. **Light fixtures** - Same as corridor in #2 above.
- G. **Fire sprinklers – institutional type** – Same as corridor in #2 above.
- H. **Window covering hardware** – Same as corridor in #2 above.
- I. **Furniture** –
 - i. This room should have a built-in desk or table that is firmly attached to the floor or walls and contain a lockable file drawer for forms and a lockable box drawer for pens, pencils, staplers, etc. All loose items should be kept in drawers and out of sight.
 - ii. The computer, printer, and telephone should be located so they are not easily reached by the patient.
- J. **Miscellaneous** -
 - i. All Miscellaneous requirements listed for corridors in Level #2 above apply to this level also.
 - ii. An emergency call button should be provided so the staff may summon additional staff if necessary.
 - iii. “Baseboards” same as patient rooms in #4 above.

Level 5b. Seclusion Rooms – should be no less than 7 feet wide and no greater than 11 feet long and designed to minimize blind spots where patients cannot be observed by staff without entering the room. The distance of the seclusion room from the nurses

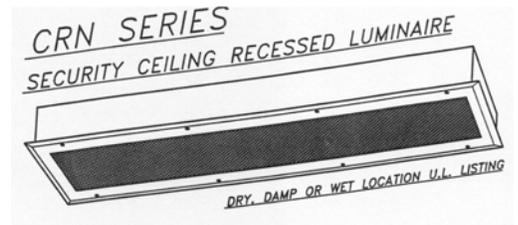
station needs to be considered. The goal is to avoid excessive distance so that staff can be readily available as needed. The door should open directly into a vestibule to separate these activities from the other patients as well as provide access to a patient toilet to be used by these patients.

- A. **Floor** – Continuous sheet vinyl with foam backing and heat welded seams³⁶ [*Lonseal, Inc. LonFloor plain, smooth*].
- B. **Walls** – Impact resistant gypsum board on 20 gauge metal studs at 16” on center with painted finish.
- C. **Ceiling** – Gypsum board, painted – 9’-0” minimum height
- D. **Glass** – All glazing exposed to patients should be polycarbonate². Care must be taken on the size of the individual pieces and the amount of recess in mounting frames that an impact to the center of the piece will not cause it to flex to the extent that it comes out of the frame. If exterior windows exist in seclusion rooms, the glazing should be replaced with polycarbonate whenever possible. If replacement is not feasible, either security laminate³⁷ or polycarbonate² may be applied to cover the glass and keep the patient from having access to broken glass.
- E. **Doors** – Commercial grade steel doors and frames hinged to open out of room with a polycarbonate² view window not to exceed 100 square inches.

- F. **Hardware** – No exposed hardware in the room except for a flush pull on door³⁸ [*Stanley Hardware cast, flush door pulls*]. Vestibule side shall have three Surface Bolts³⁹ [*Stanley Hardware CD4060 solid brass 6-inch long surface bolts*].

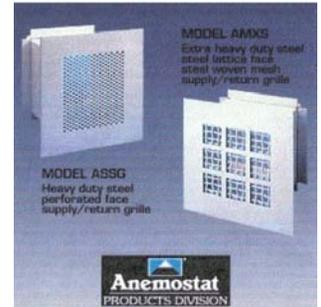


- G. **Light fixtures** – Fully recessed, moisture resistant, vandal resistant fixtures⁴⁰ [*The L. C. Doane Company; CRN Series with polycarbonate external lens TP door fasteners*] in ceiling.



- H. **Fire sprinklers – institutional type** – Same as for corridors in #2 above.

I. **HVAC grilles** – Fully recessed vandal resistant grilles with small perforations⁴¹
[Anemostat Products Model ASSG – Supply/Return Grille, Heavy Duty Steel Perforated Face]



J. **Thermostats** should be digital type mounted on wall in vestibule with sensors in return air ducts serving the room.

K. **Miscellaneous** –

i. No electrical outlets, switches, thermostats, or similar devices are permitted inside these rooms.

ii. Toilets used by these patients in new construction should be floor mounted, back outlet⁴²
[Eljer; Signature Series 111-2163 Back Outlet Bowls] and should have full recessed flush valves⁴³ *[Sloan Valve Company Regal 153]*.



iii. “Baseboards” same as patient rooms in #4 above.

iv. Install a 90-degree parabolic mirror made of polycarbonate (Lexan) in the upper corner of the room and opposite the seclusion room door. Make sure the mirror can be seen when viewing it from the window in the door. By installing this mirror, you are now providing staff with a 360-degree view of the room prior to opening the door. Care shall be taken to assure that the attachment is secure so the patient will not be able to remove it and have a weapon.

L. **Window covering hardware** – No window covering material or hardware should be accessible to the patient. An option would be electronically controlled blinds or shades behind polycarbonate². If chosen, controls should be by electric switches located outside the room.

SUMMARY

Thoughtful consideration of these design elements and materials by design professionals and healthcare professionals can result in a very aesthetically pleasing environment, which will enhance the treatment process and help maximize safety for all patients, staff, and visitors.

Appendix

1. Abrasion resistant wallboard
Georgia-Pacific DensArmor™ Abuse Guard Gypsum Panels
Georgia-Pacific Corporation
133 Peachtree Street, N.E.
Atlanta, GA 30303
1-800-225-6119
<http://www.gp.com/gypsum/abuseguard/index.html>

National Gypsum Hi-Abuse Brand Wallboard
National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211
1-800-628-4662
<http://www.nationalgypsum.com>
2. Polycarbonate sheet glazing
GE brand “Lexan” MR10 Sheet with Margard II UV and Abrasion-Resistant Coating
GE Structured Products, GE Plastics
One Plastics Avenue
Pittsfield, MA 01201
1-800-451-3147
<http://www.structuredproducts.ge.com>
3. Hospital tip hinges
Stanley brand five Knuckle Full Mortise Hinges FBB179 or FBB191 with Hospital Tips
Stanley Hardware
480 Myrtle Street
New Britain, CT 06053
1-800-337-4393
<http://www.stanleyworks.com>
4. Security arm door closers
LCN 4510T Series Security Track Closer
Ingersoll-Rand
Architectural Hardware
LCN Division
P.O. Box 100
121 West Railroad Avenue
Princeton, IL. 61356-0100
1-815-875-3111
<http://www.lcnclosers.com>

5. Push/pull latches
Glynn-Johnson; HL6 Push/Pull Latches
Glynn-Johnson
2720 Toby Drive
Indianapolis, IN 46219
1-800-525-0336
<http://www.glynn-johnson.com>

6. Dead-latch
Schlage; B250PD Nightlatch
Schlage Lock Co.
2315 Briargate Parkway
Colorado Springs, CO. 80920
1-800-847-1864
<http://www.schlage.com>

7. Locksets
Schlage D Series Commercial Locksets
Schlage Lock Co.
2315 Briargate Parkway
Colorado Springs, CO. 80920
1-800-847-1864
<http://www.schlage.com>

8. Pushbutton door lock
ILCO Unican Corp. Mechanical Pushbutton Locks, 1000 Series
ILCO Unican Corporation
Unican Lock Division
2941 Indiana Avenue
Winston Salem, NC 27105
1-800-849-8324
<http://www.ilcounican.com>

9. Electromagnetic lock
Dynalock Corp. series 2011 Full Size Series
DynaLock Corporation
705 Emmett Street
P.O. Box 9470
Forestville, CT 06011-9470
1-877-DYNALOCK
<http://www.dynalock.com>

10. Magnetic hold open device

LCN SEM7800 Series

Ingersoll-Rand
Architectural Hardware
LCN Division
P.O. Box 100
121 West Railroad Avenue
Princeton, IL. 61356-0100
1-815-875-3111
<http://www.lcnclosers.com>

11. Sentronic closer

LCN Fire/Life Safety Series Sentronic closer

Ingersoll-Rand
Architectural Hardware
LCN Division
P.O. Box 100
121 West Railroad Avenue
Princeton, IL. 61356-0100
1-815-875-3111
<http://www.lcnclosers.com>

12. Tamper-resistant screws

McMaster-Carr; One-Way Screws

McMaster-Carr Supply Company
P.O. Box 4355
Chicago, IL 60680-4355
1-630-833-0300
<http://www.mcmaster.com>

13. Shatter-resistant light bulbs

GE Cov-R-Guard; Shatter Resistant; Teflon Coated

General Electric Lighting
3135 Easton Turnpike
Fairfield, CT 06431
1-800-626-2004
<http://www.gelighting.com>

14. Institutional fire sprinkler head

Reliable Automatic Sprinkler Company, Inc.; Model ZX-QR-INST

The Reliable Automatic Sprinkler Co., Inc.
525 N. MacQuesten Parkway
Mt. Vernon, NY 10552
1-800-431-1588
<http://www.reliablesprinkler.com>

15. Curtain track – flush mounted
Kirsch Series 9046 track w/92122 Slides and 92111 sew on pleats
Kirsch
524 W. Stephenson Street
Freeport, IL 61032
1-800-528-1407
<http://www.kirsch.com>
16. Carpet
Lees Tenure Broadloom; Product Number L3106
Lee's Carpets
3330 W. Friendly Avenue
Greensboro, NC 27410
336-379-3897
<http://www.leescarpets.com>
17. Perforated air grilles
Carnes; Stamped, Perforated Diffuser; see catalog D-22
Carnes Company
448 South Main Street
Verona, WI 53593
608-845-6411
<http://www.carnes.com>
18. Stainless steel screen fabric
McMaster-Carr; Type 304 Stainless Steel, Standard Grade Woven Wire Cloth
McMaster-Carr Supply Company
P.O. Box 4355
Chicago, IL 60680-4355
1-630-833-0300
<http://www.mcmaster.com>
19. Key operated electric switches
Hubbell Locking Type Switch #5Z724
Hubbell, Inc.
584 Derby Milford Road
Orange, CT
<http://www.hubbell.com>

20. Seamless floors

Dex-O-Tex Cheminert “K” Flooring

Dex-O-Tex
Division of Crossfield Products Corp.
140 Valley Road
Roselle Park, NJ 07204
1-908-245-2800
<http://www.dexotex.com>

21. Impact-resistant wallboard

National Gypsum Hi-Impact Brand Fire Shield Wallboard

National Gypsum Company
2001 Rexford Road
Charlotte, NC 28211
1-704-365-7300
<http://www.nationalgypsum.com>

22. Access panel – lockable

J. L. Industries, Inc. Standard SP Security Panel with mortise prep

J.L. Industries, Inc.
4450 West 78th Street Circle
Bloomington, MN 55435
1-612-835-6850
<http://www.jlindustries.com>

23. Life safety window hardware

Truth Hardware; Limit Device

Truth Hardware
700 West Bridge St.
Owatonna, MN 55060
1-800-866-7884
<http://www.truth.com>

24. Patient room furniture

Hill-Rom, Harbor Glen Series

Hill-Rom
Batesville, IN 47006
1-812-934-7777
www.hill-rom.com

25. Manually adjustable hospital bed
Hill-Rom, Resident Upgradeable LTC Bed
Hill-Rom
Batesville, IN 47006
1-812-934-7777
www.hill-rom.com
26. Clothes pole design
Odd Ball Industries; SPI Closet "Bar"
Odd Ball Industries Mfg. Co., Inc.
P.O. Box 376
Greenlawn, NY 11740
1-631-242-8482
<http://www.oddballindustries.com>
27. Sheet vinyl flooring
Armstrong World Industries, Inc. Commercial Flooring, vinyl, homogeneous
Armstrong World Industries, Inc.
P.O. Box 3001
Lancaster, PA 17604
1-877-ARMSTRONG
<http://www.armstrong.com>
28. Vinyl floor tile
Armstrong World Industries, Inc. Commercial Flooring, vinyl composition tile
Armstrong World Industries, Inc.
P.O. Box 3001
Lancaster, PA 17604
1-877-ARMSTRONG
<http://www.armstrong.com>
29. Shower floor basin
The Swan Corporation, Swanstone Solid Surface Shower Floors
The Swan Corporation
One City Centre, Suite 2300
St. Louis, MO. 63101
1-314-231-8148
<http://www.theswancorp.com>

30. Synthetic wall material
Avonite Solid Surface Wall Panels
Avonite
1945 Highway 304
Belen, NM 87002
1-800-4-AVONITE
<http://www.avonite.com>
31. Emergency door stop
Stanley; ES-1 Emergency door Stop
Stanley Hardware
480 Myrtle Street
New Britain, CT 06053
1-800-337-4393
<http://www.stanleyworks.com>
32. Double lipped door strike
Stanley; DLS-2
Stanley Hardware
480 Myrtle Street
New Britain, CT 06053
1-800-337-4393
<http://www.stanleyworks.com>
33. Pivot hinges
Stanley; DAP-3 Center Hung Door Pivot Set
Stanley Hardware
480 Myrtle Street
New Britain, CT 06053
1-800-337-4393
<http://www.stanleyworks.com>
34. Robe hook – break-away
Stanley; DAP-3 Center Hung Door Pivot Set
Stanley Hardware
480 Myrtle Street
New Britain, CT 06053
1-800-337-4393
<http://www.stanleyworks.com>

35. Shower head – institutional
Odd Ball Industries; SP7 Shower Head with Quick Disconnect Hand Held Shower
Odd Ball Industries Mfg. Co., Inc.
P.O. Box 376
Greenlawn, NY 11740
1-631-242-8482
<http://www.oddballindustries.com>
36. Seclusion room floor material
Lonseal, Inc. LonFloor plain, smooth
Lonseal, Inc.
928 East 238th Street, Building A
Carson, California 90745
1-800-832-7111
<http://lonseal.com>
37. Security Glass Laminates
ACE Security Laminates, 200 Series – High-end Safety
Ace/Security Laminates, Inc.
200 Isabella St., Ste. 500
Ottawa, ON, Canada
K1S 1V7
1-888-607-0000
<http://www.smashandgrab.com>
38. Flush mounted door pull
Stanley Hardware cast, flush door pulls
Stanley Hardware
480 Myrtle Street
New Britain, CT 06053
1-800-337-4393
<http://www.stanleyworks.com>
39. Surface mounted slide bolt
Stanley Hardware CD4060 solid brass 6inch long surface bolts
Stanley Hardware
480 Myrtle Street
New Britain, CT 06053
1-800-337-4393
<http://www.stanleyworks.com>

40. Light fixture – seclusion room
The L. C. Doane Company; CRN Series with polycarbonate external lens TP door fasteners
The L.C. Doane Company
P.O. Box 975
Essex, CT. 06426
1-860-767-8295
<http://www.lcdoane.com>
41. Air grilles – seclusion room
Anemostat Products Model ASSG – Supply/Return Grille, Heavy Duty Steel Perforated Face
Anemostat Products
P.O. Box 4938
1220 Watson Center Road
Carson, CA. 90745
1-310-835-7500
<http://www.anemostat.com>
42. Toilet fixture – floor mounted, back outlet
Eljer; Signature Series 111-2163 Back Outlet Bowls
Eljer Plumbingware, Inc.
14801 Quorum Drive
Dallas, TX 75254
1-800-423-5537
<http://www.eljer.com>
43. Recessed flush valve
Sloan Valve Company Regal 153
Sloan Value Company
10500 Seymour Avenue
Franklin Park, IL 60131-1259
1-800-9-VALVE-9
<http://www.sloanvalve.com>
44. Trash can liner
Sani-Liner ®
Wisconsin Converting
Green Bay, WI
1-800-544-1935
<http://www.wisconsinconverting.com>

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About NAPHS

The National Association of Psychiatric Health Systems (NAPHS) advocates for behavioral health and represents provider systems that are committed to the delivery of responsive, accountable, and clinically effective prevention, treatment, and care for children, adolescents, adults, and older adults with mental and substance use disorders. The NAPHS vision is of a society that values and maximizes the potential of all its citizens by helping them to achieve overall health. To achieve healthy communities, behavioral health will be recognized, respected, and allocated resources with fairness and equity. Through NAPHS representation within accreditation organizations – for example, with representatives on both the Hospital and Behavioral Health Professional and Technical Advisory Committees of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) – NAPHS is able to provide input into and advance warning of regulatory and accreditation developments that affect behavioral healthcare providers.

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