

Table 6.13 b)
Procedures — Important relationships
(See Clauses 6.3.1 and 6.3.13.2.)

| Procedures | | | |
|---------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Maternal and newborn care | Birthing operating rooms | Rapid access to anaesthesia services | Dedicated anaesthesia in maternal program |
| Medical imaging | Clinical specialists for reading films and consultation | Rapid access to clinical and technical resources | Dedicated radiologists and technicians in procedures area |
| Respiratory services | Respiratory therapy | Rapid access to anaesthesia and critical care equipment (i.e., ventilators, anaesthesia systems and spare parts plus cleaning area) in procedure area | A satellite RT service may be included in critical care |

6.3.14 Allied health services

The key relationships between allied health services and the related programs in Table 6.14 should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.14
Allied health services — Important relationships
(See Clauses 6.3.1 and 6.3.14.)

| Allied health services | | | |
|-------------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Ambulatory care — General | Patient exam/consultation room | Provide ease of access for ambulatory patients receiving allied health services | Include specific allied health professionals as part of the ambulatory care program |

6.3.15 Laboratory services

6.3.15.1

In new construction, the programs in Table 6.15 a) shall be linked to the laboratory services program, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: *These relationships are considered to be essential to performance.*

Table 6.15 a)
Laboratory services — Essential relationships
(See Clauses 6.3.1 and 6.3.15.1.)

| Laboratory services | | | |
|----------------------------|--|---|--|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Emergency care | All clinical areas | Rapid testing of specimens from patients arriving in emergency care | Provide point-of-care testing equipment within the clinical area or include automated conveyance system (e.g., pneumatic tube) to transport specimens directly to the laboratory for testing |
| Procedures | Operating rooms | Rapid testing of pathology and blood specimens (testing should be performed while patient is still in OR) | Provide dedicated frozen section testing area in the OR and point-of-care testing or include automated conveyance system (e.g., pneumatic tube) to transport specimens directly to the laboratory for testing Provide dedicated personnel to transport the specimens directly |

6.3.15.2

The key relationships between the laboratory services program and the related programs in Table 6.15 b) should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but are not essential.*

Table 6.15 b)
Laboratory services — Important relationships
(See Clauses 6.3.1 and 6.3.15.2.)

| Laboratory services | | | |
|----------------------------|--|--|--|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Critical care | Patient cubicles | Staff access for specimen collection | Nursing staff collect specimens and forward to lab for processing by automated conveyance system |
| Maternal and newborn care | Patient bedroom, LBRP, LBR, triage/assessment | Specimen testing for inpatients | Provide point-of-care testing equipment within the clinical area Include automated conveyance system (e.g., pneumatic tube) to transport specimens directly to the laboratory for testing |
| Emergency care | New trauma room | Direct movement of drugs to urgent care area | Dedicated satellite pharmacy in emergency care |

6.3.16 Electrodiagnostic services

The key relationships between the electrodiagnostic services program and the related programs in Table 6.16 should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.16
Electrodiagnostic services — Important relationships
(See Clauses 6.3.1 and 6.3.16.)

| Electrodiagnostic services | | | |
|-----------------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Ambulatory care — General | Patient exam/consultation room | Provide ease of access for ambulatory patients for electrodiagnostic services | Include electrodiagnostic services as part of the ambulatory care program |

6.3.17 Respiratory services

The key relationships between the respiratory services program and the related programs in Table 6.17 should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.17
Respiratory services — Important relationships
(See Clauses 6.3.1 and 6.3.17.)

| Respiratory services | | | |
|-----------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Critical care | Patient cubicle | RT access to provide respiratory therapy services | Include a satellite RT service in critical care |
| Procedures | Operating room/interventional procedure room | RT access to provide respiratory therapy services | Include a satellite RT service in procedures |

6.3.18 Medical imaging

6.3.18.1

In new construction, the programs in Table 6.18 a) shall be linked to the medical imaging program, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: *These relationships are considered to be essential to performance. In outpatient/ambulatory care centres, these adjacencies might not be applicable (but still desirable).*

Table 6.18 a)
Medical imaging — Essential relationships
(See Clauses 6.3.1 and 6.3.18.1.)

| Medical imaging | | | |
|------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Emergency care | Trauma/resuscitation room | Imaging staff access with portable equipment to take images | Provide overhead rail in trauma room and dedicated portables in emergency |
| Critical care | Inpatient bedroom – Critical care | Efficient access to imaging with a minimum of travel | Elevator access |

6.3.18.2

The key relationships between the medical imaging program and the related programs in Table 6.18 b) should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.18 b)
Medical imaging — Important relationships
(See Clauses 6.3.1 and 6.3.18.2.)

| Medical imaging | | | |
|------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Procedures | Operating room | Clinical and technical staff access for consultation, provide service | Provide dedicated clinical and technical resources in procedures area |

6.3.19 Pharmacy

In new construction, the programs in Table 6.19 shall be linked to the pharmacy program, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: *These relationships are considered to be essential to performance.*

Table 6.19
Pharmacy — Essential relationships
(See Clauses 6.3.1 and 6.3.19.)

| Pharmacy | | | |
|----------------------------|--|--|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Ambulatory care — Oncology | Chemotherapy area | Direct movement of short life chemotherapeutics to patients | Dedicated satellite pharmacy in oncology |
| Procedures | Operating rooms | Medication delivery and storage of anaesthetics and controlled drugs | Include automated conveyance system (e.g., pneumatic tube) to transport medications |
| Critical care | Patient cubicle | Clinical pharmacists consultation service and medications delivery | Provide a satellite pharmacy in critical care. Include automated conveyance system (e.g., pneumatic tube) to transport medications |
| Emergency care | Patient cubicle | Clinical pharmacists consultation service and medications delivery | Provide a satellite pharmacy in emergency care. Include automated conveyance system (e.g., pneumatic tube) to transport medications |

6.3.20 Biomedical engineering

The key relationships between the biomedical engineering department and the related programs in Table 6.20 should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.20
Biomedical engineering — Important relationships
(See Clauses 6.3.1 and 6.3.20.)

| Biomedical engineering | | | |
|-------------------------------|---|--|--|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Procedures | Operating rooms, procedure rooms Anaesthesia equipment, life support equipment | Biomedical staff access to service equipment | Provide dedicated staff and a satellite biomedical engineering (BE) in procedures; or Provide access to an elevator to directly connect the services |
| Laboratory services | Lab equipment not maintained by outside vendors | Biomedical staff access to service equipment | Provide dedicated staff and a satellite BE in laboratory; or Provide access to an elevator to directly connect the services |

(Continued)

Table 6.20 (Concluded)

| Biomedical engineering | | | |
|-------------------------------|---|--|--|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Medical imaging | Medical imaging equipment not maintained by outside vendors | Biomedical staff access to service equipment | Provide dedicated staff and a satellite BE in medical imaging; or Provide access to an elevator to directly connect the services |
| Critical care | Patient monitoring, critical care, and respiratory care equipment | Biomedical staff access to service equipment | Provide dedicated staff and a satellite BE in procedures; or Provide access to an elevator to directly connect the services |
| Dialysis | Patient cubicles | Biomedical staff access to service equipment | Provide dedicated staff and a satellite BE in procedures |

6.3.21 Environmental services

The key relationships between the environmental services department and the related elements in Table 6.21 should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.21
Environmental services — Important relationships
(See Clauses 6.3.1 and 6.3.21.)

| Environmental services | | | |
|-------------------------------|--|--|--|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Materials management | Bulk stores area | Ease of access to housekeeping supplies on a daily basis | |
| Building entry | Waste, laundry, and supplies | Ease of access to external loading dock | Separation of waste and laundry in dedicated corridors |

6.3.22 Nutrition and food services

The key relationships between the nutrition and food services department and the related element in Table 6.22 should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.22
Nutrition and food services — Important relationships
(See Clauses 6.3.1 and 6.3.22.)

| Nutrition and food services | | | |
|------------------------------------|--|---|--|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Materials management | Non-perishable food stores | Ease of access to supplies on a daily basis | Provide non-perishable stores in nutrition and food services |

6.3.23 Materials management

6.3.23.1

In new construction, the related element in Table 6.23 a) shall be linked to the materials management department, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: These relationships are considered to be essential to performance.

Table 6.23 a)
Materials management — Essential relationships
(See Clauses 6.3.1 and 6.3.23.1.)

| Materials management | | | |
|-----------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Building entry and parking | Loading dock | Provide ease of access for truck and other deliveries | |

6.3.23.2

The key relationships between the materials management department and the related elements in Table 6.23 b) should be considered during planning, and created or maintained when possible.

Note: These relationships are considered to be important to performance, but not critical.

Table 6.23 b)
Materials management — Important relationships
(See Clauses 6.3.1 and 6.3.23.2.)

| Materials management | | | |
|-----------------------------|--|---------------------------------------|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Environmental services | Housekeeping closets and service rooms | Ease of supply and equipment delivery | |
| Nutrition and food services | Food production area | Ease of supply and equipment delivery | |
| Medical device reprocessing | Supplies | Ease of supply and equipment delivery | |

6.3.24 Plant maintenance

The key relationships between the plant maintenance department and the related element in Table 6.24 should be considered during planning, and created or maintained when possible.

Note: These relationships are considered to be important to performance, but not critical.

Table 6.24
Plant maintenance — Important relationships
(See Clauses 6.3.1 and 6.3.24.)

| Plant maintenance | | | |
|--------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Security and parking | Office area | Ease of staff access for general management | |
| Building entry | Maintenance shops and offices | Ease of supply and equipment delivery | |

6.3.25 Security and parking

6.3.25.1

In new construction, the related element in Table 6.25 a) shall be linked to security and parking, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: These relationships are considered to be essential to performance.

Table 6.25 a)
Security and parking — Essential relationships
(See Clauses 6.3.1 and 6.3.25.1.)

| Security and parking | | | |
|-----------------------------|--|------------------|--|
| Related element | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Emergency care | Office area | Monitoring | Satellite security station to monitor emergency care |

6.3.25.2

The key relationship between security and parking and the related element in Table 6.25 b) should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.25 b)
Security and parking — Important relationships
(See Clauses 6.3.1 and 6.3.25.2.)

| Security and parking | | | |
|-----------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Plant maintenance | Office area | Ease of staff access for general management | |

6.3.26 Medical device reprocessing

6.3.26.1

In new construction, the program/components in Table 6.26 a) shall be linked to the medical device reprocessing department, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Table 6.26 a)
Medical device reprocessing — Essential relationships
(See Clauses 6.3.1 and 6.3.26.1.)

These relationships are considered to be essential to performance. In outpatient/ambulatory care centres performing procedures, these adjacencies might not be applicable (but would still be desirable).

This Table was designed for an in-house MDRD. Depending on the scope, location (e.g., off site), and services (interventional or non-interventional), a MDRD could have different adjacencies.

| Medical device reprocessing | | | |
|---------------------------------------|--|--|--|
| Related program/ component | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Procedures/OR | Sterile core | Transport sterile materials efficiently, quickly, and without risk of contamination bypassing public areas | Provide dedicated clean elevator or corridor linking OR/sterile core and sterile storage within MDRD |
| | Soiled holding | For removal of contaminated instruments for direct transfer to decontamination area in MDRD | Provide dedicated soiled elevator or corridor linking soiled collection area in OR's with decontamination area in MDRD |
| | Soiled holding | For devices being reprocessed off site | Provide a path to the loading dock from the MDR or holding area |
| Materials management | Supplies | For non-sterile supplies, linen, etc. | Create small stores area within MDRD |

6.3.26.2

The key relationships between the medical device reprocessing department and the related programs in Table 6.26 b) should be considered during planning, and created or maintained when possible.

Table 6.26 b)
Medical device reprocessing — Important relationships
(See Clauses 6.3.1 and 6.3.26.2.)

These relationships are considered to be important to performance, but not critical.

This Table was designed for an in-house MDRD. Depending on the scope, location (e.g., off site), and services (interventional or non-interventional), an MDRD could have different adjacencies.

| Medical device reprocessing | | | |
|------------------------------------|---|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Maternal and newborn care | C-section ORs | Transport sterile materials efficiently, quickly, and without risk of contamination bypassing public areas | Provide dedicated clean elevator or corridor linking OR and MDRD Corridors may be used for two-way traffic (clean and soiled) provided the materials are contained |
| Medical imaging | Medical devices used for internal and interventional imaging procedures | Transporting soiled instrumentation to MDR | Need will depend on procedures, and the type and quantity of instrumentation used Alternative is to provide means for quick and safe transport along existing routes |
| | Soiled holding | Area for the preparation of contaminated devices for transportation of instruments decontamination area in MDRD | Provide dedicated soiled elevator or corridor linking soiled collection area in ORs with decontamination area in MDRD |

6.3.27 Building entry and parking

6.3.27.1

In new construction, the program/areas in Table 6.27 a) shall be linked to the building entry and parking area, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: *These relationships are considered to be essential to performance.*

Table 6.27 a)
Building entry and parking — Essential relationships
(See Clauses 6.3.1 and 6.3.27.1.)

| Building entry and parking | | | |
|-----------------------------------|--|---|---|
| Related program/ area | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Emergency care | Separate walk-in entrance and ambulance entrance | Easy controlled access for patients separated from other traffic types; visible security desk to monitor and screen traffic | Add video surveillance in triage and reception areas with rapid response system for security services |
| Materials management | Loading dock | Service access for trucks and vans to make deliveries | Central materials management off site |
| Main lobby | Admitting/registration | Public access from parking for patients and family | Decentralized admitting/registration |
| Environmental services | Waste, laundry, and supplies | Ease of access to external loading dock | Separation of waste and laundry in dedicated corridors |

6.3.27.2

The key relationships between the building entry and parking areas and the related programs/components in Table 6.27 b) should be considered during planning, and created or maintained when possible.

Note: These relationships are considered to be important to performance, but not critical.

Table 6.27 b)
Building entry and parking — Important relationships
(See Clauses 6.3.1 and 6.3.27.2.)

| Building entry and parking | | | |
|-----------------------------------|--|--|---|
| Related program/area | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Rehabilitation care | Patient care area | Direct access from parking for patients and family | |
| Ambulatory care — Renal dialysis | Patient care area | Direct access from parking for patients and family | |
| Ambulatory care — Oncology | Patient care area | Direct access from parking for patients and family | |
| Ambulatory care — Procedures | Patient care area | Easy access from parking for patients and family | Elevator |
| Plant maintenance | Supply | Ease of supply and equipment delivery | Service elevator |

6.3.28 Heliport

In new construction, when the demand for a heliport has been determined, the program in Table 6.28 shall be linked to the heliport, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: *These relationships are considered to be essential to performance.*

Table 6.28
Heliport — Essential relationships
(See Clauses 6.3.1 and 6.3.28.)

| Heliport | | | |
|------------------------|--|--|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Emergency care | Trauma/resuscitation room | Rapid access for critical patient delivery | |

6.3.29 Exterior garden/therapy area

6.3.29.1

In new construction, the programs in Table 6.29 a) shall be linked to the exterior garden/therapy area, either by proximity or the use of a specified alternative. In additions or renovations to existing facilities, these links shall be created and maintained whenever possible.

Note: *These relationships are considered to be essential to performance.*

Table 6.29 a)
Exterior garden/therapy area — Essential relationships
(See Clauses 6.3.1 and 6.3.29.1.)

| Exterior garden/therapy area | | | |
|-------------------------------------|--|--|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Inpatient care | Private space for patients and family | Accommodate patients and families needing privacy, exercise, change in environment | |
| Rehabilitation | Rehabilitation exercise | Accommodate patients who require outdoor space for walking or for looking at gardens or landscaping. | |

6.3.29.2

The key relationships between the exterior garden/therapy area and the related programs in Table 6.29 b) should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.29 b)
Exterior garden/therapy area — Important relationships
(See Clauses 6.3.1 and 6.3.29.2.)

| Exterior garden/therapy area | | | |
|---------------------------------------|---|--|--|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Mental health and addictions services | Area for patients to walk outdoors as part of rehabilitation; private space for patients and family | Require dedicated garden area for patient/family access | Secure outdoor space Secure garden space inside building (can also be used when weather is inclement) |
| Ambulatory care — Renal dialysis | Private space for patients and family | Accommodate patients and facilities needing privacy, exercise, change in environment | |
| Ambulatory care — Oncology | Private space for patients and family | Accommodate patients and facilities needing privacy, exercise, change in environment | |

6.3.30 Main entry and lobby

The key relationships between the main entry and lobby and the related programs in Table 6.30 should be considered during planning, and created or maintained when possible.

Note: *These relationships are considered to be important to performance, but not critical.*

Table 6.30
Main entry and lobby — Important relationships
(See Clauses 6.3.1 and 6.3.30.)

| Main entry/lobby | | | |
|----------------------------|--|---|---|
| Related program | Element within the program impacting the relationship | Objective | Alternatives to direct adjacency of programs |
| Building entry and parking | | Clear access from surrounding streets to front door and parking | |

7 General functional service requirements

7.1 Planning

7.1.1

All interior and exterior spaces in the HCF shall be designed and constructed in a way that is consistent with

- a) the HCF classification established in Clause 5.1.3.3;
- b) the functional requirements of the master program and space requirements; and
- c) OASIS principles (i.e., operations, accessibility, safety and security, infection prevention and control, and sustainability. See Clause 4).

7.1.2

Consistent with the functional requirements and OASIS principles, the HCF shall be designed to enhance the satisfaction of patients, families, visitors and staff. The IDT shall establish user groups (e.g., patient representatives, family members, clinical staff, infrastructure, and support staff) for each portion of the design process to guide the development of the HCF.

7.1.3

Consistent with the functional requirements and OASIS principles, the design and construction of patient care areas, work areas, and public areas shall take into account common human needs for natural light, artificial light, exterior views, and privacy. See Clause 7.8.4.3.

7.1.4

The design and construction of the HCF shall be consistent with

- a) current, relevant scientific information on clinical design (i.e., evidence-based design); and
- b) principles and practices of ergonomics and human factors engineering.

Note: *HCF planners and designers should remain current with scientific research in this area. Relevant topics could include*

- a) *effects of temperature and humidity on patient comfort and health;*
- b) *relationship between relative humidity and microbial survival and growth;*
- c) *effects of relative pressurization and air flow in limiting the spread of airborne micro-organisms; and*
- d) *the effects of other positive and negative environmental factors on patient comfort and health (e.g., exterior views, natural light, colours, transmitted noise, chemical off-gassing, etc.).*

7.1.5

The HCF plan should make provision for a family and patient support lounge.

7.1.6

The HCF plan shall include space for general administrative offices (e.g., human resources, finance, purchasing, etc.) and for support functions (e.g., patient transportation, volunteers, etc.).

7.1.7

Appropriate staff areas shall be provided for administrative, reference, and educational activities (e.g., teaching, library, office, support, education, and conference).

Note: *These areas can be near to, but not necessarily in, the patient care area.*

7.1.8

Provisions for sustainable design, construction, and operation of the HCF shall be made in accordance with Clause 4.6.

Note: This Standard does not provide detailed requirements for sustainable design and construction because such requirements would already be part of the qualification criteria for a structured sustainability program as referenced in Clause 4.6.

7.1.9

Consistent with patient comfort, safety, and clinical considerations, the HCF's mechanical systems shall be designed, constructed, installed, and commissioned in a manner that prudently and effectively utilizes energy, water, and other associated resources. Consideration should be given to

- a) the availability and sustainability of energy sources;
- b) effective and efficient system design;
- c) maintainability and control of systems;
- d) initiatives that reduce energy usage; and
- e) minimizing the negative impact on the environment.

Note: See CSA Z317.1 and CAN/CSA-Z317.2.

7.2 Materials and finishes

7.2.1 General

7.2.1.1

Materials and finishes shall be appropriate to the location. All surfaces that will be exposed to wet-cleaning or other sources of moisture shall be of seamless, integral construction, moisture impervious, and compatible with industry standard disinfectants used for environmental cleaning.

Note: Examples of areas subject to frequent wet-cleaning include

- a) OR floors, walls, and ceilings; and
- b) floors, walls, and built-in furnishings in clinical areas.

7.2.1.2

Surfaces in high-risk treatment areas (e.g., ORs, ICU, obstetrics unit, MDRD, and neonatal special care nurseries) shall be smooth and monolithic, and durable enough to withstand the additional cleaning and disinfection that is required in these areas. Cellulose-based materials shall not be used for surfaces that are subject to wear or excessive moisture.

Note: Examples of flooring surfaces for high-risk areas include Epoxy, Terrazzo, etc.

7.2.1.3

The flame-spread and smoke-developed ratings of finishes shall comply with applicable requirements. The use of materials known to produce large amounts of noxious gases when burned shall be avoided.

Note: Provincial/territorial and local fire codes can apply.

7.2.1.4

Colours, patterns, and finishes shall be appropriate to the anticipated age and type of patient, including features that relate to cognitive abilities and mobility issues. Colours and textures should be conducive to the activities in those areas.

Note: Certain colours and patterns can be disturbing to some patients. Bold primaries and green should be avoided in areas where clinical observation is part of the assessment (e.g., in consultation or treatment areas).

7.2.2 Surfaces

7.2.2.1

Surfaces shall have the following characteristics, consistent with their functional purpose:

- a) easy to maintain, repair, and clean;
- b) not conducive to dust collection;
- c) resistant to microbial spread and growth;
- d) smooth and non-porous;
- e) durable;
- f) easy to install, demolish, and replace;
- g) if installed on a substrate or structural assembly, constructed to be simple, durable, and stable;
- h) seamless;
- i) resilient and impact resistant;
- j) offering options for colour, pattern, texture;
- k) non-toxic/non-allergenic;
- l) presenting minimal glare;
- m) constructed in such a way that they do not soak up or harbour moisture; and
- n) water-impermeable.

7.2.2.2

Antimicrobial surfaces, if used, shall meet the surface characteristics listed in Clause 7.2.2.1.

7.2.2.3

Ceilings shall be constructed to

- a) prevent contamination of patient and resident areas by falling dust and debris;
- b) present a finished surface in areas where aesthetics are important;
- c) allow access to equipment, where necessary; and
- d) limit the transmission and/or reflection of sound, where necessary for patient, visitor, or staff well-being.

See Clause 12.2.2 for detailed technical requirements for ceilings.

7.2.2.4

Floors shall be durable, cleanable, and resistant to damage by water and chemicals. Floor materials shall be selected to provide the necessary stability and traction for the expected foot traffic and wheeled traffic. Surfaces that limit the transmission or reflection of sound and vibrations should be used in areas where noise control is needed. Resilient floor materials should be considered where occupants would be standing or walking for extended periods.

Floors in clinical and support service areas, and in areas subject to moisture, shall be monolithic (i.e., a single surface, or with heat-welded or sealed seams) with an integral coved base at least 230 mm high at all walls. The integral coved base shall be tightly sealed against the wall and constructed without gaps.

See Clause 12.2.5.2 for detailed technical requirements for floors.

7.2.2.5

Walls shall

- a) be cleanable;

- b) prevent the movement of dust, debris, and moisture into the room;
- c) resist damage due to expected use;
- d) resist damage due to collision in high-traffic areas;
- e) be equipped with base protection where needed to prevent damage from wheeled items (carts, trolleys, wheelchairs, etc.);
- f) present minimal glare; and
- g) limit the transmission and/or reflection of sound, where necessary for the well-being of patients, staff, or visitors.

See Clause [12.2.5.3](#) for detailed technical requirements for walls.

7.2.3 Doors and door frames

Doors and door frames shall

- a) be large enough to accommodate staff, public, equipment, and patient transfers;
- b) be equipped with hardware that does not present a hazard to patients or staff;
- c) resist damage due to normal wear (including collision);
- d) be cleanable; and
- e) limit the transmission and/or reflection of sound, where necessary for the well-being of patients, staff, or visitors.

See Clause [12.2.3](#) for detailed technical requirements for doors.

7.2.4 Windows

7.2.4.1

Windows and frames shall be

- a) impact-resistant (e.g., using tempered safety glass or equipped with features that protect against impact);
- b) made with materials and methods that resist moisture and mould (See Clause [12.2.4](#));
- c) equipped with hardware that does not present a hazard to patients or staff;
- d) cleanable (i.e., without crevices that can trap dirt); and
- e) limit the transmission or reflection of sound, where necessary for the well-being of patients, staff, or visitors.

Note: Specific requirements, recommendations, and safety provisions for operable windows are included elsewhere in this Standard.

7.2.4.2

Windows should be clear of obstructions for optimal viewing to the outside for patients who are seated or in bed.

See Clause [12.2.4](#) for detailed technical requirements for windows.

7.3 Furniture, fittings, and equipment

7.3.1

Furnishing, fittings, and equipment (FF&E) selection for each service shall be appropriate to the service

delivery model and the model of care used in the area. Careful consideration should be given to determining what FF&E best suits the intended function, the environment, and the approach to care.

Note: *Fittings are always done by the construction team whereas the F&E can be selected by others (e.g., owners or equipment planning team).*

7.3.2

FF&E selection shall be made early in the pre-design planning to mitigate the risk of later decisions on the building design. In the initial stages, this may be done by selecting FF&E based on a generic list of devices. Specific manufacturer, model, options, and accessories might not be necessary in preliminary design. However, in detailed design stages, the planning team shall confirm specific manufacturers to obtain relevant information.

7.3.3

FF&E shall be consistent with the functional requirements of the area, including

- a) type of patient, visitor, staff;
- b) anticipated wear and tear;
- c) hours of use;
- d) chemicals in use at the site that could impact finishes/fabrics of the furniture;
- e) flooring in the area; and
- f) ease of cleaning and (where necessary) the use of disinfectants or disinfecting technologies (such as U.V. lights) on materials.

Note: *Heavy wheeled equipment (e.g., carts and stretchers) and furniture can damage certain floors. Selection criteria for FF&E should include consideration of their potential effects on the intended floor surface.*

7.3.4

FF&E selection shall include space planning to determine

- a) how items will fit in the space and their effect on the use of space;
- b) proximity of storage locations for items to their point of use;
- c) the size of items in relation to clearances in their surroundings (e.g., whether a patient bed of a given size will fit and allow turning within the necessary clearances to nearby walls, equipment, and other beds, and corridor and door widths to accommodate equipment); and
- d) the relationship of items to the building envelope (e.g., the impact of day lighting on the item, ability to access equipment for replacement, the need for venting of humidity or vapours, etc.).

7.3.5

The equipment selection process shall include evaluation of the following factors during design development:

- a) the weight and vibration of equipment and its potential effect on building structure;
- b) the effect on the surrounding environment of heat generated by the equipment;
- c) the requirements for direct exhaust;
- d) electrical power requirements including generator or uninterruptable power supply (UPS);
- e) connections to network infrastructure;
- f) the need for water, drain, or other utilities or services for equipment to properly function; and
- g) the need to mitigate acoustic impacts.

7.3.6

Throughout the selection process, criteria for decision-making regarding FF&E shall include

- a) alignment with service-delivery model;

- b) flexibility and adaptability of devices, furniture, etc.;
- c) staff activities (e.g., workstation requirements that accommodate specific tasks);
- d) ergonomics;
- e) structural integrity of the furniture and covering;
- f) cleanability;
- g) ability to be disinfected, including repeated disinfection over the long term;
- h) ease of getting in and out of the seating;
- i) patient types (e.g., mental health, bariatric, access challenged, hearing impaired, sight impaired);
- j) consistency with proposed environment;
- k) safety considerations for staff (e.g., weight, force affecting manual handling) and patients and visitors (e.g., load tolerances);
- l) standardization and adaptability for use in other components;
- m) budget;
- n) life cycle cost analysis (initial cost, ongoing maintenance, durability, etc.);
- o) serviceability/vendor support, availability of parts;
- p) potential to achieve cost savings through purchase and maintenance agreements (e.g., economies of scale and strategic alliances with suppliers for advantageous life cycle replacement of items such as medical equipment);
- q) compatibility with electronic health records, other networked devices, and the IT infrastructure; and
- r) appropriate legs, feet, glides, or castors suitable for the finish floor material.

7.3.7

Furniture and equipment shall be non-permeable, non-shedding, cleanable, and compatible with the cleaning and disinfecting methods used in the HCF (including the approved environmental cleaning agents or alternative technologies). Surfaces shall be chosen to minimize glare.

7.3.8

When the final FF&E selection has been made, a comprehensive list and detailed specifications shall be developed for each device (sorted by room designation) to

- a) identify each device and its dimensions;
- b) classify the equipment with respect to type:
 - i) fixed medical;
 - ii) mobile medical;
 - iii) fixed non-medical; or
 - iv) mobile non-medical;
- c) summarize the implications on architectural, structural, mechanical, and electrical systems;
- d) show the FF&E on the floor plans to clarify location within the room and to confirm the space will accommodate the list of necessary devices; and
- e) assign responsibility in a matrix that clearly identifies who purchases, receives, installs, and verifies the device.

7.3.9

Due to the type and cost of contents stored within refrigerators and freezers and the potential risk to patient safety, the HCF shall have a classification system that identifies refrigerators and freezers needing additional monitoring and safeguards to protect their contents.

Note: A suggested classification system would place refrigerators and freezers into one of three categories:

- a) *Critical operations/medical — Refrigerators or freezers used to store products and samples with a significant replacement cost (i.e., \$2500 or higher) and there is a small window of time (30 min or less) before*

- degradation of the products begin (i.e., chemotherapy drugs, vaccines, lab reagents, etc.), which would impact directly on patient safety.*
- b) *Non-critical operations/medical — Refrigerators or freezers used for medical purposes, but containing products where there is a larger window of time (greater than 30 min) before degradation begins (i.e., CIVA solutions, many types of drugs, certain food products, etc.) and the value of the products stored is such that they could be disposed of without significant cost if there was a concern about patient safety.*
 - c) *Convenience — Refrigerators or freezers not used for medical purposes. This includes refrigerators used for staff lunches and personal items that do not affect patients.*

7.4 Technology and communications systems

7.4.1

The technology and communications systems for the HCF and the selection of the individual systems within each service/component shall be appropriate to the services provided, the service delivery model, and the model of care used in the component.

7.4.2

Technology and communications system planning shall be performed early in the design process so that provision for these enabling technologies can be incorporated in the building design. Consideration shall be given to including additional flexibility to accommodate expansion and future technology needs.

7.4.3

The telecommunication and communications systems planning, design, and procurement process shall include the following elements:

- a) user consultation — focus groups should include a cross-section of HCF departments, including IT, clinical and support staff, patients, and caregivers;
- b) vendor demonstrations — particularly critical for user-facing systems such as handheld devices and user interfaces;
- c) change management — use of freeze periods should be considered before and after implementation of new systems and technologies to ensure that users can adapt to their new workflow before additional changes are implemented; and
- d) reference sites — key HCF staff members should visit comparable reference facilities to see proposed systems in use.

7.4.4

The design process for technology and communications systems shall include the following elements:

- a) space planning — provision of space for technology and communications systems infrastructure including support spaces;
- b) block building planning — selection of the locations of entrance facilities, data centres, and TRs with consideration for the impact of vibration, electromagnetic interference, water and other liquids, and maximum allowable cable lengths;
- c) schematic building design — some technologies can increase or decrease the need for adjacencies between components and can enable the use of alternative layouts within some areas;
- d) structure — weight, shielding requirements, and vibration;
- e) mechanical design — services needed to support the technology, particularly cooling of the data centre and telecommunications rooms;
- f) electrical design — networking and power requirements including reliability and redundancy; and
- g) building size — selection of backbone cables to provide appropriate bandwidth at the distances to all telecommunications rooms.

7.4.5

Throughout the selection process, criteria for decision-making regarding technology and communications shall include

- a) alignment with the service-delivery model;
- b) flexibility and adaptability, to permit implementation of future applications;
- c) staff activities (e.g., workstation requirements that accommodate specific tasks);
- d) patient types (e.g., mental health, bariatric, access challenged, hearing impaired, sight impaired, etc.);
- e) consistency with proposed equipment, electronic health records, and other networked devices;
- f) standardization for use across all components;
- g) budget;
- h) cost-benefit analysis (initial cost, ongoing maintenance, durability, etc.);
- i) potential to achieve cost savings by means of economies of scale, and through strategic alliances with suppliers for advantageous life cycle replacement, upgrade, or update of hardware and software, as well as numbers of licenses for using applications;
- j) ergonomic workstations and configurations; and
- k) serviceability, vendor support, and availability of parts.

7.4.6

Unless specified under individual program areas, technology planning for all functions shall address the use of the following:

- a) electronic health records (EHR);
- b) point of care equipment;
- c) picture archiving communication system (PACS);
- d) patient administration system (PAS);
- e) data entry including scripts and investigation requests;
- f) bar coding for supplies (e.g., drugs, other pharmaceuticals, small equipment such as renal, etc.);
- g) bar coding of X-rays and other records;
- h) wireless network for EHR, telemetry and monitoring; radio frequency identification (RFID) asset tracking, wandering systems, patient equipment, voice over IP (VoIP), and other systems;
- i) personal distress alarms;
- j) hand-held devices;
- k) confidential receipt of information (e.g., fax, email);
- l) alarm systems where necessary (e.g., unauthorized drug cabinet opening);
- m) access to cellular phone networks (repeaters in HCF);
- n) building controls and building automation systems (BAS);
- o) computerized maintenance management system (CMMS);
- p) patient tracking systems;
- q) security systems, egress locks, infant abduction system, and patient wandering monitors;
- r) secure wireless Internet for patients and the public;
- s) secure portals for patients;
- t) telemedicine and videoconferencing systems;
- u) real time locating systems (RTLS); and
- v) systems integration.

7.4.7

The planning for the IT backbone system shall consider

- a) how the wired and wireless backbone will handle digital traffic initially and in the future;

- b) switches and servers that are required to handle the software solutions that will be implemented as part of the overall technology and the communications systems master plan;
- c) how the flexibility of the hardware will help enable integration of the diverse software systems;
- d) strategies to maximize reliability and stability of the network;
- e) current and projected bandwidth requirements of systems utilizing the wired network; and
- f) ease of operations and maintenance.

7.4.8

Data centres or main computer rooms shall be planned in accordance with the following:

- a) Data centres shall not be located on the lowest level of the building or adjacent to sources of vibration or electromagnetic interference such as transformers and medical imaging equipment.
- b) Redundant power and cooling systems shall be provided for the data centre in accordance with established reliability criteria.
- c) Piping and ductwork not serving the data centre shall not be permitted in the data centre. Where wet piping is required to serve the data centre, drip trays complete with moisture sensors shall be provided to protect equipment.

7.5 Infection prevention and control

7.5.1 General

7.5.1.1

The HCF shall be designed to minimize the potential transmission of micro-organisms by air, water, or surfaces, and to provide the necessary equipment and spaces to support the use of routine infection prevention and control practices.

7.5.1.2

The HCF shall conduct an ICRA during the planning phase of a project. This shall include consideration of the facility's patient population and programs. Based on the ICRA, the HCF shall be designed to include infection prevention and control measures that minimize the potential for acquisition and transmission of infections in a health care setting. Decisions on airborne isolation rooms, surge capacity, and design features to accommodate pandemic planning shall be consistent with the documented role of the HCF in the regional model of care.

7.5.1.3

Planning shall make provisions to facilitate

- a) implementation of routine practices for all patients regardless of the diagnosis;
- b) appropriate spacing and placement of patients based on mode of transmission of infectious organisms, including assessment of the need for single inpatient bedrooms and airborne isolation rooms;
Note: See Clause 7.5.2.7 regarding separation of infectious patients.
- c) adequate control of patient flow through the HCF;
- d) mechanical requirements for proper ventilation;
- e) hand hygiene facilities;
- f) processes for proper reprocessing of medical devices and equipment;
- g) segregation of soiled and clean items; and
- h) HCF responses to catastrophic events (e.g., pandemic disease).

7.5.1.4

The HCF shall consider the role each facility may play in the event of exceptional health care events such as pandemic outbreaks or the potential spread of highly infectious diseases.

7.5.1.5

The HCF design shall be consistent with best practice for infection prevention and control, including

- a) promotion and facilitation of the use of routine infection prevention and control practices, including convenient access to PPE;
- Note: PPE is used both in the delivery of care and in support services that don't involve patient contact, such as MDRD.*
- b) placement of hand hygiene sinks (HHS) and waterless hand hygiene stations;
- c) single inpatient bedrooms, unless otherwise specified in the functional program with supporting justification (See Clause 7.5.2.2);
- d) properly designed HVAC systems;
- e) properly designed plumbing and drainage systems;
- f) the use of cleanable materials for furnishings, fittings, and finishes;
- g) limiting the use of privacy curtains except as absolutely necessary;
- h) management of human and other waste streams to prevent aerosolization of fluid and contamination of the environment;
- i) segregation of sterile, clean, and soiled items, including traffic patterns of clean and soiled transport within a HCF;
- j) safe reprocessing of reusable medical devices;
- k) information systems to support surveillance of infectious symptoms and information sharing throughout the HCF; and
- l) adequate space allocation to each clinical patient location and separation of patients in areas where multiple patients occupy the same space (e.g., waiting areas, holding, etc.).

Notes:

- 1) See Clause 7.5.2 regarding separation of patients.
- 2) The following Public Health Agency of Canada (PHAC) guidelines include useful information on infection prevention and control:
 - a) Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care.
 - b) Handwashing, cleaning, disinfection and sterilization in health care PHAC (1998).
- 3) See CAN/CSA-Z317.13 for requirements and guidance regarding the selection of materials and infection prevention measures during construction, renovation, or additions to HCFs.

7.5.1.6

The planning and design process shall include stakeholder participation as specified in Clause 4.5.1.2.

7.5.1.7

Staff lockers should be in convenient locations near work areas to encourage use. In larger facilities, consideration should be given to including a backup location to ensure operational continuity during repairs or renovations. In services where cross-contamination is a concern (e.g., ORs and the MDRD), lockers shall be located such that staff can change out of work apparel before moving into general circulation areas.

7.5.2 Separation of patients

7.5.2.1 General

7.5.2.1.1

The HCF design shall provide for patient segregation/separation as needed for infection prevention and control purposes.

7.5.2.1.2

The HCF design shall provide sufficient space in clinical areas so that the necessary distances can be maintained between patients.

7.5.2.2 Single-inpatient bedrooms

All inpatient bedrooms in Class A HCFs shall be single-bedded rooms with washrooms unless the functional program demonstrates the necessity of a two-bed arrangement. Justification for two-bedded patient bedroom accommodation shall include supporting documentation validating the clinical significance of this arrangement (See Clause 4.5.3.1).

7.5.2.3 Multi-patient bedrooms

A multi-patient bedroom shall accommodate no more than two patients. In this arrangement, there shall be one washroom per patient.

7.5.2.4 Single patient treatment places

All patient treatment places whether intended for inpatient or outpatient use shall either be an enclosed room or have spatial separation and provision for physical barrier (e.g., non-porous separation or partition) to separate patients.

Note: *Spatial separation between patients is addressed in Clause 7.5.2.7. The purpose of the physical barrier is to provide privacy, protection from the spread of infection, and adequate space to support the clinical functions.*

7.5.2.5 Multi-patient treatment places

If a multi-patient arrangement is used, there shall be at least 1200 mm between beds and/or treatment chairs. For recovery rooms, the minimum distances in Table 7.1 shall apply.

Note: *Clause 7.5.2.5 specifies the minimum clear distance between beds in situations two share a room (i.e., in exception to Clause 4.5.3.1). It does not address centreline-to-centreline distances between patients. Under Clause 7.5.2.6 (with its reference to Table 7.1), that distance will never be less than 2000 mm for a standard bed and 2200 mm for a bariatric bed.*

7.5.2.6 Bed clearances

The space provided for each clinical patient area shall comply with Table 7.1 for minimum clearances of space at the sides, headwall, and foot of the patient bed/treatment area. In situations where between-bed and centreline-to-centreline distances do not match, the larger distance of the two shall be used.

Table 7.1
Minimum distances for inpatient and critical care beds for infection prevention and control
(See Clauses 7.5.2.5 and 7.5.2.6 and Tables 8.2, 8.7, 9.4, and 11.1.)

Minimum distances for inpatient beds:

1000 mm on the non-transfer side (wall) and to fixed surface from the side of the bed

1200 mm at the foot of the bed

1200 mm between beds (in rooms where there is more than one bed)

2000 mm centreline to centreline (in rooms where there is more than one bed)

Minimum distances for critical care beds:

1200 mm on the non-transfer side (wall) and to fixed surface from the side of the bed

1500 mm at the foot of the bed

1800 mm between beds (in rooms where there is more than one bed)

2400 mm centreline to centreline (in rooms where there is more than one bed)

Notes:

- 1) Planning for bed clearances shall take into account the dimensions of the bed.
- 2) These values are based on a nominal bed width of 1000 mm for a normal bed and 1200 mm for a bariatric bed. If different bed sizes are used, the distances shall be adjusted to accommodate the actual bed size.

7.5.2.7 Waiting area clearances

Waiting rooms and holding areas, where multiple patients occupy the same room, shall be designed with the ability to segregate patients with infectious symptoms through the use of distance between symptomatic and asymptomatic patients and/or the use of physical barriers.

For patients who have passed screening and are deemed to be non-infectious, the distance between chairs may be less than 1000 mm, depending on facility type, patient population, and degree of risk.

For symptomatic patients (e.g., coughing), there shall be a minimum distance of 2000 mm or a physical barrier to separate each patient from adjacent patients.

7.5.3 Mechanical systems and equipment

Mechanical systems and equipment shall be designed with the following features:

- a) easy access and maintenance, especially with systems needing frequent maintenance, or where infection control is a concern (e.g., airborne isolation rooms, for which particular requirements for HVAC and plumbing systems apply);
- b) ability for staff to safely use, maintain, and repair systems and equipment;
- c) ability to maintain and repair systems and equipment with minimal disturbance of patients;
- d) provision for zones of care with the capability to isolate HVAC systems to respond to emerging infectious diseases;
- e) HVAC performance for specific areas in accordance with CAN/CSA-Z317.2;
- f) measures to prevent the propagation of legionella and other infectious micro-organisms in plumbing systems, in accordance with CSA Z317.1; and

- g) specific water quality measures as per the manufacturer's instructions for use for dedicated equipment, e.g., medical device reprocessing equipment (see CAN/CSA-Z314) and water for dialysis (see CAN/CSA-ISO 26722).

7.5.4 Materials and finishes

Materials and finishes shall comply with Clause 7.2.

7.5.5 Airborne isolation rooms

7.5.5.1

The decision whether to include an airborne isolation room, and the number of AIRs needed, shall be made with input from

- a) the class of HCF;
- b) the ICRA (see Clauses 4.5.1.3 and 7.5.1.2) and consultation with IPC staff;
- c) a community assessment of the patient population; and
- d) the defined role of the HCF in pandemic planning.

Note: *It is recognized that any HCF could encounter a patient with a highly infectious disease. If the regional pandemic plan includes an expectation that the HCF would house that patient for a significant time, an AIR could be needed. If the HCF's role is only to manage the patient until they can be transported, alternative means of isolation could be used.*

7.5.5.2

Class A HCFs shall provide at least one airborne isolation room (AIR), to be located in the emergency department.

7.5.5.3

Class A HCFs should consider the additional needs for AIRs for the following services or areas:

- a) emergency care;
- b) clinics in areas servicing high risk populations (e.g., tuberculosis or infectious diseases clinics, pulmonary/respiratory clinics, and dialysis);
- c) medical imaging (in HCFs servicing high-risk populations);
- d) endoscopy/bronchoscopy;
- e) ICU;
- f) general medicine and surgical floors (or units);
- g) pre-operative PACU; and
- h) hematology/oncology, bone and marrow transplant.

Note: *For AIRs serving bone and marrow transplant patients, see Clause 7.5.5.10.*

7.5.5.4

If the functional programming process indicates that additional AIRs could be needed, a needs assessment capacity study shall be completed. During development of the functional program, planners shall consult with the HCF's infection prevention and control program to determine the number of AIRs needed on each unit.

Notes:

- 1) *In general, more than one AIR will be needed in medical-surgical, medical, pediatric, or critical-care areas. During development of the functional program, planners should consult with the HCF's infection prevention and control program to determine the number of AIRs needed throughout the facility.*
- 2) *The decision to include or omit an AIR on a unit in a Class A HCF should be made in consultation with the provincial/territorial ministry of health, and signed off by the authority having jurisdiction.*

- 3) See Clause 11 for specific requirements for AIRs including anteroom design and PPE requirements.
- 4) The inclusion of protective environment rooms (positive pressure) should be considered where appropriate. See Clause 7.5.6.
- 5) Consideration should be given to grouping of rooms for use in pandemic situations.
- 6) In a Class A-1 HCF or pediatric HCF with a role in pandemic planning, the isolation zone within an inpatient unit should be larger (e.g., have consideration of larger anteroom).
- 7) See Clause 11 for specific requirements for airborne isolation rooms.

7.5.5.5

When determining the number of AIRs to be incorporated into any service area, planners shall consider the number of AIRs that are required by the catastrophic event risk assessment (specifically as it applies to pandemic planning) as determined in Clause 7.9.1.

7.5.5.6

Each AIR shall have an anteroom with a closeable door.

Note: This requirement has been added because AIR anterooms

- a) offer additional controls against unwanted air movement;
- b) help to reinforce user identification of the AIR as a specialized environment;
- c) provide an enclosed space for donning and doffing of PPE;
- d) could help in the management of unknown or emerging diseases; and
- e) provide for consistency across functions and facility types.

7.5.5.7

AIRs and anterooms shall comply with the HVAC system requirements in CAN/CSA-Z317.2, including for relative pressurization.

Note: To maintain relative pressurization, it is important to ensure careful sealing around all wall penetrations (e.g., for conduit, ductwork, etc.).

7.5.5.8

An AIR shall have a pressure monitoring system and an alarm in accordance with CAN/CSA-Z317.2.

7.5.5.9

A three-piece washroom directly accessible from the bed space shall be included in all inpatient AIRs. A two-piece washroom shall be provided for emergency care. Consideration should be given to including a two-piece washroom for AIRs in ambulatory care settings.

Note: The decision on washroom configuration will depend on the services provided.

7.5.5.10

Combination airborne isolation room/protective environment rooms shall be equipped with an anteroom and shall be designed and built in accordance with CAN/CSA-Z317.2.

7.5.6 Protective environment rooms

Protective environment rooms (PER) shall be equipped with an anteroom and shall be designed and built in accordance with CAN/CSA-Z317.2.

Note: In a combination AIR/PER, the anteroom pressure is maintained negative to both the patient room and the corridor. Air flow is from the patient room into the anteroom, and from the corridor into the anteroom. The air from the anteroom is exhausted to the outdoors. CAN/CSA-Z317.2 stipulates that AIRs and PERs be used in no more than one pressure mode so that the rooms are not intended to be switchable between AIR and PER functionality.

7.5.7 Waste management

Waste management practices shall include segregation of wastes into an appropriate dedicated holding area in the unit of care or work environment and shall be in compliance with CSA Z317.10. Provisions for human waste management shall be in accordance with Clause 7.5.8.

7.5.8 Human waste management

7.5.8.1

There shall be a separate enclosed washroom with a toilet and sink for each inpatient. Toilets shall not be located within an inpatient bedroom.

In services where patients will not use a toilet (e.g., ICUs), the washroom may be omitted; however in that situation each room with inpatient beds shall have a separate closed waste management mechanism that is separated from the patient bedroom by a physical barrier (i.e., alcove, half wall, attached separate room, etc.), and there shall be an adjacent hand hygiene sink.

Note: This hand hygiene sink may also serve as the hand hygiene sink for the inpatient bedroom depending on the layout of the space and any physical barriers such as doors. It is not necessary to have two hand hygiene sinks within one patient room.

The location for the waste management system shall be removed from direct patient care activities and take into account the layout of the space, location of patient, and flow of staff/patient care activities.

7.5.8.2

Each inpatient service shall be equipped with at least one closed waste management system where staff can decant or discard human waste, solid and liquid, and other potentially contaminated fluids. The number and location of these systems shall be determined based on the need to maintain proximity to the point of care and the risks and acuity of the patient population.

7.5.8.3

Waste management systems shall be designed to prevent aerosolization of fluids during the decanting or discarding of waste. If a toilet is used, it shall be installed in a room dedicated for use of the toilet. The toilet in a patient washroom shall not be used. Spray wands shall not be used for rinsing waste receptacles.

Note: Depending on the system, human waste discard can either be accomplished through the use of disposable containers that are discarded with the waste (macerator) or reusable containers that are emptied and reprocessed (i.e., using a washer-disinfector).

7.5.9 Segregation of sterile, clean, and soiled items

7.5.9.1

The HCF shall be designed to facilitate and maintain the separation of sterile, clean, and soiled items as follows:

- a) Areas for the management of soiled, reusable medical devices and textiles shall be designed in accordance with CAN/CSA-Z314.
- b) In larger facilities with a central MDRD and an active OR, separate dedicated elevators or corridors for clean and soiled items should be provided for transport of items to and from the OR, and for transport to and from other procedure areas.

Note: The planning process should consider the overall path of transport for soiled items. See Clause 7.5.8.2. Efforts should be made to use dedicated elevators for other areas that generate volumes of soiled items.

- c) Sterile storage (i.e., storage under the control of the MDR service) shall be in compliance with CAN/CSA-Z314.
- d) Storage in warehouses or other areas not in control of the MDR service shall comply with CAN/CSA-Z314.
- e) Areas for the sorting and separation of items shall be given the appropriate space allocations based on an ICRA and the functional program.

7.5.9.2

The HCF planning process shall include a description of the movement of materials, traffic patterns, and the flow of clean and soiled devices within the HCF. Design provisions shall be included to support an operational approach that maintains separation of sterile, clean, and soiled items at all times.

Note: ANSI/AAMI ST79 provides detailed guidance on the design of MDR services.

7.5.10 Medical device reprocessing

The HCF planning for MDR services shall be based on the following principles:

- a) MDR services shall be located so as to minimize transportation of soiled devices within the HCF.
Note: This may be accomplished either through proximity between the point of use and MDR services or by means of dedicated clean and soiled elevators from the OR to the MDRD.
- b) MDR shall be performed only in areas that have a dedicated space for these activities, and that comply with
 - i) CAN/CSA-Z317.2 regarding air exchanges, relative pressurization, temperature, and relative humidity;
 - ii) CAN/CSA-Z314 regarding the design of reprocessing areas; and
 - iii) CAN/CSA-Z314 regarding the design of storage areas.

7.5.11 Surveillance and information systems

Information systems to support surveillance of infectious symptoms and sharing of information throughout the HCF shall include the following:

- a) provision for assessment of inpatients entering the HCF for the presence of symptoms indicative of an infectious disease; and
- b) provision of systems for documentation and communication of these symptoms to other areas within the HCF whether electronically or by other means as identified by the needs of the facility.

7.5.12 Hand hygiene facilities

7.5.12.1 General

7.5.12.1.1

The location and design of hand hygiene facilities shall be developed in consultation with infection prevention and control personnel and shall be consistent with the ICRA. The HCF design shall specify

- a) the room location of hand hygiene sinks in the HCF, and the placement of the sink(s) within each room location and in relation to counters and other related fixtures;
- b) hand hygiene sink design; and
- c) the location of waterless hand hygiene stations.

7.5.12.1.2

Hand hygiene sinks shall be dedicated to that purpose and not used for any other purpose.

7.5.12.1.3

Sinks used for cleaning of equipment and the disposal of waste fluids (e.g., IV fluids, lipids, used antiseptics) shall not be used for hand hygiene.

7.5.12.2 Hand hygiene sinks

7.5.12.2.1

A hand hygiene sink shall be installed in each of the following locations:

- a) inside each inpatient bedroom, adjacent to the entrance;
- b) in any space where physical treatment is provided or procedures or physical exams are performed, as follows:
 - i) one sink in a location designed for one patient to be present at a time [e.g., one sink to one patient (1:1)]; or
 - ii) one sink in a location designed to accommodate two or more patients at a time [e.g., one sink to two patients (1:2) or one sink to three patients (1:3)] with no more than 6 m distance between any patient station and the nearest sink;

Note: A ratio of one sink for every three patients should be used unless a risk assessment conducted by the IDT (with input from the person or department responsible for infection prevention and control) can demonstrate fewer sinks are appropriate. The risk assessment should take into account the functional layout of the space, presence of physical barriers such as doors, staff/patient flow, total number of patients cared for in the space, and need for redundancy.

- c) inside or adjacent to each diagnostic MRI room;

Note: In MRI rooms, the hand hygiene sink may be either

- a) immediately outside the room; or
- b) located in the room if plastic pipes are used through the radio frequency cage, with the trap outside the wall cavity.
- d) in each soiled utility/soiled holding room (in addition to sinks or hoppers that are used for contaminated material);
- e) in any room in which food or patient care items (e.g., tray) are prepared. This includes but is not limited to clean utility rooms used for patient tray preparation, nourishment centres, rooms where infant formula is prepared, etc.;
- f) inside each nursing station or within 6 m of the station;
- g) within 6 m of each laboratory workstation and within each work room;
- h) in each room in which medication is prepared (including in pharmacies);
- i) in each area where unbagged soiled linen is handled;
- j) other areas where hands are likely to be contaminated, such as in goods receiving areas, chemical storage, and waste storage and disposal areas; and
- k) in airborne isolation rooms, as follows:
 - i) one hand hygiene sink in the anteroom, if present; and
 - ii) one in the room itself.

Note: The hand hygiene sinks specified in this Clause are distinct from, and required in addition to, sinks installed in patient washrooms. The requirement for two hand hygiene sinks relates to PPE donning and doffing and future planning for emerging infectious diseases.

7.5.12.2.2

The design and installation of hand hygiene sinks and their surroundings shall be in compliance with Table 11.1, Item 19. The sinks themselves shall comply with the relevant requirements in CSA Z317.1 as follows:

- a) general requirements for sinks and lavatories (CSA Z317.1, Clause 8.4.1); and

- b) additional requirements for hand hygiene sinks (CSA Z317.1, Clause 8.4.2).

7.5.12.2.3

Measures shall be taken to prevent the propagation and transmission of infectious micro-organisms from sink drains.

7.5.12.3 Waterless hand hygiene stations

7.5.12.3.1

Waterless hand hygiene stations shall be provided in each of the following locations:

- a) at all entrances and exits to the HCF;
- b) on the external wall immediately adjacent to the entrance to every inpatient bedroom;
- c) on a wall immediately adjacent to the entrance to every patient care area (e.g., exam rooms and procedure rooms in outpatient settings, medical imaging procedure rooms, etc.);
- d) adjacent to the bedside (point of care) in all situations except where patient safety could be put at risk (e.g., mental health unit);
- e) in locations where PPE is donned or doffed; and
- f) in locations where they are needed to facilitate compliance with routine practices.

7.5.12.3.2

Waterless hand hygiene fixtures shall be mounted at a height of approximately 1 m from the floor. Adjacent floor and wall surfaces should be protected from the hand hygiene fluid.

7.5.12.3.3

Placement and storage of alcohol-based waterless hand hygiene products, fixtures, and supplies shall be in compliance with the HCF's fire prevention guidelines and applicable requirements.

Notes:

- 1) *Provincial/territorial and local fire codes and regulations can apply to the location of units that use alcohol-based hand hygiene products.*
- 2) *See NFPA 101 for information on the installation of alcohol-based waterless hand hygiene systems.*

7.5.12.3.4

Where the optimal placement of a waterless hand hygiene station (i.e., for staff compliance) appears to conflict with applicable fire safety requirements, the fire marshal and the infection prevention and control team shall be consulted to resolve the issue.

Note: *Provincial/territorial and local fire codes can apply.*

7.5.13 Scrub sinks

A scrub sink (as distinct from a hand hygiene sink) shall be provided in any area where operative procedures are performed including ORs, delivery rooms, interventional radiology, and cardiac catheterization suites.

7.6 Occupational health and safety

7.6.1 General

7.6.1.1

The HCF shall be planned, designed, and constructed to provide a safe workplace for all staff and to enable and support the application of occupational health and safety (OH&S) principles and practices. Planning for OH&S should be consistent with the requirements of CAN/CSA-Z1000.

Note: In Canada, OH&S requirements are contained in provincial and territorial laws.

7.6.1.2

OH&S planning shall involve input from employees and relevant experts, and shall be aimed at recognizing and assessing hazards then eliminating them. If circumstances do not permit the elimination of a hazard, the owner needs to be informed. Some jurisdictions require a code of practice and management plan for specific hazards.

Note: OH&S involves the identification, evaluation, and control of hazards in the workplace in order to prevent illness and injuries and, when necessary, to provide treatment for individual employees or groups of employees.

Hazards can be a result of

- a) biological;
- b) chemical;
- c) physical (including safety hazards from equipment);
- d) radiological;
- e) psychosocial (e.g., stress, violence); and
- f) ergonomic conditions.

7.6.1.3

Provision shall be made to protect the health and safety of staff, consistent with the clinical and safety needs of patients. Mitigation of risks shall include, but not be limited to the prevention of

- a) musculoskeletal injuries due to patient handling/lifting;
- b) musculoskeletal injuries due to manual materials handling or workplace and workstation design;
- c) slips, trips, and falls;
- d) injuries and illnesses due to hazardous materials (chemical, biological, radiological, nuclear, and explosive);
- e) fire;
- f) electrical shock; and
- g) workplace violence including aggressive behaviour by patients and/or others.

Note: Provisions for ergonomic safety should

- a) minimize the need for excessive lifting and travel between related areas;
- b) foster efficient work flow;
- c) minimize the need to make awkward, forceful, or repetitive motions or to lift, lower, push, pull, or carry heavy or unwieldy loads;
- d) minimize slips and falls through the selection of appropriate floor finishes; and
- e) make use of ergonomic workstation/equipment configurations.

7.6.1.4

The elimination of hazards or reduction in the risk of infection should be achieved as much as possible

through engineering solutions (i.e., as a part of design and construction) rather than through administrative solutions.

Note: *Administrative solutions (e.g., OH&S policies and procedures, PPE training, and signage) can complement engineering solutions, as an added safety measure.*

7.6.1.5

Engineering features that promote infection prevention should be considered early in the design process so they can be well integrated into the overall design.

Note: *Many of the engineering solutions for reducing biological hazards to workers are integrated into the infection prevention and control design specifications (see Clause 7.5). Most of the engineering solutions to reducing chemical, physical, radiological, psychosocial, safety, and ergonomic hazards in the workplace are integrated into Clause 7.6.*

7.6.1.6

Occupational health and safety plans shall include provisions to protect the health and safety of maintenance workers and other HCF engineering staff. The following should be considered:

- a) For buildings with roof-mounted equipment, stairs should be provided for maintenance staff access.
- b) Means should be provided to facilitate the safe lifting of heavy tools and equipment to the penthouses, roof, or other high spaces (e.g., elevators or anchor points for portable hoisting equipment).
- c) Crawl spaces should be easy to access, and designed to facilitate movement of equipment in sub-levels for maintenance activities. Low-ceiling crawl spaces should be avoided.
- d) Space for the storage of PPE shall be provided near the point of use.

Note: *The PPE used will depend on the type of hazard (e.g., masks, respirators, gloves, gowns, lead aprons, hearing protection, etc.).*

7.6.2 Biologics safety

7.6.2.1

HCFs shall be designed with the intent to reduce the potential for adverse health effects from biologic agents through the application of routine infection prevention and control practices (See Clause 7.5).

7.6.2.2

Space for sharps disposal containers shall be provided at the point of use. Sharps disposal containers should also be provided centrally within the HCF. Sharps disposal containers should be mounted a maximum of 1250 mm above floor level for standing use or a maximum of 510 mm above floor level for seated use. There should be a maximum of 460 mm horizontal reach to the centre of the container opening.

Note: See CSA Z316.6.

7.6.2.3

Adequate local exhaust ventilation shall be provided when hazardous biological materials are involved in a process that can cause the material to be aerosolized (e.g., in laboratories or medical device decontamination areas).

Note: See Public Health Agency of Canada (2004) and NSF/ANSI 49.

7.6.2.4

Eyewash stations shall be installed in areas where there is a risk of exposure to a biological splash (e.g., blood or body fluids). Eyewash stations shall not be attached to hand hygiene sinks.

Note: This includes patient care areas, ORs, emergency services, ER, clinics, etc.

7.6.2.5

Areas where lasers are used shall comply with CSA Z386. Surgical plume scavenging systems shall be installed in locations where laser and electrocautery procedures are performed.

Note: See CSA Z305.13.

7.6.2.6

Adequate space shall be provided for designated refrigerators to store biological materials/specimens, as required by the functional program.

7.6.3 Chemical safety

7.6.3.1

HCFs shall be designed with the intent to reduce the potential for illness or injuries caused by chemicals, and to keep overall exposures as low as reasonably achievable (ALARA). The designer should be aware of, and design for, the types of chemicals expected and the design should permit additional controls in the future if needed.

Note: Federal, provincial/territorial, and local regulations and bylaws can apply.

7.6.3.2

The use of, and storage for, hazardous chemicals shall be in conformance with safety data sheets (SDS) and manufacturers' instructions. Examples of hazardous chemicals include ethylene oxide, formaldehyde, glutaraldehyde, anti-neoplastic drugs, and anaesthetic gases. Care should be taken in the use of chemicals for cleaning, disinfecting, and sterilizing.

Note: Ethylene oxide is a designated substance, and in Canada its installation, storage, and use are governed by federal and provincial/territorial environmental regulations and health and safety regulations.

7.6.3.3

When chemicals or pharmaceuticals are being poured, mixed, or otherwise handled, adequate ventilation, including local exhaust ventilation, shall be provided in accordance with the SDS and manufacturers' instructions.

Note: See CSA Z316.5 and CAN/CSA-Z317.2. The design of the HVAC systems should be done by, or in consultation with, a qualified HVAC professional.

7.6.3.4

Adequate space shall be provided for chemical storage and PPE near the point of use. Storage shall be appropriate for the chemicals used (i.e., separation of incompatible types of chemicals, vented versus non-vented cabinets, etc.).

7.6.3.5

Adequate space shall be provided for chemical disposal. Space should be provided in a centralized

location away from patient care for use as a staging area for consolidation prior to removal of the chemicals from the site.

Note: This location should be away from patient or visitor access and as far away from impacting hospital operations, and be convenient for disposal company pick-up. Appropriate areas could include a loading bay/dock where there is direct outside ventilation or a hazardous waste room. Consideration should be given to location and co-location of chemical and other hazardous material storage areas. An explosion or fire can result in a major contamination issue and could add to the vulnerability of the HCF operations if it occurred near other HCF critical infrastructure.

7.6.3.6

Storage space for spill cleanup materials shall be provided in a location convenient to the point of use. Provision should be made for spill containment and (if necessary) drainage.

7.6.3.7

Eyewash stations and emergency deluge showers shall be provided adjacent to chemical use locations where hazardous spills or splashes could occur.

Note: Provincial/territorial health and safety regulations apply. SDS for products used in the location should be reviewed.

7.6.3.8

Exhaust vents for fume hoods, and other vents that carry chemical exhaust, shall be placed as specified in CAN/CSA-Z317.2 to avoid recirculation of chemicals.

7.6.4 Safety from physical hazards

7.6.4.1

HCFs should be designed to eliminate or decrease the risk of injury or occupational illness caused by physical agents such as electricity, noise, radiation (including laser, ionizing, and non-ionizing), high or low temperatures, and poor lighting.

7.6.4.2

Equipment that produces ionizing radiation (e.g., medical imaging and radiation therapy machines) shall be installed in accordance with applicable requirements.

Note: In Canada, provincial/territorial regulations apply.

7.6.4.3

Radiation protection for X-ray and gamma ray installations shall comply with NCRP Report No. 49 and NCRP Report No. 102 and all applicable requirements. Testing should be coordinated with local authorities to prevent duplication of test observations or construction inspections. Provision shall be made for testing completed installations before use. All defects shall be corrected before approval.

Note: In Canada, provincial/territorial and local regulations apply.

7.6.4.4

Adequate lighting for the task being performed shall be provided at all work locations.

Note: See CSA Z317.5.

7.6.4.5

Computer monitors and screens should have non-glare surfaces to reduce fatigue and to reduce the likelihood of reading errors.

7.6.4.6

Proper temperature control shall be provided in workstations in accordance with CAN/CSA-Z317.2. The position of workstations and the comfort of staff should be considered in the selection and location of ventilation diffusers.

7.6.4.7

Provision shall be made to protect patients, HCF staff, and emergency response crews from the hazards related to cryogenic materials and magnetic fields around MRI machines.

7.6.4.8

Provision shall be made to protect staff and visitors from excessive and damaging noise (e.g., in boiler rooms).

7.6.5 Safety from nuclear agents**7.6.5.1**

HCFs shall be designed to reduce the potential for illness or injury caused by nuclear agents.

7.6.5.2

The space provided for the use of and storage for nuclear agents shall be in conformance with radiation safety standards.

7.6.5.3

Work and treatment areas shall be designed to prevent the escape of radioactive particles.

7.6.5.4

Adequate space shall be provided near the point of use for

- a) storage of radioactive materials;
- b) equipment and supplies for cleanup and decontamination following a spill or other exposure;
- c) containers for disposal of radioactive materials;
- d) PPE as needed for use when handling materials; and
- e) PPE for the cleanup of spills.

Space shall also be provided centrally as a staging area for consolidation prior to removal.

7.6.5.5

Eyewash stations and showers shall be provided adjacent to locations where spills and splashes could occur.

7.6.6 Ergonomics

7.6.6.1 General

7.6.6.1.1

HCFs shall include ergonomic principles in their design to reduce the potential for illness or injury.

Notes:

- 1) See CSA Z1004.
- 2) The HCF should use a systems approach to ergonomics and involve front-line staff, representative patients, and family members. Experts in ergonomics/human factors should be involved in planning for the activities and movement of patients, staff, and visitors. Areas and equipment should be designed to avoid musculoskeletal disorder risk factors (e.g., excessive forces, awkward postures, repetition, and secondary risk factors such as temperature, vibration, and contact stress).
- 3) The terms "ergonomics" and "human factors" are considered to be synonymous in this Standard.

7.6.6.1.2

Floor surfaces, including transition areas, shall be designed to minimize sudden or sustained rolling resistance for wheeled equipment (e.g. stretchers, beds, supply carts, or wheelchairs).

Note: Injuries can occur when wheeled equipment is pushed over bumps, uneven surfaces/transitions, or very soft materials that casters can sink into.

7.6.6.1.3

Surfaces and areas shall be designed to reduce the risk of slips and falls.

Note: This can be accomplished through the following:

- a) the use of slip-resistant surfaces (i.e., coefficient of friction is above 0.5);
- b) properly designed steps, ramps, and railings;
- c) adequate storage to prevent obstruction of hallways and work areas, etc.;
- d) special design features for wet areas (e.g., flooring selection, drainage); and
- e) design of outside areas to reduce the risk of ice and snow accumulation, and to provide drainage where needed.

7.6.6.1.4

Transition areas shall minimize the effort required for staff to push stretchers, beds, supply carts, or wheelchairs across doorways.

Note: This includes the transition to an elevator.

7.6.6.1.5

Sufficient space should be provided for flexible workstations that allow the worker to either sit or stand. Spaces shall allow staff to move without constraint and maintain neutral body postures for manual work and patient handling activities.

Working heights, reaches, and clearances in all work areas (labs, pharmacy, reception, etc.) should accommodate the range of staff sizes and allow for work from a standing posture or a seated posture through adjustable work surfaces. Workstation designs should be independently reviewed for ergonomic qualities.

Notes:

- 1) This Clause applies to all workstations, including offices, telephone operator stations, and laboratory workstations.

- 2) *The HCF design should be such that*
 - a) *staff can readily see patients, hallways, etc., without awkward postures or getting up from their workstations;*
 - b) *staff do not have to walk long distances for supplies or between workstations and patients;*
 - c) *there is sufficient space for storage of frequently used items at regular alcoves so staff are not walking long distances and carrying supplies; and*
 - d) *staff have the ability and sufficient space to safely chart electronically at the bedside.*

7.6.6.1.6

Adequate space shall be provided around workstations to allow the user to enter and exit with ease.

7.6.6.1.7

Adequate space shall be provided at workstations for the storage and use of manuals, documents, charts, records, and other material. Secure storage shall be provided where needed for confidential or difficult-to-replace material.

7.6.6.1.8

The HCF design shall provide adequate space so that users can maintain optimal postures and safely perform tasks at critical areas such as the bedside, in patient washrooms, or in emergency bays. Space allocations should allow for movement of stretchers, wheelchairs, and portable equipment, including turning space and space for additional staff to assist where needed.

7.6.6.1.9

Adequate space shall be provided at a workstation for a telephone and for the placement of the keyboard (and where appropriate a keyboard tray) and computer mouse. The workstation design should avoid sharp edges or gaps that could pinch at the wrists of the user.

Note: See CSA Z412.

7.6.6.1.10

Functional space for the use of equipment and sufficient storage space for all equipment shall be provided in close proximity to the location of use.

7.6.6.1.11

Grab bars and handrails should be installed for patient mobility and accessibility where necessary in patient bedrooms, bathrooms, tub rooms, activities for daily living (ADL) suites, dining areas, assessment rooms, lounges, and corridors.

7.6.6.1.12

Storage space close to the point of use shall be provided for manual handling aids such as patient lifts, commodes, wheelchairs, walking belts, slider boards, and patient scales. See Clause [7.7.1.7](#).

7.6.6.1.13

Area design should minimize the need for manual movement of materials and supplies through the use of careful layout and the inclusion of non-manual movement systems such as horizontal and vertical lifts and motorized devices.

7.6.6.2 Patient mechanical lift and transfer devices

7.6.6.2.1

The HCF shall develop policies, procedures, and training for safe patient handling, which take into account the specific needs of patients and the most frequent points for patient lifts and transfers. The installation of built-in lift devices shall support the intended transfer points as identified in the policies.

Note: See CSA Z10535.2.

7.6.6.2.2

All HCFs shall have a patient transfer plan. The plan shall include a risk analysis of all patient or resident transfer points and identify the lift and transfer equipment to be used at each transfer point. The HCF shall provide convenient storage locations for any portable lift or transfer equipment that is included in the plan. In addition, the structure shall be designed to accommodate fixed lift or transfer devices as defined in Clauses 7.6.6.2.1 through 7.6.6.2.10 and in CSA Z10535.2.

Notes:

- 1) *Lift and transfer technologies include multiple technologies, some which are permanently fixed to the structure while others are designed to be used in a mobile capacity.*
- 2) *HCFs may include multiple transfer technologies in their patient transfer plan, but any fixed equipment (such as overhead mounted rail systems or tracks) should be incorporated into the design of the structure.*
- 3) *Lift and transfer devices are not intended to be used for patient transport unless the manufacturer's instructions for use specifically identify that the device has been designed for transport.*
- 4) *The tasks to be performed in the patient room and ensuite washroom should be considered, including toileting, showering, hand washing, and use of ambulating slings. This process should identify where falls could occur during these tasks, and include measures to reduce the risk. For example, a side approach to a toilet could pose a risk if the toilet has fold-down side grab bars. In that case, a direct front-on approach to the toilet would be recommended.*
- 5) *Consideration should be given to maximizing room coverage to facilitate planned lifts and transfers of patients, and to allow for unanticipated lifts and transfers such as the response to a fallen patient.*

7.6.6.2.3

All lift and transfer devices shall be manufactured in accordance with CAN/CSA-Z10535.1.

7.6.6.2.4

All lift and transfer devices shall be installed with the necessary structural, mechanical, and electrical systems, and then be tested and inspected in accordance with CSA Z10535.2 prior to being placed into service. Proper fasteners shall be provided for permanently installed patient lift and transfer devices. Lift and transfer rails shall be designed so that the lift and transfer system does not interfere with other inpatient support services located in the ceiling (e.g., lighting, HVAC, life safety).

Note: *Inspection and testing can include load testing, pre-start inspection, and checking of end-stops, safety interlocks, and rails.*

7.6.6.2.5

In Class A HCFs, all inpatient bedrooms for the following patient groups shall have a permanently affixed, overhead mounted rail system for a patient mechanical lift and transfer device installed at the ceiling level for

- a) acute medical and surgical patients;
- b) critical care;
- c) pediatrics;
- d) inpatient continuing care; and

e) rehabilitation.

The lift rail may only be omitted if the patient transfer plan and functional program demonstrate that there is not a justified cost/benefit need for mounted patient lift or transfer devices. In such cases, portable units should be considered. In pediatric HCFs, consideration should be given to access/concealing lifts to minimize unqualified persons using the lifts.

The HCF shall have the means to provide mechanical lifting and transferring of patients in all other clinical areas (e.g., physiotherapy, medical imaging).

Note: *Ceiling-mounted patient lift rails are not required in maternal and newborn care programs and mental health programs; however, dedicated storage should be provided for portable lift and transfer devices in these programs.*

7.6.6.2.6

Structures to support permanently and semi-permanently affixed rails shall be designed to support point load of 453 kg.

7.6.6.2.7

Class A HCFs shall determine the number of lifting slings and associated equipment to be installed at time of initial construction based on the patient transfer plan and the functional program. Class A HCFs shall also determine the number of lifting slings and associated equipment to be kept in storage and readily available in each patient functional area. Where the functional program demonstrates that lifting slings and associated equipment will be stored within each area, dedicated space for such storage shall be provided. Storage space should be convenient to the expected point of use.

7.6.6.2.8

Class B HCFs shall have a permanently or semi-permanently affixed rail system for a resident mechanical lift and transfer device installed, and shall have electrical systems installed in accordance with the patient lifting and transfer plan. Where required in the plan, the lift and transfer devices shall be installed in all resident bedrooms at the time of construction.

7.6.6.2.9

Class C HCFs should consider the installation of lift and transfer equipment, electrical systems, and lifting slings as required by the patient transfer plan and the functional program. Consideration should be given to providing lifting and transfer equipment for

- a) rehabilitation services (for both pediatric and adult populations);
- b) ambulatory care facilities for bariatric patients; and
- c) respite bedrooms.

Note: *Patient lift rails are not required in maternal and newborn care programs and mental health programs; however, dedicated storage with power supply should be provided for portable lifting devices in these programs.*

7.6.6.2.10

Where transport is required, the devices shall be specifically designed for that purpose.

Note: *To allow for flexibility and for future changes in the function of areas, the HCF should consider installing the necessary ceiling structures and systems for patient lifts in all inpatient bedrooms. This is not recommended for mental health and addictions services.*

7.6.6.2.11

Where the patient lift plan requires, patient lifts shall be installed above treatment tables and above assessment tables in rehabilitation units and other areas where lifting is likely to be required.

Note: *Patient lifting devices are also being used to support limbs during surgeries in the operating rooms. Where the functional program includes such procedures (such as joint replacement surgery), the HCF should consider the use of lifting devices.*

7.6.6.2.12

Patient transfer devices (in addition to, or instead of lifts) shall be provided in accordance with the patient transfer plan and the functional program.

Note: *A transfer is a procedure to move a “weight-bearing” patient from one surface to another. Transfer devices (e.g., sit/stand devices, air lifting devices, etc.) are commonly used to help transfer patients.*

7.7 Safety and security

7.7.1 General safety and security considerations

7.7.1.1

The HCF shall be designed to optimize the safety and security of patients, staff, and visitors. The planning and design process shall include a threat, risk, and vulnerability analysis and the HCF shall be designed to address the risks identified in the analysis.

Notes:

- 1) *The principles of crime prevention through environmental design (CPTED) should be consulted and incorporated into the HCF design for safety and security.*
- 2) *Environmental controls should be used to protect staff from infectious or contaminated patients at the first point of entry into an emergency care service (i.e., security, triage, and registration). Directional airflow from behind the health care and security personnel can help to mitigate the risk of exposure. These environmental controls may be used to supplement procedural screening and other mechanisms such as signage and public communication.*
- 3) *Workplace health and safety, while part of safety and security, is covered separately in Clause 7.6.*

7.7.1.2

As part of its security program planning, the HCF shall prepare a Crime Prevention Through Environmental Design (CPTED) report identifying environmental conditions that promote security.

Notes:

- 1) *A security program includes policies and procedures, specialized security personnel, incident reporting, staff education, and specialized electronic security systems. The programs are designed to protect staff, patients, the public, and property. These programs are developed by undertaking a comprehensive threat, risk, and vulnerability assessment that identifies the security needs of the HCF.*
- 2) *This report should be developed in conjunction with the HCF's comprehensive threat, risk, and vulnerability assessment.*

7.7.1.3

Systems and features to promote safety and security should not create unnecessary inconvenience or inefficiency for staff and patients.

7.7.1.4

The HCF shall be planned, designed, and built to incorporate the following safety and security features:

- a) *passive design measures to enhance security (e.g., by providing clear sight lines to entry points);*

- b) adequate space and appropriate strategic locations for active security elements such as security services or security systems;
- c) passive design measures to enhance physical safety, for example,
 - i) clear lines of visibility;
 - ii) access to natural light;
 - iii) functional design that avoids clutter;
 - iv) enhanced sense of organization and well-being;
 - v) ability to view the length of a department; and
 - vi) ability to secure areas that are unoccupied; and
- d) physical layout and systems that
 - i) support the HCF's emergency management plan, consistent with the requirements of CSA Z1600;
 - ii) support the HCF's occupational health and safety management systems, consistent with the requirements of CAN/CSA-Z1000; and
 - iii) preserve patient privacy, confidentiality, and dignity to the greatest extent possible, consistent with security and clinical considerations.

7.7.1.5

The design shall address the following aspects of security:

- a) personal security of patients, family members, and staff;
- b) security of property of patients, visitors, and staff;
- c) security of HCF equipment and stored items;
- d) drug security;
- e) access and egress/unauthorized intrusion;
- f) night staffing conditions;
- g) security lighting;
- h) the potential need for site lockdown and the control of access or egress during catastrophic events such as pandemics and other disasters;
- i) code responses, e.g., for missing patients; and
- j) provision of secure storage for personal items belonging to patients or staff.

Note: Security is a significant concern due to the increasing prevalence of violence and theft in HCF environments.

Security can be improved through the use of card-access controlled doors in key locations such as See Clause 12.7.2.1 for a list of key locations.

7.7.1.6

Standardized design should be used where applicable within the HCF to promote patient and staff familiarity with the layout, design, and systems.

Notes:

- 1) Planning should consider current evidence on the design and building of inpatient bedrooms to be identical throughout the HCF including left/right orientation, so that staff can orient themselves immediately upon entering any room.
- 2) Standardized design includes repetition or standardization of room floor plans, supplies, and equipment layout (including placement of sinks, soap dispensers, electrical receptacles, and medical gases).
- 3) These features are intended to reduce or minimize patient injuries and staff errors.

7.7.1.7

Dedicated space for equipment storage shall be provided in every service and this space shall not be reassigned to any other purpose. The storage area shall be determined in accordance with the

functional program, but in no case shall the storage be less than 2% of the total area of the service. Circulation areas shall not be used for storage.

Note: *Improperly stored items, for example in corridors or treatment spaces, can present multiple risks to safety and security, in terms of fire safety, infection prevention and control, theft, and hazards due to sharps or electrical shock.*

7.7.2 Design elements to enhance security

7.7.2.1

The HCF shall be designed to enhance the security and personal safety of patients, staff, and visitors through the use of passive design elements, as follows:

- a) the floor layout in both clinical and public areas shall provide clear sight lines from control points (e.g., a nurses' station or reception desk) to entrances, waiting areas, and circulation routes; and
- b) clinical staff shall be able to easily monitor movements and activity of patients and visitors in their departments through direct visual contact (e.g., from reception, staff station, etc.).

7.7.2.2

In locations where visitors or patients could present a risk of violence, the layout and choice of materials shall be designed to mitigate the risks to staff, other patients, and building systems.

Depending on the type and extent of the risk, the following should be considered:

- a) design of reception counters to minimize staff vulnerability through
 - i) protective barriers; and
 - ii) choice of glazing and other materials;
- b) resistance of building materials to assault;
- c) choice of furniture; and
- d) location of panels, monitors, and equipment to prevent unauthorized access, tampering, or attack.

7.7.2.3

The design should provide the staff with an easy method to obtain help. The planning should include the following:

- a) location and installation of staff emergency assistance alarms;
- b) location and installation of intercom systems;
- c) location of security office; and
- d) location and installation of infrastructure related to RTLS and similar systems to ensure site is covered adequately.

7.7.2.4

The design should provide staff with a means for egress from potentially harmful circumstances.

Note: *This feature should be implemented in conjunction with providing a barrier against the threat and a method to obtain help.*

7.7.2.5

The design should make it easy for staff to support each other in maintaining safety and security, especially when the day shift operational areas are closed down.

Note: *This can be accomplished through proximity, visual communication, lines of sight, or sound.*

7.7.2.6

The design should provide the staff with a way to observe a space before entry into potentially harmful circumstances, as follows:

- a) Bedrooms doors shall have observation panels in doors, sized and positioned so that staff can view the room (i.e., through a high panel), as well as being able to see a small child on the other side of the door (low panel).
- b) Convex mirrors shall be used on all blind corners.
- c) Door swings shall be planned and arranged so that there is no danger of hitting a patient on the other side and so that a patient cannot block access into a room.

7.7.2.7

The design should maximize security by incorporating features for staff to have direct observation of all persons entering an area when security is required. The design features may include the following:

- a) minimizing the number of entry and exit points;
- b) incorporating an access control system (e.g., electric strike and card readers to all perimeter doors); and
- c) locating the main access door so that it does not impede access to rooms outside.

7.7.3 Electronic and staff security elements

7.7.3.1

The HCF design shall incorporate electronic and/or staff-based security elements as appropriate to address the hazards identified in the threat, risk, and vulnerability analysis. Depending on the type of HCF and the identified risks, this may include

- a) video surveillance cameras or a comparative monitoring system;
- b) motion detectors;
- c) intruder alarm systems and/or staff emergency assistance alarm systems and staff handsets;
- d) patient tracking systems;
- e) identification and tracking systems for infants; and
- f) provision for lockdown of departments or areas in response to a security threat.

7.7.3.2

Provision shall be made for staffed security posts where appropriate.

7.7.3.3

The design of electronic security elements should be flexible to allow for future changes in the security situation or facility staffing, and changes in electronic systems.

7.7.4 Design measures to enhance physical safety

7.7.4.1

The HCF shall be designed to minimize physical hazards to staff, patients, and visitors. This shall include

- a) the use of materials with intrinsic safety characteristics (e.g., slip-resistant flooring); and
- b) automatic shut-off for equipment and devices where appropriate (e.g., power, gases).

7.7.4.2

The design shall minimize the risks for patients who are confused, disoriented, have cognitive or sensory impairment, or behaviourally disturbed. The design features may include the following:

- a) design of stairwells to reduce risk of falls (either accidental or deliberate);
- b) choice of flooring and patterns;
- c) design of doors (hinges) in mental health unit and dementia/aged care unit inpatient bedrooms;
- d) choice of glazing;
- e) choice of light fittings and placement;
- f) choice of window coverings; and
- g) anti-ligature components and fixtures.

7.7.4.3

The design shall minimize the risks for children and other vulnerable individuals (e.g., persons with an intellectual disability) as patients or visitors.

Note: *Design decisions should take into account the natural curiosity of children.*

7.7.4.4

The design features shall include the following:

- a) Door hardware shall be child-safe and door handles shall be out of the reach of small children.
Note: *Door hardware should be installed out of reach of small children and/or designed not to trap small fingers.*
- b) The design and layout of areas where children or other vulnerable individuals could be present shall prevent access by these individuals to areas containing equipment or material likely to be harmful to them, including
 - i) beverage pantry and heated food trolleys;
 - ii) utility rooms, cleaners' rooms, storage rooms, linen bay;
 - iii) resuscitation cart;
 - iv) disposal room;
 - v) treatment room; and
 - vi) medication room.
- c) Barriers and balustrades shall be non-scalable by toddlers.
Note: *These should be designed so that toddlers can see through them and thereby reduce the incentive to climb.*
- d) Non-scalable safety fencing of adequate height shall be provided around external play areas. Additional safety features should be considered for play spaces located above ground level.
- e) Play spaces, if provided, shall be in compliance with CAN/CSA-Z614.
- f) Service panels.
- g) Nurse and emergency call.
- h) Electrical outlets

7.7.5 Emergency management

7.7.5.1 General

The HCF shall be designed, built, and equipped to be able to maintain the safety and security of patients, staff, and visitors in emergency situations, including catastrophic events. See Clause 7.9.

Notes:

- 1) *Every HCF will face periods where demand for care exceeds the normal capacity design conditions and/or overwhelms the ability to provide essential services. Although the overall catastrophic event management*

- planning of the HCF in its operational phase is beyond the scope of this Standard, planning during the design stage can help ensure that the completed HCF will be able to continue operating as expected during a catastrophic event.*
- 2) *The extent of the HCF design provisions for catastrophic events will depend on the nature of the risks and the expectations that would be placed on the HCF in a specific situation. For example, if there are two adjacent hospitals, the catastrophic event management plan could involve coordination between facilities so that services/provisions do not have to be duplicated.*

7.7.5.2 Facility planning

The HCF master plan shall specify the necessary mitigation measures to address hazardous conditions and situations or conditions that could compromise the ability of the HCF to fulfill its medical service functions during and after emergencies.

7.7.6 Privacy, confidentiality, and patient dignity

The design and planning of the HCF shall include provisions to maintain patient privacy, confidentiality, and dignity.

The HCF should

- a) provide privacy for each patient, consistent with clinical and safety/security considerations;
 - b) ensure confidentiality of personal discussions and medical records;
- Note: See the Personal Information Protection and Electronic Documents Act (PIPEDA) and the Privacy Act.*
- c) provide an adequate number of rooms so that discreet discussions and treatments can occur whenever required; and
 - d) enable sufficient space within each treatment room or area to permit curtains or partitions to be easily drawn whenever required.

Doors and windows should be positioned and designed to provide and maintain privacy.

Note: Attention to patient comfort and privacy generally minimizes stress and discomfort. The HCF will ideally balance the need to observe patients, the need to minimize stress and discomfort caused by intrusive noise, and the need to maintain a degree of privacy for the patient.

7.8 Accessibility

7.8.1 General

7.8.1.1

The general planning and design of HCFs shall comply with CSA B651 and applicable jurisdictional requirements for accessibility.

Notes:

- 1) *The HCF should develop facility-specific accessibility plans that encompass the specific needs of patients, family, staff, and the public that will be utilizing the facility. Federal, provincial/territorial, and local laws and regulations can apply.*
- 2) *Dimensional requirements and room sizes in this Standard have been developed to be consistent with the requirements of CSA B651.*

7.8.1.2

Where the HCF has developed site-specific requirements, the stated dimensional requirements and room sizes should be reviewed to ensure the special requirements of patients, family, staff, and visitors to the HCF.

7.8.2 Site access

All accessible entrances shall have nearby accessible parking for patients, visitors, and staff. There should be no traffic crossings between the accessible parking and the entrance.

There shall be a pedestrian pathway that is separate from the traffic lanes at each of the primary parking entrances/exits and there shall be safe pedestrian crossings within the parking lot area.

7.8.3 Building access and circulation

7.8.3.1

Floor layouts within the building should be logical and designed to make intuitive sense to persons with a range of visual, sensory, or cognitive abilities. Floor layouts and the location of building services (e.g., washrooms, drinking fountains, floor maps) should be consistent from floor to floor to facilitate orientation.

7.8.3.2

Accessible routes shall be provided throughout the HCF to connect all accessible features and services. Wayfinding systems should incorporate the use of all the senses (i.e., sight, sound, texture, etc.) in the design and layout in accordance with CSA Z317.14.

7.8.3.3

Accessible rest areas shall be provided along major circulation routes. Planning for rest areas should include specific strategies for rest area locations, spacing, capacity, configuration, and use as part of the broader HCF-wide accessibility plan.

Notes:

- 1) *A rest area is a dedicated casual seating space on a corridor, route exterior, or path of travel intended for public use that allows a person to stop and sit for a rest. Rest areas may be located internally (within the building) or externally (anywhere on the site).*
- 2) *The distances between rest areas should be reviewed by an accessibility representative or be part of an accessibility plan.*
- 3) *Rest areas can be designed specifically to provide a stopping place along a route; however, other seating areas planned for specific functional uses may also be used to provide resting places. For example, waiting areas, bus stop seating, outdoor seating areas, food court seating, benches, cafeterias, and other well-placed seats may be used to achieve rest area requirements.*
- 4) *Rest areas are unlikely to be planned in the emergency department or ICU.*

7.8.3.4

Planning for rest areas should include the following considerations:

- a) **Location —**
 - i) **Exterior —** Larger parking lots, trails/pathways, courtyards, all public entrances; and
 - ii) **1.4 m² per seat —** Main lobby/entrance area, public areas, medical/surgical inpatient units (medical/surgical, rehab, complex care), medical imaging, long-term care, adult day unit, maternal/birthing area.
- b) **Spacing —**
 - i) **Exterior —** Not greater than 30 m between rest areas; and
 - ii) **Interior —** Should be determined by the HCF based on the profile of the clients served by the facility. In most cases, rest areas should be provided at intervals not greater than 60 m.
- c) **Capacity —** Not less than three seats in each rest area;

- d) Configuration — Convenient to, but not within, the path of travel (i.e., not directly in a corridor); and
- e) Size — 1.4 m² per seat (i.e., three seats would need 4.2 m²).

7.8.3.5

Design features intended to assist one specific user group should not unduly inconvenience other user groups.

Note: *The differing and sometimes conflicting needs of persons with disabilities should be considered. For example, tactile warning floor surfaces can be distracting and hazardous for persons who shuffle but are helpful to those with visual impairments. Audible systems can be disorienting for persons with hearing impairment; however, they can be of service to those with visual impairment. Control of sound volume and distribution should be considered in the design and use of audible systems.*

7.8.3.6

Automatic doors shall be provided at all major entry points to the building.

7.8.3.7

Emergency alarms and exit routes shall be in compliance with CSA B651. Audible and visual alarm systems shall be provided, and exit routes shall be clearly marked and accessible.

7.8.4 Lighting

7.8.4.1

Illumination systems shall comply with CSA Z317.5.

Note: *Patients and staff have a variety of lighting and daylight needs dependent on their medical condition, level of acuity, age, optometric condition, and the activities they engage in throughout the day and night. For example, visual acuity and sensitivity to light levels and glare typically change with age. The light needed for written tasks differs from that needed for computer work. Sensitivity to light and glare can also be related to particular medical conditions and the level of acuity. Care should be given to R9 and R14 values in examination and treatment areas.*

7.8.4.2

Ambient lighting shall be consistent throughout the space and hot spots shall be eliminated to enable safe movement through spaces for all individuals including those with visual impairments, specific visual needs, or changing visual needs due to aging. The distribution of light between workplaces, circulation corridors, rest and communal places, and bedrooms shall be designed to minimize disruption from work to rest spaces.

7.8.4.3

The HCF shall be designed to provide access to controllable daylight and minimize the change to the spectrum of incoming daylight. Design shall provide ways to reduce the glare and shadows created by natural light such as tinted windows, exterior awnings, special films, and interior blinds. Daylight openings shall have controllable systems of shields or coverings to minimize glare and overheating, or to allow for full access to daylight. Lighting of floor surfaces to improve visibility of trip hazards shall also control light distribution into unwanted areas.

Note: *Access to daylight is important to health and function. A sense of disorientation can occur in the absence of natural lighting in less than half a day. Behavioural and biological changes become more likely after two or three consecutive days without access to diurnal/nocturnal lighting cycles.*

7.8.4.4

The use of architectural features (i.e., courtyards) to bring natural light into a program area should not impede the efficient delivery of services.

7.8.4.5

Access to views to the exterior shall be provided where appropriate and available. Privacy screening and daylight controls shall be provided. Infection prevention and control and safety needs shall be incorporated in the design of such screens and controls.

7.8.4.6

As required by the functional program, special needs of the elderly shall be incorporated into the design, including

- a) minimization of excessive contrast in lighting levels (which can inhibit sight adaptation);
- b) easy wayfinding;
- c) non-glare floors; and
- d) colours and textures that do not provide sensory miscues.

Note: See ANSI/IES RP-28.

If carpeting is used, it shall comply with Clause 12.2.5.2.

7.8.5 Furnishings and layout**7.8.5.1**

Reception areas shall have multiple height transaction surfaces so that service can be provided comfortably to a person in either a seated position or a standing position.

7.8.5.2

Waiting areas throughout the HCF shall have open floor areas dispersed throughout the seating area for wheelchairs, scooters, or baby carriages. Different seating types that include chairs with arms, armless chairs, and bariatric seating shall be provided as appropriate to the expected patient population.

7.8.5.3

A colour contrast of at least 70% shall be provided between door frames and adjacent walls for patient care spaces to facilitate detection of door openings, except in areas where dementia and other cognitively impaired patients are likely to try to wander or leave secure units. In those areas, door frames and wall colour may have less contrast than 70% or may be the same colour in order to make doorways less detectable.

Note: See CSA B651.

7.8.5.4

Floor surfaces shall be of slip-resistant, resilient, durable materials complying with Clauses 7.2.2.5 and 12.2.5.2.

7.8.5.5

Colour contrast within floor patterning shall be limited to the equivalent of three stations apart on the grey scale.

Notes:

- 1) *High colour contrast and/or highly patterned materials within the floor design can cause problems for persons with cognitive impairment, but can be helpful for persons with low vision when used as borders or as directional cues.*
- 2) *Changes in floor surfaces can become trip hazards if they are not easily detected by those with visual impairments. Floor surfaces are key to personal mobility. Floors should be of a matte or honed finish to limit glare.*

7.8.5.6

Sufficient space shall be provided for the parking and/or storage of mobility aids and portable lifts in locations where parking/storage will be needed. Such locations include but are not limited to waiting rooms, clinical areas, and meeting spaces.

7.8.5.7

Charging stations shall be provided within outpatient and inpatient areas for scooters and other mobility aids. If recharging of multiple scooters will take place in a designated area, the area shall meet the applicable requirements for electrical safety and ventilation.

Note: Provincial/territorial and local regulations can apply.

7.8.5.8

High colour contrast should be used for controls and signalling devices intended for patient use (e.g., nurse call cords).

7.8.5.9

Staff workspaces, including reception areas, should have sufficient space for wheelchair access.

7.8.6 Amenities and specialty areas

7.8.6.1

Consideration should be given to art installations in public and clinical areas. In pediatric settings, consideration should be given to colour and material selection (visual interest, calming effects, and distraction). Consideration should also be given to interactive opportunities and visual displays (for distraction and calming).

Note: Artworks and appropriate visual displays have been shown to provide psychological benefit in pediatric units, acute care, renal units, etc.

7.8.6.2

In pediatric settings, amenity space should be provided for patients that are unique compared to a general HCF facility. Depending on the scale, the population, and clinical/social needs, such spaces can include

- a) hair salon;
- b) age-appropriate play spaces (e.g., teen rooms, games room);
- c) theatre or space for dramatic play; and
- d) outdoor play and respite spaces.